

# Blueprint

For Health And Healing

Reversing Disease From Its Foundation



John Clark, M.D.

A Medical Missionary Resource

# **Blueprint for Health and Healing**

**Reversing Disease from Its Foundation**

**John Clark, M.D.**

**A Medical Missionary Resource**

**Published by Homeward Publishing Ministries**

## FOREWORD

I could hear the scream of the siren in the background as I took the radio call from one of our ambulances. “We have a 49-year-old male who was unconscious on the scene. He has no pulse. We shocked him 3 times and are bagging him and doing chest compressions. We are 2 minutes out.”

“Okay. We’ll get the team ready. You’ll be in trauma bay 1,” I responded. As an emergency medicine doctor, this scenario was all too familiar to me. I knew what the likely outcome was going to be, but I always hoped for the best.

When the paramedics rushed into our emergency department, we directed them to trauma bay 1 and took over the patient’s care. We put a tube in his throat and continued breathing for him. We continued chest compressions. We started another IV and gave medications to try to get his heart started. We shocked him multiple times. But, in the end, his heart never beat again. And, yet again, I had to go tell another family that their loved one was dead. We did everything we could, but we couldn’t reverse, in a few minutes, what he had spent the last 47 years doing to himself.

It wasn’t just the heart attacks, which are almost exclusively the result of one’s lifestyle. It was the diabetic patients with foot infections requiring amputation. It was the cancer patients with intolerable pain. It was the autoimmune patients with painful and debilitating flare-ups. It was the congestive heart failure patients struggling to breathe, their lungs full of fluid. The vast majority of these could have avoided their health problems by applying simple lifestyle principles to their lives.

Eventually, I left the emergency department work forever. Instead, I transitioned to a

practice that exclusively utilized lifestyle interventions and natural remedies. Instead of putting people on medication, I took them off it. I learned how to use those simple lifestyle principles to help people change their lives around for good.

As I was transitioning from emergency medicine to lifestyle medicine, I came across Dr. John Clark’s work. He made the transition from a conventional practice to a lifestyle practice several years before I did and had produced a number of excellent articles on various diseases and the lifestyle factors and natural remedies that could help reverse them. I was impressed by how thorough his articles were and by how extensively scientific they were (with upwards of 250 scientific references in some of his articles). I studied those articles as I was learning how to treat my own patients, and I saw the positive results firsthand.

Of course, Dr. Clark has seen the power of these principles in his own practice, as he has counseled with many, many patients through the years and helped them to reverse their diseases. Those articles have been brought together in this book, *Blueprint for Health and Healing*. Those articles are now in your hands. And you can experience the profound results in your own life as you learn and apply these principles. So, study, underline, highlight, write notes, and most importantly, put into practice what you read in this book. It will make a tremendous difference in your life and your health.

Mark Sandoval, MD, President: New Paradigm Ministries, Former President & Medical Director: Uchee Pines Institute

## WHY THIS BOOK?

“As religious aggression subverts the liberties of our nation, those who would stand for freedom of conscience will be placed in unfavorable positions. For their own sake, they should, while they have opportunity, become intelligent in regard to disease, its causes, prevention, and cure. And those who do this will find a field of labor anywhere.”<sup>i</sup>

### KNOWING THE CAUSE HELPS DIRECT THERAPY

“Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthy conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to re-establish right conditions in the system.”<sup>ii</sup>

### AN OUNCE OF PREVENTION...

“Teach the people that it is better to know how to keep well than to know how to cure disease.”<sup>iii</sup>

### CURE COMES WITH COOPERATION

“Natural means, used in accordance with God's will, bring about supernatural results. We ask for a miracle, and the Lord directs the mind to some simple remedy. We ask to be kept from the pestilence that walketh in darkness, that is stalking with such power through the world; we are then to cooperate with God, observing the laws of health and life. Having done all that we possibly can, we are to keep asking in faith for health and strength. We are to eat that food which will preserve the health of the body. God gives us no encouragement that He will do for us what we can do for ourselves. Natural laws are to be obeyed. We are not to fail of doing our part. God says to us, ‘Work out your own salvation with fear and trembling. For it is God which worketh in you both to will and to do of his good pleasure’ (Phil. 2:12, 13).”<sup>iv</sup>

This book gives you background information on the causes of common diseases, plus simple natural remedies and lifestyle changes necessary to prevention and recovery.

---

<sup>i</sup> White, E. G. (1923). *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 506.

<sup>ii</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 127.

<sup>iii</sup> White, E. G. (1912, June 6). “Home Preparation for Camp-Meeting.” *The Review and Herald*. Art. B, par. 8.

<sup>iv</sup> White, E. G. (1958). *Selected Messages Book 2*. Washington, D.C.: Review and Herald Publishing Association. p. 346.

# PREFACE

My journey from allopathic medicine, as an orthopedic surgeon,  
to a true medical missionary.

My great-grandfather, Dr. Warner, the father of my maternal grandmother, was a medical doctor for the Sanitarium in Nevada, Iowa in the early 1900's. The sanitarium was built and operated by the Seventh-day Adventists. The emphasis of the Sanitarium was on disease prevention and health maintenance. (<https://www.amespubliclibrary.org/archive/1909/1447914-6>)

My Great-grandfather often took in patients who were sick with disease that Mayo Clinic had given up on and helped restore those patients to health without the use of drugs or surgery.

My maternal grandmother was a nurse that served as a Seventh-day Adventist missionary in Africa from 1926 to 1928.

My mother went to Loma Linda University School of Medicine in California and served as a missionary physician at a Seventh-day Adventist hospital in Monument Valley, Utah from 1978 to 1980.

My youth was filled with rich influence from my family and church to the wonderful joy of mission service. I heard and read about miracles and lives being saved both physically and spiritually. I longed to experience this joy and made decisions that set my course to be a medical missionary for Jesus Christ.

In my youth I learned farming and mechanics from my grandfather and father. In my first year of high school, I read the book "Counsels on Diets and Foods" and immediately changed to eating a completely plant-based diet. I was privileged to listen to many stories from returned missionaries. Sometimes I would work in the school kitchen and learned how to prepare and cook healthy food from the garden.

I also learned how to build, weld and plumb in high school and after graduating from high school, I worked at a boarding academy. There I learned the electrical trade.

From there I went to college and thought I should become an engineer because one of the stories that influenced me greatly as a boy was the story of Dr. Richli called "The Flying Doctor of the Philippines". Dr. Richli was a missionary medical doctor who was also a gifted self-taught engineer, who restored hospital facilities and designed and built hydro-electric plants to benefit the institutions he was serving.

During college, I took 15 months off from school to serve as a student missionary in the Philippines and Korea. In the Philippines I helped build a clinic and a church, and in Korea I taught English as a second language and witnessed five baptisms as a result of the Lord blessing my work. Upon return, I decided to change my major to pre-med because it seemed that the need was greater to help people with their health than to restore hospital facilities and design and build hydro-electric plants.

Upon finishing college, I applied to the General Conference of the Seventh-day Adventist Church to be on the deferred mission appointment program. This is a program where the conference agrees to amortize the student loans for a student to study medicine and then serve in the mission field for ten years. The conference helps place the physician where he or she can best serve the needs of the foreign clinics and hospitals.

To make a very LONG story short, upon completion of residency, I ended up in a situation where I was dropped from the

deferred mission appointment program due to a series of events that forced me to remain in the United States working as an orthopedic surgeon in the Midwest. This long story could be a book on its own but, to spare the reader and myself, the bottom line was that I found myself in an extremely distressing position.

Everything I had been working toward and looking forward to was no longer accessible to me. Instead, I was stuck in a contract at a hospital with a very large university school debt and I was unable to locate my wife and two children, who had disappeared without a trace.

After many months, while working full time as a new young surgeon, my wife surfaced far, far away and had no intention of keeping our marriage. She proceeded with divorce in spite of my pleas to return, and after the divorce she married the other man.

I found myself working in a medical system that I was discovering to be a living nightmare. One day, I recall looking down the hall and saw a woman who had been my patient, coming into my clinic to give money to my secretary with coins. After she left, I asked my secretary why she was there, and she explained to me that she was making a small weekly payment with coins for a bill that came to her for my services. Mind you, I was not self-employed. I was an employee of a medical group.

I was utterly horrified. I told my secretary to cancel the bill for that woman. The nightmare was beginning to dawn on me of the unbelievable system I was in.

I was working in a system that was very political and rife with undercurrents. There was competition and massive pressures. There were patients who were seekers of drugs, work comp and disability. I was in a place I never intended to be.

One day, my pastor from the local church I attended, encouraged me to help him with health ministries for the church and community. At that time, I was friends with Don Macintosh in Kansas, who was involved with the Coronary Health Improvement Project (i.e. CHIP) with Dr. Hans Diehl. And so, I shared with my pastor all

about the CHIP program and how getting training for that would be a great program to do for the church and community.

After attending the training for CHIP with my pastor, we found out the hard way that the majority of the church and community there in Iowa where we lived were not at all interested in changing their diet and so our burden for health education did not achieve any results at that time.

Within a couple of years of my being divorced, I met my current wife. We married, had a baby and then in 2005, we relocated to a place where I took a position as an orthopedic surgeon for a small independent Seventh-day Adventist Hospital in Brunswick, Maine. This hospital had an in-house program structured very similar to the CHIP program, only the health education lectures were given by doctors who practiced at the hospital.

Soon after I arrived to work there, I began giving health education lectures for their program on the topic of arthritis. I then was asked by the wellness nurse to create another lecture on osteoporosis. Not long after that, I made one for diabetes.

The hospital became excited about my health lectures and began having me give them for the local community around the hospital on a regular basis, as part of the public relations program. The meetings became popular and often the venue was filled to its maximum capacity, so that they would have to either turn people away or do a second meeting for those who missed the first one.

Also, during this time, the conference president would come around monthly to the hospital board meetings, and he began asking me to help him with health ministries for the conference. After several requests, I was finally convinced.

I then began working with the conference evangelist and the conference director of literature evangelism and very quickly I found that my work at the hospital was conflicting with my health ministry work.

Meanwhile, strange things were taking place in the hospital that were directly involving me that is beyond what I could briefly describe here. Let's just say it was deeply disturbing and I was feeling convicted that I could no longer work in the hospital system, nor the medical system, also known as allopathic medicine. I will give you one small example. A gentleman came to the hospital with necrotizing fasciitis of his elbow. After his surgery, the next morning while I was making rounds, I was with him in his room and the dietician came in to get this man's wishes for his diet. Part of what she offered him was a few different desserts. I spoke out and said, "You don't want any of those!" They both laughed and he picked one. I then said, "I am trying to keep you alive!" They chuckled and his choice was made in complete dismissal of my comments and recommendation. It is a strange thing that a patient will come to a doctor and ask the doctor to save them but then will ignore and/or reject anything outside the scope of medication and surgery.

It was in early 2006 that I took an enormous step of faith. I resigned from the hospital and left my practice to do full-time faith-based health ministry. My conviction was that Jesus never charged anyone to help them with their health and so I too did not charge anyone for the health ministry I felt the Lord was calling me to. We cashed in our retirement fund and began living off -our savings. We accepted donations but did not solicit them.

I began receiving call after call and traveled all over the United States doing health programs for churches and schools. People seeking relief from sickness would approach me privately. I have seen countless hopeless cases turn around

and people being restored to good health. I have been on many television and radio programs in the United States and around the world. We went to Australia for just under five years and did the same there.

Since the COVID pandemic struck in 2020, we have traveled very little, but my work as a medical missionary and health educator has not diminished. Instead, it just changed from traveling to be on location to staying at home and "zooming" online into all kinds of meetings, all over the world.

God has continued to be faithful. We have never failed to experience His watch care and support. If we are faithful to Him and His work, He will provide for all our needs.

Since this ministry's inception, my wife always encouraged me to make my presentations in written form in addition to the video form. She prefers to read information rather than hear it and so I have been doing that all along. Many of the topical chapters in this book took me well over six months of research to put together.

Recently, my wife began considering that maybe we should publish the many papers I have written since 2006 into a book and that is how this book came about.

In closing, true medical missionary work, compared to that of allopathic medicine, seeks to find the cause of the disease and correct it rather than just treat the symptoms. I hope that this book will be a valuable resource for those seeking to find the cause of the diseases from which people suffer and to provide ideas useful for the treatment and reversal of many of the illnesses plaguing society today.

*“Nature will want some assistance to bring things to their proper condition, which may be found in the simplest remedies, especially in the use of nature’s own furnished remedies--pure air, and with a precious knowledge of how to breathe; pure water, with a knowledge how to apply it; plenty of sunlight in every room in the house if possible, and with an intelligent knowledge of what advantages are to be gained by its use. All these are powerful in their efficiency, and the patient who has obtained a knowledge of how to eat and dress healthfully may live for comfort, for peace, for health, and will not be prevailed upon to put to his lips drugs, which, in the place of helping nature, paralyzes her powers. If the sick and suffering will do only as well as they know in regard to living out the principles of health reform perseveringly, then they will in nine cases out of ten recover from their ailments.”<sup>i</sup>*

- E.G. White

---

<sup>i</sup> White, E. G. (1932). Medical Ministry. Mountain View, CA: Pacific Press Publishing Association. p. 223.



# TABLE OF CONTENTS

Foreword.....	iii
Preface.....	v

## SECTION ONE: REVERSING DISEASE FROM ITS FOUNDATION

CHAPTER 1	Diabetes: The Butter with the Sweet.....	3
CHAPTER 2	Ideal Weight: Achieve it Naturally.....	13
CHAPTER 3	Hypertension: Taking the Pressure Off.....	25
CHAPTER 4	The Cholesterol Story! Are You Fighting Heart Disease? .....	45
CHAPTER 5	Heartburn, Indigestion, Reflux: Is There a Cure? .....	55
CHAPTER 6	Keeping your Mind Sharp! Alzheimer’s, Memory Loss, and Dementia.....	65
CHAPTER 7	Osteoporosis: Nothing to Crack Up About.....	75
CHAPTER 8	COVID, Influenza, Ebola, and Other Pandemics.....	85
CHAPTER 9	Natural Kidney Health.....	95
CHAPTER 10	Lung Health: Breathing Easier.....	101
CHAPTER 11	Natural Thyroid Health.....	107
CHAPTER 12	Arthritis: Don’t Let Joint Pain Slow Your Journey.....	115
CHAPTER 13	Back and Neck Pain: Lifting the Burden.....	123
CHAPTER 14	Autoimmune Inflammatory Diseases: When Self is the Enemy! .....	133
CHAPTER 15	Cancer: Is There Hope? .....	147
CHAPTER 16	How Can I Apply Healthy Principles in My Daily Life? .....	159

## SECTION TWO: FREQUENTLY REQUESTED

CHAPTER 17	Coffee Anyone? .....	173
CHAPTER 18	The Cocoa Romance .....	179
CHAPTER 19	Fermented Foods?.....	185
CHAPTER 20	Vinegar Vignette.....	189
CHAPTER 21	What About Sourdough Bread?.....	195
CHAPTER 22	Medical Interventions: Are You Following the Blueprint?.....	199
CHAPTER 23	Health and Spirituality: The Mind Body Connection.....	207
CHAPTER 24	Cracking the Coconut Oil Craze.....	217
CHAPTER 25	Oil in My Bread.....	223
CHAPTER 26	What About Juicing?.....	227
CHAPTER 27	Mandatory Healthcare: Does God Care?.....	235
CHAPTER 28	Glorify God in Your Body.....	241
CHAPTER 29	Ill-Gotten Gain and The Wages of Sin.....	249
CHAPTER 30	Does Meat Eating Spoil Your Spirituality?.....	257
CHAPTER 31	Stress Management God’s Way.....	263
CHAPTER 32	If We Would Be but More Grateful: The Power and Science of Gratitude.....	269
CHAPTER 33	Health by Faith: Whole Person Healing.....	279
References.....		287

## Section One:

# Reversing Disease from Its Foundation

### How to use this section:

Read the chapter pertaining to the condition you hope to learn more about, then go to the chapter entitled, “How Can I Apply Healthy Principles in My Daily Life?” and organize what you have learned into a systematic daily lifestyle program to get results.

*“Sugar clogs the system. It hinders the working of the living machine.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1923). Counsels on Health. Mountain View, CA: Pacific Press Publishing Association. p. 149.

## Chapter 1

# DIABETES: THE BUTTER WITH THE SWEET

March 1, 1954. The United States tested the largest nuclear device ever tested, and they tested it in the Marshall Islands of the South Pacific. It was 1,000 times larger than the atomic bomb dropped on Hiroshima. It sent a cloud of fire 100,000 feet into the air. The heat created gale force winds that blew vegetation from surrounding islands. The Marshallese were not amused. Enraged, they raced to court and sued the United States government. The United States conceded, and money started rolling into these remote South Sea Islands.

But what does an islander do with money on an isolated island? Soon products had to be imported to spend cash on. People who once subsisted on tropical fruits, vegetables, and fish, now became enamored with Spam and frozen turkey tails, (as well as other convenience foods high in fat, salt, and sugar, and low in nutrition.) The health results of such lifestyle changes quickly became apparent. Type II diabetes, almost unheard of in the Pacific islands prior to these dietary changes, now rendered 30% of the people over age 15 diabetic, with resultant high rates of hypertension, cardiovascular disease, kidney failure, eye disease, and amputations.<sup>1</sup>

“But I thought diabetes was inherited.” someone may be thinking.

Inherited from the grocer, I might caution.

### WORLDWIDE EPIDEMIC

Sadly, diabetes proliferation is not limited to the Marshall Islands. Worldwide, diabetes is expected to increase by 46% in the next 10 years. The largest increases will be in the developing countries of Africa, China, India and South America<sup>2</sup>—countries that can ill afford the increased medical complications and costs associated with such a disease.

Nor is the United States immune to such increases in the number of diabetics. According to the CDC, the U.S. had 5.8 million diabetics in 1980. By 2005 this number had jumped to an all-time high of 20.8 million<sup>3</sup>, and we know the population has not tripled during that same time. If diabetes were inherited we would have to conclude that diabetics are having far more babies than the rest of society! This is not actually possible because diabetics have difficult pregnancies.

“What are my chances of getting diabetes?” someone may be wondering.

Lifetime risk of getting diabetes in the United States for Caucasians is 39% for women and 33% for men. Hispanics suffer a little higher incidence at 53% for females and 45% males.<sup>4</sup>

---

Diabetes is one of the greatest causes of amputations in the United States. A diabetic has ten times the risk of amputation. There are over 80,000 amputations per year in diabetics alone.

---

The American Diabetes Association estimates the 2002 total cost for diabetes in the United States at \$132 Billion. With the rise in diabetes, they calculate that by 2020 we will be spending nearly \$200 Billion on diabetes.<sup>5</sup>

### COMPLICATIONS OF DIABETES

Diabetes causes multiple complications, if blood sugar is not controlled. Complications can take many forms, and can occur in various places throughout the body.

Heart disease<sup>6</sup> and stroke<sup>7</sup> kill 80% of diabetics.

## Blue Print for Health and Healing

Three out of four diabetics have high blood pressure.<sup>8</sup>

Diabetes is the number one cause of blindness accounting for 24,000 new cases each year.<sup>9</sup>

In 2005 there were 46,000 new cases of kidney failure resulting from diabetes, and an ongoing total of 179,000 cases.<sup>10</sup>

Thirty to 50% of diabetics suffer nerve damage that results in carpal tunnel syndrome,<sup>11</sup> pain or numbness in the feet or hands (peripheral neuropathy),<sup>12</sup> and slowed digestion of food.<sup>13</sup>

Diabetes is one of the greatest causes of amputations in the United States. A diabetic has ten times the risk of amputation. There are over 80,000 amputations per year in diabetics alone.<sup>14</sup> Diabetics who experience amputations on both legs never get back to walking like they once did.

Diabetics are 10 to 34% more likely to become depressed.<sup>15</sup> They experience more mood and memory changes, and studies show that their brains actually shrink.<sup>16</sup>

Infections occur more frequently in diabetics making them more likely to die from pneumonia or influenza. Life expectancy of diabetics is reduced by 12-14 years.<sup>17</sup> Not only does diabetes shorten one's life, but it more than triples the risk of ending up in a nursing home in middle age.<sup>18</sup>

### HISTORY OF DIABETES

The earliest recorded history of diabetes comes from Egypt in 1552 B.C.<sup>19</sup> It is interesting to note that this would have been around the time that the Israelites were enslaved in that country. Upon emancipation, scripture records that God told them, "If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee."<sup>20</sup> Apparently, if the Israelites followed God's instructions they would be spared the metabolic syndrome embarrassment.

### WHAT IS DIABETES?

Diabetes is too much sugar in the blood and urine. Blood sugar is tested on a fasting blood test. Normal blood sugar should be between 70-99 mg/dl. A blood sugar after fasting of between 100-125 mg/dl is defined as pre-diabetes. Any fasting blood sugar above 125 mg/dl confirms the diagnosis of diabetes.<sup>21</sup>

### WHAT CAUSES DIABETES?

In an effort to answer this question, Dr. James Anderson, renowned diabetologist, decided to feed healthy young men two pounds of sugar a day and check for signs of diabetes. Thirteen weeks into the study there were still no signs of diabetes.<sup>22</sup>

"I thought diabetes was too much sugar in the blood and urine," you may be thinking.

Recent research has confirmed the real culprit—fat. People on a low-fat diet, (10-15% fat calories), where the fat comes from vegetable sources, have a relatively low risk of getting diabetes. On the other hand, people eating 46% of their calories as fat have a 40% higher risk of diabetes. Certain fats are especially dangerous. Just 3% of calories coming from trans-fat will raise the risk of diabetes by 44%, and 270 mg of cholesterol, little more than that found in one egg, will increase the risk by 60%. If the majority of fat in the diet, (36% of calories), comes from saturated fat (usually animal sources) the risk of diabetes goes up to 64%.<sup>23</sup> Animal studies have shown that increasing the fat intake to 65% of calories increases the incidence of diabetes by 350%.<sup>24</sup> Fat makes a difference!

Various fats have different physiological effects on the body. Saturated and trans-fats tend to increase cholesterol, raise blood pressure, and diminish the good HDL cholesterol levels. They also increase the risk for heart disease, stroke, certain cancers, and diabetes.<sup>25,26</sup> Unsaturated fats, taken in their moderate amounts, (10%-15% of calories), tend to lower cholesterol, help maintain healthy HDL levels, provide essential fatty acids, and lower the risk for heart disease, stroke and diabetes.<sup>27,28</sup>

Some of the healthiest fats comes from natural plant sources. Five servings of nuts a

## Diabetes: The Butter with the Sweet

week have been shown to decrease the incidence of diabetes by 30%.<sup>29</sup> Unhealthy fats tend to come from fast foods, which are high in fat and low in nutrition. Two or more fast food meals per week will not only increase obesity but also can double the risk of diabetes.<sup>30</sup>

Fat is not the only culprit in fast foods; one sugar-sweetened soft drink per day can increase the risk of diabetes by 83%.<sup>31</sup> These drinks are sweetened with a sugar once thought to be of no harm to diabetics because it did not increase the sugar measured in blood tests. The problem with this theory is that fructose is not the sugar being measured in tests for total blood sugar. As it turns out, refined fructose is more dangerous for you than other available sugars.<sup>32</sup> Some sources of refined fructose include corn syrup, high fructose corn syrup, and agave syrup. Now this is not to say that the small quantities of naturally occurring fructose found in fresh fruit, well balanced with all the other nutrients, is a problem, it is not.<sup>33</sup>

There are other causes of diabetes. Remember the old “four food group” posters that hung on grade school classroom walls – dairy, meat, grains, and plant foods? These posters were not an initiative of the National Institute of Health or National Academy of Sciences, they were an advertisement. Studies show that milk and red meat consumption increases insulin resistance leading to the development of obesity, cardiovascular disease, and diabetes.<sup>34</sup> Meat is not friend to the diabetic. Just 4-ounces per day of beef, lamb, pork, or hamburger, increases the risk of diabetes by 20%. Process that meat, e.g. bacon, hot dogs, sausage, salami, bologna, etc., and just 2 ounces per day will increase your risk of diabetes by a whopping 50%!<sup>35</sup>

Stimulants can also increase diabetes. Smoking increases the risk of diabetes by 60%.<sup>36</sup> Caffeine increases diabetic blood sugars by 28%<sup>37</sup> and decreases the effectiveness of exercise in lowering blood sugar.<sup>38</sup> Alcohol increases obesity and destroys the pancreas’ ability to produce insulin.<sup>39</sup> Narcotics increase insulin resistance within the cells.<sup>40</sup> Even excess salt increases your risk for diabetes.<sup>41</sup>

### DRUGS And DIABETES

There are certain prescription drugs that increase the risk of diabetes. Blood sugars tend to be harder to control with the use of some blood pressure medications (thiazide diuretics and beta-blockers, etc.), atypical antipsychotic drugs (Clozapine, Zyprexa, Seroquel, etc.), steroids such as prednisone,<sup>42</sup> and oral contraceptive pills.<sup>43</sup> The risk of diabetes goes up by 48% to 71% with use of cholesterol lowering statin drugs.<sup>44,45</sup> And, what about diabetes medications themselves. In a 4 year study, aggressive blood sugar control with typical diabetes medications and/or insulin increased the risk of dying by 20%.<sup>46</sup> Drugs do not cure disease.

### EMF and Diabetes

Do you love your smart phone, wifi, smart meter and wireless devices? Think again. Electromagnetic fields (EMF) generated by these devices are known causes of blood sugar elevations. Living within 600ft of a cell phone tower can significantly raise your risk of diabetes.<sup>47</sup>

### Late Dinner and Late Bedtime

Eating a late dinner, as most Americans are accustomed to, influences the body's ability to process sugar negatively, giving rise to glucose intolerance, which over time results in diabetes.<sup>48</sup> The best practice is to maintain a healthy two meal a day schedule--breakfast and lunch.<sup>49</sup> The more regular you can keep your schedule the lower your risk of diabetes.<sup>50,51</sup> A regular bedtime, before 10:00pm, decreases not only the risk of diabetes, but stroke, hypertension, cardiovascular diseases, and obesity.<sup>52</sup> In fact, going to bed between 6:00pm and 10:00pm cuts the risk of diabetes in half!

### “DIABESITY”

Obesity is one of the most powerful risk factors for type 2 diabetes.<sup>53</sup> While people that are considered underweight have a 7% lifetime risk of acquiring diabetes, those who meet the criteria for “very obese” have a 57% lifetime diabetes risk.<sup>54</sup> In fact, just 2 pounds weight gain

can increase the risk of diabetes by 4%.<sup>55</sup> As more and more Americans become obese, the number of diabetics goes up proportionately. The most dangerous fat is that which accumulates inside the abdomen, around the belly, by the organs—what we call central fat, or visceral fat. An increase in this fat increases resistance to the action of insulin and increases the risk of heart disease<sup>56</sup> and other complications.

### **STRESS: DIABETES AND OBESITY**

People with type A personality tend to have more stress. Type A personalities have more than twice the risk of diabetes.<sup>57,58</sup> Psychosocial stress unbalances the body's hormones promoting central obesity, diabetes, and cardiovascular disease.<sup>59</sup>

### **WHY IS DIABETES A PROBLEM?**

When fat cells are too full, as in obesity, they lose the ability to respond to insulin. The fatigued pancreas eventually loses its capacity to produce enough insulin, and blood sugar rises even higher.

Each fat cell has insulin receptors. When these receptors are stimulated by insulin they facilitate the passage of sugar into the cell. Think of insulin receptors as doorknobs and insulin as the doorkeeper who opens the doors. The way the cells regulate how much sugar they take in is by increasing or decreasing the number of insulin receptors (doorknobs) available for insulin to activate (open the door to sugar). For example, a normal cell puts some of its insulin receptors (doorknobs) out into the blood stream where insulin can activate them (open sugar doors). Sugar then moves out of the blood stream into the cells lowering the blood sugar. Overfed fat cells pull all of their insulin receptors into the cell (leaving no doorknobs to open). As a consequence, the sugar accumulates in the blood stream increasing blood sugar to dangerous levels. When the diabetic starts to exercise, the cells get hungry and start putting more receptors into the blood stream, thus making way for more sugar to enter the cells, lowering the blood sugar.<sup>60</sup>

### **GLYCEMIC INDEX AND GLYCEMIC LOAD**

Glycemic index indicates the effect specific carbohydrates have on blood sugar levels in comparison to the effect of pure sugar. High glycemic index foods raise blood sugar and insulin levels much higher and more rapidly than low glycemic index foods.<sup>61</sup> For example 50 gm of glucose has a glycemic index of 100, it enters the blood stream 100% as fast as pure sugar. A bowl of corn flakes and milk has a glycemic index of 92, meaning that the sugar in a bowl of corn flakes and milk enters the blood 92% as fast as pure sugar. Broccoli has a glycemic index of around 15, meaning that the carbohydrate in broccoli has 15% the effect of pure sugar on blood sugar.

The amount of food consumed is a major determinant of blood sugar. Glycemic load takes into account the amount of a certain glycemic indexed food eaten.<sup>62</sup> High glycemic load foods include calorie dense foods such as snack foods, fast foods, pastry, cookies, sweets, soda pop, white bread and white rice, refined carbohydrates, and white potatoes. Low glycemic load foods include whole-grain breads and cereals, including oatmeal and brown rice, legumes, peas, beans, garbanzos, soy, tofu, fresh fruit and vegetables, nuts, protein rich foods and healthy fats.

We were not made to eat high glycemic load meals. Rats fed a high glycemic diet develop marked obesity in 32 weeks.<sup>63</sup> Fat rats are generally not seen out in nature. Humans fed high glycemic meals eat a larger volume of food, feel less satisfied, and get hungry sooner.<sup>64,65</sup> This sounds like the prescription for an addiction, and it is!

---

**A bowl of corn flakes and milk has a glycemic index of 92, meaning that the sugar in a bowl of corn flakes and milk enters the blood 92% as fast as pure sugar.**

---

### **CONSEQUENCES OF HIGH BLOOD SUGAR**

High blood sugar causes triglycerides to go up.

“Why would triglycerides go up?” Someone may be wondering, “I thought triglycerides were fats!”

## Diabetes: The Butter with the Sweet

The body has no little box in which to store sugar cubes. That's right. In order to store excess sugar, the body needs to convert it to something it can store, like fat. So, up go the triglycerides.

High blood sugar causes proteins to be glycated.

"Glycated! What's glycated?" you may be wondering.

Glycated is when sugar sticks to, or coats the proteins in the body, like blood cells and blood vessels. Sugar clogs the system.

High blood sugar provokes insulin to rise.

Insulin is not just for chasing excess blood sugar into cells; it's also a growth factor.<sup>66</sup> As a growth factor it needs building blocks for growth. Cholesterol is one of these building blocks. Elevated insulin results in elevated cholesterol, heart disease and also increases blood pressure.<sup>67</sup> Insulin not only makes the abdomen grow (in central obesity) but it also can make tumors grow increasing the chance of cancer.<sup>68,69</sup>

Sugar weakens the body's white blood cell's ability to destroy bacteria. Studies show that on a good day, one white blood cell can kill 14 dangerous disease-causing bacteria. With the intake of just 12 teaspoons of sugar, the amount contained in most soft drinks, each white cell can only destroy 5-1/2 bacteria. Double the soft drink intake and the number of bacteria a white cell can destroy drops to just one!<sup>70</sup> Most Americans consume more than 52 teaspoons of sugar a day!<sup>71</sup>

### BLOOD SUGAR RESPONSE TO WHOLE FOODS

The more carbohydrates are refined, the higher their glycemic index. For example, orange juice is the refined product of oranges. Not only is the fiber removed, but also in the process of preservation the juice is "pasteurized", meaning that it has been heat treated in an effort to reduce the number of spoilage causing microbes. This process of heat-treating has a further refining influence on the carbohydrate in oranges, breaking it down into shorter chain starches and simpler sugars. Commercial orange juice is little different than soda pop in its effect on the body.<sup>72</sup> As a consequence drinking commercial orange juice elevates blood sugar very rapidly and to an

excessive degree. What's more, once the body responds with insulin, the blood sugar drops precipitously leaving the individual faint and craving more refined carbohydrate. By comparison, eating a whole orange has a very different effect. The whole orange has not only sugar, but fiber, vitamins, phytochemicals, and minerals which help slow the passage of sugar into the blood stream and help the body use the sugar more efficiently. Because the sugar enters the blood more slowly, and over a longer period of time, a precipitous fall in blood sugar, that triggers hunger and faintness, does not occur.<sup>73</sup> The consumption of one serving of fruit as juice, instead of as whole fruit, increases the risk of diabetes by 36%.<sup>74</sup>

Diabetics tend to eat foods of higher glycemic index.<sup>75</sup> The effect is that their blood sugar goes up quite quickly. The body responds with a surge of insulin to take care of the emergency. Insulin can rise rapidly but it cannot drop as rapidly as blood sugar. Consequently, before long the sugar runs out and the person becomes hypoglycemic—low on blood sugar—faint and hungry. They then look for food, probably long before the next *scheduled* meal. The foods they choose to fulfill their low blood sugar needs are usually junk foods that compound the process and the problem.

In order to ameliorate this problem, diabetics are told just to eat many little meals all day long.<sup>76,77</sup> Does this work? Sort of, for two reasons, first, if little meals are eaten all day long, eventually all the blood sugar spikes will coalesce into one big long sugar rise with less variability, and there will be no more dangerous peaks and troughs. This method does not stop the diabetic complication. Frequent meals, like this, more than doubled the risk of cancer!<sup>78,79</sup>

The problems with eating more often are not limited to increased cancer risk. The stomach is a bit like the common household washing machine. A load of clothes is started washing. Halfway through the cycle some unruly person comes with more dirty clothes and adds them to the load. If the clothes are to be cleaned the whole cycle must be started over and perhaps more soap added. This is just the way the stomach works. If more food is added before it finishes its work, it has to start over and add more digestive juice.<sup>80</sup> Thus the machinery is jammed, sugar digestion impeded, and the

## Blue Print for Health and Healing

diabetic controls this blood sugar at the cost of the delicate digestive organs.

What is the real solution? If the diabetic eats an unrefined whole food breakfast—high in fiber (low glycemic index)—the blood sugar rises slowly, the sugar supply will be steady, and there will be no precipitous fall in blood sugar at the end of digestion. By lunch time the diabetic is just starting to feel hungry. Lunch is a meal of whole vegetables and legumes, and the sugar is held at a manageable level all day long.

### SUGAR CLOGS THE SYSTEM

Glucose (blood sugar) is the preferred fuel of the cell. But too much glucose in the blood clogs blood vessels and coats the blood cells with sugar. As blood sugar rises, excess sugar begins to stick to proteins—blood cell and blood vessel walls. These sugar-coated blood cells are called hemoglobin A1c or HbA1c. HbA1c predicts increased risk of heart disease and overall mortality even for people without diabetes. HbA1c indicates the average blood sugar concentration over the past three months. A HbA1c of 7.0 or higher may indicate diabetes. An increase of just 1% in HbA1c is associated with roughly a 30% increase in mortality from all causes and a 40% increase in mortality from coronary heart disease. In one study 70% of non-diabetics over 45 had a hemoglobin HbA1c of 5% or greater. Thus 82% of excess mortality due to blood sugar elevations is in non-diabetics.<sup>81</sup> And here we were all patting ourselves on the back because we are not diabetic. Living the lifestyle of a diabetic may not make everyone diabetic, but it may still provide us with all the same complications as the diabetic.

---

**Medications reduced the incidence of diabetes by 31% and lifestyle modification by 58%! This demonstrates that lifestyle change is a much stronger medical intervention than medications.**

---

When HbA1c goes up, so does glycation of the vessel walls. Thus, not only do the blood cells have trouble functioning, due to the sugar coating, but the sugar-coated blood vessels

pose an additional barrier to nutrients reaching body tissues. When this happens, body tissues starve for oxygen and nutrients making them more susceptible to fatigue, damage, and infection. This explains some of the complications listed earlier, such as the elevated risk of amputation.

On the other hand, a 1% reduction in HbA1c lowers the risk of stroke by 17%, fatal heart attack by 18%, diabetic deaths by 25%,<sup>82</sup> amputation,<sup>83</sup> kidney failure, and diabetic retinopathy that leads to blindness each by 30%.<sup>84</sup>

### SIGNS OF DIABETES

What are the signs of diabetes?

The signs of diabetes include:

- Low energy.
- Fatigue.
- Extreme thirst.
- Frequent urination.
- Blurred vision.
- Irritability and mood changes.
- Weight changes.
- Tingling and numbness in hands or feet.
- Frequent infections.
- Extreme hunger.
- Cuts and bruises that are slow to heal.
- Nausea and vomiting.
- Dehydration.
- Reduced conscious level.

Reduced consciousness! I was in the emergency room one day. In the stall next to where I was working an ER doctor was trying to awaken someone.

“Wake up! Wake up! Can you hear me?”

“What, who me? Where am I?”

“Did you know your blood sugar was 300? Are you a diabetic?”

“What? Who me? A diabetic?”

Sad to say this is the way all too many people discover they are diabetics. Their blood sugar goes too high, they pass out, and someone finds them and sends them to the hospital emergency room. This is not the way to discover you are diabetic. By this time the complications of diabetes are well on their way.



### CAN PEOPLE REVERSE THEIR DIABETES?

Kit Carson was taking 85 units of insulin daily. He was a big guy - 6'8" and 440 lbs. He relied on his vehicle to go even short distances. Two days into a "Reversing Diabetes" lifestyle program his blood sugar, which had been as high as 500, returned to normal. In two years, he lost 135 lbs. He never used insulin again. He says, "This program has changed my life."<sup>85</sup>

Can lifestyle changes really have that great of an effect on diabetes? The New England Journal of Medicine answered this question. They reported on an intervention trial to prevent diabetes in pre-diabetics that compared the effects of placebo (doing nothing), pharmacological medications, or lifestyle interventions. The results? Medications reduced the incidence of diabetes by 31% and lifestyle modification by 58%!<sup>86</sup> This demonstrates that lifestyle change is a much stronger medical intervention than medications. Well, it makes sense; lifestyle caused the diabetes in the first place, not pills. And what were the lifestyle interventions? Lifestyle intervention included weight loss with a goal of 7% weight reduction; daily exercise with a goal of 150 minutes per week; improved eating including higher fiber intake, lower saturated fat, and lower glycemic load. After 3 years, the incidence of diabetes was 58% lower in the lifestyle intervention group.

### LIFESTYLE INTERVENTIONS

What lifestyle changes was Kit Carson asked to make?

Change the diet to the "whole plant food whole" diet. Okay, so aren't there too many "wholes" in that sentence? The point to be made is, eat plant foods and eat them in their entirety—don't let anyone "refine" them.<sup>87</sup> So, what are some examples of "whole plant foods whole"? —brown rice, whole wheat flour products, fresh carrots, broccoli, spinach, and granola, etc. What are some examples of foods that are not whole plant foods whole; cow's milk, eggs, pancake mixes, crackers that have refined flour, fast foods, most foods that come in crinkly packages, sugar and oil, fish, anything with oil as an added ingredient, etc.

One reason refined foods are dangerous is their lack of fiber. Only about 5% of Americans get as much fiber as is recommended. Fiber plays an important role in diabetes prevention and management. Fiber protects against constipation, high cholesterol, heart disease, high blood sugar, diabetes, certain cancers, and obesity.<sup>88</sup>

In Harvard's Woman's Health Study, eating low fiber, high glycemic index foods more than doubled the risk of getting diabetes.<sup>89</sup>

In another study oat bran bread reduced blood sugar response by 46% and insulin response by 19% compared to refined white bread in the diet.<sup>90</sup>

A patient came in with gestational diabetes (diabetes resulting from the changes that pregnancy does to the body) who did not want to take drugs or insulin for fear of what they might do to her unborn child. She was adamant—no pills, no shots. She was advised to eat ½ cup of oat bran three times a day.<sup>91</sup> This she ate oat bran cookies, oat bran cereal, oat bran bread, oat bran in drinks. Her blood sugar was totally controlled; she delivered a normal healthy baby, and her diabetes was gone.

Fiber slows the rate at which sugar enters the blood stream. Even more fiber than is recommended for the average American is recommended for diabetics; 50 gm or more of daily fiber.<sup>92</sup>

Another great benefit of the whole plant food diet is whole grains. Replacing refined grains in the diet with whole grains can reduce the risk of diabetes by 70%.<sup>93</sup> Increasing whole grains to 3 servings per day can decrease the risk of diabetes by 50%.<sup>94</sup>

---

One reason refined foods are dangerous is their lack of fiber. Only about 5% of Americans get as much fiber as is recommended. Fiber plays an important role in diabetes prevention and management.

---

Another benefit of eating whole plant foods is that they actually require chewing. Thorough chewing increases the early insulin response to

## Blue Print for Health and Healing

eating, decreases blood sugar,<sup>95</sup> and helps reduce food intake.<sup>96</sup> Reduced food intake helps with weight control and increases insulin sensitivity.<sup>97,98</sup>

A healthy breakfast plays a major role in diabetes reduction. People who eat breakfast tend to eat fewer total calories for the entire day; have lower cholesterol levels; and end up with less diabetes.<sup>99</sup> One study shows a 37%-55% reduction in risk of diabetes in people who eat a regular breakfast compared to those who don't.<sup>100</sup>

Speaking of a healthy breakfast, a lot of people do not even know if they are eating breakfast, brunch or lunch—they have no real set schedule. Irregularity of meal times, between meals snacking<sup>101,102,103</sup> and late bedtimes<sup>104</sup> increases insulin resistance, obesity and diabetes.

Refined food products generally have had many nutrients removed from them that are necessary for life and for the processing of carbohydrates. If a person eats a food that is totally devoid of a nutrient that is necessary for life, the body has to take from its own stores just to survive, thus depleting its own reserves of that necessary nutrient.

Chromium is an example. Diabetics generally have no tissue chromium.<sup>105</sup> Consumption of refined carbohydrates, such as refined sugar, tends to deplete chromium stores. In diabetics, increasing chromium has been shown to decrease fasting glucose levels, improve glucose tolerance, lower insulin levels, decrease total cholesterol and triglycerides, increase HDL-cholesterol levels, and ameliorate the symptoms of hypoglycemia.<sup>106</sup> Whole wheat has eight times the chromium of white flour. Brown rice has four times the chromium of white rice.

Diabetes,<sup>107,108</sup> coronary heart disease,<sup>109</sup> hypertension, and high triglycerides<sup>110</sup> are all associated with low dietary zinc. Whole wheat flour has four times the zinc as white flour. Pumpkin seeds and lentils are also good sources of zinc.

Magnesium levels are significantly lower in diabetics<sup>111</sup>—especially diabetics with complications such as poor glycemic control, retinopathy, obesity, and hypertension.<sup>112</sup> The

major dietary sources of magnesium include whole grains, legumes, nuts, and green leafy vegetables.<sup>113</sup>

Speaking of vegetables, cabbage consumption reduces blood sugar levels and whole-body inflammation. People who eat cabbage regularly are more likely to get off of their insulin.<sup>114</sup> What about picking up a head of cabbage next time you are in the grocery store?

A word of caution; the longer a person has been a diabetic, the longer it may take to respond to dietary changes.<sup>115</sup>

### HERBS FOR DIABETES

Herbal teas take an important role in disease treatment for the person desiring to recover without the use of drugs. Beneficial herbs for the diabetic are as follows. Astragalus helps reduce Beta cell inflammation in the pancreas where insulin is made.<sup>116,117</sup> Red ginseng<sup>118,119</sup> and Jiaogulan (*Gynostemma pentaphyllum*) tea<sup>120</sup> stimulate beta cell production of insulin. Rosemary and Lemon balm inhibit carbohydrate metabolism.<sup>121</sup> Citrus leaves<sup>122</sup> helps reduce insulin resistance. Bladderwrack<sup>123,124,125</sup> inhibits carbohydrate metabolism, stimulates insulin production, and protects the pancreas, it also has a protective effect against diabetic nephropathy, and it is a good iodine source. Goldenseal root is antioxidant, anti-inflammatory and has hypoglycemic activities, which contribute to its efficacy in diabetes.<sup>126</sup> Fenugreek protects and rejuvenates pancreatic  $\beta$ -cells.<sup>127</sup> Tarragon (*Artemisia dracuncululus* L.) enhances insulin release from primary  $\beta$  cells.<sup>128</sup> Moringa oleifera leaf possesses potent hypoglycemic effects.<sup>129</sup> Select a few readily available representative herbs, use one teaspoon of the combined herbal mixture per one cup of water and drink one or two cups of the preparation a half hour before each meal.

### EXERCISE BENEFITS

Remember earlier we said that exercise makes the cells hungry again, reducing insulin resistance? Exercise lowers blood sugar and insulin, but it also helps to control weight. More than that, a good walk out in the fresh air and beautiful sunshine improves mental outlook, helping to deal with stress that can cause

## Diabetes: The Butter with the Sweet

diabetes.<sup>130</sup> Compared to those who live a sedentary lifestyle, those who are highly active have a 46% lower incidence of diabetes.<sup>131</sup> Of all the times to exercise, diabetics benefit most from exercise, such as walking, right after eating.<sup>132,133,134</sup> Another beneficial time to be exercising, for blood sugar control, is in the morning before breakfast!<sup>135</sup> Maybe you have heard it said, “The early bird gets the worm.” Exercise, together with good water intake, are among the few lifestyle changes that have been shown to improve peripheral neuropathy, the pain or numbness in the hands or feet, of diabetics.<sup>136</sup> It has been said, if you can’t find time for exercise, you will have to find time to be sick. And, more people die for want of exercise than through over-fatigue.

### MAKE WEIGHT LOSS A HABIT

The most dangerous fat for the diabetic is the belly or central fat, or what is called visceral fat—that fat which settles in the abdomen around the organs. This fat is always at a higher temperature and releases toxins that increase diabetic complications. One thing the diabetic has in their favor is that losing weight results in the simultaneous reduction of all fat deposits—any reduction includes reduction in abdominal fat.<sup>137</sup> The goal then is not only to lose a little weight but also to make weight loss a habit. As long as weight is not gained back, the visceral fat will continue to melt away. Continuous weight loss, approaching ideal body weight, can reduce the risk of diabetes by 30-50%.<sup>138</sup>

### SUNSHINE, VITAMIN D AND DIABETES

Part of the program for reducing diabetes involves getting adequate sun exposure. This helps maintain vitamin D levels. Studies show that vitamin D deficiency increases the risk of diabetes<sup>139</sup> and that vitamin D supplementation can actually reduce diabetes risk.<sup>140</sup> Diabetics are at increased risk of osteoporosis. This risk is also reduced by sunshine and vitamin D.

### WATER: ELIXIR OF LIFE

Which is sweeter, a raisin or a fresh grape? Usually, a raisin is sweeter. So is it with blood,

drinking more water thins the blood and lowers blood sugar by sheer dilution,<sup>141</sup> protects against ketoacidosis (the condition that sends diabetics to the emergency room with altered consciousness),<sup>142,143</sup> and decreases diabetic neuropathy.<sup>144</sup> Humans need between 8 and 12 eight-ounce glasses of water daily. Diabetics are no exception and benefit greatly from drinking water.<sup>145,146</sup>

### REVERSING DIABETES SUMMARY

- Regular exercise in the open air and sunshine (a little is better than none).
- Eat an unrefined plant-based diet, low in fat, high in fiber.
- Make breakfast a healthy habit.
- Make weight control a habit.
- Drink plenty of water.
- Get adequate sleep.
- Avoid stimulants such as coffee, alcohol, and tobacco.
- Try a few medicinal herbs until recovery is certain.
- Turn stress over to God who alone can handle it.

### HAS THIS PROGRAM WORKED?

It has. In the “Reversing Diabetes” program, diabetic patients were studied for 25 days on a special diet, exercise program with adequate sunshine, rest, and pure filtered water. Patients were fed an unrefined plant-based diet, low in fat (10%-15%), high in fiber with no cholesterol.

The average weight loss was 11 pounds. One fourth of diabetics no longer needed insulin or drugs to control blood sugar. Those who still needed insulin saw their requirements cut nearly in half. Blood pressures dropped from an average of 155/81 to 132/77, and 81% had complete relief of peripheral neuropathy.<sup>147</sup>

One example from the “Reversing Diabetes” program is John Rowe, R.N., E.R. nurse and a diabetic for eleven years, who was injecting up to 144 units of insulin a day. Within two days of adopting the “Reversing Diabetes” lifestyle, his blood sugar returned to normal without medication. He lost thirty-five pounds in four months. His blood pressure fell to normal, and his vision greatly improved.<sup>148</sup>

## Blue Print for Health and Healing

And exactly what dietary program are we really talking about? - The original Bible diet! Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food." "And you will eat the plants of the field."<sup>149</sup>

Recall that the earliest record of diabetes comes from the pyramids of Egypt during the time that the Israelites were liberated, and that God said, "If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will

put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee."<sup>150</sup> If the Israelites would stick with the original diet from Eden, they could totally avoid the Egyptian's diabetes.

Why die of diabetes? Why not make it a point to exercise regularly and eat only a whole plant-based diet?

*For further ideas on how to incorporate what you have just learned into your daily life, see the chapter entitled, "How Can I Apply Healthy Principles in My Daily Life"*

*"And put a knife to thy throat, if thou be a man given to appetite."<sup>i</sup>*

-- King Solomon

---

<sup>i</sup> Proverbs 23:2. King James Version of the Holy Bible.

# Chapter 2

## IDEAL WEIGHT: ACHIEVE IT NATURALLY

### THE SET UP

Baby Brenda did not intend to be a bother. Her mother had thought she wanted children, but her career was also very important to her. Her time with Brenda was sweet but short. Then, exhausted after a long day, she sought peace and quiet alone. Though Brenda cried from time to time, a bottle always seemed sufficient to quell the tears. Now when Brenda feels troubled, food always seems sufficient to ease the pain. It is almost as though mother is nearby.

Obesity is up in food-quieted infants. Babies are often fed to keep them quiet when their real need may not be hunger. This can become a lifelong habit, often tied to emotional eating.<sup>1</sup>

Overweight girls are at increased risk of premature puberty. Since 1963 the number of 6- to 19-year-olds carrying excess weight has risen by 275%.<sup>2</sup> Eighty percent of obese 10- to 14-year-olds, from obese families, end up as obese adults.<sup>3</sup> Consequently, childhood diabetes,<sup>4</sup> osteoarthritis<sup>5</sup> and premature puberty<sup>6</sup> are at an all-time high.

Obesity runs in families. Even the family dog is fat.<sup>7</sup> They say, the apple never falls far from

the tree - you may be genetically “wired” for obesity. However, it is your choices that determine your weight.<sup>8</sup> It has been said that genetics loads the gun—lifestyle pulls the trigger.<sup>9</sup>

### STATISTICS: WHO HAS THE EDGE IN LATEST POLLS?

Every day, in the United States, 67% of adults are overweight or obese, and 19% of adults smoke. Every day, in the United States, smoking is the #1 cause of preventable deaths while obesity is #2 and gaining.<sup>10</sup> The most prominent contributors to mortality in the United States in 1990 were tobacco (an estimated 400,000 deaths), diet and activity patterns (300,000), alcohol (100,000), microbial agents (90,000), toxic agents

(60,000), firearms (35,000), sexual behavior (30,000), motor vehicles (25,000), and illicit use of drugs (20,000).<sup>11</sup>

Obesity is now at an all-time high. In the US, 67% men and 57% women are overweight or obese. Why? Because of a sedentary lifestyle, poor food choices, obsession with dieting, lack of time, etc.<sup>12</sup>

### BMI Chart

Weight lbs →	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215
Weight kgs →	45.5	47.7	50.0	52.3	54.5	56.9	59.1	61.4	63.6	65.9	68.2	70.5	72.7	75.0	77.3	79.5	81.8	84.1	86.4	88.6	90.9	93.2	95.5	97.7
Height in/cm ↓	Healthy					Overweight					Obese					Extremely Obese								
5'0" - 152.4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
5'1" - 154.9	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
5'2" - 157.4	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39		
5'3" - 160.0	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
5'4" - 162.5	17	18	18	19	20	21	22	23	24	24	25	26	27	28	29	30	30	31	32	33	34	35	36	37
5'5" - 165.1	16	17	18	19	20	20	21	22	23	24	25	25	26	27	28	29	30	30	31	32	33	34	35	35
5'6" - 167.0	16	17	17	18	19	20	21	21	22	23	24	25	25	26	27	28	29	29	30	31	32	33	34	34
5'7" - 170.1	15	16	17	18	18	19	20	21	22	22	23	24	25	25	26	27	28	29	29	30	31	32	33	33
5'8" - 172.7	15	16	16	17	18	19	19	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	32	32
5'9" - 175.2	14	15	16	17	17	18	19	20	20	21	22	22	23	24	25	25	26	27	28	28	29	30	31	31
5'10" - 177.8	14	15	15	16	17	18	18	19	20	20	21	22	23	23	24	25	25	26	27	28	28	29	30	30
5'11" - 180.3	14	14	15	16	16	17	18	18	19	20	21	21	22	23	23	24	25	25	26	27	28	28	29	30
6'0" - 182.8	13	14	14	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28	29
6'1" - 185.4	13	13	14	15	15	16	17	17	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27	28
6'2" - 187.9	12	13	14	14	15	16	16	17	18	18	19	19	20	21	21	22	23	23	24	25	25	26	27	27
6'3" - 190.5	12	13	13	14	15	15	16	16	17	18	18	19	20	20	21	21	22	23	23	24	25	25	26	26
6'4" - 193.0	12	12	13	14	14	15	15	16	17	17	18	18	19	20	20	21	21	22	22	23	23	24	25	25

www.free-printable-paper.com

Poverty drains nutrition from family diet. Low-energy-dense food cost increased 20% in two years (2004-2006). High-energy-dense food prices actually dropped 2%.<sup>13</sup> It is relatively inexpensive to get obese.

Looking at yearly maps of the United States from the CDC (Centers for Disease Control) with states color-coded for the levels of obesity, it becomes very clear that we have an epidemic of obesity in full swing. For example, Mississippi, in 1990, reported that 10%-14% of its population were obese; by 1995 that number had risen to 15%-19%; and by 2005, over 30%.

Dieting is up, but weight loss is down. At any one time, more than two-thirds of US adults are trying to lose weight or are avoiding weight gain.<sup>14</sup> Most of them regain the weight within five years.<sup>15</sup>

Obesity costs have soared to \$150 billion. Obesity-related health care costs in 2000 were \$117 billion.<sup>16</sup> The U.S. diet industry grosses \$33 billion per year in diet books, diet foods, diet programs and weight-loss gimmicks.<sup>17</sup>

Have we, in our obesity trends, become a sign of the end of the world? What does the Bible say? "But as the days of Noe were, so shall also the coming of the Son of man be. For as in the days that were before the flood they were eating and drinking, marrying and giving in marriage, until the day that Noe entered into the ark, And knew not until the flood came, and took them all away; so shall also the coming of the Son of man be."<sup>18</sup>

### **OBESITY: WHAT IS IT?**

Obesity is based on Body Mass Index (BMI). The formula for BMI is weight (kg)/(height in cm)<sup>2</sup> or 703 x pounds/inches<sup>2</sup>. A BMI of 18.5 or less is considered underweight; 18.5 < BMI < 25 ideal weight; 25 < BMI < 30 overweight; 30 > BMI < 35, obese (mild); 35 < BMI < 40, obese (moderate); and 40 < BMI obese (severe). There are charts available that make determining your BMI easier. Another useful way to access obesity is waist circumference. For men, a waist circumference of greater than 40 inches and for women, a waist circumference of greater than 35 inches indicates obesity.<sup>19</sup> A large waist circumference is more dangerous than a high BMI for many of the diseases we will discuss.

### **IS IT REALLY WORTH IT?**

Why lose weight? You may be wondering, "If everyone is gaining, why fight the current?" There are a number of good reasons to choose weight loss: A clearer mind, a healthier body image, the avoidance of pain and depression, to reduce financial burden (health costs), to be around for your children and grandchildren, and to avoid disability and needing to be cared for by others, just to name a few. Life expectancy for the morbidly obese is reduced by 8 years in women and 20 years for men.<sup>20</sup> Shedding a few pounds can diminish the threat.

Men participating in successful weight loss programs can reduce their risk of dying by 41%.<sup>21</sup> By dropping 20 to 29 pounds, diabetics can reduce their risk of dying by 33%.<sup>22</sup> It would be well to make weight loss a way of life.

Continuous weight loss, approaching ideal body weight, can reduce the risk of diabetes by 30-50%.<sup>23</sup> If your health is failing, weight loss just may be the key to recovery. A five percent weight loss in obese individuals can result in improved blood sugar control, blood pressure, cholesterol, and triglycerides.<sup>24</sup>

### **THE BAD NEWS**

Those tenacious extra pounds can be a little-recognized source of disease. Eleven percent of cancer, 14% of osteoarthritis, 17% of heart disease and hypertension, 30% of gallbladder disease and 57% of diabetes can be attributed to obesity.<sup>25</sup>

To put it another way, the hidden cost of abundant fat can be calculated in the increased risk of other diseases. The risk of diabetes increases by 244%-600%,<sup>26</sup> gallstones by 400%-500%,<sup>27</sup> depression by 400%,<sup>28</sup> sleep apnea risk increases by 77%.<sup>29</sup> Asthma risk goes up 190%,<sup>30</sup> reflux up 94%,<sup>31</sup> deep vein thrombosis (blood clots) up 140%,<sup>32</sup> coronary heart disease up 81%,<sup>33</sup> gout up 200%,<sup>34</sup> female infertility up 200%,<sup>35</sup> male infertility due to low sperm count up 300%,<sup>36</sup> premenstrual syndrome (PMS) risk goes up 180%.<sup>37</sup>

Being very obese can INCREASE THE RISK OF DYING BY 140%<sup>38</sup>, RISK OF STROKE BY 70%.<sup>39</sup> Stool and urine incontinence risk increases 45% and 150% respectively;<sup>40</sup> and risk of cirrhosis from fatty liver due to obesity goes up 120%.<sup>41</sup>

## Ideal Weight: Achieve it Naturally

Increasing body weight is a strong risk factor for diabetes. Eighty percent of patients with Type 2 Diabetes are overweight or obese.<sup>42</sup> To further examine the diabetes risk, it is important to realize that for each 5 pounds of weight gained, the risk of diabetes goes up 10%.<sup>43</sup> The risk of getting diabetes sometime during a person's life is 7% for underweight people, 15% for normal weight people, 26% for overweight people, 44% for obese people, and 57% for the very obese.<sup>44</sup>

---

**Increasing body weight is a strong risk factor for diabetes. Eighty percent of patients with Type 2 Diabetes are overweight or obese.**

---

The fat most implicated in diabetes and its complications is what is called central, visceral or organ fat.<sup>45</sup> This is fat that is inside the body surrounding the abdominal organs. This fat is always kept at the higher body core temperature. This fat is the source of oxidized free radicals of fat and cholesterol.<sup>46</sup> Diabetics tend to have more of this type of fat.<sup>47</sup> Visceral obesity also leads to elevated triglycerides and reduced HDL levels, substantially increasing the risk of coronary heart disease.<sup>48</sup>

The link between higher body fat and cancer risk is also related to the fat cells' involvement in hormone production. It is uncommon to have breast cancer in the absence of estrogen. Excess estrogen production in obese women gives them a poorer prognosis with breast cancer.<sup>49</sup> Obesity increases the risk of other cancers too: ovarian cancer 14%, non-Hodgkin's lymphoma 17%, pancreatic cancer 24%, multiple myeloma 31%, breast cancer in postmenopausal women 40%, leukemia 50%, kidney cancer 53%, colorectal cancer 61%, adenocarcinoma of the esophagus 138%, and endometrial cancer 189%.<sup>50</sup>

Blood pressure also increases with rising obesity. A 13 lb weight gain increases the risk of hypertension by 36%, 24 lbs by 64%, 35 lbs by 132%, 46 lbs by 191%, and 55 lbs or more by 265%. On the other hand, weight loss can decrease the risk. A 14 lb weight loss can reduce the risk by 24% and weight loss of 22 lbs or more can reduce the risk by 53%.<sup>51</sup>

Weight gain increases the risk of back pain and arthritis. Back pain increases significantly with weight gain.<sup>52</sup> Pressure from excess weight flattens the inter-vertebral discs causing them to deteriorate and resist rejuvenation.<sup>53</sup> An excessive waist with its increased visceral fat may swell the risk of arthritis more than absolute BMI.<sup>54</sup> Normal weight people have a risk of arthritis of only 17%; for the very obese the risk climbs to 44%.<sup>55</sup>

Extra-large clothes accompany extra-large skin problems.<sup>56</sup> If you find yourself buying those extra-large clothes sizes you can be sure you also have a lot more skin than you were born with. Skin diseases increase in the obese from altered skin blood flow and physiology.<sup>57</sup>

Remember Alzheimer's disease? Diabetes and obesity quadruple the risk of developing Alzheimer's.<sup>58</sup>

Aggressive weight loss may ease hypothyroidism. About 10% of obese subjects are hypothyroid. Weight gain has been associated with hypothyroidism while weight loss has normalized it.<sup>59</sup>

Depression stalks the obese. Depression doubles the risk of obesity. Depressed, obese people eat about 20% more calories than their non-obese counterparts.<sup>60</sup> And it works both ways. Obesity quadruples the risk of depression.<sup>61</sup>

Social isolation increases with obesity. Obesity in women is associated with lower individual earnings, few friends outside the family circle, and long-term unemployment.<sup>62</sup>

Illness related work absenteeism increases in the obese. Obese employees are 80% more likely to experience work absences and are absent 3.7 more days per year than non-obese people.<sup>63</sup>

The obese population may be living longer with better-controlled risk factors but are, paradoxically experiencing more disability. Obesity increases the risk of serious disability by 175%. Obese individuals have twice the risk of being unable to perform the activities of daily living.<sup>64</sup>

### CONQUERING OBESITY NATURALLY

You choose! You are a reflection of your choices. Your life and health habits are yours

## Blue Print for Health and Healing

alone to make. Be the best you can be. The choice is yours.

Health: healthy weight, not lowest weight. The ultimate goal is health and healthy weight for your entire lifetime. With the right focus you will have increased energy, better self-esteem, more personal control, and a positive attitude. Eat for the long haul; choose a life-long plan.

Are you ready to change? Internal motivation is better than external. What you choose to do for yourself is more lasting and satisfying than what someone else pressures you to do.

Only an unwise person has to learn everything by his or her own experience. Be realistic—make small changes over time. Be adventurous—expand your tastes, try new dishes. Be flexible—balance your food and activity over several days. Be sensible—enjoy food in moderation. Be active – walk the dog, ride a bike, push a stroller.

### EXERCISE CAN BE GREAT FUN

Physical activity predicts success. Choose something you enjoy, preferably outdoors in the open air and sunshine. Get at least sixty minutes, combined total, most days, and you will enjoy the benefits: healthy weight, healthy heart, strong bones, great sleep, stress relief, increased energy, and a positive and confident outlook!

Why exercise? Weight will reduce with diet alone, but muscle mass and bone density will disappear too. Exercise maintains muscle mass<sup>65</sup> and bone density<sup>66</sup> while fat is lost. It also increases aerobic capacity for better cardiovascular fitness.<sup>67</sup>

As already mentioned, sedentary lifestyle accelerates risk of obesity. In fact, an 8-hour sedentary job increases the risk of obesity by 20%, and of diabetes by 28%.<sup>68</sup>

Get your beauty rest. Children sleeping less than 9 hours are at increased risk of obesity.<sup>69</sup> Having a regular bedtime before 10:00pm reduces your risk of obesity by 38%.<sup>70</sup>

You can tip the balance in the battle of the bulge. Obesity results from an imbalance between energy intake and energy expenditure. Environmental factors, such as the increased availability of high caloric food or the decreased need for physical activity, contribute to its development.<sup>71</sup> A delicate balance exists within

the human body. Weight depends upon the balance of energy input from diet, against energy expenditure through exercise. The balance is also affected by basal metabolic rate. When the total energy input exceeds expenditure, weight gain occurs. Many people eat as though they were going to be doing hard physical labor when, in fact, they are not. This creates an environment for obesity. You will find success when your eating matches your energy and weight loss needs.<sup>72</sup>

Weight gain is often the result of biological and cultural mismatches to the modern environment where there are strong signals to eat, weak signals to stop eating, increased availability of high calorie dense food, eating is rewarded, there are no viable alternatives at times, and overeating is considered of high status.

On the other hand, activity is associated with weak signals to continue and strong signals to stop, reduced availability, inactivity is applauded, or made a viable alternative, and given a high social status. This plays into the concept of eating to live, versus living to eat. Many people eat as though they were preparing for a long day of heavy physical labor when in reality their lives are pretty sedentary. If we eat to live, we match our energy intake to our expected energy expenditure, and this helps keep our weight stable. If we live to eat, our energy intake exceeds our energy needs and obesity ensues. The wise man commented on this principle in this way, "Blessed art thou, O land, when thy king is the son of nobles, and thy princes eat in due season, for strength, and not for drunkenness!"<sup>73</sup>

Do something you like and enjoy. Exercises shown to be beneficial include walking, running, aerobics (both in water and in the gym),<sup>74</sup> and intermittent exercise – especially on accessible home equipment.<sup>75</sup>

How much do I need to exercise? You may have limitations that will need to be overcome, but we suggest at least sixty minutes daily. The best times are before breakfast,<sup>76</sup> and after meals. Exercising after meals results in greater energy expenditure,<sup>77</sup> while decreasing blood sugar and insulin levels in diabetics.<sup>78</sup> Moderate exercise is as beneficial as intense, and short bouts are as effective as long (meaning you don't have to do all sixty minutes at one time).<sup>79</sup>



## Ideal Weight: Achieve it Naturally

Walking is a little-appreciated health booster. Each hour of brisk walking per day reduces the risk of obesity by 24% and diabetes by 34%.<sup>80</sup>

A ten year exercise study was conducted which revealed that an active lifestyle prevents weight gain and a sedentary lifestyle with little recreational activity increases the risk of weight gain by 200% for men and 300% for women.<sup>81</sup>

### **KNEE PAIN CRIPPLES WEIGHT LOSS: NOT SO ACCORDING TO NEW STUDIES**

“But I can’t exercise; I have a knee with arthritis, and it hurts to walk”, you may be saying, like so many others.

In a study of people with knee arthritis, six months of weight loss and exercise actually improved knee pain, disability,<sup>82</sup> walking gait and the performance of a six-minute walk distance test, and a timed stair-climbing test.<sup>83</sup> Samples of knee fluid showed decreased inflammatory markers.<sup>84</sup> You “rust” out before you wear out. Most arthritis pain will improve with exercise. Weight loss helps too; a 10% weight reduction improves knee function by 28% in patients with osteoarthritis.<sup>85</sup>

---

Joint pain may be a sign you are rusting out, not wearing out. Exercise has been shown to be beneficial, reducing pain and obesity.

---

### **THE WEIGHT OF THE BENEFITS**

Exercise yields great dividends in weight loss. Exercise increases muscle strength and bulk, bone mineral density, insulin sensitivity,<sup>86</sup> the immune system,<sup>87</sup> self-control around food,<sup>88,89</sup> HDL “good” cholesterol,<sup>90</sup> and maintains weight loss over the long term.<sup>91</sup> Exercise decreases visceral or central fat<sup>92,93</sup> and waist-hip ratio,<sup>94</sup> the body’s physiological response to stress,<sup>95</sup> high blood pressure,<sup>96</sup> cholesterol and triglycerides,<sup>97</sup> cardiac risk factors,<sup>98</sup> oxidative stress,<sup>99</sup> and the risk of gallstones.<sup>100</sup> Of particular importance is the way aerobic fitness curbs cardiac deaths. Being cardio-vascularly fit can reduce the risk of mortality from obesity by 75%.<sup>101</sup>

Need slow motion? Eat a western diet. The western diet slows people down physically and makes them sedentary, reducing energy expenditure and increasing weight gain.<sup>102</sup>

### **BRING OUT THE FORK: WE’RE GOING TO TALK DIET NOW!**

Top diets boast whole plant foods.<sup>103</sup> People adopting a whole plant food diet can lose almost three times as much weight in a year as those choosing other diet methods. And people choosing a whole plant food diet as a means of weight loss are four times more likely to stick with their chosen diet.<sup>104</sup>

By the way, a word of caution: When you go on a whole plant food diet, and your health problems start to resolve, you may need to have your medications adjusted. This is especially true for diabetic medications and blood pressure medications.

### **AVOID WEARISOME DIETS**

It’s not just a diet; it’s a lifestyle change! Be aware of fad diets. Steer clear of these claims; fast, easy weight loss; breakthrough miracle, banish fat, secret formula, new discovery, cure, balances hormones, enzymatic processes. Is the author credible? Be cautious about diets that advocate magic or miracle foods, rapid weight loss or quick fixes, no exercise, rigid menus, specific food combinations, recommendations based on a single study or studies published without a peer review, and promises that sound too good to be true.

New research shows that using artificially sweetened foods and drinks to manage weight could backfire. Artificial sweeteners confuse the mind’s ability to judge calorie content, making people who use diet drinks or diet foods crave more calories.<sup>105</sup> People who use diet drinks have been shown to eat more calories, especially carbohydrates.<sup>106</sup>

Some fad diets are especially worrisome. Colorectal cancer risk increased fourfold with consumption of high-fat, high-protein, and low-carbohydrate diets.<sup>107</sup> By contrast, low-fat, high-carbohydrate diets of whole plant foods increase intake of; fiber, bio-available calcium, vitamins, minerals, cancer preventing antioxidants and phytochemicals which lower

## Blue Print for Health and Healing

risk for heart disease, cancer, osteoporosis, diabetes, and high blood pressure.

### WHOLE PLANT FOODS

You can eat all you want and still lose weight – if you choose only whole plant foods. In one study eating unlimited amounts of fruits and vegetables led to a fourteen-pound weight loss over six months and seventeen pounds over twenty-five months.<sup>108</sup>

Whole wheat has eight times the chromium of white flour. So, guess what, it will take eight times as much of a white flour dish to satisfy your bodies nutrient hunger as a whole grain dish.<sup>109</sup> It is any wonder we have overweight people, totally stuffed with caloric rich foods and still feeling hungry?

Fruits and vegetables are the mainstay of successful weight loss. In one 2-year study, individuals on a vegan diet lost 3 ½ times more weight than those on just a low-fat diet.<sup>110</sup> Eating more fruit, vegetables, and whole grains improves weight loss and maintenance of weight loss, cholesterol and triglycerides, and blood pressure.<sup>111</sup>

Low-energy-dense foods aid weight loss. Weight loss is three times greater for people who eat low-energy-dense foods than for those who just choose “low-fat” foods.<sup>112</sup> Caloric, or energy-density, is the key to satisfying cravings and weight loss. Caloric density is a measure of the number of calories per gram in a serving of food. Studies show that normal-weight persons eat lower-energy-dense foods than obese persons. Persons on a diet high in fruit and vegetables have the lowest energy-density values and the lowest amount of obesity.<sup>113</sup>

Energy-density is key to understanding why eating fruits and vegetables can help in a weight management program. Energy-density is the number of calories a food has for its weight. Foods with high calories for their weight, such as oils and fats, are high-energy-dense foods. They usually have between 4 to 9 calories per gram. These include snack foods, cheeses, butters, meats, and gravies. Medium-energy-dense foods have fewer calories per gram of weight, usually between 1.5 to 4 calories per gram. These foods include bagels, whole grain breads, hummus, dried fruits, and vegetarian ravioli. Low-energy-dense foods typically range in

calorie content from 0 to 1.5 calories per gram and include fresh fruits and vegetables, beans, and whole grains. In one study, people given a low-calorie-dense, unrefined diet ate 50% fewer calories. What’s more, they took 33% longer to eat their food, increasing satiety (satisfaction).<sup>114</sup>

Make a trade agreement that will boost your health index. Reduce the number of daily calories consumed by substituting low-energy-dense fruits, vegetables, whole grains, and legumes for high-energy-density foods.<sup>115</sup>

*Eat your fruits and vegetables.* Fat content increases the energy-density of foods.

Water and fiber in foods increase volume and reduce energy-density. In their natural state, fruits and vegetables have high water and fiber content and are low in fat and energy-density.<sup>116</sup>

Feel satisfied on fewer calories. People tend to eat the same volume regardless of the calorie content.<sup>117,118</sup> It is volume more than calories that makes people feel full.<sup>119</sup> Eating low-energy-dense, high-nutrient dense fruits and vegetables brings satisfaction without the calories.

Energy substitutes can slash weight gain. To lower the energy-density of foods, such as soups, sandwiches, and casseroles, substitute fruits and vegetables for some of the ingredients that have higher energy-density, such as high-fat meats, cheeses, and pasta.<sup>120</sup>

One high-energy-dense calorie source is juice. Juice drinkers consumed calories eleven times faster than whole fruit eaters. Whole fruit contains fiber while juice has none. Sauce eaters consumed calories three times faster than whole fruit eaters.<sup>121</sup> The appetite is satisfied better with whole fruit.<sup>122</sup>

Canned food is a poor substitute. Frozen or canned fruits and vegetables are good options when fresh produce is unavailable. Choose items without added sugar, syrup, cream sauces, or salt. Salt can make you eat more and go for calorie-laden drinks.<sup>123</sup>

Vegetables dominate the low-calorie class. Vegetables tend to be lower in calories than fruit. Substituting more vegetables than fruit for foods of higher-energy-density can be helpful in a weight management plan.

Don't get blitzed by hidden calories. Some desserts that include fruit may also have high calorie, fat, and sugar content. Breeding and

## Ideal Weight: Achieve it Naturally

frying vegetables or adding high-fat dressings and sauces greatly increase the calorie and fat content of the dish.<sup>124</sup> You can have variations on the dessert theme. Desserts tend to be very energy-dense.<sup>125</sup> The stomach actually increases in volume when sweet, sugar laden foods are eaten at the end of a meal.<sup>126</sup> Fresh fruit makes a good, weight sensitive, dessert substitute. In one study, overweight people were more likely to order dessert if the waitress provided an appetizing description and encouraged them to order it.<sup>127</sup>

You may be wondering, “Should I avoid nuts?” given their high calorie content. And while I would urge moderation, in one study participants who ate nuts two or more times per week had a 30% lower risk of weight gain. Nuts have been found to be cardio-protective<sup>128</sup> and to reduce diabetes risk.<sup>129</sup>

### FIBER: A DIETER’S FRIEND

Fiber contains no calories; is not a nutrient, but is vital for good health. A 14-gram increase in daily fiber intake reduces calorie consumption by 10% and promotes weight loss.<sup>130</sup> Increased fiber consumption from whole grains cuts the risk of weight gain in half. Refined grain products have the opposite effect.<sup>131</sup> Other benefits of fiber are enhanced blood sugar control, decreased insulin levels,<sup>132</sup> lower cholesterol,<sup>133</sup> reduced calorie assimilation by the body,<sup>134</sup> and reduced hunger.<sup>135</sup>

Toast cuts blood sugar levels. Toasting bread lowers blood glucose response by 25%, which is a good thing.<sup>136</sup>

### CHEW ON THIS

Appetite is reduced by nerve feedback to the brain stimulated by chewing.<sup>137</sup> The more you chew, the less food it takes to satisfy you.<sup>138</sup> Choosing foods that require more chewing can help reduce calorie intake.

### FOOD ADDITIVES: BETTER LIVING THROUGH CHEMISTRY?

Mono sodium glutamate (MSG) intake doubles the risk of obesity.<sup>139,140</sup> MSG is used in laboratory animals to induce obesity and diabetes.<sup>141</sup> Fructose is another culprit.<sup>142</sup>

Fructose ingestion increases obesity—especially abdominal obesity.<sup>143</sup> It also increases triglycerides and cholesterol,<sup>144</sup> oxidative stress,<sup>145</sup> diabetes and diabetic complications such as retinopathy.<sup>146</sup>

### LIQUIDS AND LIQUID MEALS

Ditch the soda if you're trying to lose weight. Sodas decreased the feeling of being satisfied and increased subsequent overeating.<sup>147</sup> One additional soda per day raises the risk of obesity by 60%.<sup>148</sup> The calories of two sodas consumed every day can add 30 lbs in a year.

Dehydration and salt overload are associated with increased obesity.<sup>149</sup> Thirsty people tend to drink soda and eat when what they really need is water.<sup>150</sup> Dehydration increases cancer, diabetes, cardiovascular disease, and hypertension.<sup>151</sup>

*Water is still the best beverage.* Historically water is the only liquid man consumed after being weaned. Modern man consumes a variety of liquids that require digestion. The body does not handle liquids that require digestion as well as solid food.<sup>152</sup> Our recommendation is that - only water be consumed between meals. Digestion is better if a meal has not been diluted with any liquid. Water, taken thirty minutes before mealtime has been shown to significantly reduce calorie intake.<sup>153</sup>

---

Snacking between meals dramatically increases the number of daily calories consumed. Obese individuals consume significantly more sweet, fatty snacks.

---

### SNACKING: IS IT A CULPRIT IN YOUR DIET?

Snacking between meals dramatically increases the number of daily calories consumed. Obese individuals consume significantly more sweet, fatty snacks.<sup>154</sup> Snacking women have a 38% higher risk of obesity and snacking men have an 88% higher risk of obesity.<sup>155</sup>

### **TRIGGER FOODS THAT CAN IGNITE A RAGING APPETITE**

The taste of fat increases the amounts of food people eat.<sup>156</sup> Sugar and fat work by weakening food satisfaction signals to the brain and activating hunger signals.<sup>157 158</sup> Dietary fat intake affects obesity.<sup>159</sup> Obesity rates of countries can be predicted by how much fat their population eats. In one study, cutting fat intake by 10% (from 37% down to 27%) led to a quarter pound loss per week.<sup>160</sup> One source of high fat, low fiber food is fast food. Watching television three hours a week and eating fast food twice a week increases the risk of obesity and diabetes by 160%.<sup>161</sup> Another source of high fat, low fiber food is meat. This is why carnivores carry more weight. Meat eaters have been shown to weigh significantly more than vegetarians.<sup>162</sup> High fiber cereal, fruit, and overall fiber intake are associated with lower BMI. Hamburger, beef, fried chicken, eggs, bacon or sausage, and hot dogs are all associated with higher BMI.<sup>163,164</sup>

“Gotcha” foods that won’t let you go. You need to be aware of some foods that have addictive properties. Addictive foods include chocolate, dairy products (especially cheese), and refined carbohydrates.

Chocolate is just as addictive as drugs. To increase addiction, chocolate stimulates the same opioid receptors in the brain as morphine.<sup>165</sup> Another drawback is the amount of sugar and fat it takes to make chocolate palatable.

The addictive nature of sugar generates phenomenally high levels of obesity.<sup>166</sup> Like cocaine, sugar elevates the addiction hormone dopamine in the brain.<sup>167</sup> The body can get caught in a vicious cycle of sugar consumption. Refined carbohydrates such as sugar, but not just sugar, elevate insulin. Insulin increases abdominal obesity and carbohydrate craving. Abdominal obesity increases insulin resistance requiring the body to produce even more insulin. Higher insulin levels stimulate more carbohydrate craving. And the saga goes on as the weight piles up and diabetes ensues.<sup>168</sup>

The addictive world of animal products is a real source of obesity. Morphine-like substances (beta-casomorphins) in dairy products,

especially cheeses, make them very hard to give up.<sup>169</sup>

### **BEER BELLY**

Everyone should know the facts about alcohol and obesity.<sup>170</sup> Alcohol intake is associated with abdominal obesity and elevated diabetes risk.<sup>171</sup>

### **BIRDS OF A FEATHER FLOCK TOGETHER**

Eating with others can be a source of uncontrolled calorie consumption. If eating with others, choose dining companions who share your weight control values.<sup>172</sup>

For those women who like to be aware, the midcycle binge can be a source of uncontrolled calorie consumption. The ovulation phase of the menstrual cycle is associated with significantly more food intake.<sup>173</sup>

### **PORTION SIZE INFLATION**

Can food sneak up on you? Portion sizes sure have. Portion size inflation has definitely occurred between 1977 and 1996; french fry serving size is up 16% or 70 kcal; hamburger sizes are up 25% or 100 kcal; soft drink size is up 50% or 50 kcal; total calories consumed by - Americans are up 11%; and the number of calories eaten away from home are up 53%.<sup>174</sup>

Size does matter. Here are some tips on portion size management: Place all food, to be eaten at one meal, on the plate at the beginning of the meal. Purposely reduce customary portion sizes, substitute low-energy-dense foods for high-energy-dense foods, and chew the smaller portions for the same amount of time normally taken to eat larger portions.<sup>175</sup>

### **ONE OF EACH PLEASE—VARIETY STIMULATES GLUTTONY (THERE GO THE POTLUCKS!)**

Greater variety is associated with greater food consumption and greater body weight.<sup>176,177</sup> Do not have too great a variety at a meal; three or four foods are plenty.

### **CALORIC RESTRICTION**

Reducing the number of calories you eat in a day, is referred to as caloric restriction. Calorie,

## Ideal Weight: Achieve it Naturally

or energy, restriction can restore an immune system impaired by obesity. Obesity impairs the immune system. Caloric restriction has been shown to help restore the immune system.<sup>178</sup> The Okinawan experience has taught us a lot about caloric restriction. The Okinawans eat 40% fewer calories than Americans, have 80% fewer breast and prostate cancers and 50% fewer ovarian and colon cancers.<sup>179</sup> There are some cautions to SEVERE caloric restriction. Some people just eat less of their malnourished diet--the same diet with nutrient deficiencies that leaves them craving food even though they are getting heavier all the time. Side effects of severe calorie restricted diets include; orthostatic hypotension (light-headedness upon standing), fatigue, cold intolerance, dry skin, hair loss, menstrual irregularities, cholelithiasis (gallstones), cholecystitis (inflammation of the gallbladder), and pancreatitis (inflammation of the pancreas).<sup>180</sup>

### MEAL TIMES

Evening-wear: you tend to wear the food you eat in the evening.<sup>181</sup> People who eat in the evening gain more weight.<sup>182, 183</sup>

Breakfast precedent: start off on the right foot. People who eat high-energy-dense breakfasts eat higher-energy-dense lunches, whereas people who eat low-energy-dense breakfasts eat lower-energy-dense lunches.<sup>184</sup> Skipping breakfast increases insulin resistance and raises fasting cholesterol levels.<sup>185</sup> Skipping breakfast increases student obesity 120%.<sup>186</sup>

Punctuality pays off in meal patterns and frequency. Meal regularity significantly lowers the risk of adolescent obesity.<sup>187</sup>

---

**Greater variety is associated with greater food consumption and greater body weight. There go the potlucks and all-you-can-eat buffets!**

---

People who eat their meals at the same time every day; consume fewer calories, have better insulin sensitivity, have lower cholesterol levels and maintain a higher fat-burning metabolism.<sup>188</sup> We recommend two (preferable) or three meals a day, eaten at

exactly the same time every day. A two-meal-a-day plan lowers cancer risk. Compared to the two-meal-a-day program, colon cancer risk rises 70% with 3 three-meal-a-day, and 90% for four meals.<sup>189,190</sup> The risk of colon cancer is increased by snacking. For each time snacking is engaged in throughout the day, the risk of colon cancer goes up 60%.<sup>191</sup>

“But I’m hungry, I don’t want to wait till mealtime.” Throw a wet blanket on persistent hunger. Hunger, other than at mealtimes, can often be quenched with a glass of ice-cold water. If you feel that you must eat at night, take a drink of cold water, and in the morning you will feel much better for not having eaten.<sup>192</sup>

### EMOTIONS AND THE BODY

Happy, sad, bored, lonely? Bring on the food! Some people are emotional eaters, meaning that they eat more when experiencing certain emotions. When these people are stressed or emotional, they eat more sweet, high-fat foods and consume meals that have higher-energy-density.<sup>193</sup> These emotions often have their basis in childhood experiences. A ten-year study of 9- to 10-year-olds showed that: parental neglect: increased the risk of adult obesity seven times (700%). Children characterized as “dirty and neglected” had 10 times the risk of adult obesity.<sup>194</sup> Obesity can be triggered by childhood stress.<sup>195</sup> The obese are more likely to be depressed, to report childhood abuse histories, to have non-secure attachment styles, and report eating in response to anger, sadness, loneliness, worry, and being upset.<sup>196</sup> Abuse raises the risk of obesity 23% higher for verbal abuse; 27% higher for physical abuse; and 34% higher for sexual abuse.<sup>197</sup> In some cases, obesity is an individual’s way of dealing with fear of intimacy. It is a way of keeping others at a distance.

Obesity – feast or famine? Being insecure about the availability of food is associated with a 30% increase in obesity.<sup>198</sup> Many of us have been programmed, possibly as a result of the great depression of 1929, to save for the future. Fear of want or loss drives a lot of our decisions. The Bible addresses this propensity to trust to what man can do in this way, “And deliver them who through fear of death were all their lifetime

## Blue Print for Health and Healing

subject to bondage.”<sup>199</sup> Jesus Christ came to put these fears away and give us peace and rest.

Don't go crazy: weight loss reduces psychological symptoms. One study revealed that weight loss was associated with improvements in psychotic traits, paranoid ideation, irritability, interpersonal sensitivity, emotional stability, nervousness, and sociability.<sup>200</sup>

Dealing with obesity may involve dealing with stress for many people.<sup>201</sup> Stress management is more successful if accompanied by improvements in spiritual health.<sup>202</sup>

Maybe this is because of Jesus' promise, "Come unto me, all ye that labor and are heavy laden, and I will give you rest."<sup>203</sup> Joining a group with a leader and organized activities reduces stress and improves weight loss.<sup>204</sup> Successful stress management has been shown to improve cholesterol, triglycerides, hemoglobin a1c (in diabetics), hostility scores, and weight reduction.<sup>205</sup>

### GREATER LONG-TERM SUCCESS

Studies of people with long-term weight loss success show that they; exercise 30-60 minutes a day regularly, including some weightlifting; plan their meals, maintaining a consistent eating pattern across weekdays and weekends; track calories, fat, and portion sizes; eat low-calorie, low-fat foods; eat breakfast regularly, and self-monitor weight. Studies of people with long-term weight loss success show that they do not make excuses for not exercising like; no time, too tired to exercise, no one to exercise with, or too hard to maintain exercise routine. People with long-term weight loss do not make excuses for not dieting such as eat away from home too often, or diet and health food costs too much. Studies of people with long-term weight loss success also show that they do not use over-the-counter weight loss products.<sup>206,207</sup> One of the best predictors of success in weight loss is the monitoring of food and activity. Diary keepers score big.

Brain scans shed light on why people overeat. Self-control is a function of the front part of the brain, the frontal lobes. People successful at restraining their appetites and losing weight have been shown on brain scans to have more active frontal lobes.<sup>208</sup> We have been given the

power of choice. With exercise, this power is able to help with weight control. "Choose you this day whom ye will serve."<sup>209</sup>

TV down time; down the chips, down the cola, down the beer.<sup>210</sup> Television viewing while eating increases food intake by an average of 228 kcal.<sup>211</sup> Television viewing, two or more hours per day, increases the risk of weight gain by 35%.<sup>212</sup>

### POWER TO SUCCEED

Temptations to the indulgence of appetite possess a power that can be overcome only by the help that God can impart. But with every temptation we have the promise of God that there shall be a way of escape. Why, then, are so many overcome by temptation? It is because they do not put their trust in God. They do not avail themselves of the means provided for their safety.<sup>213</sup>

The standard is Jesus Christ. After fasting for forty days in preparation for ministry he said, "Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God."<sup>214</sup>

One of the principles He taught and lived was to think outside of ones-self. His philosophy as expressed and lived was, "The Son of Man came not to be ministered unto, but to minister, and to give his life a ransom for many."<sup>215</sup> One way to think of this in respect to obesity is that in this world we are to be producers rather than just consumers. Is the world going to be a better place for our having lived in it?

We must recognize and own our problems. When we see ourselves in contrast to Jesus, we feel shame and come to Him in repentance and confession. We admit that we did it to ourselves—that our habits and cravings have controlled us and that without His power to overcome we are doomed to obesity.

Yield To Victory: Choose Life. Seeing Him as the great pattern of goodness and temperance we yield our whole heart to Him and choose to serve Him—make Him Lord of our life. In choosing to serve God, in giving Him the choices of our will, our whole nature comes under His power.

Take Life! We cannot of ourselves excuse the past that has brought on obesity or change our hearts; but having given ourselves to God, we believe that He, for Christ's sake, does all this for us. By faith we became Christ's, and by faith we are to grow up in Him – by giving and taking. We

## Ideal Weight: Achieve it Naturally

give all; our hearts, our wills, our service. We give ourselves to Him to obey all His requirements – and we take all of Christ, the fullness of all blessing to abide in our hearts, to be our strength, our righteousness, our everlasting helper; to give us the power to obey, and the power to overcome the habits and cravings that leave us obese.

Die to self, appetite, and inactivity. When the craving comes, die to the temptation and choose the power of God to resist. The advice is, “Submit yourselves therefore to God. Resist the devil, and he will flee from you.”<sup>216</sup>

Have a replacement. When the urge comes to violate your good judgment, be ready with an alternate activity or plan. Ask God for power and when you have an urge to eat; take a walk. When you have an urge to snack, drink cool water. When the urge comes to take more food than is wise, take even less. You will need to come up with your own alternatives with God’s help. “When the enemy shall come in like a flood, the Spirit of the LORD shall lift up a standard against him.”<sup>217</sup>

Here is a valuable promise, “There hath no temptation taken you but such as is common to man: but God is faithful, who will not suffer you to be tempted above that ye are able; but will with the temptation also make a way to escape, that ye may be able to bear it.”<sup>218</sup>

In this way you will find true satisfaction. If you are not right with God, “ten women shall bake your bread in one oven, and they shall deliver you your bread again by weight: and ye shall eat, and not be satisfied.”<sup>219</sup> On the other hand, “The meek shall eat and be satisfied: they shall praise the LORD that seek him: your heart shall live for ever.”<sup>220</sup>

Once you are on the track to optimal health – and you WILL be on the track to optimal health – find someone else to help; it’s part of the program. “And if thou draw out thy soul to the hungry, and satisfy the afflicted soul; then shall thy light rise in obscurity, and thy darkness be as the noonday: And the LORD shall guide thee continually, and satisfy thy soul in drought, and make fat thy bones: and thou shalt be like a watered garden, and like a spring of water,

whose waters fail not.”<sup>221</sup> We are blessed in blessing others. It is more blessed to give than to receive.

### THE BOTTOM LINE

Obesity is at an all-time high, largely because people are eating high calorie foods while engaging in little or no calorie burning physical activity.

The key is to replace high-energy food items with unrefined whole-plant food items, replace all beverages with water, and replace sedentary habits with physical activity.

### IN A NUTSHELL:

- Plan your meals; eat modest portions of low-energy-dense/high nutritionally dense whole plant foods. Keep the menu simple.
- Put all the food you are going to eat on your plate at the start of the meal and keep written records of what you eat, etc.
- Eat breakfast every day and keep a strict schedule, skip dinner if you must skip a meal. Fasting one day a week can be helpful.
- Eat only natural food that does not feed addiction or overpower rational decision-making. Eat for “strength and not for drunkenness.”
- Chew your food well – choose food that requires chewing.
- Drink plenty of water between meals: 30 minutes prior or 2 hours after.
- Exercise regularly: walk outdoors in the fresh air and sunshine, engage in some resistance exercises or activities.
- Take regular time for adequate sleep.
- Establish a plan for your known weaknesses and with God’s help make them your strengths.

*For further ideas on how to incorporate what you have just learned into your daily life, see the chapter entitled, “How Can I Apply Healthy Principles in My Daily Life”*

*“Perfect health depends upon perfect circulation. A good circulation purifies the blood and secures health, while a poor circulation renders the blood impure and induces congestion of the vital organs.”<sup>i</sup>*

- E.G. White

---

<sup>i</sup> White, E. G. (1909). Letters and Manuscripts — Volume 24 (1909). Ellen G. White Estate. {Ms 109, 1909, par. 17}.



## CHAPTER 3

# HYPERTENSION: TAKING THE PRESSURE OFF

### NATIONAL WATER SHORTAGE

“My eighty-three-year-old mother called me last week: ‘Brenda!’ her voice sounded alarmed, ‘I just took my blood pressure and I am worried; it is 160/100’”

Brenda was worried, too, but knew something about blood pressure. “Mom, just sit down, drink 3 big glasses of water, and I’ll be over in about 45 minutes and we’ll take your blood pressure again.” Arriving 45 minutes later, Brenda retook mom’s blood pressure; it was now 130/70.

Americans are chronically dehydrated. People who drink plenty of water have lower blood pressures.<sup>1</sup> Many people suffer from high blood pressure, the cause of which is inadequate consumption of water. Constant dehydration forces the body to tighten the blood vessels and speed up the heart to maintain adequate blood flow to the brain and over time hypertension results.<sup>2</sup> Not all hypertension is the result of not drinking enough water, but more of it arises from this cause than is realized.

Contrast the impact of this “national water shortage” with the National Institute of Health’s (NIH) guidelines for treatment of hypertension.<sup>3</sup> For instance, say your water intake has been dismally inadequate and your brain is crying for better blood supply. The body responds with a faster heartbeat and tighter blood vessels to squeeze the blood more effectively up to the top of your head.<sup>4</sup> The doctor takes your blood pressure and, of course, discovers you have blood pressure that is higher than is considered safe. In line with practice guidelines. The first line treatment is a diuretic – a “water pill” – You go home, the dehydration is worse, compounded, and on a return trip to the doctor you are again discovered to be not only hypertensive, but your heart rate is up.

Guidelines now recommend a beta-blocker. What does a beta-blocker do? Slows your fast heart rate. With that you go home, your heart is now slow, but the brain is still crying out for blood so all the blood vessels in your body get even tighter to squeeze the remaining blood to the top of your head.

Back to the doctor you go for follow up; low-and-behold the pressure is still up. The next recommended pill to fix the “resistant hypertension” is a calcium channel blocker. What does a calcium channel blocker do? It relaxes all the blood vessel in your body. You mean the ones that tightened up to get the blood to the top of my head? Yes. Now I must hand it to the NIH, the first line therapy is really supposed to be lifestyle modifications, but in my estimation the modifications listed and the extent to which they are applied or encouraged lacks enthusiasm. Okay, so, I guess you can see that I am not “real big” on treating diseases you get from poor lifestyle practices with any other thing than correct lifestyle practices.

### SAVE THE BRAIN

People with normal blood pressure live longer.<sup>5,6,7</sup> What is more, their thinking is clearer. Studying the brains of people with high blood pressure, also called hypertension, researchers have discovered an association between hypertension, brain white matter defects, and difficulty thinking and remembering.<sup>8</sup> People with high blood pressure develop white matter lesions in their brains at 10 times the rate of the normal population.<sup>9</sup> Controlling blood pressure with medications does not stop brain deterioration. Some blood pressure medications make the brain deteriorate even faster.<sup>10</sup> In order to stop brain deterioration, lifestyle habits responsible for

## Blue Print for Health and Healing

both hypertension and dementia need to be addressed.

### “SAFE” MAGIC POTIONS?

Some people are quick to look to alternative medicine for a magic potion to fix their lifestyle related diseases, thinking they will find a safer cure in supplements, herbs, or vitamins. Some of these over-the-counter pills contain agents with pharmacological action just like medications, but does it make any sense to take magic potions to treat disease while continuing to practice the lifestyle habits that cause the illness in the first place? It's not that people have not found benefit from some of these pills. Agents with some evidence of benefit include coenzyme Q10, fish oil, garlic, vitamin C, L-Arginine,<sup>11</sup> grape seed extract,<sup>12</sup> quercetin,<sup>13,14</sup> rosemary,<sup>15</sup> cranberry,<sup>16</sup> fennel,<sup>17</sup> mistletoe,<sup>18,19</sup> saffron,<sup>20</sup> hawthorn berry<sup>21</sup> and valerian.<sup>22</sup> But none of these pills change the reasons or causes as to why your blood pressure went up in the first place.

### NO SUBSTITUTION

I am not against pills just because they are pills, but some of these pills can have serious drawbacks. For example, people already on blood pressure pills respond more poorly to lifestyle changes.<sup>23</sup> They are somewhat trapped. What's more, Parkinson's disease is a side effect of some blood pressure medications.<sup>24</sup> What about Alzheimer's? People with low to normal blood pressure are protected from brain diseases like Alzheimer's.<sup>25</sup> Artificial low blood pressure, with medications, does not always avert progression to dementia.<sup>26</sup> People whose good lifestyles give them a healthy blood pressure are much more likely to be mentally acute as they get older.<sup>27</sup> I recommend making a healthy lifestyle your defense against dementia, not medications.

While medications are generally prescribed to address some disease from which a patient suffers, hypertension is a side effect of many medications. Oral contraceptives rise blood pressure 8 points on average.<sup>28,29</sup> Antidepressant use doubles the risk for hypertension.<sup>30</sup> Anti-inflammatory drugs cause high blood pressure through kidney dysfunction.<sup>31,32,33</sup> Acetaminophen (aka Tylenol) increases blood pressure<sup>34</sup> especially in patients

with coronary artery disease (most Americans).<sup>35</sup>

### WHAT IS HYPERTENSION?

What is Hypertension? The National Institute of Health is clear on the classification of blood pressure. Blood pressure is recorded as systolic pressure over diastolic pressure. Systolic is a measure of the highest pressure the heart develops during its beat and diastolic is the lowest pressure when the heart is refilling with blood for another beat. Normal blood pressure goes no higher than 120/80. To go over 120/80, but no higher than 139/89 is to have pre-hypertension. Blood pressure over 139/89 is classified in two stages. Stage 1 hypertension is from 140-159/90-99. Any pressure of 160/100 or more is considered stage 2 hypertension.<sup>3</sup> The higher your blood pressure the higher your chances of experiencing other life-threatening complications of hypertension.

---

People whose good lifestyles give them a healthy blood pressure are much more likely to be mentally acute (sharp/bright) as they get older.

---

### GLOBAL IMPACT

Hypertension affects approximately 50 million people in the United States and 1 billion worldwide.<sup>3</sup> Fully 29% of US adults have hypertension, around 68% are taking antihypertensive medication, but only 64% of those taking medication have their blood pressure controlled.<sup>36</sup> Nine out of ten 55-year-olds, in the United States, with normal blood pressure will develop hypertension before they die.<sup>3</sup>

### TYPES OF HYPERTENSION

There are two major types of high blood pressure, primary and secondary.<sup>37</sup> Primary blood pressure is generally considered to have an unknown cause, but as you continue to learn the facts about hypertension you will discover that most primary hypertension is lifestyle related—it is caused by our habits relating to eating, drinking and exercising. Secondary

## Hypertension: Taking the Pressure Off

hypertension can be linked to other medical diseases such as thyroid disease, kidney disease, parathyroid disease, metabolic syndrome (diabetes), etc.

---

High blood pressure is called “the silent killer” because the majority of people with hypertension are unaware of its presence.

---

### THE SILENT KILLER

High blood pressure is called “the silent killer” because the majority of people with hypertension are unaware of its presence. Nevertheless, some people with hypertension do report symptoms, these can include tiredness, sudden hot flashes, headaches, reduced energy, heart beat palpitations, sudden sweating, reduced physical performance, dizziness, shortness of breath, chest pain, sleepiness, blurred vision, tinnitus (ringing in the ears), and/or muscle tension.<sup>38</sup>

### BE ALERT FOR SIGNS OF CARDIOVASCULAR DANGER

Hypertension might not be so bad if it were not for all the other diseases it causes. Of these heart disease tops the list. Achieving normal blood pressure reduces the risk of congestive heart failure by 36%,<sup>39</sup> of coronary heart disease by 72%, and of heart attack by 75%!<sup>40</sup> Because hypertension is so hard on the heart, if you can reduce the blood pressure by just 20 points, you can cut the risk of heart disease in half.<sup>3</sup>

Researchers have determined that lowering the average blood pressure in the United States by just 5 points would reduce the number of stroke deaths by 23,000 per year.<sup>41</sup> Further, lowering your blood pressure from 140/90 to a more normal 120/75 reduces your risk of stroke by 74%.<sup>42</sup> Bleeds are a common cause of stroke and can occur when an aneurysm bursts in the brain. If blood pressure is kept within normal limits, brain aneurysms are much less likely to enlarge and rupture.<sup>43</sup>

Another study reported that normalizing blood pressure can reduce strokes by 35–40%, myocardial infarctions by 20–25% and heart failure by more than 50%.<sup>44</sup>

Controlling blood pressure also reduces the risk of peripheral vascular disease – injury to

blood vessels in your arms and legs that can lead to physical disability.<sup>45</sup>

### ADDING INSULT TO INJURY

Hypertension can damage any part of your body because every part of your body is dependent upon blood for life. People with normal blood pressure save themselves much grief.

People with normal blood pressure can avoid the second leading cause (behind diabetes) of kidney failure.<sup>46</sup>

A surprising consequence of high blood pressure is high cancer risk! For example, normal blood pressure decreases the risk of endometrial cancer by 70%.<sup>47</sup>

Do you remember your last blood pressure numbers? Are you having difficulty thinking and remembering? People with hypertension are more apt to get Alzheimer’s in their later years, a disease of the brain that affects the ability to think and remember. People with normal blood pressure have superior blood flow to their brains improving thought and memory.<sup>48,49</sup> Normal blood pressure protects you from brain deterioration especially in the frontal lobes.<sup>50</sup> People who do not have hypertension perform better on test of memory, attention, and abstract reasoning.<sup>51</sup> Normal blood pressure can actually reduce the risk of Alzheimer’s by 40%.<sup>52</sup>

Diabetes and hypertension are often closely related. When combined with low HDL cholesterol, high triglycerides, and central obesity they are given a diagnosis of syndrome X.<sup>53</sup> Syndrome X is not a good diagnosis to have, but lifestyle interventions are most effective at treating this disease.

Osteoporosis is a thinning of the bones leading to an increased risk of fractures. People with normal blood pressure have 1/3 the risk of osteoporosis as those with hypertension.<sup>54</sup>

Retinopathy and Macular Degeneration are leading causes of blindness. Keeping blood pressure within normal limits cuts the risk of blindness from retinopathy and/or macular degeneration in half.<sup>55</sup>

Erectile dysfunction; the pressure in performance anxiety! Having trouble pleasing your wife? Thirty-two percent more men with normal blood pressure “get it up” than men with hypertension.<sup>56</sup>

### WHERE ARE WE HEADED: OUTLINE

Where we are headed with our hypertension discussion? Blood pressure is a product of the pumping of the heart, the blood vessel size, blood thickness and blood volume. If the heart beats faster, more blood is pumped and the pressure goes up. We call this tachycardia. If the blood vessels tighten up, making the space for the passage of blood narrower, it takes greater pressure to get the same amount of blood through to its destination. We refer to this tightening up effect as vasoconstriction. Blood vessels normally expand with each beat of the heart and then relax. If the blood vessels become hard, their stiffness inhibits the free flow of blood with each beat of the heart and the pressure goes up. Atherosclerosis is an example of this process. If the blood becomes thick and sludgy, more pressure is required to push it through the blood vessels and hypertension commences. When blood gets thick, we say that the viscosity has increased too much. If the blood vessels are being choked by something pressing on them from their sides, the effect is like putting your thumb over the end of a garden hose; this results in increased blood pressure. We call this external compression. Finally, if the volume of blood increases, this increases the amount of blood entering the heart, this in turn increases the amount of blood the heart pumps with each beat increasing the overall blood pressure. We often refer to this phenomenon as fluid retention.

### VOLUME OVERLOAD!

Let us start by talking about the problem of volume overload. Volume overload can be the result of obesity, where it takes more blood to feed an increased mass of fat tissue. Salt causes fluid retention effectively producing volume overload. Volume overload results when the kidneys fail, because the kidneys are responsible for dispensing with excess fluid volume. Muscles have many large blood vessels and require lots of blood when exercised. Big muscles left unused become stiff and their blood vessels become stiff resisting blood flow and causing volume overload at the heart. Thus, inactivity leads to hypertension. Blood does not like to be cold (you are not cold-blooded) and if your legs or arms are cold, the blood vessels in these extremities tighten up, sending all of the blood

flooding to the heart, overloading it and causing hypertension.<sup>57</sup>

### US SODIUM INTAKE EXCEEDS DIETARY GUIDELINES

It is a well-known fact that dietary salt plays a significant role in the evolution of hypertension. Salt causes your body to hold on to excess fluid, causing volume overload at the heart, and subsequent hypertension. It is estimated that reducing sodium intake in America to 1300mg (about ½ teaspoon of salt) per day would reduce the yearly death rate by 150,000.<sup>58</sup> Our recommends are that total salt consumption not exceed 1/4 to 1/8 teaspoon per day, or 600mg to 300mg of sodium total.

Salt is a popular ingredient in fast food restaurant menu items. Salt and hypertension are key ingredients for the occurrence of a brain stroke. A national statistic reveals that the more neighborhood fast food restaurants a community has, the higher will be the stroke rate in that given community.<sup>59</sup>

Okay, so test your salt savvy; which has more sodium – Rice Chex cereal or potato chips per one ounce serving each? The Rice Chex cereal, at 249 mg, has nearly twice as much as potato chips at 147 mg. How did you do? Now, compare tortilla chips and canned tomato sauce. The tomato sauce tops the chips at 147 mg / oz, the chips contain 118mg of sodium per ounce. What about Kraft Velveeta processed cheese or a hot dog sandwich? Ounce for ounce the Velveeta has nearly twice as much sodium at 420 mg compared to the hot dog's 221 mg.<sup>60</sup> Read your labels! Don't get caught off guard. Or, better yet, buy food without labels, like corn on the cob, which has one-tenth the sodium as canned corn.<sup>61</sup> In Japan, soy sauce is a significant source of excess sodium. In Japan, most (63%) dietary sodium comes from soy sauce and is a big cause of hypertension.<sup>62</sup>

---

Which has more sodium Rice Chex cereal or potato chips per one ounce serving each? The Rice Chex cereal at 249 mg has nearly twice as much as potato chips at 147 mg.

---

Let us suppose your sodium intake is within safe limits, but you still seem to be having salt related hypertension. It may be due to other things in your diet that cause you to retain

## Hypertension: Taking the Pressure Off

sodium. Refined carbohydrates and saturated fats increase salt retention and lead to hypertension.<sup>63,64</sup>

Psycho-social factors can also affect the body's propensity to hold on to excess sodium. People under stress retain sodium.<sup>65</sup> Thus, people who don't stress out, retain less salt and have lower blood pressures. We will be revisiting this factor in detail under the fast heart rate discussion section further on in this book. Blood-pressure-raising-sodium is not unique (or limited) to table salt; it also appears in sea salt and in mono sodium glutamate (MSG). It should come as no surprise then that MSG consumption increases the likelihood that a person will get high blood pressure.<sup>66</sup>

### ESCALATING OBESITY RAISES PRESSURE CONCERNS

Think twice before shopping for a larger dress; clothing size correlates directly with increases in blood pressure.<sup>67</sup> According to the World Health Organization, more than one billion people worldwide are overweight and more than 300 million people are obese resulting in high rates of hypertension, kidney disease and cardiovascular disease.<sup>68</sup> What we eat in America, the (S)tandard (A)merican (D)iet, makes the liver sick with "fatty liver disease" and triples the risk of hypertension.<sup>69</sup> A "pot belly" is a bad omen for hypertension. Thinner is better, tighten that belly for a drop in pressure! The more abdominal (visceral fat) you sport, the greater your risk of hypertension.<sup>70</sup> One serving of cheese per day can significantly increase a man's waist circumference, body mass index and blood pressure.<sup>71</sup> Indeed, each inch you can tighten your belt lowers your risk of hypertension by 15%.<sup>72</sup> To relate it to absolute weight gain in pounds, a 55 lb weight gain over your ideal body weight raises your risk of hypertension by 265%.<sup>73</sup> It is estimated that in up to 50% of the adults in the United States, whose hypertension is being managed with pills, the need for drug therapy could be alleviated with modest reductions in body weight.<sup>74</sup>

### INEQUALITY AMONG THE PROTEIN GIANTS

While many see protein as essential, excessive intake has been linked to hypertension.<sup>75</sup> Specifically, animal protein especially decreases kidney function increasing the risk of hypertension.<sup>76</sup> On the other hand

plant protein has been demonstrated to lower blood pressure. Increased intake of plant protein, fruits and vegetables significantly lowers the risk of hypertension.<sup>77</sup> As a practical example, two groups of people were compared. The first group used milk, a source of animal protein, and the second group was given soy milk, a source of vegetable protein. Those on the soy milk experienced 18 mmHg lower blood pressures than those on the cow's milk.<sup>78</sup> What's more a switch to soy can improve kidney function and insulin sensitivity,<sup>79</sup> and lower serum total cholesterol levels.<sup>80</sup>

### VASOCONSTRICTION

Let's now turn our attention to the impact of vasoconstriction on the development of high blood pressure. If the blood vessels tighten up, making the space for the passage of blood narrower, it takes greater pressure to get the same amount of blood through to its destination. What makes the blood vessels tighten up? Psychological stress, cold – especially in the arms and/or legs, and failing to maintain adequate water intake. Then there are the substances which stimulate the blood vessels to constrict such as caffeine from tea, coffee, colas, etc, and tobacco.

### PUTTING PRESSURE ON: SUBSTANCE ABUSE

Caffeine makes the heart react as it would if you were in a real life-or-death, stressful, flight-or-fight situation.<sup>81</sup> What actually happens is that caffeine acutely raises blood pressure by raising circulating concentrations of the stress mediators epinephrine and norepinephrine. In addition, caffeine increases arterial stiffness and inhibits the relaxation of blood vessels.<sup>82</sup> The impact of caffeine consumption on blood pressure is dose dependant – the more caffeine you consume, the more your blood pressure increases.<sup>83</sup>

Chocolate contains caffeine as well as other similar vasoactive substances such as theobromine.<sup>84</sup> Some have crafted studies (which lack any disclaimer to industry involvement, funding, or researcher bias) designed to give chocolate apparent positive effects on high blood pressure.<sup>85</sup> But in studies of real people eating chocolate available from stores it does not lower blood pressure, it only tends to encourage eating between meals and weight gain.<sup>86</sup>

## Blue Print for Health and Healing

The nicotine in tobacco is also a vasoconstrictor and pressor—a substance which raises blood pressure. Non-smokers have 12% lower risk of developing hypertension than smokers.<sup>87</sup>

### ENVIRONMENTAL HAZARDS

Remember the people who got sick from the FEMA trailers used to house victims of hurricane Katrina that hit Louisiana?<sup>88</sup> Environmental chemicals such as formaldehyde and acetaldehyde, which are found in building materials and cigarette smoke, increase hypertension, tightening blood vessels and increasing the amount of blood the heart pumps.<sup>89</sup>

Vasoconstriction can be the result of electromagnetic bombardment. For example, 40 minutes on the mobile phone can raise your blood pressure by 10 points.<sup>90</sup>

### WEATHER AND CLOTHING

When your arms or legs get cold, the blood vessels in them tighten up to reduce the amount of blood coming to them so that you will not lose too much heat. Poorly clad, chilled extremities force blood back to the heart, doubling its work and raising blood pressure.<sup>91</sup> It is interesting to note that blood pressure increases in the winter, especially in the elderly,<sup>92</sup> but so does consumption of salt and fat.<sup>93</sup>

On the brighter side, don't underestimate the benefits of sunshine! Sunshine relaxes blood vessels lowering blood pressure<sup>94,95</sup> and increases vitamin D, which has also been shown to lower blood pressure.<sup>96</sup>

### MOVE THOSE MUSCLES!

Don't take life sitting down! Active people have lower blood pressures; sedentary ones get hypertension.<sup>97</sup> Inactivity leads to increased vascular resistance to blood flow,<sup>98</sup> decreased blood flow to large muscles,<sup>99</sup> and increased blood pressure.<sup>100</sup> Regular use of your muscles keeps them supple and well supplied with blood, this in turn lowers blood pressure.<sup>101,102</sup>

The benefits of exercise in the treatment of hypertension are often overlooked. Exercise is important for all aspects of health. If you keep wiggling, they won't put you in a box! As a mode of exercise, walking is hard to beat. In fact, walking 10,000 steps or more per day can lower

your blood pressure by 10 points.<sup>103</sup> That would be about 4 miles. Weight lifting or resistance training can provide additional benefit. Indeed, 20 minutes per day in the gym can lower your blood pressure by as much as 10-12 points.<sup>104</sup>

### RELAXATION

Feel the need of a massage? A back massage brings relaxation and lowers blood pressure.<sup>105</sup> A nice soothing warm bath is also beneficial.<sup>106</sup>

### EXTERNAL COMPRESSION

External compression, the choking off of blood flow by something pushing on the blood vessel from its outside, causes hypertension. The effect is like putting your thumb over the end of a garden hose; the result is increased blood pressure. If someone grabs your neck from behind and chokes off your air and carotid arteries, not only will your eyes bulge, but your blood pressure will probably go up. Physical things which produce an external compression of the blood vessels include swelling, or edema, inflammation, sugar coating of the vessel walls called glycation, tight clothing, and obesity.

### TIGHT CLOTHING

Tight clothing, like belts and elastic, compress blood vessels and raise blood pressure. Clothing that hangs from your shoulders leaves your waist free of compression and aids in lowering blood pressure. Wearing loose clothes allow for more free blood flow and more normal blood pressure.<sup>107</sup> Instead of wearing a belt to hold up pants, suspenders are helpful to avoid the tightness.

### BREATHE CORRECTLY

Deep abdominal breathing, in contrast to shallow chest/neck breathing, brings blood pressure down.<sup>108,109</sup>

### BLOOD VISCOSITY, THICK BLOOD

If the blood becomes thick and sludgy, more pressure is required to carry it through the blood vessels and hypertension commences.<sup>110</sup> When blood thickens, we say that the viscosity has increased too much. What happens is that the red blood cells stick together in a series or chain. We call this phenomenon rouleaux.<sup>111</sup>

## Hypertension: Taking the Pressure Off

Factors known to influence blood toward increased viscosity and rouleaux include stress, dehydration, consuming refined foods, high blood cholesterol, high fat diet, overeating, and the accumulation of waste products in the intestines.

Refined foods, such as oils and sugars, make red blood cells stick together in clusters or chains called rouleaux that can be seen under a microscope. Higher blood pressure is required to circulate this thickened blood.<sup>112</sup>

### FATS

Because eating a high amount of fat causes rouleaux, food with saturated fat, (i.e. animal products, butter,<sup>113</sup> margarine, shortening, and/or coconut oil,<sup>114</sup> etc.) significantly increases the risk of hypertension. In addition, consumption of these products also raises the blood cholesterol, thickening the blood further, and raising blood pressure.<sup>115</sup> Even God has weighed in on the fat question, "Speak unto the children of Israel, saying, Ye shall eat no manner of fat..."<sup>116</sup>

---

**Do you know how much fat is in the food you eat? Fat in the diet increases blood pressure because it thickens the blood, and makes the blood vessels stiff.**

---

Compared to naturally occurring vegetable fats, lard significantly increases blood pressure and risk of hypertension.<sup>117</sup> This problem is worse as one gets older.<sup>118</sup> These scientific facts help explain why God said, "And the swine, because it divideth the hoof, yet cheweth not the cud, it is unclean unto you: ye shall not eat of their flesh, nor touch their dead carcase."<sup>119</sup> One group of researchers wanted to see what would happen if people were placed on an animal fat free diet for 10 days. It was discovered that ten days on an animal fat free diet significantly reduced blood pressure.<sup>120</sup> It is interesting to note that a similar experiment was entered upon around 600 B.C. in Babylon.<sup>121</sup> Daniel was a Jewish captive of Babylon. When offered a diet of meat he requested, "Prove thy servants, I beseech thee, ten days; and let them give us pulse (vegetables) to eat, and water to drink."<sup>122</sup> The outcome was that Daniel and three other colleagues who shared the intervention arm of the study did ten

times better in school than all the other university students.

What about processed vegetable oils? These oils are not free from health risk just because they come from plants. Refined oils, especially canola oil,<sup>123</sup> increase hypertension<sup>124</sup> and the risk of stroke at a younger age.<sup>125</sup>

Another problem with oils is what happens to them when they are subjected to heat. For example, heating oils in a pan causes serious deterioration in their quality turning them toxic so that they contribute to the onset and severity of hypertension.<sup>126</sup>

Do you know how much fat is in the food you eat? Fat in the diet increases blood pressure because it thickens the blood, makes the blood vessels stiff,<sup>127</sup> and causes endothelial dysfunction.<sup>128</sup> What is endothelial dysfunction? Nitric oxide is used in the body to relax blood vessels. When the blood vessels respond poorly to nitric oxide relaxation we say it is a result of the inner lining or endothelium of the blood vessel being sick or dysfunctional, hence, endothelial dysfunction.<sup>129</sup> Foods that decrease vascular sensitivity to nitric oxide relaxation signals include: high fat,<sup>130</sup> salt,<sup>131,132</sup> cholesterol,<sup>133,134</sup> (especially dietary oxidized cholesterol<sup>135,136</sup>), overeating,<sup>137,138</sup> sugar,<sup>139,140</sup> (especially fructose<sup>141,142</sup>), and glycation of proteins as happens in diabetes.<sup>143</sup>

### THE VASO-RELAXING DIET

On the other hand, proper diet has a significant impact on the responsiveness of your blood vessels to nitric oxide relaxation. I call it the vaso-relaxing diet, meaning it MSKRD your blood vessels more responsive to relaxation messages from your body. Dietary changes known to improve vascular responsiveness include: a vegetarian diet,<sup>144</sup> oats (oatmeal),<sup>145</sup> tomatoes,<sup>146</sup> diets rich in antioxidants<sup>147</sup> such as vitamin E,<sup>148</sup> and minerals like zinc<sup>149</sup> and copper.<sup>150</sup>

Omega-3 deficiency leads to hypertension.<sup>151</sup> Flaxseed and walnuts are good dietary sources of omega-3 fatty acids. Omega-3 fatty acids are very antithrombotic and anti-inflammatory. In contrast, omega-6 fatty acids, which are present in refined vegetable oils and meat, are prothrombotic (causing blood clots) and proinflammatory. Omega-3 fatty acids also aid in the treatment of hyperlipidemia, hypertension, and rheumatoid arthritis.<sup>152</sup>

### THE DEADLY MIX: FAT AND SUGAR

When combined, fat and sugar form a deadly mix. The risk of hypertension from combining these two agents is not just additive, it is multiplicative,<sup>153</sup> meaning just small amounts of these two agents mixed together creates an enormous health hazard.

### THE AMERICAN SWEET TOOTH

Speaking of sugar, (and refined carbohydrates, like white flour, white pasta, white rice, and refined breakfast cereals, which turn immediately to sugar in your blood stream), 20 teaspoons of sugar raises your blood pressure by 2 mmHg, 40 teaspoons raises it by 5 mmHg.<sup>154</sup> The average American consumes 47 tsp of sugar each day of their lives.<sup>155</sup> The danger of sugar in the diet is that it ends up in the blood stream. As the blood sugar rises so does the blood pressure.<sup>156</sup>

Not all carbohydrates are created equal. Sugar and complex carbohydrates may carry the same theoretical calories per gram, but the impact on the blood sugar, the risk of hypertension and diabetes complications are very different.<sup>157</sup> Complex carbohydrates from an unrefined plant-based diet are much better tolerated, decrease the risk of hypertension, and provide a nutrient dense diet that improves health.<sup>158</sup> So how do sugar and other refined carbohydrates cause hypertension? Refined carbohydrates cause hypertension by increased production of norepinephrine, dopamine, and epinephrine, and by causing blood vessel wall thickening.<sup>159</sup> The secret is to quit consuming sugar; it works, and blood pressure comes down.<sup>160</sup>

Sugar is an accumulative poison. Refined carbohydrates create a sticky coating of sugar all over your blood cells, blood vessels and other body tissues. The more refined processed foods you eat, the higher your blood sugar goes and the more this sticky sweet substance coats the tissues of your body. This coating is called glycation and accumulates over time, leading to vascular and heart muscle stiffness, atherosclerotic plaque and hypertension. The more refined food you eat in your lifetime the greater your chance of having high blood pressure as you age.<sup>161</sup> People on an unrefined plant-based diet enjoy a cleaner cardiovascular system and may avoid high blood pressure all together as they get older.<sup>162</sup>

Eating refined carbohydrates has a downside of leading to a condition called insulin resistance, where the cells of the body no longer take sugar out of the blood stream in response to normal insulin levels.<sup>163,164</sup> Examples of refined carbohydrates shown to increase insulin resistance include: white rice,<sup>165</sup> white flour, as found in pastries and white bread,<sup>166,167</sup> and processed sugar.<sup>168,169</sup> Of particular concern among refined carbohydrates is fructose, its ability to create insulin resistance and hypertension surpasses table sugar.<sup>170,171</sup>

---

**Sugar is an accumulative poison. Refined carbohydrates create a sticky coating of sugar all over your blood cells, blood vessels and other body tissues. The more refined processed foods you eat, the higher your blood sugar goes.**

---

Additional causes of insulin resistance include a high fat diet,<sup>172</sup> eating between meals or snacking<sup>173</sup> and obesity.<sup>174</sup> The results of insulin resistance are high cholesterol values<sup>175</sup> and, of course, hypertension.<sup>176,177,178</sup> People who never provoke their insulin to overproduction by eating refined carbohydrates also never experience insulin-driven hypertension.<sup>179</sup> Eat only as much refined carbohydrates as you would like to see your blood pressure go high.

Speaking of fructose, drinking one fructose-sweetened soda per day can increase the risk of hypertension by 77%.<sup>180</sup> And, in case you were thinking artificial sweeteners were a good alternative, think again. Artificial sweeteners like aspartame give some people very high blood pressure.<sup>181</sup> Stopping these sweeteners can be the secret to lowering some people's blood pressure.<sup>182</sup> On the other hand there is a non-sugar sweetener which has been shown to improve blood pressure, and that is stevia.<sup>183</sup> It does this by acting as a calcium channel blocker (the mechanism of action of some pharmaceutical blood pressure drugs).<sup>184</sup>

### HARDENING OF THE ARTERIES

Hardening of the arteries causes resistance to free flow of the blood. Blood vessels normally expand and relax with each beat of the heart. If the blood vessels become hard, their stiffness inhibits the free flow of blood with each beat of



## Hypertension: Taking the Pressure Off

the heart and the pressure goes up.<sup>185,186</sup> Atherosclerotic plaque is an example of this process.<sup>187</sup> If a plaque narrows the diameter of a blood vessel, more pressure is required to get the same amount of blood through the smaller opening.

Other conditions leading to this mechanism of blood pressure elevation include; increased body inflammation<sup>188</sup> (also known as oxidative stress), physical inactivity, and endothelial dysfunction. Endothelial dysfunction is a deadening of the blood vessel wall so that it no longer responds to the bodies relaxing signals. Endothelial dysfunction leads to unresponsive arteries and veins. Unresponsive arteries and veins resist free flow of blood to the tissues raising the blood pressure required to move the same volume of blood. Things that cause endothelial dysfunction include high blood sugars with sugar coating of the endothelium, uric acid with deadening of the endothelium, and high fat which also deadens the endothelium so that it will not relax and allow blood to pass freely.

### **INFLAMMATION AND ENDOTHELIAL DYSFUNCTION**

The role of inflammation in the development of hypertension is multifaceted. Besides causing endothelial dysfunction, it thickens blood vessel walls making blood flow more difficult and raising the pressure required for normal circulation. In consequence, blood pressure goes up with increasing inflammation.<sup>189</sup> People with more inflammation have a 40% higher risk of hypertension.<sup>190</sup> Many people realize that there is an association between salt intake and a rise in blood pressure. In fact, even though arterial hypertension is a major cause of disease-related morbidity and mortality worldwide, it is nearly absent in populations that consume natural foods containing little or no salt.<sup>191</sup> This is partly due to fluid retention,<sup>192,193</sup> but it is also due to inflammation.<sup>194</sup> Excessive salt intake causes hypertension and kidney injury, in part, by oxidative stress that inflames the blood vessel walls and kidneys.<sup>195</sup>

### **TOXINS IN THE ENVIRONMENT**

Lead<sup>196</sup> and arsenic<sup>197</sup> are environmental poisons that raise whole body inflammation and have been shown to cause hypertension. Lead is

a common contaminant in old paint, dust around old houses and can even be found in supplements such as calcium.<sup>198</sup> Arsenic often contaminates public drinking water<sup>199</sup> and bottled water.<sup>200</sup> Arsenic is used in chicken and hog feed as a growth promoter and is present in the meats of these animals. Arsenic is an approved feed supplement that farmers use to control intestinal parasites in chickens.<sup>201</sup> As a consequence, eggs<sup>202</sup> and chicken meat<sup>203</sup> prove to be dietary sources of arsenic. Seafood, because fish swim in polluted waters, has been found to be a significant source of arsenic in those that consume seafood.<sup>204</sup> Avoid arsenic and avoid hypertension.

### **HOW MUCH ANTIOXIDANTS DO I NEED?**

The secret to inflammation management is having a good offense. Antioxidants and phytochemicals from plant foods provide this; they lower the inflammation in your body<sup>205 206</sup> and normalize your blood pressure.<sup>207</sup> You may be asking; how much antioxidant do I need? Can I get too much? You may be interested to find out that lifestyle measures are not easily overdosed, they have more marked results in more difficult cases, and they do not cause dangerous side effects. Antioxidants only lower blood pressure in people with hypertension, not in normal healthy people.<sup>208</sup>

Diet is not the only way to have a positive impact on your antioxidant defense system. Exercise helps reduce the body's inflammation resulting in lower blood pressure.<sup>209</sup>

Since periodontal disease increases inflammation and hypertension, good oral hygiene can also be a key to good blood pressure control.<sup>210</sup>

### **BEAUTY REST PRESCRIPTION**

One of your bodies' own defenses against elevated inflammation is the hormone produced by the pineal gland in your brain, called melatonin. Melatonin is a natural antioxidant that reduces blood pressure.<sup>211</sup> Late evening artificial lighting impacts sleep, disrupts melatonin production, and raises blood pressure.<sup>212,213,214</sup> People who take regular hours for adequate sleep in total darkness have a healthier supply of melatonin and lower blood pressures.<sup>215,216</sup> Consequently, people who subject themselves to the irregularities in schedule afforded by shift work are at higher

risk of hypertension.<sup>217,218</sup> That extra night's pay may not be worth the risk of high blood pressure. Regular day jobs are friendlier to blood pressure. We recommend a 9:30 p.m. bedtime for adequate melatonin production and healthier blood pressure.

People who go to sleep easily and get plenty of rest experience less hypertension. People who breathe freely at night, without sleep apnea or snoring, have lower blood pressures.<sup>219</sup>

### **MEAT AND ENDOTHELIAL DYSFUNCTION**

So what raises inflammation increasing blood vessel wall thickness and causes endothelial dysfunction? Animal product consumption. Three or more servings of meat, poultry, eggs, fish, and/or seafood per day increases the risk of hypertension by 67%.<sup>220</sup> Of particular concern are pork products. The American Heart Journal notes: "A complete elimination of pork in all forms is a good dietary therapeutic rule in the management of arterial hypertension in all patients." "The elimination of all forms of pork from the diet of all people may be a good practice for the prevention and the control of hypertension, one of the most common and important illnesses of man." "Salted pork is even more hazardous to the health of man."<sup>221</sup> Maybe this is why it was not considered a food item in God's book, for Leviticus notes, "And the swine...is unclean to you."<sup>222</sup> Even eggs won't help you lower your blood pressure. Eggs play a significant role in people 40 years old and older in their risk of hypertension.<sup>223</sup> Animal products lack solution-oriented anti-oxidants, and if they are not a part of the solution, then they are often a part of the problem. This is definitely the case in eating animal products.

### **ANIMAL PRODUCTS FACE ACID TEST**

Acid is no friend of your body's sensitive tissues. Acid increases endothelial dysfunction leading to hypertension.<sup>224</sup> As a consequence, acid forming foods, particularly cheese and animal protein, significantly increase hypertension.<sup>225</sup> Studying acid in the urine to identify acid forming foods, fruit and vegetables actually lower the amount of acid that is formed in the digestion of food. Grains, fish and red meat increase acid formation, but cheese almost triples the amount of acid produced by comparison.<sup>226</sup> One of the offending acids

produced is uric acid. Anything that raises uric acid in the blood raises the risk of hypertension.<sup>227</sup> Foods that raise uric acid include: meat, particularly organ meats,<sup>228,229</sup> seafood,<sup>230</sup> fructose,<sup>231,232</sup> often as high fructose corn syrup or agave, beer and alcoholic beverages.<sup>233</sup> As a consequence, the same diet helpful in lowering the risk of gout from uric acid elevations can simultaneously lower the risk of hypertension.

Foods known to help lower uric acid levels include fruits such as lemons<sup>234</sup> and other citrus, cherries,<sup>235</sup> strawberries,<sup>236</sup> grapes, apples, tomatoes, bananas, and pomegranates; vegetables such as celery, potatoes, beets, and endive; and most tree nuts, especially chestnuts.<sup>237</sup> For that matter, any food with diuretic properties has the potential to relieve high blood pressure that is being caused by high uric acid levels. Foods valued for their enhanced urine production properties (diuretic) include artichoke, celery, eggplant, cauliflower, green beans, grape, apple, peach, pear, melon, and watermelon.<sup>238</sup> When you increase the amount of urine you produce, you potentially increase the amount of uric acid lost in the urine, thus lowering the levels in your blood.

### **STRONG DRINK**

The impact of alcohol on the rise in blood pressure is not limited to its propensity to elevate blood uric acid levels. There is a linear relationship between the amount of alcohol consumed and the rise in blood pressure<sup>238</sup> (the more alcohol you drink the higher your blood pressure goes<sup>239</sup>). A two drink a day person can lower their risk of hypertension by one third simply by abstaining.<sup>239</sup> The wise man says; "Wine is a mocker, strong drink is raging: and whosoever is deceived thereby is not wise."<sup>240,241</sup>

### **CHOOSING A BLOOD PRESSURE SENSITIVE DIETARY LIFESTYLE**

Diet plays a significant role in hypertension, after all, you are what you eat! In a study comparing common diets, it was discovered that non-vegetarians, (consumers of animal products like meat, eggs, and dairy) eat 50% more fat, have 30% higher total cholesterol, have 32% higher blood sugars and are six times more likely to develop hypertension.<sup>242</sup> Indeed, in rural populations still practicing their

## Hypertension: Taking the Pressure Off

traditional largely vegetable based lifestyle, free from the effects of the western diet, hypertension is unheard of and there is no age related rise in blood pressure.<sup>243</sup> Their average blood pressure is around 110/60 mmHg, average cholesterol 129 mg/dl, blood sugars 55 mg/dl and body mass index is 20 (kg/cm<sup>2</sup>).<sup>244</sup>

---

**In a study comparing common diets, it was discovered that non-vegetarians (consumers of animal products like meat, eggs and dairy) are six times more likely to develop hypertension.**

---

Really, blood pressure is not supposed to go up with age! In choosing a dietary lifestyle you will be interested to know that people adopting total plant based nutrition only have a 5% incidence of hypertension, those vegetarians including dairy and eggs with their meals, a 10% incidence, fish eating vegetarians a 12% incidence, and meat eaters a 21% incidence.<sup>245</sup> Studied from another angle, people on total plant based nutrition have one fourth the risk of developing hypertension as meat eaters.<sup>246</sup>

In considering adopting a health promoting lifestyle, the vegan (plant-based nutrition) diet has many blood-pressure lowering advantages. In one study hypertensive patients, on blood pressure medications for 8 years, were given a vegan diet for one year. Blood pressures came down and the majority were able to stop or drastically reduce their medications.<sup>247</sup> Just eating more fruits and vegetables is helpful, compared to those who do not eat many fruits or vegetables; those who eat largely of fruits and vegetables have a 77% lower risk of hypertension.<sup>248</sup> Vegetables lower blood pressure and keep it from creeping up over the years.<sup>249</sup>

Vegetables known to be helpful in lowering blood pressure include: green leafy because they are high in magnesium and potassium,<sup>250</sup> spinach because it is rich in folate,<sup>251</sup> celery<sup>252,253</sup> (eat it or drink it), carrots,<sup>254</sup> ginger,<sup>255</sup> and broccoli,<sup>256</sup> because they relax blood vessels, beets,<sup>257</sup> basil,<sup>258</sup> garlic<sup>259,260</sup> (supplement or whole), onions; (eaten raw, but not cooked) significantly reduce hypertension.<sup>261</sup>

Not to be left out, fruit also lowers blood pressure.<sup>262</sup> Fruits especially shown to have a positive impact on blood pressure include eggplant,<sup>263,264</sup> tomatoes,<sup>265</sup> pumpkin or squash<sup>266</sup> (which are high in potassium and low

in sodium), cranberry (which has ACE inhibitory activity mimicking a popular blood pressure pill),<sup>267</sup> an apple a day,<sup>268</sup> pomegranates,<sup>269</sup> grapefruit<sup>270</sup> (which protect arteries, has diuretic activity and improves blood fluidity), and finally olives<sup>271</sup> (which have calcium channel blocking and nitric oxide mediated vasodilatation benefits).

Deficiency of certain minerals in the diet increases the risk of hypertension. Iron: people eating a nutritious vegetarian diet providing sufficient intake of iron enjoy lower blood pressures. Iron from meat, known as heme-iron, is not helpful in this regard.<sup>272</sup> Potassium: lowers blood pressure,<sup>273</sup> but the most common blood pressure pill, a diuretic, lowers potassium.<sup>274</sup> Calcium is needed to maintain normal blood pressure.<sup>275</sup> Copper deficiency, a common result of eating refined carbohydrates,<sup>276</sup> has been shown to cause high cholesterol (hypercholesterolemia), high triglycerides (hypertriglyceridemia), hypertension, and glucose intolerance (diabetes).<sup>277</sup> Magnesium deficiency precipitates hypertension.<sup>278</sup> Mineral levels are decreased by alcohol, salt, phosphoric acid (sodas), coffee intake, by profuse sweating, by intense prolonged stress, by excessive menstruation and vaginal flux, by diuretics and other drugs by certain parasites (pinworms), by sugar (refined carbohydrates), and by use of tobacco.

---

**On a fresh fruit and vegetable diet, participants lost 8 pounds, lowered their blood pressures by 18 mm Hg, and 80% of those who smoked or drank alcohol abstained spontaneously!**

---

### WHAT'S FOR BREAKFAST?

Breakfast eaters experience lower blood pressures than breakfast skippers.<sup>279</sup> In planning breakfast, be warned of the "cereal killer". In laboratory animals, most processed breakfast cereals, dry or hot, have a hard time sustaining life and cause hypertension.<sup>280</sup> Choose whole plant based unrefined foods for a healthy, blood pressure friendly breakfast. If you cannot, by looking at the breakfast food, determine its identity, such as "O"s or flakes which do not resemble their origin, don't put it in your mouth. It is much better to eat identifiable cereals such

## Blue Print for Health and Healing

as granola, oatmeal, and other whole grain cereal foods.

The reason why refining foods causes so much hypertension is that fiber and minerals are removed in the process.<sup>281</sup> Fiber from grains has been shown to reduce the risk of hypertension by 40%.<sup>282</sup> Vegetable fiber, 65 gm/day, can reduce your blood pressure by 12-14 points.<sup>283</sup>

Beans help lower blood pressure because they are low in sodium, have healthy fiber and contain the blood pressure lowering minerals potassium, magnesium, and calcium.<sup>284</sup>

Even nuts are beneficial. A daily serving of nuts can reduce the risk of hypertension by 18%.<sup>285</sup> The preferred variety is raw with little or no salt. Even “soy nuts”, a roasted soybean product, have been shown to positively impact blood pressure.<sup>286</sup>

One important antioxidant vitamin for addressing blood pressure is vitamin C. When blood levels are maintained from natural dietary sources, blood pressure drops,<sup>287</sup> but not when blood levels are attempted through artificial (pill supplementation) sources.<sup>288</sup> Diets high in this and other naturally occurring vitamins from fruit and vegetables lower blood pressure.<sup>289</sup> One such diet is the Hawaiian diet. This diet is high in complex carbohydrate (77% of calories), low in fat (12% of calories), moderate in protein (11% of calories), and has been shown to have decreases in blood pressure by- as much as 10 points.<sup>290</sup>

One research group, wanting to maximize dietary impact on blood pressure management, put their patients on a six-month 62% uncooked fresh fruit and vegetable diet. The result was an 8-pound weight loss and an 18 mm Hg blood pressure decrease. In passing, the researchers noted that 80% of those in this study who smoked or drank alcohol abstained spontaneously. They reported increased sensitivity to alcohol, cigarette smoke, chemical odors, and medications. Several also had nausea, vomiting, and malaise after typical restaurant or banquet dinners.<sup>291</sup> What kind of diet are we talking about? The original diet! “And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.” “and thou shalt eat the herb of the field;”<sup>292</sup> “Grains, fruits, nuts, and vegetables constitute the diet chosen for us by our Creator. These foods, prepared in as simple and natural a manner as possible, are the most healthful and

nourishing. They impart a strength, a power of endurance, and a vigor of intellect that are not afforded by a more complex and stimulating diet.”<sup>293</sup>

### WHY EAT SO MUCH?

“And put a knife to thy throat, if thou be a man given to appetite.”<sup>294</sup> Hypertension increases with overeating.<sup>295,296</sup> Do not overeat! “...eat in due season, for strength, and not for drunkenness!”<sup>297</sup> Eating less food (caloric restriction) reduces blood vessel stiffness, improves vascular relaxation and lowers blood pressure.<sup>298,299</sup>

Taking it a step farther, fasting has been shown to be an effective modality in lowering blood pressure. You can jump start your blood pressure reduction with a water only fast.<sup>300</sup> Fasting effectively reduces stubborn hypertension.<sup>301</sup> Fasting one or two days a week may be more effective than pills.<sup>302</sup>

### HAVE SOME LEMON IN YOUR WATER!

With dehydration as one of the causes of hypertension,<sup>303</sup> what is the best way to get my water? Adding fresh squeezed lemon to water maximizes its impact on hypertension.<sup>304</sup> We recommend that you squeeze the juice of one lemon into your first quart of water for the day and drink it at least 30 minutes before breakfast to lower blood pressure. We recommend that the water be lukewarm, not hot or cold.

### TACHYCARDIA: INCREASED HEART RATE

If the heart beats faster, a higher volume of blood is pumped and the blood pressure rises.<sup>305</sup> We call this tachycardia. Anything that causes the resting heart rate to increase accelerates the risk of hypertension. In fact, for every 10 beats/min increase in heart rate the risk of hypertension increases by 42%.<sup>306</sup> You see, athletes have very low heart rates. People who have not been exercising have a high heart rate, and a high risk of hypertension. Stress also raises the pulse rate.

### DOES STRESS RUN IN YOUR BLOOD?

Are you easily startled? This is part of your response to stress and is an early sign you may be headed for hypertension.<sup>307</sup> Besides raising the heart rate and tightening the blood vessels,

## Hypertension: Taking the Pressure Off

another way stress causes hypertension and blood clots is that it thickens the blood so that it requires more pressure to pump it through the blood vessels.<sup>308</sup> People who never get anxious have a significantly lower incidence of hypertension.<sup>309</sup> “Take therefore no thought for the morrow: for the morrow shall take thought for the things of itself. Sufficient unto the day is the evil thereof.”<sup>310</sup>

Another way to look at it is that people who handle stressful life events more effectively have greater success maintaining healthy blood pressure.<sup>311</sup> This may have something to do with personality. The easy-going type B personalities go easier on blood pressure than their type A counterparts.<sup>312</sup> Easy-going, laid-back, calm, relaxed responses to life’s challenges predict normal blood pressure.<sup>313</sup> People with cool tempers experience calmer blood pressures<sup>314</sup> and fewer heart attacks.<sup>315</sup> “He that is slow to anger is better than the mighty; and he that ruleth his spirit than he that taketh a city.”<sup>316</sup> What’s more, happier more cheerful people have lower blood pressures.<sup>317</sup>

Having trouble coping? Stress management training, including hostility reduction and anger management have been shown to be effective at lowering blood pressure.<sup>318</sup>

---

**Does keeping an animal help blood pressure? Yes, loving pets have a blood pressure lowering effect for people with hypertension.**

---

Of course, stress is how you perceive your risks, not the risks themselves. People who experience events as negative have a higher risk of hypertension.<sup>319</sup> The question then is; how can I avoid, or get over stress? How do I change my perceptions of risk away from the negative toward the positive? The first step is being aware when stress is playing a role in your life. Does your pulse rise? Are you physically tense? Do you experience headaches or anxiety? Are you nervous? Does fatigue dog your steps? Do you have high blood pressure? Being in touch with your emotions is key because stress is an emotional experience.

When you discover that you have stress, your next step is to realize or remember what thoughts surround or accompany your stress. Then, evaluate the validity of those thoughts. Are they rational? Are they negative or are they positive? Once you have flushed out the

thoughts underlying your stressful feelings the next step is to determine what these thoughts tell you about what you believe. Beliefs underlie thoughts, thoughts underlie feelings and feelings drive actions or behaviors like hypertension. Take a closer look at your secretly held beliefs, especially the ones underlying stressful feelings. Most often you will discover beliefs that set you up for unreasonable fear, worry, or anger. You need to challenge these beliefs and replace them with rational ones. “And ye shall know the truth, and the truth shall make you free.”<sup>320</sup>

Beliefs that you will find most helpful for achieving good health are ones obtained from the Bible where we learn that “There is no fear in love; but perfect love casteth out fear: because fear hath torment. He that feareth is not made perfect in love.”<sup>321</sup>

One common stress provoking fear is one of financial failure. But when we have turned our lives over to God, we can expect His care. “And he said unto his disciples, Therefore I say unto you, Take no thought for your life, what ye shall eat; neither for the body, what ye shall put on. The life is more than meat, and the body is more than raiment. Consider the ravens: for they neither sow nor reap; which neither have storehouse nor barn; and God feedeth them: how much more are ye better than the fowls? And which of you with taking thought can add to his stature one cubit? If ye then be not able to do that thing which is least, why take ye thought for the rest? Consider the lilies how they grow: they toil not, they spin not; and yet I say unto you, that Solomon in all his glory was not arrayed like one of these. If then God so clothe the grass, which is to day in the field, and tomorrow is cast into the oven; how much more will he clothe you, O ye of little faith? And seek not ye what ye shall eat, or what ye shall drink, neither be ye of doubtful mind. For all these things do the nations of the world seek after and your Father knoweth that ye have need of these things. But rather, seek ye the kingdom of God; and all these things shall be added unto you.”<sup>322</sup>

People who put the past behind them, not ruminating about past anger-provoking events are at lower risk for hypertension and its complications.<sup>323</sup> “Brethren, I count not myself to have apprehended: but this one thing I do, forgetting those things which are behind, and reaching forth unto those things which are before, I press toward the mark for the prize of the high calling of God in Christ Jesus.”<sup>324</sup>

## Blue Print for Health and Healing

### STRESSFUL LIFE EVENTS

One way to increase your stress is to subject your mind to the impressions being made on television. Two (2) hours a day of television watching increases the risk of hypertension by 40%.<sup>325</sup> As I am sure you are well aware, if you think about it, the main character of the plot is either in trouble, getting into trouble, or getting out of trouble, and life just is not that bad.

Difficulty paying medical expenses is associated with increased hypertension.<sup>326</sup> It is also the number one reason for bankruptcy in the United States.<sup>327</sup>

### WORK PLEASURE

The rewards of gainful, meaningful employment bear mentioning. People happy with their jobs and their income are more likely to experience happy, healthy blood pressure.<sup>328,329</sup> People who enjoy their jobs and are not overworked or depressed have lower blood pressures.<sup>330</sup> Having purpose in life helps moderate blood pressure.<sup>331</sup>

### SOCIAL PLEASURE

Looking at the social aspects of blood pressure control, people with close supportive friends have lower blood pressures.<sup>332</sup> Indeed, sharing a negative life experience with an ambivalent friend raises blood pressure and heart rate. Alternatively sharing the same event with a caring, supportive friend lowers blood pressure and heart rate. Similarly, blood pressure levels are lowest when people are with family and highest when among strangers.<sup>333</sup>

### PET POWER

Does keeping an animal help blood pressure? Yes, loving pets have a blood pressure lowering effect for people with hypertension.<sup>334</sup>

### MUSIC MAGIC

Do you enjoy listening to music? Music can help blood pressure.<sup>335</sup> Blood pressures respond positively to classical music, but not jazz or pop.<sup>336</sup>

### EMERGING URBAN DANGER

Environment plays a significant role in stress. Moving to the city? Expect a 23-point rise in your systolic blood pressure and a 9-point rise in your diastolic blood pressure.<sup>337</sup> There are hazards in just commuting to a city. Traffic related air pollution and noise significantly increase the risk of hypertension.<sup>338</sup> People living in small rural towns have half the risk of hypertension as people living in large, industrialized cities.<sup>339</sup>

### RURAL RELIEF

Quietness, solitude and silence soothe the nerves and lower your blood pressure.<sup>340,341</sup> The stillness is remedial, "Be still, and know that I am God."<sup>342</sup> People living where the din of busy roads never reaches their ears have a 37% lower risk of hypertension.<sup>343</sup> Outdoor walks, enjoying trees, flowers, and other wonders of God's great nature, lower blood pressure and stress.<sup>344</sup> Even bringing the outdoors into the home through houseplants has been shown to improve blood pressure.<sup>345,346</sup>

### LIFE'S PLEASURE: HELPING OTHERS

If you have extra time and want to do something beneficial for your blood pressure, volunteering is a wonderful aid in keeping blood pressures normal.<sup>347</sup> Find someone else who could use your help and give of yourself to the needs of the world. "It is more blessed to give than to receive."<sup>348</sup>

### FREEDOM FROM GUILT AND RESENTMENT

Guilt and resentment cause hypertension. Freedom from guilt<sup>349</sup> and resentment<sup>350</sup> lowers blood pressure. Okay, how do I do that? Easier said than done! Well, it is not really something you can do on your own. You are going to need help. Only God can accomplish this, with your cooperation. Are you ready?

Guilt comes from sin. "Sin is the transgression of the law."<sup>351</sup> It is being out of harmony with the loving God of nature and the universe, of this you must first be conscious. You may already have a sense that something is not right, that you could use some more peace in your life.

How do I know if I have guilt? One of two ways: 1. Compare your life to the standard of God's holy law<sup>352</sup> and see if there is a disparity

## Hypertension: Taking the Pressure Off

between what you are and what it enjoins, "for by the law is the knowledge of sin."<sup>353</sup> Go to the law, read the first commandment, and ask God to reveal to you if you are in harmony with it. Then proceed to the following commandments and ask the same question. 2. Compare your life with that of Jesus Christ, "Who did no sin."<sup>354</sup> meaning that His life was an example of what it is like to be at complete peace with God and keep His law free of guilt. Read His biographies at the beginning of the New Testament (Mathew, Mark, Luke, John) of the Bible and ask God to reveal to you the differences between what you are studying and what your life could have been like if you had been like Jesus. This is another way of comparing your life to what the law enjoins and discovering where you may have sinned.

If, after trying this, you find yourself believing that you are problem free, it may only indicate that you have undertaken this comparison too superficially and need to spend a little more time with it. A thorough investigation will reveal that, "all have sinned, and come short of the glory of God."<sup>355</sup> And, "If we say that we have no sin, we deceive ourselves, and the truth is not in us."<sup>356</sup>

God's Holy Spirit will help you and your conscience will be awakened to see the evil of sin, its power and guilt. Sin separates you from God and peace and brings you into bondage. It brings feelings of guilt that result in physical symptoms like hypertension. The more you struggle on your own to escape, "the more you realize your helplessness. Your motives are impure; your heart is unclean. You see that your life has been filled with selfishness and sin. You long to be forgiven, to be cleansed, and to be set free. Harmony with God, likeness to Him – what can you do to obtain it?"<sup>357</sup>

---

**Guilt and resentment cause hypertension. Freedom from guilt and resentment lowers blood pressure.**

---

"It is peace that you need – Heaven's forgiveness, peace, and love in the soul. Money cannot buy it, intellect cannot procure it, wisdom cannot attain to it; you can never hope, by your own efforts to secure it. But God offers it to you as a gift, "without money and without price." Isaiah 55:1. It is yours if you will but reach out your hand and grasp it. The Lord says, "Though your sins be as scarlet, they shall be as white as snow; though they be red like crimson,

they shall be as wool." Isaiah 1:18. "A new heart also will I give you, and a new spirit will I put within you. Ezekiel 36:26."<sup>357</sup>

Confess your sins, and in heart put them away. Say, "Dear God, I have sinned and have suffered the results of a sense of guilt and have the disease of high blood pressure. Please forgive me and give me a new heart to know you and live free from offence toward you and others." Resolve to give yourself to God. "Now go to Him and ask that He will wash away your sins and give you a new heart. Then believe that He does this because He has promised. This is the lesson which Jesus taught while He was on earth, that the gift which God promises us, we must believe we do receive, and it is ours. Jesus healed the people of their diseases when they had faith in His power; He helped them in the things which they could see, thus inspiring them with confidence in Him concerning things which they could not see--leading them to believe in His power to forgive sins. This He plainly stated in the healing of the man sick with palsy: 'That ye may know that the Son of man hath power on earth to forgive sins, (then saith He to the sick of the palsy,) Arise, take up thy bed, and go unto thine house.' Matthew 9:6. So also John the evangelist says, speaking of the miracles of Christ, 'These are written, that ye might believe that Jesus is the Christ, the Son of God; and that believing ye might have life through His name.' John 20:31."<sup>360</sup>

To maintain peace and freedom from blood-pressure-raising guilt, "Fight the good fight of faith,"<sup>358</sup> believe that God has taken care of your past sins, daily read His word to learn new things that will help keep blood-pressure-raising guilt away, and "press toward the mark for the prize of the high calling of God in Christ Jesus."<sup>359</sup> "To them who by patient continuance in well doing seek for glory and honor, and immortality, eternal life:"<sup>360</sup> Rest in the assurance of eternal life and a good afterlife.

Resentment: resentment arises out of misunderstanding between people. It comes from not forgiving someone else. It is a form of anger. Resentment grows if not checked. Do not allow the wound to fester and break out in poisoned words, which taint the minds of those who hear. Do not allow bitter thoughts to continue to fill your mind. "Thou shalt not avenge, nor bear any grudge against the children of thy people, but thou shalt love thy neighbour as thyself: I am the LORD."<sup>361</sup>

## Blue Print for Health and Healing

Go to your brother, and in humility and sincerity talk with him about the matter. "Moreover, if thy brother shall trespass against thee, go and tell him his fault between thee and him alone: if he shall hear thee, thou hast gained thy brother. But if he will not hear thee, then take with thee one or two more, that in the mouth of two or three witnesses every word may be established. And if he shall neglect to hear them, tell it unto the church: but if he neglect to hear the church, let him be unto thee as an heathen man and a publican."<sup>362</sup> At this point you have done your part, no matter what the outcome, choose to let God have the feelings of resentment and bitterness, and fill your mind with glad saying like from the Bible books of Psalms or Proverbs.

### **PATIENCE AND FORGIVENESS LOWER BLOOD PRESSURE**

People who cultivate the characteristic of patience enjoy much more normal blood pressures.<sup>363</sup> This reminds me of a very important passage in the last book of the Bible, "Here is the patience of the saints: here are they that keep the commandments of God, and the faith of Jesus."<sup>364</sup>

A spirit of forgiveness has been shown to bring blood pressure down.<sup>365</sup> "Forgiving one another, even as God for Christ's sake hath forgiven you."<sup>366</sup>

### **RELIGION, BIBLE STUDY, AND PRAYER LOWER BLOOD PRESSURE**

In stressful situations, prayer has been shown to lower blood pressure.<sup>367</sup> Further, people who attend religious services,<sup>368</sup> and pray or study the Bible frequently, have a 40% lower risk of hypertension.<sup>369</sup> People who substituted religious media (TV or Radio) for personal experience and social contact with other believers suffered elevated blood pressures.<sup>372</sup>

Most people find wars and natural disasters like hurricanes and earthquakes stressful. In the wake of earthquakes and other stress-raising natural disasters more people come down with high blood pressure.<sup>370</sup> I would advise you to avoid this source of stress, but I would be misleading you if I asserted that these situations were going to become less frequent. "For nation shall rise against nation, and kingdom against kingdom: and there shall be earthquakes in diverse places, and there shall be famines and

troubles: these are the beginnings of sorrows."<sup>371</sup> In other words, you have not seen anything yet. And as we get closer to the second coming of Jesus Christ these things will become more and more common. Stress management needs to be God derived to meet such impending devastation.

### **DOES LOVE LAST FOREVER?**

We have already discussed the impact of major stressful life events on the development of high blood pressure. One such major stressful life event is the loss of a loved one. A study out of the University of Michigan, Ann Arbor, revealed that older adults who lost a loved one to death, but who believe in a good afterlife were much less likely to develop hypertension.<sup>372</sup> This raises an important question; do we have reason to believe in a good afterlife? If not, we are all headed for high blood pressure. If God is just waiting, as many religions teach, to roast sinners in the fires of hell for eternity, stage II hypertension here we come! But what is the truth about the afterlife?

Jesus was right up front in telling us, that after He left this earth, He would be preparing to have us join Him. "Let not your heart be troubled: ye believe in God, believe also in me. In my Father's house are many mansions: if it were not so, I would have told you. I go to prepare a place for you. And if I go and prepare a place for you, I will come again, and receive you unto myself; that where I am, there ye may be also."<sup>373</sup> When are we going to join Him? When do we get this reward? "For the Son of man shall come in the glory of his Father with his angels; and then he shall reward every man according to his works."<sup>374</sup> He will be rewarding everyone at His second coming.

How will He know who to give the good rewards to and who to exclude? "I charge thee therefore before God, and the Lord Jesus Christ, who shall judge the quick and the dead at his appearing and his kingdom;" "Henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous judge, shall give me at that day: and not to me only, but unto all them also that love his appearing."<sup>375</sup> God makes a decision on that in a court setting called the judgment.<sup>376</sup> Clearly no judgment has been made or reward given at this point in history, it does not occur until His second coming. Even Paul waits for that day to receive his "crown of righteousness". So, all, dead or alive, good or



## Hypertension: Taking the Pressure Off

evil, are still waiting for the judgment and their reward.

What about those who have already died? Jesus said, "Marvel not at this: for the hour is coming, in the which all that are in the graves shall hear his voice, And shall come forth; they that have done good, unto the resurrection of life; and they that have done evil, unto the resurrection of damnation."<sup>377</sup> Jesus has yet to raise the dead so that they can receive their reward. No one is currently burning in hell or enjoying heaven.

What are the dead doing right now? Can I talk to one of them? Will any of them remember me? What says the Scriptures concerning these things? The beloved David declares that man is not conscious in death. "His breath goeth forth, he returneth to his earth; in that very day his thoughts perish."<sup>378</sup> "In death there is no remembrance of thee; in the grave who shall give thee thanks?" "The dead praise not the Lord, neither any that go down into silence."<sup>379</sup> Solomon bears the same testimony: "The living know that they shall die; but the dead know not anything." "Their love, and their hatred, and their envy, is now perished; neither have they any more a portion forever in anything that is done under the sun." "There is no work, nor device, nor knowledge, nor wisdom, in the grave, whither thou goest."<sup>380</sup>

When will this resurrection take place? "For this we say unto you by the word of the Lord, that we which are alive (and) remain unto the coming of the Lord shall not prevent them which are asleep. For the Lord himself shall descend from heaven with a shout, with the voice of the archangel, and with the trump of God: and the dead in Christ shall rise first: Then we which are alive (and) remain shall be caught up together with them in the clouds, to meet the Lord in the air: and so shall we ever be with the Lord. Wherefore comfort one another with these words."<sup>381</sup> That is really comforting and helps produce good blood pressure.

Even the Old Testament character Job was aware of this future resurrection: "If a man die, shall he live again? All the days of my appointed time will I wait, till my change come. Thou shalt call, and I will answer thee: thou wilt have a desire to the work of thine hands."<sup>382</sup>

What change was Job anticipating at the resurrection? Paul answers this for us, "In a moment, in the twinkling of an eye, at the last trump: for the trumpet shall sound, and the dead shall be raised incorruptible, and we shall

be changed. For this corruptible must put on incorruption, and this mortal must put on immortality. So, when this corruptible shall have put on incorruption, and this mortal shall have put on immortality, then shall be brought to pass the saying that is written, Death is swallowed up in victory. O death, where is thy sting? O grave, where is thy victory? The sting of death is sin; and the strength of sin is the law. But thanks be to God, which giveth us the victory through our Lord Jesus Christ. Therefore, my beloved brethren, be ye steadfast, unmoveable, always abounding in the work of the Lord, forasmuch as ye know that your labor is not in vain in the Lord."<sup>383</sup> If you are faithful to God, you have the promise of a new body at Jesus' return, free from diseases such as hypertension.

The outcome of the judgment at the second coming of Jesus is that the righteous go to heaven and the wicked to hell. For some people the resurrection is the beginning of a happy afterlife, these are the ones we discussed earlier who believe in a good afterlife and experience lower blood pressure now. "And many of them that sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt."<sup>384</sup>

---

**If you are faithful to God, you have the promise of a new body at Jesus' return, free from diseases such as hypertension.**

---

And what is the punishment of those who choose to reject God's offer of forgiveness and mercy? Is hell forever? Contemplating hell is daunting, and the thought of being condemned to go there could certainly raise blood pressure. Why should there even be a hell? "Then shall he say also unto them on the left hand, depart from me, ye cursed, into everlasting fire, prepared for the devil and his angels."<sup>385</sup> Hell was never intended for you or me. It is for the devil and his angels who oppose God. But, if we join the devil in sin, in fighting the righteous law of God, then we are choosing to join the devil in his plight. Really, God would rather we repent and choose His way of life: "The Lord is...longsuffering to us-ward, not willing that any should perish, but that all should come to repentance."<sup>386</sup>

Do the wicked suffer in the fires of hell through all eternity? "For, behold, the day cometh, that shall burn as an oven; and all the

## Blue Print for Health and Healing

proud, yea, and all that do wickedly, shall be stubble: and the day that cometh shall burn them up, saith the LORD of hosts, that it shall leave them neither root nor branch. And ye shall tread down the wicked; for they shall be ashes under the soles of your feet in the day that I shall do this, saith the LORD of hosts."<sup>387</sup> So really, although it is a fearful ordeal, it is self-limited, it comes to an end, all that is left is ashes. Matthew speaks of this, "Whose fan is in his hand, and he will thoroughly purge his floor, and gather his wheat into the garner; but he will burn up the chaff with unquenchable fire."<sup>388</sup> Burned Up!

Has this ever happened before? It has: "Even as Sodom and Gomorrah, and the cities about them in like manner, giving themselves over to fornication, and going after strange flesh, are set forth for an example, suffering the vengeance of eternal fire."<sup>389</sup> These cities were very rebellious against God and His Law so God destroyed them with eternal fire as an example of hell. Are they still burning? Of course not, but they did burn to ashes, to be trodden under foot, as the wicked will be.

Okay, but what if my loved ones choose a life which leads them to hell, won't this be on my mind through all eternity? No, "And God shall wipe away all tears from their eyes"<sup>390</sup> "For, behold, I create new heavens and a new earth: and the former shall not be remembered, nor come into mind."<sup>391</sup>

Will God bring a complete end to all sorrow, pain, the high blood pressure? "What do ye imagine against the LORD? he will make an utter end: affliction shall not rise up the second time."<sup>392</sup>

While those who do not embrace God's ways and law are "as though they had not been."<sup>393</sup>, the righteous will be enjoy being with Jesus and eating from the Tree of Life whose leaves are for healing, "In the midst of the street of it, and on either side of the river, was there the tree of life, which bare twelve manner of fruits, and yielded her fruit every month: and the leaves of the tree were for the healing of the nations."<sup>394</sup> Perhaps for healing even of hypertension. We know that there will be no disease in heaven. "And God shall wipe away all tears from their eyes; and there shall be no more death, neither sorrow, nor crying, neither shall there be any more pain: for the former things are passed away."<sup>395</sup> What a wonderful day that will be! Don't you look forward to that—Total freedom from death,

sorrow, crying and pain? Are you ready to be healed?

### REVIEW AND RECAP

Review: Blood pressure is a product of the pumping of the heart, the size of the blood vessel through which the blood must flow, the thickness of the blood, and the volume of blood to be pumped.

A fast heart rate pumps more blood than normal and increases blood pressure. We call this tachycardia. Common causes of tachycardia are stress, having poor cardiovascular fitness (being out of shape), caffeine, tobacco and dehydration.

If the blood vessels tighten up or constrict, making the blood vessel size smaller, higher blood pressure is needed to get the required amount of blood to its destination. We refer to this tightening up effect as vasoconstriction. Vasoconstriction is caused by psychological and physical stress, thermal stress from cold-exposure, caffeine, tobacco, and dehydration.

Blood vessels normally expand and relax with each heartbeat. If the blood vessels become hard, their stiffness resists the free flow of blood and up goes the blood pressure. Atherosclerosis is an example of this process, so are sugar glycation, endothelial dysfunction, and stiffness of the blood vessels running through muscles from a sedentary lifestyle.

If the blood becomes thick and sludgy, more pressure is required to carry it through the blood vessels and hypertension results. When blood gets thick, we say that the viscosity has increased too much. Examples of the blood-thickening threats include dehydration, overeating, psychological stress, a diet too rich in fat and refined carbohydrates, and high blood cholesterol or triglycerides.

If the blood vessels are being choked by something pressing on them from their sides, the effect is like putting your thumb over the end of a garden hose, the result is increased blood pressure. We call this external compression. Things that press on the blood vessels include tissue swelling, atherosclerotic plaque, sugar coating called glycation (usually from diabetes), inflammation, and especially tight clothing like belts and elastic bands.

Finally, if the volume of blood increases, this increases the amount of blood entering the heart, which in turn increases the amount of blood leaving the heart and with each beat this

## Hypertension: Taking the Pressure Off

increases the overall blood pressure. We often refer to this phenomenon as fluid retention. Lifestyle habits causing volume overload include eating too much salt, obesity, a sedentary lifestyle, poorly clad chilled extremities, and kidney failure.

### **SUMMARY: LETTING HYPERTENSION GO!**

- Keep well hydrated with pure vitalizing water; add a little fresh lemon juice, too.
- Take regular time for enjoyable exercise in the great outdoors, far from traffic, pollution, cities and stressful crowds.
- Get plenty of warm sunshine and invigorating fresh air.
- Eat a delicious unrefined whole-plant-based diet; high in fiber, minerals, vitamins, and antioxidants, low in salt, with no refined carbohydrates, processed fats, or hypertension-causing animal products.
- Avoid the pitfalls of tobacco, caffeine, alcohol, drugs, fried foods, fructose, sodium, MSG, and overeating.
- Make weight control a habit.
- Guard your sleep and evaluate its quality for effectiveness.
- Let God know you need Him to release you from stress, guilt, fear, and hypertension. Rely on Him for guidance as you come more into line with His original plan for diet and lifestyle.

*“I saw that we should pray as Solomon did— ‘Feed me with food convenient for me’ (Proverbs 30:8)— and as we make the prayer, act it out.*

*Get food that is plain and that is essential to health, free from grease. Such food will be convenient for us.”<sup>i</sup>*

- E.G. White

---

<sup>i</sup> White, E. G. (1980). Selected Messages Book 3. Washington, D.C.: Review and Herald Publishing Association. p. 274.

## CHAPTER 4

# THE CHOLESTEROL STORY: ARE YOU FIGHTING HEART DISEASE?

### WHY HIGH CHOLESTEROL?

Believe it or not, cholesterol is your body's soap! Your body runs on water, you are about 70% water, and when you eat fat or oil, it takes lots of soap for those dietary fats (saturated fats, trans fats, refined fats, high fat diet) to become soluble in the water environment of your body.<sup>1</sup> If you are accustomed to washing dishes at home by hand, I am sure you find some fats harder to "wash" off your plates than others. Just realize that the fats that are the hardest to wash off your dishes are also the fats that will take the most cholesterol "soap" to dissolve in your body. Cholesterol dissolves the fats or oils you eat into the water environment of your blood. Hard fats, like animal shortening, hydrogenated vegetable oils and oils that have been browned by heating, are more difficult for the body to dissolve. These fats cause the liver to make more cholesterol "soap". This ultimately results in increased blood stream cholesterol.<sup>2,3,4</sup> The more fat of any kind you eat, the more cholesterol it will take for your body to process it. For each additional 1% of fat you include in your diet, your total cholesterol will go up 1½ points.<sup>5</sup>

### ENTEROHEPATIC CIRCULATION: THE LIVER SOAP CYCLE

The source of cholesterol "soap" is the liver, and the soap bottle or reservoir is the gallbladder. The cholesterol soap mixture is called bile. This bile is squirted into the small intestine when the need for soap is detected, i.e., fat in the digestive tract. This "soap" then tries to make the fat compatible with absorption into your water-based blood stream. The cholesterol component of the "soap" is re-absorbed in the small intestine and returned to the liver for processing. There are several things

that can reduce "soap"/cholesterol in the system. Eat less fat, so less "soap" is called for. Eat more fiber, which will soak up some of the "soap" and carry it out in your stools so less "soap" is reabsorbed and returned to the blood stream and liver. Eat more plants that are high in sterols. These plant sterols compete with "soap" for re-absorption, thus reducing "soap" re-absorption.

### CHOLESTEROL IN MANY FORMS

Cholesterol is cholesterol, but its packaging tells you its role. LDL or low-density lipoprotein is the packaging marked for export from the liver to the tissues. HDL or high-density lipoprotein is the clean-up crew that takes cholesterol from the tissues back to the liver. LDL trucks it out into circulation and HDL retrieves it, removing it from the blood and tissues. As you might imagine, low HDL is predictive of mortality from heart disease—without sufficient clean-up crews working, junk piles up.<sup>6</sup>

Recently there has been discussion about the size of LDL and the impact of that size on health. Larger LDL particle size is associated with greater longevity.<sup>7</sup> Small, dense, LDL particles have been shown to be associated with an increased risk of cardiovascular events.<sup>8</sup> While all this size discussion makes for more laboratory testing, positive lifestyle approaches to heart disease risk factors can improve LDL particle size, which will reduce heart attack risks.<sup>9,10,11,12</sup>

### THE FATS WE EAT

Trans-fat, a by-product of hydrogenation of vegetable oils,<sup>13</sup> increases the risk of high cholesterol by 65%.<sup>14</sup> In one study, heart attack victims had 13% more trans-fat in their cell

walls.<sup>15</sup> Trans-fat lowers the “good” HDL-cholesterol more than saturated fat and decreases antioxidant activity in the body, and makes patients more susceptible to atherosclerosis and heart attacks. Additionally, trans-fat increases the harmful LDL cholesterol.<sup>16</sup> You may not be aware of where the trans-fat in your diet is coming from. Sources of trans-fat in the American diet by percentage include cakes, cookies, crackers, pies, and bread 40%; animal products 21%; margarine 17%; fried potatoes (like French fries and hash browns) 8%; potato chips, corn chips, popcorn 5%; household shortening 4%; other (breakfast cereals, candy, etc.) 5%.<sup>17</sup> Avoiding trans-fat may take some investigation on your part.

The saturated fat found in milk, cheese, egg yolks, meat and sausage has an even more deleterious effect on cholesterol and coronary heart disease than trans-fat.<sup>18</sup> A diet high in saturated fat can raise total cholesterol by 23%.<sup>19</sup> When cholesterol is a part of the diet, the total blood cholesterol will be worse if the other fats in the diet are saturated than if they are unsaturated.<sup>20</sup> For example, because of its high fat and cholesterol content, 40gm of butter per day will raise your cholesterol by 20 points.<sup>21</sup> Palm oils differ little from other saturated fats in raising blood stream cholesterol.<sup>22,23</sup> Compared to the harder fats, monounsaturated oils tend to lower cholesterol.<sup>24</sup> Polyunsaturated fats tend to favorably affect cholesterol, but be less resistant to oxidation.<sup>25</sup>

---

**Compared to vegetarians, animal product users (meat, eggs and dairy) eat 50% more fat, have 30% higher total cholesterol, have 42% higher LDL cholesterol, have 38% higher triglycerides.**

---

Another factor, which is often overlooked, is the form of the fat or oil consumed. Refined oils absorbed early in the small intestine are esterified with cholesterol and enter the lymphatics to be deposited in the heart. Oils residing naturally in whole foods are digested and absorbed later in the small intestine as phospholipids and enter the portal circulation where they are conducted directly to the liver. Thus, they have less of an impact on total blood cholesterol.<sup>26</sup>

### **ANIMAL PRODUCT CONSUMPTION AND CHOLESTEROL**

People who consume animal products every day experience higher cholesterol, and have on average, a total cholesterol of 255 mg/dL. Those who limit their consumption of animal products to once weekly have a total cholesterol of around 205 mg/dL.<sup>27</sup> Compared to vegetarians, animal product users (meat, eggs and dairy) eat 50% more fat, have: 30% higher total cholesterol, have 42% higher LDL cholesterol, have 38% higher triglycerides, have 32% higher blood sugars, and are five times more likely to have high blood pressure.<sup>28</sup> People who drink cow's milk or eat dairy products such as yoghurt and cheese everyday have 7 mg/dL higher total cholesterol and 5 mg/dL higher LDL cholesterol.<sup>29</sup> A diet with animal protein and low fiber intake has been shown to significantly increase cholesterol levels.<sup>30</sup> Casein, the protein in milk, makes your liver produce more cholesterol.<sup>31,32</sup> People on a unrefined, high fiber, high carbohydrate diet have significantly lower LDL cholesterol than those on a refined carbohydrate diet or a low carbohydrate, high protein diet.<sup>33</sup> On the other hand, substituting 30 to 50 grams of soy protein for animal protein in the daily diet produces a 13% reduction in LDL, 10% reduction in triglycerides, 9% reduction in cholesterol, and a 2.4% increase in HDL.<sup>34</sup> This nutritional advice has also been shown to be helpful in cases considered to have a “genetic” predisposition to high cholesterol.<sup>35</sup>

### **REFINED FOODS FOR REFINED PEOPLE?**

Refined (processed) foods tend to make your blood sugar rise precipitously, making it go very high at a very rapid rate. We categorize foods by their effect on the blood sugar according to the “glycemic index”.<sup>36</sup> Glycemic load quantifies the amount of a high glycemic food you eat. High glycemic index or load foods make your blood sugar rise higher and faster than low glycemic index or load foods. Most refined foods are high glycemic load foods. High glycemic load diets drive LDL cholesterol up and HDL down.<sup>37,38</sup> On the other hand, reducing the glycemic load, by eating more whole plant foods, has the effect to reduce LDL levels.<sup>39</sup> We recommend a high complex carbohydrate diet, a diet without refined/processed foods.

## The Cholesterol Story: Are You Fighting Heart Disease?

### DISEASE AND ELEVATED CHOLESTEROL

The more cholesterol you harbor in your blood stream, the higher will be your risk of dying of a heart attack.<sup>40,41,42,43</sup> In fact, one high blood cholesterol measurement in your lifetime can mean a higher risk of coronary heart disease the rest of your life!<sup>44</sup> The more cholesterol you carry in your blood the sicker your heart becomes.<sup>45</sup> When your cholesterol goes up, cells lining the blood vessels, called macrophages, fill up with fat and contribute to plaque formation.<sup>46</sup> When you lower the fat (cholesterol and triglycerides) in your blood it virtually halts the progression of lesions in your blood vessels.<sup>47</sup> People with genetically low LDL live 5-12 years longer and almost never have heart attacks.<sup>48,49</sup> The more fat and cholesterol you tolerate in your blood stream the shorter your life will be.<sup>50,51</sup> Here are some numbers that illustrate increase in risk: Cholesterol above 280 mg/dL increases likelihood of angina 5 ½ times.<sup>52</sup> Cholesterol above 240 mg/dL increases the risk of death from heart attack by 350%.<sup>53</sup> On the positive side, each 2 mg/dl drop in cholesterol reduces the risk of heart attack by 1%.<sup>54</sup> One of the reasons for this rise in heart disease and fatal heart attacks with increased blood cholesterol, besides the obvious increase in atherosclerosis, is that when your cholesterol goes up it impairs the heart's ability to form collateral blood vessels which could help you survive a heart attack.<sup>55</sup>

Triglycerides also play a role. Elevated triglycerides are associated with increased risk of heart attack and death.<sup>56,57</sup> Triglycerides greater than 200 mg/dL significantly increase the risk of stroke or transient ischemic attack.<sup>58,59</sup>

---

**Cholesterol levels are not lowered when you replace beef, lamb, or pork in the diet with chicken or fish. Why? Because poultry's proportion of cholesterol is similar to that of red meat.**

---

Caldwell Esselstyn, Jr., MD, of the Cleveland Clinic has shown on angiography that blockages in coronary arteries can be reversed by changes in diet. "The optimal diet", according to him, "consists of grains, legumes, vegetables, and fruit, with 10%-15% of its calories coming from fat." He goes on to say that "This diet minimizes

the likelihood of stroke, obesity, hypertension, type 2 diabetes, and cancers of the breast, prostate, colon, rectum, uterus, and ovary."<sup>60</sup> Did Medicare ever promise anything like that? This sounds like a real insurance program!

What about cancer and cholesterol? Elevated cholesterol and triglycerides significantly increase breast cancer risk.<sup>61</sup> The risk of breast cancer rises 88% when one eats foods with cholesterol, 125% for high intake of animal protein, 143% for high saturated fat intake, and 169% if you eat more calories than you need!<sup>62</sup> Pancreatic cancer is the fourth leading cause of cancer death with a five-year relative survival rate of 4%, making it one of the most fatal cancers. Eating cholesterol increases the risk of pancreatic cancer 50%. Eggs, a rich source of cholesterol, increase the risk by 60%.<sup>63</sup>

Other disease risks escalate with cholesterol. Elevated cholesterol and triglycerides together with low HDL significantly increase the risk of autoimmune inflammatory arthritis like rheumatoid arthritis.<sup>64</sup> High cholesterol is a significant risk factor for macular degeneration and resultant blindness.<sup>65,66,67,68</sup> A cholesterol of 240 mg/dL increases the risk of macular degeneration by 80%.<sup>69</sup> A cholesterol level of 220 mg/dL or more increases the risk of migraine by 280%.<sup>70</sup> Having elevated cholesterol levels increases the risk of high blood pressure 90%.<sup>71</sup> Even hypothyroidism can result from elevated cholesterol levels.<sup>72,73</sup>

The brain and nerves are not happy when cholesterol increases. Hypertension and hypercholesterolemia work together to increase brain dysfunction.<sup>74</sup> When rabbits, confirmed herbivores, consume cholesterol, they develop Alzheimer's disease-like lesions in their brains.<sup>75</sup> Patients with elevated LDL Cholesterol have a 106% higher risk of cognitive impairment.<sup>76</sup> Obesity and high triglycerides produce cognitive impairment.<sup>77</sup> Elevated triglycerides predict increased peripheral neuropathy in diabetics.<sup>78</sup> Elevated cholesterol levels are significantly associated with major depression.<sup>79,80</sup> Lowering cholesterol levels through lifestyle changes, has been shown to decrease depression, hostility, and severity of psychological symptoms.<sup>81</sup>

### DIETARY CHOLESTEROL: THE CHOLESTEROL ENTERING OUR MOUTHS

When you eat cholesterol, eventually some of it will end up in your blood stream. It has been said, "we are what we eat." However, cholesterol is the soap, so, while eating

cholesterol does not raise the soap level dramatically like eating fats does, dietary cholesterol still results in increased blood stream cholesterol.<sup>82</sup> Eating 100 mg of cholesterol per day can increase total cholesterol concentrations by 2.2 mg/dL.<sup>83</sup> Most people eat far more than 100 mg of cholesterol per day.

What foods have cholesterol? Nearly all animal foods have some cholesterol in them, some have more than others. Plant based foods do not have cholesterol. This is because it takes a liver to produce cholesterol and plants do not have livers! Fruits and vegetables, nuts and seeds, beans and grains do not contain cholesterol. One cup of 2% Milk has 18 mg of cholesterol. One half cup of ice cream has 29 mg, most of which is oxidized. One tablespoon of butter would have 31 mg, and 3 ounces of clams 57 mg. In a 3-ounce serving, chicken breast has 73 mg, pork 76 mg, sirloin beef 80 mg, oyster 84 mg, shrimp 165 mg, one large egg 213 mg, beef liver 410 mg, and beef brains, which often end up as animal shortening, 1697 mg.<sup>84</sup> Your body does not need a dietary source of cholesterol, it makes its own, fresh.

Cholesterol levels are not lowered when you replace beef, lamb, or pork in the diet with chicken or fish. Why? Because poultry's proportion of cholesterol is similar to that of red meat.<sup>85</sup>

### DIETARY CHOLESTEROL AND DISEASE

Dietary cholesterol together with elevated blood cholesterol dramatically increase oxidized cholesterol. Oxidized cholesterol results in increased whole body inflammation, atherosclerosis and plaque formation.<sup>86,87</sup> The more cholesterol you eat, the more calcified plaque you can expect in your coronary arteries.<sup>88</sup> When you make cholesterol a part of your diet, it increases inflammation in: the lungs leading to asthma;<sup>89,90</sup> the liver leading to non-alcoholic fatty liver diseases and cirrhosis;<sup>91,92,93</sup> and the prostate leading to pain, enlargement and cancer.<sup>94,95</sup> Cholesterol in the diet can bring about permanent microscopic damage to the kidneys causing them to lose 6 times more protein in the urine than acceptable levels.<sup>96,97,98</sup> "But I was eating the extra animal products to increase my protein intake...." When you stop eating cholesterol, blood vessel inflammation actually does subside and coronary artery plaques become more resistant to rupture.<sup>99</sup>

Need osteoporosis? A high-cholesterol diet stimulates bone resorption causing osteoporosis.<sup>100</sup>

Dietary cholesterol seriously decreases mental performance.<sup>101,102</sup> Six hours after consuming a high fat meal the brain oxygen falls below 70%. What's more, it does not return to normal for 3 whole days—which means some people have never had fully functioning brains!<sup>103</sup>

### OXIDIZED CHOLESTEROL IN THE BLOOD

"Why me?" a gentleman in his late 50s asked me. "My total cholesterol has always been around 140 and my HDL is usually very good." He had had a heart attack and cardiac bypass surgery and was now wondering what he could do to avoid a repeat. As I got to know the gentleman better it became very apparent that the source of his cholesterol included foods high in oxidized cholesterol such as ice cream, pizza, and processed foods, while his diet was not high in fruit and vegetables. For the same cholesterol level, people who eat fewer fruits and vegetables have a higher risk of a fatal heart attack.<sup>104</sup> This is because of the effects of oxidized cholesterol. Oxidized cholesterol can be stabilized by the antioxidants found in fresh fruits and vegetables.

---

"Why me?" a gentleman in his late 50s asked me. "My total cholesterol has always been around 140 and I had a massive heart attack and cardiac bypass surgery."

---

My uncle died of heart disease at age 39. He was an anesthesiologist at the University of Texas. He left a wife and two teenage sons behind. His nightly supper: ice cream. Within 24 hours of eating oxidized cholesterol, rabbits and monkeys develop vascular lesions which, if not repaired, would lead to atherosclerosis and heart attacks.<sup>105,106,107,108</sup> Common sources of oxidized cholesterol include custard mixes such as ice cream, pancake mixes, because dried eggs are included,<sup>109</sup> Parmesan cheese, and any food where cholesterol, or oils for that matter, come in contact with air and/or oxygen.<sup>84 110</sup> Serum oxidized cholesterol markedly accelerates atherosclerosis.<sup>111,112,113</sup> Arterial injury caused by oxidized cholesterol leads to arterial wall cholesterol accumulation and plaque enlargement.<sup>114</sup>



## The Cholesterol Story: Are You Fighting Heart Disease?

Cholesterol oxidized by the body is negligible compared to oxidized cholesterol obtained from the diet.<sup>115,116</sup> Oxidized dietary cholesterol increases blood stream cholesterol and is the predominant source of tissue oxidized cholesterol.<sup>117,125</sup> Oxidized cholesterol favors platelet clot and plaque formation.<sup>118,119</sup> The more LDL is oxidized, the more cholesterol it transports to the tissues. The more HDL is oxidized, the less cholesterol it removes from the tissues.<sup>120,121</sup> Oxidized cholesterol markedly delays the clearance of chylomicrons, which transport cholesterol from the intestine to the liver, from the blood.<sup>122</sup> The more fast foods, cheese puffs, potato chips, and hydrogenated fat you eat, the worse your cholesterol will be, both in oxidation and in quantity.<sup>123</sup> Cheese contains high levels of oxidized cholesterol.<sup>124,125</sup> Compared to vegetable oils, butter and cheese are very atherogenic, causing heart disease.<sup>126</sup> Frying, grilling, even just cooking foods with high cholesterol content, such as meat, egg yolk and full fat dairy products, creates massive cholesterol oxidation.<sup>127,128</sup> As prepared consumer foods are becoming increasingly popular, the consumption of higher levels of oxidized cholesterol in foods is inevitable. Processes, such as pre-cooking, freeze-drying, dehydration, and irradiation, have all result in increased production of oxidized cholesterol. Factors known to oxidize cholesterol in foods include: heat, light, radiation, oxygen, moisture, low pH, pro-oxidizing agents, and storage of food at room temperature.<sup>129</sup> Cigarette smoke increases LDL cholesterol oxidation and lipid peroxidation.<sup>130</sup>

### THE DISEASES OF OXIDIZED CHOLESTEROL

Oxidized lipids are associated with earlier and more severe atherosclerosis especially in the presence of dietary cholesterol.<sup>131,132</sup> Atherosclerosis is not limited to the heart, it can occur anywhere there are blood vessels, like the penis. Every 1 mg/dL increase in total cholesterol increases the risk of erectile dysfunction by about 1%.<sup>133,134,135,136</sup> The brain suffers, too, because lipid oxidation increases Alzheimer's disease risk.<sup>137</sup>

A high cholesterol diet depresses natural killer cells activity by 75%, making cholesterol a dangerous food if you want your immune system to fight off viruses responsible for pandemic flu, cancer, or autoimmune diseases.<sup>138</sup> In fact, oxidized cholesterol

increases the risk of skin cancer, colon cancer,<sup>139,140</sup> ulcerative colitis leading to cancer, breast disease leading to cancer, and prostate hyperplasia leading to cancer.<sup>141</sup>

The blood is usually anti-inflammatory; Relatively brief periods (days) of elevated cholesterol can result in the blood becoming pro-inflammatory increasing the risk of autoimmune diseases like Multiple Sclerosis.<sup>142,143</sup>

Gallstones are increased by oxidized cholesterol.<sup>144,145</sup>

### DRUG PITFALLS

Caffeine, 200 mg intake of per day, (about 2 cups of coffee) can increase total cholesterol by 11 mg/dL.<sup>146,147</sup>

Daily caffeine consumption also increases LDL,<sup>148</sup> increases triglycerides,<sup>149</sup> increases the risk of heart attack,<sup>150</sup> and decreases HDL.<sup>151</sup>

"Pack a day" smokers can expect: 18 mg/dL triglycerides increase per pack, 3.5 mg/dL HDL decrease per pack.<sup>152,153</sup> Second hand smoke also lowers HDL similarly.<sup>154</sup>

Triglycerides can be elevated by even small amounts of alcohol; one drink per day increases triglycerides by 10 mg/dL.<sup>152</sup>

Use of oral contraceptives has been shown to increase LDL by 47% and VLDL by 57%.<sup>155,156</sup>

Cholesterol drugs (statins): are they safe? Some of the most noted problems with the statins are muscle pains, rhabdomyolysis (a disintegration of the muscles) and liver toxicity.<sup>157,158</sup> Not all brain failure is due to aging or high cholesterol, statins have been found to play a role as well. Statins have been found to cause cognitive impairment<sup>159</sup> and memory loss.<sup>160,161</sup> Statins also seriously decrease coenzyme Q10,<sup>162,163,164</sup> a powerful anti-oxidant involved in prevention of heart disease.<sup>165</sup> This may also be why statins can worsen congestive heart failure.<sup>166</sup> Statins are such powerful suppressors of the immune system<sup>167</sup> that they are being tested and considered for use in organ transplant immunosuppressive chemotherapy<sup>168,169</sup> and for autoimmune diseases.<sup>170,171,172</sup> Most things that suppress the immune system leave way for the development of cancer:

"In some randomized trials, notwithstanding their short duration, statins have been found to increase cancer incidence especially in the elderly and women. In these situations, the

## Blue Print for Health and Healing

decrease in cardiovascular mortality can be matched by an equal increase in cancer mortality, leaving all-cause mortality unchanged.”<sup>173</sup>

Dietary/lifestyle interventions (diet high in plant sterols, soy protein, fiber, and almonds) have been shown to lower cholesterol by 28%.<sup>174</sup> Compared to lifestyle interventions, statin drug therapy offers no cholesterol lowering advantage.

### **LIFESTYLE CAUSED THE PROBLEM, WHY NOT TRUST LIFESTYLE TO FIX IT?**

Choosing a high complex carbohydrate, whole plant food diet over the typical American diet has been shown in studies to lowered total cholesterol by 30 mg/dL and LDL cholesterol by 26 mg/dL.<sup>175,176</sup> One such diet is the Hawaii Diet. Based on their traditional foods, it is high in complex carbohydrate (77% of calories), low in fat (12% of calories), moderate in protein (11% of calories), and it lowers cholesterol by 50 points.<sup>177</sup> Incidentally, just replacing white rice with whole grains and beans in coronary artery disease patients increases fiber intake by 25%, vitamin E intake by 41%, other antioxidants by 11%-40%; and reduces: lipid peroxidation and oxidative stress by 28%, homocysteine concentrations by 28% and blood sugars by 24%.<sup>178</sup>

Restriction of fat intake, especially saturated fat and dietary cholesterol, has been shown to reduced total cholesterol by 20 mg/dl, triglycerides by 40 mg/dl, and increase HDL-cholesterol by 5 mg/dL.<sup>179</sup> Patients with lower blood antioxidants levels have more atherosclerosis.<sup>180</sup> Lifestyle modifications have been shown to increase antioxidant levels and reduce oxidative stress in coronary artery disease patients.<sup>181</sup>

There are plant nutrients that can block the re-absorption of “soap” (cholesterol) from the small intestine. These nutrients in plants are called sterols, or, phytosterols, since they come from plants.<sup>182</sup> Two grams of phytosterols can lower LDL cholesterol by 10%.<sup>183,184,185</sup> Foods highest in these phytosterols include: Nuts such as brazil, pecan, pine, pistachio, cashew,<sup>186</sup> macadamia,<sup>187</sup> walnuts, almonds, and hazelnuts;<sup>188</sup> Seeds—sesame seeds are very high in phytosterols;<sup>189</sup> Beans, such as soybeans and peas; Whole grains like Amaranth;<sup>190</sup> Fruit such as navel oranges, tangerines, and mangos; and vegetables such as, cauliflower, broccoli,

and romaine lettuce.<sup>191</sup> Refining and/or processing foods decrease their phytosterol content making hypercholesterolemia more likely.<sup>192</sup>

### **GOOD OILS AND GOOD STEROLS**

Avocados are an excellent source of monounsaturated fat and have been shown to significantly lower total cholesterol, LDL and triglycerides.<sup>193,194</sup> Walnuts lower total cholesterol and LDL while fish raise total cholesterol and LDL.<sup>195</sup> Daily consumption of 80 gm of walnuts for two months can reduce LDL levels by 16%.<sup>196</sup> Raw almonds, 100mg of per day, can reduce total cholesterol by 20 mg/dL.<sup>197</sup> Pistachios improve HDL lipid ratios.<sup>198</sup> Sunflower seeds are high in natural occurring unsaturated oils and have been found to lower cholesterol levels.<sup>199,200,201</sup>

---

Avocados are an excellent source of monounsaturated fat and have been shown to significantly lower total cholesterol, LDL and triglycerides. Walnuts lower total cholesterol and LDL while fish raise total cholesterol and LDL.

---

Does something seem “fishy” about salmon oil capsules for cholesterol problems? Salmon oil capsules are less effective than olive oil in preventing lipid peroxidation, hypercholesterolemia and arteriosclerosis.<sup>202,203</sup> Daily fish oil supplementation can raise your total cholesterol by 9.1% and LDL by 4.8%.<sup>204,205</sup> Olive oil, a source of omega-3s and phytosterols, increases HDL-cholesterol levels, while decreasing LDL-cholesterol levels, LDL susceptibility to oxidation and lipid peroxidation.<sup>206</sup> I recommend getting your olive oil by eating the actual olive not the factory produced oil.

Flax, a rich source of omega-3 monounsaturated oil, helps lower cholesterol.<sup>207</sup> Omega-3s, 1.5 mg per day, have been shown to lower triglycerides by 37%.<sup>208</sup> Maybe you have been trying to lower your cholesterol through the use of omega-3 oils but seem to be making no progress. If your still eating cholesterol, omega-3s won't lower your LDL.<sup>209</sup>

Replacing cheese with vegetable fat can lower: Total cholesterol by 23 mg/dL, and LDL by

## The Cholesterol Story: Are You Fighting Heart Disease?

17 mg/dL. Replacing cheese with nuts can lower: Total cholesterol by 41 mg/dL, and LDL by 33 mg/dL.<sup>210</sup> Eating whole plant foods is the most effective way of lowering cholesterol.

### ABSORBENTS

Cholesterol can be adsorbed from the intestine by certain foods and substances. These adsorbents carry cholesterol out in the stool so that it does not get re-absorbed into the body. Charcoal is one of these. As a supplement, it has been shown to significantly lower cholesterol.<sup>211,212</sup> Eight grams three times per day can lower total cholesterol by 25% and LDL by 41%, while raising HDL by 8%.<sup>213,214</sup>

Fiber absorbs cholesterol in the intestine preventing its re-entry into the body. Each additional gram of water-soluble fiber in the diet lowers total cholesterol by 1.1 mg/dL.<sup>215</sup> For each gram of a particular fiber, total cholesterol decreases by; 1.0 mg/dL for guar gum, 1.1 mg/dL for psyllium (e.g., Metamucil), 1.5 mg/dL for oat bran, and 2.7 mg/dL for fruit pectin.<sup>216</sup> Each addition of 10 g of fiber to the diet reduces the risk of dying of a heart attack by 17%.<sup>217</sup>

There are many good sources of fiber. Grains are high in fiber that absorb cholesterol. Oats and oat bran contain fiber and phytochemicals that adsorb bile salts and cholesterol from the intestines carrying them out in the feces. Twelve weeks of 14 g/d oat bran can lower LDL by 2.5% and triglycerides by 6.6%.<sup>218</sup> Barley contains approximately 10% dietary fiber<sup>219</sup> that can significantly reduce cholesterol and triglycerides.<sup>220,221</sup> Rice bran not only lowers cholesterol, it also has some antioxidants that reduce oxidized cholesterol.<sup>222</sup> Regular buckwheat consumption reduces cholesterol.<sup>223,224</sup> One caveat, while whole wheat products may be considered a valuable source of fiber, for some reason a diet high in wheat products has been shown to raise total cholesterol by about 10 mg/dL.<sup>225</sup>

There are other good plant sources of cholesterol lowering fiber. Prunes lower total and LDL cholesterol,<sup>226,227</sup> decrease oxidative stress, fight inflammation and have been discovered to decrease atherosclerotic plaque in blood vessels.<sup>228,229</sup> Grapefruit, especially red grapefruit, contain bioactive compounds which lower cholesterol.<sup>230</sup> Four weeks of grapefruit pectin can lower LDL cholesterol by 11%.<sup>231</sup> Grapefruit pectin also lowers the risk of arteriosclerosis by 50%.<sup>232</sup> Beet fiber, 30 g/day can lower cholesterol by 10%.<sup>233</sup> Psyllium (e.g.,

Metamucil), 5.1 g twice daily, can lower total cholesterol 8.9% and LDL-cholesterol 13.0%.<sup>234</sup>

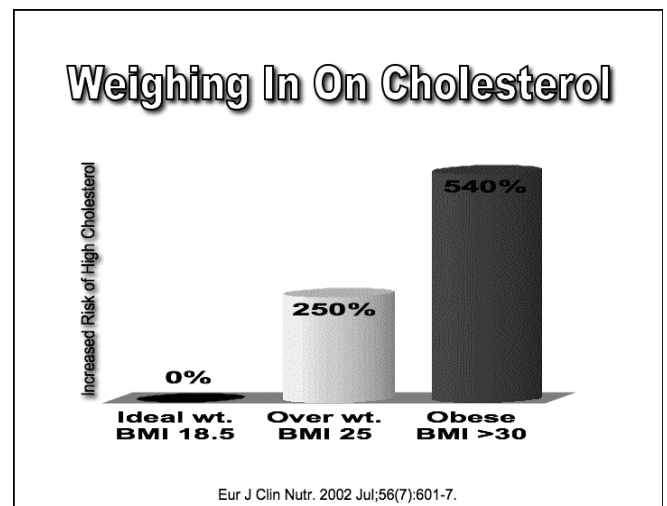
The combined effects of plant sterols, vegetable proteins, and fiber have been shown to reduce LDL by 29.0% and the ratio of LDL to HDL by 26.5%. Near maximal reductions have been seen in two weeks.<sup>235</sup> What if I don't get results in two weeks? Maybe you are cheating? One high fat food item eaten during those 2 weeks will reset the liver's soap factory back to maximal production! This is a lifestyle change commitment, not a short-term quick-fix diet.

### BEANS (BESIDES SOY MENTIONED EARLIER)

Beans, 120 g per day, can lower cholesterol and triglyceride concentrations by 10.4%.<sup>236</sup> Four cans of garbanzos per week can reduce total cholesterol by 8 points and LDL by 7%.<sup>237</sup>

### VEGETABLES

Vegetables have lots of fiber and antioxidants such as carotenoids, polyphenols, and vitamin C. This explains their protective effects against cardiovascular diseases. Carrots have been shown to lower cholesterol, triglycerides, reduce cholesterol re-adsorption in the bowel, and improve blood stream antioxidant status.<sup>238</sup> Garlic counteracts atherosclerosis and lipid oxidation.<sup>239</sup> Regular garlic consumption can reduce total cholesterol by 7%,<sup>240,241</sup> and reduce blood lipid peroxidation.<sup>242</sup> Red onions are more effective than garlic at lowering blood lipids.<sup>243</sup> Daily onion consumption can reduce plasma triglyceride levels by as much as 15%.<sup>244</sup> Turmeric is an effective antioxidant in



combating lipid peroxidation.<sup>245</sup> Studies show that alfalfa sprouts reduce cholesterol levels

both in the blood and in the liver where it is produced and stored.<sup>246,247</sup> Celery consumption has been found to significantly reduce total cholesterol, LDL, and triglycerides.<sup>248,249,250</sup>

### FRUIT

Low dietary vitamin C intake has been shown to result in increased blood cholesterol levels<sup>251,252</sup> and increased risk of heart disease.<sup>253</sup> On the other hand, increased dietary vitamin C intake has been shown to lower blood cholesterol levels.<sup>254,255</sup> Foods high in vitamin C include strawberries, bell peppers, chives, red cabbage, broccoli, pineapple, oranges, lemons, kale, cauliflower, peas, etc. (Notice no fish, coffee or tea are on the list. If you're eating foods that are totally deficient in a vital nutrient, your body must draw from its own reserves just to survive and in time you will totally deplete your own hard-earned supplies!)

There are many helpful fruits we could mention in addition to the ones already talked about. Pomegranates help combat lipid peroxidation and cholesterol oxidation.<sup>256</sup> Apples contain quercetin,<sup>257</sup> a phytochemical, that helps combat heart disease by reducing the effects of oxidized cholesterol on blood vessels.<sup>258</sup>

### SUGAR/REFINED CARBOHYDRATES AND CHOLESTEROL

Increased blood sugar, combined with increased blood cholesterol, multiply the risk of atherosclerosis.<sup>259</sup> Elevated blood sugars (as seen in diabetics) lead to elevated triglycerides.<sup>260</sup> A rise in blood insulin is followed by a rise in cholesterol production and this increases the risk of coronary artery disease.<sup>261,262</sup> Elevated insulin also lowers HDL.<sup>263</sup> Elevated HbA1c levels correlate with elevated cholesterol and triglycerides.<sup>264,265</sup> Eliminating all foods with refined sugars from your diet can reduce triglycerides by 20%.<sup>266,267</sup>

Fructose, a sugar often obtained from corn, is a very dangerous chemical. Dietary fructose specifically increases: LDL by 14%, oxidized LDL cholesterol by 13%, total cholesterol by 10% and visceral fat by 9%.<sup>268,269</sup> Soda pop is often sweetened with this chemical. Soda consumption, one or more cans per day, increases risk of: metabolic syndrome 45% (diabetes is included in this syndrome), low HDL by 32%, central obesity 30% and high triglycerides 25%.<sup>270</sup>

Honey does not carry the health risks of sugar, high fructose corn syrup and highly refined, high glycemic index foods. Compared to these, honey can reduce; total cholesterol by 3%, LDL 6%, triglycerides 11%, blood sugar 4%, inflammation 3%, and increased HDL by 3%.<sup>271</sup>

Carbohydrates fried with oil create Advanced Glycation End Products (AGEs), toxins which activate the body's inflammatory mediators.<sup>272</sup> Advanced Glycation End Products, are chemical combinations of sugars with fats or proteins, and they accelerate atherosclerosis via enhancement of oxidative stress.<sup>273,274</sup> Some foods have far more of these dangerous chemicals, for example, a slice of 100% whole wheat bread has 536 units of AGEs, whereas one glazed doughnut can have as much as 425 to 740 units of AGEs.<sup>275</sup> Going on a low calorie diet for two months will markedly reduce dangerous Advanced Glycation End Products.<sup>276</sup>

### LIFESTYLE IMPROVEMENTS

People who eat breakfast regularly have significantly lower cholesterol levels.<sup>277</sup>

Scheduled regularity improves cholesterol, lowers total and LDL cholesterol, and raises HDL.<sup>278</sup> Irregularity, such as shift work, raises cholesterol.<sup>279</sup> What's more, shift workers are 174% more likely to have elevated triglycerides and 81% more likely to have abdominal obesity than workers on a routine schedule.<sup>280</sup>

When you snack, food stays in your stomach much longer. The longer it takes to empty your stomach the more cholesterol will be adsorbed.<sup>281</sup> Eating between meals (snacking) also reduces HDL cholesterol.<sup>282</sup>

---

**Cholesterol rise after a meal is more prolonged after an evening meal than meals taken during the day.**<sup>283,284</sup>

---

Pure water is a key to controlling the body's oxidative stress and inflammation. Distilled water lowers the risks associated with high cholesterol levels while tap water raises the risks.<sup>285,286</sup> Dehydration causes relative elevation in the blood lipids such as total HDL and LDL cholesterol.<sup>287</sup>

Obesity is a risk factor for increased blood cholesterol levels. A body mass index (BMI) of 25, categorized as overweight, increases the risk of hypercholesterolemia by 250%, being obese (BMI of 30) increases that risk to 540%.<sup>288</sup> Waist

## The Cholesterol Story: Are You Fighting Heart Disease?

circumference is also a negative indicator of health, triglycerides go up and HDL goes down with increasing waist circumference.<sup>289</sup>

Vitamin D is a potent inhibitor of damage caused by lipid peroxidation.<sup>290</sup> Vitamin D is synthesized from cholesterol during sun exposure. Twice weekly sunbathing can significantly improve LDL/HDL ratios lowering heart disease risks.<sup>291</sup> Because gardeners get more sun and fresh air, they have higher vitamin D levels, and enjoy lower cholesterol levels.<sup>292</sup>

Athletes have significantly lower total cholesterol and significantly higher HDL cholesterol.<sup>293</sup> In fact, the more vigorous you exercise the lower your risk of hypertension, hypercholesterolemia, and diabetes.<sup>294</sup> Endurance training significantly: lowers total cholesterol, triglycerides, and LDL cholesterol at the same time it increases HDL cholesterol.<sup>295</sup> Resistance training or weight lifting reduces triglycerides by about 18%.<sup>296</sup> Exercise therapy, at a heart rate of around 135 bpm for 30 minutes 3 times/week, can decrease triglycerides by 20 mg/dL and increase HDL by 10 mg/dL.<sup>297</sup> Choosing the stairs *over* an elevator 5 times a day can lower LDL cholesterol by 8%.<sup>298</sup> Walking for exercise, 30 minutes a day, significantly lowers triglycerides and total cholesterol and increases HDL cholesterol.<sup>299</sup> Walking 6,000 or more steps per day has been shown to lower triglycerides 10 mg/dL and raise HDL 3 mg/dL.

Eating less food, “caloric restriction” by 25% lowers triglycerides 31 mg/dL. Together with exercise, caloric restriction has been shown to lower LDL 16 mg/dL.<sup>300,301,302</sup>

Too little sleep raises total cholesterol and LDL cholesterol.<sup>303,304,305</sup> Longer sleep duration is related to higher total cholesterol level and a higher total/HDL cholesterol ratio.<sup>306</sup> Both under sleep and over sleep increase triglycerides and lower HDL cholesterol.<sup>307</sup>

People showing other clinical signs of stress have a 180% higher risk of elevated cholesterol.<sup>308,309,310</sup> On the other hand, laughter may boost HDL by as much as 23%.<sup>311</sup>

Religious observance has a lowering effect on total cholesterol, triglycerides and LDL while elevating HDL.<sup>312,313</sup> This may be a testimony to its impact on stress. Jesus said, “Come to me, all you who are weary and burdened, and I will give you rest.”<sup>314</sup> “You cannot eat your way into heaven, but you can eat your way out of heaven.”—Ed Reid. A mind bogged down with excess fat or cholesterol is in no position to interact with our loving Creator.

### SUMMARY

- Avoid foods that require lots of “soap” to digest (i.e. fats).
- Avoid animal protein because it stimulates your liver to produce cholesterol.
- Eliminate all oxidized cholesterol from your diet.
- Maximize your whole plant food, fiber, and pure water intake in your diet and lifestyle.
- Exercise regularly.
- Turn your stress over to God

*“There should not be a great variety at any one meal, for this encourages overeating and causes indigestion. It is not well to eat fruit and vegetables at the same meal. If the digestion is feeble, the use of both will often cause distress and inability to put forth mental effort. It is better to have the fruit at one meal and the vegetables at another.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 299.

## CHAPTER 5

### HEARTBURN, INDIGESTION, REFLUX: IS THERE A CURE?

I avoid spicy food when I have a sore throat because it intensifies my pain. But why? Raw, swollen, inflamed tissues are more sensitive to irritation. And there you have it. For any two people experiencing the same amount of food regurgitation from the stomach to the esophagus, the one with sickly inflamed tissues will report the greatest symptoms and will go on to the greater complications of gastroesophageal reflux disease (abbreviated GERD, Gastro refers to your stomach, the esophagus is the tube connecting your mouth to your stomach, and reflux is the return of food and drink back up the esophagus from the stomach usually with acid in it which burns the esophagus and causes pain).

In the rest of this discussion, I will refer to heartburn, indigestion, and reflux collectively as GERD.

#### WHAT ARE THE SIGNS AND SYMPTOMS OF GERD?

The top 10 common symptoms for GERD are as follows:

- Reflux (the return of food and drink back up the esophagus).
- Acid regurgitation (excessive acid or sour taste in the food coming back up the esophagus).
- Postprandial fullness (bloating in the stomach area after a very large meal).
- Heartburn (pain in the chest).
- Swallow obstruction or pain (feeling that you can't get the food to go down).
- Epigastria burning sensation (Burning pain in the stomach area).
- Paraesthesia pharynges (sore or full filling throat).

- Post sternal pain (pain behind the breastbone).
- Chronic laryngopharyngitis (hoarseness, sore voice box and sore throat).
- Chronic cough (a never-ending cough).<sup>1</sup>

#### HOW COMMON IS GERD?

Prevalence of Gastro Oesophageal Reflux Disease is as follows:

- 18.1%–27.8% in North America.
- 8.8%–25.9% in Europe.
- 2.5%–7.8% in East Asia.
- 8.7%–33.1% in the Middle East.
- 11.6% in Australia.
- 23.0% in South America.<sup>2</sup>

So, if you are experiencing GERD, you are not the only one, others have been through this, it has been extensively studied, and knowing the causes goes a long way toward directing one's efforts at relieving and healing the problem.

#### WHAT CAUSES GERD?

Let's look at the different mechanisms involved in digestive pain that is associated with disorders of the esophagus and stomach. We'll look at the system as a whole and at individual parts.

#### THE LOWER ESOPHAGEAL SPHINCTER

The first thing that can happen involves a poorly closing valve at the lower end of the esophagus, immediately on top of the stomach. This is referred to as the lower esophageal sphincter. Anything that compromises its ability to close tightly can lead to acid laden stomach contents regurgitating up into the esophagus

causing pain, acid tissue burn, open sores, ulceration, or even pre-cancerous conditions. There is a long list of things that are proven to compromise lower esophageal sphincter function. These include:

- High fat foods.<sup>3</sup>
- Whole Milk.<sup>4,5</sup>
- Soups.<sup>6</sup>
- Chocolate.<sup>7</sup>
- Coffee.<sup>8</sup>
- Tea.<sup>9</sup>
- Nicotine.<sup>10</sup>
- Alcoholic beverages.<sup>11</sup>
- Peppermint.<sup>12</sup>
- Colonic Fermentation (when you eat foods that tend to rot in the colon).<sup>13</sup>
- Soda Drinks.<sup>14</sup>

### THE ACID BURN

Then next consideration in painful reflux disease (GERD) is the lifestyle habits that increase the acidity of the stomach or that acid's access to the esophagus.

Anything that increases the acidity of the stomach contents makes them that much more likely to cause pain and damage when they regurgitate up into the esophagus.

The list of things that increase the acid burn include many things. Any Autoimmune inflammatory disease or process, as we discussed in the beginning of our paper, weakens the tissues, making them more vulnerable to acid damage.<sup>15,16,17</sup> This includes allergies, such as having a milk allergy.<sup>18</sup>

Some foods, by their very nature, increase inflammation and stomach acidity. Research has shown that certain spices do this and include red and black pepper,<sup>19</sup> fennel, cardamom, cumin, coriander,<sup>20</sup> and Curry.<sup>21</sup>

Some foods are naturally high in acid content and pose a problem for many people, citrus<sup>22</sup> and soft drinks<sup>23</sup> for example.

If you are having GERD symptoms and are on other medications, it would be possible that some of these are the cause of your heartburn.<sup>24,25</sup>

Salt<sup>26</sup> and sugar as well as refined carbohydrates<sup>27,28,29</sup> can increase the acid burn.

If you have a choice between canned and fresh foods, fresh foods are the better choice for avoiding GERD.<sup>30</sup>

I don't know if you count calories but be aware that foods high in calories and low in fiber or bulk are well known to increase acid reflux.<sup>31</sup> We call these foods high caloric density foods.

Not only do high fat foods relax the lower esophageal sphincter, but they also increase the stomach acid,<sup>32</sup> mostly because they are hard to digest.

Fast foods<sup>33</sup> are poor nutrition for the most part and increase the acid burn.

If you are going to eat something, you might as well chew it well, this will help in your fight against an acid stomach.<sup>34,35</sup>

Regular meals are helpful, on the other hand snacking is not in your best interest.<sup>36,37</sup> Eating of an evening meal increases acid production.<sup>38</sup>

Certain stimulants are known to increase the acid burn. These include tea, coffee, caffeine,<sup>39</sup> and alcohol.<sup>40</sup>

The more concentrated the acid in your stomach the worse the burn, on the other hand diluting out the acid with good hydration of the tissues is beneficial, so avoid dehydration.<sup>41</sup> Drink your water at least one-half hour before meals or two hours after meals to avoid GERD.

You may be thinking you are doing yourself a favour by taking calcium based "anti-acids" but in reality they only produce what we call the acid rebound, resulting in more acid in the long run and more reflux.<sup>42,43</sup>

You are what you eat. Eating good food favours strong, healthy, resilient tissues resistant to acid damage. On the other hand, malnutrition<sup>44</sup> is dangerous, it weakens the lining of the stomach and esophagus and compromises their mucosal integrity.<sup>45</sup>

Perfect health depends on perfect circulation, this means good blood supply. Poor blood supply<sup>46,47</sup> compromises the lining of the stomach and esophagus, making them unable to properly repair tissue damage.



### Lower Esophageal Sphincter dysfunction

- Milk
- Oils, fatty or fried foods
- Creamed foods or soups
- Chocolate
- Caffeine
- Tobacco
- Alcohol
- Peppermint/Spearmint

### When Volume Explodes

- Stacking between meals
- Eating too frequently (<5hr)
- Overeating
- Poor chewing
- Cold food
- Hot food
- Liquid food
- Liquid with meal
- Liquid right after meals
- Animal protein
- Carbonated beverages

### Slow To Empty

- Fat
- Fluid
- Snacking
- Meat

### Tips

- Small meals
- Small bites well chewed
- Lots of high fiber fresh fruits and vegetables
- No liquid with meals
- No liquid meals (soup, smoothies)
- Drink 8-10 glasses of water: 30 minutes before meals or 2 hours after
- Regularity in meal schedule
- Five hours between meals
- Two meals a day (skip supper)
- Short walk immediately after meals
- Don't eat within 3-4 hours of going to bed
- Wear warm clothes that cover arms and legs well and have no tight bands around the waist.

### The Acid Burn!

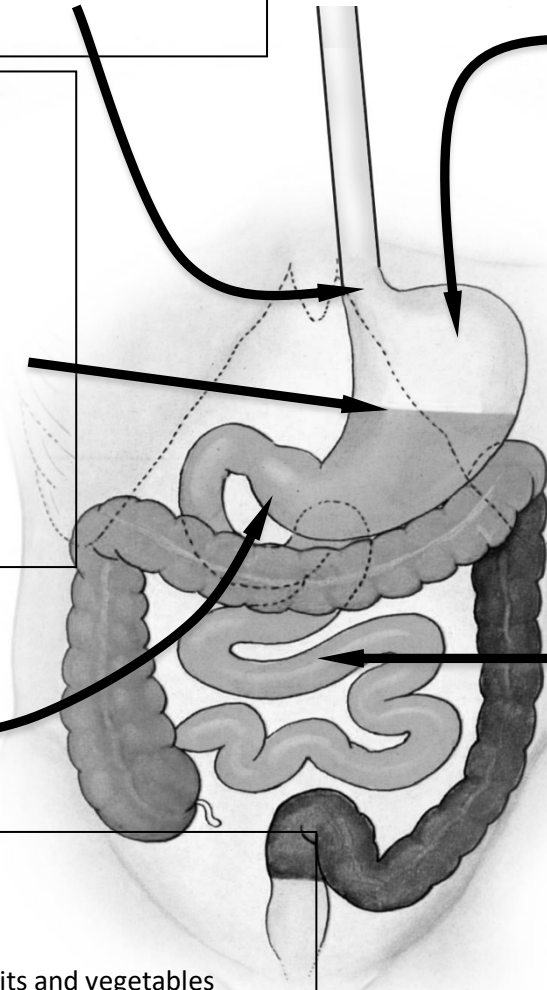
- Pepper, Spices
- Stress at mealtimes
- Vinegar
- Tomato
- Citrus
- Animal protein
- Caffeine
- Milk
- Fat content
- Alcohol
- Antacids
- Baking powder/soda
- Mixing fruit and vegetables
- Large variety of food
- Supplements swallowed whole sitting in stomach
- Worry
- Impaired mucosal defense
- Dehydration

### Back Fill: Slow Transit

- Refined foods
- Too little fiber
- High fat
- Obesity
- Tight clothing
- Sedentary lifestyle
- Gluten
- Dairy
- Meat
- Chocolate
- Cold extremities
- Gas

### Helpers / Healers

- Charcoal capsules/tablets/powder
- Broccoli sprouts
- Carrots
- Pears
- Bananas
- Pomegranates
- Aloe Vera Juice
- Cabbage and its juice
- Potatoes and its juice



When you overeat, making your stomach into a tightly filled balloon, it stretches the esophagus lining into the stomach where it does not belong, exposing it to the acid of the stomach. This creates the same pain and tissue compromise as regurgitation.<sup>1</sup>

Now if you worry<sup>2</sup> too much, and your stress levels rise,<sup>3</sup> this also increases the vulnerability of the digestive tissues to damage and the stomach's production of acid.

### **OVER FILLING THE STOMACH**

If the stomach could be quickly emptied after meals, the chance that it would reflux would be greatly reduced. On the other hand, keeping the stomach exceedingly full only increases the likelihood of GERD. If you do not want your stomach to remain full for a long time, eat less. Overeating<sup>4</sup> only produces distension, slow digestion, and reflux. Think of it like a front loader washing machine. If you pack the machine totally full, it cannot agitate the clothes and the laundry cannot get clean. Filling the stomach only partially full leaves room to mix the foods with digestive juices and complete its digestion in a reasonable amount of time. "And put a knife to thy throat, if thou be a man given to appetite."<sup>5</sup>

The digestion is severely slowed and compromised by eating between meals or snacking.<sup>6</sup> Meals should be at least 5 hours apart. Eating too frequently (<5hr between meals)<sup>7</sup> causes stacking of the meals, stomach overfilling and overflow, i.e., reflux. If your toilet overflows you figure you must have put too much in it. The same is true of reflux. If things keep on coming up (refluxing), stop putting so much down, and give the food time to move on in between meals.

Foods eaten to quickly overcrowd the stomach and can result in reflux.<sup>8</sup>

Studies now show that foods eaten without proper chewing in the mouth take longer to digest in the stomach.<sup>9</sup> Your stomach does not have teeth. It can only add acid and agitate the food.

Some people take on more than just food at a meal, they add liquid as well. This liquid is more likely to regurgitate up into the esophagus. It also makes the stomach take longer to move the food on to the small intestines because before it can get on with the process of digestion it must absorb the liquid. This is true of drinks with meals and of liquid foods, like soup, smoothies, porridges and juices.<sup>10</sup>

### **EMPTYING THE STOMACH**

The stomach can be quickly cleared of food only as the food is of good quality and well chewed. Certain foods and lifestyle practices delay the emptying of the stomach these include:

- High fat<sup>11,12</sup> or fried foods.<sup>13</sup>
- High caloric density foods.<sup>14</sup>
- Chilled/refrigerated cold food or very hot food.<sup>15</sup>
- Nicotine or tobacco.<sup>16</sup>
- Alcohol.<sup>17</sup>
- Liquid taken with your meals.<sup>18</sup>
- Supplement tablets can delay stomach emptying.<sup>19</sup>
- Snacking between meals or meals too close together.<sup>20</sup>
- Laying down after a meal.<sup>21</sup>
- Eating in the evening leaving less than 3 hours before going to bed.<sup>22</sup>
- Autoimmune inflammatory gastritis.<sup>23</sup>
- Intense exercise after eating.<sup>24</sup>
- Mental stress.<sup>25</sup>

## Heartburn, Indigestion, Reflux Remedies: Is There A Cure?

### **SLOW INTESTINAL TRANSIT**

If there is no room beyond the stomach in the digestive system, food cannot be transferred out of the stomach and reflux is more likely to result. Some foods and lifestyle habits produce a condition we refer to as slow transit, it could also be referred to it as back fill.<sup>26</sup> It could be compared to a traffic jam or even rush hour traffic.

Things that slow intestinal transit are many. Refined foods, like white flour<sup>27</sup> cause this problem because they are low in fiber.<sup>28</sup>

Because low-fiber food is in the colon so much longer, bacteria tend to multiply,<sup>29</sup> This results in bacterial overgrowth. When bacteria over-grow they produce many toxins<sup>30</sup> and inflammation.<sup>31</sup>

Slow-transit foods are usually high in fat and low in fiber, and include meat, fast foods, pastries, especially donuts, fried foods, and greasy foods<sup>32</sup>.

Foods eaten late at night tend to pass more sluggishly through the digestive system thus they have the same effect of fostering bacterial overgrowth<sup>33</sup>.

Fiber plays a significant role in the time food stays in your system<sup>34</sup>. Whole grains,<sup>35</sup> dried fruit<sup>36</sup> and fresh vegetables are good sources of dietary fiber. What is people's favourite high fiber dried fruit eaten to help improve stool consistency and shortened transit time? Prunes, right? Have you heard it said, "With friends like prunes, who needs enemas"?

High fat foods have been shown to slow intestinal transit.<sup>37</sup>

Juice, probably because of the removal of fiber, slows transit.<sup>38</sup>

Mental health can also affect transit times, depression tends to slow transit and make digestion sluggish<sup>39</sup>.

The back pressure exerted by tight clothing, such as a belt,<sup>40</sup> can significantly slow the rate at which food makes it out of your intestines.

Exercise tends to quicken bowel movement whereas a sedentary lifestyle has been shown to slow transit time.<sup>41,42</sup>

Dietary Gluten<sup>43,44</sup> and dairy products<sup>45</sup> cause a sluggish colon and slow transit times.

Of all the diets studied, that cause multiple health issues, the western diet, of meat, high fat foods, cheese and refined grains tops the list. And it contributes to slowed transit of food through the entire digestive system.<sup>46,47</sup>

Nothing slows transit time quite like constipation<sup>48</sup> for which increased water and fiber intake are often the antidote.

Gas or flatulence block the way for food to pass on down the digestive tract and slow transit times.<sup>49</sup>

If your posture is poor and you are always doubled over, the effect is like that of the tight belt, it creates intestinal backpressure, which slows transit time.<sup>50</sup>

So, keep the food moving for reduction in risk of reflux at the other end.

### **EPIDEMIOLOGICAL ASSOCIATIONS**

Some foods and lifestyle factors have been found to increase the likelihood of reflux, dyspepsia, or heart burn, but the actual mechanism may not yet be well understood. These include:

- Milk, lettuce, brewer's yeast, pork, coffee, rice, asparagus, and tuna, followed by eggs, tomato, grain, shrimps.<sup>51</sup>
- Animal protein/meat.<sup>52,53</sup>
- Vinegar.<sup>54,55</sup>
- Late supper.<sup>56</sup>
- Low dietary magnesium intake.<sup>57</sup>

## Blue Print for Health and Healing

- Low Dietary Vitamin C.<sup>58</sup>
- Obesity.<sup>59</sup>
- Medical drugs.<sup>60</sup>
- Psychological stress.<sup>61</sup>
- Improper chest breathing.<sup>62</sup>
- Cheese causes gastritis.<sup>63</sup>

### BARRETT'S ESOPHAGUS

When the esophagus receives repeated acid burns and becomes raw and inflamed, cancer becomes a big risk. This condition of the esophagus has been given the name Barrett's esophagus. Some foods and lifestyle factors have been identified as high risk or causal in Barrett's esophagus and cancer. These include:

- Sugar.<sup>64,65</sup>
- Smoking, abdominal obesity, and a Western diet.<sup>66</sup>
- Inflammatory diet.<sup>67</sup>
- Late evening meal.<sup>68</sup>
- Low fiber diet.<sup>69</sup>
- Pizza.<sup>70</sup>
- Wearing a belt.<sup>71</sup>
- Meat and saturated fat.<sup>72</sup>
- Dark green vegetable deficiency.<sup>73</sup>
- Low dietary vitamin A.<sup>74</sup>
- Low Dietary Vitamin C.<sup>75</sup>
- Diet low in fresh fruits and vegetables.<sup>76</sup>
- High animal-fat intake.<sup>77</sup>
- Smoking.<sup>78</sup>
- Selenium deficiency.<sup>79</sup>
- Diet rich in cereal but poor in fresh fruit and vegetables.<sup>80</sup>
- Processed meat consumption.<sup>81</sup>

### HOW IS GERD GENERALLY TREATED?

GERD is usually treated by a medical doctor with a medication, which in most cases is continued indefinitely. Ninety-five percent of

patients are prescribed a drug of which 83% are proton pump inhibitors or PPIs, medications designed to reduce the stomach's ability to produce acid.<sup>82</sup> Between 1995 and 2006 there was a 1318% (over 12 times) increase in proton pump inhibitors prescribed in Australia for people with GERD.<sup>83</sup> Proton Pump Inhibitor examples include omeprazole (e.g., Losec, Prilosec), esomeprazole (e.g., Nexium), rabeprazole (e.g., Pariet, Aciphex), pantoprazole (e.g., Somac, Protonix) and lansoprazole (e.g., Zoton FasTabs, Prevacid). These drugs are not without their undesirable side effects. Side effects can include:

- Neutropenia (an unexplained decrease in the immune system's white cells that are involved in battling disease).<sup>84</sup>
- Pneumonia (infection of the lungs).<sup>85</sup>
- Vitamin B12 deficiency.<sup>86,87</sup>
- Vitamin C and Iron deficiency.<sup>88</sup>
- Osteoporosis (a thinning and weakening of the bones leading to broken bones).<sup>89,90</sup>
- Hip Fracture (broken hip).<sup>91</sup>
- Spine, forearm or wrist, and other fractures (broken bones).<sup>92</sup>
- Dementia (when the brain quits functioning, and the memory is bad).<sup>93</sup>
- Depression (a downcast mood).<sup>94</sup>
- Chronic kidney disease (when the kidneys quit working).<sup>95,96</sup>
- Hypomagnesaemia (low magnesium, a very important mineral for your body).<sup>97</sup>
- Hypoparathyroidism (low parathyroid function).<sup>98</sup>
- Tachycardia (fast heart rate).<sup>99</sup>
- Stomach infection with *S. aureus*, *E. coli*, *Candida albicans* (bad infections, hard to treat).<sup>100</sup>

## Heartburn, Indigestion, Reflux Remedies: Is There A Cure?

- Slowed esophageal motility (when the esophagus has a hard time moving the food through to the stomach).<sup>101</sup>

The next most common drug prescribed for GERD is called an H2 antagonist. H2 antagonists are medications that block the action of histamine, (which usually increases inflammation), at its receptor site in the cells of the stomach. This decreases the production of stomach acid. H2 antagonist examples include famotidine (e.g., Pamacid, Pepzan, Pepcid), nizatidine (e.g., Tazac, Tacidine, Nizac, Axid), cimetidine (e.g., Magicul, Tagamet) and ranitidine (e.g., Zantac, Rani 2). These drugs are not without their undesirable side effects. Side effects can include:

- Neurotoxicity (damage to the nerve cells in your body or brain).<sup>102</sup>
- Overgrowth of *Listeria monocytogenes* (a dangerous bacteria).<sup>103</sup>
- Restless leg syndrome, and movement disorders (out of control muscle activity).<sup>104</sup>
- Bradycardia (very slow heart pumping rate).<sup>105</sup>
- Liver disease<sup>106</sup>
- Changes in the autonomic control of the heart (the heart goes out of control).<sup>107</sup>

A popular, over-the-counter GERD treatment is calcium carbonate. Calcium carbonate brand name examples include: Dicarbosil, Rolaids, Titalac, Tums. Calcium carbonate is not without its undesirable side effects. Side effects can include:

- "Acid rebound." (when, not long after you take the pill, the acid actually increases not decreases).<sup>108</sup>

- In some people it actually increases, not decreases, reflux.<sup>109</sup>

### NATURAL TIPS TO RELIEVE GERD

If you are suffering with GERD, you may find the following tips beneficial.

- Maintain regularity in your meal schedule; eat at the exact same times every day.<sup>110</sup>
- Eat small meals.
- Take small bites and chew them well.
- Eat lots of high fiber fresh fruits and vegetables.<sup>111,112</sup>
- Don't drink any liquid with your meals.
- Don't make or eat liquid meals (soup, smoothies).
- Drink 8-10 glasses of water a day: drink the water at least 30 minutes before meals or 2 hours after meals.
- Leave at least five hours between your meals.
- Eat only two meals a day (skip supper)<sup>113</sup> and don't snack. If you do eat supper eat only fresh fruit.
- Take a short walk immediately after meals.<sup>114</sup>
- Don't eat within 3-4 hours of going to bed.
- Wear warm clothes that cover arms and legs well and have no tight bands around the waist.
- Eat mainly low-fat, low-calorie foods.<sup>115</sup>

### NATURAL THINGS TO HELP AND HEAL

If you are currently in pain and looking for things that could help relieve that pain or even contribute to healing, the following could be of assistance to you.

## Blue Print for Health and Healing

- Charcoal capsules, tablets, or powder<sup>116,117</sup>
- Fruit, beans, and vegetables<sup>118</sup>
- Cabbage and its juice
- Carrots
- Broccoli, kale, radish, cucumber<sup>119</sup>
- Broccoli sprouts
- Pears
- Bananas and kiwi<sup>120</sup>
- Aloe Vera Juice
- Carob
- Dandelion tea
- Fresh Comfrey<sup>121</sup>

### SCHEDULE OF THE DAY

So, let's take time and make this practical. What would a GERD sensitive lifestyle and diet look like? Now, I run the risk of having some sensitive soul with an allergy or food-dislike getting bent out of shape over these recommendations, so this discussion will need to be seen as advisory and not compulsory or set in stone. What would a day possibly look like for someone trying to synthesize the forgoing information into a practical schedule? God made us to run on a schedule. Well, here goes:

5:00am. Get out of bed. Drink one quart of warm water. Take a 15-minute walk outdoors.

6:30am. Drink one cup of dandelion and/or comfrey tea.

7:00am. Eat a breakfast of mostly fresh fruits (bananas, pears, kiwi, any fresh fruit) Making a fruit salad and topping it with a nut cream is nice. (Nut cream recipe: put in a blender put 2/3 cup of water, one tablespoon of one kind of seed (e.g., pumpkin seeds, sunflower seeds, flax seed, chia, hemp, sesame, etc), two

tablespoons of one kind of nut (pecans, walnuts, almonds, brazil nuts, hazel nuts, etc., avoid peanuts and cashews.), blend till creamy smooth and pour over the chopped fruit salad.

Here is a really good oatmeal recipe for GERD: 2 cups water, ½ cup whole rolled oats (not quick or instant oats), ¼ cup oat bran, ¼ cup ground flax or chia, ¼ teaspoon salt. Bring water to a boil, add ingredients, simmer for a minimum of 45 minutes. Serve with your fruit salad and nut cream.

After Breakfast take a 15-minute walk outdoors.

10:00 am. Drink another quart of water with one teaspoon of activated charcoal in it.

Take a short walk if possible.

12:30pm. Drink another cup of dandelion and/or

comfrey tea.

1:00pm. Lunch: eat at the exact same time every day.

Keep in mind the forgoing dietary research for GERD. Concentrate on good vegetables, raw or steamed and less on prepared or complex foods. Avoid mixing fruits and vegetables at the same meal.

Chew your food well and do not overeat. See our website for some recipes: [www.NorthernLightsHealthEducation.com](http://www.NorthernLightsHealthEducation.com)

After lunch take a 15-minute walk outdoors.

3:30pm. Drink one quart of water, no need to rush.

Take a short walk if possible.

6:00pm. It would be best to skip supper, but many cannot and with the proper precautions a good result can still be obtained. For supper eat only fresh fruit, chew it well and take a walk afterwards.

## Heartburn, Indigestion, Reflux Remedies: Is There A Cure?

9:00pm. Go to bed at 9:00pm (even if you are not used to it, you can do it until it becomes a good habit.)

### **CHANGING THE TIDE**

Not all diet and lifestyle changes are easy, especially when they go against favourite practices. I hope your favourite food is not on the list of causes of GERD. Habits can be changed, and better health can be the result. For some, food, or their belly, can become more

important to them than life itself. “For many walk, of whom I have told you often, and now tell you even weeping, that they are the enemies of the cross of Christ: Whose end is destruction, whose God is their belly, and whose glory is in their shame, who mind earthly things.”<sup>122</sup> On the other hand we are promised power to make positive changes. “I can do all things through Christ which strengtheneth me.”<sup>123</sup> So be true to yourself, stick with the program and reap the results.

*“You are a gormand when at the table. This is one great cause of your forgetfulness and loss of memory. You say things which I know you have said, and then turn square about, and say that you said something entirely different. I knew this, but passed it over as the sure result of overeating. Of what use would it be to speak about it? It would not cure the evil.”<sup>i</sup>*

-- E. G. White

---

<sup>i</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 138.



## CHAPTER 6

# KEEPING YOUR MIND SHARP! ALZHEIMER'S, MEMORY LOSS AND DEMENTIA.

Her absence initially sounded no alarm; everyone thought she was with someone else. But as twilight fell, and Mrs. Parker did not show up, fears mounted. Six weeks of intensive searching and national news coverage failed to locate the missing retiree. What had happened? Plagued with the failing memory and disorientation of advancing Alzheimer's, Mrs. Parker had wondered off, not to be discovered till 6 months later, 13 miles (20 km) from home where she had been overcome with exposure.

What is dementia? It is a progressive decline in brain function, brain failure if you please, loss of memory, intellect, rationality, social skills, and physical functioning. It is an illness that can happen to anybody, but it is more common as one gets older. Statistically it is more common after age 65, at which age as many as one in ten people come down with it. By 85 years of age fully one in three individuals will meet the criteria.<sup>1</sup> Sixty percent of people have personal fear of developing Alzheimer's.<sup>2</sup>

---

**Don't wait till you have all the signs of Alzheimer's before deciding to do something positive for your future mental health.**

---

The most common types of dementia are Alzheimer's disease, vascular dementia, dementia with Lewy bodies, frontotemporal Lobar Degeneration, Huntington's disease, alcohol related dementia (Korsakoff's syndrome) and Creutzfeldt-Jacob disease (mad cow disease in humans).<sup>3</sup> For our purposes, to keep things simple, and to focus largely on the predominant form, Alzheimer's, I will refer collectively to these diseases with the words Alzheimer's and/or dementia.

Who gets dementia? In Australia, dementia is the second leading cause of death, superseded only by heart disease.<sup>4</sup> For women it is the leading cause of death, surpassing even breast cancer, lung cancer, heart disease and stroke.

What happens to a person's brain in Alzheimer's Disease? Two distinctive findings in the brains of patients with Alzheimer's disease confirm the diagnosis and contribute to its disease process. The first is the appearance and accumulation of a degenerate protein named amyloid into formations called plaques found between the brain cells. The second is the appearance of twisted mats of fibers within the brain cells themselves called neurofibrillary tangles which are made up of a protein called tau.<sup>5</sup> So when we talk of lifestyle practices that increase Amyloid or neurofibrillary tangles, you know we are talking about things that increase Alzheimer's or dementia.

Alzheimer's disease typically progresses slowly in three general stages — mild (early-stage), moderate (middle-stage), and severe (late-stage).<sup>6</sup> Alzheimer's disease typically progresses slowly. Different people progress at different rates. Most die within 4-8 years of its onset.<sup>7</sup>

How could a person determine if they were coming down with dementia or Alzheimer's? There are ten well accepted signs to consider:<sup>8</sup>

1. Memory loss that disrupts daily life.
2. Challenges in planning or solving problems.
3. Difficulty completing familiar tasks at home, at work or at leisure.
4. Confusion with time or place.
5. Trouble understanding visual images and spatial relationships.

## Blue Print for Health and Healing

6. New problems with words in speaking or writing.
7. Misplacing things and losing the ability to retrace steps.
8. Decreased or poor judgment.
9. Withdrawal from work or social activities.
10. Changes in mood and personality.

At this point, how many feel like they are doomed to dementia? As you reviewed this list, did you find yourself feeling uncomfortable as some of the signs struck close to home? Don't wait till you have all the signs of Alzheimer's before deciding to do something positive for your future mental health. Would you like to know what causes dementia and what you can do to avoid or even reverse it?

So, what causes Alzheimer's and dementia? Topping the list of lifestyle practices you need to avoid if you want to keep your mind sharp and avoid Alzheimer's is overeating. And why overeating? Overeating decreases your brain's blood flow<sup>9</sup> and oxygen while increasing its inflammation<sup>10</sup> and its Alzheimer's  $\beta$ -amyloid protein.<sup>11</sup>

On the other hand, Okinawans, as a group of people, are less likely to get Dementia. Any idea why? One very important reason is that they eat, on average 40% fewer calories.<sup>12</sup> Indeed, caloric restriction and intermittent fasting has been shown to significantly reduce your risk of Alzheimer's.<sup>13</sup> And why is eating less so helpful? One way it helps is that it increases your key antioxidant defense enzymes.<sup>14</sup> Additionally it increases your brain-derived neurotrophic factor (BDNF), a molecule which helps your brain to grow and stay young. Caloric restriction also stimulates the growth of new neurons from stem cells.<sup>15</sup>

One practical way to practice caloric restriction is to eat only two meals a day, well-spaced apart, instead of three.<sup>16</sup> This means no snacking. Don't eat between meals; the pleasure of doing so will eventually be forgotten. If you maintain a regular meal schedule<sup>17,18</sup> of two or three daily meals with no snacking between, it has an anti-aging effect on your brain.

With overeating having such a detrimental effect on brain health, would it be of any surprise to you to discover that obesity is a huge risk factor for dementia? Indeed, being overweight increases your risk of Alzheimer's by 60%.<sup>19</sup> Obesity, when combined, as it often is, with diabetes, quadruples the risk of Dementia.<sup>20</sup>

Can you think of some ways in which you could make eating fewer calories palatable and

satisfying while maintaining the health of your brain?

Not that we want you to stop eating all together, that is not the goal. That said, some foods are beneficial for your brain while others are not. Meat is particularly hazardous to long term mental abilities due to its negative impact on brain inflammation.<sup>21,22,23</sup> This holds true also of a diet overly rich in fats, as fatty foods, fried foods, and cooking oils. For this reason, fried foods, especially fried meats, are best left off the Alzheimer's prevention diet. This holds true for high or "full" fat dairy products as well.<sup>24</sup>

Not all fats are created equal. Some fats pose a greater danger than others. Saturated fats and trans-fats in your diet accelerate cognitive deterioration and are associated with cognitive decline among older persons.<sup>25</sup>

Inflammation is a danger to one's brain. One mechanism by which diet contributes to decline in mental functioning is its contribution to inflammation in the brain.<sup>26</sup> Inflammation is increased by fermented foods because fermentation generates aflatoxins, and aflatoxins weaken your memory.<sup>27</sup> Examples of fermented foods include: cheese, vinegar, alcohol, soy sauce, chocolate, coffee, vanilla, brown rice syrup, etc. Eating fresh food is much preferable to old, aged, spoiled foods.

Sugar is hazardous to brain longevity. Any food that would give a diabetic high blood sugar, such as refined carbohydrates and sugar, will increase your risk of dementia.<sup>28,29</sup> Sugar clogs the system and decreases your memory function.<sup>30</sup> Add milk and it gets even worse. Higher intakes of dairy desserts and ice-cream cause even more rapid cognitive decline.<sup>31</sup>

What happens if you feed normally vegetarian animals dietary cholesterol? For rabbits, this spells Alzheimer's changes in their brains, no carnivore rabbits!<sup>32</sup> Meat eaters suffer three times the risk of dementia as vegetarians. And why is that? A recent study links up to 13% of all "Alzheimer's" victims as really having Creutzfeldt-Jakob disease or mad cow disease. Which brings up the unthinkable: that Alzheimer's, Creutzfeldt-Jacob, and Mad Cow Disease might just be caused by eating contaminated meat or dairy.<sup>33</sup>

At this point, let me pause to let you take a moment to think back over your life and all the food you have eaten, and consider; have your dietary choices been nurturing to brain health or have they tended toward brain degeneration? What can you do at this point to improve your long-term chances of avoiding Alzheimer's?

## Keeping your Mind Sharp! Alzheimer's, Memory Loss, and Dementia

Believe it or not, brain health is closely connected with colon health. Why? Microbes in your digestive tract affect the health of your brain through molecules they release into your blood circulation. The diet you choose profoundly affects the bacteria that can survive in your gut. The brain suffers when the wrong diet favours the harmful bacteria.<sup>34</sup> The western diet supports an intestinal bacterial population (or "microbiome," as it has come to be called) that increases the risk of dementia.<sup>35</sup>

---

### Mono Sodium Glutamate (MSG) increases Alzheimer's degenerative changes in your brain. Where do you find MSG?

---

Gut bacteria are not the only microbes that impact your mental status. There are many microorganisms – some good and some not so good – that are capable of having a telling influence on the long-term wellbeing of your brain. Dangerous microorganisms are frequently associated with degeneration, decay, fermentation, spoilage, the rotting process, aging and infections. For example, if your home has experienced water damage, molds and mycotoxins will be present which will in turn compromise your mental functioning.<sup>36</sup> By the same token, letting the same organisms responsible for the deterioration of your living quarters live in your food can have the same dangerous effect. At this point the important question to be asked is, do any of my foods contain mycotoxins, such as aflatoxin? A little research will reveal what commonly eaten foods have fermentation as part of their processing. Some common ones include wine, vinegar, cheese, yogurt, sauerkraut, soy sauce, brown rice syrup, miso, Tempe, coffee, black tea, vanilla, yeast, mushrooms, salami, etc. Fermentation is not a way to make your food better, but to introduce into it the toxic waste products of microorganisms.<sup>37,38</sup> Some foods, because of their storage or harvesting conditions are more likely to contain aflatoxins, one such example is peanuts and peanut butter.<sup>39</sup>

Mono Sodium Glutamate (MSG) increases Alzheimer's degenerative changes in your brain. How do you give laboratory rats Alzheimer's so that you can study them? One common technique is to put MSG in their food.<sup>40</sup> How do you give people Alzheimer's? MSG increases both amyloid<sup>41</sup> and tau<sup>42</sup> Alzheimer's proteins in the brain leading to plaque formation and

neurofibrillary tangles. Read your labels! Where do you find MSG? It is hidden under a lot of names in foods, and a lot of ingredients harbour high levels of it: Soy sauce,<sup>43</sup> hydrolysed vegetable protein, sodium caseinate, textured protein, autolyzed yeast, yeast extract, natural flavours #621, gelatin, seasonings, carrageenan, just to name a few. If your food is processed, fermented, or has food additives in it there is a high likelihood it contains hidden MSG.

Pickles with their vinegar and high nitrates increase your risk of dementia.<sup>44</sup>

Certain food combinations challenge our health and increase the risk for brain deterioration, for example large varieties at any one meal, especially if they contain a mixture of fruits and vegetables at the same sitting. Complex meals with a high variety of food items or dishes confuse your stomach, slow your digestion, and increase brain inflammation, laying the groundwork for dementia.<sup>45</sup>

Avoid caffeine brain!<sup>46</sup> Caffeine decreases mental performance.<sup>47,48</sup> It really does not improve alertness, but merely returns the addict to baseline.<sup>49</sup> What's more, it disturbs sleep<sup>50</sup> and reduces the Alzheimer's preventing<sup>51</sup> hormone melatonin.<sup>52</sup>

Smoking is not helpful either, it increases your risk of Alzheimer's by 60%.<sup>53</sup>

Drinking a glass of red wine, a day for your heart?<sup>54</sup> Alcohol causes loss of important neurons and increases Alzheimer's changes in your brain. In Alzheimer disease, the tau protein is aggregated into bundles of filaments referred to as neurofibrillary tangles. Drinking alcohol is associated with increased tau neurofibrillary tangle accumulation.<sup>55</sup>

Striking closer to home, both hypersexuality<sup>56</sup> and masturbation<sup>57</sup> increase your risk of Alzheimer's by depleting of the dementia-preventing mineral zinc.<sup>58,59</sup>

Neurotoxic herbicides, like glyphosate (brand name RoundUp and others), cause oxidative damage to your brain and increase the likelihood of dementia.<sup>60,61,62</sup> Glyphosate can certainly be in any agricultural products, but especially be careful of grains, beans, cotton, contaminated air, fruits and vegetables, and your drinking water. Danger of Alzheimer's is not limited to herbicides; exposure to pesticide residues increase your risk of dementia by 34%.<sup>63</sup> Pesticides are commonly found in commercially grown foods, drinking water, contaminated air, and dust. "Beef is the most dangerous food for herbicide contamination and ranks third in insecticide contamination."<sup>64</sup>

## Blue Print for Health and Healing

Chemicals toxic to your brain, like formaldehyde, are often found in household building materials, synthetic clothing, and many medications.<sup>65,66</sup>

Arsenic in your diet compromises your brain's function and significantly increases your risk of Alzheimer's.<sup>67</sup> Sources of exposure to arsenic include chicken,<sup>68</sup> eggs,<sup>69</sup> food grown in chicken litter,<sup>70</sup> fish, sea food,<sup>71</sup> yogurt,<sup>72</sup> bottled water,<sup>73</sup> some rice, sugars, and sweeteners.<sup>74</sup>

Due to media coverage, popular opinion, and the press, it is no secret that aluminum plays a significant role in the development of Alzheimer's dementia. Indeed, laboratory animals fed aluminum, accumulate aluminum in their brains and experience cognitive deterioration.<sup>75</sup> Aluminum can cause accumulation of Alzheimer's neurofibrillary tangles in your brain.<sup>76</sup> Sources of aluminum for humans include cheese,<sup>77</sup> baking powder: pancake and waffle mixes, biscuits, cakes, cookware, tea, drinking water, vaccinations, geoenvironment,<sup>78</sup> antacids, chocolate, non-dairy creamers, salt, and toothpaste.<sup>79,80</sup>

---

I think I have shared most of the bad news first, and now I will share some good news. There is hope! Your brain runs and thrives on good nutrients.

---

As if aluminum were not bad enough by its self, combine it with fluoride and the result is even more dramatic.<sup>81</sup> Indeed, fluoride and aluminum are also used to produce Alzheimer's in laboratory animals.<sup>82</sup> Common sources of fluoride include: tea,<sup>83</sup> toothpaste, drinking water,<sup>84</sup> salt,<sup>85</sup> non-stick cookware,<sup>86</sup> pesticides, fertilizers<sup>87</sup> and medications.<sup>88</sup>

Heavy metals can also play a role in Alzheimer's. Mercury and bromide levels are higher in Alzheimer's patients.<sup>89</sup> Mercury can be from: processed foods,<sup>90</sup> dental fillings,<sup>91</sup> vaccines,<sup>92,93</sup> fish,<sup>94</sup> medications,<sup>95</sup> mushrooms<sup>96</sup> and Corn sweeteners.<sup>97</sup> Bromine can be from: fire retardants,<sup>98</sup> food preservatives, fumigants,<sup>99</sup> pesticides,<sup>100</sup> fish,<sup>101</sup> dough conditioners in bread,<sup>102</sup> plastics,<sup>103</sup> Soft drinks,<sup>104</sup> vegetable oils, and swimming pool treatments.<sup>105</sup> One of the reasons bromine and fluoride increase the likelihood of getting Alzheimer's is their competitiveness with iodine. Iodine deficiency plays a role in Alzheimer's and Parkinson's diseases.<sup>106</sup> Supplementing with Iodine can have its benefits if you are deficient.

Many of the drug medications people take increase the risk of dementia. For example, statins (cholesterol lowering medications), diuretics (used for high blood pressure and edema),<sup>107</sup> proton pump inhibitors (drugs for heartburn and reflux disease),<sup>108</sup> and anti-inflammatory drugs (pain relievers for arthritis and other pains),<sup>109</sup> anticholinergic drugs (antipsychotics for mental disorders),<sup>110</sup> etc., all significantly increase the risk for dementia or make its symptoms worse. Being put to sleep for surgery can cause brain fog and increase your risk of dementia.<sup>111</sup>

I think I have shared most of the bad news first, and now I will share some good news. There is hope. Your brain runs and thrives on good nutrients. To protect your brain from deterioration, you need to eat more nutrient dense fresh fruits and vegetables.<sup>112</sup> It is simple, just increase the percentage and variety of fruits and vegetables in your diet.<sup>113</sup> The increased consumption of fruit and vegetables is associated with a reduced risk of cognitive impairment and dementia.<sup>114</sup> Variety more than total quantity of fruits and vegetables helps protect cognitive function.<sup>115</sup>

"But I don't like eating salads and veggies." you may be thinking, "Can I just juice them or blend them into smoothies and just quickly drink them?" With such glamorous article titles as, "Juice your way to fabulous health?" appearing in print, you may be thinking that this is the way to get your best nutrition, but not so according to scientific research. People who drink juice every day have lower brain volumes and poorer memories.<sup>116</sup>

And why are fresh fruits and vegetables so helpful? It is because they are richer in vitamins. Vitamins give life to your brain, and you can just eat them in your food. Vitamin A protects against dementia and can be obtained from sweet potato, carrots, kale, spinach.<sup>117</sup> B vitamins, protect against Alzheimer's disease and are found in grains, seeds, beans, nuts, greens. The earliest and perhaps best example of an interaction between nutrition and dementia is related to thiamine (vitamin B1). Throughout the last century, research showed that thiamine deficiency is associated with neurological problems, including cognitive deficits and encephalopathy.<sup>118</sup> Evidence supports the role for riboflavin (vitamin B2) in slowing the progression of cognitive decline.<sup>119</sup> Higher intake of B vitamins: niacin (B3), pyridoxine (B6), folate (B9), and cobalamin (B12) throughout young adulthood was associated with better cognitive

## Keeping your Mind Sharp! Alzheimer's, Memory Loss, and Dementia

function in midlife.<sup>120</sup> Vitamin C, lowers the risk of dementia and can be obtained from capsicum (bell peppers), kiwi, red cabbage, and citrus.<sup>121</sup> Vitamin D deficiency doubles the risk of Alzheimer's. The best source is actually not from the diet but from sunlight. If your serum 25(OH)D level is below 10 ng/mL you are more than twice as likely to develop Alzheimer's disease than if it is greater than 20 ng/mL.<sup>122</sup> Vitamin E helps maintain better brain nutrition. Good sources include sunflower seeds, almonds, and flax.<sup>123</sup> Vitamin K deficiency is associated with Alzheimer's. Best foods sources of Vitamin K are dark green leafy vegetables, onions, and peppers.<sup>124</sup> If you are on a plant-based diet your intake of antioxidants is significantly greater than that of meat eaters. For example, your intake of vitamin C is 305% higher than the recommended, vitamin A intake is 247% higher, and vitamin E 313% higher.<sup>125</sup> There are a lot of delicious foods in the plant kingdom high in nutrients designed to be of benefit to your brain.

Vegetables are highly nutritious. Cruciferous and green leafy vegetables can slow cognitive decline and lower your risk of dementia as you get older.<sup>126</sup> Cruciferous vegetable intake has been demonstrated to slow the progress of cognitive decline.<sup>127</sup> Consumption of as little as one serving per day of green leafy vegetables can slow cognitive decline as you age. According to one study, daily green leafy veggie consumption keeps your brain an equivalent of 11 years younger.<sup>128</sup>

Fruit is highly nutrient dense. Compared to eating less than one piece of fruit per day, consuming 2 to 3 pieces daily can reduce Alzheimer's mortality by 40% and eating more than 3 pieces per day have been shown to reduce it by 60%.<sup>129</sup>

Berries are particularly nutrient dense and high in antioxidants making them very desirable for both reversing and preventing dementia.<sup>130</sup> Blueberries help counteract the brain-damaging effects of a high fat diet.<sup>131</sup> Cranberries can prevent the toxic effects of amyloid in Alzheimer's disease.<sup>132</sup> Red raspberries exhibit health-promoting properties which have critical metabolic, oxidative, and anti-inflammatory links to preventing Alzheimer's disease.<sup>133</sup> Mulberries can be a natural cognitive enhancer and neuroprotectant.<sup>134</sup> Strawberries (best eaten organic to avoid chemicals) have been shown to reverse age-related losses in motor and cognitive performance.<sup>135</sup> Blackberries improve age related deterioration of motor and cognitive performance.<sup>136</sup> Goji berries protect against

neuronal injury and loss caused by  $\beta$ -amyloid peptide, and glutamate excitotoxicity.<sup>137</sup> Grapes help maintain brain metabolism and cognitive function in patients with mild decline in thinking ability.<sup>138</sup> Tomatoes, with their lycopene, help to protect against Alzheimer's-induced cognitive dysfunction.<sup>139</sup> Higher serum levels of lycopene are associated with a lower risk of Alzheimer's mortality in adults.<sup>140</sup> Eat all the berries you can get your hands on!

Other fruits are also helpful. Pomegranate consumption has been shown to significantly improve memory and brain function.<sup>141</sup> Apples have been shown to return brain function to younger levels.<sup>142</sup> Plums have been shown to improve working memory, mitigating against age-related declines in brain function.<sup>143</sup> Citrus has been shown to be a valuable weapon against Alzheimer's dementia.<sup>144</sup> Peppers (capsicum, which is a fruit not a vegetable) have been shown to inhibit the formation of Alzheimer's amyloid in the brain.<sup>145</sup> Many fruits are helpful even though they have not all have been specifically studied; fruit of any kind can be beneficial, get as much as you can.

Olives are high in antioxidants that prevent neurodegenerative diseases and are associated with reduced risk of mild cognitive impairment and Alzheimer's disease.<sup>146,147</sup> Olives have been shown to prevent neurofibrillary tangles from tau fibrillization.<sup>148</sup>

---

**Vegetables are highly nutritious. Cruciferous and green leafy vegetables can slow cognitive decline and lower your risk of dementia as you get older.**

---

Whole grains, in distinction to refined processed grains, have antioxidant activity and minerals which protect your brain against Alzheimer's.<sup>149</sup>

Higher consumption of whole legumes (beans) decreases cognitive decline as you get older.<sup>150</sup>

Raw nut consumption helps dementia because it reduces blood pressure, improves blood sugar regulation, improves vascular function, reduces inflammation, and also improves cognitive performance.<sup>151</sup> Eating nuts can delay cognitive decline in old age.<sup>152,153</sup> Walnuts are of particular interest because they have been demonstrated to improve scores on brain function tests.<sup>154</sup> Polyphenolic compounds found in walnuts not only reduce the oxidant and inflammatory load on brain cells but also improve intraneuronal signaling, increase neurogenesis,

and help the brain deal with neurofibrillary tangles.<sup>155</sup> Hazelnuts improve memory, reduce anxiety-related behavior, and have an ameliorating effect on the toxic nature of amyloid.<sup>156</sup> Brazil nuts with their relatively high selenium content help with cognitive impairment.<sup>157,158</sup> Almonds, along with some of the other nuts, provide macronutrients, micronutrients, and phytochemicals that affect several pathways in Alzheimer's pathogenesis such as amyloid and tau protein dysfunction, and oxidative stress; additionally they lower cholesterol, reduce inflammation, and promote neurogenesis.<sup>159</sup>

Seeds, like nuts, have many nutrients which can positively impact brain performance. Flax seed (linseed) has been shown to improve mental performance.<sup>160</sup> Sesame seeds protect against Alzheimer's amyloid toxicity.<sup>161</sup> Sunflower seeds are anti-Alzheimer's because they are high in healthy phospholipids.<sup>162</sup>

Do you have some areas of food choices where you could make more positive selections to better prevent and lower your risk of Alzheimer's?

Did you know that herbs can help you fight Alzheimer's disease? "He causeth the grass to grow for the cattle, and herb for the service of man: that he may bring forth food out of the earth;"<sup>163</sup> Red clover: (*Trifolium pratense*) protects neurons from glutamate (MSG) damage.<sup>164</sup> Gotu Kola: nullifies aluminum toxicity<sup>165</sup> and decreases amyloid levels.<sup>166</sup> Panax ginseng: significantly improves frontal lobe function in Alzheimer's.<sup>167</sup> Ginkgo biloba: helps mild to moderate Alzheimer's dementia.<sup>168</sup> *Huperzia serrata*: produces cognitive enhancement and improves memory.<sup>169</sup> *Salvia officinalis*, (Sage) improves cognitive function in Alzheimer's.<sup>170</sup> Horsetail: contains silica which reduces dementia and Alzheimer's.<sup>171</sup> Turmeric, inhibits amyloid- $\beta$  plaque formation, binds copper, lowers cholesterol, and is an antioxidant.<sup>172</sup> Brahmi (*Bacopa monnieri*) reduces neuroinflammation, inhibitions Amyloid- $\beta$  aggregation and improves cognitive function and learning.<sup>173,174</sup> Ashwagandha (*Withania somnifera*) has the potential to reverse behavioral deficits, plaque pathology, and accumulation of  $\beta$ -amyloid peptides (A $\beta$ ) in the brain.<sup>175</sup> So pick a few of these herbs and make yourself a nice cup of unforgettable tea.

Essential oil from Japanese Hinoki Cypress trees can prevent neuronal cell death in Alzheimer's.<sup>176</sup>

Have you drunk your water today? Good hydration improves your memory and intelligence reducing your risk of Dementia.<sup>177</sup> Start the day off with a liter (quart) of water. Men need 3.7 liters (quarts) a day and women need 2.7 liters (quarts) a day.<sup>178</sup> Hydrotherapy can also prevent and treat dementia.<sup>179</sup> A cool morning sponge bath stimulates your nerves. Hot and cold showers are invigorating to your brain's circulation. A hot foot bath can improve mental status. Hot and cold treatments to the head can improve your brain blood supply and oxygenation. Sauna bathing can reduce your risk of Alzheimer's.<sup>180</sup>

---

Every hour you spend per day in media entertainment (TV, YouTube, video games, computer time, mobile device, smart phone) increases your risk of Alzheimer's by 30%.

---

The risk of dementia increases with either too little or with too much sleep. Regularity in bedtime improves your memory. Best time for sleep: 9pm to 5am. Sleeping pills increase your risk of dementia 66%.<sup>181</sup> It is during good sleep that plaques are removed from your brain.<sup>182,183</sup> Especially deleterious is the consumption of a large evening meal. It compromises sleep which increase Alzheimer's.<sup>184,185</sup> It also increases the bodies core temperature at night which also increases Alzheimer's.<sup>186,187</sup> If any food is eaten at all in the evening, the meal should be at the same time every day, be at least 3 hours before bedtime, be at least 5 hours after lunch and should consist only of fruit and possibly a small serving of some whole grain product. Avoid vegetables, animal products, fats and hard to digest foods in the evening. Reading late in the evening or watching TV also disrupts sleep increasing the risk of Alzheimer's.<sup>188</sup> Good sleep is associated with good melatonin levels. Alzheimer's risk rises when your melatonin levels fall. Melatonin levels fall with late bedtimes, after 9:30pm, artificial lighting after sundown, blue/white light in the evening (like from TV, computers or mobile phones, night lights, illuminated clocks), irregular eating and sleeping schedules, and shift work.<sup>189,190</sup>

Indeed, media entertainment in general has a negative impact on healthy cognitive function. Every hour you spend per day in media entertainment (TV, YouTube, video games, computer time, mobile device, smart phone) increases your risk of Alzheimer's by 30%.<sup>191,192</sup>

## Keeping your Mind Sharp! Alzheimer's, Memory Loss, and Dementia

With the electronic age and media entertainment also comes the hazard of electromagnetic fields. Electromagnetic Fields (EMF) increase your risk of Alzheimer's.<sup>193</sup> Electromagnetic fields can come from mobile phones and cordless phones (especially DECT), Wi-Fi and computers, smart meters, radio towers, electronic devices, and high-power lines.<sup>194,195</sup>

There is some entertainment that can be beneficial. Listening to, singing,<sup>196</sup> or playing<sup>197</sup> good music can improve your memory, mood and thinking. Putting things you need to memorize to music is also an effective way to improve memory in Alzheimer's.<sup>198</sup>

Music is often associated with reflection or meditation. Meditation relieves stress, increases brain blood flow and your brain volume, and it reduces your risk of cognitive decline.<sup>199,200</sup> "O how love I thy law! it is my meditation all the day."<sup>201</sup>

Regular physical activity sharpens the brain, improves memory and thinking skills, and helps prevent Alzheimer's.<sup>202</sup> In fact, exercise can be more effective than diet control in preventing amyloid deposition and memory deficits.<sup>203</sup> Moderate intensity aerobic exercise can improve cognitive function in patients with mild Alzheimer's disease. Those who are more active can improve their brain function by 32-39%.<sup>204</sup> Best exercise times are before breakfast and after each meal. The best exercise you can engage in is walking. Walking improves brain function,<sup>205</sup> increases memory,<sup>206</sup> and reduces risk of dementia.<sup>207</sup> The best place to exercise is out in nature, away from the busyness of the city with its noise and pollution. Pure air is beneficial while air pollution increases Alzheimer's brain changes.<sup>208</sup> Improved ventilation with outdoor air improves mental performance.<sup>209,210</sup> A healthy life style, with daily outdoor activity, reduces your risk of dementia.<sup>211</sup> Physical exercise in a natural outdoor environment lowers your risk of Alzheimer's by its positive effects on blood pressure and inflammation.<sup>212,213,214</sup> The natural environment also includes sunshine. Countries with lower average sunlight have higher Alzheimer's death rates.<sup>215</sup> Morning sunlight helps depression. Afternoon sunlight increases vitamin D.<sup>216</sup>

Combined physical and mental exercise improves your mental performance more compared to physical exercise alone.<sup>217,218</sup>

Having a purpose and doing things purposefully with your whole heart protects your neurons.<sup>219</sup> In fact, a person with purpose is 2.4

times more likely to remain free of Alzheimer's.<sup>220</sup> Daydreaming has negative effects increasing your risk of Alzheimer's. "Whatsoever thy hand findeth to do, do it with thy might; for there is no work, nor device, nor knowledge, nor wisdom, in the grave, whither thou goest."<sup>221</sup>

The name of the game is purposeful physical activity that engages the intellect as well as your muscles. What activities are available to you that could stimulate both your brain and your body?

---

**Make friends! Having 5-6 close friends decreases your risk of cognitive decline by 250%. People with more friends were found to have better cognitive function and lower rates of Alzheimer's.**

---

Have you heard it said, "Use it or lose it?" This is definitely true of your brain and risk of Alzheimer's. If you engage in more active thinking over your lifetime, your chances of having amyloid deposit in your brain are greatly diminished.<sup>222</sup> Do things that keep your brain active: keep your own accounts, form your own opinions, make long-term plans, learn new skills, and improve old ones, take up a new hobby. Keep learning your whole life; it prevents dementia.<sup>223,224</sup> Learning stimulates growth of brain networks which bypass damaged areas in your brain.<sup>225</sup> Maintaining a high level of mental activity reduces your risk of dementia by 66%.<sup>226</sup> Stimulating mental activities might include: reading, discussing, studying, word games, etc. Bible Study is the best mind builder. It is good to fill your leisure time with mind-engaging meaningful activities.<sup>227</sup> An idle mind is a brain in decline.

Independent thinking and acting maintains better brain function.<sup>228</sup> Relying on others is nice, but as much as possible, do all your own thinking, planning, and analyzing.

Memory exercises pay off in helping to maintain and revitalize your memory.<sup>229,230</sup> Help your memory by use of object lessons, blackboards, maps, figures, symbols, mnemonics, and pictures.

What strategies have you formulated to stimulate and maintain your memory abilities as you get older?

A joyful heart is good medicine, and a positive attitude predicts fewer memory problems.<sup>231</sup> Happiness improves your memory.<sup>232</sup> As your happiness fluctuates from day to day so does your memory.<sup>233</sup> "A merry heart doeth good like

## Blue Print for Health and Healing

a medicine: but a broken spirit drieth the bones.”<sup>234</sup>

Psychological stress predicts the progression to dementia.<sup>235</sup> Psychological distress and depression, anxiety and apathy can be present in mild cognitive impairment and can predict progression to dementia. Chronic stress is a risk factor for Alzheimer’s.<sup>236</sup> If you are a person who is prone to stress, then you have a greater chance of coming down with Alzheimer’s.<sup>237</sup> Guilt brings the ultimate stress. Depression,<sup>238</sup> anxiety,<sup>239</sup> dread, loneliness,<sup>240</sup> and poor self-esteem<sup>241</sup> can all give you Alzheimer’s. Take life one day at a time.

Stress is about your emotions. What we are talking about here is having good emotional health to escape Alzheimer’s. The fruits of the Spirit are a good list of positive emotions worth cultivating in prevention of dementia. “But the fruit of the Spirit is love, joy, peace, patience, kindness, goodness, faithfulness, gentleness and self-control.”<sup>242</sup>

Christianity has been shown to reduce your risk of Alzheimer’s by 50%.<sup>243</sup> Regular church attendance reduces the incidence of dementia.<sup>244</sup> Your brain benefits from the personal and group Bible study, prayer, meditation, and memorisation available in the setting of a church. Christianity offers stress reduction, mental quietude and acquiescence—complete confidence in God to work out all difficulties satisfactorily. Bible study, comparing text with text, is a real workout for your brain’s association cortex. And true Christianity leads you to live to help others. Selflessness in volunteering has been shown to preserve your intellectual capacity.<sup>245</sup> Volunteers had 78% less intellectual decline over a one-year period compared to non-volunteers.

Make friends! Having 5-6 close friends decreases your risk of cognitive decline by 250%.<sup>246</sup> People with more friends were found to have better cognitive function and lower rates of Alzheimer’s.<sup>247</sup>

What we are talking about here is social health as a benefit to long term cognitive functioning. One way to improve your social health is to practice the one another texts. Love one another (John 13:34,35). Accept one another (Romans 15:7). Pray for one another (James 5:17). Honor one another (Romans 12:10). Encourage one another (1Thesalonians 5:11). Carry one another’s burdens (Galatians 6:2). Serve one another (Galatians 5:13). These all have practical potential to increase brain activity and stave off dementia.

Given the high impact of stress and negative emotions on brain health, I want to ask an important question. Do you have inner peace?

“In the heart of Christ, where reigned perfect harmony with God, there was perfect peace. He was never elated by applause, nor dejected by censure or disappointment. Amid the greatest opposition and the most cruel treatment, He was still of good courage. But many who profess to be His followers have an anxious, troubled heart, because they are afraid to trust themselves with God. They do not make a complete surrender to Him; for they shrink from the consequences that such a surrender may involve. Unless they do make this surrender, they cannot find peace.”

“It is the love of self that brings unrest. When we are born from above, the same mind will be in us that was in Jesus, the mind that led Him to humble Himself that we might be saved. Then we shall not be seeking the highest place. We shall desire to sit at the feet of Jesus and learn of Him. We shall understand that the value of our work does not consist in making a show and noise in the world, and in being active and zealous in our own strength. The value of our work is in proportion to the impartation of the Holy Spirit. Trust in God brings holier qualities of mind, so that in patience we may possess our souls.”

“The yoke is placed upon the oxen to aid them in drawing the load, to lighten the burden. So with the yoke of Christ. When our will is swallowed up in the will of God, and we use His gifts to bless others, we shall find life’s burden light. He who walks in the way of God’s commandments is walking in company with Christ, and in His love the heart is at rest. When Moses prayed, ‘Show me now Thy way, that I may know Thee,’ the Lord answered him, ‘My presence shall go with thee, and I will give thee rest.’ And through the prophets the message was given, ‘Thus saith the Lord, Stand ye in the ways, and see, and ask for the old paths, where is the good way, and walk therein, and ye shall find rest for your souls.’ Exodus 33:13, 14; Jeremiah 6:16. And He says, ‘O that thou hadst hearkened to My commandments! then had thy peace been



## Keeping your Mind Sharp! Alzheimer's, Memory Loss, and Dementia

as a river, and thy righteousness as the waves of the sea.' Isaiah 48:18."

"Those who take Christ at His word, and surrender their souls to His keeping, their lives to His ordering, will find peace and quietude. Nothing of the world can make them sad when Jesus makes them glad by His presence. In perfect acquiescence there is perfect rest. The Lord says, 'Thou wilt keep him in perfect peace, whose mind is stayed on Thee: because he trusteth in Thee.' Isaiah 26:3. Our lives may seem a tangle; but as we commit ourselves to the wise Master Worker, He will bring out the pattern of life and character that will be to His own glory. And that character which expresses the glory—character—of Christ will be received into the Paradise of God. A renovated race shall walk with Him in white, for they are worthy."

"As through Jesus we enter into rest, heaven begins here. We respond to His invitation, Come, learn of Me, and in thus coming we begin the life eternal. Heaven is a ceaseless approaching to God through Christ. The longer we are in the heaven of bliss, the more and still more of glory will be opened to us; and the more we know of God, the more intense will be our happiness. As we walk with Jesus in this life, we may be filled with His love, satisfied with His presence. All that human nature can bear, we may receive here. But what is this compared with the hereafter? There 'are they before the throne of God, and serve Him day and night in His temple: and He that sitteth on the throne shall dwell among them. They shall hunger no more, neither thirst anymore; neither shall the sun light on them, nor any heat.

For the Lamb which is in the midst of the throne shall feed them and shall lead them unto living fountains of waters: and God shall wipe away all tears from their eyes.' Revelation 7:15-17."<sup>248</sup>

### SUMMARY

Alzheimer's, dementia, and memory failure are increasing alarmingly and are at an all-time high. Why? Your brain is under attack from poor lifestyle habits, environmental insults, and psychological stress. Your solution is to eat well, live well, and think well.

#### Recommendations:

- Eat plenty of fresh fruits and vegetables, whole grains, legumes, nuts and seeds, but don't overeat.
- Limit or avoid animal products, fatty foods (including oils), fermented foods, processed foods and chemicalized foods.
- Eat only at scheduled mealtimes and eat very little if anything in the evening.
- Take time daily for vigorous exercise in the great outdoors in the fresh air, sunshine and in as natural an environment as possible. Useful purposeful labor is the very best.
- Drink plenty of fresh pure water.
- Avoid heavy metals, chemicals, pesticides, MSG, and herbicides.
- Keep your mind active and challenged every day.
- Make friends and build social networks.
- Take steps to manage stress effectively.
- Take advantage of the help God can give you in living to the fullest free from stress and worry.

*“A merry heart doeth good  
like a medicine: but a  
broken spirit drieth the  
bones.”<sup>i</sup>*

- King Solomon

---

<sup>i</sup> Proverbs 17:22. King James Version of the Holy Bible.

## CHAPTER 7

# OSTEOPOROSIS: NOTHING TO CRACK UP ABOUT

### WHAT IS OSTEOPOROSIS?

The National Institutes of Health defines it as, “Skeletal disorder characterized by compromised bone strength, leading to an increased risk of fracture.”<sup>1</sup>

What does all that mean? Well, your bones get thin and start to break. Bone structure is much like the architecture of an old steel beam bridge, with girders crisscrossing for strength and stability. When you start across such a bridge, how many of the girders would you be willing to have missing or rusted through and still feel assured of safe passage? So it is with the bones. In the bones the “girders” are called trabecula. Osteoporosis is, “Osteo” meaning bone and “porosis” meaning opening or passage, literally holes in the bone. Osteoporosis is holes where trabecula once existed. This leaves the bone weak and susceptible to fractures.

### EPIDEMIOLOGY OF OSTEOPOROSIS

Osteoporosis afflicts about 10 million Americans: 80% of victims are women. Another 34 million Americans have osteopenia, a milder thinning of the bones that will lead to osteoporosis if nothing is done to stop the dangerous process. Over 1.5 million osteoporotic fractures occur each year, 300,000

hip fractures, 700,000 vertebral fractures, 250,000 wrist fractures just to mention a few.<sup>2,3</sup>

### FRACTURES

Wrist fractures increase with the onset of menarche. Hip fractures increase in the years following retirement when people become less active and quit engaging in weight bearing activities. Osteoporotic spine fractures increase with menopause and further increase with inactivity upon retirement.<sup>4</sup>

Wrist fractures are quite disabling. Besides being in a cast from 4 to 6 weeks, having surgery or needing rehabilitation,<sup>5</sup> people with wrist fractures are at high risk of developing painful arthritis in the years following injury.<sup>6</sup>

Spine fractures resulting from osteoporosis reduce the quality of life.<sup>7,8</sup> Spine fractures result in a hunchback appearance which medically we call kyphosis.<sup>9</sup> Kyphosis results in an overall loss of height. Spinal fractures are often painful.<sup>10</sup> As the posture becomes more stooped and the contents of the stomach and lungs become compressed, the abdomen starts to protrude, gastrointestinal reflux symptoms develop, and breathing becomes difficult.<sup>11</sup> If all this is not bad enough, depression can set in.<sup>12</sup>

Of all fractures resulting from osteoporosis, none are more devastating than hip fractures. Thirty-five percent of post-menopausal white women have osteoporosis of the hip, spine, or

wrist. Is osteoporosis improving in our nation? By the year 2020 it is estimated that nearly 50% of Americans over age 50 will have osteoporosis of the hip.<sup>13</sup> The cost of hip fracture care is prohibitive. In 2002 the costs were about \$18 billion.<sup>14</sup> It is projected that by 2050, with the increase in osteoporosis and consequent fractures, that we could be spending \$131.5 billion a year on hip fractures.<sup>15</sup> The bad news does not end there, up to 1/3 of hip fracture patients die within the first year following injury.<sup>16</sup> Now this is not necessarily because of something that happened with the fracture, but the health of the bones tends to be a reflection of the health of the entire body.<sup>17</sup> These people die of blood clots, heart failure and heart attacks, or pneumonia, etc.

---

Of all fractures resulting from osteoporosis, none are more devastating than hip fractures.

---

### HOW OSTEOPOROSIS IS DIAGNOSES

Bone density is measured by a test we call the DEXA scan. DEXA stands for dual-energy x-ray absorptiometry. A DEXA is reported in standard deviations from the mean, how far a person's score differs from the normal. Osteoporosis, by definition, is two- and one-half standard deviations below the mean ( $\leq -2.5t$  score). For each standard deviation of bone loss there is a 40% increase in mortality from hip fracture.<sup>18,19</sup> One fourth of hip fracture patients become disabled in the following year.<sup>20</sup> Two thirds never regain their former level of activity and independence<sup>21</sup> and one-fifth require long term nursing home care; accounting for about 140,000 nursing home admissions per year.<sup>22</sup>

And do not underestimate the emotional impact of a fracture:

- Sixty-eight percent worry that another fracture would put them in the nursing home.
- Seventy-three percent are concerned that they will have to reduce activities with family and friends.
- Eighty-nine percent live in fear of breaking another bone.

The bottom line is that you want to avoid osteoporosis at all costs.

### WHY OSTEOPOROSIS?

"Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health."<sup>23</sup> Let us look at some of the known causes of osteoporosis.

The first item that I will put on the list of things that cause osteoporosis may come as a surprise. Sugar! Sixteen teaspoons of sugar a day increases urinary calcium loss by 124%.<sup>24</sup> And most Americans get about twice that amount. Add Chocolate and the urine calcium increases to 147%.<sup>25</sup>

Salt (sodium chloride) causes fluid retention and increases kidney filtration of calcium. Sodium and calcium compete in the kidneys and calcium is sacrificed. Salt substitutes using potassium instead of sodium are actually helpful for preventing osteoporosis.<sup>26</sup>

---

Do not underestimate the emotional impact of a fracture.

---

Everyone talks about vitamin D and osteoporosis, and well they should. Vitamin D deficiency is rampant due to everyone hiding from the sun.<sup>27</sup> There are other nutrients whose deficiencies increase osteoporosis. These

## Osteoporosis: Nothing to Crack Up About

include vitamins K, B12, B6 and folic acid, magnesium, copper, and boron.<sup>28</sup>

Menopause has a profound effect on the bones. Bone turnover is increased by up to 55% in women with estrogen deficiency.<sup>29</sup>

Believe it or not, bones make electricity when stressed. It is this electricity that helps the body determine how much calcium to lay down in a given bone to meet the physical demands placed on it. When a bone is unused it is not maintained by the body with as much calcium and becomes osteoporotic. Osteoporosis of inactivity affects men and women equally. Decline in the physical activity level with age is an important risk factor for hip fracture.<sup>30</sup>

An apple a day may keep the doctor away, but a cup of caffeine certainly will not.

Caffeine increases the urinary excretion of calcium for at least 3 hours.<sup>31</sup> What is more, caffeine decreases bone-preserving testosterone.<sup>32</sup>

Drinking alcohol, particularly during adolescence and young adulthood, can dramatically compromise bone quality, increasing the risk of osteoporosis later in life. I'm not sure I know how to break this news, but some research indicates that the effects of alcohol on bone cannot be reversed, even if alcohol consumption is terminated.<sup>33</sup> In the process of bone remodelling, alcohol tends to poison the little cells that make new bone, leaving the trabecula thin and weak.<sup>34</sup>

Tobacco use decreases bone mass and quality, making it more susceptible to fractures.<sup>35</sup> Tobacco actually acts like a hormone and affects the hormonal system's action on calcium metabolism.<sup>36</sup>

What do people do when their stomach is "acid"? Many reach for a "Tum®"—a calcium anti-acid pill. When the body becomes "acid" it reaches for a calcium product as well; your bones. It is calcium from your bones that is used

to buffer acid from your diet. A diet that makes your blood more acid significantly increases urinary loss of calcium from the bones.<sup>37</sup> Examples of acid forming foods include grains,<sup>38</sup> potatoes, and animal products—especially cheese.<sup>39</sup>

Animal protein, in contrast to vegetable protein, has a lot more sulphur and phosphorus which are made into sulfuric acid and phosphoric acid when digested. This elevated acid must be buffered by calcium from the bones, which leads to osteoporosis.<sup>40,41,42</sup>

Another source of acid comes from sodas, especially the brown ones with phosphoric acid in their ingredients.<sup>43</sup> Drinking such soda makes the whole body more acidic and increases calcium excretion in the urine.<sup>44</sup>

Psychological stress is a major obstacle in the fight to maintain bone mass. Chronic stress raises the stress hormones and inflames the body, both of which deplete calcium from the bones.<sup>45</sup> Elevated stress has been shown to increase osteoporosis.<sup>46</sup>

One particularly well-studied form of stress is depression.<sup>47,48</sup> Risk of hip fracture increases with depression. Older people with depression are particularly at increased risk of loss of bone mineral density,<sup>49</sup> and are more apt to fall and break bones.<sup>50</sup> Even the Bible makes reference to this association, "A merry heart doeth good like a medicine: but a broken spirit drieth the bones."<sup>51</sup>

### SECONDARY CAUSES OF OSTEOPOROSIS

There are secondary causes of osteoporosis that are beyond the scope of this article to encompass. These include medications such as anticonvulsants, methotrexate, heparin, and steroids, etc., and conditions such as renal failure, hyperthyroid, hyperparathyroid, diabetes mellitus,<sup>52</sup> hypertension,

hypercholesterolemia,<sup>53</sup> peptic ulcer disease,<sup>54</sup> and multiple myeloma, etc.

### HOW SIGNIFICANT ARE EACH OF THESE RISK FACTORS?

To put these risk factors in perspective:

- Smoking - more than doubles your risk of hip fracture.
- Genetics - if your mother had osteoporosis and broke her hip, your risk of hip fracture doubles, not necessarily because you inherited bad bones, although there is some inheritability of bone structure. But the real problem lies in the lifestyle habits you inherit, or adopt, from your parents. You eat as they ate, you exercise, or do not exercise, as they did or did not exercise, etc.
- Inactivity - a resting pulse rate of greater than 80 beats per minute increases your risk by 80%. "What does a fast heart rate have to do with my bones?" you may be wondering. Athletes have very low heart rates. People in good cardiovascular shape have lower heart rates. Having a fast heart rate is really evidence that you may be a couch potato.
- Falls - any falls during the previous year has been shown to increase your risk of hip fracture by 60%.
- Caffeine - If you currently are using caffeine, (coffee, tea, cola, etc.), 1½ cups of coffee per day will increase your risk by at least 30%.

Some lifestyle factors thought to be helpful actually have very little impact on bone health, and some of them may have other dangerous risks.

- Estrogen - for example current estrogen use has little or no effect, positive or negative as far as the bones are

concerned, but as regards cancer, it has a significant detrimental effect.

- Calcium - daily calcium intake is of minimal help, about 10%.
- Obesity - carrying around an extra 20 pounds of weight may actually decrease osteoporosis by 20% but carries with it the negative risks of diabetes, arthritis and cancer.

The lifestyle factors making the biggest difference are:

- Exercise - walking for exercise, which decreases risk by 30% and being on one's feet more than 4 hrs per day, which drops the risk by 40%.<sup>55</sup> So, get up and get moving!

---

Osteoblasts never lay down thick calcium, like would sustain a hard-working athlete, on an inactive couch potato. That would be a waste.

---

### BONE REMODELING

Bones are biologically active—always under construction, like the roads around where I currently live. In our town one crew goes around taking up the old pavement and a second crew goes around laying down new pavement. By the way, the paving crew never lays down thick pavement like would sustain a 4-lane freeway on a backwoods country road. That would be a waste. So it is with your bones. One set of cells, the osteoclasts, goes around taking up the old calcium, and another set of cells, the osteoblasts, goes around laying down the new. By the way, the osteoblasts never lay down thick calcium, like would sustain a hard-working

## Osteoporosis: Nothing to Crack Up About

athlete, on an inactive couch potato. That would be a waste.

By age 25 bones have reached maturity. By age 35 bones have achieved their peak bone mass. By age 40 the bones start to lose mass at about one half a percent per year. By age 45, in those perimenopausal years, bone loss can reach 3% per year, and if that continues for 10 years, a woman can lose 30% of her skeleton.

### THE CALCIUM BANK

Bones are the calcium bank. More than 99% of the calcium resides in the bones. The remaining 1% is in the blood and other fluids. The osteoclasts make withdrawals, from the “bone bank”, and osteoblasts make deposits. The goal is to maintain a calcium balance where the deposits are at least as great as the withdrawals. It’s like the good old saying about finances, “If a man’s ‘out-go’ exceeds his income, then his upkeep will be his down fall.”

### DAILY CALCIUM ALLOWANCE

How much calcium should be included in the diet to maintain a positive calcium balance? According to the National Academy of Sciences a middle-aged person needs at least 1000 mg per day. The National Institutes of Health, believing osteoporosis to be epidemic, recommends 1500 mg of calcium daily.<sup>56</sup> The World Health Organization, monitoring the health of the entire world, finds osteoporosis rare. They state that 500 mg is more than adequate. Who is right?

### CALCIUM BALANCE

Several things affect the overall calcium balance of the body. We get calcium in food and drink to supply our body’s needs. Some of this

calcium is absorbed and some of it passes on and is lost in the stool. That which is adsorbed is transferred to the blood and bones and some of it is excreted in the urine through the kidneys. If our calcium absorption exceeds our losses than we have a positive calcium balance. Of the four components of calcium balance, intake, absorption, stool loss and urine excretion, the only one we can significantly influence is urinary loss. Here is where we need to focus our efforts on tipping the calcium balance in our favor.

#### Urinary Calcium & Calcium Balance

Protein gm/day	Urinary Ca mg/day	Ca Balance mg/day
47	168	+31
95	240	-58
142	301	-120

To illustrate—someone on a diet consisting of 47 grams of protein and a urinary calcium excretion of 168 mg/day would be in a 31 mg positive calcium balance, (meaning that by the end of that day the total calcium in their body actually increased by 31 mg.) This is good. Double the protein intake to 95 grams and the urinary calcium excretion will jump to 240 mg and the balance at the end of the day will now be -58 mg. Triple the protein (142 mg/day) and the urinary calcium loss will climb to 300 mg/day and the balance will be a -120 mg/day.<sup>57</sup>

“But,” you may say, “How do you know that calcium is coming from the bones? Maybe you just consumed more calcium with that extra protein and it turned up in the urine.”

To further test this question a molecule called N-telopeptide was studied. When calcium is

taken from the bone so is N-telopeptide. When calcium appears in the urine along with N-telopeptide we know exactly where the calcium came from—the bones. When the protein in a person's diet is increased from 49 gm/day to just 70 gm/day, (not even doubled or tripled), the urinary excretion N-telopeptide increases by 33%! The only place that the calcium appearing in the urine could have come from is the bones.<sup>58</sup>

---

**The message? You cannot eat enough calcium to offset the effect of other poor lifestyle choices on your bones.**

---

Can the problem be solved by simply taking more calcium? What about 1400 mg of calcium a day? An experiment was done in which subjects were divided in to three groups. Each group was given 1400 mg of calcium per day, but different levels of protein (48 gm/day, 95 gm/day, 142 gm/day). The group on the 48 gm/day protein diet maintained a positive calcium balance of 20 mg/day. The other two groups had negative calcium balances, -30 mg/day and -70 mg/day, respectively.

The message? You cannot eat enough calcium to offset the effect of other poor lifestyle choices on your bones.<sup>59,60</sup>

Let us put this in perspective. If you lost 50 mg of calcium a day for 20 years you could lose 365 grams of your skeletal mass. How much did you start out with? The average female has around 821 grams.<sup>61</sup> That would mean that you could lose 44% of your skeletal calcium in 20 years.

### **HOW MUCH PROTEIN DO YOU NEED?**

During World War I, Denmark was cut off from the rest of the world. Consequently, they

instituted a food-rationing program to monitor the distribution of nutritional resources. Their principal foods were bran bread, barley porridge, potatoes, greens, cabbage, some milk, and some butter. The people of the cities and towns got little or no pork. Beef was so costly that only the rich could afford to buy it in sufficient amount. And they ate less than before, and often lost weight. No attention was paid to protein requirements. While fat was regarded as a very valuable addition to the diet, it was not considered as being a necessity. Bran was considered to be a very valuable food that was well-digested by man. Alcoholic beverages were nearly eliminated, as raw material was not rationed to distilleries. While the rest of the world saw death rates skyrocket from the "Spanish Influenza," the death rate for Denmark for the year October, 1917, to October, 1918, dropped to 10.4 per thousand. Dr. Hindhede, observing the health improvements on this forced low protein vegetarian diet, put himself on a low protein diet, and finding that he did quite well, published that 40 grams of protein a day is sufficient to maintain good health.<sup>62</sup>

It was not until the mid-1900's that researcher William C. Rose described the requirements of the 8 essential acids and determined the total protein requirements to maintain the body's nitrogen balance. In his work it was revealed that if the perfect protein were eaten, one that supplied the optimal proportion of each of the 8 essential amino acids, only 12.7 gm of protein per day were necessary.<sup>63</sup>

Has such a diet been tried with success? In Somalia there is a group called the Bantus. The Bantu women get around 350 mg of calcium a day and their protein intake is only 10% of their diet. They have no calcium deficiency, and they have almost no hip fractures.<sup>64</sup> On the other hand are the Eskimos. Eskimos consume

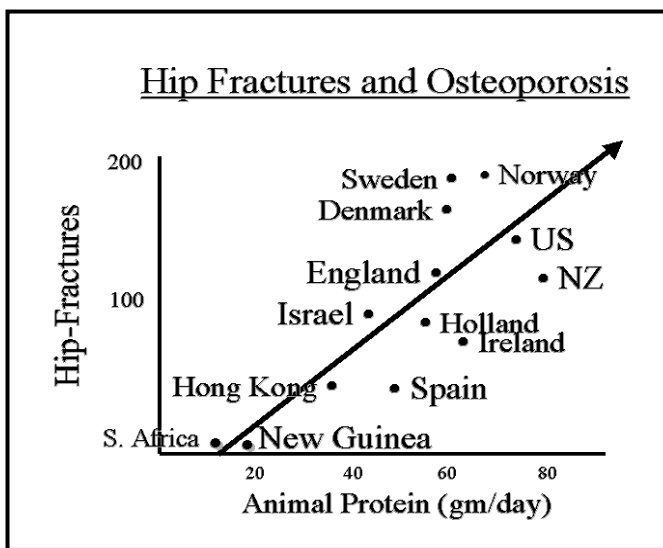


## Osteoporosis: Nothing to Crack Up About

between 2000 mg and 2500 mg of calcium a day and have high level of weightbearing activity, yet they have the

highest rates of osteoporosis in the world! Their protein intake averages 250-400 gm/day.<sup>65,66</sup>

One of the most telling studies on the effects of a high protein diet on osteoporosis was published by Abelow, et. al. in which they compared the rate of hip fracture in different countries to their per-capita animal protein consumption. Countries like South Africa, with



low animal protein consumption, had a low rate of hip fracture. Countries like the United States and England, with high animal protein consumption, had high hip fracture rates. The relationship between animal protein consumption and hip fracture rate for 13 countries maintained a linear relationship, which could send the message, "Need hip fracture? Eat animal protein."<sup>67</sup>

Animal protein is rich in phosphorus and sulphur as are processed foods.<sup>68</sup> (Animal products supply about 64% of the phosphorus in the American diet and grains another 19%.) Phosphorus and sulphur are metabolized by the body into sulfuric acid<sup>69</sup> and phosphoric acid. These acids are then buffered with calcium from your bones. What is more, as protein is

metabolized; excess urea is produced, which acts like a diuretic to hasten the loss of calcium in the urine.<sup>70</sup>

The drawbacks to a high animal protein diet are not confined to calcium loss in the urine. Excess protein consumption has been linked to progressive loss of renal function,<sup>71,72</sup> kidney stones,<sup>73,74</sup> gouty arthritis from uric acid,<sup>75</sup> elevated cholesterol,<sup>76,77</sup> and increased cancer risk.<sup>78</sup>

Does animal protein include milk protein? Does the consumption of dairy products carry the same level of risk for osteoporosis as other animal products? In a 12-year study of 77 thousand woman, the daily consumption of dairy products increased hip fracture risk by 45%.<sup>79</sup> In another study of men and women aged 65 years old and older, dairy product consumption, particularly during their 20s, increased their risk of hip fracture later in life by 190%-240%. And why would a high calcium food like milk be such a poor protection against osteoporosis. Typically, only about 20-40% of milk calcium is absorbed, depending on the calcium status of the person. Calcium is absorbed better from most vegetable sources than from dairy foods.<sup>80</sup> What is more, once milk is digested, it has such high protein<sup>81</sup> and phosphorus<sup>82</sup> that it causes calcium loss.<sup>83</sup> Another factor is the sulphur content. Milk protein has twice as much of the sulphur containing amino acid methionine as soy or wheat protein.<sup>84</sup> Methionine breaks down to sulfuric acid which must be buffered with calcium from the bones.<sup>85</sup>

There are other benefits to plant protein that go beyond their lower sulphur content. Some plant proteins, such as those coming from soy or turmeric, actually have helpful weak hormonal activity. Studies suggest that dietary soybean protein is effective in preventing bone loss due to ovarian hormone deficiency.<sup>86</sup> What is more,

soy contains genistein, which has been shown to increase bone mineral density by 6% over a two-year period.<sup>87</sup>

### WHERE DO WE GET OUR CALCIUM?

“Okay. So, if I eat something with calcium, which is also high in sulphur or phosphorus, I lose the benefit. So, what can I eat to get my calcium?” you may be asking. The absorptive efficiency of calcium from most vegetable sources is very good.<sup>88</sup> Some vegetarian foods high in calcium are dandelion greens, kale, turnip greens, mustard greens, collard greens, lambs quarters, baked beans, sesame seeds, blackstrap molasses, hazelnuts, green soybeans, dried figs, amaranth grain, and carob flour. By the way, lambs-quarters have one and a half times as much calcium as milk, without the protein, sulphur and phosphorus problems.

### EXERCISE

Exercise provides mechanical stress to the skeleton. Calcium is added to the stressed skeleton to strengthen it to meet the demands put on it. As they say, “If you don’t use it, you lose it.”

---

**If you do not find time to exercise you will have to find time to be sick.**

---

Recall that perimenopausal women lose bone mass at a rate of 3% per year. Researchers wanting to study the effect of exercise on bone mass took two groups of women--one who did not exercise and one which was trained in daily exercise. As expected, the ones who did not exercise lost 3% of their bone mass every year. On the other hand, the exercise group not only cut losses, but also gained a little bone mass

each year.<sup>89</sup> Exercise is one of the main ways of increasing or maintaining bone mass. In another study that looked at woman’s ongoing activity level, women who were the most active had a 55% lower risk of hip fracture.<sup>90</sup>

### VITAMIN D

Vitamin D works on the small intestine and the kidney. In the small intestine, vitamin D increases absorption of calcium. In the kidney, vitamin D increases the reabsorption of calcium. Thus, vitamin D increases the available calcium for the bones.

An 18-month study of women in their 80s revealed that the addition of 800 units of vitamin D to their diets increased their bone mass by 2.7% in just 18 months. What is more, they had 43% fewer hip fractures than expected.<sup>91</sup>

Sunlight is the natural source of vitamin D.<sup>92</sup> Twenty minutes a day out in the sun with at least 25% of your skin exposed to the sun, without the use of sunblock, should be sufficient.

### BANKING ON YOUR BONES: RECOMMENDATIONS FOR BONE HEALTH

1. Weight bearing exercise. Thirty minutes a day of weight bearing exercise such as walking, out in the open air and sunshine.
2. Reduce protein and grain consumption. Eat foods that will not produce acid that has to be buffered by calcium from the bones.
3. Choose to abandon the calcium thieves. Thieves include sugar, chocolate, salt, caffeine, alcohol, tobacco, sodas, chronic stress, and depression.
4. Get at least 20 minutes of sunshine a day on 25% of your body.

## Osteoporosis: Nothing to Crack Up About

5. Eat a plant-based diet rich in naturally occurring calcium. In one study increasing the intake of fruit and vegetables from 3.6 servings per day to 9.5 reduced calcium loss in the urine by 30%.<sup>93</sup> The biggest animals that walk our earth are vegetarian, and they have strong bones and teeth.

### **SO, WHAT SHOULD WE EAT?**

An unrefined plant-based diet! The original diet!

Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with

seed in it. They will be yours for food."  
"And you will eat the plants of the field."<sup>94</sup>

What is more, God has promises for those who reach out to serve others.

"The Lord will guide you continually, and satisfy your soul in drought, and strengthen your bones; you shall be like a watered garden, and like a spring of water, whose waters do not fail."<sup>95</sup>

Best wishes in your quest for stronger bones.

*“There was an epidemic of cholera in New York City about this time. Sylvester Graham advertised in the newspapers for vegetarians and offered a reward for anybody that would bring forward a single case of a vegetarian who had the cholera. A brother told me yesterday that where he lived, there were one hundred cases of smallpox in the little town, but not a single vegetarian had the disease.”<sup>i</sup>*

– Dr. J.H. Kellogg, M.D.

---

<sup>i</sup> General Conference of SDA. "General Conference Bulletin, vol. 4", 1901, p. 191, para. 2

## CHAPTER 8

# COVID, INFLUENZA, EBOLA, AND OTHER PANDEMICS: IS YOUR IMMUNE SYSTEM PREPARED?

Do your hands become clammy when you think about COVID? Are you afraid of losing your life because of COVID? When watching news and stories about COVID on social media, do you become nervous or anxious? These and other questions come from the newly developed Fear of COVID-19 Scale (FCV-19S) created just for this ominous pandemic and its aftermath.<sup>1</sup>

With cases and deaths increasing every day, and an unprecedented worldwide media coverage, the COVID pandemic will always have a place in the annals of history.<sup>2</sup> And why shouldn't it? With all the other disasters threatening humanity, maybe we need to recognize the real nature of these events that seem to be competing for our attention. What are they trying to tell us? Luke tells us, "Then said he unto them, Nation shall rise against nation, and kingdom against kingdom: And great earthquakes shall be in divers places, and famines, and pestilences; and fearful sights and great signs shall there be from heaven. ...And then shall they see the Son of man coming in a cloud with power and great glory."<sup>3</sup> Pestilence comes as a sign of the times, that Jesus is soon to return.

Of those seeking medical care for COVID-19: 98% complain of fever, 75% pneumonia, 70% fatigue, 70% are found to have lymphopenia (insufficient white cells to fight an infection),

60% dry cough, others have muscle and joint pain and even abdominal pain. Some people end up in the ICU, usually from Adult Respiratory Distress Syndrome (60%), cardiac arrhythmias (45%), circulatory failure and shock (30%), acute Cardiac injury, and/or acute kidney injury. The mean incubation period has been five days, but the range has been reported from 0–24 days.<sup>4,5</sup>

---

**“And great earthquakes shall be in divers places, and famines, and pestilences; and fearful sights and great signs shall there be from heaven.”**

---

How it is Coronavirus spread? Airborne droplets that reach the eyes, nose or mouth are its primarily mode of spread. It can also spread by touching contaminated surfaces and then touching one's face. The more viruses you are exposed to the higher is your risk of contracting the disease. Environmental precautions and personal protective equipment are designed to reduce the number of viruses to which you are exposed.<sup>6</sup>

Will a mask protect me? For health care workers exposed to infected patients, N95 respirators are recommended. For infected

## Blue Print for Health and Healing

patients, surgical masks are recommended to help reduce viral spread.<sup>7</sup> That said, masks do reduce blood oxygen levels, raise blood carbon dioxide levels, and can suppress the immune system.<sup>8</sup>

Once a pandemic has begun quarantine is not likely to be effective, efforts may focus on "social distancing." Social distancing includes measures to increase distance between individuals (6ft), staying home when ill unless seeking medical care, avoiding large gatherings, telecommuting, and closing schools.<sup>9</sup>

Once a pandemic virus has been identified, it will likely take 4-6 months to develop, test, and begin producing a vaccine. The supply of pandemic vaccine will be limited, particularly in the early stages of a pandemic. And while vaccines may or may not be helpful, vaccines are not a substitute for a good immune system.<sup>10</sup> For example receiving measles, mumps and rubella (MMR) vaccination significantly increases the odds of acquiring chronic inflammatory arthritis.<sup>11</sup> Compared to receiving the common tetanus vaccine: receiving a hepatitis B vaccine increases the odds of acquiring multiple sclerosis by 420%, systemic lupus erythematosus by 810%, and rheumatoid arthritis by 1700%!<sup>12</sup> And if, peradventure you were vaccinated with a yearly flu vaccination recently, your odds of acquiring COVID are 36% higher.<sup>13</sup>

How does one prepare their immune system for exposure to COVID? (This information applies to many infectious diseases including influenza, smallpox, Ebola, etc.)

"When Lord Palmerston, Premier of England, was petitioned by the Scottish clergy to appoint a day of fasting and prayer to avert the cholera, he replied, in effect, "Cleanse and disinfect your streets and houses, promote cleanliness and health among the poor, and see that they are plentifully supplied with good food and raiment,

and employ right sanitary measures generally, and you will have no occasion to fast and pray. Nor will the Lord hear your prayers, while these, his preventives, remain unheeded."<sup>14</sup>

Rupert Blue, MD, surgeon general during 1918 flu suggested: avoid needless crowding; smother your coughs and sneezes; your nose not your mouth was made to breathe through; remember the three Cs, clean mouth, clean skin, and clean clothes; food will win the war, help by choosing and chewing your food well, wash your hands before eating, don't let the waste products of digestion accumulate; avoid tight clothing, tight shoes, tight gloves; seek to make nature your ally not your prisoner, and when the air is pure, breathe all of it you can—breathe deeply.<sup>15</sup>

Let me tell you about the best preventative measures, "Pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water, trust in divine power—these are the true remedies."<sup>16</sup> It is in practicing these health virtues that a strong immune system is developed, and disease is averted.

Let us start by looking at how the body fights off a virus attack. When the virus reaches the lungs there is an initial exponential growth in the number of viruses. The first line of defense is your Natural Killer cells. When they go to war, as evidenced by a rise in interferon, the viral numbers drop off exponentially, but not to extinction. Before the infection is completely licked and the patient is out of the woods, B-cells must act their part, which is to produce viral specific IgA. If the immune system is strong and all the parts of it are working as they should be, the infection can be overcome. It should be our study then to determine what lifestyle factors influence the immune system.<sup>17</sup>

# COVID, Influenza, Ebola, And Other Pandemics: Is Your Immune System Prepared?

## FRESH AIR

The negative air ions found in fresh air activate natural killer cells and significantly reduce the number of disease-causing microbes in the air.<sup>18</sup>

In 1918, when the hospitals were full, overflow tents were set up on the lawns for extra patients. Guess who survived the 1918 flu the best: You guessed it, the people sleeping outdoors.<sup>19</sup>

“The H1N1 ‘Spanish flu’ outbreak of 1918–1919 was the most devastating pandemic on record, killing between 50 million and 100 million people. Should the next influenza pandemic prove equally virulent, there could be more than 300 million deaths globally. The conventional view is that little could have been done to prevent the H1N1 virus from spreading or to treat those infected; however, there is evidence to the contrary. Records from an “open-air” hospital in Boston, Massachusetts, suggest that some patients and staff were spared the worst of the outbreak. A combination of fresh air, sunlight, scrupulous standards of hygiene, and reusable face masks appears to have substantially reduced deaths among some patients and infections among medical staff.<sup>20</sup>

It has been said “...there is health in the fragrance of the pine, the cedar, and the fir. And there are several other kinds of trees that have medicinal properties that are health-promoting.”<sup>21</sup> It is of interest to note that pinecone extracts have been shown to suppress the growth of viruses in cells.<sup>22</sup> Some people even use pine as essence oil for this reason.

Sage<sup>23</sup> and Juniper<sup>24</sup> essence oils have been shown to inhibit coronaviruses. Citrus has been shown to inhibit viruses.<sup>25</sup> Citrus essence oil has been recommended by some to reduce viruses in the air. Air quality can have an effect on your

susceptibility to disease. Respiratory virus infection and pneumonia are significantly increased in people who live in cities with high levels of ozone or sulphur dioxide pollution.<sup>26</sup> In one study, office workers showed significant declines in number and function of natural killer cells after their office was remodeled exposing them to formaldehyde, phenol and organic chlorohydrocarbons.<sup>27</sup> What’s more, mold exposure in water-damaged buildings reduces natural killer cells and initiates lung damaging inflammatory processes. Living in a home with mold problems increases the risk of respiratory symptoms and infections.<sup>28</sup>

## SUNLIGHT

In one study, exposure to natural sunlight one hour a day for 12 days, significantly increased circulating immune cells. The effect lasted for up to two weeks after the end of the experiment.<sup>29</sup>

---

If you feel the warmth of the sun, you are boosting your intra-mitochondrial melatonin, decreasing your risk of COVID, by reducing cellular inflammation and cytokine storm.<sup>30</sup>

---

It has been found that viruses can suppress the body’s ability to produce its antiviral interferon. Sunlight helps disable the viruses’ ability to suppress the production of interferon.<sup>31</sup>

Sunlight’s ultraviolet light is known to kill pathogens and it also kills viruses.<sup>32</sup>

Vitamin D is a natural product of sunlight’s effect on cholesterol in the skin. This vitamin boosts the immune system for fighting the viruses. High vitamin D levels are associated with two thirds fewer COVID-19 infections, one

## Blue Print for Health and Healing

half as many cases that progress to become severe, and one third the death rate.<sup>33</sup>

### **ABSTEMIOUSNESS**

Abstemiousness or temperance involves the avoidance of things harmful and the moderate use of things that are considered good. Smokers are at 1-1/2 times higher risk of catching a respiratory tract infection and are 70% more likely to miss work because of the illness.<sup>34</sup> Chronic alcohol consumption has been shown to suppress the activity of natural killer cells.<sup>35</sup> What is more, alcohol and tobacco, when combined even in small amounts, even more significantly suppress natural killer cell activity.<sup>36</sup>

Intemperance can involve both the amount and quality of food we eat. Obesity and overeating impair natural killer cells activity. Caloric restriction—eating less—has been shown to restore immune responsiveness in overweight individuals.<sup>37</sup> Dietary restriction to 60% of usual increases natural killer numbers fourfold and their activity twofold.<sup>38</sup> Increasing age is also associated with a predictable decline in immune function. Caloric restriction, while still maintaining nutrition, restores natural killer activity to that found in younger individuals.<sup>39</sup> Even judicious fasting can have a positive effect on the immune system for fighting infection.<sup>40</sup>

Electromagnetic fields promote certain viruses to start growing and increase inflammation in your body making you more likely for you to catch COVID, and more likely that you will have a more severe case.<sup>41,42</sup>

### **REST**

Studies reveal that people who sleep well have significantly better immune function than people with insomnia.<sup>43</sup> To illustrate the effects

of missing your sleep, one study showed mice who got the flu vaccine but were sleep deprived contracted the flu as though they had never been immunized.<sup>44</sup> With the practice of good lifestyle habits your immune system is better prepared to protect you from disease.

Rest and relaxation also encompass mental and spiritual rejuvenation. According to researchers at the University of Wisconsin, meditation improves the immune response to Influenza vaccination.<sup>45</sup> Among those who observe the weekly rest according to the Bible, Seventh-day Adventists had higher plasma levels of the immune stimulating antioxidants. Among Seventh-day Adventists, consumption of a vegetarian diet was associated with an even higher increase in immune stimulating antioxidants.<sup>46</sup>

### **EXERCISE**

Recent studies reveal that patients who consistently meet the physical activity guidelines are 2-1/2 times less likely to die of COVID-19.<sup>47</sup>

As individuals age, their immune systems decline. Being physically fit helps attenuate this decline. Natural killer cells respond positively to moderate exercise in both number and function. Over-fatigue increases the risk of upper respiratory tract infection, while regular moderate physical activity reduces the risk.<sup>48</sup> In one study moderate exercise was associated with a significant reduction in the risk of upper respiratory tract infection.<sup>49</sup>

If one is to exercise in cold weather, proper clothing is essential. Sufficiently protecting the arms and legs from cold helps prevent inflammation and congestion of lungs and brain thus helping prevent viral illness.<sup>50,51,52</sup> The clothing should fit comfortably without obstructing the circulation of the blood or



## COVID, Influenza, Ebola, And Other Pandemics: Is Your Immune System Prepared?

natural respiration of the lungs. Clad in this way, we can take exercise in the open air, even in the dew of morning or evening, or after a fall of rain or snow, without fear of taking cold.<sup>53,54</sup>

### PROPER DIET

God gave us wonderful immune systems; one of our first considerations will be to avoid any food that could compromise this first line of defense.

In a study of dietary fat, eating the fat of a typical American diet caused a 50% reduction in natural killer cell activity. A high fat diet reduces natural killer activity by 79%, while a low-fat diet causes no reduction in natural killer cell activity.<sup>55</sup> Not all fats were created equal. For instance, a high cholesterol diet depresses natural killer cells to ¼ their usual activity.<sup>56</sup> Fish oil has been observed to impair immune function and it also delays the clearance of viruses from the lungs.<sup>57</sup>

Milk, the baby food of cows, has drawbacks for the prevention of viral illness. Increased milk drinking results in decreased natural killer cell activity. What is more, tripling your milk protein intake can triple your risk of contracting cancer.<sup>58</sup>

Many people complain of a “sweet tooth”. This may not be the trait of a viral illness survivor. Mice fed a diet containing sucrose (table sugar) had significantly lower immune cell responsiveness.<sup>59</sup> Sugar consumption weakens the ability of immune system to destroy pathogens. If a person eats no refined sugar or carbohydrate for 12 hours, each white blood cell can destroy 14 bacteria. When 24 teaspoons of sugar are consumed in a day, the white blood cells are so compromised that they can only destroy one bacterium each.<sup>60</sup>

A high salt diet suppresses the white cell's infection fighting ability and leaves you more susceptible to a COVID attack.<sup>61</sup>

---

Observers of the Biblical weekly rest were found to have higher plasma levels of the immune stimulating antioxidants. Those who also consumed a vegetarian diet had even higher antioxidant levels.

---

High protein diets have also been shown to compromise the immune system. A diet comprised of 25% protein hampers natural killer cell function whereas a diet with only 5% of the calories coming from protein enhances natural killer activity.<sup>62</sup> Soybeans are an excellent source of protein. Soy has strong antioxidant properties and is a potent immune stimulant that has shown benefits not only for respiratory tract infections, but also for cancer.<sup>63</sup>

I had a friend in high school that put himself on a fresh fruit and vegetable diet. I talked to him not long ago and asked him about his diet. He said that in the last 25 years since being on this diet he has not had a cold, flu, or other respiratory tract infection even once. Science has born this out; fresh fruit and vegetables have been shown to be antibiotic, antiallergic, tumor-protective, anti-inflammatory and stimulating to the immune system.<sup>64</sup> What's more, people on plant-based diets have been shown to have significantly higher intakes of antioxidants than omnivores: 305% higher vitamin C, 247% higher vitamin A, 313% higher vitamin E, 120% more copper.<sup>65</sup> Compared with omnivores, people on a plant-based diet have significantly higher blood concentrations of: Beta-carotene, vitamin C, and vitamin E and

vegetarian's natural killer cell activity has been found to be twice that of omnivores.<sup>66</sup>

---

**“An apple a day keeps the doctor away?” Five or more apples per week actually improves lung function**

---

Remember the old saying, “An apple a day keeps the doctor away?” Five or more apples per week actually improves lung function.<sup>67</sup> Apples contain phytochemicals which inhibit viruses.<sup>68</sup> One of these phytochemicals is quercetin. Quercetin has been shown to protect the lungs from damage by respiratory-tract infections. Quercetin is also found in, onions, green leafy vegetables, and beans.<sup>69</sup>

Garlic has long been recognized as a potent immune stimulator. In one study garlic reduced respiratory tract infections by 63%.<sup>70</sup> It is reported that during the 1918 flu epidemic, 20 people in one area ate raw garlic daily with their meals; none of the 20 contracted the flu.<sup>71</sup> It has been suggested that 3 to 5 cloves be eaten per day.

Grapes possess a phytochemical (resveratrol) that strongly inhibits the replication of viruses within cells and significantly improved survival of virus-infected mice.<sup>72</sup>

A deficient diet with only 50% of the USRDA of vitamins has been shown to significantly depress natural killer activity.<sup>73</sup>

Vitamin A deficiency reduces natural killer cell number and function especially in older adults.<sup>74</sup> Vitamin A deficiency also results in a loss of IgA producing cells.<sup>75</sup> Remember that IgA is critical for the eradication of viruses from the lungs. Vitamin A pills have not proven as helpful as just eating good food. Foods high in vitamin A are paprika, cayenne, sweet potato, carrots, kale, spinach, winter squash, cantaloupe, and broccoli.

Vitamin E is effective in helping the body reduce the number of viruses in the lungs. It also helps prevent the loss of appetite and weight loss associated with being sick with a virus. What's more, vitamin E helps lower the damaging inflammation in the lungs caused by tumor necrosis factor alpha.<sup>76</sup> It is usually the inflammation that starts the downward spiral that ends in death for some respiratory virus sufferers. Vitamin E pills have not proven as helpful as just eating good food. Foods high in vitamin E include sunflower seeds, almonds, flaxseed oil, wheat germ, olive oil, pine nuts, peanut butter, and ground cloves, just to name a few.

Vitamin C, popularized by Linus Pauline, is also helpful in prevention. Vitamin C actually increases lung macrophage function and helps reduce the number of viruses running around in the lungs.<sup>77</sup> Taken before or after the appearance of respiratory tract infection symptoms it can relieve or even prevent them.<sup>78</sup> Vitamin C is also a potent antioxidant that helps reduce damage in infected lungs preserving vital lung tissue.<sup>79</sup> Vitamin C is also best taken in the form of food. Foods high in vitamin C include strawberries, bell peppers, chives, red cabbage, broccoli, pineapple, oranges, lemons, kale, cauliflower, and peas. I like to juice half a lemon into my first morning glass of water.

Severe folate deficiency is associated with a 60% reduction in lymphocyte counts and significantly impaired natural killer cell function in one study.<sup>80</sup> Dietary changes or supplementation, but not both could reverse this effect.<sup>81</sup> If a person was already on a Folate sufficient diet, taking folate pills only decreased their immune systems function. Foods high in Folate include arrowroot, wheat germ, peanuts, sunflower seeds, spinach, lentils, pinto beans, and parsley.

## COVID, Influenza, Ebola, And Other Pandemics: Is Your Immune System Prepared?

Selenium increases natural killer activity by 70% while protecting the lung tissues from inflammation.<sup>82</sup> A diet high in selenium reduces covid-19 cases by 10 times!<sup>83</sup> Higher selenium levels improve COVID-19 survival rate.<sup>84</sup> Lower selenium levels increase the COVID-19 death rate.<sup>85</sup>

Selenium is very important for recovery from a respiratory tract infection—infected lung tissues recover more quickly if you aren't deficient in this element.<sup>86</sup> Foods high in selenium include brazil nuts, mixed nuts, sesame seeds, wheat, sunflower seeds, and wheat germ.

Another nutrient necessary for both natural killer cell numbers and function is zinc.<sup>87</sup> High zinc levels reduce COVID-19 recovery time by 2/3. Patients low in zinc took, on average, 25 days to recover, whereas patients with sufficient zinc took only 8 days to recover.<sup>88</sup> Zinc balances immune responses, and has a proven direct antiviral action against some viruses. Foods high in zinc include wheat germ, pumpkin seeds, sesame seeds, wheat bran, pine nuts, wild rice, and cashews.

Does anyone have a penny? Antibody titers and natural killer-cell cytotoxicity were markedly suppressed in animals fed a copper deficient diet.<sup>89</sup> Copper is best obtained from Spirulina, seaweed, sesame seeds, soybeans, cashews, sunflower seeds, and mixed nuts; but not peanuts.

Magnesium-deficient animals exhibit dramatic elevations of inflammatory mediators that are responsible for the cytokine storm and hemorrhagic pneumonia from which people with pandemic viruses die.<sup>90</sup> You can obtain your magnesium from rice bran, wheat bran, pumpkin seeds, soybeans, flaxseed, Brazil nuts, sesame seeds and cashews.

Turmeric is widely used in India for the treatment of inflammation. It inhibits several

cytokines responsible for lung damage in viral pneumonia.<sup>91</sup> It is also an antioxidant through modulation of glutathione levels in alveolar lung cells and it is a potent oxygen radical scavenger.<sup>92</sup> It is also a good source of vitamin C.

Elderberry extract has been shown to have antiviral action.<sup>93</sup> When coronaviruses were treated with Elderberry, it reduced their numbers by  $10^{-4}$ .<sup>94</sup>

Astragalus<sup>95</sup> and Licorice<sup>96</sup> exhibit anti-coronaviral activity. Astragalus stimulates the Natural Killer cells.<sup>97</sup> Chameleon plant—Houttuynia cordata—stimulates lymphocytes to fight Coronaviruses.<sup>98</sup> Chinese cedar—Toona sinensis Roem—has activity against viruses.<sup>99</sup> Echinacea purpurea, a plant originally used by Native Americans to treat respiratory infections, has been shown to increase natural killer cytotoxicity by nearly 100%.<sup>100</sup>

Let's summarize the foods you may want to eat in preparation for the COVID pandemic. Important vegetables to eat would include garlic, onions, carrots, kale, spinach, and Broccoli. Fruits I would concentrate on are apples, strawberries, grapes, and citrus. Mixed nuts are very valuable; also make sure you get some Brazil and pine nuts. Seeds are also indispensable, have on hand some sunflower, sesame, and pumpkin seeds. Nuts and seeds are best eaten raw rather than roasted and salted. Other foods to concentrate on include soybeans, wheat germ and even turmeric.

Now just think, what have we been describing? The Bible diet! "Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food." "and you will eat the plants of the field."<sup>101</sup> God has said, "If thou wilt diligently hearken to the voice of the Lord thy God, and wilt do that which is right in his sight, and wilt give ear to his

## Blue Print for Health and Healing

commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the Lord that healeth thee.”<sup>102</sup>

### THE USE OF WATER

You cannot underestimate the value of proper hydration. Consequences of dehydration include constipation, urinary tract and respiratory infections, delirium, renal failure, electrolyte imbalance, hyperthermia, and longer time for wound healing just to name a few.<sup>103</sup>

---

Turmeric is widely used in India for the treatment of inflammation. It inhibits several cytokines responsible for lung damage in viral pneumonia.

---

Other uses of water include bathing as well as hot and cold treatments. “Most persons would receive benefit from a cool or tepid bath every day; morning or evening. Instead of increasing the liability to take cold, a bath, properly taken, fortifies against cold.”<sup>104</sup> Taking a cool bath (64°F) before going out in cold weather stimulates the immune system. It augments white blood cell response to cold exposure and increases natural killer cell activity.<sup>105</sup> The way I practice this particular bit of scientific information is to do alternating hot and cold treatments. If I feel the onset of a cold, flu, or other respiratory tract infection I head for the shower. I set the faucet as hot as I can stand and shower until I feel my internal temperature rise. I learned to detect this rise by actually testing my temperature a couple of times till I could correlate the temperature with what I was feeling. When the desired small rise in body temperature is achieved, I then switch to cold,

as cold as possible, for one minute. I then repeat the process one or two more times and then jump in bed for about one-half hour. This is usually sufficient to stop dead in its tracks any intruder from the virus family. Ending every bath or shower with cold is an excellent preventative measure and is stimulating to the immune system.

Just an aside, another good measure at the very onset of a cold is the use of charcoal. Charcoal binds viruses.<sup>106</sup> It also reduces inflammation by adsorbing excess inflammatory mediators.<sup>107</sup> Drink one to two teaspoons of activated charcoal powder in one glass of water. Sip it slowly and let it coat your throat. This can be repeated every two to four hours as symptoms persist.

### TRUST IN DIVINE POWER

The relation between health and spirituality has only recently come to light. Religiosity or spirituality has been shown to increase the function of the immune system.<sup>108</sup>

---

Charcoal binds viruses. It also reduces inflammation by absorbing excess inflammatory mediators.

---

Trusting in Divine power leads to better mental health that helps boost the immune system. Depression is reliably associated with reduction of natural killer activity and a suppression of lymphocyte proliferation<sup>109</sup> both of which could spell trouble in a pandemic. Loneliness is also associated with poorer immune responses. People with high levels of loneliness and a small social network have the lowest immune activity. Loneliness is also associated with elevations in cortisol, an immunosuppressant hormone.<sup>110</sup> Depression is

## COVID, Influenza, Ebola, And Other Pandemics: Is Your Immune System Prepared?

a bad enough suppressor of the immune system by itself, add to that alcoholism and the two suppress natural killer function even further.<sup>111</sup>

One of the benefits of trusting God is that the problems of living that usually are the source of stress are now His problems. Increases in stress hormones result in decreased natural killer cell activity and IgA levels,<sup>112</sup> consequently the number of respiratory infections increases with increasing psychological stress.<sup>113</sup> Stress that we hang on to ourselves usually drives us to exasperation and anger. A single five-minute experience of anger can significantly reduce IgA levels for up to five hours.<sup>114</sup> A lack of a sense of humor, worrying about daily problems and experience negative emotions can also significantly decrease IgA levels.<sup>115</sup>

Trusting in Divine power will lead one to a life of service to others. In a study of individuals who serve others, mortality was significantly reduced for those who provided support to friends, relatives, neighbors, and their spouse. Receiving support had no effect on mortality.<sup>116</sup> In one study, people who volunteered more had 63% less mortality than those who volunteered the least. Any amount of volunteering reduced mortality by 60% even among weekly attendees

at religious services.<sup>117</sup> We've always known that "It is more blessed to give than to receive." Acts 20:35

### SUMMARY

- Use sanitary precautions to reduce exposure to the COVID virus.
- Be prepared in case of national shortages of essential supplies and services.
- Vaccines and antivirals may be of limited supply and of limited efficacy. Do all you can to boost your immune system.
- Eat a nutritious balanced diet. Be sure to eat a variety of nutritious foods, including plenty of vegetables, fruits, beans, nuts, seeds and whole grain products.
- Go easy on salt, sugar, alcohol, cholesterol, and saturated fat.
- Drink lots of water.
- Exercise on a regular basis in the open air and sunshine.
- Get plenty of rest.
- And, by all means, keep the communication open with your heavenly Father.

*“The salads are prepared with oil and vinegar, fermentation takes place in the stomach, and the food does not digest, but decays or putrefies; as a consequence, the blood is not nourished, but becomes filled with impurities, and liver and kidney difficulties appear.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 345.

## CHAPTER 9

# NATURAL KIDNEY HEALTH

People have been asking about failing kidneys and natural ways to stay off of dialysis. The Lord has given us good success using natural remedies, when used in accordance with His will, supernatural results have been seen.

### HERE'S ONE STORY

“We have a special, real, true miracle to share with you that happened here recently. There was a gentleman that was dying in ICU. He was a diabetic of 30 plus years and had a complication with a foot infection and his kidneys had gone into complete failure. For a time, everyone thought he was going to die and at one point, he too wanted to die. But the Lord worked a miracle. The Lord impressed John (Dr. Clark) to go visit him after they released him from the hospital on dialysis for (what they said would be) the rest of his life. When John visited the gentleman and his wife, they were willing to try things differently, following health principles outlined in books such as Ministry of Healing, Counsels on Diets and Foods, and Healthful Living. The gentleman began to do all that John laid out for him which included charcoal poultices over his kidneys and his infected/ulcerated foot, a major change in his diet, drinking much more water, exercising and other things. Within several weeks his foot ulcer/infection healed up, he was taken completely off dialysis, and he was no longer on

ANY medication for diabetes—his blood sugars being completely in the normal range. To all (the gentleman, his wife, their family, the church members, the physicians treating him, and other patients that knew him) it was completely a miracle. He lost around 45 pounds over several months. It was a real blessing to our hearts to see his life spared and his health turn around so dramatically for the better. He is still very weak and struggles to push himself to exercise to regain his muscles and strength back, but he knows that the health message given by God is true. He is a different man and is now witnessing about health everywhere he goes. Isn't that wonderful?” (Northern Lights Health Education Newsletter July 2013 [www.NorthernLightsHealthEducation.com](http://www.NorthernLightsHealthEducation.com)).

---

Within several weeks his foot ulcer/ infection healed up, he was taken completely off dialysis and he was no longer on ANY medication for diabetes: his blood sugars being completely in the normal range.

---

You must be aware that kidneys are delicate organs that respond well to temperate measures. Perfect health depends on perfect circulation.

About 15% of US adults suffer chronic kidney disease; 554,038 patients undergo dialysis

## Blue Print for Health and Healing

several times a week.<sup>1</sup> Chronic kidney disease is loss of kidney function. The most common causes are poor lifestyle choices leading to high blood pressure, chronic glomerulonephritis (kidney damage), high blood sugar (diabetes), drug side effects, polycystic kidney disease, locked urinary tract, and kidney infection.<sup>2</sup>

### WATER

Drinking pure water is essential. In normal situations 8 to 10 glasses a day provide good cleansing for the kidneys. This may have to be modified if kidney function is too poor, but we advocate more water than some.<sup>3,4,5</sup> Water is a safe natural diuretic.<sup>6</sup> The kidneys would rather be filtering blood that is like water than dehydrated blood that is like thick mud.<sup>7,8</sup> Besides not drinking enough water, another way people make mud in their blood stream is by consuming their meals as liquid, in preparations like smoothies, soups, and juices. Liquid meals should be avoided, they only make more work for the kidneys. No liquid should be taken with the meals, as this also makes mud. Water should be taken at least 30 minutes before meals and no sooner than 2 hours after. On a kidney recovery program, I have people start the day with one quart of warm water. It is good to squeeze the juice of one lemon<sup>9</sup> into this first quart of water of the day and drink it at least 30 minutes before breakfast (preferably when first arising from bed). After drinking the water, it is good to take a ten-to-fifteen-minute walk outdoors. Avoid caffeine-containing beverages including teas; these only decrease blood flow to the kidneys.<sup>10</sup> For people who retain reasonable kidney function I recommend 3 quarts of water a day, one upon rising (with lemon in it), one 2 hours after breakfast (with a little charcoal powder mixed in it), and one 2 hours after lunch (never cold, but lukewarm).

For people with poorer kidney function I decrease the after-meal quantities as appropriate.

---

**Water is a safe natural diuretic.**  
**The kidneys would rather be filtering blood that is like water than dehydrated blood that is like thick mud.**

---

### DIET

The best diet for kidney health consists of fruits, grains, nuts, and vegetables.<sup>11,12</sup> I recommend around 80% of your diet consisting of fresh fruit or fresh vegetables (fresh, not cooked food) for kidney restoration.<sup>13</sup>

Whole ripe olives provide nutrients that are most beneficial to the kidneys<sup>14,15</sup> but not olive oil. All oils, butters, margarines or oil-based dressings, only thicken the blood and decrease its ability to carry oxygen to the kidneys<sup>16,17</sup>.

Fiber, especially soluble fiber, as found in oat and barley bran are extremely helpful.<sup>18,19,20</sup> It is recommended that someone desiring to improve the health of their kidneys take at least ½ cup of oat bran or similar fiber each day. It can be cooked, added to another food or eaten raw, for example, with soymilk or oatmeal etc.

Charcoal is an excellent supplement for reducing the burden upon kidneys as it adsorbs substances otherwise dependent upon the kidneys for removal from the body.<sup>21 22 23</sup> One teaspoon of activated charcoal powder can be mixed and drank in one cup of water and this can be repeated two to three times a day. Alternatively, charcoal capsules, 2 or more, taken three times a day, can be helpful. One good plan is to see how much charcoal you can consume while still avoiding constipation. I have



## Natural Kidney Health

had some people take 3 teaspoons of charcoal powder in a quart of water together with one teaspoon of psyllium<sup>24</sup> husk powder to maintain stool softness with success.

Avoid all animal products! (Milk, eggs, cream, yogurt, flesh of fowl or beast). Consumption of animal protein reduces kidney function almost immediately and causes progressively permanent deterioration of function over time.<sup>25,26</sup> Animal protein, especially cheese, increases the acid load that kidneys have to process, and also increases kidney damage.<sup>27,28</sup> If you have any desire to maintain current kidney function or see improvements in kidney function, animal protein of all descriptions will not benefit you. Vegetable protein sources can be beneficial, even soy.<sup>29</sup> A switch from dairy to soy can: restored kidney function, improved insulin sensitivity, and lower blood pressure.<sup>30</sup>

To preserve kidney function never eat inflammatory foods.<sup>31,32</sup> Inflammatory foods include anything created by fermenting, rotting, spoiling, aging, processing, refining, or frying. Examples include, but are not limited to vinegar, cheese, soy sauce, chocolate, vanilla, tempe, meso, yogurt, sour cream, sauerkraut, pickles, and mushrooms. No vinegar whatsoever! No sodas,<sup>33,34</sup> or refined fructose<sup>35,36</sup> containing products whatsoever; even Agave is dangerous.<sup>37</sup> No refined sugar or sweets.<sup>38</sup> It is imperative that you learn to read the ingredients on food labels. Fried foods fry the kidneys.<sup>39</sup> Refined oils, such as cooking oil, lard,<sup>40</sup> butter and margarine damage the kidneys.<sup>41,42,43</sup> Kidneys recover better on a low salt diet.<sup>44</sup>

Eating less food<sup>45</sup> (i.e., fewer calories, fasting<sup>46</sup> one day a week, is very helpful and skipping the evening meal is also very helpful. Two meals a day is best.) and losing weight<sup>47</sup> also are indispensable to kidney preservation and health. Being overweight increases the

damage to your kidneys.<sup>48,49,50</sup> Weight loss decreases dangerous visceral fat lipid peroxidation.<sup>51,52</sup> Weight loss improves kidney function in obesity.<sup>53,54</sup>

---

To preserve kidney function never eat inflammatory foods. Inflammatory foods include anything created by fermenting, rotting, spoiling, aging, processing, refining, or frying.

---

Foods that help urine production include artichoke, celery, eggplant, cauliflower, asparagus, green beans, apples, peaches, cantaloupe, pears, watermelon, grapes, onions, chives, and leeks. Also helpful for kidney disease are squash, chestnuts, dates, potatoes, and sweet corn (non-GMO)<sup>55</sup>. All in all, eating a diet consisting of 80% fresh fruit or vegetables is best for kidney restoration.

### DRUGS AND TOXINS

Anti-inflammatory pills<sup>56,57</sup> (Motrin, Naprosyn, aspirin, etc.) or acetaminophen<sup>58,59</sup> (Tylenol) destroy kidney function and even baby aspirin<sup>60</sup> is a hazard. Ever notice a change in the color of your urine after taking supplement pills? Most supplements,<sup>61</sup> especially vitamins, are unhelpful because they only put an extra burden on the kidneys.

Avoid exposure to toxic substances, such as diesel fumes,<sup>62</sup> chemicals such as glyphosate herbicide (Roundup),<sup>63</sup> heavy metals, industrial chemicals, elevated ambient temperatures, and infections.<sup>64</sup> Foods with them most glyphosate include pizza, wheat flour, crackers, pasta, oats, chick peas, and lentils.<sup>65</sup> Of particular importance is the assessment for the presence of mold/mildew in your environment. Mold/mildew exposure causes kidney

## Blue Print for Health and Healing

failure.<sup>66,67,68</sup> Genetically modified foods (GMO) are a detriment to kidney health.<sup>69</sup>

If you drink more than 2 alcoholic beverages per day, your risk of kidney failure increases 4-fold.<sup>70</sup>

---

**Avoid exposure to toxic substances, such as diesel fumes, chemicals such as glyphosate herbicide (Roundup)**

---

### TEA

Certain herbal teas can be beneficial. Dandelion tea, for example, helps with urine production<sup>71</sup> and reduces inflammation.<sup>72</sup> A good plan is to drink one cup of Dandelion tea one-half hour before eating both breakfast and lunch.

### CLOTHING

Avoid tight bands around the abdomen, (elastics and belts) as these affect circulation to the abdomen and kidneys.<sup>73</sup> Clothe all parts of your body (head, arms, ankles, and especially legs, etc.) evenly and adequately, especially in cold weather.<sup>74</sup> Perfect health depends on perfect circulation.

### OUTDOOR EXERCISE

Get active exercise<sup>75,76</sup> in the open air, involving all your limbs. Get fresh air, even when indoors, open windows for ventilation, especially at night. Walking after every meal for 10-15 minutes improves circulation. People who lay around (as in hospital beds)<sup>77</sup> have their kidneys shut down whereas activity stimulates kidney function.<sup>78,79,80</sup> Gardening is a most excellent exercise for health. Sweating is helpful

to remove toxins otherwise dependent upon good kidney function for removal. For this reason, saunas can be helpful.<sup>81,82</sup>

Sunshine and Vitamin D are beneficial to kidney function and slow its decline in kidney failure.<sup>83</sup>

Not getting enough sleep increases the risk of kidney failure by 80%.<sup>84</sup> Melatonin, increased by a good night's sleep, is also critical to kidney health.<sup>85</sup>

### BATHING

Bathe regularly and do thorough skin-scrubbing to open up the pores of the skin.<sup>86</sup> The bath is a soother of the nerves. It promotes general perspiration, quickens the circulation, overcomes obstructions in the system, and acts beneficially on the kidneys and urinary organs. In scientific studies a bath led to a significant increase of urine flow.<sup>87,88</sup>

---

**We recommend charcoal poultices over the kidneys at night for toxin removal while you are seeking to restore kidney function. This will eliminate toxins otherwise dependent upon the kidneys for removal from the body.**

---

### CHARCOAL POULTICES

We recommend charcoal poultices over the kidneys at night for toxin removal while you are seeking to restore kidney function. Our procedure is to take two 1-quart freezer bags. Put ½ cup of activated charcoal powder into each bag. Then add 2 teaspoons of psyllium husk powder to each bag. Close the bag and shake until well mixed. Add 1 cup (or 240ml) of water to each bag. Close bag and kneed it until it is well

## Natural Kidney Health

mixed and of a “playdough” consistency. Using a rolling pin, roll the charcoal “playdough” out while still in the bag to an even thickness. Cut the bag along its seam and peel off one side of the plastic bag. Place the charcoal poultices one over each kidney on the mid back and wrap the person’s trunk with plastic wrap such as Glad “Press and Seal.” Secure the poultices in place with a form fitting garment or large elastic bandage or “Ace wrap.” Leave these on all night and remove them in the morning. The next night, turn the poultices over and use the other side. Peel off the plastic freezer bag from the remaining side and apply as before. You can make a lot of these and store them in a freezer for future use.

### **HYDROTHERAPY**

Hydrotherapy is beneficial at restoring circulation.<sup>89</sup> Twice a day you can apply the following: We like to use hot water bottles and ice packs. Fill two hot water bottles with hot water and apply the hot water bottles to the kidneys on the mid back for 3 minutes. Then remove the hot water bottles and apply the ice packs for 1 minute to the same area. Repeat this process 7 times and end with cold, then have the person lay down and rest for 20 minutes to finish the treatment. This stimulates kidney function.

### **KIDNEY FAILURE REVERSED**

“I would like to share with you the great blessing the Lord has done in my brother’s

health with regard to his kidneys. I thank God for answered prayers. Dr. Clark, the Lord blessed the diet regime you so kindly recommended for my brother. He has been following the diet faithfully and that in itself is a miracle. They did another test of his blood and this time also the urine. The results that came back last week said “I have good news for you!” The creatinine had been 3.31 and kidney function 20% the first time, which you might recall. Well, the second results showed a creatinine level of 1.12 and kidney function at 54% and another result showed 74%! A miracle of God! Dr. Clark, I want to thank you so much for your help which is always given with faith in the Lord.” L.B. from Needles, CA. (Northern Lights Health Education Newsletter Spring 2012 [www.NorthernLightsHealthEducation.com](http://www.NorthernLightsHealthEducation.com)).

We have had people with fifteen percent kidney function return to seventy-five percent function in a matter of 6 weeks following the above recommendations.

### **TO SUMMARIZE:**

- Eat natural foods as grown.
- Avoid animal protein, fats, alcohol, caffeine, and fermented or refined foods.
- Avoid drugs and supplements.
- Drink plenty of water, not liquid meals.
- Exercise in the open air and sunshine.
- Get plenty of sleep.
- Let God be your healer!

*“You are not to breathe with your lungs, nor to talk with your throat. The abdominal muscles are to be used to breathe with and to talk with. The lungs are not to be active, but passive; they are not to act, but to be acted upon by the machinery which is to be kept in motion by the exercise of the abdominal muscles. So, likewise, with the throat; it is not to be the organ, but only “the channel, of communication.” The exercise of the muscles of the abdomen, causing contraction of the lungs, forces the air through the throat over the vocal cords, and thus creates the tones; then the tongue, teeth, and lips cut the tones into words, and thus speech is formed. Therefore, do not breathe with the lungs, and do not talk with the throat. Breathe with the abdominal muscles, and talk with the abdominal muscles and then mouth.”<sup>i</sup>*

- A.T. Jones

---

<sup>i</sup> Jones, A. T. "The Home Missionary, vol. 5", 1893, p. 260, para. 8. {HOMI December 1893, p. 260.8}.

## CHAPTER 10

### LUNG HEALTH: BREATHING EASIER!

He could not walk across the room without gasping for breath, even on supplemental oxygen, which he carried with him everywhere he went. I'll refer to him as Ted. Ted was a diabetic, a smoker with chronic obstructive pulmonary disease (COPD), and additionally he had suffered a massive heart attack that left him in disabling heart failure. The doctors sent Ted home on oxygen with little hope for recovery. I was asked to see Ted by his concerned friends. My approach was to assign lifestyle interventions for Ted designed to reverse and remedy his illnesses and limitations based on what we call the eight natural remedies; "Pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water, trust in divine power—these are the true remedies."<sup>1</sup> In this article I want to share with you the basis for the advice I gave Ted and the results he experienced.

---

**How important are your lungs? You eat two or three times a day, you drink water four or five times a day, but you breathe as many as 25,000 times a day.**

---

Did you know this? "The power of God is manifested in the beating of the heart, in the action of the lungs, and in the living currents that circulate through the thousand different

channels of the body. We are indebted to Him for every moment of existence, and for all the comforts of life. The powers and abilities that elevate man above the lower creation, are the endowment of the Creator."<sup>2</sup>

#### HOW IMPORTANT ARE YOUR LUNGS?

You eat two or three times a day, you drink water four or five times a day, but you breathe as many as 25,000 times a day. Just try holding your breath for a minute or two and your body cries out for air. We like good food, we like clean water, but what about pure fresh vitalizing air?

Your lungs give you access to the atmosphere all around you. Without lungs you cannot obtain the oxygen every cell in your body needs. With your lungs, you interface with the outside world. The lungs are designed by God to provide a buffer of protection from harmful things in your environment. Your immune system is very active in your lungs for this purpose.

#### MORNING WALK

Walking in the fresh morning air is especially important. It is healthier to walk out in the country than in the city.<sup>3</sup> Having one's window open at night is especially important.<sup>4</sup> Keeping windows open during the day for fresh air is important.<sup>5</sup> In 1918, when the Spanish Influenza was going around, much as coronavirus is going

## Blue Print for Health and Healing

around these days, the patients who could not secure a hospital bed were accommodated with tents out on the hospital lawn. Guess who survived the 1918 Spanish Influenza the best? You guessed it, the people out in the fresh air. For more on prevent and treatment of viral lung diseases, such as coronavirus, see the chapter on pandemic prevention and treatment.

### GASSING YOUR LUNGS

Avoid cooking indoors with gas<sup>6</sup> or kerosene as this hastens lung demise.<sup>7</sup> Even burning candles indoors negatively affects the lungs.<sup>8</sup> Avoid all contact with mold/mildew as it increases lung diseases by 62%!<sup>9</sup> Mold exposure in water-damaged buildings reduces natural killer cells, which fight diseases like the flu, and initiates lung-damaging inflammatory processes. Living in a home with mold (mildew) problems increases the risk of respiratory symptoms and infections.<sup>10</sup> I have literally felt my lungs burning when breathing air in a building infected with mold. Freedom from air pollution is important for lung health.<sup>11</sup> Houseplants can help reduce indoor air pollutants.<sup>12</sup>

### FOOD FOR THE LUNGS

You are made up of what you eat. What you eat affects the health of your lungs. You may have heard it said, “An apple a day keeps the doctor away”. It may surprise you to learn that people following this advice actually breathe 138 milliliters more of air with every breath.<sup>13</sup> What’s more, God has endowed apples with critical phytochemicals found to help the immune system of your lungs to fight infections caused by viruses.<sup>14</sup> Other delicious foods that improve the immune system in your lungs

include: grapes,<sup>15</sup> onions, <sup>16</sup> garlic,<sup>17</sup> eggplant,<sup>18</sup> and asparagus.<sup>19</sup>

---

“An apple a day keeps the doctor away.” It may surprise you to learn that people following this advice actually breathe 138 milliliters more of air with every breath

---

Pineapple is also helpful for the lungs because it is high in vitamin C, and it contains a very good phytochemical called bromelain. Bromelain is anti-inflammatory and helps break down fibrosis.<sup>20,21,22,23</sup> In general, a diet of 80% fresh fruits and vegetables is very beneficial for lung patients.<sup>24</sup>

Now, while there are foods beneficial for the lungs, others can be detrimental to lung oxygen exchange. It would be well to avoid free oils because they work against the lungs by lowering blood oxygen levels<sup>25</sup> and increasing inflammation.<sup>26</sup> What’s more, it takes more oxygen from the lungs to digest fats than to digest complex carbohydrates.<sup>27</sup> Oils are especially hazardous to lung function when used in frying because frying increases histamines in the food.<sup>28</sup> Histamines trigger asthma and other lung disorders. For this and other reasons cheese is also especially bad for the lungs.<sup>29</sup> It is high fat, fermented, and it has histamines. An asthma patient of 15year duration called me one day, and while I did give them many of the pointers found in this article, the one that stuck out most in their mind was the advice to abstain from fermented dairy, especially cheese. In one week, abstinence from cheese (which had been a major part of their diet) had made all the difference in the world. In fact, within one day of stopping the consumption of cheese, their symptoms had markedly improved.

## Lung Health: Breathing Easier!

For those of you who are prone to reach for the saltshaker at every meal, be aware that a high salt intake reduces tissue oxygenation and increases inflammation thus compromising lung efficiency.<sup>30,31</sup>

Fermented foods increase lung-compromising inflammation.<sup>32</sup> You can look at our previous articles on fermented foods. Some examples of harmful fermented foods are coffee, chocolate, soy sauce, vanilla, brown rice syrup, cheese, wine, and vinegar.<sup>33</sup> Also, please see the chapter on autoimmune disease for inflammation issues.

### **NO SMOKING**

Tobacco, in any form, is a top lung enemy.<sup>34,35,36,37</sup> Smoking marijuana also poses a serious lung health risk.<sup>38</sup>

People who are more active have better pulmonary function compared to sedentary people.<sup>39</sup> Sitting around all the time compromises your lungs. On the other hand, getting active improves your lungs.<sup>40</sup> An upright posture is also a benefit to improved lung function.<sup>41</sup>

---

**Walking is the best exercise. Frequent brisk walks throughout the day are more effective than one long walk.**

---

### **LUNG EXERCISES**

Walking is the best exercise. Frequent brisk walks throughout the day are more effective than one long walk.<sup>42</sup> Helpful breathing exercises can be performed while walking. One must train themselves to breathe deeply and correctly. Shallow breathing results in toxins not being removed from the body through the lungs.<sup>43</sup> People are more likely to breathe

correctly, using their diaphragm as opposed to breathing with their shoulders while walking.<sup>44</sup> When you speak, it is very important to use your diaphragm and not your shoulders for support of your voice.

I counsel people to count their steps (paces) and breathe in time with their steps. The process goes like this: walk while counting your steps as you inhale (breathe in). For example, maybe your first breath takes four steps (strides, paces) to complete. The exercise would go like this: inhale over those four steps, hold the breath for two steps and then exhale (breathe out) slowly for the next four steps. Repeat this process a few times and then try to increase the inhalation to cover five steps, and the exhalation to cover five steps. Repeat this a few times and then try to increase the number of steps over which a breath is taken in and then blown out. This is what singers do to expand lung function so they can hold out the long notes. This is what mountaineers, training to climb Mount Everest have done to improve lung capacity, in order to reduce the need to carry oxygen to high elevations. This exercise can be done every time a person walks.<sup>45</sup> The more beneficial times to walk are in the morning, first thing upon rising,<sup>46,47</sup> and after each meal.<sup>48</sup> Better yet, for fastest results, walk every 1 to 2 hours during the waking hours. Walking in nature<sup>49</sup> improves lung function compared to walking in city streets.<sup>50</sup>

### **DRESSING FOR LUNG HEALTH**

Clothing is important. Clothing should not have any tight bands, especially around the chest<sup>51</sup> or abdomen (bra's, belts, and waistbands). Clothing should be warm, especially of the arms and legs. If one is to exercise in cold weather, proper clothing is essential. Sufficiently protecting the arms and

legs from cold helps prevent inflammation and congestion of lungs and brain thus helping prevent lung influenza.<sup>52,53,54</sup> Cold blood returning from cold arms that are not as well clothed as is the chest (trunk) inflames the lungs. Correct breathing is breathing from the diaphragm, not the shoulders.

### IDEAL LUNG WEIGHT

Being overweight has a downside. Obesity (35+ lbs/16+kg over your ideal body weight) decreases tissue oxygenation, putting extra burden on the lungs.<sup>55</sup> Obesity is also a risk factor for obstructive apnea, a breathing disorder during sleep.<sup>56</sup>

### WATER AND YOUR LUNGS

Your lungs need good hydration. It is recommended to drink 3 quarts (liters) of water a day;<sup>57,58</sup> one upon rising, taken warm with some fresh-squeezed lemon juice in it, one mid-morning, and one mid to late afternoon.

---

Direct sunlight on the chest is a good practice for people working up to a total of 20 to 30 minutes of sun exposure each day.

---

For some lung conditions and diseases, breathing water vapor from a boiling pot (steam) can be helpful. Breathing steam this way moistens the lungs, mobilizes secretions, and improves lung health<sup>59</sup> (always take care not to burn yourself).

Sunlight provides lung benefits.<sup>60</sup> Direct sunlight on the chest is a good practice for people; working up to a total of 20 to 30 minutes of sun exposure each day.

For lung health and total health, it is best to get 8 hours of sleep each night. It is also best to get it early in the night, starting around 9:00 pm.<sup>61,62</sup> This improves your body's antioxidants and recovery from the day's activities.

Trust in divine power is a must. Pray for strength to change to a better lifestyle and claim promises such as, "seeing He giveth to all life, and breath, and all things;"<sup>63</sup>

(Ted), the gentleman who was sent home on oxygen by his doctors, took my advice based on the above information – he took it as his last hope of life. He walked and breathed faithfully. He ate the best foods. He spent time outdoors. In 2 months time, Ted went from a man that was out of breath from walking across a room to a man walking one and a half miles a day. His diabetes and hypertension improved, and his doctors began taking him off medications and lowering his administered oxygen. His mind, darkened by illness, became clear and he enjoyed conversations and deep study of the Bible. The last time I saw a picture of him, he was on the cover of an advertisement for a program to improve people's health.

Lungs can definitely be improved with a natural approach using the eight natural remedies. We have seen pulmonary cripples totally recover.

"The mechanism of the human body cannot be fully understood; it presents mysteries that baffle the most intelligent. It is not as the result of a mechanism, which, once set in motion, continues its work, that the pulse beats and breath follows breath. In God we live and move and have our being. The beating heart, the throbbing pulse, every nerve and muscle in the living organism, is kept in order and activity by the power of an ever-present God."<sup>64</sup>



## Lung Health: Breathing Easier!

### **IF YOU WANT GOOD LUNG FUNCTION:**

- Breathe fresh, clean, outdoor air as much as you can.
- Adjust your diet to support good lung function.
- Maintain a high level of physical activity outdoors in the fresh air and sunshine.
- Do breathing exercises that will help your lungs.

*“Our Creator has formed the limbs with large veins and vessels to contain a large proportion of blood, that the limbs may be sufficiently nourished and proportionately warm with other portions of the body. But fashion robs the limbs of coverings, and the life current is chilled from its natural channel and thrown back upon its internal organs. The many coverings over the chest and lungs induce the blood to these parts, and the animal heat thus retained weakens and debilitates these delicate organs, causing congestion and inflammation. The head, lungs, heart, liver, and kidneys have too much blood, while the limbs have not enough for warmth and proper development. The result is, the blood-vessels in the limbs contract because they are not filled and cannot contain the due proportion of blood which nature designed they should, and they are always chilly.”<sup>i</sup>*

—E. G. White

---

<sup>i</sup> White, E. G. (1877, January 1). “Proper Dress.” *The Health Reformer*. {HR January 1, 1877, par. 7}.

## CHAPTER 11

# NATURAL THYROID HEALTH

Connie's obstetrician was adamant, Connie must go on thyroid replacement medications or else she and her unborn baby would suffer significant long-term health consequences. Connie's thyroid hormone levels were far below normal, and she felt really tired and slow. As Connie thought about it and did some research she felt very uncomfortable with what she was learning about thyroid medication side effects, which she could anticipate would negatively impact her and her unborn child. Connie started looking for alternatives. We will come back to Connie and what became of her.

---

A lot of people suffer from thyroid disease and don't realize it. Knowing when you have it and what to do about it can be a life renewing experience.

---

### LIFESTYLE CHOICES MAKE THE DIFFERENCE

Thyroid disease is largely caused by poor lifestyle choices. Most people with thyroid disease can recover with simple lifestyle changes and natural remedies. God works with natural remedies to bring about healing and restoration of health.

In this article we want to discuss how your thyroid functions. We want to take a look at things that can compromise the function of your thyroid; competitors, inhibitors, and toxins. We will finally consider some beneficial lifestyle choices that can make a difference in thyroid health and simple home remedies to aid in thyroid recovery and restoration.

An estimated 20 million Americans have some form of thyroid disease. Women are five to eight times more likely than men to have thyroid problems. One woman in eight will develop a thyroid disorder during her lifetime.<sup>1</sup>

The thyroid's job is to make thyroid Hormones. Thyroid hormones affect every cell in and organ of your body. They regulate the rate at which calories are burned, affecting weight loss or weight gain. They can slow down or speed up the heartbeat. They can raise or lower body temperature. They influence the rate at which food moves through the digestive tract. They control the way muscles contract. And they control the rate at which dying cells are replaced.<sup>2</sup>

In the thyroid gland hormones are made when iodine is added to tyrosine residues in thyroglobulin to make T4 and T3. When thyroid hormone is released from the thyroid as T4 it requires selenium, iron, and zinc to change it to the active thyroid hormone form, T3. Once the active thyroid hormone form (T3) is in the blood stream, omega-3 fatty acids help facilitate its movement into the cells.<sup>3</sup> Magnesium and zinc are also necessary to help in stabilizing thyroid. Deficiencies in any of these nutrients could result in thyroid dysfunction.

Two autoimmune conditions commonly affect the thyroid. The first is Graves' Disease, where auto-antibodies actually stimulate the thyroid to produce excess thyroid hormone resulting in hyperthyroidism. The other is Hashimoto's thyroiditis in which anti-thyroid antibodies actually end up destroying or inhibiting thyroid function resulting in too little thyroid hormone being produced, this condition is called hypothyroidism.

Signs and symptoms of hypothyroidism may include fatigue, increased sensitivity to cold, constipation, dry skin, weight gain, puffy face, hoarseness, muscle weakness, elevated blood cholesterol levels, muscle aches, tenderness and stiffness, pain, stiffness or swelling in your joints, heavier than normal or irregular menstrual periods, thinning hair, slowed heart rate, depression, impaired memory, and/or enlarged thyroid gland (goiter).<sup>4</sup>

## WHAT CAUSES THYROID DYSFUNCTION?

Believe it or not, meat eating tops the list, especially red meat, because it significantly increases the risk of autoimmune thyroiditis (Grave's/Hashimoto's).<sup>5</sup> You may realize that meat eating goes hand in hand with a high total serum cholesterol. A high total serum cholesterol level suppresses the thyroid's function.<sup>6</sup> It is the fat and cholesterol in the meat that raises the cholesterol in your body. This dietary fat from meat increases the risk of thyroid dysfunction by 55%.<sup>7</sup> That said, Omega-3 polyunsaturated vegetable fats are beneficial to the thyroid cells.<sup>8</sup> This reminds me, God has weighed in on the animal fat issue, in Leviticus 7:23 He says, "Speak unto the children of Israel, saying, Ye shall eat no manner of fat, of ox, or of sheep, or of goat." So, you may be thinking, if I don't eat animals, what would I eat? For good thyroid health, studies reveal that: exclusion of all animal foods is associated with half as much thyroid dysfunction as compared with omnivorous diets."<sup>9</sup>

Other foods harmful to vibrant thyroid health include sugars/sweets<sup>10</sup> and white flour products.<sup>11,12</sup> Sugar is a very inflammatory food and increases the inflammation in the thyroid, which in turn compromises its function. This may seriously challenge your sweet tooth, but a little self-denial on this issue could just pay off in better thyroid health. The eating of refined carbohydrates—sugars, sweets, white flour, and white rice products—results in a low antioxidant status and the accumulation of advanced glycation end products (sugar coated proteins), which, in turn, leads to auto immune thyroiditis.<sup>13</sup> Having said that, it may be becoming obvious that diabetes is not a friend to good thyroid function. Diabetes significantly increases the risk of hypothyroidism. The high blood insulin levels in diabetes destroys the thyroid gland. On the other hand, Hypothyroidism decreases insulin secretion increasing the risk of diabetes.<sup>14,15,16,17,18,19</sup> What's more, consumption of refined cereal products (refined carbohydrates) compromises thyroid function,<sup>20</sup> and doubles the risk of thyroid cancer,<sup>21</sup> and nobody wants thyroid cancer.

You may be thinking that the answer is artificial sweeteners, but let me caution you right here, artificial sweeteners, such as Aspartame, increase the risk of autoimmune thyroiditis too.<sup>22</sup>

Studies show that if you replace all the refined carbohydrate foods in your diet with whole grains and vegetables, it will have positive effects on your thyroid function.<sup>23</sup> Some of this improvement can be attributed to the additional fiber you will consume. Consumption of sufficient dietary fiber, as opposed to eating refined carbohydrates which have no fiber, reduces the risk of Hashimoto's and hypothyroidism.<sup>24</sup> Fiber is what keeps your bowels regular and feeds the good bacteria in your gut. Improving gut flora has been shown to improve thyroid function.<sup>25,26</sup> It might be referred to as the gut thyroid connection.

---

**Sugar is a very inflammatory food and increases the inflammation in the thyroid, which in turn compromises its function. This may seriously challenge your sweet tooth, but a little self-denial on this issue could just pay off in better thyroid health.**

---

Really, the key to thyroid health and recovery from disease is reducing inflammation. Inflammation is a key ingredient in disorders of your thyroid. The best way to address thyroid inflammation is through eating an optimal, nutritious, antioxidant rich diet.<sup>27</sup> Are you eating your antioxidants?

One very important and indispensable antioxidant is Vitamin C. As an antioxidant it helps preserve thyroid function.<sup>28</sup> It significantly helps improve autoimmune thyroiditis by decreasing TPO-Ab antibodies.<sup>29</sup> Vitamin C also counteracts the deleterious inflammatory effects of MSG on the thyroid.<sup>30</sup> What foods are rich in vitamin C? Oranges, red bell peppers, kale, brussels sprouts, broccoli, strawberries, grapefruit, kiwi, and green bell peppers, just to name a few.<sup>31</sup>

Eating your protection is really the answer. Dietary fresh fruits and vegetables help reduce the risk of thyroid dysfunction because of their high antioxidant levels.<sup>32</sup>

Some people's thyroid problems stem from their inability to rein in their appetites. When they overeat, it increases thyroid oxidative stress/inflammation. On the other hand, caloric restriction decreases thyroid inflammation saving the thyroid from oxidation-induced autoimmune thyroiditis.<sup>33</sup>

### ENVIRONMENTAL THREATS

Diet is not the only lifestyle factor affecting thyroid function, there are also environmental issues. Electromagnetic Field (EMF) exposure, from cell phones and towers, WiFi, smart meters, etc., depresses T3 levels.<sup>34</sup> Cellular telephone EMF has been extensively studied, due to widespread usage, and has been found to decrease the levels of T3 and T4,<sup>35</sup> while it increases TSH levels.<sup>36</sup> TSH increases when the brain is trying to spur the thyroid on to catch up on the making of thyroid hormones.

Our environment is polluted with many thyrotoxic substances. The following substances have been shown to negatively affect thyroid function: fluoride, bromide, chloride, perfluoroalkyl substances, perchlorate, folic acid supplementation, flame retardants,<sup>37</sup> nitrates,<sup>38</sup> pesticides, thiocyanate, triclosan, BPA, MSG, aluminum, and mercury.

Fluoride, bromide, and chloride are in the halide family together with Iodine, and compete in the thyroid with iodine.

Fluoride decreases thyroid and brain function. The toxic effects are accumulative over multiple generations. Each generation gets dumber and more hypothyroid.<sup>39</sup> Know your sources of fluoride exposure. Toothpaste alone can exceed safe limits.<sup>40</sup> Fluoridation of drinking water has resulted in an increase in the mean content of fluoride in soft drinks, fruit juices and in canned goods (notably soups).<sup>41</sup> Most soft drinks contain fluoride levels exceeding recommended levels.<sup>42</sup> So can wines<sup>43</sup> and teas.<sup>44</sup> Often salt is fluoridated.<sup>45</sup> Processed foods such as cereals are a significant source of fluoride,<sup>46</sup> as are fish<sup>47</sup> and chicken.<sup>48</sup>

Go easy on the salt! Sodium chloride (common salt) suppresses thyroid function, especially if you lack iodine.<sup>49</sup> This is because chloride is another one of those elements that competes with iodine.

Chlorine is a common disinfectant for tap water. Drinking chlorinated water suppresses thyroid hormone production in laboratory animals.<sup>50</sup> You may want to let your water sit out for a time to off-gas the chlorine, or run it through a filter that removes chloride before drinking it. Showering in chlorinated water is another way in which thyroid chlorine levels can be raised dangerously high.<sup>51</sup>

Bromide is in the same class of elements as iodine and competes with iodine in the thyroid, lowering thyroid function.<sup>52</sup> Bromide is used in: pesticides (methyl bromide), some bread

products (potassium bromate as a dough conditioner added bleach white flour),<sup>53</sup> brominated vegetable oil that may be added to citrus-flavored drinks, hot tubs, swimming pools and cooling towers, water cleansers, certain asthma inhalers and prescription drugs, fire retardants, plastic products, personal care products, such as hair lotions,<sup>54</sup> fabric dyes, and fire retardants.<sup>55</sup>

What do microwave popcorn, fast food restaurant menus,<sup>56</sup> plastic food packages, non-stick cookware,<sup>57</sup> fish,<sup>58</sup> eggs, and meat<sup>59</sup> have in common? Perfluoroalkyl substances, which decrease your thyroid function.<sup>60</sup> These fluorinated substances are highly reactive and increase autoimmune thyroid disease.<sup>61</sup> What about non-stick cookware? Perfluorinated chemical compounds,<sup>62</sup> found all over our environment, are known to be endocrine disruptors (the thyroid is part of the endocrine system)<sup>63</sup> and are used to coat “non-stick” cookware (Teflon).<sup>64</sup> They are also used as antifungals.<sup>65</sup> They are used to line your food packages.<sup>66</sup> Perfluorinated chemical compounds can compete with thyroxine (T4) for binding to the human thyroid hormone transport protein transthyretin so that your thyroid hormones get stuck in the thyroid.<sup>67</sup> Higher concentrations of serum perfluorinated chemical compounds are associated with increased thyroid disease.<sup>68</sup> They can also cause thyroid deficiency in unborn babies which leads to mental retardation.<sup>69</sup> So what should one cook food in? Good quality stainless steel cookware would be a first choice.

---

**Go easy on the salt! Sodium chloride (common salt) suppresses thyroid function, especially if you lack iodine.**

---

Bisphenol A (BPA), found in plastics, is a endocrine disruptor with effects on the thyroid as well as other endocrine functions.<sup>70</sup> BPA is a xenoestrogen commonly used in food storage plastics,<sup>71</sup> vegetable cans, baby bottles, microwaveable containers, polyesters, adhesives and car parts.<sup>72</sup> It is one of the highest-volume chemicals produced worldwide, human exposure to BPA is thought to be ubiquitous.<sup>73</sup> BPA causes an over-production of hydrogen peroxide by the thyroid, leading to oxidative damage and autoimmune thyroiditis.<sup>74,75</sup>

Monosodium Glutamate (MSG), a common food flavor enhancer, significantly decreases

serum free T3 and free T4 levels, while significantly increasing serum TSH. Oral intake of MSG results in degenerative changes in the thyroid gland,<sup>76</sup> as well as neurons and astrocytes in cerebellum.<sup>77</sup> It takes some research to discover all the ways industry hides MSG in common foods.<sup>78</sup> One good website for this is <https://truthinlabeling.org/>.

Mothers with dental amalgam fillings, which contain the toxic element mercury, have significantly lower thyroid levels and their children can also have hypothyroidism as a result of this oral toxin, leading to mental retardation.<sup>79</sup>

Aluminum suppresses TSH,<sup>80</sup> T4, and T3.<sup>81</sup> Many people do not realize it, but tea<sup>82</sup> can be a big source of unwanted aluminum, as can be cheese,<sup>83</sup> baking sodas, geoeengineering,<sup>84</sup> and vaccines.<sup>85</sup> Please see our Alzheimer's article for more unwanted aluminum sources.<sup>86</sup>

Perchlorate is a contaminant that is commonly found in surface and groundwater, some foods such as dairy milk,<sup>87</sup> some fertilizers, road flares, car airbags, fireworks, explosives, and rocket propellants.<sup>88</sup> Perchlorate competitively inhibits the transport of iodide into the thyroid.<sup>89</sup> It is 30 times more potent to the thyroid than iodine. Its effect upon the thyroid is additive with other toxins such as thiocyanate and nitrates.<sup>90,91</sup> Make sure the water you drink is pure.

Nitrates are commonly consumed from drinking water and some foods. Processed meats are high in nitrates.<sup>92</sup> Some supplements can be extremely high in nitrates.<sup>93</sup> Nitrates from fertilizers often contaminate drinking water.<sup>94</sup> <sup>95</sup> high levels of nitrates in drinking water are a risk factor for thyroid dysfunction.<sup>96</sup> Nitrates impair thyroid function by interfering with the thyroid's relationship with the brain and thyroid stimulating hormone, and by competing with iodine uptake. The water used for drinking and cooking in areas where people get goiters has been found to have higher nitrate content.<sup>97</sup>

Thiocyanate concentrations, equivalent to those obtained from tobacco smoke, have three independent antithyroid actions: (i) they inhibit iodide transport into the thyroid, (ii) They inhibit iodine organification into T3 and T4, and (iii) they increased iodide efflux from the thyroid.<sup>98</sup> Canola (rapeseed, the source of canola oil) can be a significant source of thiocyanate and glucosinolates which suppress the thyroid.<sup>99</sup> Thiocyanate can also be found in dairy milk.<sup>100</sup> Rats receiving milk from cows fed rapeseed

meal (canola) developed thyroid enlargement, a sign of thyroid dysfunction.<sup>101</sup> As much as brassicas get a bad rap, studies show that they are of little impact at <1 kg/d for several months,<sup>102</sup> unless of course you are juicing large amounts of them. Attention to adequate iodine consumption is recommended in individuals consuming large amounts of brassica vegetables routinely.<sup>103</sup>

Folate is a B vitamin readily available in vegetables like spinach. When folic acid is substituted, for example as in vitamin pills, hypothyroidism results. Excess folic acid during adolescence suppresses thyroid function causing permanent deficits in motivation and spatial memory.<sup>104</sup> Better to eat spinach and green leafy vegetables with folate, than to take laboratory concocted supplement pills of folic acid.

---

### That caffeine during pregnancy causes hypothyroidism in your unborn baby and reduces their intelligence.

---

Triclosan is a potent antibacterial and antifungal compound that is widely used in personal care products, hand sanitizers, toothpaste, plastics, and fabrics. Recently, triclosan has been shown to alter endocrine function in a variety of species. It acts as an endocrine disrupter and significantly decreases total serum thyroxine (T4) triiodothyronine (T3).<sup>105</sup> Washing your hands with something else like a natural soap is better for your thyroid.

Herbicides (e.g., glyphosate) and pesticides (e.g., pyrethrin) interfere with thyroid function, increasing the risk of thyroid disease.<sup>106,107</sup> Herbicides are toxic chemicals that kill plants. Glyphosate is a herbicide, sold under the name "RoundUp", that kills plants by depleting their selenium and compromising their ability to produce the amino acid tyrosine.<sup>108,109</sup> Glyphosate exposure is associated with an increased risk of hypothyroidism.<sup>110</sup> In Humans tyrosine is essential to the production of thyroid hormones. The Canadian Food Inspection Agency found that 90 percent of pizza, 88 percent of wheat flour, 84 percent of crackers, 84 percent pasta, 75 percent of oats, 70 percent of chickpea flour, and 67 percent of lentils samples contain unwanted glyphosate.<sup>111,112</sup>

## Natural Thyroid Health

### HABITS

Have you had your caffeine hit yet this morning? In animal studies, caffeine significantly reduces T3 levels.<sup>113</sup> If you are pregnant and interested in the thyroid health of your child, it will be of interest to you to know that caffeine during pregnancy causes hypothyroidism in your unborn baby and reduces their intelligence.<sup>114</sup> One popular source of caffeine is coffee. Thyroid function already declines with age; coffee prematurely hastens this decline.<sup>115</sup> Methylxanthines found in coffee, tea, colas, and chocolate have been shown to be mildly antithyroid and strongly goitrogenic in laboratory animals.<sup>116</sup> Goiters, or enlargement of thyroid, occurs when the thyroid is pushed, by excess TSH, to make thyroid hormone, but lacks the nutrients, such as iodine, to do so.

People who drink coffee or take caffeine often have a difficult time sleeping. Sleep is very important. Both shorter (<7 h/day), or longer (>8 h/day), sleep times increase the risk of thyroid dysfunction compared to the optimal sleep duration (7-8 h/day).<sup>117</sup> Another thing that compromises sleep and your thyroid is an evening meal. Two meals a day with no snacking between meals is healthier for your thyroid.

### PSYCHOLOGICAL

How are you feeling today? Both stress<sup>118</sup> and anxiety<sup>119</sup> significantly suppress thyroid function.<sup>120</sup> We have discovered, in recent years, that the impact of psychological stress on health is enormous. Stress management is key to thyroid health.

### BODY MASS INDEX

Another factor weighing in on your thyroid health is your body mass index—whether or not you maintain a healthy weight. For some, aggressive weight loss may ease hypothyroidism. About 10% of obese subjects are hypothyroid. Weight gain has been associated with hypothyroidism while weight loss normalizes it.<sup>121,122</sup> Obesity also increases autoimmune thyroiditis.<sup>123</sup>

A very good therapeutic approach to hypothyroidism and obesity can include eating less food—caloric restriction. Caloric restriction decreases hydrogen peroxide production

potentially saving the thyroid from oxidation-induced autoimmune thyroiditis.<sup>124</sup>

Are you having trouble losing weight? It could be the thyroid replacement medication's fault. Thyroid hormone supplementation increases obesity.<sup>125</sup> Levothyroxine (a popular thyroid hormone replacement drug) is not benign, it can increase your chances of developing lung cancer<sup>126</sup> and pancreatic cancer.<sup>127</sup> What's more the use of thyroid hormones can increase the risk of cataracts in your eyes.<sup>128</sup> Thyroid replacement drugs can also increase the risk of osteoporosis.<sup>129</sup>

### OSTEOPOROSIS

Speaking of osteoporosis, thyroid dysfunction itself can cause osteoporosis. Thyroid disorders have an important impact on bone metabolism and fracture risk, such that hyperthyroidism, hypothyroidism, and subclinical hyperthyroidism are associated with a decreased bone mineral density (BMD), and increased risk of fracture.<sup>130</sup>

### TRAUMA

Incidentally neck injury can impact your thyroid. Whiplash and cervical nerve pressure can cause hypothyroidism with resultant 10-30 pounds weight gain over the next 3-4 months.<sup>131</sup>

### HYDRATION

Drink pure, uncontaminated water; rehydration helps balance and regulate the thyroid hormones.<sup>132</sup>

### HELP FOR THYROID FUNCTION

So, what is the secret to getting your thyroid working again. I have personally seen people with a long history of thyroid replacement hormone therapy get off their pills and achieve normal thyroid function. Besides avoiding all the thyroid competitors, inhibitors, and toxins we have discussed, my recommended approach includes such modalities as; assuring adequate body levels of Iodine, selenium, tyrosine, zinc, iron, and magnesium, use of helpful herbs, taking time for appropriate exercise; proper application of hot and cold hydrotherapy treatments, oral and topical use of charcoal, exposure to thyroid stimulating sunlight, gentle massage to encourage blood flow, and thyroid friendly clothing.

## Blue Print for Health and Healing

Let's start with micronutrients that the thyroid needs for good health and the production of adequate thyroid hormones. Iodine,<sup>133</sup> selenium,<sup>134,135</sup> iron,<sup>136</sup> magnesium,<sup>137</sup> zinc,<sup>138,139</sup> vitamin A,<sup>140</sup> chromium,<sup>141</sup> and copper<sup>142</sup> all matter to your thyroid's health.

Iodine is the key element in thyroid hormone synthesis. The iodine content of plant foods depends on the iodine levels in soil and in groundwater used in irrigation, in crop fertilizers, and in livestock feed. Iodine concentrations of plants grown in soils of iodine-deficient regions may be very low.<sup>143</sup> Milk alternatives contain far less iodine than whole milk.<sup>144</sup> Pasteurizing milk decreases its iodine levels.<sup>145</sup> There is some iodine in a few common foods, and there has been a push in the past to put it in salt.<sup>146</sup> My favorite go to source for iodine is kelp, and the product I find well-stocked with iodine is "Maine Coast Sea Vegetables Organic Kelp Granules Salt Alternative." I often have people take between ¼ and 1 teaspoon per day. The goal is to get somewhere between 1 and 12.5 mg of iodine per day.

I would not attempt to increase my iodine intake without making sure that my selenium intake levels were good. The goal is to get around 400 mcg of selenium per day. The best food for accomplishing this is Brazil nuts. One ounce of Brazil nuts, (6–8 nuts) contains around 544mcg of selenium.<sup>147</sup>

---

I have personally seen people with a long history of thyroid replacement hormone therapy get off their pills and achieve normal thyroid function using natural remedies.

---

Iron deficiency increases the risk of hypothyroidism by 500%.<sup>148</sup> So, where can one find good iron for a good diet? Some iron rich foods include soybeans, sesame seeds, bran, lentils, wheat germ, tofu, oats, walnuts, peas, lettuce, and alfalfa sprouts, just to name a few. Vitamin C also helps with iron absorption, so include some good vitamin C foods in your meal plans as well.

Tyrosine can best be obtained from foods such as: seaweed, spirulina, soy, parsley, peanuts, pumpkin and squash seeds, broad beans (fava beans), sesame seeds, mungo beans, cowpeas (blackeyes), lima beans, black walnuts, tahini, wheat germ, oat bran, wild rice, chia seeds, oats, tofu, macadamia nuts, pine

nuts, sunflower seed, flaxseed, navy beans, yellow corn, almonds, Brazil nuts, pistachio nuts, walnuts, edamame, hazelnuts, lentils, spinach, and chickpeas. Be aware that B vitamin deficiency can compromise tyrosine absorption, the two go hand in hand.<sup>149</sup>

As we think about thyroid and improving its function we do not want to overlook the value of medicinal herbs. The Bible tells us that God intended the herbs for our service. "He causeth the grass to grow for the cattle, and herb for the service of man: that he may bring forth food out of the earth;"<sup>150</sup> I recommend acquiring the herbs and then making them into a medicinal tea. There are a lot of good herbs for thyroid. Ashwagandha Root because it improves TSH, T3, and T4.<sup>151,152</sup> Chamomilla improves TSH, T3 and T4, and improves pathological changes in the thyroid tissues.<sup>153</sup> Bauhinia purpurea significantly increases the thyroid hormones T3 and T4.<sup>154</sup> Rhodiola helps all the symptoms of hypothyroidism.<sup>155</sup> Coleus forskohlii increases T4 and T3 secretion from the thyroid.<sup>156</sup> Commiphora guggul reverses the effects of toxins that cause hypothyroidism.<sup>157</sup>

Some herbs are valuable for hypothyroidism because of their mineral content. As we mentioned earlier, seaweed is good for the thyroid because of its high iodine content.<sup>158</sup> Basil is a good source of selenium.<sup>159</sup>

There are some herbs that are helpful because they reduce autoimmune thyroiditis. For example, Cordyceps sinensis: restores the balance between helper T and cytotoxic T cells in autoimmune thyroiditis.<sup>160</sup>

Not all people suffer with hypothyroidism when their thyroids go haywire, they get the opposite complication of hyperthyroidism, or too much thyroid hormone. In which case, Bugleweed improves symptoms of hyperthyroidism by decreasing excess T4, so do foods from the cabbage family.<sup>161</sup> So, if you have hyperthyroidism, make it a point to include more foods from the cabbage family in your menus.

You may not feel like exercising when your thyroid hormones are suboptimal, but exercise is actually part of the solution. Physical activity significantly improves all important thyroid function laboratory values.<sup>162</sup> Being sedentary tends to lower thyroid function.<sup>163</sup> Having regular times for exercise can be of great benefit.

Hydrotherapy can be most beneficial when approaching thyroid dysfunction. Hydrotherapy is the application of hot and/or cold water to a



## Natural Thyroid Health

part of the body. In this case the thyroid, which surrounds our voice box or Adam's apple. I usually use hot water bottles or gel packs, or a cloth dipped in hot water for the hot application, and ice bags or a cloth dipped in cold water for the cold application. Our regimen is to apply hot to the thyroid for 3 minutes. Then cold to the thyroid for one minute. Then to repeat this cycle of alternating hot and cold for 5 cycles. Then end with the cold application. To finish we would wrap the neck with a cloth or scarf and let the patient rest for at least 20 minutes. This can help reduce inflammation, improve circulation, and stimulate hormone production.<sup>164</sup>

We recommend charcoal poultices to the thyroid gland overnight for toxin, inflammation<sup>165</sup> and edema removal while you are seeking to restore function. Our procedure is to take one cup of water and put it into a saucepan on the stove. Add 3 tablespoons of activated charcoal powder and 3 tablespoons of ground flax seeds and bring it to a boil. Stir well. Turn off the heat and let cool. This can be applied one fourth inch thick to the thyroid and surrounding neck area, and then covered with a plastic wrap for overnight treatment. Leave this on all night and remove it in the morning. The next night, turn the poultice over and use the other side. You can even make a lot of these poultices ahead and store them in a freezer for future use.

Have you heard of the sunshine vitamin? Being low in Vitamin D increases the risk of autoimmune thyroid disease.<sup>166,167</sup> Suboptimal vitamin D status is associated with more Hashimoto's thyroiditis<sup>168</sup> and more aggressive thyroid cancers.<sup>169</sup> Increases in blood vitamin D levels can be achieved equally by

supplementation or by natural sun exposure.<sup>170</sup> So get some sun today! Especially direct sunshine to the thyroid area for at least 20 minutes a day.

---

**Get some sun today! Especially direct sunshine to the thyroid area for at least 20 minutes a day.**

---

Ever had a neck massage? Massage has the ability to increase thyroid blood flow and to increase the release of thyroglobulin from the thyroid.<sup>171</sup> You can massage your thyroid yourself or get someone else to do it for you.

It has been said that perfect health depends on perfect circulation. It would be helpful to clothe all parts of your body (head, neck, arms, ankles, and especially legs, etc.) evenly and adequately, especially in cold weather.<sup>172</sup> I believe turtlenecks are good for the thyroid health recovery, where practical, because they cover the neck and keep it warm.

Connie made some lifestyle changes and started taking natural sources of iodine, selenium, and an herb tea blend. Connie's thyroid picked up to within normal limits and she delivered a normal happy child.

### IN SUMMARY:

- Avoid all the competitors, inhibitors, and toxins that affect the function of your thyroid.
- Adopt some of the beneficial lifestyle choices that we have discussed.
- Try some simple home remedies to aid in thyroid recovery and restoration.

*“When drugs are introduced into the system, for a time they may seem to have a beneficial effect. A change may take place, but the disease is not cured. It will manifest itself in some other form. In nature’s efforts to expel the drug from the system, intense suffering is sometimes caused the patient. And the disease, which the drug was given to cure, may disappear, but only to re-appear in a new form, such as skin diseases, ulcers, painful diseased joints, and sometimes in a more dangerous and deadly form. The liver, heart, and brain, are frequently affected by drugs, and often all these organs are burdened with disease, and the unfortunate subjects, if they live, are invalids for life, wearily dragging out a miserable existence. Oh, how much that poisonous drug cost! If it did not cost the life, it cost quite too much. Nature has been crippled in all her efforts. The whole machinery is out of order, and at a future period in life, when these fine works which have been injured, are to be relied upon to act a more important part in union with all the fine works of nature’s machinery, they cannot readily and strongly perform their labor, and the whole system feels the lack. These organs, which should be in a healthy condition, are enfeebled, the blood becomes impure. Nature keeps struggling, and the patient suffers with different ailments, until there is a sudden breaking down in her efforts, and death follows. There are more who die from the use of drugs, than all who would have died of disease had nature been left to do her own work.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, J. S. (1865). Health, or, How to Live. Steam Press: Seventh-day Adventist Publishing Assoc., Battle Creek, Mi. {HHTL 189.2}.

## CHAPTER 12

# ARTHRITIS: DON'T LET JOINT PAIN SLOW YOUR JOURNEY

### ARTHRITIS AND AMERICANS

According to the (Centers for Disease Control) CDC, arthritis is the leading cause of disability in the United States. Twenty-three million Americans (about 11 percent of the U.S. population) report symptoms of joint arthritis but have never sought medical care for relief. Another 42.7 million Americans (about 20 percent of the U.S. population) have been diagnosed with arthritis by a Physician. Thus, nearly one out of three Americans suffer disabling joint pain, much of which could be alleviated or entirely averted if they only knew how to better care for the health of their joints<sup>1</sup>.

So, you may ask, “What can I do to improve the health of my joints--to make sure they last as long as I do?” In this article we will explore the contribution of diet, exercise, obesity, and water-drinking to joint health and longevity.

Because the knee is a very vulnerable joint to arthritis, I will use it as a model in our discussion. I could have just as easily used the spinal discs, hip, shoulder, or ankle.

The junction of the femur, often called the thighbone, and the tibia, sometimes referred to as the shinbone, form the knee joint. The end of the femur and the top of the tibia are covered with a layer of cartilage about one eighth of an inch thick. This cartilage provides protection, shock absorption and smooth motion for the joint.

Lubrication fluid is held in the knee by the joint capsule, this capsule is like a bag that surrounds the entire knee joint. When a person complains of having “water on the knee” it usually means that they have extra joint fluid in their joint capsule.

Cartilage is a rubbery material that has no blood vessels running through it. It depends on nutrients diffusing or soaking into it from the bone and joint capsule for health and repair<sup>2</sup>.

To maintain good cartilage nutrition, blood must be kept flowing by the joint. Blood vessels so small that only one red blood cell can pass through them at a time, line the joint capsule. These vessels are called capillaries. Nutrients have to pass from the blood cell in the capillary to the cartilage cell in the cartilage. This involves moving nutrients from the blood cell, across the capillary wall, through the joint capsule into the joint fluid. The joint fluid must then pass through the layers of cartilage to reach the cartilage cell. To remove the waste products from the cartilage cell the whole process must work in reverse. Good cartilage nutrition depends on the diffusion of fluid from the blood vessel, across the synovial membrane or joint capsule, into the joint space. Cartilage health also depends on the diffusion of waste products back across the synovial membrane and back into the blood vessel.

Anything that inhibits the free flow of fluid, to and from the cartilage, compromises cartilage health and longevity. Cartilage depends on its

## Blue Print for Health and Healing

nutrition for health and repair. Poor nutrition and failure of repair produce arthritis.

### **CARTILAGE AND WATER**

Sixty-five to eighty percent of cartilage is made up of water. In cartilage, water functions like a "shock absorber." Water also lubricates and nourishes the cartilage. Water is the medium that carries nutrition to the cartilage from the blood cells and waste products away from the cartilage back to the blood stream. Dehydrated joints become acidic, and oxygen starved. This can cause cartilage cells to become sick or die.<sup>3</sup>

If you do not drink enough water, you starve your cartilage cells for nutrition and drown them in their own waste products. Cartilage depends on water for health and repair. Poor hydration causes a failure in repair and produces arthritis.

### **CARTILAGE AND EXERCISE**

Cartilage has no blood vessels directly supplying it. It depends on cyclic weight bearing to squeeze or pump nutrients in and waste products out of its sponge-like matrix<sup>4</sup>.

If you do not exercise, nutrition will not be pumped to and waste products from the cartilage. Cartilage depends on exercise for health and repair. A sedentary lifestyle with failure of cartilage repair can produce arthritis.

### **OBESITY AND CARTILAGE**

Overweight people carry immense loads on their cartilage, thus increasing wear. Cartilage is like a sponge and when it is constantly compressed, as happens in obesity, fluid is not pumped to and from the cells.<sup>5,6</sup> Constant pressure on the cartilage presses out the water from its matrix, thus dehydrating it. The result is

poor cartilage nutrition, increased accumulation of metabolic acid, and cartilage cell death. As the cartilage deteriorates, narrowing of the joint space between the femur and the tibia can often be seen on x-ray.

Obesity stops fluid flow to and from the cartilage, thus compromising cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair produce arthritis.

### **CARTILAGE AND DIET**

"You are what you eat" and your joints may be the first to protest your dietary choices. Few people understand the connection between how their joints feel and what they eat and drink. Joint health and joint longevity are dependent on daily care of their nutritional needs and vulnerabilities.

Our goal is to explore the relationship between diet and cartilage health. We will be looking at risky foods by category including refined foods, inflammatory foods, vasoactive foods, slow transit foods, and plaque-forming foods.

---

The effect of eating refined foods on the blood cells is to cause them to stick together in stacks or chains.

---

### **REFINED FOODS**

Refined foods are foods that have been highly processed to break down complex nutrients into very basic nutrients. This process tends to destroy or remove nutrients such as vitamins, minerals, and fiber. Refined foods tend to be calorie dense making it easy to eat more calories than your body needs.

## Arthritis: Don't Let Joint Pain Slow Your Journey

Eating refined foods causes the red blood cells in our blood vessels to stick together in long chains or stacks. Scientists call these stacks or chains of blood cells rouleaux. Rouleaux do not flow freely through small capillaries, they tend to flow very sluggishly and slowly, if at all.<sup>7</sup>

Sugar, refined starches, oil, alcohol, and cream are a few examples of refined foods that create rouleaux.<sup>8,9</sup>

Rouleaux impede fluid flow to and from the cartilage; this interferes with cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair result in arthritis.

The unrefined vegetarian diet has been shown to improve blood flow.<sup>10,11</sup> This is because vegetables, seeds, and nuts are high in Omega-3 fatty acids,<sup>12</sup> which promote blood flow. It is also more difficult to overeat on an unrefined vegetarian diet.<sup>13,14</sup>

Dehydration thickens the blood which favors the formation of rouleaux. Drinking plenty of water is important in preventing thickening of the blood.<sup>15</sup>

Stress has also been correlated with increased blood thickness<sup>16</sup>. Reducing the stress in your life can be an important means of preserving vital blood flow to joint tissues.

### INFLAMMATORY FOODS

Inflammatory foods, when eaten, increase inflammation throughout the entire body. This increased inflammation tends to cause thickening of the blood vessel walls. Thickened capillary walls restrict the free flow of fluid to and from the cartilage cells.<sup>17</sup>

Examples of inflammatory foods include meat,<sup>18,19</sup> especially pork,<sup>20</sup> dairy, especially cheese,<sup>21</sup> and ice-cream.<sup>22</sup>

Foods that are produced through the process of fermentation or rotting contain aflatoxins

which also increase inflammation. This includes foods like wine, vinegar, certain mushrooms, and peanut butter made from moldy peanuts. Any food on which mold has grown tends to accumulate aflatoxins, especially foods with *Aspergillus* mold.<sup>23</sup>

Inflammation thickens vessel walls impeding fluid flow to and from the cartilage, thus interfering with cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair can result in arthritis.

Believe it or not, some forms of fasting have been shown to decrease inflammation when followed by a vegetarian diet.<sup>24</sup> Studies show that it is the naturally occurring substances found in fruits, vegetables, grains, bark, roots, stems, and flowers called flavonoids that contain the anti-inflammatory properties.<sup>25</sup>

Soy products have also been discovered to possess anti-inflammatory properties.<sup>26</sup>

We have already discussed the benefits of omega-3 fatty acids for promoting blood flow. These fatty acids,<sup>27</sup> as found in flaxseed<sup>28</sup> and olive oil,<sup>29,30</sup> have been discovered to have anti-inflammatory effects.

### VASOACTIVE FOODS

Blood vessels have muscles in their walls that change their size or diameter. When the muscles tighten, the vessel gets smaller and fewer blood cells can travel through it. Vasoactive foods are those foods that contain substances that cause blood vessels to constrict or get smaller in diameter. When a blood vessel that allows only one blood cell to pass through it at a time constricts, all blood flow stops, and no nutrients are delivered to the joint tissues.

Examples of vasoactive foods include foods containing caffeine<sup>31</sup> such as coffee,<sup>32</sup> tea, and

colas. Nicotine is also a vasoactive substance.<sup>33,34</sup>

Vasoconstricted blood vessels impede blood flow. This affects fluid transfer to and from the cartilage thus compromising cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair produce arthritis.

Dietary changes known to improve vascular responsiveness include: a vegetarian diet,<sup>35</sup> tomatoes,<sup>36</sup> mono-unsaturated vegetable oils<sup>37</sup>—like olive oil,<sup>38</sup> and diets rich in antioxidants,<sup>39</sup> vitamin E,<sup>40</sup> zinc,<sup>41</sup> and copper.<sup>42</sup> Foods known to impair vascular responsiveness include diets high in cholesterol,<sup>43</sup> salt,<sup>44</sup> fat,<sup>45</sup> sugar,<sup>46</sup> and excess calories.<sup>47</sup>

### **SLOW-TRANSIT FOODS**

By slow-transit foods we mean foods that take a long time to travel through the body from the mouth to the anus. They spend a long time in the stomach and intestines. Slow-transit foods are usually slow because they are high in fat and low in fiber. Fiber is the bulk in stool that helps keep food moving down the digestive track.<sup>48</sup>

---

Slow transit foods are usually high in fat and low in fiber, and include meat, fast foods, pastries, especially donuts, fried foods, and greasy foods.

---

Because low fiber food is in the colon so much longer, bacteria tend to multiply.<sup>49</sup> This results in bacterial overgrowth. When bacteria over grow they produce many toxins.<sup>50</sup> These toxins can produce all the effects we have already talked about up to this point: (1) thicken or coagulate the blood;<sup>51,52</sup> a similar effect to

that of rouleaux, (2) vasoconstriction,<sup>53</sup> and (3) inflammation.<sup>54,55,56</sup>

Foods eaten late at night tend to pass more sluggishly through the digestive system thus they have the same effect of fostering bacterial overgrowth and decreasing circulation to the joints.<sup>57</sup>

Slow-transit foods impede fluid flow to and from the cartilage, thus compromising cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair cause arthritis.

As already mentioned, fiber plays a significant role in the time food stays in your system.<sup>58</sup> Increasing the amount of fiber you get in your diet is one way to improve joint health. Whole grains,<sup>59</sup> dried fruit,<sup>60</sup> and fresh vegetables are good sources of dietary fiber.

Mental health can also affect transit times, depression tends to slow transit and make it sluggish.<sup>61</sup>

---

Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair can result in arthritis.

---

### **PLAQUE-FORMING FOODS**

The next class of foods we want to discuss are those that favor the clogging of blood vessels with arteriosclerotic plaque. We call these plaque-forming foods. A plaque is a blockage in a vessel that restricts or stops the free flow of blood to and from the tissues, such as the knee joint, heart or brain.

Examples of plaque forming foods include foods high in cholesterol, like meat, butter, milk, and eggs.<sup>62,63</sup>

Foods especially prone to plaque formation are those containing cholesterol that has experienced oxidation. This oxidation of

## Arthritis: Don't Let Joint Pain Slow Your Journey

cholesterol makes it especially toxic to blood vessel walls and favors the formation of plaque.<sup>64</sup>

Cholesterol oxidizes in the presence of oxygen or air. Foods most likely to contain oxidized cholesterol are foods which have air and cholesterol mixed together in them; examples include pancake mixes containing dried egg, ice cream, because it is whipped full of air, and processed meats such as pork, beef, and chicken especially if they are grilled or roasted.<sup>65,66,67</sup>

High-fat foods contribute to plaque growth, especially foods like french fries and lard.<sup>68,69</sup>

The most dangerous fats are trans-fats. Trans-fats are produced in the process of hydrogenation. They can also be produced when frying or roasting because the oils are super-heated.<sup>70,71</sup> Foods high in trans-fat include hydrogenated margarines or cooking oils, and fried or roasted foods.<sup>72,73,74</sup>

Anything that causes deterioration in the blood circulation system can be detrimental to joint health. Hardening of the arteries compromises the circulatory system. Hardening of the arteries is facilitated by an elevated intake of salt.<sup>75</sup>

Plaque and hardening of the arteries impede blood flow to and from the joint, this compromises cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair result in arthritis.

To reiterate, anything that impedes fluid flow, to and from the cartilage, impedes cartilage nutrition. Cartilage depends on its nutrition for health and repair. Poor nutrition and failure of repair produce arthritis.

What we have talked about so far is the contribution of water, exercise, and diet to joint health. Which might lead one to ask, "So! What should we eat, drink, and do?" This is a very fair

question and one that we will do our best to start you on the road to answering.

Caldwell Esselstyn, Jr., MD, of the Cleveland Clinic has demonstrated on angiography that blockages in coronary arteries can be reversed by changes in diet. He makes these dietary recommendations for reversing heart disease: "The optimal diet consists of grains, legumes, vegetables, and fruit, with <10%-15% of its calories coming from fat." He goes on to say that this diet is beneficial for more than just coronary artery disease, "This diet minimizes the likelihood of stroke, obesity, hypertension, type 2 diabetes, and cancers of the breast, prostate, colon, rectum, uterus, and ovary. There are no known adverse effects of such a diet when mineral and vitamin contents are adequate."<sup>76</sup>

### **WATER**

The value of the sage old advice to drink at least eight glasses of water a day cannot be overestimated. Because cartilage is 65%-80% water it needs constant hydration. Starting the day with a large drink of water is one of the best things you can do for you joints. Drinking eight glasses of water a day ensures an abundant supply of fluid for cartilage hydration, nourishment, and lubrication. When cartilage is inflamed, it requires water to carry the products of inflammation away from it and healing nutrients back to it.

### **EXERCISE**

Because cartilage has no direct blood supply and depends on cyclic weight bearing to pump nutrition into it, walking is one of the best exercises for maintaining its health. Walks, especially after meals are of great benefit.

## Blue Print for Health and Healing

### DIET

“So! What should we eat?” The simplest and most direct answer that can be supplied is to eat an unrefined plant-based diet. We will use the USDA food pyramid, with which most people are familiar, to discuss the different aspects of diet. The food pyramid has six sections each of different size with different food groups in each section. The pyramid starts with a large section at the bottom and progresses to smaller ones toward the top.<sup>77</sup>

#### BREAD, CEREAL, RICE & PASTA GROUP

At the very bottom of the pyramid, forming its foundation, is a large section called the “Bread, Cereal, Rice & Pasta Group,” where 6-11 servings are suggested. The “bread, cereal, rice, and pasta group” should make up the majority of your diet. Each of these foods should be kept unrefined so as to preserve their vitamins, minerals, and fiber. What we are talking about is eating an unrefined plant-based diet.

There are many breads on the market, but not all of them are 100% whole grain. One hundred percent whole grain breads contain more vitamins, minerals and fiber; thus they are more nutritious for the cartilage.

---

“So! What should we eat?” The simplest and most direct answer that can be supplied is to eat an unrefined plant-based diet.

---

Oatmeal is a good example of a whole grain cereal. Refined or highly processed grains are deficient in vitamins, minerals, and fiber. Whole grain cereals are always better for joint health.

Brown rice or wild rice is preferable to white rice because it has more naturally occurring vitamins, minerals, and fiber.

Whole grain pasta can also be purchased that does not contain refined or highly processed flours. Whole grain pasta, because it has all of the naturally occurring nutrients, is better than refined products when it comes to preserving joint health and promoting longevity.

### FRUITS

Above the “Bread, Cereal, Rice & Pasta Group”, on a second level or tier of the pyramid, is the “Fruit Group”, where 2-4 servings are recommended. Fresh fruit is preferable to fruit that has been juiced, dried, or canned. During the juicing process much of the valuable fiber is lost. Juices often get pasteurized; this breaks down the more complex sugars into very simple sugars. Large amounts of sugar are often added during the canning process, which when eaten cause the rouleaux effect that is so detrimental to joint health.

### VEGETABLES

To the left of the “Fruit Group” and on the same level of the pyramid is the “Vegetable Group” with 2-4 servings advised. Vegetables, prepared in a simple way, free from spice and grease make a healthful diet. Fresh or frozen vegetables are preferable to canned. Canned vegetables tend to have high amounts of added salt that contributes to elevated blood pressure and hardening of the arteries.

### NUTS AND BEANS

The next higher or third layer contains the “Meat, Poultry, fish, Dry Beans, Eggs, and Nut Group” with the recommended daily portion



## Arthritis: Don't Let Joint Pain Slow Your Journey

being 2-3 servings. For our discussion, please replace the "Meat, Poultry, fish, Dry Beans, Eggs & Nut Group", with just, "Nuts and Legumes." Nuts, prepared free from added oil and salt, are a good source of protein. Beans are a good source of protein and fiber. Beans should be prepared in as healthful a way as possible, free from added oil and salt.

### **SOY AND TOFU**

The next higher or third layer consists of the "Milk, Yogurt, and Cheese Group", of which 2-3 servings are allowed. For our discussion, please replace the "Milk, Yogurt & Cheese Group," with a, "Soy and Tofu Group." The soybean is very nutritious and is a wonderful addition to the diet of someone battling with arthritis.<sup>78</sup> In the last few years soy products have become available almost anywhere in the world. In the town where I live, soymilk, tofu, soy burgers, and soy ice cream can all be purchased at regular grocery stores making it easier to substitute for the more deleterious foods in the diet.

### **DRIED FRUIT & DESSERTS**

The pyramid is topped with a category entitled, "Oils, Fats & Sweets" with the appropriate advice; "use sparingly." You could replace the "Oils, Fats & Sweets," group with a dried fruit group and continue the advice to "use

sparingly." Many appetizing and healthful desserts can be made, which will be both tasty and good for the health of your joints. Dried fruit is an excellent source of minerals and fiber and makes a good dessert.

Anything that aids nutrient flow, to and from the cartilage, promotes cartilage health. Cartilage depends on its nutrition for health and repair. Good nutrition and vigorous repair promote cartilage longevity.

### **LET'S PLAN TO AVOID ARTHRITIS!**

- Can't do what you always have wanted to do.
- Pain, swelling, deformity, burden to others.
- Disability, inactivity, isolation, early death.

Instead:

- Drink adequate water.
- Exercise daily.
- Choose a wholesome diet.

Bon Appetite.

*“A yard beautified with scattering trees and some shrubbery, at a proper distance from the house, has a happy influence upon the family, and, if well taken care of, will prove no injury to the health. But shade trees and shrubbery close and dense around a house, make it unhealthful; for they prevent the free circulation of air, and shut out the rays of the sun. In consequence, a dampness gathers in the house, especially in wet seasons. Those who occupy the sleeping-rooms are troubled with rheumatism, neuralgia, and lung complaints. Then the great quantities of fallen leaves, if not removed immediately, decay, and poison the atmosphere. Dwellings, if possible, should be built on high ground. If a house is built where the water will settle around it, remaining for a time and slowly drying away, there is a poisonous miasma continually rising from the damp ground, which breeds sore throat, fevers, ague, or lung diseases.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1958). Selected Messages Book 2. Washington, D.C.: Review and Herald Publishing Association. p. 463.

## Chapter 13

### **BACK AND NECK PAIN: LIFTING THE BURDEN**

George was having trouble with his back and came to see me as a second opinion. He was really tired of being called “the invalid” by his teenage sons who wanted him to join them in a game of basketball.

He wasn't doing too well on his job, stocking shelves at a Walmart, either. He had come to see me, probably to apply for disability.

Five years earlier he had fell down a set of stairs into somebody's basement while delivering heating oil. He had been pulling a hose across the snow when he slipped and fell. He was in trouble and went to see a doctor who treated him with some anti-inflammatory pills and sent him to physical therapy. When he didn't get better they did an MRI where they discovered something wrong with his back that they felt surgery would help. For six months after the surgery he did better, but then it was back to square one, pain in the back, aching pain. Pain that seemed to take away all his energy. Pain that radiated down his hips and down his legs. He was off work again for pain and he went to see the doctor. They gave him more anti-inflammatory pills and sent him back to physical therapy. Nothing seemed to help. Another MRI didn't show anything that needed to be operated on. But he was still not doing well. He started switching from job to job, but nothing was working. The doctor even put him on narcotic pills and ordered more physical therapy. They gave him steroid injections in his spine, called epidurals. But they were no help. Another year passed and then they sent him to see another spine surgeon who ordered another MRI, but found nothing that needed an

operation. Finally, he was sent to me, for a second opinion, possibly to get disability.

George was in trouble. As he would stock the shelves, the pain in his back would stop him. he'd take time off work from time to time. At age 52 he just felt like life had passed him by, that he was going to have to stay disabled at home from now on. He just really wasn't planning, in middle age, to be laid up like this. We're going to come back to George, but let's talk about back pain and how it's related to all his symptoms.

---

**Our goal in this article is to help back pain sufferers recover without drugs, injections, therapy, or surgery.**

---

I specialize in Lifestyle medicine. Lifestyle medicine maximizes your health above the probability of disease. I have been practicing lifestyle medicine since 2005, as well as researching and teaching people how to overcome back pain and other lifestyle diseases.

Back pain responds best to simple lifestyle improvements.

Overview: In this article I will be addressing spine physiology, good hydration, Impact of Obesity, the food we eat and how it affects the spine, exercise and stretching, and the mind/body connection.

In the last 15 years, physician visits for back pain have increased by 40%.<sup>1</sup>

Back pain is the second most common cause of disability in US adults<sup>2</sup> and a common reason for lost work days.<sup>3,4</sup> An estimated 149 million

days of work per year are lost because of back pain.<sup>5</sup> The condition is also costly, with total costs estimated to be between \$100 and \$200 billion annually, two-thirds of which are due to decreased wages and productivity.<sup>6,7</sup>

### **ARE YOU AT RISK FOR BACK PAIN?**

There are many risk factors for back pain. Risk factors include: driving,<sup>8</sup> vibration,<sup>9</sup> physical inactivity,<sup>10</sup> sedentary occupation and prolonged standing or sitting,<sup>11</sup> smoking,<sup>12</sup> previous full-term pregnancy,<sup>13</sup> increased body mass index,<sup>14</sup> tall stature,<sup>15</sup> frequent twisting or bending,<sup>16</sup> and depression, stress, fear, anxiety.<sup>17</sup>

When someone comes to the doctor reporting work related back pain, the sooner the patient can be returned to gainful employment the more likely they will remain productive. For the most part 95% of patients return to work within 3 months, otherwise they may not ever get back to work. Only 20% return to work after 1 year of being off work on disability, and only 2% will return to work after 2 years of disability. Don't get stuck in disability!

---

Many people get into trouble with their backs through poor lifting techniques,<sup>18</sup> and/or poor posture<sup>19</sup> or poor ergonomics.<sup>20,21</sup>

---

Aside from the risk factors for back pain, there is usually an instigating event that sets off the cascade to pain and disability. These may include, lumbar "strain" or "sprain" in 70% of cases, degenerative changes in 10%, herniated disk in 4%, osteoporosis fractures in 4%, spinal stenosis in 3%, spondylolisthesis in 2%, spondylolysis, discogenic low back pain or other instability in 2%, traumatic fracture in <1%, congenital disease in <1%, cancer in 0.7%, inflammatory arthritis in 0.3%, and infections in 0.01%.<sup>22</sup>

### **BACK PAIN AND CELL PHONE USE**

I was also interested to discover that there is a relationship between the use of electronic devices in our modern age and back pain. To be exact, daily TV watching, more than 3 hours a day, increases the risk by 17%, daily use of a laptop computer increases the risk by 40%, use of a cell phone in the supine or laying position increases the risk by 23%, use of the cell phone in semi-supine or half laying half sitting position increases the risk by 49%, daily cell phone use for more than 3 hours increases the risk by 36%, and the use of a tablet increases the risk by 67%.<sup>23</sup> Are you aware of, or managing your device time?

### **DON'T MISS THESE WARNING SIGNS**

There are certain characteristics of back pain we refer to as, "Red Flags" due to their ominous character. History of cancer, because pain could indicate recurrence. Unexplained weight loss, because it too could indicate cancer. Osteoporosis, if present would suggest compression fractures of the spine. Prolonged use of corticosteroids, because they cause osteoporosis and resultant fractures. Older age, and/or major trauma, because they could indicate undiagnosed fractures. Intravenous drug use and/or fever, because they could indicate an infection in the spine. Back pain at rest or at night, because cancer, autoimmune disease or infection can present this way. Bowel or bladder dysfunction, because it indicates advancing disease.

That said, indications that something like surgery may need to be done include: loss of bowel or bladder control; progressive motor loss (advancing weakness); or sometimes even otherwise uncontrollable pain. And surgery is not a panacea, indeed, after two years most patients are the same, whether or not they opted for surgery.<sup>24</sup>

## Back and Neck Pain: Lifting the Burden

### **WHY DOES BACK PAIN REALLY HAPPEN?**

It has a lot to do with the anatomy in the back. If we look at the spine, there are vertebra with disks between the vertebra. The disc is very much alive and needs to have access to some blood flow for oxygen and nutrition. But there's an interesting thing about these discs, there is only blood flow to the outer edge of the disk. The middle of the disc doesn't have blood vessels running through it, and so it's very vulnerable to not having good blood supply. If you looked at the top of the disk, down from above, you would see that there are blood vessels all the way around the edge but none in the middle. This makes the disk very vulnerable to not getting enough nutrition.<sup>25</sup> You have to get nutrition in, and then you have to get waste products out.<sup>26</sup>

### **PERFECT HEALTH DEPENDS ON PERFECT CIRCULATION**

Think of it like a sink, you want to have a good flow of water into the sink, that would be like the blood flow to the disc. And, you want to have a good drain where the water could go out of the sink, anything that plugs the drain is going to cause the sink to back up and overflow and you will have troubles. We call it a problem of perfusion, blood flow to the disc, and elimination, blood flow out, any impediments to the blood flow in or out and your back is going to give you problems.<sup>27,28</sup>

Now in your back you have unusual blood vessel anatomy. Everywhere else in your body, where ever two blood vessels come together, or branch, they come together at a "Y" --a gentle angle, so the blood can flow on to the branches. But the blood vessels coming off your aorta (the biggest blood vessel in your body) to your spine, come off at a right angle. This creates turbulence. Turbulence is a spot where more atherosclerotic plaque usually develops. So, the back is very vulnerable to having plaque build-up right where the blood vessels are coming off

to feed your spine.<sup>29</sup> Anything that plugs the pipes, we're talking plaque here, will cause disc degeneration and back pain.<sup>30</sup> Plaque can develop anywhere in your blood vessels, and it's very likely to develop in your aorta.<sup>31</sup> Sometimes we take a chest x-ray and we find more calcium in the plaque in the aorta than in the vertebra themselves. When this happens, all that calcium can end up plugging the spinal blood vessels. We know if plaque is in the aorta, it's probably in other blood vessels in the body as well, including the spinal blood vessels.

You can have plugged pipes (blood vessels) too, for example from inflammation. If you get inflammation building up around blood vessels it tends to squeeze the blood vessels closed. As the inflammation squeezes a blood vessel, less and less blood comes to your spine, and your spine deteriorates.<sup>32</sup> If you work hard, under these conditions, your discs will wear, but they won't repair. The next time you work hard the damage will accumulate, and your back will keep getting worse and worse.

### **BACK PAIN PROTOCOL FOR GEORGE**

Let's get back to George our back pain patient in my office. George was hinting that he might like to be on disability, but I reminded him that he told me he'd like to be out there with his teenage boys playing basketball, and that he had said he was tired of being called the invalid. he admitted that was right. I asked him if he would be willing to try something to get him over his back pain and return to work and being able to play basketball with the kids. He said he would be willing to try anything. I said how about for a week, one week! He said he would be willing to try anything for a week.

I handed him a piece of paper and a pen, and I started writing too. I told him the first thing he needed to do when he got up in the morning was to drink two glasses of water, big glasses, like 12-ounce glasses, and then not to eat for about a half hour, but then, when he did eat his breakfast eat nothing but oatmeal for the next

week. Now by nothing but oatmeal, I mean, he could put some things in his oatmeal, like soy milk, or nuts, or raisins, but no oil, no margarine, no sugar, just oatmeal. Then I had him take a vitamin C, 500 milligrams right after breakfast.

---

**In one week, our plan is to reverse five years of back pain that failed surgery, failed physical therapy, failed epidural steroids, failed narcotics and failed anti-inflammatories. Our goal is that in one week we're going to take this guy and put him back to normal, back to work.**

---

Then, immediately upon completing breakfast, I asked him to take a walk for 10 minutes, a 10-minute walk, come rain or shine, or snow, just put on the right clothes, just go out and do it.

Two hours after breakfast, or mid-morning, I had him drink two more glasses of water, large glasses.

At lunchtime I had a special plan for his lunch, vegetables only, and preferably raw, but the idea especially is not to have any oil or excess salt. So, for the week he was to eat salads. I warned him not to put vinegar and oil on the vegetables, just things like olives, sunflower seeds, not commercial dressings that have things in them that aren't particularly helpful.

He was to have another vitamin C after lunch and another 10-minute walk.

Mid-afternoon he was to have two more glasses of water, large glasses.

At supper time which was to be at least three hours before going to bed he was to eat just fresh fruit, raw fruit, fruit like cantaloupe, and watermelon, and apples, and bananas, and strawberries, and just raw fruit and make sure it's three hours before bedtime. He was then to have another vitamin C. Then he was to take another outdoor walk for 10 minutes, immediately after eating. Then two glasses of water two hours after supper.

I told him, no coffee, tea, sodas, no tobacco, luckily, he didn't smoke, no alcohol, no eating between meals. I said if you do get hungry between meals, then drink ice water. And so, we had his plan. When he got through writing it all down, and he said, okay. I asked him if he thought he could do all that and he said he thought he could. And I gave him a follow up appointment in one week.

---

What is the nature of the cure? Why did I tell him to do the things that I told him? What difference do these recommendations make for back pain?

---

### WATER BENEFITS

For starters, I had him drinking water from the very moment he got up in the morning. Dry discs can be the source of pain.<sup>33,34</sup> Research shows that men, on average, need 3.7L of water a day and women, 2.7L.<sup>35</sup> These numbers would have to be modified on days when the temperatures rise, and also when a person's activity level increases. Urine color is a good indicator of hydration status, as you approach good hydration, urine color tends to lighten compared to times when you knew you were dehydrated.<sup>36,37</sup>

Disc dehydration can happen, not just from poor water intake, but also from mechanical pressure brought to bear on the disc from an increased body mass index, and also from carrying heavy objects.<sup>38</sup> This, and other reasons make obesity a risk factor of back pain especially of disc disease origin.<sup>39,40</sup> It's like squeezing the water out of a sponge, the sponge becomes dehydrated. So, with the back, obesity puts loads on the discs that squeezes them out, or dehydrates them.

### BREAKFAST FOR BACK PAIN SUFFERERS

A breakfast of oatmeal may not seem like a cure-all for back pain, but given its ability to

## Back and Neck Pain: Lifting the Burden

keep the stools regular and lower blood thickening cholesterol, oatmeal has actually been found to be helpful for musculoskeletal complaints.<sup>41</sup> It also has to do with the displacement phenomena, if you're eating a lot of oatmeal, you're probably not eating a lot of other stuff. I had taken a history of his diet in the process of talking with him and he was on an average American diet that was fairly high in grease and low in fiber, so this was a good change for him.

Oatmeal is a whole plant food, it has not been submitted to any refining processes that would reduce its fiber and nutritional qualities. When foods are eaten that have been processed or refined, making them deficient in fiber and nutrients, the result is increased blood sugars, increased blood cholesterol, triglycerides,<sup>42</sup> and glycated hemoglobin (red blood cells coated with sugar) and glycation end products (other necessary body cellular components coated with sugar). These changes to the blood cells make them more likely to aggregate into clumps or chains we call "rouleaux".<sup>43</sup> Refined foods that cause this health destroying clumping of red blood cells include sugars or refined starches, fats or refined oils such as cooking oils, margarines, butters, and animal shortenings. Clumped blood, or blood cells in chains, does not circulate well to the back and back pain can result.<sup>44,45</sup> These rouleaux or clumps or clots need to be broken down, or back pain and disability will result.<sup>46,47</sup>

The importance of fiber in the relief of back pain should not be overlooked. Fiber deficient foods cause constipation, and constipation can precipitate back pain.<sup>48,49</sup> Incidentally, constipation, in and of itself, can be the source of pain which can radiate to the back, or be felt in the spine.<sup>50</sup>

Speaking of the gut, your intestines are filled with a lot of bacteria, a diet deficient in fiber tends to favor bacteria responsible for increasing back pain.<sup>51</sup> Whereas a diet abundant in fiber nurtures bacteria that fight back pain.

---

A good recipe for healthy oatmeal for back pain:

- 2 cups water
- ½ cup whole rolled oats
- ¼ cup oat bran
- 2 Tbsp. ground flax seed
- ¼ tsp sea salt

Bring to a boil, let simmer for 45 minutes, eat with your favorite fresh fruit, nuts and seeds.

---

Oats and oat bran are not the only sources of fiber. Most unrefined, unprocessed foods, such as fresh fruits and vegetables, nuts and seeds, beans and grains, are high in nutrition and fiber. Fresh fruits and vegetables have the advantage of having antibiotic, antiallergic, tumor-protective, anti-inflammatory and immune system stimulating properties.<sup>52</sup> These are the types of foods you will want to be eating if you want to improve your back health and avoid pain.

Good whole plant foods also increase blood concentrations of antioxidants. This is a defense against back disability. For example, total plant-based vegetarians have significantly higher intakes of antioxidants than omnivores.<sup>53</sup> Compared with omnivores, total plant-based vegetarians have significantly higher blood concentrations of: vitamin A, vitamin C, and vitamin E.

### OILS AND SPINAL OXYGEN SUPPLY

As we mentioned earlier, refined oils (margarines, butters, cooking oils, animal shortenings, etc.) are not going to promote back health, because they cause clumping of the red blood cells. They also cause a decrease in the oxygen carrying capacity of the blood. When we eat a high fat meal, within six hours the oxygen in the brain falls below seventy percent, what's more it does not return to normal for three

whole days!<sup>54</sup> This happens to all the tissues of the body including the back. Low oxygen levels in the back result in pain, poor recovery from exercise or injury, and chronic disability.

When choosing oils it is well to take into consideration their composition. If oils must be used, the best choice is oils high in omega-3 fatty acids because, in moderation, they can reduce intervertebral disc degeneration.<sup>55</sup>

### FERMENTED FOODS

Fermented foods are foods in which deterioration has caused inflammation in the actual food, which can be transferred to you and your back. Foods that are a product of fermentation are full of toxic waste products of putrefaction such as aflatoxins<sup>56</sup> and ethyl carbamate<sup>57</sup>, which can cause inflammation and cancer. Aflatoxins, formed in the process of aging or fermenting,<sup>58</sup> are a source of inflammation.<sup>59</sup> Dietary sources of aflatoxins include: cheese,<sup>60</sup> wine, vinegar, and any food created by rotting or fermentation. For the best results, in fighting back pain, fresh foods, free from any taint of rot or spoilage (fermentation) will give the best result.

“The salads are prepared with oil and vinegar, fermentation takes place in the stomach, and the food does not digest, but decays or putrefies. As a consequence, the blood is not nourished, but becomes filled with impurities, and liver and kidney difficulty appear. Heart disturbances, inflammation, and many evils are the result of such kind of treatment, and not only are the bodies affected, but the morals, the religious life, are affected.”<sup>61</sup>

### SUGAR AND REFINED CARBOHYDRATES

I mentioned sugar as a refined food to be avoided earlier. There is a significant association between sugar and back pain symptoms. Sugar consumption increases the risk of back pain by 84%.<sup>62</sup>

### SCHEDULE FOR SUCCESS

Strict meal times are important. I have had patients who still had pain after starting this program which did not resolve till they realized that the part of the program they were not being conscientious about was their meal schedule regularity. Once they adhered to a consistent daily schedule, seven days a week, the pain resolved. Not everyone is used to such a consistent schedule. Some are used to eating whenever they can, others eat between meals. Some get hungry when they should not, especially when making changes in their schedule. To combat hunger at inappropriate times I recommend drinking cold water,<sup>63</sup> and taking a walk.

---

In the diet that I recommended for the patient in our story, fruits and vegetables played a major role, and I encouraged him to get as many of them in the raw state as I could. Studies of people with back pain show that eating more fruits and vegetables improves back pain outcomes.<sup>64</sup>

---

### THE FRESH ADVANTAGE

I also pushed him to eat only raw/fresh fruit for his third meal. This is because fresh fruit digests quickly and he would have better sleep if his digestion was all finished by the time he went to bed. Better sleep is associated with better back health.<sup>65,66</sup> Ending the last meal at least 3 hours before retiring for the night helps ensure complete digestion before sleeping and improves sleep and back pain.

What kind of diet was I giving him? Isn't this the original diet? “Then God said, “I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with



## Back and Neck Pain: Lifting the Burden

seed in it. They will be yours for food.” “and you will eat the plants of the field.”<sup>67</sup>

### HABITS OF HARM

Notice that I told the patient in our story not to use coffee, tea, sodas, alcohol, or tobacco, and not to eat between meals. Coffee is especially detrimental to spine health.<sup>68</sup> Coffee mimics the flight/fight reflexes in which blood is decreased to certain body tissues, like the back, and increased in others in the interest of survival when confronted with a threat or stress. Coffee greatly increases the incidence of chronic back pain.<sup>69</sup>

Nicotine is also a chemical which alters a person's body's blood,<sup>70</sup> it too makes the body mimic the physiological fight/flight response to stress or trauma. Additionally, Smoking decreases available oxygen for the spinal tissues and increases oxidative stress, and inflammation. People who smoke have a much higher incidence of back pain.<sup>71,72</sup>

### PSYCHOLOGICAL STRESS

Now that said, stress and trauma cause the same decrease in blood flow to important structures in the spine which result in pain.<sup>73,74</sup> For example, high anxiety people have 2 and ½ times higher incidence of back pain.<sup>75</sup> People who are lonely also have higher risks of back pain<sup>76</sup> and neck pain.<sup>77</sup> Poor job satisfaction can be a serious problem leading to increasing risks for back pain.<sup>78</sup> Because stress is such a driver of back pain, stress relief has a very positive effect at helping with back pain.<sup>79</sup>

Even the Bible makes a connection between stress and pain. “I stayed by myself and was filled with anger. Why do I keep on suffering? Why are my wounds incurable? Why won't they heal?”<sup>80</sup> “Sorely have they afflicted me from my youth, yet they have not prevailed against me. The plowers plowed upon my back; they made long their furrows.”<sup>81</sup>

Forgiveness also plays a role in back pain. “Look upon mine affliction and my pain; and forgive all my sins.”<sup>82</sup> “And the inhabitant shall not say, I am sick: the people that dwell therein shall be forgiven their iniquity.”<sup>83</sup> Back pain patients who have learned by experience value of forgiveness have less pain, anger and psychological distress. It has been found that the anger resulting from a lack of forgiveness has the greatest impact. Patients who have the hardest time forgiving others are at the highest risk of back pain and psychological distress.<sup>84</sup>

Jesus had the ultimate stress management, “Come unto me, all ye that labour and are heavy laden, and I will give you rest. Take my yoke upon you, and learn of me; for I am meek and lowly in heart: and ye shall find rest unto your souls. For my yoke is easy, and my burden is light.”<sup>85</sup>

### VITAMIN C

You may be wondering why I would have George take vitamin C as a tablet, and honestly, today my first choice would be to encourage him in eating some specific high vitamin C food, such as kiwi, pineapple, red cabbage, red bell peppers, etc. The reason I emphasize vitamin C for back pain is that most of your connective tissues are dependent upon vitamin C for repair. You may be aware that a deficiency of vitamin C results in a condition called scurvy, where a person's connective tissues deteriorate. That would certainly cause back pain. Vitamin C also helps thin the blood, and it a strong antioxidant. Vitamin C has been discussed in the literature as of benefit for back pain.<sup>86</sup>

### PUMP LIFE INTO YOUR DISCS

Intervertebral discs are highly dependent on cyclic loading for good nutrition, they have to be pumped. Since, as stated earlier, blood vessels do not traverse directly through any disc, the disc is dependent on the diffusion of nutrients from surrounding tissues, which do have local blood

## Blue Print for Health and Healing

supply, for its nutrition.<sup>87,88</sup> This is one of the reasons exercise, such as walking, is so important.<sup>89</sup> Indeed, one of the advantages of walking, outdoors in the fresh air, over, say running, is the increased blood and tissue oxygen levels and any given moment in time.<sup>90</sup> And, do not get me wrong, the benefits of walking are not limited to mechanical advantages, walking is also a great stress reliever.<sup>91</sup> Especially if you can experience nature as you exercise.<sup>92</sup> Walking is very good at reducing pain.<sup>93</sup> The best walking is energetic walking, holding the head high, and swinging the arms in time with your walking, while taking big steps.

While you are out there walking don't forget the benefit of sun to back pain. The sun stimulates antioxidants such as melatonin,<sup>94</sup> and it plays a role in vitamin D production. People with higher melatonin<sup>95</sup> and Vitamin D levels have less back pain.<sup>96</sup> The major determinant of melatonin and vitamin D levels is sun exposure.<sup>97,98</sup>

### STRETCHING

Now, while walking is the best overall exercise, there additional stretches and exercises which have value in treating back pain. Over all, personal fitness reduces back pain.<sup>99</sup> Stretching is particularly helpful, because it improves one's range of motion, makes connective tissues more flexible, and reduces stiffness which can lead to injury.<sup>100</sup> Stretching exercises can be a preventative measure as well as a treatment.<sup>101,102</sup>

Let's start with flexion exercises or stretching. Flexion exercises can be very good for the spine, easing back pain.<sup>103,104</sup> An easy example would be bending over and trying to touch your toes. Now, you may say, that's easy, I know how to do that. And while it is easy and you may know how to do that, do you know how long to do it for? The answer is two minutes. That's write, two minutes. Two minutes of stretching on each of these stretches ensures that the muscles

assume a new length and do not rebound and get tighter. Forward flexion exercises strengthen abdominal and buttock muscles reducing the load on the spine. They also stretch the back and hip muscles and widen the spaces between vertebrae, thereby reducing pressure on the nerves. These are slow, easy stretches. Sudden twisting or vigorous forward flexion, such as aerobic dancing and rowing could raise pressure in the discs and may actually do more harm than good.

The opposite of flexion, or forward bending, exercises are called extension exercises or stretches. These exercises open up the spinal canal and develop the muscles that support the spine. Extension exercises may minimize pain that radiates from your back to other parts of your body.<sup>105</sup> An example would be laying on your stomach on a bed, while keeping your pelvis flat on the bed, use your arms to do, as it were, a push-up, arching or extending your back. Again, hold each of these stretches for 2 minutes.

The next exercise or stretch, in this routine designed to fight back pain, would be a twisting stretch. My favorite variety of this exercise is to sit in a chair with my lets tucked under the seat between the chair legs, and ten grab the back of the chair with my hands and twist my shoulders as far in one direction as is reasonable. For me, when I have had back pain, this stretch has made the most difference. Again, I hold it for two minutes. After two minutes, twist in the opposite direction for two minutes.

The next back pain stretch is what is sometimes referred to as the piriformis stretch.<sup>106</sup> While lying flat on one's back, flex the right hip up into sitting position, or 90 deg. Grab the knee with the right hand and the ankle with the left hand. Bring the right knee toward the right shoulder and the ankle toward the left shoulder as far as is reasonable. Again, hold it there for 2 minutes. Then perform the stretch on the opposite leg for two minutes.

The next exercise I refer to as the windshield wiper exercise. The exercise is done standing

## Back and Neck Pain: Lifting the Burden

with your back to a wall. Slightly bend your knees (meaning, don't lock the knees in a straight position). Lift both shoulders at the same time and roll them back to touch the wall. Put your hips against the wall, then your back, and then the back of your head. You are now in the correct anatomical position. The bending will be done while staying in this position in contact with the wall. That way there is no twisting of the spine. Slowly bend to one side, reaching the hand down toward the knee, stretch to tolerance (will feel some stretching, but you don't want any pain). This exercise you will not do for 2 minutes, just hold the stretch for 10 seconds (or 4 deep breaths). Then come back up to the neutral position (standing up straight). On this side-bending exercise, the individual will need to bend the knee on the side he/she is bending towards. Next, slowly bend to the opposite side. Again, hold for 10 seconds or 4 deep breaths. Return to standing up straight. This is one repetition. Do a total of 6 repetitions and do the exercise once a day.

### NECK EXERCISES FOR NECK PAIN

For neck pain, stretches can also be helpful. Do each one for 2 minutes.

The first is to turn the head as far to one side as is practical and see if you can put your chin on or over your shoulder. Hold it there for 2 minutes and then turn to the other side for 2 minutes.

Next, flex the neck, with your chin to your chest, for 2 minutes and then extend the neck, chin toward the roof, for 2 minutes. If at any time you feel faint, stop the exercise and return the neck to its usual position.

Next is to try to put your ear on your shoulder, first one direction and then the other for 2 minutes each.

Next are exercises where you resist the push of your hand. Place your hand on your forehead and press against it for 2 minutes. Then repeat with your hand behind your head, pressing for 2 minutes.

Then, on each of left and right sides of your head, repeat this exercise of pressing against your hand for 2 minutes each side.

### AEROBIC EXERCISES

Aerobic exercises can also be helpful.<sup>107</sup> It would be good to get at least 30 minutes of aerobic exercise three times a week. Aerobic exercises include brisk walking, jogging, and swimming. Aerobic exercise gets your heart pumping faster. If you cannot do 30 minutes at a time, try three 10-minute sessions per day and work up.

### THE REST OF THE STORY

Let's talk about George again, the gentlemen that came to me for a second opinion on his back pain. I waited a week and looked at my list of patients, and he was on the list. I was thinking and wondering if he was going to show up. He did, and he was looking pretty stoic. I asked him to come in and he walked down the hall. I was bursting with curiosity, I said, "Well, did you do it? What happened?" He says, "Well, Dr. Clark, within three days I could tell a dramatic difference, my back pain was totally gone, I was feeling so much better, that deep aching pain that always took all my energy away was gone, I could do things with the kids again", he said, "but, I had a problem, I was always drinking iced water between meals, because I was always hungry between meals, and I was always going to the bathroom." He said, "I was wide awake though, when I was on break at Walmart, everybody else was nodding off and going to sleep and eating their junk food, and here I was, wide awake!" We talked a little more, and I said, "Well, I guess there's not much more to do for you, you're basically fixed, and you did it yourself, and you'll have to expand on your diet, the more you can eat of a vegetarian diet, that's low in fat and low in refined products the better off you'll be. So, he left. About three months later I was going to Walmart and I walked over

## Blue Print for Health and Healing

to the vegetable section, and there he was, he was pushing a cart in the vegetable section, I said, "How are you doing" and he said, "Oh hi Dr. Clark, praise the Lord I'm doing well, my back's great, I'm finding a new house and I'm moving to a new area of town where I can walk out in the country."

### IN SUMMARY

- Hydration is very important because your discs are supposed to be about seventy to eighty percent water and if you don't drink your water they become zero percent water and turn into hard pancakes, like hard rubber, and then they're painful because that hard rubber has nerves in it.
- Nutrition is especially important, because nutrition is part of keeping the blood vessels open, and keeping the blood going to the discs, and keeping the best antioxidants reaching the discs.
- Exercise is valuable because it keeps pumping the discs so that you get the food to the center of the discs and the waste products away from the disc, it's also important for getting the oxygen to the disc cells.
- It is best to exercise outdoors where you have more oxygen and less stress. Stress management is very important, because there's a lot of psychological connections between why people have low back or neck pain.
- 

"Today thousands are sick and dying who might get well if they would; but imagination keeps them sick. Self-made invalids, they think that to work would make them worse, when work is just what they need to make them well. Without labor, they can never improve. When the body is inactive, the blood flows sluggishly, and the muscles decrease in size and strength. Rising above their aches and pains, forgetting that they have aching backs, sides, and heads, they should engage in useful employment. Physical exercise, and a free use of air and sunlight, --blessings which heaven has abundantly bestowed on all, --would give life and strength to many an emaciated invalid."<sup>i</sup>—E.G.White

---

<sup>i</sup> White, E. G. (1902, February 27). "The Blessing of Labor." The Youth's Instructor.

## CHAPTER 14

### **AUTOIMMUNE INFLAMMATORY DISEASES: WHEN SELF IS THE ENEMY**

“How long will he have to live in that bubble?” David Vetter, born with a dysfunctional immune system had lived in a sterile plastic “germ-free isolator” world all of his life. The question was; when would science deliver on its quest, through some new technological advance, to find a solution to David’s dilemma? If allowed to encounter the environment, the one we live in every day, David would most certainly pick up a pathogen that would end his life. Even NASA got involved! Top engineers put their heads together and crafted a most eloquent space suit for David. But after a few forages out into the real world, David’s fears of contamination, microbes and death drove him back to his reclusive spot at Baylor University Medical center. David finally died when an attempt to solve his life-threatening condition with a tissue transplant operation, failed to resolve his immune system deficiency.<sup>1</sup>

If we did not have an immune system, we like David, would die. But where did our immune system come from? “I will praise thee; for I am fearfully and wonderfully made: marvellous are thy works; and that my soul knoweth right well.”<sup>2</sup>

#### **THE ADVANTAGE OF AN IMMUNE SYSTEM**

The skin is our first line of defense. “Every square inch of human skin consists of 19 million cells, 60 hairs, 90 oil glands, 19 feet of blood vessels, 625 sweat glands, and 19,000 sensory cells that can transmit information at more than 200 miles an hour.”<sup>3</sup> What is more, immune cells of the skin secrete antibodies that can stop invaders. And not just from the skin of our

bodies, antibodies from the immune system emerge to protect the nose, sinuses, throat, lungs, stomach, and intestines. Without these antibodies from the immune system, we’d all be doomed.

After the skin, our next line of defense centers in our immune system’s ability to mount an all-out counterattack to invaders, and I do mean counterattack. These invaders can be identified or unidentified. If the immune system identifies them (has had experience with them before) then it can deal more specifically and carefully with them. If the immune system has never seen them before, then it gets out the big guns and shoots anything that seems out of place. As long as this line of defense only destroys invaders, we are happy. This line of defense is called inflammation. It is especially active to deal with any new injury, antigen, bacteria, or virus.

#### **FRIENDLY FIRE: WHY AUTOIMMUNE INFLAMMATORY DISEASE?**

A compromised immune system cannot deal with infections and antigens in its usual healthy way, consequently it resorts to inflammation. Tissue damage often occurs as the body attempts to rid itself of disease.<sup>4</sup> When the only weapon available is a sledgehammer, collateral damage is sure to occur. Autoimmune inflammatory diseases arise under several situations where the immune system is not able to function most efficiently. Inflammation can occur when: the immune system is not in optimal health, the immune system is confused by hostile antigens, the immune system is

## Blue Print for Health and Healing

overstimulated, the immune system's inflammatory process is secretly triggered, or the immune system is overpowered by oxidative stress or other sources of inflammation. A few examples of autoimmune inflammatory diseases that occur under these conditions are rheumatoid arthritis, polymyalgia rheumatica, psoriasis, ankylosing spondylitis, polyarteritis nodosa, scleroderma, inflammatory bowel disease, ulcerative colitis, Crohn's disease, irritable bowel, some cases of type I diabetes, fibromyalgia, multiple sclerosis, systemic lupus erythematosus, allergy, chronic fatigue, and asthma, etc.

### WHAT PERTURBS THE IMMUNE SYSTEM

The list of what brings down the immune system so that it resorts to primitive means of defending the body could be very long. We will try to point out some of the ones most common and the most dangerous, rather than giving an exhaustive list.

---

A compromised immune system cannot deal with infections and antigens in its usual healthy way, consequently it resorts to inflammation.

---

### THE AGING IMMUNE SYSTEM

As we age our immune system tends to lose its acuity making autoimmune inflammatory diseases more likely.<sup>5</sup> Now you may be thinking, "There is nothing I can do about aging!" But, as you will discover, aging can be influenced for better or for worse.

### STRESSING THE BODY'S DEFENSES

Stress essentially drives the immune system to suicide. Emotional stress or job "burn out" provokes inflammation, increasing the risk of cardiovascular disease and autoimmune inflammatory disease.<sup>6</sup> Having experienced major stressful life events within the last 2 years

increases the risk of developing an autoimmune inflammatory disorder 140%.<sup>7</sup>

### ANTIOXIDANTS

A deficiency of antioxidants favors oxidative stress. Oxidative stress kills cells: The immune system then makes anti-bodies to their spilled DNA.<sup>8</sup> Many autoimmune inflammatory diseases are identified by the presence of anti-DNA antibodies.

### HEAVY METAL BLUES

Heavy metals increase the body's inflammation, increasing the risk of autoimmune inflammatory diseases. Top heavy metal villains include lead,<sup>9</sup> mercury, beryllium, nickel, chromium, cobalt,<sup>10</sup> cadmium, and vanadium.<sup>11</sup> Mercury increases inflammatory tissue damage by 50%.<sup>12</sup>

### THE DRUGGED IMMUNE SYSTEM

Many drugs are known risk factors for these diseases. For example, estrogens: estrogens enhance the release of inflammatory mediators from white cells in the immune system.<sup>13</sup> Oral contraceptive use increases autoimmune inflammatory disease risk by 90%.<sup>14</sup> Hormone replacement therapy increases autoimmune inflammatory disease risk 150%.<sup>15</sup> Pharmaceutical drugs are not the only source of these hormones. Chemicals and animal products are also big sources of hormone and hormone like substances that can cause autoimmune inflammatory disorders.

### BETTER LIVING THROUGH CHEMISTRY?

There are many chemicals, especially in some work environments,<sup>16,17</sup> which increase the risk of autoimmune inflammatory disease.<sup>18</sup> For example, hair preparations, especially dyes, increase the risk of an autoimmune inflammatory disease by 90%.<sup>19</sup> Another culprit is Sodium Lauryl Sulphate (SLS), which breaks down the body's barriers to antigen invasion and it also causes inflammation.<sup>20</sup> SLS is the

## Autoimmune Inflammatory Diseases: When Self is the Enemy

most common major ingredient in shampoo's, toothpaste and other personal care items.

What are you eating? Food preservatives, such as BHA (3-tert-butyl-4-hydroxyanisole),<sup>21</sup> and additives, such as emulsifiants, thickeners, surface-finishing agents and contaminants like plasticizers can trigger inflammation in the body.<sup>22</sup>

Do you eat crackers with soup? The stomach's job is to produce acid for the digestion of food. When alkali substances such as baking soda/powder are ingested, as found in crackers, many biscuits and cakes, the stomach has to work twice as hard to achieve the same level of acidity. Baking soda/powder intake is associated with a 190% increase in risk of stomach cancer, a cancer often the result from increased stomach acidity, irritation, and inflammation.<sup>23</sup>

Toxins and waste products are eliminated through the skin. People avoid jobs that provoke sweat and as a result skin pores become clogged with waste. Consequently, a greater burden is placed on the liver, bowels and kidneys to dispense of these. This leads to increased inflammation and increased skin, liver, bowel, and kidney disease. Good skin hygiene helps combat inflammatory disease.<sup>24</sup> Good skin hygiene may involve thorough scrubbing, brushing and sweating.

### WOULD YOU LIKE THAT FRESH OR ROTTEN?

Can you find a good banana in a dumpster? Aflatoxins, formed in the process of aging or fermenting,<sup>25</sup> are a source of inflammation.<sup>26</sup> Dietary sources of aflatoxins include cheese,<sup>27</sup> wine, vinegar, and any food created by rotting or fermentation. Scientists use weak vinegar solutions to cause inflammatory bowel disease in rats as a model for studying ulcerative colitis and Crohn's disease in humans.<sup>28,29</sup> What is more, chemicals formed when foods are pickled<sup>30</sup> increase oxidative stress, inflammation,<sup>31</sup> autoimmune disease, and cancer.<sup>32,33</sup>

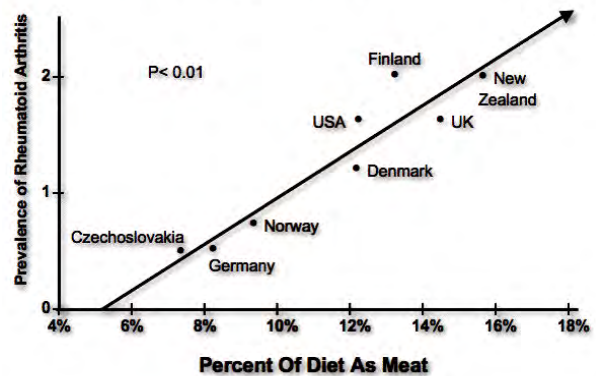
Another source of aflatoxin exposure is the environment. Mold in the environment increases the risk of autoimmune inflammatory

disease by 180% for the lungs<sup>34</sup> and 360% for joints.<sup>35</sup> Shade trees and shrubbery close and dense around a house, water-damaged buildings,<sup>36,37,38,39</sup> decaying leaves,<sup>40</sup> compost heaps,<sup>41</sup> sauna baths, wet basements, swamps and lowlands—all are sources of aflatoxins and inflammation. Avoid all decay, both personal and environmental.

### PERFECT HEALTH DEPENDS ON PERFECT CIRCULATION

Inflammation increases when blood flow is congested and slowed.<sup>42,43,44,45</sup> As a result autoimmune inflammatory diseases are more likely with a sedentary lifestyle, tight clothing or cold extremities. On the other hand, when circulation is quickened, inflammation decreases.<sup>46</sup>

### Meaty Statistics



Br J Nutr. 2000 Nov;84(5):589-95.

In cold weather, wearing short sleeves or short pants exposes the limbs to cooling, chilling the blood back from the extremities to the chest, abdomen and pelvis where inflammation can set in. Additionally, the circadian rhythm (your internal equilibrium clock which controls the balance between inflammation and anti-inflammation) is disrupted,<sup>47</sup> inflammatory mediators are released,<sup>48,49</sup> and the risk of autoimmune inflammatory disease increases.

Studies show that tight clothing has a negative effect on the body. From slowed digestion of food to increased inflammatory mediators, tight clothing is sure to increase

## Blue Print for Health and Healing

one's risk of autoimmune inflammatory disease.<sup>50,51</sup>

Another way in which circulation is unbalanced, and can be the source of inflammation, is through overwork of the brain. Overwork of the brain in the absence of good outdoor physical exercise results in increased inflammation. Inflammatory diseases are significantly more prevalent in those doing mental work compared to those involved in physical labor.<sup>52</sup>

### **SLEEPING OFF THE DISEASE**

Sleep loss is associated with increased inflammation and autoimmune disease.<sup>53,54,55,56</sup> Many of the things that we are discussing affect sleep quality and therefore also affect the risk of disease.

### **AIR QUALITY CONTROL**

Indoor air has far more contaminants than outdoor air. Indoor air contaminants are a source of inflammation. Contaminants include breathable dust, nitrogen dioxide, chemicals such as formaldehyde, aspergillus aflatoxins, and various molds.<sup>57</sup>

### **DON'T LET THIS ONE GET OUT OF HAND**

Some causes of autoimmune inflammatory disease start small and increase with time to something bigger than expected. Improper use of the voice,<sup>58</sup> voice strain,<sup>59</sup> shallow or improper breathing<sup>60,61</sup> can all cause inflammation of the lungs and throat increasing the risk of autoimmune inflammatory diseases.

Repetitive or forceful tasks cause tissue microtraumas leading to inflammation that can spread to the whole body<sup>62</sup> increasing the risk for autoimmune inflammatory disorders.<sup>63,64,65</sup>

### **CONDIMENTS AND SPICES**

Strong dietary condiments and spices can be the source of inflammation leading to autoimmune disease. Mince pies, cakes, preserves, highly seasoned meats with gravies,

pickles, excessive salt, grease, pepper, mustard, and ketchup, etc.

Excessive salt intake increases hypertension and renal injury caused in part by oxidative stress and inflammation in the kidneys and blood vessel walls.<sup>66,67</sup>

Red and black pepper significantly increase the stomach's acidity leading to cell destruction, microbleeding, and inflammation.<sup>68</sup> Red pepper increases stomach acid excretion 700%.<sup>69</sup>

### **STIMULANTS**

What about caffeine? Caffeine and its relatives increase the risk of acquiring an autoimmune disease. Once inflammation starts in the body, caffeine can accelerate it by 300%-600%.<sup>70</sup> Chocolate increases the risk by 150%, cola drinks by 120%<sup>71</sup> and coffee 118%.<sup>72</sup>

Does alcohol impair the immune system? Alcohol consumption increases free radical formation and whole-body inflammation.<sup>73</sup> Wine can be especially aggravating, worsening such inflammatory diseases as asthma.<sup>74</sup>

Smoking (even second-hand smoke)<sup>75</sup> causes increased inflammation thereby using up the body's protective antioxidant resources. Toxic fumes and caustic chemicals from burning tobacco increase the risk of acquiring an autoimmune inflammatory disease.<sup>76,77</sup> The risk of acquiring an autoimmune inflammatory disease increases 65% with smoking and 98% with alcohol consumption.<sup>78</sup>

### **FOOD WOULD YOU LIKE THAT FRESH OR ROTTEN?**

Notice that we have been writing about a lot more than just diet. Diet is important, but there is a whole lot more to autoimmune disease than just diet.

### **SNACK ATTACK!**

Fried potatoes, salty snacks, desserts and processed meats are among the top instigators of elevated oxidative stress and whole-body inflammation.<sup>79</sup> Can you name one snack food that is healthy?



## Autoimmune Inflammatory Diseases: When Self is the Enemy

### **WESTERN DIET WOES**

A number of studies have identified the western diet, (described variously as including red meat, processed meat, pork/hot dogs, butter, lard, hydrogenated fats, high-saturated fat, high-fat dairy, eggs, french fries, potatoes, regular and diet soft drinks, pizza, refined grains, breads and pastas, coffee and tea, sweets/candy and desserts), as increasing the risk of autoimmune inflammatory diseases by as much as 210%.<sup>80,81,82</sup>

### **THE KEY IS TO EAT YOUR PROTECTION**

Patients suffering from autoimmune inflammatory disease have significantly lower blood antioxidants levels.<sup>83 84</sup> Studies also show that commercial supplements are of no value in correcting this deficiency.<sup>85</sup> Proper diet is the only solution to poor nutrition and reducing the risk of autoimmune inflammatory disease.<sup>86</sup>

### **FIBER: START ROUGHING IT**

Patients suffering from autoimmune inflammatory disease can also have significantly lower fiber and magnesium intakes. Fibrous foods are usually higher in magnesium. Fiber and magnesium deficiency are associated with a 300%-400% elevation in inflammation.<sup>87</sup>

### **MINERAL DEPLETION IS A GLOBAL ISSUE**

The amount of magnesium in all foods has decreased by 19% in the last 50 years.<sup>88</sup> Low levels of zinc,<sup>89</sup> selenium,<sup>90</sup> and magnesium<sup>91</sup> are associated with increased inflammation. Whole wheat flour has 530% more magnesium, 320% more zinc, and 110% more selenium than white flour.<sup>92</sup> Pumpkin seeds are a rich source of zinc and Brazil nuts are a good source of selenium.

### **DOUGHNUT DESPAIR**

Doughnuts are a huge source of advanced glycation end products! Carbohydrates fried

with oil accumulate advanced glycation end products (AGEs), toxins that activate the body's inflammatory mediators.<sup>93,94</sup> AGEs can also be formed in the body if the blood sugar becomes elevated. A slice of 100% whole wheat bread has 536 AGEs units,<sup>95</sup> while a plain-glazed doughnut weighs in at a whopping 425,740 units of AGEs.<sup>96</sup>

### **HIGH-FRUCTOSE IS HIGH RISK**

Fructose (in all its forms, e.g., high fructose corn syrup) activates inflammatory mediators in the liver<sup>97</sup> and blood vessels<sup>98,99</sup> increasing the risk for autoimmune inflammatory disease.

### **RISK MANAGEMENT**

The results of a study that came out of Israel help put things in perspective. Dietary choices that increase autoimmune inflammatory disease risk include sugar (430% increased risk), cholesterol (360%), eggs (350%), saturated fat (animal fat, 310%), soft drinks (300%), and vegetable oil (22%).<sup>100</sup>

### **FAT AND CHOLESTEROL**

Dietary cholesterol is especially harmful.<sup>101</sup> Cholesterol provokes the immune system to increase inflammation.<sup>102 103</sup> A high-cholesterol diet more than triples the risk of autoimmune inflammatory disease.

High-fat food is at greater risk for lipid oxidation or peroxidation. Cheese is high in fat and is created by decay, thus it is high in oxidized lipids (fats). These oxidized cheese lipids significantly increase the risk of autoimmune inflammatory diseases.<sup>104,105</sup>

Butter significantly increases oxidative stress by stimulating the immune cells to produce inflammation when there is no other reason to be causing inflammation.<sup>106</sup>

High-fat diets increase body inflammation.<sup>107</sup> Of special concern are trans-fats that significantly increase the inflammatory responses of the body. Saturated fat, as found in animal products and tropical oils such as palm oil, have been shown to increase the body's

inflammation.<sup>108</sup> Compared to a diet predominating in monounsaturated (vegetable) fat, eating a high-saturated (animal) fat diet increases body inflammation 270%.<sup>109</sup> What's more animals fed a fatty diet develop a high rate of autoantibodies (antibodies against one's own self),<sup>110</sup> a classic finding in autoimmune inflammatory diseases.

Of special concern are oils that have been become oxidized. Oxidized oils pose an immediate and long-term threat to body anti-inflammatory reserves heightening the risk of multiple autoimmune inflammatory diseases.<sup>111,112</sup> Oxidized oils are common to deep fat fryers, fried foods, and packaged foods with a long shelf history.

Cooking food in oil (frying) produces trans-fat,<sup>113</sup> acrylamide<sup>114</sup> and lipid peroxidation.<sup>115,116</sup> These by-products of frying are all stimulators of inflammation leading to increased risk of autoimmune inflammatory disorders.<sup>117</sup> Trans-fat can also be found in hydrogenated and partially hydrogenated vegetable oils, margarines and shortening.

Oxidized cholesterol promotes tissue inflammation and cell death leading to atherosclerosis (inflammatory heart disease) and autoimmune inflammatory disease.<sup>118</sup> Common sources of oxidized cholesterol are spray-dried egg powders (such as found in pancake mixes), Parmesan cheese, butter oil, ice cream, sausages, and beef tallow. Oils and cholesterol are especially apt to oxidation when heated in the presence of air for a longer period for example in deep-frying at fast food restaurants.<sup>119</sup>

### **SAME FOODS EVERYDAY?**

Eating the same foods day after day overwhelms the body's food tolerance mechanisms and can result in food allergy and/or autoimmune inflammatory disease.<sup>120</sup>

### **ENRICHED!**

A diet high in refined carbohydrates negatively affects the balance of free radical

generation and antioxidant defense leading to inflammation overload.<sup>121,122,123</sup> A breakfast consisting of a bowl of corn flakes with skimmed milk, a piece of toast and a glass of orange juice converts almost instantly to 16 teaspoons of sugar. Sixteen teaspoons of sugar will increase the body's oxidative stress and inflammation by 240%.<sup>124</sup> A can of soda has 12 teaspoons of sugar.

---

**Patients with autoimmune inflammatory diseases have a high incidence of sensitivity to wheat gluten, as high as 10 times higher than normal individuals.**

---

Refined grain products, (e.g., white bread, white rice, white pasta), tip the body's oxidant/antioxidant balance toward oxidation, increasing inflammation and the risk of autoimmune disease.<sup>125,126</sup>

### **THE GLUTEN CONNECTION**

Patients with autoimmune inflammatory diseases have a high incidence of sensitivity to wheat gluten, as high as 10 times higher than normal individuals.<sup>127</sup>

### **ANIMAL ANTIGENS**

Individuals with autoimmune inflammatory disease show higher than normal sensitivities to animal product antigens; 1200% higher for dairy, 600% for eggs, 460% for pork, and 400% for fish.<sup>127</sup> If you have autoimmune disease or know you should be taking precautions to avoid autoimmune inflammatory disease it might be prudent to stay away from these sources of disease.

### **MORE ON MILK**

The link between dairy and autoimmune inflammatory diseases is multifactorial;<sup>128,129</sup>

## Autoimmune Inflammatory Diseases: When Self is the Enemy

milk is immunosuppressive,<sup>130</sup> it has many hormones which increase disease risk,<sup>131</sup> milk is the source of many infectious agents (viruses and bacteria) that precipitate autoimmune inflammatory disease,<sup>132</sup> it contains many antigens which initiate the autoimmune process,<sup>133,134,135,136</sup> and milk provokes and aggravates<sup>137</sup> the inflammatory process.<sup>138</sup>

### GO BIG RED

Why is red meat red? Heme iron makes red meat red and red cells red. Heme iron increases the body's sensitivity to oxidative stress and inflammation.<sup>139</sup> Consumption of red meat increases the risk of autoimmune inflammatory disease by 130%.<sup>140</sup> Epidemiological studies comparing the amount of meat eaten in countries around the world with how much autoimmune inflammatory disease they have, shows that with increased meat consumption there is increased disease.<sup>141</sup> The message of course is, if you need an autoimmune inflammatory disease, eat more meat.

### PROTEIN PORTIONS

Many people these days are worried about whether or not they are eating enough protein in their diet. It is a bit of a mania. In fact, it is actually hard to achieve a low protein diet. Protein, eaten in excess of body needs, increases the risk of autoimmune inflammatory diseases by 190%.<sup>140</sup> (For more information on protein, please refer to our handout and presentation on osteoporosis.)

### VARIETY, THE SPICE OF LIFE?

Most people in developed countries like to eat a large variety of food at each meal as though they had to balance their entire life's nutritional requirements at one sitting. Excessive antigenic load, as encountered in a complex meal comprised of multiple diverse foods, can provoke autoimmunity, allergy, and inflammation.<sup>142</sup>

### EAT TO LIVE, OR LIVE TO EAT?

Another instigator of the autoimmune inflammatory process is overeating. Overeating provides fuel for a bigger fire than can be healthfully managed. Excessive caloric intake is associated with increased body oxidative stress<sup>143</sup> and increased incidence of autoimmune inflammatory diseases.<sup>82</sup> On the other hand reduced caloric intake decreases autoimmune inflammatory disease risks.<sup>144</sup>

---

Many people these days are worried about whether or not they are eating enough protein in their diet. It is a bit of a mania. In fact, it is actually hard to achieve a low protein diet.

---

### WEIGHT MANAGEMENT

For the avoidance of these diseases, carrying extra weight is not ideal. Studies show that whole body inflammation increases with increasing body weight.<sup>145,146</sup> Being overweight increases the risk of acquiring an autoimmune inflammatory disorder by 275%.<sup>147</sup>

As a person gains weight, fat tends to gather about the abdomen. While much of this fat is external, a large portion of it is also internal, around the organs. This internal fat is termed organ or visceral fat. Visceral fat is another source of inflammation<sup>148</sup> and oxidized fat. For each 1% increase in visceral fat, the risk for increasing inflammation goes up an additional 140%.<sup>149</sup>

### A CASE OF MISTAKEN IDENTITY

Worms—could there be a case of mistaken identity? Trichinellosis, a parasite acquired from eating pork and bear, is associated with increased inflammation.<sup>150,151</sup> Musculoskeletal symptoms include muscle pain, joint pain, muscle weakness, and restriction of joint movements.<sup>152,153</sup>

Trichinellosis is not the only infection implicated in autoimmune inflammatory conditions. Viral and bacterial infections are

being implicated more and more in the development of autoimmune inflammatory diseases.<sup>154,155,156,157</sup> Autoantibodies increase with the number of infections a person has suffered in their lifetime.<sup>158</sup> Numerous infectious agents, including Salmonella,<sup>159</sup> E. Coli, Streptococcus and Mycobacterium,<sup>160</sup> have been linked to autoimmune inflammatory diseases. The most abundant source of these infectious agents is animal products.<sup>161,162,163,164,165</sup>

### NEEDLING THE IMMUNE SYSTEM

There are some risky behaviors that may need to be avoided. One of these, about which more and more scientific evidence is emerging, is vaccination. For example, receiving measles, mumps, and rubella vaccine (MMR) vaccination significantly increases the odds of acquiring chronic inflammatory arthritis.<sup>166</sup> Compared to receiving the common tetanus vaccine: receiving a hepatitis B vaccine increases the odds of acquiring multiple sclerosis by 420%, systemic lupus erythematosus by 810%, and rheumatoid arthritis by 1700%!<sup>167</sup>

### EXERCISE

It has been said, “If you don’t find time to exercise, you will have to find time to be sick.” When one sits around, it is like a car idling; smoke and fumes build up. For the sedentary individual, inflammation builds up, increasing the risk for autoimmune inflammatory disease.<sup>168</sup>

### STRICT SCHEDULE

How regular are you—I mean in your schedule? Studies show that extended and irregular shift work confers an increased risk of contracting an autoimmune inflammatory disease.<sup>169</sup>

### RESULT OF PERTURBING THE IMMUNE SYSTEM

Once the immune system becomes off balance it can really fall a long way from normal, resulting in signs and symptoms that culminate in autoimmune inflammatory disease. Besides all the well-recognized autoimmune inflammatory diseases listed earlier there are other unhappy outcomes to letting the immune system fall into disarray. We will list just a few.

The presence of an autoimmune inflammatory disease is a good sign that the immune system is probably going to have trouble performing its usual function with success. Most autoimmune disease is associated with immune suppression or dysfunction. People with autoimmune inflammatory disorders are 85% more likely to acquire serious life-threatening infections. The most common sites of infection include, joints, skin, soft tissues, and the lungs.<sup>170</sup>

Despite increased medical treatment options, patients with autoimmune inflammatory diseases do not enjoy lengthy lives.<sup>171</sup> Pneumonia, tuberculosis, and liver disease are significantly increased as causes of death in these patients.<sup>172</sup>

Chest pain; should autoimmune inflammatory disease patients be worried? Inflammatory disease not only affects bones, connective tissue, and joints, but blood vessels and heart muscle as well. Patients with autoimmune inflammatory disease are 90% more apt to have congestive heart failure,<sup>173</sup> 95% more likely to die of sudden cardiac arrest, and 220% to have a heart attack.<sup>174</sup>

Many autoimmune inflammatory disease patients suffer from osteoporosis, (thinning of the bones), making them more susceptible to fractures. The inflammatory process involved in autoimmune disease is also a major player in osteoporosis.<sup>175</sup> Many of the medications with which autoimmune inflammatory disease are treated also cause osteoporosis.

Cancer is also often the result of a deficient immune system. Immunity is a function of white blood cells. As a consequence of inflammation

## Autoimmune Inflammatory Diseases: When Self is the Enemy

and immune compromise, the risk of leukemia (blood cell cancer) increases 150%.<sup>176</sup>

### RESTORING AND MAINTAINING THE IMMUNE SYSTEM

Let us change gears now and talk about how to restore a failing immune system and maintain it in a condition to assure the avoidance of further inflammatory disease, its complications, and its pain.

#### FRESH MORNING AIR

Occupations involving physical work in the open air are protective, while working in artificial, air-conditioned environments increase the risk of contracting an autoimmune inflammatory disease.<sup>177,178</sup> One of the most effective immune boosters is an early morning walk in the fresh air near a body of water as the sun is just coming up.<sup>179</sup>

#### HAVE YOU SEEN THE SMILING SUN RECENTLY?

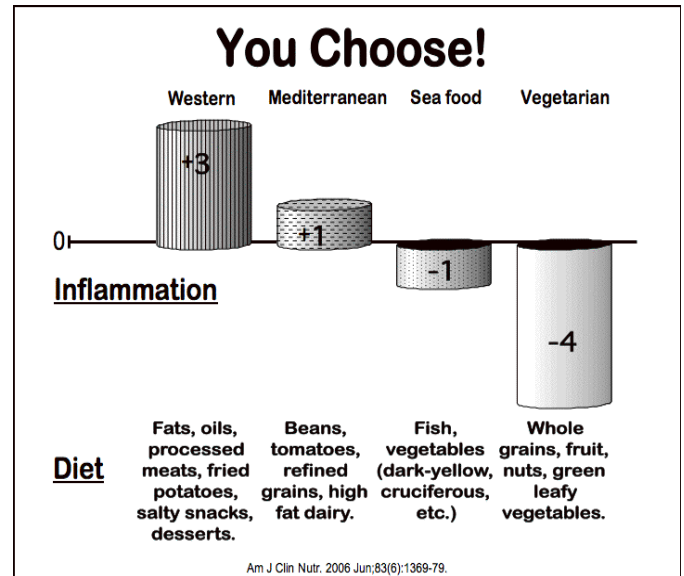
Sunlight exposure reduces inflammation in the body.<sup>180,181,182</sup> Sunlight exposure is a major source of vitamin D.<sup>183</sup> Vitamin D deficiency increases the risk of many common cancers, multiple sclerosis, rheumatoid arthritis, hypertension, cardiovascular heart disease, and type I diabetes.<sup>184</sup> It is recommended that at least 25% of your skin be exposed to the sunlight for 20 minutes each day, and longer if you have darker skin.

#### WHAT ABOUT EXERCISE?

“But I can’t exercise, I have pain!” you may be thinking. Exercise tips the inflammatory/anti-inflammatory balance in favor of reduced inflammation and reduced disease risk.<sup>185,186,187,188</sup> With few exceptions, sufferers of autoimmune inflammatory diseases benefit significantly from physical activity, which leads to significant improvements in strength, pain, and fatigue without making the disease worse.<sup>189,190,191,192,193</sup>

As individuals age their immune system declines. Being physically fit helps to slow this decline. The immune system responds positively to moderate exercise, while too much exercise tends to suppress it.<sup>194</sup>

While you are out exercising, as I know you



will be, loose clothing is of greater benefit than clothing that restricts movement and blood flow. Tight clothing has been shown to interfere in body temperature variations, blood flow and hormone levels; factors implicated in autoimmune inflammatory disease.<sup>195</sup>

#### CIRCADIAN RHYTHMS: THE BODIES INTERNAL CLOCK

Our bodies run on clocks. The anti-inflammatory/inflammatory balance cycles on a clock called your circadian rhythm.<sup>196,197</sup> The anti-inflammatory circadian clock malfunctions when meal times are varied, or meals are taken late in the evening,<sup>198,199</sup> sleeping times are varied,<sup>200</sup> insufficient, or shifted to a late bedtime and/or late rise time, a job requires shift work where daily schedules vary on some days, such as on days off or weekends.<sup>201</sup> Regularity in sleeping hours improves overall sleep quality and anti-inflammatory effect. For the autoimmune inflammatory patient, we recommend a strict schedule for sleeping hours with a set nightly bedtime no later than 9:30 p.m., and a set regular rise time between 7.5

and 8 hours later on all weekdays and weekend days.<sup>202</sup> We recommend regular mealtimes every day of the week not varying by more than 5 minutes with no meal later than 5:30 p.m.<sup>197</sup> We recommend regularity in exercising every day of the week including days off and weekends.<sup>203</sup>

### DIETARY CHOICES

A study was performed comparing four diets: (1) fats and processed meats diet (fats, oils, processed meats, fried potatoes, salty snacks, and desserts)—the western diet, (2) beans, tomatoes, and refined grains diet (beans, tomatoes, refined grains, and high-fat dairy products)—a Mediterranean like diet, (3) vegetables and fish diet (fish and dark-yellow, cruciferous, and other vegetables)—sea food diet, and (4) whole grains and fruit diet (whole grains, fruit, nuts, and green leafy vegetables)—vegetarian vegan diet. The western diet raised three markers of inflammation, the Mediterranean diet raised one marker of inflammation, the seafood diet lowered one marker of inflammation and the vegetarian vegan diet lowered four markers of inflammation; showing the superiority of the vegan diet in addressing autoimmune inflammatory diseases.<sup>204</sup>

### VEGETARIAN ADVANTAGE

A vegetarian diet has been found to have an anti-inflammatory effect on patients with active autoimmune inflammatory disease.<sup>205,206,207,208</sup> A vegetarian diet stimulates the immune system, improves tolerance to noxious antigens found in less-ideal diets,<sup>209</sup> and is loaded with antioxidant anti-inflammatory vitamins and phytochemicals. Another advantage to the vegetarian diet is its high content of natural antioxidants. Studies show that patients suffering from autoimmune inflammatory diseases eat significantly fewer antioxidant foods.<sup>210</sup> On the other hand studies show that high antioxidant intake decreases the bodies inflammation.<sup>211</sup>

There is a real advantage to eating fruit and vegetables. Fruits and vegetables are high in flavonoids,<sup>212</sup> phytochemicals and antioxidants that have been found to lower the oxidative stress, inflammation and oxidation of lipids (fats) in the body.<sup>213</sup> Fruits and vegetables are high in vitamin A. Deficiency in vitamin A leaves the body unguarded against oxidative stress and autoimmune inflammatory disease.<sup>214,215</sup> Good sources of vitamin A include sweet potatoes, carrots, kale, spinach, winter squash, cantaloupe, and broccoli.

Whole grains and fiber are also a part of an autoimmune inflammatory disease fighting diet. Diets high in whole grains have been shown to have a protective effect against systemic inflammation reducing the risk of autoimmune inflammatory disease.<sup>216 217</sup> Fiber, as found in whole grain products and bran, reduces inflammation in patients with inflammatory disorders.<sup>218</sup>

What about a “low carb” diet for reducing inflammation? To the contrary, low fat, high carbohydrate diets have been shown to significantly reduce whole body inflammation.<sup>219</sup>

What diet provides the maximal amount of antioxidant, anti-inflammatory benefits? Fresh food, that taste of Eden, is most effective. Fresh food is an uncooked vegan diet consisting of berries, fruits, vegetables and roots, nuts, germinated seeds, and sprouts, i.e., rich sources of carotenoids, vitamins C and E, (some call this a “raw food” diet). People on a fresh food diet have been shown to enjoy improvements in symptoms of autoimmune inflammatory disease including pain, joint stiffness, quality of sleep, health quality, cholesterol, and weight management.<sup>220,221</sup>

Another consideration is the health benefits of omega-3 fatty acids. Omega-3 fatty acids are associated with decreased inflammation, improvement in disease symptoms and reduced risk of acquiring autoimmune inflammatory disease.<sup>222,223</sup> Good sources of omega-3 fatty acids are a vegetarian diet, olives, and flax seed. Olives and olive oil, with their high levels of antioxidants, omega-3 fatty acids and phytochemicals, have been found to be helpful

in the prevention and treatment of autoimmune inflammatory disorders.<sup>224,225,226,227</sup> The most preferable way to obtain the olive oil is from the eating of whole olives. Results are not immediate but usually felt within 12 weeks.<sup>228</sup>

---

### Are you a python? Do you swallow your food whole?

---

Another single food we want to mention is lemon juice and citrus. Citrus contains many bioflavonoids, phytochemicals, and antioxidants that have been found to reduce inflammation<sup>229,230,231</sup> and improve symptoms of autoimmune inflammatory disease.<sup>232,233,234</sup>

We mentioned that too much protein has deleterious effects for the would-be autoimmune inflammatory disease survivor. But not all proteins are created equal. Soy protein reduces the risk of autoimmune inflammatory disease by 60% compared to a diet high in animal protein.<sup>235,236</sup>

#### **CHEW YOUR FOOD**

Are you drinking juices or slurping smoothies? Are you a python? Do you swallow your food whole? A better method is to chew your food well and savor every bite. The immune tissue in the mouth and throat (tonsils), tests substances coming into the body to let the body know what is food.<sup>237,238,239,240,241</sup> Allergy and autoimmune inflammatory diseases are more likely to flare up when food is not chewed long and well, when the body has not had a chance to recognize the antigens.<sup>242,243</sup>

#### **TEMPERANCE: ABSTINENCE FROM THINGS HARMFUL, MODERATION IN THINGS GOOD**

A program designed to benefit patients with autoimmune inflammatory disease will most surely include methods for eliminating the use of such stimulants as tea, coffee, caffeine, tobacco, and alcohol.

Another aspect of temperance is eating moderate amounts of food. When more calories are consumed than are needed, inflammation

increases. On the other hand, reducing calorie intake reduces the body's inflammatory responses.<sup>244,245</sup> The goal is to match caloric intake to body energy needs.

Taken a step further, fasting is a quick way to get an energy imbalance under control.<sup>246</sup> Fasting has been found to reduce oxidative stress and inflammation, and improve symptoms of autoimmune inflammatory disease.<sup>247,248</sup>

The outcome of caloric restriction could have another desirable result for some – that being weight loss. Being overweight is associated with increased risk of autoimmune inflammatory disease. Weight loss is associated with a decrease in oxidative damage to lipids (fats) and proteins and decreased inflammation.<sup>249,250,251</sup>

#### **WATER CONSUMPTION: I'LL DRINK TO THAT**

Studies show that optimal water intake can lower the risk of autoimmune inflammatory diseases by as much as 60%.<sup>100</sup> On the other hand, dehydration (being low on water) enhances the inflammatory response of the body to hostile antigens.<sup>252</sup> We recommend 8-12 eight ounce glasses per day.

What water should I drink? We have a saying; "friends don't let friends drink tap water." Contaminated water is also a source of inflammation.<sup>253,254</sup> Water should be obtained which is pure and free from all substances, which can potentially induce inflammation. Depending on your water condition, filtering, distilling or other treatment may be necessary.

Drinking it is not the only beneficial use of water. Many people have discovered the benefits of hydrotherapy, the use of water for treatment of disease and maintenance of health. Acute inflammatory pain can be treated with either superficial heat for reducing guarding (fear and tensing) or with cold for reducing pain.<sup>255</sup> The application of heat or cold to inflamed joints tends to improve pain, joint stiffness, and joint function. The application of cold tends to raise the pain threshold.<sup>256</sup> Contrast (alternating hot and cold)

hydrotherapy tends to improve circulation, greatly lowering inflammation.<sup>257,258</sup>

### AVOIDING THE OBVIOUS

The avoidance of heavy metal exposure is key to reducing the risk of and/or symptoms of autoimmune inflammatory disease. If a high level of exposure has been experienced in the past, it may be necessary to take steps to eliminate these toxins from the body.

### VACCINATION BURNOUT

Repeated over-stimulation of the immune system, as in immunizations, can result in immune fatigue and burnout resulting in increased risk of autoimmune inflammatory disease.

### SHOULD I DO A CLEANSE?

When toxin accumulation is the cause of immune dysfunction, toxin elimination may be the only way to get the immune system back in balance. Sweating, something we do not like to do in this day and age, may be just what is needed to expel the aggravating toxins.<sup>259</sup> Skin brushing (exfoliation) can also be a part of this elimination process. Chelation is another effective way to get rid of especially heavy metals.<sup>260</sup> This can often be accomplished with dietary modifications. Sometimes a diet totally devoid for a while of the toxin to be expelled can accomplish the same goal.<sup>261</sup> Some have even found a colon cleanse beneficial.<sup>262</sup> I knew of a patient who was successful at managing their inflammatory arthritis if they did a colon cleanse once a quarter (which made me wonder what they were doing the rest of the time to pollute their colon again).

Another useful modality for the removal of toxins and inflammation is charcoal. Charcoal can be used for inflammation as an oral supplement,<sup>263</sup> and as a topical treatment.<sup>264,265</sup> Studies show that it is effective in reducing the symptoms and signs of autoimmune inflammatory disease.<sup>266</sup>

## MIND BODY CONNECTION

Trust in Divine power: Spirituality is associated with less depression and increased feelings of health in patients with autoimmune inflammatory disease.<sup>267,268</sup> Studies reveal that religious intervention such as intercessory prayer increases immune function, improves rheumatoid arthritis, and reduces anxiety.<sup>269</sup> In a study of autoimmune inflammatory patients, six hours of one-on-one intercessory prayer was associated with significant overall improvement in disease that lasted the entire subsequent year of the study's duration.<sup>270</sup>

Given the relationship between stress and autoimmune inflammatory disease, stress reduction should be a priority with autoimmune disease sufferers.<sup>271,272</sup> The dietary changes we advocate have also been found to reduce the psychological symptoms of stress.<sup>273</sup> Improved spiritual health has been shown to be a valuable aid in stress management.<sup>274</sup> Has not God said; "Come unto me, all ye that labor and are heavy laden, and I will give you rest."<sup>275</sup> He is the great burden bearer; trusting in Him alleviates stress.

### IN SUMMARY

As you engage in an autoimmune inflammatory disease recovery program you will find it helpful to *eliminate* all:

- Animal products including dairy and eggs.
- Possibly wheat gluten.
- Oxidized oils or cholesterol.
- Refined foods; sugars, starches, grains, and oils.
- Excess dietary calories.
- Foods or drinks created by aging or fermentation.
- Stimulants; coffee, tea, tobacco and alcohol.
- Strong irritating spices.
- Excess body weight.
- Tight clothing and clothing that does not provide adequate and evenly distributed warmth.
- Excessive meals (fasting may be helpful).



## Autoimmune Inflammatory Diseases: When Self is the Enemy

As you engage in an autoimmune inflammatory disease recovery program you will find it helpful to:

- Have a regular schedule throughout the day for sleep, meals and exercise.
- Eat a whole plant food diet with plenty of fresh fruits and vegetables, omega-3s and fiber.
- Chew your food thoroughly and swish it around your mouth.
- Make use of pure water: drink plenty, bathe often, and perform hot and cold treatments.
- Make wise application of charcoal as poultices and taken by mouth.

And what dietary program are we really talking about? The original Bible diet! Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food." "...and you will eat the plants of the field."<sup>276</sup> Should it be any surprise that the Maker of this marvellous immune system, which is designed to protect this marvellous body we have been given, should have the best lifestyle prescription necessary for its upkeep?

*“Cancer, tumors, and all  
inflammatory diseases are largely  
caused by meat-eating.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1985). Spalding and Magan Collection. Payson, AZ: Leaves-Of-Autumn Books.

## CHAPTER 15

# CANCER: IS THERE HOPE?

### WHAT CAUSES CANCER?

Cancer has now surpassed heart disease as the number one cause of death for Americans below 85.<sup>1</sup> More than 10 million Americans have a history of invasive cancer. Two and one half million Americans will be diagnosed with cancer this year, (one million skin cancers). Cancer will claim over half a million victims this year.<sup>2</sup> Why all this cancer? What causes cancer? Can it be avoided? What is the answer for cancer?

As a medical student, I was presented one day with a patient who had a lesion on his lower leg.

“Dr. Clark, examine Mr. Doe’s leg and tell the class your diagnosis.”

The leg was well developed and muscular with clean skin, except an ugly purple raised area.

“Does Mr. Doe have Kaposi’s sarcoma?” I queried, mostly guessing.

“Yes”, came the affirming reply, “And...”

“Oh no,” I thought, “here comes another question.”

“Why do you think Mr. Doe has Kaposi’s sarcoma?”

To my limited knowledge Kaposi’s sarcoma occurred only in people with AIDS as a consequence of HIV infection, so I asked, “Is the patient HIV positive?”

“No”, came the reply, “but that is a good guess. Mr. Doe has had a kidney transplant and so is on drugs that suppress his immune system.”

This was my awakening to the fact that cancer often arises when the immune system is compromised or suppressed for any reason. It is true that Kaposi’s sarcoma is 1300x more likely to occur in AIDS patients, but lymphoma, (a cancer of the lymph glands throughout the

whole body), is 135x more likely, and lung cancer about five times more likely to occur in HIV positive individuals. Just to give you a perspective, ALL cancers are more than twice as common in people whose immune system is disabled or compromised by HIV infection.

Some years ago, a series of studies examined how sugar consumption weakens the immune system. Results showed that if a person ate no sugar for 12 hours, each white blood cell could destroy 14 dangerous bacteria. When 24 teaspoons of sugar were eaten (the amount in 2 cans of soda), the white blood cells were so compromised that they could only destroy one bacterium each.

---

**Cancer has now surpassed heart disease as the number one cause of death for Americans below 85.**

---

“But what does the immune system’s ability to eat bacteria have to do with cancer?” you may be asking. A diet high in refined carbohydrates such as sugar, starch, etc. suppresses the immune system, leaving the body unprotected from diseases like cancer. In fact, studies show that a person on a high glycemic index diet (high in refined carbohydrates) has a significantly increased risk of acquiring breast,<sup>3</sup> prostate,<sup>4</sup> colorectal,<sup>5</sup> endometrial,<sup>6</sup> gastric,<sup>7</sup> ovarian,<sup>8</sup> or pancreatic<sup>9,10</sup> cancer. Malnutrition is another cause of a poor immune system. Malnutrition comes in two forms, severe caloric starvation and consumption of empty calories.<sup>11</sup> Additionally as people get older their immune systems tend to age, losing the power to fight diseases like cancer.<sup>12</sup>

### CANCER AND VIRUSES

You may be wondering why cancer crops up in the absence of an active immune system. For this puzzle piece, let's return for a minute to the AIDS/Kaposi's association. Kaposi's sarcoma is now known to be the result of a viral infection with either human herpes virus number 8 (HHV-8) or a virus known as Kaposi's Sarcoma-associated Virus (KSV).<sup>13</sup> More and more, infectious agents are being identified in relation to cancer.

So where do people get exposed to these infectious viruses? More and more, animal products such as beef, pork, chicken, turkey, milk and eggs are infected with cancer-causing viruses. Blood of workers in meatpacking plants show evidence of these viruses. These workers have an increased incidence of cancer, including cancers of the lung, mouth and throat, colon, bladder, and kidney.<sup>14</sup> Poultry slaughterhouse workers have an increased incidence of throat cancer, liver cancer, lymphoma and leukemia.<sup>15</sup>

Animal products are known to increase the risk of cancer. The "Adventist Health Study" revealed that prostate cancer was 41% higher in meat eaters, colon cancer<sup>16</sup> was 85% higher and ovarian cancer<sup>17</sup> was 130% higher than in people who were vegetarians.

### THE ANIMAL CONNECTION

A study out of Harvard revealed that consumption of meat and dairy products doubles the risk of metastatic prostate cancer. Meat by itself increases metastatic prostate cancer by 66%. Processed meats such as bacon, beef, pork or lamb also increase the risk of metastatic prostate cancer.<sup>18</sup>

The increased risk of getting cancer from animals is not limited to the consumption of their bodies. In a 4 year case control study in Italy, the consumption of cheese was found to increase the risk of non-Hodgkin lymphoma by 66%.<sup>19</sup>

Compared to normal breasts, cancerous breasts have 3 times the incidence of infection with bovine leukemia virus, (a virus common in milk and meat).<sup>20</sup>

There are other reasons for the meat/cancer association. One of these is the way meat is prepared for marketing and the way it is cooked. Red meat is associated with increased formation

of N-nitroso compounds. These compounds cause DNA damage which results in increased colorectal cancer.<sup>21</sup> When people cook meat "well-done" at high temperatures, in an effort to kill all the trichina or "mad cow" disease, they produce mutagenic compounds called heterocyclic amines, which significantly increase the incidence of colorectal cancer.<sup>22</sup>

Animal foods prepared by frying, broiling or microwaving have been shown to increase the risk of cancer by the formation of toxins called heterocyclic amines.<sup>23</sup>

Protein, as much as we need it, is safe only in low quantities. Too much protein tends to suppress the immune system. Compared to a low protein diet (5%), a high protein diet (25%) like ours has been shown to both promote tumors and increase metastasis to the liver and lungs.<sup>24</sup>

Let's take a minute to look a little closer at dairy products. To begin with, it will help you to know that one of the important parts of your immune system is a white cell called the "natural killer cell". Milk is immunosuppressive-the more you drink, the worse your natural killer cells will function. What's more, tripling your milk protein intake triples your cancer risk.<sup>25</sup> One of the reasons for this is that cows are fed high protein diets and given growth hormones.<sup>26</sup> Cows today produce more milk than they did 100 years ago. Three servings of milk per day significantly increase insulin like growth factor in humans.<sup>27</sup> Insulin-like growth factor elevation is linked to cancer of the prostate,<sup>28</sup> breast,<sup>29,30</sup> and lung.<sup>31</sup>

### HORMONES AND CANCER

At this point it would be well to understand the role of hormones in breast cancer initiation and progression. Anything that increases or prolongs a woman's exposure to estrogen increases her risk of breast cancer. Estradiol, one of the estrogens, is a potent cell growth stimulator, which is why it also can promote cancer. Thus, there is a greater incidence of cancer associated with: early onset of menarche, late menopause, (because the woman is exposed to more years of elevated hormones), hormone replacement therapy, postmenopausal obesity, (because fat cells can produce estrogen) and history of an abortion (because after the loss of the fetus the woman

## Cancer: Is There Hope?

is exposed to the estrogens that were meant to support the pregnancy).<sup>32</sup>

One often unrecognized source of large doses of growth hormones comes from the use of animal foods. Estradiol is used as a growth promoter in farm animals. Estradiol can actually induce tumors in rats, mice, and hamsters. When levels become artificially elevated in humans there is a corresponding increase in breast and uterine cancer.<sup>33</sup> Postmenopausal women with estradiol levels > 9 units (in their entire blood volume) had a 7-fold higher rate of breast cancer than that of women with undetectable levels.<sup>34</sup> If a level of nine or greater is bad, you may ask, what would be a source of estradiol that might send my hormones that high? I was interested to find that one American beefsteak had 20 units, one liter of milk 18 units, 2 eggs 13 units, 50 gm of butter 4 units, and 100 gm of cheese 3 units!<sup>35</sup> One beefsteak has twice the hormones as found in the entire blood volume of one woman.

Another food that will drive up your hormones is fat. Studies show that high dietary fat intake is associated with elevated serum estrogens and androgens.<sup>36</sup> In 1975 Carroll and Khor produced charts showing increased rates of breast, colon, and prostate cancer with increased calorie, fat, and protein intake, country by country. There was a linear relationship between a country's per capita fat intake and the death rate from cancer.<sup>37</sup> Some fats are more dangerous than others. High saturated fat intake triples the risk of dying from prostate cancer.<sup>38</sup> Another dangerous fat is the chemically produced fat known as trans-fat. Trans-fat intake has been shown to increase breast,<sup>39</sup> prostate,<sup>40</sup> and colon cancer.<sup>41</sup>

My first clinical experience was in gynecology/obstetrics. Besides delivering babies and attending surgeries, much of my time was spent in clinic. Within a few days it became very apparent that from the day a girl came in complaining of discomfort with the onset of menses to the time that a middle aged woman came in to tell of her discomfort with hot flashes, we had women on pharmacological doses of hormones.

"And what are the consequences?" you may ask.

In a study of 37,000 women, oral contraceptives significantly increased breast cancer risk.<sup>42,43</sup> Perimenopausal hormone-

replacement therapy with estrogen alone increases the risk of endometrial cancer by 45%.<sup>44</sup> And when estrogen is combined with progesterone, breast cancer increases.<sup>45</sup> Some replacement hormones are from "natural" sources such as pregnant horse urine. But many are simply chemicals from the laboratory.

### VITAMIN D AND SUNSHINE

Vitamin D has received a lot of attention recently as an immune stimulator and an anti-cancer agent. Its primary source is ultra-violet light striking the skin.

"But", you may say, "sun causes skin cancer."

Here is where the discriminating mind will discern the real cause of skin cancer. In a study of precancerous skin lesions, it was found that people on a high fat diet developed three times the number of lesions compared to those on a low fat diet. Thus, in order to get your anti-cancer vitamin D from the sun, you need also to limit the fat in your diet.<sup>46</sup>

### WEIGHTY MATTERS

We have been talking about the fat that you eat, but now we need to make mention of the fat that you wear. Fat cells are actually involved in estrogen production. Excess estrogen production in obese women gives them a greater risk of dying with breast cancer.<sup>47</sup> Obesity is also a risk factor for pancreatic cancer<sup>48</sup>, not to mention diabetes and arthritis. Don't underestimate the contribution of overeating of any kind to the development of cancer.<sup>49</sup> When you consume extra food, it tends not only to make you grow, but to make cancer grow also.<sup>50</sup>

Obesity is usually linked with elevated triglycerides and cholesterol. Elevated cholesterol and triglycerides are associated with significant increases in breast cancer. On the other hand, high levels of HDL, the good cholesterol, significantly decrease breast cancer risk.<sup>51</sup>

### CHEMICAL TOXINS

This brings us to our next topic--chemicals in our environment. Chemicals can act like hormones, increasing the risk of cancer.<sup>52</sup> Insecticides such as DDT and DDD have hormonal activity<sup>53</sup> suppressing the immune

## Blue Print for Health and Healing

system,<sup>54,55</sup> and increasing the risk of cancer.<sup>56</sup> Chemicals tend to accumulate in our environment. Plants can take on small portions of these chemicals. Small creatures eat the plants and then are eaten by larger ones. As you go up the food chain a process called biomagnification occurs. For example, sea otters tested for PCBs and DDT showed up to 240x greater levels than that found in their prey.<sup>57</sup> The closer to the beginning of the food chain (eat from the garden) the safer your food.

The body is constantly surveying its DNA for damage and making repairs. When DNA damage accumulates, cancer can result. It has been found that lung cancer patients have suppressed DNA repair.<sup>58</sup> One commonly encountered substance, which prevents repair of damaged DNA, is caffeine.<sup>59</sup> Consequently, two or more cups of coffee per day more than double the risk of ovarian cancer.<sup>60</sup> What's more, when caffeine is combined with a high fat diet, it significantly increases breast cancer risk.<sup>61</sup>

In this age of scientific discovery, the lung cancer/tobacco connection need hardly be mentioned. But few realize the extent to which other cancers are affected by this poison. Tobacco's influence can be seen in many malignancies, including cancers of the lip, mouth, throat, voice box, trachea, esophagus, stomach, liver, pancreas, bladder, kidney, cervix, leukemia, colon, skin, and penis.<sup>62</sup>

Alcohol, a poison to the cells, is involved in 75% of esophageal cancers, 50% of mouth and larynx cancers, 30% of liver cancers, as well as colon, rectal and breast cancer. All totalled, 60,000 deaths per year are related to, not traffic accidents, domestic violence or homicides, but alcohol related cancer.<sup>63</sup>

New building materials are a common source of environmental toxins.

Workers in a newly remodelled office were found to have increased chemicals in their blood stream and significant decline in their immune function.<sup>64</sup> Cancer causing chemicals found indoors include: chloroform, acetaldehyde, formaldehyde, dichlorobenzene, styrene, methylene chloride.<sup>65</sup>

Another source of environmental toxins is the chemicals added to food as preservatives or flavor enhancers.<sup>66</sup> There are many additives to food for which side effects are unknown. Others are questionable or have produced cancer in

animals such as BHA,<sup>67,68</sup> BHT,<sup>69,70,71</sup> and potassium bromate,<sup>72,73,74,75</sup> etc.

In our modern age of plastics more and more of our food is being presented to us in poly containers. Today we get products such as milk, peanut butter, bottled water, apple sauce, and some jams, just to name a few, in plastic containers. It might cause concern to realize that the people making these containers--workers at plastic factories, have 5x the risk of pancreatic and liver cancer.<sup>76</sup>

A lot of the toxic chemicals in our environment that have carcinogenic potential are halogenated polycarbons. The most common halogens in these substances are fluoride,<sup>77,78</sup> bromide, or chloride. In these compounds, a halogen such as chloride is attached to a carbon structure, like gasoline, which makes the carbon structure more toxic and poisonous. Should it be any surprise to discover that these halogens are not much better for us if put in our water? A study in Canada revealed that consumption of chlorinated water increases the risk of cancer of the esophagus and stomach and leukemia.<sup>79,80</sup>

When I was a medical student I did research with the General Surgery Department. I was looking at the previous five years of pancreatic cancer patients. To my surprise, none of them was still alive. All had died, and this usually after several surgeries and much pain. The risk of pancreatic cancer is significantly increased by obesity<sup>81</sup> and high consumption of: salt, smoked meat, fried food, refined sugar, food with preservatives or additives,<sup>82</sup> and coffee.<sup>83,84,85</sup> Salt also increases the risk of brain cancer.<sup>86</sup> Knowing the risk factors helps us understand what lifestyle changes we can make to improve our chances of avoiding this killer disease.

We all have seen a diesel truck grinding its way up a hill belching black smoke from its exhaust pipe. Products of combustion surround us even in our everyday life (exhaust from cars, gas stoves, etc.) all of which have carcinogenic potential.<sup>87</sup> Railroad workers exposed to diesel fumes have a 40% increase in mortality from lung cancer.<sup>88</sup>

In recent years the phrase "oxidative stress" has become popular. Oxidative stress is merely a measure of the inflammation in the body. Measuring the number of free radicals in the blood often assesses this. Oxidative stress damages DNA that leads to the development of

## Cancer: Is There Hope?

cancer. Chronic inflammation increases the risk of cancer in the gastrointestinal tract.<sup>89</sup> For example gastro-esophageal reflux can cause esophagitis, known as Barrett's Esophagus. In Barrett's Esophagus, cancer develops because the esophagus is constantly healing itself and just can't stop healing.<sup>90</sup> Cancer is basically cells that are growing or healing out of control.

### MELATONIN

Melatonin is a protective, anti-cancer hormone and strong antioxidant.<sup>91</sup> Light at night suppresses melatonin and increases cancer cell growth rates. Evidence now links exposures to light at night to elevated breast<sup>92</sup> and colorectal cancers in night workers.<sup>93</sup>

### STRESS

Stress and depression increase cancer because they decrease the immune system's ability to find and destroy cancer cells.<sup>94,95</sup> In a ten year follow up study, in which social coping skills, along with the traditional risk factors; smoking, drinking and medical diseases were considered, people with greater stress from poor interpersonal skills had a 40% higher death rate from cancer.<sup>96</sup> In another study, divorced or separated women had a 126% higher risk of getting breast cancer, and widowed 100% higher.<sup>97</sup> Cancer develops more commonly and grows faster in people with suppressed anger.<sup>98</sup> These mental / emotional causes of cancer are some of the most powerful risk factors known to man.

### RADIATION

One threat to DNA integrity is all the modern sources of radiation. Sources of radiation include radioactive elements, X-rays, gamma rays, microwaves, radio transmitters, electromagnetic fields, ultraviolet light, solar radiation, and nuclear radiation. For example, children living within 2 km of an AM radio station have more than double the chances of getting leukemia as those 20 km or more away.<sup>99</sup>

Another modern source of radiation is the cell phone. Cell phones significantly increase astrocytomas (brain cancer) in the temporal area of the brain (right where you hold your cell

phone). There is also an increase in acoustic neurinomas (ear cancer).<sup>100</sup>

Electric blankets can also be a significant source of radiation. Breast cancer risk associated with electric blanket use increases with the number of years of use, the number of seasons of use, and the length of time of use each night.<sup>101</sup> It has been suggested that if you want your bed warmed, turn on the electric blanket or heating pad until the desired temperature is reached, then unplug it before getting into bed. Breast cancer risk associated with electric blanket use increases with the number of years of use, the number of seasons of use, and the length of time of use each night.

The relation between breast cancer and electromagnetic field exposure has been the object of much study. For women telephone installers, repairers, and line workers, the risk of breast cancer goes up 117%; for system analysts and programmers 65%; for telegraph and radio operators 40%; and for telephone operators 27%.<sup>102</sup>

Children are affected by radiation as well. For example, the risk of leukemia is elevated in: children whose mothers used an electric blanket or an electric mattress pad during pregnancy; children who themselves use electric blankets or electric mattress pads, hair dryers, video machines in arcades, or video games connected to a television.<sup>103</sup>

### HEAVY METALS

Elevated levels of heavy metals including: iron, nickel, chromium, zinc, cadmium, mercury, and lead have been found in tumorous tissues of cancer patients.<sup>104</sup> These heavy metals increase oxidative stress and DNA damage, which result in cancer. Mercury, when combined with chloride, produces cancer by acting as a hormone, binding to and activating estrogen receptors.<sup>105</sup>

### SUMMARY OF CANCER CAUSES

To summarize: each cell in the body is regulated by code (DNA), much like a computer. If the code goes bad, so does the cell. As we've seen, there are a number of things that can derail the DNA code. DNA damage results from: viruses, toxins, oxidative stress, and radiation. Cancer arises when the immune system fails to

## Blue Print for Health and Healing

identify and deal with cells running on altered DNA. Too many hormones, and chronic healing and inflammation, initiate the development of cancer and accelerate its growth.

### THE SOLUTION

“Okay”, you’re thinking, “So what do I do now? Everything causes cancer, I’m doomed!”

Please don’t throw in the towel just yet. Thus far our approach has been to show the avoidable causes of cancer. Now we are going to show you that the answer to the cancer problem.

“The only hope of better things is in the education of the people in right principles. Let physicians teach the people that restorative power is not in drugs, but in nature. Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthful conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to re-establish right conditions in the system.”<sup>106</sup>

---

Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health.

---

“Pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water, trust in divine power—these are the true remedies”<sup>107</sup>, “Gratitude, rejoicing, benevolence, trust in God’s love and care--these are health’s greatest safeguard.”<sup>108</sup>

A good understanding of these laws of health is essential to minimizing cancer’s risk factors. Let’s look at each of these principles of health and what their impact is on cancer.

### FRESH AIR

Pure, fresh, outdoor air is a wonderful stimulant to the immune system. This is because of the negative ions present in outdoor air, which significantly decrease the incidence of cancer and inhibit tumor growth by the enhancing natural killer cell activity.<sup>109</sup> Some toxins come from mold (mycotoxicosis and aflatoxins).<sup>110</sup> Mold toxins are felt to be

responsible for liver<sup>111</sup> and lung<sup>112</sup> cancer growth. Keeping the premises and basement of your homes free from mold help prevent cancer. Outdoor air has much less toxins.

Thrash and Thrash in their book “*Hope For Cancer*” report, “A group of rats with cancer were allowed to breathe negatively charged (outdoor) air, while an equal number breathed common indoor air. After one month the cancer in the rats breathing the indoor air was twice the size of the cancer in the rats breathing the negatively charged air.”<sup>113</sup>

“When the weather will permit, all who can possible do so ought to walk in the open air every day, summer and winter. But the clothing should be suitable for the exercise, and the feet should be well protected. A walk, even in winter, would be more beneficial to the health than all the medicine the doctors may prescribe.”<sup>114</sup>

### SUNLIGHT

Sunlight is a precious gift from God, which brings us a sense of wellbeing from the endorphins it creates. We have already mentioned that vitamin D is essential to the prevention of cancer. Everyone should get at least 20 minutes of sunshine a day with at least 25% of their skin exposed to the sun. These 20 minutes should be without sunscreen, (which blocks synthesis of vitamin D). Vitamin D is a potent inhibitor of cancer growth and protects against prostate, breast, pancreas and colon cancer. Colon tumor growth rate increases by 60% when there is a deficiency in Vitamin D.<sup>115</sup>

### TEMPERANCE

Temperance or abstemiousness is avoiding all things that are harmful and using wisely those things that are good.

An example for need for total abstinence would be tobacco or alcohol. Is there any hope for a smoker or drinker? Lung cancer risk decreases and survival improves the moment you quit. But the longer the time since smoking, the better the survival outcome.<sup>116</sup> Similarly esophageal cancer risk declines with time since last drinking.<sup>117</sup>

An example of appropriate moderation is in the area of diet. We all have to eat, but we don’t necessarily have to all eat as much as we are accustomed to. Much research now exists



## Cancer: Is There Hope?

pointing to the fact that caloric restriction, (eating less food), actually helps fight disease and promotes better health. Calorie restriction decreases cancer by keeping the normal cell cycle under tight regulation and by keeping in check growth factors, hormones, and stress hormones like cortisol.<sup>118</sup> Studies now show that caloric restriction both reduces DNA damage and enhances DNA repair (thus reducing cancer risk).<sup>119</sup> Okinawans have taught us a lot in this area. They eat 40% fewer calories than Americans yet they have 80% fewer breast and prostate cancers, and 50% fewer ovarian and colon cancers.<sup>120</sup> We mentioned that increasing age is associated with a decline in the immune system making cancer more prevalent as people get older. Caloric restriction, while maintaining good nutrition, restores immune function to that found in younger individuals.<sup>121</sup> Obesity also impairs the immune system's ability to find and destroy cancer cells, but again, caloric restriction has been shown to restore immune responsiveness.<sup>122</sup>

### REST

I'm sure we can all testify to the necessity of proper rest. Jesus Christ said, "Come ye yourselves apart into a desert place, and rest a while."<sup>123</sup> People who sleep well have significantly better immune function than people with insomnia.<sup>124</sup> Getting between 7 and 8 hours of sleep each night significantly reduces the risk of dying from cancer and other diseases. Sleeping 6 hours or less, or 9 hours or more, increases the risk of dying by 70%.<sup>125</sup> Another aspect of rest is regularity. You should go to bed at the same time and get up at the same time every day. It is important not to disturb the sleep wake cycle. Disrupting the sleep wake cycle disrupts your circadian rhythms. Disruption of circadian rhythms is associated with accelerated growth of malignant tumors.<sup>126, 127</sup>

Yet another aspect of cyclic rest is a weekly rest. A study in Georgia discovered that Seventh-day Adventists have higher levels of immune stimulating antioxidants. The study went on to show that vegetarian Seventh-day Adventists have even higher levels of immune stimulating antioxidants.<sup>128</sup> While it was interesting that vegetarians have higher antioxidant levels, what interested me was that

even the non-health conscious Sabbath keepers showed health improvements over the general population.

### EXERCISE

Now that we've written about rest, we're going to talk about just the opposite—exercise. As individuals age their immune system declines. Being physically fit helps attenuate this decline. The immune system responds positively to moderate exercise. Studies have shown that people who cultivate healthy lungs and hearts, (cardiopulmonary fitness), have one-half the risk of mortality from cancer as people who don't take fitness seriously.<sup>129</sup> Observe though that over fatigue increases the risk of viral infections, (of which cancer can be one).<sup>130</sup> Regular moderate exercise reduces risk of breast cancer by up to 66%<sup>131,132,133,134</sup> and also reduces the risk of cancers of the ovaries,<sup>135</sup> uterus,<sup>136</sup> prostate,<sup>137</sup> colon,<sup>138,139</sup> and lungs.<sup>140</sup> Exercise minimizes cancer by reducing serum estradiol<sup>141</sup> and insulin like growth hormone<sup>142</sup> which, we showed earlier, cause cancer. It has been said that those who can't find time to exercise will have to find time to be sick.

### PROPER DIET

We will now discuss proper diet. This is the section that people tend to fixate on, to the exclusion of all others. But let me say right here that while diet is very important, all the other components of a cancer free lifestyle are equally important, and should not be over looked. Your lifestyle should be examined as a whole.

A fresh uncooked fruit and vegetable diet has been shown to invigorate the immune system, reduce inflammation, lessen allergic diseases, heal infections and help fight cancer.<sup>143</sup> This is partly because fruit and vegetables are filled with micronutrients that help prevent and combat cancer.<sup>144,145</sup> As constant inflammation often produces cancer, you will be happy to know that naturally occurring flavonoids and phytochemicals found in fruits, vegetables, grains, seeds and nuts contain anti-inflammatory properties. Flavonoids and phytochemicals are micronutrients as important to your body as vitamins.<sup>146</sup>

Antioxidants are additional micronutrients found in fruit and vegetables. They help boost

your immune system and restore it if it has gotten out of shape.<sup>147</sup> Oxidation is the word we use to describe what happens when something, (usually a chemical such as a protein or a fat), interacts with oxygen. This oxidized chemical can now oxidize another body part. It's kind of like a game of tag. Tag, you're it! A body part that you definitely do not want to get oxidized is your DNA, because this would lead to the formation of cancer cells. Antioxidants stop the process long before it reaches the DNA. They also promote the repair of oxidized DNA.

### FRUIT

Fruit is especially high in antioxidants; vitamin C, flavonoids, limonoids, fiber, pectin and phytochemicals that neutralize cancer-causing agents entering the body.<sup>148</sup>

Vitamin C is an antioxidant found in fruit and vegetables that reduces the risk of kidney cancer,<sup>149</sup> breast cancer,<sup>150</sup> and leukemia,<sup>151</sup> a type of blood cancer. Oranges, grapefruit, and lemons, are a great source of Vitamin C. Vitamin C also helps neutralize the cancer-causing nitrosamines found in red meats.<sup>152</sup>

Citrus fruits also contain limonene that actually neutralizes cancer-causing substances that cause stomach and breast cancer.<sup>153,154</sup> Pectin, a soluble fruit fiber, found in citrus and other fruit, prevents the spread or metastases of cancer.<sup>155</sup>

If I were looking for a super fruit to help fight cancer I think it might be kiwifruit. Kiwifruit provides protection against DNA damage by enhancing antioxidant levels and actually stimulating the repair of damaged DNA.<sup>156</sup>

Pineapple prevents stomach cancer because it inhibits the formation of the nitrosamines that come from meat.<sup>157</sup> Perhaps it would be well to eat a pineapple with each well-done beefsteak in order to be safe!!

Many people eat prunes, or dried plums to help them with their bowel movements because they know these foods are high in fiber. What they may not realize is that the fiber from these plums or prunes decreases colon cancer by mopping up toxins, such as bile acids, coming out of the liver.<sup>158</sup>

We've all heard it said, "An apple a day keeps the doctor away." And while that may have been a commercial advertisement by the fruit growers of America for their product, apple

pectin has indeed been discovered to strengthen the immune system and prevent growth of cancerous tumors in the colon.<sup>159</sup>

Studies coming out of Italy, (and other countries where the "Mediterranean Diet", high in tomato products, predominates), reveal that high consumption of tomatoes protects against cancers of the mouth, esophagus, stomach, colon, rectum and prostate.<sup>160,161</sup> This protection may come from the phytochemical lycopene found in tomatoes.<sup>162</sup>

### VEGETABLES

High in vitamin A, vitamin C, phytochemicals and fiber, vegetables have the ability to oppose the action of carcinogens,<sup>163</sup> and are very important in the fight against cancer.<sup>164</sup>

Carcinogens are substances that can cause cancer. Powerful anticarcinogens are found in cauliflower.<sup>165,166</sup> These anticarcinogens inhibit the formation of malignant tumors.<sup>167</sup> High levels of vitamin A and phytochemicals give broccoli high anticarcinogenic properties as well.<sup>168</sup>

Cruciferous vegetables, (which include broccoli, cauliflower, Brussels sprouts, and cabbage), are extremely valuable for cancer prevention. They can actually keep cancer-causing toxins from binding to DNA in the cell, thereby reducing DNA damage. What's more they increase the elimination of cancer causing toxins from the liver and intestines.<sup>169</sup> Remember all those hormones and hormonally active substances that cause cancer? Phytochemicals in cruciferous vegetables increase the urinary excretion of estrogens.<sup>170</sup>

---

**Phytochemicals found in cruciferous vegetables increase the urinary excretion of hormones and hormonally active substances that promote cancer.**

---

Cabbage is a key food in the prevention of pancreatic<sup>171,172</sup> breast and ovarian cancer.<sup>173</sup> Cabbage contains phytochemicals that can reduce the carcinogenic effects of benzopyrene, a cancer-causing chemical found in tobacco smoke.<sup>174</sup> The phytochemicals in cabbage prevent, as well as have a curative effect on, tumor growth.<sup>175</sup>

## Cancer: Is There Hope?

The bulb foods, (onion and garlic family), are also known to have anti-cancer properties. They lower the risk of stomach cancer,<sup>176</sup> prevent the development of tumor cells,<sup>177</sup> and are helpful in the treatment of cancers of the stomach and colon.<sup>178</sup> Garlic is especially helpful in the prevention of cancer of the stomach,<sup>179</sup> breast,<sup>180</sup> prostate,<sup>181,182</sup> endometrium,<sup>183</sup> and bladder.<sup>184</sup> It works to combat cancer by stimulating the immune system, detoxifying carcinogens, and by a direct toxic effect on cancer cells.<sup>185</sup>

There are other vegetables which aid in the fight against cancer. Spinach prevents cancer of the throat, breast, colon, and bladder.<sup>186</sup> The vitamin A, carotenoids, and fiber in carrots give them powerful anticarcinogenic effects.<sup>187</sup> Don't be fooled though, taking vitamin A pills does not provide this same protective effect.<sup>188</sup> It's hard to reproduce nature in the laboratory. Eating pellets created in a commercial factory can in no way substitute for good whole food. Yellow orange vegetables all contain beta-carotene, vitamin A and other "carotenoids" which have been shown to reduce the risk of cancer of the lungs, prostate and pancreas.<sup>189</sup>

Squash contains beta-carotene, vitamin C, and fiber that counteract the effects of carcinogenic substances on the colon.<sup>190,191</sup>

Radishes have valuable properties that impede DNA changes that lead to cancer.<sup>192</sup>

Beets have properties that are anticarcinogenic.<sup>193</sup>

Peppers are high in antioxidant vitamins A and C which are powerful anticarcinogens.<sup>194,195</sup>

Legumes (beans) are good cancer fighters too. Regular consumption of beans is associated with a significant decrease in cancers of the pancreas,<sup>196</sup> prostate,<sup>197,198</sup> and endometrium,<sup>199</sup> (the lining of the uterus). One legume that has come to special attention is the soybean. Soy has strong antioxidant properties and is a potent immune stimulant.<sup>200</sup> It has shown benefits for viral illnesses, particularly cancer.<sup>201</sup> Soy products also possess anti-inflammatory properties that decrease the potential for cancer development.<sup>202,203</sup> Soy products have been shown to protect against cancer of the prostate, breast, colon, rectum, stomach and lung.<sup>204,205,206</sup>

Soy, as well as the common seasoning turmeric, help counteract the estrogenic effects of hormones and hormonally active

environmental toxins on breast tissue.<sup>207,208</sup> We call the substances in soy and turmeric phytoestrogens. Phytoestrogens, such as those contained in soy, have been shown to counter the carcinogenic effects of estradiol on the cells of the body, reducing not only the risk of breast cancer, but lung,<sup>209</sup> prostate,<sup>210</sup> and endometrial<sup>211,212,213</sup> cancer as well. Since soy phytoestrogens only weakly stimulate the estrogen receptor they are not cancer-causing.<sup>214</sup> And since they bind the estrogen receptor, other estrogens cannot bind to the receptor. Thus, the weak phytoestrogens replace the strong estrogens, (such as estradiol), protecting the cells from being stimulated to cancer formation.<sup>215</sup> It's like having a weak politician in public office rather than a strong one who can get things done. Whereas in politics this would not be desirable, in the body is preferable.

### FIBER

Research indicates that diets high in fat and meat, and low in fiber, markedly increase oxidative stress in the digestive system, which in turn increase the risk of colorectal cancer.<sup>216</sup> High fiber intake effectively reduces the oxidative stress caused by high-fat and high-cholesterol intake.<sup>217,218</sup> Grains, (such as wheat, rye, and oats), are a good source of this fiber.<sup>219</sup> Rye helps reduce the carcinogenic effect on the intestines of toxins processed by the liver.<sup>220</sup> Wheat and wheat bran have antioxidant and anticarcinogenic properties.<sup>221,222</sup> One way fiber prevents cancer is by acting as a sponge to mop up and remove excess hormones from the body.<sup>223,224</sup> As a result, diets high in fiber can reduce the risk of breast cancer.<sup>225</sup>

While diets high in animal, trans, and oxidized fats cause cancer, natural fats high in omega-3s are anti-inflammatory, and have anticarcinogenic properties.<sup>226</sup> In addition to promoting blood flow, omega-3 fatty acids, found in walnuts, flax and olive oil, have anti-inflammatory properties.<sup>227</sup> Olive oil has been shown to reduce the risk of breast cancer by up to 33%.<sup>228</sup>

There is abundant research that a diet of fresh fruit, grains, nuts and vegetables provides the best protection against cancer. Some may be wondering why meat is not as beneficial. The cow, for example, consumes wheat grass and

## Blue Print for Health and Healing

barley green so that he will not get heart disease, cancer, diabetes and arthritis, but she does not pass these benefits along to the consumers of her body. Meat has very little in the way of nutrition capable of cancer prevention. When you come down to it, the biggest reason people come down with cancer is because they fail to eat enough fresh fruits and vegetables.<sup>229</sup> Should it be any surprise that what we have been talking about is the original, Creator's diet,

“Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.” “And thou shalt eat the herb of the field”.<sup>230</sup>

### WATER

Water is the fluid life sails on. Water carries nutrition from the blood to the cells. It then carries waste products from the cells to the blood for excretion by liver, kidneys, lungs, and sweat glands. Daily water needs including drinking water, water in beverages, and water in food. You need between 8 and 12 eight-ounce glasses of water a day. Strenuous physical exercise and heat can greatly increase daily water needs, and there is substantial variability between individuals.<sup>231</sup>

In modern times, with the advent of convenience machines and antiperspirants, perspiration has been nearly eliminated from our societies. As a consequence, more stress is placed on the kidneys, liver and lungs to eliminate cancer-causing toxins from the body. If we know what toxins are involved in our particular cancer, we should make every effort to eliminate it. One useful way to accomplish this by sweating. Drinking water, exercising, and taking saunas to produce sweat, expel toxins from the body.<sup>232</sup>

### TRUST IN GOD

Trust in God's love and care, can have a positive effect in several ways.

Trust in God is a part of good spiritual health. Those with good spiritual health, have longer life expectancy, greater well-being and life satisfaction. They deal better with illness,

have fewer hospitalizations and shorter hospital stays. They suffer less anxiety and depression, and enjoy better immune system function that helps in the fight against cancer.<sup>233</sup>

God has said that all healing comes from Him and that listening to His voice and obeying His commands brings health. Trusting Him is part of the healing process.

“And said, If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee.”<sup>234</sup>

Trusting God brings the benefit of social ties at church. On the other hand, socially isolated people are more likely to die of cancer.<sup>235</sup>

---

**Studies reveal that giving support to friends, relatives, neighbors, and family, significantly reduces mortality, while merely receiving support does not improve mortality.**

---

Most people who enter into a full trusting relationship with God are led to a life of service to others. Studies reveal that giving support to friends, relatives, neighbors, and family, significantly reduces mortality, while merely receiving support does not improve mortality.<sup>236</sup> A study from the university of Michigan revealed that volunteers of community organizations are 2-1/2 times less likely to die than those who do not become involved in volunteer work. voluntary work, more than any other activity, dramatically increased life expectancy.<sup>237</sup> Haven't we always known that, “It is more blessed to give than to receive.”<sup>238</sup> Although merely attending religious services is beneficial, one surprising study showed that among religious people, volunteers, had 60% less mortality.<sup>239</sup>

### GRATITUDE

Studies show that gratitude--an attitude of thankfulness, significantly improves long-term

## Cancer: Is There Hope?

breast cancer survival.<sup>240</sup> Our health would be greatly improved if we made a list of ten things for which we are thankful every day of our lives.

### REJOICING

Research confirms that happy people have better physical health, increased longevity, and fewer illnesses. If they do get sick, they have less pain.<sup>241</sup> Happy people have more IgA, (an immune system antibody), in their saliva and less cortisol in their blood.<sup>242</sup>

### SUMMARY

In summary: cancer is most often the result of a failure of the immune system to destroy bad cells. Bad cells are created by viruses, toxins, oxidative stress, hormones, poor nutrition and/or radiation. Once cancer begins it is often driven on by hormones or inflammation.

The solution is to maximize our health and expel toxins through the natural remedies: pure air, sunlight, abstemiousness, rest, exercise,

proper diet, the use of water, gratitude, rejoicing, benevolence, and trust in God's love and care.

Take advantage of all the benefits:

- Eat foods as grown.
- Exercise in the open air and sunshine.
- Drink plenty of pure water.
- Rest in bed at night and in the love and providence of God.
- Avoid animal products high in protein, fat, viruses, toxins and growth hormones.
- Avoid foods and substances that damage DNA and suppress the immune system; like sugar, animal products, tobacco, alcohol, caffeine, heavy metals and pesticides.
- Choose a lifestyle and diet which expels toxins from your body, invigorates your immune system and keeps you at peak physical, mental and spiritual performance.

*“The importance of regularity in the time for eating and sleeping should not be overlooked. Since the work of building up the body takes place during the hours of rest, it is essential, especially in youth, that sleep should be regular and abundant.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1903). Education. Mountain View, CA: Pacific Press Publishing Association. p. 205.

## CHAPTER 16

### HOW CAN I APPLY HEALTHY PRINCIPLES IN MY DAILY LIFE?

Many people ask me for a protocol to help them achieve optimal overall health. Do you need a lifestyle plan to help you get healthier? In this chapter I will lay out a program schedule based on proven lifestyle principles that have been the key to thriving health for many people. This is an example of a program based on the principles given in the other chapters of this book.

#### GUIDELINES FOR LIFE

Let's start with a bit of wisdom; have you noticed the hand of God in your life today? When you look outside, you see the wonders of nature, the sky, the sea, the fields and trees, and God keeps everything in nature in order. He keeps the earth going around the sun, He keeps us alive, "in God we live and move and have our being", every breath, every beat of the heart! Can you feel your pulse? If ever you wonder whether God's power is still in your life then check your pulse. Every throb of your heart comes from God and is a continual evidence of the power of an ever-present Creator.

So, the question arises, if God is keeping me alive every minute, and everything about me is under his control, couldn't He just as easily keep me alive in perfect health as to keep me alive sick?

---

If God is keeping me alive every minute, and everything about me is under his control, couldn't He just as easily keep me alive in perfect health as to keep me alive sick?

---

And what would determine the difference between Him being free to keep me alive healthy versus sick? Well, that's a good question because we believe God would want everybody to be healthy, and therefore something must be limiting His power, or holding back His hand, keeping Him from being able to do things He

would otherwise like to do for us. What would keep God from giving me complete health?

To answer this let's look at Exodus 15:26. "If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee." So, part of God's healing plan has to do with us being in harmony with the laws that He has set up in our being; the laws that control whether we're healthy or not. Sickness may be a sign you are in violation of a law of health.

"Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthful conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to re-establish right conditions in the system."<sup>1</sup>

In the early days of our church pioneers, before our health message came, a lot of our ministers were dying in middle age. They were

---

Life's activities are scheduled giving each of them their most powerful impact on health.

---

eating pork and were doing all kinds of things we now know to be harmful to health, and their health testified to it. Wait a minute; didn't God need those ministers? Couldn't He have kept them alive? Well perhaps there's somewhat of a contract involved in the great controversy between God and Satan and when people don't follow the will of the Lord, then Satan objects, "you can't have them God, you can't protect them God, you can't take care of them, because they aren't following Your will, they're not yours". There's something to this, and God wants us to be in harmony with His laws.

## Blue Print for Health and Healing

"The Creator of man has arranged the living machinery of our bodies. Every function is wonderfully and wisely made. And God has pledged Himself to keep this human machinery in healthful action if the human agent will obey His laws and cooperate with God. Every law governing the human machinery is to be considered just as truly divine in origin, in character, and in importance as the word of God. Every careless, inattentive action, any abuse put upon the Lord's wonderful mechanism by disregarding His specified laws in the human habitation, is a violation of God's law. We may behold and admire the work of God in the natural world, but the human habitation is the most wonderful."<sup>2</sup>

"Those who perceive the evidences of God's love, who understand something of the wisdom and beneficence of His laws, and the results of obedience, will come to regard their duties and obligations from an altogether different point of view. Instead of looking upon an observance of the laws of health as a matter of sacrifice or self-denial, they will regard it, as it really is, as an inestimable blessing."<sup>3</sup>

God has sought to bless us and to give us the best evidence for what He asks us to do in the care of our bodies.

"If the sick and suffering will do only as well as they know in regard to living out the principles of health reform perseveringly, then they will in nine cases out of ten recover from their ailments."<sup>4</sup>

That tells us that in nine cases out of ten, the cause of disease is really something we did wrong. It's not that we are born blind or that the devil put sores on us, but rather, the problem is the result of our own doing. Granted, sometimes something happens where the devil puts sores on you, like in the case of Job, but for the most part, there are things we could do different that would help; doing in faith what you know to be right. Isn't that true faith? You can't, by faith, do what you know to be wrong, for that would be presumption, wouldn't it? You cannot continue breaking the laws of health and ask God to keep you well, can you?

### **PRACTICAL APPLICATION OF HEALTH PRINCIPLES**

So, let's think about how to put together a health program based on God's principles for wellness, and include in that, the elements which are most important, so that people will recover from their illnesses, by just

straightening out their daily life practices. We've seen a lot of success with people following such a program, and we'll just take it step by step.

### **SCHEDULING HEALTH**

First of all, we prescribe a very specific schedule. Life's activities are scheduled giving each of them their most powerful impact on health. It's important to be on time. Timing is crucial for success in health.

Do you know that soybeans have an internal clock? A group of scientists headed off to a patch of soybeans at 3:00am with a high intensity light. The soybeans responded to the light by turning their leaves upward toward the light, mistaking it for the sun. The scientists observed the soybeans for the next week, and each morning at 3:00 a.m., the soybeans continued to turn their leaves up, even though there was no bright light present. Soybeans run on internal clocks, and so do we.

Our internal clock is called our circadian rhythm. The better we stay on time with our body clock, the more we will excel in health. The things on your schedule having the biggest impact on your body's God given clock are mealtimes, bedtimes, and rising times. Regular exercise and sun exposure times also have a helpful effect.

Punctuality pays off in meal patterns and frequency. When mealtimes are varied, the body is not ready with insulin to meet the meals coming in at unpredictable times, and insulin resistance results, leading to elevated blood sugars and diabetes.<sup>5</sup> People who eat their meals at the same time every day: consume fewer calories; have better insulin sensitivity; have lower cholesterol levels and maintain a higher fat burning metabolism.<sup>6</sup> Schedule regularity improves cholesterol, lowers both total and LDL cholesterol, and raises HDL.<sup>7</sup> Irregularity of schedule, such as shift work, raises cholesterol.<sup>8</sup> What's more; shift workers are 174% more likely to have elevated triglycerides and 81% more likely to have abdominal obesity than workers on a routine day schedule.<sup>9</sup> Meal regularity significantly lowers the risk of adolescent obesity.<sup>10</sup>

We recommend two (preferable) or three meals a day, eaten at exactly the same time every day. A two meal a day plan lowers cancer risk. Compared to the two meal a day program, colon cancer risk rises 70% with 3 meals a day, and 90% for 4 meals a day.<sup>11,12</sup> The risk of colon cancer is increased by snacking. For each time



## How Can I Apply Healthy Principles in My Daily Life?

snacking is engaged in throughout the day, the risk of colon cancer goes up an additional 60%!<sup>13</sup>

“But I’m hungry, I don’t want to wait till mealtime.” Hunger other than at meal times can often be quenched with a glass of ice-cold water. So, throw a “cold wet blanket” on that persistent hunger feeling. “If you feel that you must eat at night, take a drink of cold water, and in the morning, you will feel much better for not having eaten.”<sup>14</sup>

“In preparing the meals, make your calculations, giving yourself all the time that you know by experience you will require in order to cook the food thoroughly, and place it upon the table at the proper time. But it is better to be ready five minutes before the scheduled time than to be five minutes late.”<sup>15</sup>

Here is an example: An individual with back pain studied our website material on spine health and was following it without achieving the results for which they had hoped. They contacted me and I discovered that they were inconsistent in their circadian rhythms. Once we got them scheduled with their mealtimes and sleep times, the results they sought were realized.

---

**If your meal is late, it is better to skip than to change its time from the scheduled time, and the brief fast can have benefits as well.**

---

Our bodies run on clocks. The anti-inflammatory/inflammatory balance, cycles on a clock called your circadian rhythm.<sup>16,17</sup> The anti-inflammatory circadian clock malfunctions when: meal times are varied or meals are taken late in the evening,<sup>18,19</sup> sleeping times are varied,<sup>20</sup> insufficient or shifted to a late bedtime and/or late rise time, a job requires shift work where daily schedules vary on some days, such as on days, off or weekends.<sup>21</sup> Regularity in sleeping hours improves overall sleep quality and has an anti-inflammatory effect. For the patient with inflammation, we recommend a strict schedule for sleeping hours with a set nightly bedtime no later than 9:00 p.m., and a set regular rise time between 7.5 and 8 hours later, on all weekdays and days of the weekend.<sup>22</sup> We recommend regular mealtimes every day of the week, not varying by more than 5 minutes, with no meal later than 5:30 p.m.<sup>2</sup> We recommend regularity in exercising, every day of the week, including days off, and weekends.<sup>23</sup>

---

**People who eat their meals at the same time every day: consume fewer calories; have better insulin sensitivity; have lower cholesterol levels and maintain a higher fat burning metabolism.**

---

One reason for an early bedtime is melatonin. Melatonin is a protective, anti-cancer hormone and strong antioxidant.<sup>24</sup> Light at night suppresses melatonin and increases cancer cell growth rates. Evidence now links exposures to light at night to elevated breast<sup>25</sup> and colorectal cancers in night workers.<sup>26</sup>

I’m sure we can all testify to the necessity of proper rest. Jesus Christ said, “Come ye yourselves apart into a desert place, and rest a while.”<sup>27</sup> People who sleep well have significantly better immune function than people with insomnia.<sup>28</sup> To illustrate the effects of missing your sleep, one researcher studied mice who were given a flu vaccine, but when sleep deprived, contracted the flu as though they had never been immunized.<sup>29</sup> Getting between 7 and 8 hours of sleep each night significantly reduces the risk of dying from cancer and other diseases. Sleeping 6 hours or less, or 9 hours or more, increases the risk of dying by 70%.<sup>30</sup>

With the practice of good lifestyle habits God is able to better use your immune system to protect you from disease.

Another aspect of rest is regularity. You should go to bed at the same time, and get up at the same time every day. It is important not to disturb the sleep wake cycle. Disrupting the sleep wake cycle disrupts your circadian rhythms. Disruption of circadian rhythms is associated with accelerated growth of malignant tumors (cancer).<sup>31</sup>

Of all the daily activities that follow a schedule, eating seems to be the most varied in people’s lives. My advice to people trying to achieve optimal health is to treat their meal schedule like an airport schedule. Planes take off on a given scheduled time and any passengers showing up late are obliged to wait for the next scheduled flight to make their destination. If your meal is late, it is better to skip than to change its time from the scheduled time, and the brief fast can have benefits as well. Just drink a glass of cool water, which will quench the appetite, and take a walk, far from the beckoning refrigerator.

## Blue Print for Health and Healing

<b>Schedule</b>	<ol style="list-style-type: none"> <li>1. Take a cool shower or cool sponge bath.</li> <li>2. Drink 32 ounces of warm water with the juice of one lemon.</li> <li>3. Take a walk outdoors for 10-15 minutes, breath deep.</li> </ol>
5:00 a.m. Rising Time.	
6:30 a.m. Herbal Tea 1-2 cups. <i>List three things for which you are thankful:</i>	Personal devotional time
7:00 Breakfast	80% Fresh Fruit (minimum): <hr/> Nuts and Seeds: <hr/> 20% cooked (at most):
Supplements:	
After Breakfast Walk for 20-30 min	Therapeutic:                      Clothing:
Stress Management	
10:00 a.m. Drink water, 32 oz with: Walk 5-15 minutes outdoors.	1 teaspoon charcoal as indicated
1:30 p.m. Lunch	80% Fresh Vegetables/ Herbs: <hr/> 20% cooked (at most):
Supplements:	
After Lunch Walk for 20-30 min	Outdoors
4:00 p.m. Water 32 oz Walk 5-15 minutes outdoors.	
6:30 p.m. Therapy, to end with going to bed.	Treatment:
To bed after treatment, or 9:00 p.m.	Charcoal Poultice etc:

What is an example of what all this might look like in a daily schedule? To start with, an ideal bedtime for maximizing melatonin would be as near evening darkness as possible. For most, a scheduled bedtime of 9:00 p.m. would be valuable to health recovery. That said, eight hours of sleep would put an awakening time of around 5:00 a.m. Breakfast around 7:00 would work for most people on this schedule. Lunch would fall about 1:30 p.m., to give 5-6 hours intervening between the end of breakfast and the beginning of lunch. The evening meal is best skipped, but if included, it would be very hard to schedule with 5 hours between meals and providing at least 3 hours before retiring for the night. For a three meal a day plan, the schedule would be breakfast at 6:00 a.m., lunch at 12:00 p.m., and supper at 5:30pm. Make the evening meal light with only fruit and grains (like toast or crackers)

because you want your digestion to be finished by bedtime at 9:00 p.m.

Regularity of schedule pays off in health benefits. Make it a point to be regular in your daily habits and see if you don't notice a difference once there has been time for the new pattern to be set and established in your life. It takes at least three weeks to establish a habit.

Soybeans always follow the clock and so do our bodies, so having a regular schedule helps the body achieve optimal health.

“Brethren and sisters must not be sick upon the encampment. If they clothe themselves properly in the chill of morning and night, and are particular to vary their clothing according to the changing weather, so as to preserve proper circulation, and strictly observe regularity in sleeping and in eating of simple food, taking nothing between meals, they need not be sick. They may be well during the meeting, their

## How Can I Apply Healthy Principles in My Daily Life?

minds may be clear, and able to appreciate the truth, and they may return to their homes refreshed in body and spirit.”<sup>32</sup>

We recommend a very tight schedule. Does it make a difference? Yes, it makes a huge difference! For example, for rheumatoid arthritis: a big problem in rheumatoid arthritis is a mismatch in the circadian rhythms for the cortisol and the melatonin surges. The only cure then is not methotrexate or some other drug, rather, it is to get the timing of the circadian rhythms all in order with exact meal times, exact bed times, consistently on every day of the week and not just on weekdays, and when they do this, it makes a huge difference.

---

**So, timing has to do with health practices being on a regular schedule. People who aren't on a regular schedule have a lot of health issues with which to contend.**

---

“If it falls to your lot to prepare the meals, make careful calculations, and give yourself all the time necessary to prepare the food, and set it on the table in good order, and on exact time. To have the meal ready five minutes earlier than the time you have set is more commendable than to have it five minutes later. But if you are under the control of slow, dilatory movements, if your habits are of a lazy order, you will make a long job out of a short one; and it is the duty of those who are slow to reform and to become more expeditious. If they will, they can overcome their fussy, lingering habits. In washing dishes they may be careful and at the same time do quick work. Exercise the will to this end, and the hands will move with dispatch.”<sup>33</sup>

I met a young lady with psoriasis; bad psoriasis. She was around 21 years old, and we set up a health program for her, and the big part of her program that we straightened out for her was her schedule. We did a few other things that we're going to cover further on, but when she followed a tight schedule, she said her psoriasis was the best it had ever been in her life, and she'd had it since she was quite young. Timing makes a huge difference!

People who eat at the same time every day, sleep better at night, they have lower cholesterols, they have less inflammation in their bodies, they are less likely to get diabetes and cancer and all kinds of health issues resolve

when they observe regularity in sleeping and eating. There are even benefits to exercising at regular scheduled times.

---

**The importance of regularity in the time for eating and sleeping should not be overlooked. Since the work of building up the body takes place during the hours of rest, it is essential, especially in youth, that sleep should be regular and abundant. {Ed 205.4}**

---

Now let's look at an ideal schedule for promoting health. You may need to modify this schedule to fit your job or other appointments, but this is an example from which you can start.

### **GETTING OUT OF BED**

Notice a rising time of 5:00 a.m.? It's good to have regular hours for rising, praying and eating, but why 5:00am? Well, it has a lot to do with when you get to bed, because you need eight hours of sleep. So, what's a good bedtime? Well, half-past nine. Why would we pick an early time like that? Most the world likes to get the 10 o'clock news, I mean, what would life be like if you didn't know what the spin doctors are trying to feed you on the 10 o'clock news every night? As Dr. Neil Nedley points out, just 17 minutes of daily news significantly increases your risk of depression.

People who get to bed at 9:00 p.m. have a much higher rise of melatonin in the early hours of the morning, and it's very predictable when it will surge. If you go to bed at 11:00 p.m., your melatonin will be all over the charts, both in how much you will get, (it'll always be too low), and when it will surge. So, the timing of when you go to bed is very important. More on that when we get to that part of the chart.

### **MORNING ROUTINE**

I have people get up in the morning and take a cool, not necessarily cold, but cool, shower, or sponge bath, with vigorous skin scrubbing and stimulation. What does that do for you, besides drive you crazy? Well, it's very beneficial:

“Most persons would receive benefit from a cool or tepid bath every day, morning or evening. Instead of increasing the liability to take cold, a bath, properly taken, fortifies against cold, because it improves the

circulation; the blood is brought to the surface, and a more easy and regular flow is obtained. The mind and the body are alike invigorated. The muscles become more flexible, the intellect is made brighter. The bath is a soother of the nerves. Bathing helps the bowels, the stomach, and the liver, giving health and energy to each, and it promotes digestion.”<sup>34</sup>

A lot of people suffer from poor circulation, did you know that perfect health depends on perfect circulation? Most people realize that if circulation stops, so does health. But not everyone realizes that compromised circulation results in compromised health.

“Persons in health should on no account neglect bathing. ...The bath is a soother of the nerves. It promotes general perspiration, quickens the circulation, overcomes obstructions in the system, and acts beneficially on the kidneys and urinary organs. Bathing helps the bowels, stomach, and liver, giving energy and new life to each.

---

**What's more, if you only drink as much water as you are thirsty for, you will still be 30 percent behind. You really need to drink 30 percent more water than what your thirst signals tell you to drink.**

---

It also promotes digestion, and instead of the system's being weakened it is strengthened. Instead of increasing the liability to cold, a bath, properly taken, fortifies against cold because the circulation is improved and the uterine organs, which are more or less congested, are relieved; for the blood is brought to the surface, and a more easy and regular flow of the blood through all the blood vessels is obtained.”<sup>35</sup>

Studies of people who bath in cold water before going outside in winter, showed that their blood white cell numbers increase and that they are more active; ready to take care of any insults that could happen in cold weather, because it improves circulation. And so, start off your day with a good cool sponge bath.

### **PRO-ACTIVE HYDRATION**

After that, it is time to drink water, perhaps with some lemon in it, in the morning. The closer the water is to body temperature the more easily the body will assimilate it.

“In the morning I take lemon and water. I drink nothing between meals unless it be occasionally some lemon and water.”<sup>36</sup>

“Thousands have died for want of pure water and pure air who might have lived.”<sup>37</sup>

Americans drink too little water, and are dehydrated. Why are they dehydrated? Well, part of it has to do with competing drinks: anything with sugar or caffeine in it tends to dehydrate our bodies, rather than to hydrate them. Also, if you eat or drink sugar, your thirst for water is cut in half. You will drink half as much water spontaneously, as a result of thirst, if you have refined sugar in your diet.<sup>38</sup>

“Thousands have died for want of pure water and pure air who might have lived. And thousands of invalids, who are a burden to themselves and others, think that their lives depend upon taking medicines from the doctors. They are continually guarding themselves against the air and avoiding the use of water. These blessings they need in order to become well. If they would become enlightened and let medicine alone, and accustom themselves to outdoor exercise and to air in their houses, summer and winter, and use soft water for drinking and bathing purposes, they would be comparatively well and happy instead of dragging out a miserable existence.”<sup>39</sup>

We recommend healthy hydration. If you look on our schedule chart, we recommend three quarts (litres) of water a day, depending on your size.

### **MOVEMENT IN THE MORNING**

We then recommend you take a walk in the early morning. You may ask, do I have to walk before the sun comes up?

“Morning exercise, in walking in the free, invigorating air of heaven, or cultivating flowers, small fruits, and vegetables, is necessary to a healthful circulation of the blood. It is the surest safeguard against colds, coughs, congestions of brain and lungs, inflammation of the liver, the kidneys, and the lungs, and a hundred other diseases.”<sup>40</sup>

A morning walk, outside, helps you to breath in more negative ions which boost your immune system. In the morning there is more negative ions in the air, especially when there is dew on the ground. There's also more oxygen in the air because the trees made oxygen out of carbon dioxide overnight. And, there are fewer pollutants in the morning air; people haven't had a chance to drive their cars around and suck

## How Can I Apply Healthy Principles in My Daily Life?

in some of that air and blow it out as exhaust. There are a lot of benefits to an early morning walk!

### HERBAL REMEDIES

The next thing we recommend is that people drink their medicinal herbal teas (tea time), one-half hour before meals.

“The herbs that grow for the benefit of man, and the little handful of herbs kept and steeped for sudden ailments, have served tenfold, yes, one hundred-fold better purpose, than all the drugs hidden under mysterious names and dealt out to the sick.”<sup>41</sup>

Herbs are beneficial; different herbs for different ailments. Herbs can be very helpful for our need of healing.

---

Nothing tends more to promote health of body and of soul than does a spirit of gratitude and praise.

---

### MAKING CONTACT WITH THE GREAT PHYSICIAN

After that, we recommend a devotional time. We must remember that if God is going to heal people, sometimes they won't be healed until they get right with God, and sometimes their disease is a result of not being right with God. If someone is unsure whether their relationship with God is good or not, we highly recommend reading a small but powerful and profound book called “Steps to Christ”, by Ellen G. White.

“Religion tends directly to promote health, to lengthen life, and to heighten our enjoyment of all its blessings. It opens to the soul a never-failing fountain of happiness.”<sup>42</sup>

### Gratitude Therapy

And so, we have scheduled devotional time for you to spend time alone, and part of that includes being thankful for three things--“gratitude therapy.” Gratitude journaling (writing) is very helpful for sick people.

“Nothing tends more to promote health of body and of soul than does a spirit of gratitude and praise. It is a positive duty to resist melancholy, discontented thoughts and feelings--as much a duty as it is to pray. If we are heaven-bound, how can we go as a band of

mourners, groaning and complaining all along the way to our Father's house?”<sup>43</sup>

This reminds me of a motivational speaker who compared getting up and going to work to getting up and going to an amusement park, like Disneyland. I remember when I was a kid growing up in Southern California near Disneyland; the kids would talk all about going to Disneyland. They were excited; they would get up early and rush off to this well-known amusement park. Well, this motivational speaker said that every day should be like going to Disneyland. We're on our way to Heaven, which is far, far better than Disneyland, and so, can we go mourning, groaning and complaining all along the way to our Father's house? And what does that say about your Father if we mourn? We have to trust Him for healing.

“The burden of sin, with its unrest and unsatisfied desires, is the foundation of their maladies. They can find no relief until they come to the Healer of the soul. The peace which He alone can give, would impart vigor to the mind, and health to the body.”<sup>44</sup>

For some people, you will not be able to heal from diabetes until you get this part right; you might not be able to heal anything until the mind and heart are at peace with God.

### BREAKING THE FAST, RIGHT ON TIME

The next thing on an ideal daily schedule is breakfast time. For optimal health and healing the best plan is to aim for around 80 percent of the food eaten as fresh fruit.

“It is the custom and order of society to take a slight breakfast. But this is not the best way to treat the stomach. At breakfast time the stomach is in a better condition to take care of more food than at the second or third meal of the day. The habit of eating a sparing breakfast and a large dinner is wrong. Make your breakfast correspond more nearly to the heartiest meal of the day.”<sup>45</sup>

A lot of people are not hungry at breakfast time and for most people, this is because they ate their breakfast the night before. Yes, they're all filled up.

So, to be healthy you need to have a big breakfast. “Of what”, you may ask? “It would be well for us to do less cooking and eat more fruit in its natural state. Let us eat freely of fresh grapes, apples, peaches, oranges, blackberries, and all other kinds of fruit which can be obtained.”<sup>46</sup>

There are benefits to these foods; grapes help the lungs to fight viral illnesses and they help the stomach, like it says in the Bible, drink a little wine (fresh grape juice) for stomachs sake. Apples help the lungs; people that eat an apple a day breathe an extra 138 millilitres of air with every breath.<sup>47</sup>

---

A lot of people are not hungry at breakfast time and for most people, this is because they ate their breakfast the night before.

---

“We are coming to the time when recipes for cooking will not be needed, for God's people will learn that the food God gave Adam in his sinless state is the best for keeping the body in a sinless state.”<sup>48</sup>

So, for optimal health, we aim for 80 percent fresh fruit and also some nuts and seeds. The more fresh fruit percentage of the total meal you eat, the better health outcome you will achieve.

“The food provided for the patients is wholesome and palatable. The diet is composed of fruits and grains and nuts. Here in California there is an abundance of fruit of all kinds.”<sup>49</sup>

We recommend including some nuts and seeds in the diet because there's benefits in certain nuts and seeds for boosting immune system. Brazil nuts have selenium, which is helpful for the immune system. Pecans are particularly good because they're the highest in antioxidants, about twice as high as walnuts. Walnuts are high in omega-3 fatty acids. Sunflower seeds are high in many minerals and pumpkin seeds are high in zinc, which is essential for the immune system, amongst other things.

And then the balance of the breakfast can be around 20% of warm cooked food. Why do 20%

---

Where in the Bible does it recommend oral medication?  
Where does it say, “Put this in your mouth and you'll get better?”

---

cooked you may be wondering? There are people out there who pride themselves on doing 100% raw, and they go to academic extents to figure out how to get everything raw,

including things that are not palatable, and are not good for you to eat raw. So, why 20%? Because you do not want to eat everything cold.

“I would advise all to take something warm into the stomach every morning at least. You can do this without much labor. You can make graham gruel. ... I do not approve of eating much cold food, for the reason that the vitality must be drawn from the system to warm the food until it becomes of the same temperature as the stomach before the work of digestion can be carried on. Another very simple yet wholesome dish is beans boiled or baked.”<sup>50</sup>

Beans make a good breakfast dish, especially for diabetics.

### SHALL I SUPPLEMENT

What about supplements: all the pills people take? They used to be called patent nostrums.

“A practice that is laying the foundation of a vast amount of disease and of even more serious evils, is the free use of poisonous drugs. When attacked by disease, many will not take the trouble to search out the cause of their illness. Their chief anxiety is to rid themselves of pain and inconvenience. So they resort to patent nostrums, of whose real properties they know little, or they apply to a physician for some remedy to counteract the result of their misdoing, but with no thought of making a change in their unhealthful habits. If immediate benefit is not realized, another medicine is tried, and then another. Thus the evil continues.”<sup>51</sup>

Where in the Bible does it recommend oral medication? Where does it say, “Put this in your mouth and you'll get better?” “Open wide, stick this on your tongue and swallow it, and it'll give you better health?” In the Bible it was commanded to go dip in the Jordan River, or put a poultice of figs on a boil, or laying hands on the sick. And there were several times where the balm of Gilead and other poultices were used, but oral medication was not used. We have the advice by Paul; drink a little wine for your stomach's sake (i.e., grape juice), but that is really a dietary practice not a medication.

Sometimes it is good to do lab analysis, and if you have low B12, that would be an example of when you might have to take vitamin B12. Or if you're low on vitamin D, then you might want to take vitamin D, or if there's something that you're particularly dealing with for which some certain herb is helpful, we would have you take that herb.

## How Can I Apply Healthy Principles in My Daily Life?

### HERBS OR SUPPLEMENTS

Now there is a difference between herbs and supplements. Herbs are preparations where you can see that the product is a leaf, or flower, or bark, or whatever. Supplements are pills, or a powder that's gone through a factory and been concocted by some laboratory. It is sort of like in the sanctuary, there wasn't a tool of iron to be used upon the stones of the altar in the temple. People try to improve on God and think to themselves that vitamin A is good, so let's just extract it from carrots, and they come up with beta carotene. But the fact is that the carrot has 273 different active forms of vitamin A, so what happened to the other 272? You have missed a few! And so, we want to eat the best natural foods in their entirety—foods as grown! Whole foods. So, we have backed off of recommending supplements.

---

**“As the bird by wandering, as the swallow by flying, so the curse causeless shall not come.” Proverbs 26:2.**

---

What we are really supposed to do is to figure out why the illness that we suffer from happened to us. In Proverbs it says that a curse causeless does not come. So, there's always, well, most often always, a reason that can be figured out.

### THE AFTER MEALS DIGESTIVE WALK

Next on the schedule is a walk. We have a therapeutic walk right after every meal.

“But a short walk after a meal, with the head erect and the shoulders back, exercising moderately, is a great benefit. The mind is diverted from self to the beauties of nature. The less the attention is called to the stomach, the better. If you are in constant fear that your food will hurt you, it most assuredly will. Forget your troubles; think of something cheerful.”<sup>52</sup>

If you sit and think about your stomach, and whether it hurts or not, it will probably start hurting. This reminds me of when I was on foot service (we called it foot service) when I was in residency. There was one doctor that did nothing but see and treat patients with problems in their feet. So, we residents would follow him around, help out, and see the patients. I was on that rotation with all these patients coming in and my feet began to hurt. I

was on that service for a three-month rotation and about six weeks into the service I'm thinking to myself, “yeah my feet hurt too”. That was a little embarrassing. Well, about a year later I was sitting down with all the residents in my year and we were talking and one of them mentioned to me, “yeah when I was on the foot service, all those patients coming in with their feet hurting, my feet started hurting”, and we all started laughing and said “yeah, right, my feet too.” It all goes to show what happens to you when you think too much about something.

### WORRY IS BLIND AND CANNOT DISCERN THE FUTURE

Next on the schedule is stress management. “Sickness of the mind prevails everywhere. Nine tenths of the diseases from which men suffer have their foundation here. Perhaps some living home trouble is, like a canker, eating to the very soul and weakening the life forces. Remorse for sin sometimes undermines the constitution and unbalances the mind. There are erroneous doctrines also, as that of an eternally burning hell and the endless torment of the wicked, that, by giving exaggerated and distorted views of the character of God, have produced the same result upon sensitive minds. Infidels have made the most of these unfortunate cases, attributing insanity to religion; but this is a gross libel and one which they will not be pleased to meet by and by. The religion of Christ, so far from being the cause of insanity, is one of its most effectual remedies; for it is a potent soother of the nerves.”<sup>53</sup>

You may be thinking “my issues are not mental, I have a real illness” or, “my issues are not mind related.” Sometimes people get very offended if you infer that it is their mind that is making them sick. But, if you were playing the lottery or putting money on the stock market, would you put your money where you would have only one out of ten chances of being a winner, or would you put it where nine times out of ten you would have a chance of being a winner? It makes absolutely no sense at all to start focusing on the physical first without reference to the mental.

One thing I noticed was that a lot of my patients, especially the cancer patients, were stressed out, and they were not that way only after they got their diagnosis but rather before they got their diagnosis as well, and some of them were pretty “OCD”. So, giving them insight into why that is, and what's going on in the

## Blue Print for Health and Healing

mind, and how to approach psychological stress from a Bible point of view is very valuable.

### **ROUTINE HYDRATION AND EXERCISE**

Mid-morning, we recommend drinking water; usually another quart, often with one teaspoon of charcoal in it, and then taking a short walk.

“In health and in sickness, pure water is one of Heaven's choicest blessings. Its proper use promotes health. It is the beverage which God provided to quench the thirst of animals and man. Drunk freely, it helps to supply the necessities of the system, and assists nature to resist disease.”<sup>54</sup>

“When the weather will permit, all who can possibly do so ought to walk in the open air every day, summer and winter. But the clothing should be suitable for the exercise, and the feet should be well protected. A walk, even in winter, would be more beneficial to the health than all the medicine the doctors may prescribe. For those who can walk, walking is preferable to riding. The muscles and veins are enabled better to perform their work. There will be increased vitality, which is so necessary to health. The lungs will have needful action, for it is impossible to go out in the bracing air of a winter's morning without inflating the lungs.”<sup>55</sup>

---

**We generally have to encourage people to eat some vegetables because not everybody it seems, like vegetables.**

---

Now that's a strong statement, isn't it? Have you ever seen a PDR (Physicians Desk Reference of all the drug medications)? It has about 5,000 drugs in it, and all the descriptions describing what they are for. Well, you can either take one of those 5,000 drug medications or you can choose to take a walk. We usually pick a time a couple hours after breakfast as a good time for drinking water and at least 30 minutes before any given mealtime.

### **LUNCH TIME!**

Then we come to lunch on the schedule.

“Regularity in eating is of vital importance. There should be a specified time for each meal. At this time let everyone eat what the system requires and then take nothing more until the next meal. There are many who eat when the

system needs no food, at irregular intervals, and between meals, because they have not sufficient strength of will to resist inclination.”<sup>56</sup>

At lunch we recommend that you aim to eat 80% fresh or lightly steamed vegetables and herbs together with 20% other cooked food. Again, the fresher or lightly steamed or lightly cooked vegetables you make the meal out of, the better health outcome you will have.

“In a medical institution there are varied appetites to satisfy. Some require well-prepared vegetables to meet their peculiar needs. Others have not been able to use vegetables without suffering the consequences. The poor, sick dyspeptics need to be given many words of encouragement. Let the religious influence of a Christian home pervade the sanitarium. This will be conducive to the health of the patients. All these things have to be managed carefully and prayerfully. The Lord sees the difficulties to be adjusted, and He will be your helper.”<sup>57</sup>

---

**It is important to end hydrotherapy treatments or baths with a cold application like a rubbing mitten friction.**

---

We generally have to encourage people to eat some vegetables because not everybody it seems, like vegetables. Fruit goes down okay, but when you give them raw broccoli salad, they're less likely used to eating that and they are less enthusiastic.

“More can be accomplished for sick people by regulating their diet than by all the baths that can be given them.”<sup>58</sup>

So, diet is the main emphasis of a good health program. Baths are good too, but the food really is the bulk of getting better, because you haven't been eating right things. You are made up of what you eat. If you want to change what you are, you need to change what you eat. Changing diet makes a powerful difference.

And then we recommend 20% warm cooked food for lunch.

---

**“More can be accomplished for sick people by regulating their diet than by all the baths that can be given them.”**

---

“Many are debilitated from disease and need nourishing, well-cooked food. Health reformers, above all others, should be careful to avoid



## How Can I Apply Healthy Principles in My Daily Life?

extremes. The body must have sufficient nourishment.”<sup>59</sup>

So, again, 20% cooked food for lunch, and we don't put the food on your plate, we just tell you the principles. Examples of the cooked portion of the meal is like rice, beans, lentils, whole grain pasta, baked or cooked potatoes, bread, etc.

### POST PRANDIAL AMBULATION

After lunch, we recommend you go out for a walk, just like you would after breakfast. The walk does not have to be long.

“Exercise will aid the work of digestion. To walk out after a meal, hold the head erect, put back the shoulders, and exercise moderately, will be a great benefit. The mind will be diverted from self to the beauties of nature. The less the attention is called to the stomach after a meal, the better. If you are in constant fear that your food will hurt you, it most assuredly will. Forget self, and think of something cheerful.”<sup>60</sup>

### WATERING THE CELLS

All right, we talked about the walk, and next on the schedule is to drink more water mid-afternoon. Water can also be used for hydrotherapy specific to the disease manifestation.

“I should bathe frequently, and drink freely of pure, soft water. If this course should be followed perseveringly, resisting the inclination to do otherwise, it would work wonders in the recovery of health.”<sup>61</sup>

How much water can you safely drink? Well, most people can drink a gallon per day without any trouble. What happens if I drink more? Well, the difficulty comes if you wash out your electrolytes. What if I'm in danger washing out my electrolytes? Quit drinking so much water, or add a little bit of electrolyte. For the most part, most people aren't drinking too much water. There are a few people that we call crazy, known in medical terms as psychogenic polydipsia, who drink too much water, and their electrolytes go down, and then they pass out and end up in the hospital. But those cases are rare, and it's not something that most people need to worry about. On the schedule that is the third prescribed water of the day. People can drink more water if they desire.

### BENEFITS OF ADDED CHARCOAL

We also make use of charcoal if you are trying to recover from a disease.

“I send you at this time pulverized charcoal. Let him drink the water after it has stood a while to extract the virtue. This should be cold when used. When used for fomentations over the bowels, the coal should be put into a bag, sewed up, and dipped in hot water. It will serve several times. Have two bags; use one and then the other.”<sup>62</sup>

We have people put the charcoal in their water one time a day, usually a teaspoon, and it helps to pull out inflammation from their digestive tract. No other place in your body can you get charcoal so close to the bloodstream, because in the digestive tract the blood vessels are right at the surface underneath the endothelium of the intestines.

The charcoal can be taken with the meal or after the meal, the only issue is what liquid you're taking with it. Charcoal does not tend to pull out nutrients it only tends to pull out toxins, how it knows the difference, I don't know, but to give you an example: in dialysis patients have their blood ran across charcoal three times a week, all year long, but you don't hear of dialysis patients coming up with some glaring nutritional deficiencies.

### HYDROTHERAPY FOR THE SICK

We prefer applying hydrotherapy before bedtime.

“Frequent bathing is very beneficial, especially at night, just before retiring, or upon rising in the morning. It will take but a few moments to give the children a bath, and to rub them until their bodies are in a glow. This brings the blood to the surface, relieving the brain; and there will be less inclination to indulge in impure practices. Teach the little ones that God is not pleased to see them with unclean bodies and untidy, torn garments. Tell them that he wants them to be pure without and within, that he may dwell with them.”<sup>63</sup>

A lot people who have fever treatments (hydrotherapy) are very wiped out after their treatment. So, we have found that doing the hot baths (fever treatments) right before going to bed at night, so they could get their sleep after such a heavy treatment, works very well.

It is important to end hydrotherapy treatments or baths with a cold application like a rubbing mitten friction. This is something

therapists call the cold clamp. It is a way of ending the treatment. It closes the pores and puts the body in a mode to benefit from the stimulation.

### OVERNIGHT CHARCOAL POULTICE

Also, if a person needs one, it is a good time to place a charcoal poultice on, right before going to bed, so it can work overnight.

"On one occasion a physician came to me in great distress. He had been called to attend a young woman who was dangerously ill. She had contracted fever while on the campground and was taken to our school-building, near Melbourne, Australia. But she became so much worse that it was feared she could not live. The physician, Dr. Merritt Kellogg, came to me and said, 'Sister White, have you any light for me on this case? If relief cannot be given our sister, she can live but a few hours.' I replied, 'Send to a blacksmith's shop and get some pulverized charcoal; make a poultice of it, and lay it over her stomach and sides.' The doctor hastened away to follow out my instructions. Soon he returned, saying, 'Relief came in less than half an hour after the application of the poultices. She is now having the first natural sleep she has had for days.'"<sup>64</sup>

### MAKING IT TO BED

Bedtime should be no later than 9:00pm.

"Make it habit not to sit up after nine o'clock. Every light should be extinguished. This turning night into day is a wretched, health-destroying habit, and this reading much by brain workers, up to the sleeping hours, is very injurious to health. It calls the blood to the brain and then there is restlessness and wakefulness, and the precious sleep, which should rest the body, does not come when desired."<sup>65</sup>

It is best not to have any lights on at night while you sleep. If you have lights on at night, it reduces your melatonin, even a nightlight or a bright alarm clock can be detrimental.

"Two hours' good sleep before twelve o'clock is worth more than four hours after twelve o'clock."<sup>66</sup>

Thus, getting to bed no later than 9:00 p.m. is very, very helpful.

That's what our lifestyle choices schedule, the blueprint for optimal health looks like and why it's put together like that. When we put people from regular average society on this kind of program, they get over lots of different diseases following God's plan for health. We haven't touched on all the health principles that we could have touched on, but these are the ones that pertain to a good health promoting schedule.

## Section Two:

### Frequently Requested Health Topics

*“Wherever the last message of warning is given combined with medical missionary work and lessons on the right principles of living, wonderful results are seen. Our sanitariums are to be the means of enlightening those who come to them for treatment. The patients are to be shown how they can live upon a diet of grains, fruits, nuts, and other products of the soil. I have been instructed that lectures should be regularly given in our sanitariums on health topics. People are to be taught to discard those articles of food that weaken the health and strength of the beings for whom Christ gave His life. The injurious effects of tea and coffee are to be shown. The patients are to be taught how they can dispense with those articles of diet that injure the digestive organs. These things are to be treated from a health standpoint.”<sup>i</sup>*

- E.G. White

---

<sup>i</sup> White, E. G. (1990). Manuscript Releases, vol. 7 [Nos. 419-525]. Silver Spring, MD: Ellen G. White Estate. p. 380.

*“Tea and coffee are stimulating. Their effects are similar to those of tobacco; but they affect in a less degree. Those who use these slow poisons, like the tobacco-user, think they cannot live without them, because they feel so very badly when they do not have these idols. Why they suffer when they discontinue the use of these stimulants, is because they have been breaking down nature in her work of preserving the entire system in harmony and in health. They will be troubled with dizziness, headache, numbness, nervousness, and irritability. They feel as though they should go all to pieces, and some have not courage to persevere in abstaining from them till abused nature recovers, but again resort to the use of the same hurtful things. They do not give nature time to recover the injury they have done her, but for present relief return to these hurtful indulgences. Nature is continually growing weaker, and less capable of recovering. But if they will be determined in their efforts to persevere and overcome, abused nature will soon again rally, and perform her work wisely and well without these stimulants. The whole system under the influence of these stimulants often becomes intoxicated. And to just that degree that the nervous system is excited by false stimulants, will be the prostration which will follow after the influence of the exciting cause has abated. This prostration may in time be overcome by abstaining from the use of those things which created such a condition in the system. Those who indulge a perverted appetite, do it to the injury of health and intellect. They cannot appreciate the value of spiritual things. Their sensibilities are blunted, and sin does not appear very sinful, and truth is not regarded of greater value than earthly treasure.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1914, April 2). “Early Counsels on Medical Work—No. 1.” *The Review and Herald*. {RH April 2, 1914, par. 14}.

## CHAPTER 17

### COFFEE ANYONE?

Having trouble “breaking the ice”? Interesting fact: people in social situations holding a hot cup of coffee perceive their social interactions as warmer.<sup>1</sup> Just meet up with your friends at the local coffee shop, or invite friends over and serve the best freshly brewed coffee and watch the ice melt away.

#### POPULARITY

Seriously, coffee is the most popular beverage in the world, with more than 400 billion cups being consumed each year.<sup>2</sup> Why do so many people like coffee? Is it just the energy they get--the boost that keeps them fueled for the rest of the day? Yes, but there’s more. It is “conversational”; people feel there is nothing more inviting and comforting than conversations over coffee. They love coffee because it can be shared and it's usually a catalyst for great discussions! For some it helps them relax and de-stress. Then there is the aroma, and people like the aroma so well, that coffee even gets added to other things just for the olfactory appeal. Although it may be an acquired taste, many love the flavor of coffee. And there are just so many different brewing methods and flavors, the exploration can be boundless. Everyone seems to have their own favorite latte, brew or brand.<sup>3</sup>

Americans consume 400 million cups of coffee per day making the United States the leading coffee consumer of the world. Among coffee drinkers, the average consumption in the United States is 3 cups a day.<sup>4</sup>

#### ECONOMICS

To illustrate the economic impact of coffee, it is the second most globally traded commodity

behind crude oil.<sup>5</sup> The advertising budget alone of coffee is more than the entire yearly research budget of the National Institute of Health.

With such wide popularity, and economic power, is it any wonder that the news is replete with health and psychological accolades for this simple bean beverage. And just like wine, chocolate, tobacco<sup>6</sup> and organic unfiltered apple cider vinegar, journalism has magically transformed these dubious health tonics into wonderful perpetuators of eternal youth. Don’t we all have itching ears for tales expounding the virtues of our pet vices?

---

Interesting fact: people in social situations holding a hot cup of coffee perceive their social interactions as warmer.

---

#### DEPENDENCE

But let’s face it; *one day* without coffee and proof of your dependence and addiction will emerge in symptoms of headache, fatigue, decreased energy/activeness, decreased alertness, drowsiness, decreased contentedness, depressed mood, difficulty concentrating, irritability, and feeling foggy/not clearheaded.<sup>7</sup> So, if it feels so good, then why does it bite so hard and hang on so tenaciously?

The secret lies in what it shares with cocaine, nicotine, amphetamines and heroin<sup>8,9</sup>, the ability to stimulate you physically and psychologically. Stimulants are habit forming, addictive and foster enslaving dependence. You’ll find yourself doing anything to have just one more sip, even if you have to take it out of the sight of prying eyes.

## Blue Print for Health and Healing

“Tea and coffee produce an immediate effect. Under the influence of these poisons the nervous system is excited; and in some cases, for the time being, the intellect seems to be invigorated, the imagination more vivid. Because these stimulants produce such agreeable results, many conclude that they really need them; but there is always a reaction. The nervous system has borrowed power from its future resources for present use, and all this temporary invigoration is followed by a corresponding depression. The suddenness of the relief obtained from tea and coffee is an evidence that what seems to be strength is only nervous excitement, and consequently must be an injury to the system.”<sup>10</sup>

You might ask, “Doesn’t everyone need a little pep now and then to get the brain going and the ambition in gear?” Well, if it is the brain you’re trying to rouse, I have news for you; early functional gains soon disappear,<sup>11</sup> and over time, especially as you get older, performance suffers with losses in executive function and slowing of mental processing speed.<sup>12</sup> In the end coffee really does not improve net alertness, it merely returns addicts to the original baseline from which they first started, if and only if they keep using, and using, and using....<sup>13</sup>

### MENTAL PERFORMANCE

To assess mental performance in an animal model, NASA researchers treated spiders, which normally spin very symmetrical webs, with various chemicals and drugs. Test chemicals included: marijuana (street drug), Benzedrine (an amphetamine), caffeine (of coffee fame), and chloral hydrate (sleeping medication). Web symmetry and completeness deteriorated dramatically with each substance. What may surprise you, as it did me, was that spiders spun worse webs on caffeine than they did on marijuana and amphetamines. Only chloral hydrate came close to equaling caffeine’s impact on web degeneration.<sup>14</sup> Subsequent studies have shown that it takes spiders four (4) whole days to return to normal web building after caffeine dosing. What does that say for coffee users and mental performance for the four days following use?

Did you know that the caffeine in just one cup of coffee will shut down the blood flow to your

brain by 30%?<sup>15, 16, 17</sup> Especially to the frontal lobes?<sup>18</sup> The frontal lobes of your brain are where people do their higher thinking; where they discriminate right from wrong; where their conscience resides; and without them they lose their moral compass. Our frontal lobes are what distinguish us from a monkey: it’s a distinction we want to maintain. Just one cup of coffee can make a person more likely to share information with others (gossip) that they would otherwise have been careful to keep confidential.<sup>19</sup> The moral of that story is: don’t let coffee make a monkey out of you.

“The brain nerves which communicate with the entire system are the only medium through which Heaven can communicate to man, and affect his inmost life. Whatever disturbs the circulation of the electric currents in the nervous system, lessens the strength of the vital powers, and the result is a deadening of the sensibilities of the mind.”<sup>20</sup>

This dampening effect on higher mental function has huge impacts on teenagers, where caffeine significantly increases violent behaviors and conduct disorders for both girls and boys.<sup>21</sup> What does this say for the modern rise in Attention Deficit Hyperactivity Disorder and school dropout rates?

---

Did you know that the caffeine in just one cup of coffee will shut down the blood flow to your brain by 30%?

---

### SLEEP AND FATIGUE

Short on sleep? Tired all the time? Caffeine consumption results in decreased sleep quantity and quality.<sup>22, 23</sup> Coffee also decreases the secretion of melatonin, the principal hormone that regulates sleep.<sup>24</sup> Melatonin is also an important hormone for a strong immune system, for the fight against cancer and autoimmune diseases.

### ADDICTIONS

For those aware of their addictive weaknesses, tea and coffee foster the appetite for stronger stimulants. Caffeine, as found in coffee, is referred to as a “gateway drug”,

## Coffee Anyone?

meaning that the breakdown of the barriers to addictive behaviors in caffeine dependence opens the way for the breakdown of barriers to addictive behaviors leading to alcohol and tobacco dependence or worse.<sup>25</sup> The reverse is also true, if you are trying to rid yourself of some other enslaving habit such as smoking, also stopping caffeine use is important in your quest for recovery.<sup>26, 27, 28</sup>

### VITAMINS AND MINERALS

Doesn't coffee possess dietary benefits? Is there some nutrient you need that only coffee is really good at fulfilling? Not for vitamins and minerals. Consumers of caffeinated beverages have long been associated with deficiencies of calcium,<sup>29</sup> B vitamins,<sup>30</sup> and Iron<sup>31, 32, 33</sup>. Maybe this is also why they are not good blood builders. People consuming them have been known to become anemic.<sup>34</sup>

### CALCIUM, BONE LOSS AND HORMONES

An apple a day may keep the doctor away, but a cup of coffee a day certainly won't. One caffeinated drink increases the urinary excretion of calcium for at least 3 hours.<sup>35</sup> In one study, calcium loss doubled in almost everyone who used caffeine.<sup>36</sup> Therefore, it should not surprise you that caffeine is associated with increased calcium loss from the bones, an important risk factor for osteoporosis.<sup>37</sup> Perhaps you are thinking, "I'll just drink decaffeinated coffee instead". Studies show no benefit for the decaffeinated option, osteoporosis still occurs.<sup>38</sup> For men, caffeine decreases bone-preserving testosterone.<sup>39</sup> So, if you're not feeling like a man anymore, or you just don't seem to be able to get her pregnant, tip the cup.<sup>40, 41</sup>

### PREGNANCY AND FERTILITY

Caffeine and reproductive health don't mix. Caffeine consumption during pregnancy can result in a lower birth weight,<sup>42</sup> childhood bone complications, slower fetal growth,<sup>43</sup> miscarriages<sup>44, 45</sup> stillbirth and infant death.<sup>46, 47</sup> What's more, moms consuming caffeine during pregnancy could come up short on future

grandchildren, coffee impacts their children's fertility too.<sup>48</sup>

### REFRESHING?

Some people believe that when they are thirsty any drink will suffice, but scientific studies show that caffeine is a diuretic and actually has the opposite effect of producing dehydration.<sup>49</sup>

In the processing of coffee, from the bean to the brew, the beans are fermented.<sup>50</sup> This makes coffee another one of those foods which has been touched by spoilage and carries with it the elements of rot (aflatoxins and mycotoxins) that provokes inflammation and disease.<sup>51, 52</sup> This is one of the reasons why coffee increases the risk of autoimmune inflammatory diseases such as rheumatoid arthritis<sup>53, 54</sup> and psoriasis.<sup>55</sup> It would be much better to obtain fresh products (fruits, vegetables, nuts, seeds, beans and grains) because they are usually anti-inflammatory and more nutrient dense.

---

Caffeine, as found in coffee, is referred to as a "gateway drug", meaning caffeine dependence opens the way for addictive behaviors leading to alcohol and tobacco dependence or worse.

---

### BLOOD PRESSURE

The impact of caffeine consumption on blood pressure is dose dependant; the more caffeine you consume, the higher your blood pressure goes.<sup>56, 57</sup> What actually happens is that caffeine acutely raises blood pressure by raising circulating concentrations of the stress mediators epinephrine and norepinephrine. In addition, caffeine increases arterial stiffness and inhibits the relaxation of blood vessels both of which increase the risk of high bloods pressure.<sup>58</sup>

### STROKE

The effect of coffee on the body is rapid and sudden and the consequence of its use can be very abrupt. For example, during the first hour after consuming coffee, while your blood pressure is up, your risk of stroke doubles.<sup>59</sup>

### DIABETES

Diabetes is at an all-time high with many people suffering from it and its complications. For the diabetic trying to maintain moderate blood sugars on lifestyle changes, they need to know that caffeine increases diabetic blood sugars by 28%<sup>60,61</sup> and decreases the effectiveness of exercise in lowering blood sugar.<sup>62</sup> So if you are a diabetic or have a high risk of being one, cutting coffee is just one more step on the road to health.

### CANCER

Of all the diseases experienced by man, none seems to create more fear and trepidation than does cancer. Cancer is often the result of unwanted changes in the DNA code of your cells. I am happy to say that your Creator foresaw this and included in your cells machinery which proof reads and corrects DNA errors. Sad to say, caffeine counteracts this provision by preventing the repair of damaged DNA, making cancer more likely.<sup>63</sup> This may explain why one of the reasons coffee increases the risk of pancreatic cancer is that coffee drinkers experience and retain far more cancer-causing gene (DNA) mutations.<sup>64</sup> There is an 80% higher risk of pancreatic cancer in coffee drinkers.<sup>65</sup>

The risk of other cancers also increases with coffee use. Two or more cups of coffee per day more than doubles the risk of ovarian cancer.<sup>66</sup> When caffeine is combined with a high fat diet, it significantly increases breast cancer risk.<sup>67</sup> For women, the more coffee you drink in a day the higher your risk of ovarian cancer. The risk of ovarian cancer increases 31% for one cup of coffee per day and 81% for 5 or more cups per day.<sup>68</sup> This is compared to non-drinkers of coffee whose risk was very low. So, pick which risk you

are willing to tolerate and drink the appropriate amount of coffee to achieve that risk.

Four or more cups of coffee per day doubles the risk for non-Hodgkin's lymphoma.<sup>69</sup> Compared to non-drinkers, men who drank one cup of coffee per day had a 150% higher risk of Stomach cancer.<sup>70,71</sup> Compared to those who reported no coffee drinking, men who averaged more than 250-ml per day experienced a 40% increase in risk of prostate cancer.<sup>72</sup> Coffee increases the risk for small cell carcinoma of the lung by 250%.<sup>73</sup> What comes in must go out, and maybe this explains the increase of bladder cancer for coffee drinkers.<sup>74,75</sup> Bottom line, if you are planning to avoid becoming a cancer statistic, coffee is not the best beverage for helping you achieve that goal.

---

Caffeine in coffee counteracts the repair of damaged DNA, making cancer more likely.

---

### HEARTBURN AND REFLUX DISEASE

I have had many people approach me about their concern for all the reflux pills they are taking and their side effects. Little do they realize that the real cause of their reflux and heartburn symptoms may be coming from coffee. Certain stimulants are known to increase stomach acid and the burn.<sup>76</sup> These include tea, coffee, and caffeine.<sup>77</sup> Coffee has a relaxing effect on the valve at the top of your stomach (lower esophageal sphincter).<sup>78</sup> That valve is there to stop food and acid from returning back up your throat. Coffee is a drink that a large percentage of people with reflux and heartburn report causes them symptoms of pain.<sup>79</sup>

### HEART ATTACKS!

Coffee can have an impact on the heart that is not desirable. Daily caffeine consumption increases LDL,<sup>80</sup> sometimes referred to as "bad" cholesterol. It also can increase triglycerides,<sup>81</sup> and the risk of heart attack.<sup>82</sup> HDL is sometimes



## Coffee Anyone?

referred to as “good” cholesterol, but sadly coffee decreases HDL.<sup>83</sup> What is its impact on total cholesterol? Two-hundred milligrams of caffeine per day, (about 2 cups of coffee) can increase total cholesterol by 11 mg/dL.<sup>84,85</sup> Other lab values adversely affected by caffeine include homocysteine.<sup>86</sup> When homocysteine is elevated it increases the likelihood of a heart attack. Maybe that is one of the reasons why coffee consumption is a potential trigger for sudden cardiac death in persons with other risk factors for ischemic heart disease.<sup>87</sup>

### THE DARK SIDE OF COFFEE

The production of that wonderful brew that people so love has been linked to slavery and child labor in many countries (Brazil, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Guinea, Honduras, Kenya, Mexico, Nicaragua, Panama, Sierra Leone, Tanzania, Uganda, Vietnam, Côte d’Ivoire).<sup>88</sup> “In that ye have done it unto one of the least of these, ye have done it unto Me.”<sup>89</sup> What’s more; many of the beans you buy are grown in countries that under-regulate the use of toxic cancer causing chemicals and dangerous, health destroying pesticides.<sup>90, 91, 92</sup>

### REPELLENT

So why do so many plants in nature produce caffeine? What is the function of caffeine in nature? Many experts feel that caffeine is a natural pesticide. Caffeine is actually poisonous

to herbivores and insects. It is also toxic to plants and is stored in special vacuoles or specialized plant compartments, which protect the plant from this toxic stimulant.<sup>93</sup> In God’s ecology, it is produced by the plant in response to the nibbling stimulus of herbivores to prevent over-grazing. The grazing animals taste the caffeine poison and are smart enough to move on and leave the plants behind, are we?

### Summary

- Coffee is a popular beverage worldwide with an addictive quality.
- Coffee has been pushed by its dealers to be a health beverage, when in reality it is quite the opposite.
- Caffeine is a mind-altering drug that affects the frontal lobes of the brain, where your conscience resides and through which God wants to communicate with people.
- Coffee negatively impacts people’s health in many documented ways.
- When drinking coffee, people are aiding and abetting those who engage in the violation of human rights.
- In nature, caffeine signals animals not to over graze on certain plants.
- If you drink coffee, are you ready to turn your life around and switch to a healthier alternative?

*“Away with cake. Persons may kill themselves with sweets. More harm is done to children by sweets than by anything else.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1990). Sermons and Talks, vol. 1. Silver Spring, MD: Ellen G. White Estate. p. 12.

## CHAPTER 18

# THE COCOA ROMANCE

### LOW ON LOVE?

Chocolate is a key romance ingredient in many of Michael Webb's recommendations in his book: *101 Romantic Ideas*.<sup>1</sup> Owner of the website TheRomantic.com, Michael devotes a whole page to romantic chocolate ideas.<sup>2</sup> And why shouldn't he? Isn't chocolate the most craved food by females?<sup>3</sup> Indeed, 45% of American women *regularly* crave chocolate.<sup>4</sup> Thanks to Phenethylamine (PEA),<sup>5</sup> the "love hormone", and other psychoactive substances, cocoa is a powerful stimulator of the sexual pleasure center of the brain<sup>6</sup> and is a driver of erotic behavior.<sup>7</sup> As could be expected, women indulging in more cocoa products score higher points on the Female Sexual Function Index.<sup>8</sup>

### FOOD OF THE GODS

Is chocolate's addictive power limited to its role as icon of America's love affair with sex or does it have a magic all its own? The most active ingredient in chocolate is theobromine; its name is taken from the Greek name of the plant from which this product is derived *Theobroma Cocoa*, which literally means, "cocoa—food of the gods".<sup>9</sup> Complemented, as it is in chocolate, with caffeine,<sup>10</sup> theobromine is responsible for much of the addictive power of your favorite cocoa product.<sup>11</sup> This "food of the gods" may be more addictive than you bargained for.<sup>12,13</sup>

### HEROINE OR HEROIN

Studies show that chocolate trumps hot chili pepper on food, people's favorite alcoholic beverage, video games, coffee, tea, cola beverages, gambling, and even cigarettes in its addictive power.<sup>14</sup> People with a lack of control around chocolate are called "Chocoholics".<sup>15</sup> Could chocoholics really be closet heroin addicts? That may be stretching it a bit, but humans and animals given a drug which blocks their body's opioid receptors (receptors activated by drugs such as heroin, morphine and opium) virtually lose their addictive attraction to chocolate.<sup>16,17</sup> Thus, chocolate's addictive power lies in its ability to stimulate the same opioid receptors in the brain as morphine. Maybe this explains the pervasiveness of this annual \$17 billion, 3.5 million ton industry from which the average American obtains around 22 pounds of cocoa per year.<sup>18</sup> And why isn't morphine allowed as an ingredient in candy? Narcotics enfeeble and degrade the intellect, lower the morals and cause a person to lose the power to resist temptation.

### MARY JANE ON THE BRAIN

But what of the euphoria well known to chocolate devotees? While you won't turn positive for cannabinoids on a urine drug screen, chocolate is like marijuana. There are

three substances in chocolate that activate cannabinoid receptors in the brain and mimic the psychoactive effects of marijuana.<sup>19</sup> Is it any wonder that chocolate is widely believed to enhance the effect of marijuana.<sup>20</sup> SPECT scan studies of the brains of cannabis users reveal an appalling lack of neural activity in the frontal lobes. The frontal lobes are where your conscience is located—where you discriminate between right and wrong and make important moral decisions. Paul declares, “All things are lawful unto me, but all things are not expedient: all things are lawful for me, but I will not be brought under the power of any.” 1Corinthians 6:12 A Christian should never use a product that will bring them under its power. “Know ye not, that to whom ye yield yourselves servants to obey, his servants ye are to whom ye obey; whether of sin unto death, or of obedience unto righteousness?” Romans 6:16.

---

**Christian should never use a product that will bring them under its power.**

---

### **IF YOU LIKE IT, WHY NOT CLAIM IT'S HEALTHY?**

In her article published in the journal *Dimensions of Critical Care Nursing*, “Chocolate: the health food”, Vickie A. Miracle states, “Then there are times I believe I was born too early. I have been proclaiming chocolate as a health food since I was 6 years old! I do confess to being a chocoholic and proud of it. Now science has caught up with my theory. Chocolate does have health benefits. These benefits have been reported in the literature for more than 10 years. While the history of the cacao plant and chocolate is very interesting, it is not the intent of this editorial to discuss this. Rather, this

editorial will explain why chocolate may have health benefits, some of its benefits, its disadvantages, and current recommendations for those who enjoy eating chocolate.”<sup>21</sup> I have no grumble with the trend in our society to elevate the value of health to an all-time high. And maybe we should be happy that this author does not live in a culture where some practices offensive to our thinking reigns supreme, else we might be obliged to read editorials touting chocolate as just the thing to make primitives better head hunters, Eskimos better whalers, and French better.... You get the idea. This elevating of substances of questionable nutritional value includes such delicacies as rotten apples sold as “organic apple cider vinegar”, inebriating red wine touted as good for your heart, medicinal marijuana—the legalization of a brain destroyer and formerly discarded whey powder as good to build your muscles. It seems that chocolate is so subtly destructive to your intellect and morals as to make its promulgation as a health product seem plausible. If you like it, why not just claim you like it, why purport to have discovered medicinal properties for it?

### **WEIGHT LOSS WONDER**

With obesity at an all-time high and the existence of a \$60 billion per year weight loss market why not sponsor a weight loss study? According to Carol E. O’Neil, Victor L. Fulgoni III and Theresa A. Nicklas, in their article of June 2011, which appeared in *Food & Nutrition Research*, “Total, chocolate, and sugar candy consumption was not associated with weight/adiposity variables and candy consumers were less likely to be overweight or obese than non-candy consumers.” “Current levels of candy consumption were not associated with adverse health parameters in

## The Cocoa Romance

children or adolescents.” One is called to wonder how these things can be so. Doesn’t this go against conventional wisdom? But further investigation reveals that under the heading “Conflict of interest and funding” it is admitted, “Partial support was also received from the National Confectioners Association.”<sup>22</sup> Research has become merely a line item in an advertising budget. Many of these commercial enterprises have research funding that far exceed the entire yearly budget of the National Institute of Health. Imagine the economic value of a scientific discovery. “Science” discovers that chocolate cures some disease, news agencies spread the story, and people opt for one more scoop of chocolate ice cream at the dairy stand.

### HAIR ON BALD HEADS AND FEELING IN PEG LEGS

The list of medicinal properties for chocolate is growing. Researchers reach for the dark, flavonoid rich vial marked cocoa and test subjects turn up healthier.<sup>23</sup> But where did this nasty tasting laboratory version of the common candy bar come from? These specially prepared cocoa samples are not the same as the readily available commercial products people buy in the store.<sup>24</sup> The street variety tends to be loaded with fat and sugar and only overthrows a person’s resistance to indulgence of appetite.<sup>25</sup> Indeed, up to 98% of calories in chocolate preparations comes from fat and sugar.<sup>26,27</sup> Sugar, by itself, is a drug of addiction. The addictive nature of sugar generates phenomenally high levels of obesity.<sup>28</sup> Sugar surpasses cocaine in its ability to elevate the addiction hormone dopamine in the brain making sugar more addictive than some street drugs.<sup>29</sup> And why all the fat in this product? The sensory experience of tasting fat overpowers self-control and increases food intake even in

people who are usually restrained eaters.<sup>30</sup> Taken in combination, fat and sugar work to weaken food satisfaction signals to the brain and activate hunger signals driving excessive food consumption.<sup>31,32</sup>

---

If you like it, why not just claim you like it, why purport to have discovered medicinal properties for it?

---

### EASTER BUNNY OR TROJAN HORSE?

Taste good? Yes! But not all chocolate’s effects generate good health:

- The amount of cocoa contained in one half ounce of chocolate when taken daily is enough to double the risk of prostate cancer.<sup>33</sup>
- Chocolate is a significant risk factor for colorectal cancer in both men and women.<sup>34</sup>
- Chocolate and other desserts increase the risk of breast cancer by 60%.<sup>35</sup>
- Daily chocolate consumption lowers bone density and strength,<sup>36</sup> due in part to increasing the volume of precious bone calcium lost in the urine.<sup>37</sup>
- Sweet tooth? Will your teeth appreciate cocoa suspended in creamy milk? No, dental cavities multiply with such concoctions.<sup>38</sup>
- That burn in the chest, is it heart troubles? Not likely, chocolate is billed as heart healthy.<sup>39</sup> Try heartburn!<sup>40</sup>

## Blue Print for Health and Healing

Chocolate relaxes the lower esophageal sphincter causing reflux and pain symptoms.<sup>41,42</sup>

- Romantic dreams or nightmares? A disorder that gives people nightmares and makes them move violently in their sleep could be aggravated by eating chocolate.<sup>43</sup>
- Constipation complicates the treatment of hospital patients on morphine. Chocolate is perceived by many people as a constipating food, possibly by the same opioid receptor stimulating mechanism as morphine.<sup>44</sup>
- Chocolate on the brain? Foods more commonly reported as headache triggers include: alcoholic drinks, chocolate and cheese.<sup>45,46,47</sup>

And why does chocolate share disease triggering properties with cheese? Both are fermented products! Fermentation, like the rotting of apples to make vinegar, contaminates products with toxins known to cause illnesses. What happens to a box of good apples when you throw a rotten one in the batch? They all rot. What happens when you eat rotten foods? You rot—otherwise known as oxidative stress, free radical formation, and lipid peroxidation. People consuming aged, rotted, fermented, spoiled foods suffer the consequences. Maybe this is why chocolate is a huge red flag for autoimmune inflammatory conditions.

- Inflammation is the key ingredient in inflammatory bowel disease. Cocoa products increase the risk of ulcerative colitis and Crohn's disease by a whopping 150%.<sup>48,49</sup>
- And what of rheumatoid arthritis? Chocolate aggravates the symptoms of inflammatory arthritis making it harder to bear.<sup>50,51</sup>

- Are worms the only instigator of an itchy anus? Think chocolate. Cocoa products are among the top 6 foods causing "Pruritus Ani"<sup>52</sup>
- Chocolate increases the risk of acne by 40% in teenage boys.<sup>53</sup>
- The psychoactive components of chocolate are concentrated in breast milk,<sup>54</sup> and infants breastfeeding on mothers eating chocolate are more likely to experience allergic dermatitis.<sup>55</sup>

Don't be fooled, not everything made out to be pure gold is really gold at all.

### DARK CHOCOLATE

"Hey Clark, you're going to love this one," David was animate, "they (the TV) just exposed the west Africa slave trade in the production of half the world's chocolate. Teenagers are stolen from places like Togo and taken to Ivory Coast chocolate plantations where they are literally worked to death in 4 years." Shocking, I thought, but at the time, not being a TV watcher and having no way to verify the account, I shuffled the information to the back of my mind. Then, when conducting this current chocolate investigation, I decided to explore the story. Factual beyond controversy, it's now all over the internet.<sup>56</sup> Chocolate, due to its addictive nature, is one of those products, along with sugar, opium and other drugs, coffee, tea, tobacco, and other cash crops that have helped create the poverty-stricken third world. Man's insatiable desire for something stimulating, and the greed of the empires, have synergized to plunder the economies and ecologies of the poorer agrarian nations.<sup>57</sup>

An older Jamaican related to me his experience on the coffee plantations of their island nation. The English started Jamaica

## The Cocoa Romance

growing cash crops, then pitted them against Guyana, who they had also started growing these crops. When the English traders lowered the price they offered for coffee to the point that the Jamaicans would lose money, the president of Jamaica was forced to plead with them to raise the going price. The English just stated that they could get the coffee cheaper from Guyana. My Jamaican friend was still incensed that the president of his country should be so humiliated. Such are the atrocities that reduced stable agricultural based nations to poverty, subservience, and near starvation.

### HOME TO ROOST

How many weeks would you be willing to have one of your family members go and labor on a chocolate plantation to obtain your precious “food of the gods”? It would be a most

memorable experience. They’d lose weight; have scars all over their backs in testimony to the appreciation they were shown, and perhaps be grateful to just escape with their lives. Next time you sink your teeth into a luscious bar of rich tasty chocolate pause to consider how many teenage Africans gave their lives for your excess.

### THE BIGGEST LOSERS

Who are the greatest slaves here, the unpaid child laborers who have no say in the matter, the greedy unscrupulous plantation owners who organize such crimes against humanity, or the addicted product users who for a moment of pleasure are willing to brush over their accountability in this whole drama? There is no more subtle form of slavery than when the captives will their own captivity.

*“More die by eating decayed fruit  
and decayed vegetables which  
ferment in the stomach and result in  
blood poisoning, than we have any  
idea of.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1938). Counsels on Diet and Foods. Washington, D.C.: Review and Herald Publishing Association. p. 309.



## CHAPTER 19

### FERMENTED FOODS?

“The Health Benefits of Fermented Foods Are Astounding”, acclaimed a recent health article. It made me ponder, how is it that fermented foods are touted to be the answer to peoples more complicated health issues—foods that Adam, before the fall in Eden, would never have eaten? What could there be about some other organism digesting a meal before I do, that could improve its nutritional/health quality?

In a way, fermented food increases entropy (The idea of entropy comes from a principle of thermodynamics dealing with energy. It usually refers to the idea that everything in the universe eventually moves from order to disorder, and entropy is the measurement of that change).<sup>1</sup> Entropy would be like baking a birthday cake, setting it on your dining table overnight and in the morning discovering that three rats had eaten tunnels through it; your cake would have increased in entropy. In my estimation, the farther you eat down the food chain the more entropy you introduce. The three rats would represent fermentation, if they were bacteria or yeast, we would just call the disaster fermentation.

A colored electron microscope picture of mature cheese struck me. What originally started out as the white product of a cow’s udder, now appeared as a dull yellow/orange sponge whose cavitory recesses brimmed to the full with the dead bodies of bacteria. What turned the white milk to yellow cheese? What

turns your clear drinking water to yellow urine? And to think that this process is prized by cheese connoisseurs the world over! Eating fermented food would be like telling the above-mentioned rats in the birthday cake story, please eat the cake and I’ll just enjoy having your precious droppings.

I decided to look more thoroughly into this fermentation process and discovered that there is more art in it than science. While it is true that a lot is known about the basics of the fermentation process, and it is replicable, there is also a lot about fermentation that is unknown.

---

When your apple has a bruise and starts to turn rotten, not only do moulds, fungi and bacteria invade, but also a host of previously unrecognized viruses. That means that there are a lot of viruses in fermented foods which have never been identified or studied before.

---

Now, to give an example, we do know that the fermentation process is encumbered with unhealthy byproducts such as acetic acid (vinegar) and ethanol (alcohol)<sup>2</sup>. Incidentally, Kimchi (fermented cabbage) is alcoholic, meaning the fermentation creates alcohol!<sup>2</sup> Take care not to eat sauerkraut before you give

## Blue Print for Health and Healing

a urine sample or you could fail an employment sobriety test.<sup>3</sup> Have you ever heard of Kombucha? Kombucha competes with light beer on alcohol content.<sup>4</sup> In addition there are toxic byproducts of metabolism from bacteria, molds<sup>5</sup> and fungi (including mycotoxins such as aflatoxin<sup>6</sup>) which are responsible for illnesses like autoimmune diseases and cancer. For example, replacing unfermented soy foods with fermented soy products increases the risk of cancer by 58%.<sup>7</sup>

So that is what we do know, but what about the unknown in fermentation? Recently, I was shocked by the findings of a new science applied to fermented foods. It is the science of metagenomic analysis. Metagenomic analysis identifies sequences of DNA in food samples that can be used to identify specific organisms. It's like identifying a thief by their fingerprints. For example: Scientists analysed a sample of sauerkraut (fermented cabbage) and discovered 69,464 viral DNA sequences, 50% of which were from previously unidentified viruses.<sup>8</sup> That means that there are a lot of viruses in fermented foods which have never been identified or studied before. When your apple has a bruise and starts to turn rotten, not only do moulds, fungi and bacteria invade, but also a host of previously unrecognized viruses. That's right! And if you want some of them just purchase some organic apple cider vinegar with the mother. Oh, and I forgot to mention; it will also come swimming with vinegar eels.<sup>9</sup> So what happened to putting biohazard warning labels on such products?

But why worry about a few viruses in your food? Scientists did metagenomic analysis of cheese and discovered many viruses which carry genes for antibiotic resistance.<sup>10</sup> What is the significance of that? You eat the cheese and the bacteria responsible for disease in your gut are transformed so that they can no longer be

controlled with the most common antibiotics. One virus, the norovirus, which is responsible for nausea, diarrhea and vomiting, has been found in Kimchi (fermented cabbage).<sup>11</sup> Could it be that it is the viruses and mycotoxins that make certain foods leave evil traces behind? "The patients must not be given alcohol, tea, coffee, or drugs; for these always leave traces of evil behind them".<sup>12</sup> "Nicely prepared vegetables and fruits in their season will be beneficial, if they are of the best quality, not showing the slightest sign of decay, but are sound and unaffected by any disease or decay. More die by eating decayed fruit and decayed vegetables which ferment in the stomach and result in blood poisoning, than we have any idea of."<sup>13</sup> Viruses are responsible for many diseases, not the least of which is cancer.<sup>14</sup>

Many people are in the dark in regard to the processes that many foods have gone through before they put them in their mouth. Are you eating fermented (rotted, spoiled, aged) foods? Who eats decayed fruit and vegetables? "The salads are prepared with oil and vinegar, fermentation takes place in the stomach, and the food does not digest, but decays or putrefies. As a consequence the blood is not nourished, but becomes filled with impurities, and liver and kidney difficulty appear. Heart disturbances, inflammation, and many evils are the result of such kind of treatment, and not only are the bodies affected, but the morals, the religious life, are affected."<sup>15</sup>

Common fermented foods to watch out for are: alcoholic beverages, kombucha, vinegar, cheese, sour cream, yogurt, soy sauce, tempeh, miso, sourdough bread, pickles, coffee, tea, kimchi, sauerkraut, salami, chocolate, vanilla, brown rice syrup, Worcestershire sauce, Tabasco sauce, nutritional yeast flakes, Vegemite, Marmite, and Promite.

As I see it, if the sin of Adam, in preparing the way for the introduction of fermentation into our world, has proven a benefit to people's health, then we owe a debt of gratitude to sin (no, sin is the source of sickness and death). I think there are many viruses and toxins in fermented food that we would do well to avoid. I do not believe we owe a debt of gratitude to sin. Much better to eat fresh whole foods than rotted (fermented) foods infested with a multitude of mysterious organisms.

---

The unleavened bread is the only correct representation of the Lord's Supper. Nothing fermented is to be used.

---

Jesus was careful to avoid anything fermented. "They gave him vinegar to drink mingled with gall: and when he had tasted thereof, he would not drink."<sup>16</sup> At the last supper only unfermented wine was present. Fermentation is a symbol of sin and its consequences. "Christ is still at the table on which the paschal supper has been spread. The unleavened cakes used at the Passover season are before Him. The Passover wine, untouched by fermentation, is on the table. These emblems

Christ employs to represent His own unblemished sacrifice. Nothing corrupted by fermentation, the symbol of sin and death, could represent the 'Lamb without blemish and without spot.'" 1 Peter 1:19.<sup>17</sup>

"The broken bread and pure juice of the grape are to represent the broken body and spilled blood of the Son of God. Bread that is leavened must not come on the communion table. The unleavened bread is the only correct representation of the Lord's Supper. Nothing fermented is to be used -- only the pure fruit of the vine and unleavened bread are to be used."<sup>18</sup>

What should we eat? What will be the most healthful? "Care should be taken to have all food in as good condition as possible. In the end, good food is the cheapest. Vegetables that are stale or of poor quality are likely to be unpalatable and unwholesome. So, with fruits. Ripe and fresh, they are as wholesome as they are delicious; but green, partly decayed, or overripe fruit should never be eaten raw. When cooked, unripe fruit is less objectionable. So far as possible, however, we should use fruit in its natural state. The more we accustom ourselves to use it fresh from the tree, the greater will be our enjoyment of fruit, and the more benefit we shall receive from its use."<sup>19</sup>

## Blue Print for Health and Healing

*My sister:*

*I have just read your letter. You seem to have an earnest desire to work out your salvation with fear and trembling. I encourage you to do this. I counsel you to discard everything that would cause you to do half-way work in seeking the kingdom of God and His righteousness. Put away every indulgence that would hinder you in the work of overcoming. Ask for the prayers of those who can comprehend your need of help.*

*There was a time when I was in a situation similar in some respects to yours. I had indulged the desire for vinegar. But I resolved with the help of God to overcome this appetite. I fought the temptation, determined not to be mastered by this habit.*

*For weeks I was very sick; but I kept saying over and over, The Lord knows all about it. If I die, I die; but I will not yield to this desire. The struggle continued, and I was sorely afflicted for many weeks. All thought that it was impossible for me to live. You may be sure we sought the Lord very earnestly. The most fervent prayers were offered for my recovery. I continued to resist the desire for vinegar, and at last I conquered. Now I have no inclination to taste anything of the kind. This experience has been of great value to me in many ways. I obtained a complete victory.*

*I relate this experience to you for your help and encouragement. I have faith, my sister, that you can come through this trial and reveal that God is the helper of His children in every time of need. If you determine to conquer this habit, and will fight it perseveringly, you can obtain an experience of the highest value. When you set your will resolutely to break off this indulgence, you will have the help you need from God. Try it, my sister.*

*As long as you acknowledge this habit by indulging it, Satan will retain his hold on your will and bring it into obedience to himself. But if you will determine to overcome, the Lord will heal you and will give you strength to resist every temptation. Ever remember that Christ is your Saviour and Keeper.*

*I have not strength to write you a longer letter today, but shall hope to write again. I shall wait to hear from you, to learn that you have gained the victory.*

*In love,<sup>1</sup>*

**E.G. White**

---

<sup>1</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. {Lt 70, 1911, par. 2}.

## CHAPTER 20

### VINEGAR VIGNETTE

“Dr. Clark, What about ‘Apple Cider Vinegar with the Mother’? How can you ignore all the health benefits and stories of recovery from its use?” This is a question I frequently encounter and will answer it as best I can in this article.

Let’s take a look at the big picture.

“God made man perfectly holy and happy; and the fair earth, as it came from the Creator's hand, bore no blight of decay or shadow of the curse. It is transgression of God's law--the law of love--that has brought woe and death.”<sup>1</sup>

Adam never put Balsamic Vinegar on his dinner fare, and Eve never used mayonnaise to flavor her creations. They would never have known what decay or vinegar was, but sin changed all this. After the entrance of sin, food could spoil and vinegar could be produced. Rotten food was never God’s plan. With sin and decayed food came disease, pain and death.

What about foods used for medicine, which are decayed, fermented, rotted, spoiled, aged, etc, or show any other of the effects of sin in our deteriorating world, which is wearing old like a garment? Could we imagine that we are in a position to leverage sin and that these putrefying processes which entered our world after Eden can even elevate food until it possesses medicinal properties? This seems questionable to me. Personally, I prefer food

that has not had anyone or anything else eating on it before I get to it, especially if they are going to leave behind their waste products in it (smile). I do not believe that God is indebted to where sin and Satan have led the way for our healing.

It is true that vinegar has come to be quite widely used as a health tonic with many advertisements for its supposed medicinal qualities.

People ask me if it would be to their health advantage to take organic apple cider vinegar internally. I usually ask them why they wouldn’t like to be more natural and just eat the decaying rotten apples.

You do not find vinegar naturally, except as something has been fermented. It is the end product of fermentation. Few organisms can break it down any farther, so they stop with vinegar and excrete it. Because of this it is quite widely used in foods as a preservative. Bacteria seem to be turned off at finding their own waste products mixed in with what they thought was food.

How is vinegar made? In the US most vinegar is made from apples and is created by the degradation of these by yeasts and bacteria. That is correct, most vinegar *is* apple cider vinegar.

“Vinegar is the product of a mixed fermentation of yeast followed by acetic

## Blue Print for Health and Healing

acid bacteria. Vinegar, literally translated as sour wine, is one of the oldest products of fermentation used by man. It is the acetic acid produced by the fermentation of alcohol (ethanol) which gives the characteristic flavour and aroma to vinegar.”

“It can be made from almost any fermentable carbohydrate source, for example fruits, vegetables, syrups and wine. The basic requirement for vinegar production is a raw material that will undergo an alcoholic fermentation. Apples, pears, grapes, honey, syrups, cereals, hydrolysed starches, beer and wine are all ideal substrates for the production of vinegar. To produce a high quality product, it is essential that the raw material is mature, clean and in good condition.”<sup>2</sup>

“There is danger to health in the use of even sweet cider as ordinarily produced. If people could see what the microscope reveals in regard to the cider they buy, few would be willing to drink it. Often those who manufacture cider for the market are not careful as to the condition of the fruit used, and the juice of wormy and decayed apples is expressed. Those who would not think of using the poisonous, rotten apples in any other way, will drink the cider made from them, and call it a luxury; but the microscope shows that even when fresh from the press, this pleasant beverage is wholly unfit for use.”<sup>3</sup>

Vinegar contains the seeds of rot and spoilage which can contaminate and spoil other foods.

“Nicely prepared vegetables and fruits in their season will be beneficial, if they are of the best quality, not showing the slightest sign of decay, but are sound and unaffected by any disease or decay. More die by eating decayed fruit and decayed vegetables which ferment in the stomach and result in blood poisoning, than we have any idea of.”<sup>4</sup>

“The salads are prepared with oil and vinegar, fermentation takes place in the stomach, and the food does not digest, but decays or putrefies. As a consequence the blood is not nourished, but becomes filled with impurities, and liver and kidney difficulty appear. Heart disturbances, inflammation, and many evils are the result of such kind of treatment, and not only are the bodies affected, but the morals, the religious life, are affected.”

“I told them that unless they should change their diet, physical, mental, and moral degeneracy would surely be the result. Plain, good, substantial food must be given to our bodies, else there will be a poverty of the blood.”<sup>5</sup>

Many foods contain vinegar and include: bread, dressings, condiments, mayonnaise (regular and all the “vegan” ones too), ketchup, mustard, BBQ sauce, hot sauce, pickles, baked beans, potato salad, just to name a few.

Vinegar actually interferes with protein digestion making malnutrition a real risk with its use.<sup>6</sup>

Because vinegar is a product of fermentation it is full of toxic waste products of putrefaction such as aflatoxins<sup>7</sup> and ethyl carbamate<sup>8</sup>, which can cause inflammation and cancer.

Aflatoxins, formed in the process of aging or fermenting,<sup>9</sup> are a source of inflammation.<sup>10</sup>

## Vinegar Vignette

Dietary sources of aflatoxins include: cheese,<sup>11</sup> wine, vinegar, and any food created by rotting or fermentation.

“Aflatoxin contamination can occur very widely. They can be found in over a hundred kinds of agro-products and foods, such as peanut, corn, rice, soy sauce, vinegar, plant oil, pistachio, tea, Chinese medicinal herb, egg, milk, feed etc.”

“Aflatoxins are highly toxic, mutagenic, teratogenic, and carcinogenic compounds.... Aflatoxin B1, for example, its toxicity is ten times of potassium cyanide, 68 times of arsenic and 416 times of melamine. Furthermore, their carcinogenicity is over 70 times than that of dimethylnitrosamine and 10,000 times that of Benzene Hexachloride (BHC). And International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) accepted that aflatoxin should be classified as a Group 1 carcinogen in 1987, and then AFB1 is classified as Group 1 (carcinogenic to humans) by the WHO– IARC in 1993. According to the nearest researches by University of Pittsburgh, aflatoxin may play a causative role in 4.6–28.2% of all global Hepato Cellular Carcinoma cases (liver cancer cases).”<sup>12</sup>

Vinegar causes inflammation and undesirable vascular permeability.<sup>13</sup> It also causes increased intestinal permeability sometimes referred to as leaky gut.<sup>14</sup> Scientists use weak vinegar solutions to cause inflammatory bowel disease in rats as a model for studying ulcerative colitis and Crohn's disease in humans.<sup>15,16,17</sup>

Vinegar treated cucumbers (pickles), contain harmful carcinogenic nitrates that cause stomach<sup>18</sup> and colorectal cancer.<sup>19</sup> Other chemicals formed when foods are pickled<sup>20</sup> increase oxidative stress, inflammation,<sup>21</sup> autoimmune disease and cancer.<sup>22,23</sup>

Since vinegar is metabolized in the liver, liver cancer increases with its inclusion in the diet.<sup>24</sup>

Vinegar increases the risk for bladder cancer.<sup>25</sup>

We do not have an enzyme in the digestive tract that breaks down vinegar, so it goes straight into the blood stream<sup>26</sup> and is an acidifier of the blood and it causes cellular acidosis.<sup>27</sup> And because it is an acid, it can erode your teeth<sup>28</sup> and when it hits the stomach, it can cause ulcers.<sup>29</sup>

Vinegar is used to demineralize bone so it can be sliced and studied under a microscope. To be legal, vinegar must contain a minimum of 4% acetic acid; calcium is taken from bone to buffer and remove this acid from the body and this causes osteoporosis.<sup>30</sup>

The real down side is the effect of vinegar on the whole body.

“The mince pies and the pickles, which should never find a place in any human stomach, will give a miserable quality of blood.”<sup>31</sup>

Just as an illustration of how vinegar affects the blood, it raises a person's cholesterol.<sup>32</sup>

If attempting to optimize thyroid activity or treat hypothyroidism, vinegar<sup>33</sup> would be counterproductive, it could cause thyroid function deterioration.

## Blue Print for Health and Healing

In helping to recover from illnesses, returning to the natural, as could have been found in the Garden of Eden is very helpful. This means returning to a lifestyle free from the effects of sin as much as possible. This would include avoiding all the products of fermentation.

“In the country the sick find many things to call their attention away from themselves and their sufferings. Everywhere they can look upon and enjoy the beautiful things of nature--the flowers, the fields, the fruit trees laden with their rich treasures, the forest trees casting their grateful shade, and the hills and valleys with their varied verdure and many forms of life. And not only are they entertained by these surroundings, but at the same time they learn most precious spiritual lessons. Surrounded by the wonderful works of God, their minds are lifted from the things that are seen to the things that are unseen. The beauty of nature leads them to think of the matchless charms of the earth made new when there will be nothing to mar the loveliness, nothing to taint or destroy, nothing to cause disease or death.”<sup>34</sup>

Vinegar, the result of sin, does not improve your good fresh food, your brain, your thinking or your judgment. One of the effects of vinegar is to dull the mind. This is the reason Jesus refused it.

“In another prophecy the Saviour declared, ‘Reproach hath broken My heart; and I am full of heaviness: and I looked for some to take pity, but there was none; and for comforters, but I found none. They gave Me also gall for My meat; and in My thirst they gave Me

vinegar to drink.’ Psalm 69:20, 21. To those who suffered death by the cross, it was permitted to give a stupefying potion, to deaden the sense of pain. This was offered to Jesus; but when He had tasted it, He refused it. He would receive nothing that could becloud His mind. His faith must keep fast hold upon God. This was His only strength. To becloud His senses would give Satan an advantage.”<sup>35</sup>

But people have acquired a taste for this product of putrefaction. It makes the food exciting, because it usually contains excitotoxins like mono-sodium glutamate. Once the taste is acquired the substance becomes addictive.

“In this fast age, the less exciting the food, the better. Condiments are injurious in their nature. Mustard, pepper, spices, pickles, and other things of a like character, irritate the stomach and make the blood feverish and impure. The inflamed condition of the drunkard's stomach is often pictured as illustrating the effect of alcoholic liquors. A similarly inflamed condition is produced by the use of irritating condiments. Soon ordinary food does not satisfy the appetite. The system feels a want, a craving, for something more stimulating.”<sup>36</sup>

Beware, vinegar can be addictive and it can be a real struggle to recover from its use.

“There was a time when I was in a situation similar in some respects to yours. I had indulged the desire for vinegar. But I resolved with the help of God to overcome this appetite. I fought



## Vinegar Vignette

the temptation, determined not to be mastered by this habit.”

“For weeks I was very sick; but I kept saying over and over, The Lord knows all about it. If I die, I die; but I will not yield to this desire. The struggle continued, and I was sorely afflicted for many weeks. All thought that it was impossible for me to live. You may be sure we sought the Lord very earnestly. The most fervent prayers were offered for my recovery. I continued to resist the desire for vinegar, and at last I conquered. Now I have no inclination to taste anything of the kind. This experience has been of great value to me in many ways. I obtained a complete victory.”

“I relate this experience to you for your help and encouragement. I have

faith, my sister, that you can come through this trial, and reveal that God is the helper of His children in every time of need. If you determine to conquer this habit, and will fight it perseveringly, you can obtain an experience of the highest value. When you set your will resolutely to break off this indulgence, you will have the help you need from God. Try it, my sister.”<sup>37</sup>

Are there any healthy alternatives to vinegar? Lemon juice is very healthy, containing citric acid as opposed to acetic acid, and can be used in most recipes with good result in place of vinegar. Give it a try.

Vinegar may delight your senses and increase your appetite for certain foods, but don't let the pleasure of taste allure you to spoil your health.

*“Bread should be light and sweet.  
Not the least taint of sourness should  
be tolerated.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 301.

## CHAPTER 21

### WHAT ABOUT SOURDOUGH BREAD?

“But, what about sourdough bread, Dr. Clark, we’ve heard it’s better and has beneficial probiotics? A friend with irritable bowel says they tolerate it better than yeast breads.”

Responses to our article on, “Fermented Foods” varied, and among them were these questions about the much acclaimed “sourdough” bread.

Why is sourdough bread “sour”? It is because of its production of, among other things, vinegar (acetic acid)<sup>1</sup> as a byproduct of fermentation (see our chapter on Vinegar).

How is sourdough bread made? In sourdough bread making, the yeast raising agent of non-sourdough bread is replaced with “starter”.

What is starter, and where does it come from? The internet is replete with instructions on making your own starter from scratch. Suffice it to say that the process involves preparing a media on which organisms will grow, exposing that media to organisms from the air, etcetera, and growing them.

What organisms? That depends on what was around in the air when you exposed

your media to it. The Bible says “And every open vessel, which hath no covering bound upon it, is unclean.”<sup>2</sup>

What organisms are considered desirable for starter in sourdough bread. Well, obviously, ones that make the bread rise; ones that make gas. So, if you are looking for a probiotic from bread, you will get a probiotic that makes gas. Do you need a probiotic that makes gas growing in your bowels? Oh, excuse me! Usually the gas formers are also alcohol formers, as well as formers of other toxic by-products of fermentation.<sup>3</sup>

Sourdough starter is not a yeast raising agent. The predominant organism in sourdough starter is really bacteria. In fact, 99% of the organisms in sourdough starter are bacteria.

In common with most fermentation processes, sourdough increases the food content of glutamate, yes free glutamate; the glutamate of “mono sodium glutamate” or MSG. Free glutamate is a neurotoxin responsible for an increase of some cancers.<sup>4</sup> The free glutamate in fermented foods (and otherwise) is addictive to our taste buds, so most people prefer foods with it in it. But the

## Blue Print for Health and Healing

MSG problem in processed foods is a whole other topic on its own.

Sourdough bread(s) have drawbacks; it is after all “sour” bread. “Bread should be light and sweet. Not the least taint of sourness should be tolerated. The loaves should be small and so thoroughly baked that, so far as possible, the yeast germs shall be destroyed. When hot or new, raised bread of any kind is difficult of digestion. It should never appear on the table. This rule does not, however, apply to unleavened bread. Fresh rolls made of wheaten meal without yeast or leaven, and baked in a well-heated oven, are both wholesome and palatable.”<sup>5</sup>

Some cooks don’t give up easily on the making of sourdough bread in preference to yeast breads.

“In regard to your not giving satisfaction, I told you all I had to tell. I can say nothing new. You were as an iceberg in my family. You gave me no confidence, no chance to understand you from the beginning to the close of your staying with me. If you would have taken it kindly, you could have, in some little matters, been helped. But you felt jealous of any suggestions made to improve in some things. In the bread line our family had sour bread a large part of the time, and I, at least, when you returned from Sydney, gave you the privilege of having nothing to do in the kitchen. I would freely give you your board, and you could have your time to prepare for your journey. But you chose to continue in the kitchen.”

“But the breadmaking I transferred to Sara, and then Sister Lucas had it given to her. All have felt much better satisfied. We have had good, sweet bread. All that I

condemn myself (for) in this matter is that, to save your feelings, I allowed the sour bread to come on my table so long. It was doing injustice to a large family of workers in order to save you from having sensitive feelings on this subject. I am sure that all that was done in this line to suggest to you improvement was not always done. When I should have done it in justice to my family of boarders. When Sara has, by my request made suggestions about the dough rising, that you should have better bread when the yeast was used, you said it was too much trouble; you would go back to the old practice.”<sup>6</sup>

Fresh raised (leavened) bread, including yeast bread, should not be eaten fresh. “Bread should be light and sweet. Not the least taint of sourness should be tolerated. The loaves should be small, and so thoroughly baked that, as far as possible, the yeast germs shall be destroyed. When hot, or new, raised bread of any kind is difficult of digestion. It should never appear on the table.”

“Zwieback, or twice-baked bread, is one of the most easily digested and most palatable of foods. Let ordinary raised bread be cut in slices and dried in a warm oven till the last trace of moisture disappears. Then let it be browned slightly all the way through. In a dry place this bread can be kept much longer than ordinary bread, and if reheated before using, it will be as fresh as when new.”

“Bread which is two or three days old is more healthful than new bread. Bread dried in the oven is one of the most wholesome articles of diet.”<sup>7</sup>

Most commercial bread is baked and then packaged into airtight plastic bags as soon as possible, thus giving no time for the off-gassing of its toxic products and trapping them in the bread.

Is sourdough bread really better tolerated by people suffering with Irritable bowel disease? Not so according to recent scientific studies.<sup>8</sup> This same study also discovered

that people preferentially choosing sourdough breads experience significantly more feelings of tiredness, joint symptoms, and decreased alertness. So, if you want to avoid feeling tired, having aches and pains in your bones, joints and muscles, having gas, and having difficulty with mental processing, then avoid having sourdough bread as a regular part of your diet.

*“Natural means, used in accordance with God’s will, bring about supernatural results. We ask for a miracle, and the Lord directs the mind to some simple remedy.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1958). Selected Messages Book 2. Washington, D.C.: Review and Herald Publishing Association. p. 346.

## CHAPTER 22

# MEDICAL INTERVENTIONS: ARE YOU FOLLOWING THE BLUEPRINT?

“I went to her because the church members said she was good and now I have found out I have a heart problem so I have not been doing my hydrotherapy treatments you gave me for fear of exacerbating my heart problems.”

A patient I was working with was taking hydrotherapy treatments that I recommended for a life-threatening disease, but had suspended the treatments after visiting someone who examined her *feet* and told her she had a heart problem.

It seems that in the area of health care there are as many variations of winds of doctrine blowing as in the area of Bible doctrine. Paul warns: “That we henceforth be no more children, tossed to and fro, and carried about with every wind of doctrine, by the sleight of men, and cunning craftiness, whereby they lie in wait to deceive;”<sup>1</sup>

So how do we judge the validity of a proposed medical intervention in light of God’s wisdom and counsel? (Intervention is anything a health practitioner does or prescribes)

### (1) DOES IT FIT THE BLUEPRINT?

A good question to ask is: Does the intervention fit the blueprint? And if not, we are told: “To the law and to the testimony: if they speak not according to this word, it is because there is no light in them.”<sup>2</sup>

### ARE WE DEISTS?

Paul lets us know that we are all God dependant, sustained every micro-second by His personal intervention: “He giveth to all life, and breath, and all things;” “For in him we live, and move, and have our being;”<sup>3</sup> Therefore one is given pause to wonder, ‘if God sustains us every moment of our lives, why couldn’t He just as well sustain us healthy as sick’? And what would make the difference? I look to Exodus 15:26 to help me with this: “And said, If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I (am ) the LORD that healeth thee.” God being able to work miracles for you is proportionate to your adherence to His injunctions. God is only limited in His ability to work miracles for you by your straying from His will to the follow the will of His enemy. Therefore, it behooves us to be well acquainted with the care of our bodies from the divine perspective.

### STATISTICAL ANALYSIS

What if you have leprosy and God asks you to go dip seven times in a muddy river,<sup>4</sup> when

## Blue Print for Health and Healing

others were told to respect quarantine,<sup>5</sup> or told to take a walk,<sup>6</sup> or were touched?<sup>7</sup>

In my working with God in health care I have come to adopt as my motto this very helpful quotation: “Natural means, used in accordance with God's will, bring about supernatural results. We ask for a miracle, and the Lord directs the mind to some simple remedy. We ask to be kept from the pestilence that walketh in darkness, that is stalking with such power through the world; we are then to cooperate with God, observing the laws of health and life. Having done all that we possibly can, we are to keep asking in faith for health and strength.”<sup>8</sup>

### **NATURAL OR SUPERNATURAL**

Do natural means bring about supernatural results in and of themselves? No, they don't. Only God brings miraculous results. And if (in and of themselves) natural means do not work miracles, could we expect that artificial or synthetic means could work miracles? No.

The passage above says that if we want miracles, we pray to a miracle working God and that the channel chosen by Him for miraculous interventions involves our engagement in simple remedies, not mega human remedies. And, God will work when we adopt and practice all His good admonitions on healthful practices and not until such. If He healed us in disobedience to His stated health laws He would trivialize the instructions given and become a minister to sin.

### **ONLY HOPE!**

While the above quotation has become my motto, the following has arisen as my aim: “The only hope of better things is in the education of the people in right principles. Let physicians teach the people that restorative power is not in drugs, but in nature. Disease is an effort of nature to free the system from conditions that

result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthful conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to re-establish right conditions in the system.” “Pure air, sunlight, abstemiousness, rest, exercise, proper diet, the use of water, trust in divine power--these are the true remedies.”<sup>9</sup>

We are quick to quote Paul when he says, “One Lord, one faith, one baptism,”<sup>10</sup> but did we ever stop to think that there might also be only one medical approach approved by God? “There are many ways of practicing the healing art, but there is only one way that Heaven approves. God's remedies are the simple agencies of nature, that will not tax or debilitate the system through their powerful properties....Fresh air, exercise, pure water, and clean, sweet premises, are within the reach of all with but little expense; but drugs are expensive, both in the outlay of means and the effect produced upon the system.”<sup>11</sup>

### **ONLY TWO HEALTHCARE OPTIONS**

If you are going to violate the tenets of God's health reform model, to whom are you going to turn to for healing? And do you really want to be under their power? Paul warns, “Know ye not, that to whom ye yield yourselves servants to obey, his servants ye are to whom ye obey; whether of sin unto death, or of obedience unto righteousness?”<sup>12</sup> In other words, whoever's system of healing we turn to is the one of whom we worship.

### **(2) BE 100% COMMITTED TO BEING HEALED GOD'S WAY**

If we turn to God for healing we need to be resigned to the will of God, regardless whether His plan for us is the same as our plan for



## Medical Interventions: Are You Following the Blueprint?

ourselves. "God knows the end from the beginning. He is acquainted with the hearts of all men. He reads every secret of the soul. He knows whether those for whom prayer is offered would or would not be able to endure the trials that would come upon them should they live. He knows whether their lives would be a blessing or a curse to themselves and to the world. This is one reason why, while presenting our petitions with earnestness, we should say, 'Nevertheless not my will, but Thine, be done.' Luke 22:42." "The consistent course is to commit our desires to our all-wise heavenly Father, and then, in perfect confidence, trust all to Him. We know that God hears us if we ask according to His will. But to press our petitions without a submissive spirit is not right; our prayers must take the form, not of command, but of intercession."<sup>13</sup>

Our will is not always the best to follow; remember Hezekiah?<sup>14</sup> God shared with Hezekiah that he was going to die and that he was to get his house in order. Wouldn't it be nice to know when you were going to pass away, and also be assured that you would be able to get your house in order to meet such an event? Not Hezekiah, he turned his head to the wall and begged and pleaded until God gave him 15 more years. And what did Hezekiah do with 15 more years? He sold his kingdom out to the Babylonians, and gave life to his son Manasseh, one of the worst kings ever to reign. Now, I am not making a case for dying, but in my estimation, Hezekiah just did not know when to die.

### **ONLY 100% BRINGS HEALING**

In seeking God's intervention in health, we need to be unwilling to do anything that would displease the Lord. "Those who decide to do nothing in any line that will displease God, will know, after presenting their case before Him, just what course to pursue. And they will receive

not only wisdom, but strength. Power for obedience, for service, will be imparted to them, as Christ has promised."<sup>15</sup>

### **(3) WHO RECEIVES ALL THE GLORY, HONOR, AND WORSHIP**

Of utmost consideration as to whose healing method you are evaluating is the question, who receives the glory? At the end of the day, and the patient seems to have netted a positive result from the intervention and they are singing praises, who or what receives the praise, honor and glory? When Jesus heals, He receives the praise, honor, and glory. "I say unto thee, Arise, and take up thy couch, and go into thine house. And immediately he rose up before them, and took up that whereon he lay, and departed to his own house, glorifying God." He was healed of the leprosy of sin, healed of the maladies that had afflicted his body, healed every whit. "And they were all amazed, and they glorified God, and were filled with fear, saying, we have seen strange things today."<sup>16</sup>

It really is a matter of worship. "When sickness is the result of their transgression of natural law, they do not seek to correct their errors and then ask the blessing of God, but they resort to the physicians. If they recover health they give to drugs and doctors all the honour. They are ever ready to idolize human power and wisdom, seeming to know no other God than the creature--dust and ashes."<sup>17</sup>

Sometimes the processes are so disguised that we miss the significance, but worship is invoked all the same. "The history of King Ahaziah's sin and punishment has a lesson of warning which none can disregard with impunity. Though we do not pay homage to heathen gods, yet thousands are worshiping at Satan's shrine as verily as did the king of Israel. The very spirit of heathen idolatry is rife today, though under the influence of science and

education it has assumed a more refined and attractive form.”<sup>18</sup>

Ultimately the destiny of each person hinges on worship. “If any man worship the beast and his image,...”<sup>19</sup> Are our health care patronages establishing our worship loyalties?

### **(4) IS IT SIMPLE, NATURAL, AND OF UNIVERSAL ACCESS?**

Is it simple? (As opposed to complex). “God's remedies are the simple agencies of nature that will not tax or debilitate the system through their powerful properties.”<sup>20</sup>

Is it natural? (As opposed to manufactured or synthetic). “Natural means, used in accordance with God's will, bring about supernatural results.”<sup>21</sup>

Is it of universal access? (As opposed to limited access, or proprietary). “Fresh air, exercise, pure water, and clean, sweet premises are within the reach of all with but little expense, but drugs are expensive, both in the outlay of means and in the effect produced upon the system.”<sup>22</sup>

### **(5) IS IT EXPENSIVE?**

The forgoing quote also brings up financial considerations: to follow the money trail, as is said. Is it expensive? An example in the Bible we read of the story of a woman who found some vendors of health exorbitantly expensive, “And a woman having an issue of blood twelve years, which had spent all her living upon physicians, neither could be healed of any, Came behind him, and touched the border of his garment: and immediately her issue of blood stanchd.”<sup>23</sup> God’s remedies are “within the reach of all.”

### **(6) HAVE WE EXHAUSTED ALL GOD’S RECOMMENDED INTERVENTIONS?**

Have we exhausted all God’s recommended interventions? Has the patient renounced all health destroying practices or is our intervention a sneaky way to acquire health while remaining in defiance of our Creator’s plain commands? “Nature will want some assistance to bring things to their proper condition, which may be found in the simplest remedies, especially in the use of nature's own furnished remedies--pure air, and with a precious knowledge of how to breathe; pure water, with a knowledge how to apply it; plenty of sunlight in every room in the house if possible, and with an intelligent knowledge of what advantages are to be gained by its use. All these are powerful in their efficiency, and the patient who has obtained a knowledge of how to eat and dress healthfully may live for comfort, for peace, for health, and will not be prevailed upon to put to his lips drugs, which, in the place of helping nature, paralyzes her powers. If the sick and suffering will do only as well as they know in regard to living out the principles of health reform perseveringly, then they will in nine cases out of ten recover from their ailments.”<sup>24</sup>

Sometimes people will approach you with requests for prayers when they are sick, but without the slightest intent to follow the recommendations of the God to which you will be praying. God does not want these kind of prayers, neither will the Lord hear your prayers. “To those who desire prayer for their restoration to health, it should be made plain that the violation of God's law, either natural or spiritual, is sin, and that in order for them to receive His blessing, sin must be confessed and forsaken.”<sup>25</sup>

## Medical Interventions: Are You Following the Blueprint?

### **(7) ANOINTING IN HEALING**

Prayer is good when we and the patient are ready and it can be accompanied by anointing. "When human help fails, God will be the helper of His people. 'Is any sick among you? let him call for the elders of the church; and let them pray over him, anointing him with oil in the name of the Lord: and the prayer of faith shall save the sick, and the Lord shall raise him up.' If the professed followers of Christ would, with purity of heart, exercise as much faith in the promises of God as they repose in satanic agencies, they would realize in soul and body the life-giving power of the Holy Spirit."<sup>26</sup>

Again, the question needs to be asked; 'Is the use of medical interventions or even anointing, our effort to circumvent God?' Have you prepared for anointing by heart searching and doing all God has said to do? Anointing comes largely from James where it says, "Is any sick among you? let him call for the elders of the church; and let them pray over him, anointing him with oil in the name of the Lord: And the prayer of faith shall save the sick, and the Lord shall raise him up; and if he have committed sins, they shall be forgiven him."<sup>27</sup> But I was surprised to discover that anointing was one of the ways that the early disciples engaged in the healing ministry of Christ, "And they cast out many devils, and anointed with oil many that were sick, and healed them."<sup>28</sup>

When human help fails, when all the natural simple remedies God brings to mind are not working, do we turn from God to someone else or do we turn to God and anoint the patient, and trust them to God's love and care? "God and Satan never work in copartnership.... A good tree cannot bring forth corrupt fruit, neither can a corrupt tree bring forth good fruit. By their fruit ye shall know them. God has spoken. Who has trembled at His word?"<sup>29</sup>

### **(8) WHAT IS ITS ORIGIN OR HISTORY?**

In analyzing the acceptability of an intervention under consideration it is important to assess its Origins. Who are its advocates? What is its origin or parentage; commercial greed or of God? Does it have pagan or mystical history? Eastern religion? Satan? New Age? "Not a few in this Christian age and Christian nation resort to evil spirits rather than trust to the power of the living God. The mother, watching by the sickbed of her child, exclaims: 'I can do no more. Is there no physician who has power to restore my child?' She is told of the wonderful cures performed by some clairvoyant or magnetic healer, and she trusts her dear one to his charge, placing it as verily in the hands of Satan as if he were standing by her side. In many instances the future life of the child is controlled by a satanic power which it seems impossible to break."<sup>30</sup> God is not indebted to interventions of Satanic origin for your healing.

### **(9) ARE UNACCEPTABLE REAGENTS USED IN ITS PREPARATION?**

Are unacceptable reagents used in its preparation? Is God obligated to Satan and sin for a little alcohol in order that we can make a tincture considered necessary to the healing of a certain disease? "Patients are to be supplied with good, wholesome food; total abstinence from all intoxicating drinks is to be observed; drugs are to be discarded, and rational methods of treatment followed. The patients must not be given alcohol, tea, coffee, or drugs; for these always leave traces of evil behind them. By observing these rules, many who have been given up by the physicians may be restored to health."<sup>31</sup> We could go on to explore modalities such as mold (PCN, nutritional yeast, mushrooms), vinegar, alcohol, vaccines with unclean animal ingredients, etc. but the point is: if the preparation necessitates the use of things

## Blue Print for Health and Healing

otherwise condemned in holy writ, why would disease sanctify their use?

### **(10) IS THE INTERVENTION A KNOWN COMMODITY?**

Is the intervention a known commodity? Is it known what the intervention really is and what it actually does? Has it been studied? Is it physiological? Do you know what you are doing? "A practice that is laying the foundation of a vast amount of disease and of even more serious evils is the free use of poisonous drugs. When attacked by disease, many will not take the trouble to search out the cause of their illness. Their chief anxiety is to rid themselves of pain and inconvenience. So they resort to patent nostrums, of whose real properties they know little, or they apply to a physician for some remedy to counteract the result of their misdoing, but with no thought of making a change in their unhealthy habits. If immediate benefit is not realized, another medicine is tried, and then another. Thus the evil continues."<sup>32</sup> {MH 126.2}

"Were I sick, I would just as soon call in a lawyer as a physician from among general practitioners. I would not touch their nostrums, to which they give Latin names. I am determined to know, in straight English, the name of everything that I introduce into my system."<sup>33</sup> What does Prozac, CoQ10, or monoglycerides mean?

### **(11) IS THE INTERVENTION ILLEGAL?**

Ready to face jail if you try this? Is it illegal? Now this is a relative contraindication. But you better believe whole-heartedly in an intervention that the government has outlawed if you are going to presume to use it, especially if they are prosecuting those who do. "Let every soul be subject unto the higher powers. For there is no power but of God: the powers that

be are ordained of God. Whosoever therefore resisteth the power, resisteth the ordinance of God: and they that resist shall receive to themselves damnation. For rulers are not a terror to good works, but to the evil. Wilt thou then not be afraid of the power? do that which is good, and thou shalt have praise of the same."<sup>34</sup>

### **(12) FIRST DO NO HARM**

Every health care practitioner is taught, "first do no harm". Which leads to the question is it free from possible adverse side effects? "When drugs are introduced into the system, for a time they may seem to have a beneficial effect. A change may take place, but the disease is not cured. It will manifest itself in some other form. In nature's efforts to expel the drug from the system, intense suffering is sometimes caused the patient. And the disease, which the drug was given to cure, may disappear, but only to re-appear in a new form, such as skin diseases, ulcers, painful diseased joints, and sometimes in a more dangerous and deadly form. The liver, heart and brain are frequently affected by drugs, and often all these organs are burdened with disease, and the unfortunate subjects, if they live, are invalids for life, wearily dragging out a miserable existence. There are more who die from the use of drugs, than all who could have died of disease had nature been left to do her own work."<sup>35</sup> Is this true? "There are 225,000 deaths annually from medical errors including 106,000 deaths due to 'non-error adverse events of medications'"<sup>36</sup>

Some of these questions are on the order of Heaven versus Hell, "Those who make a practice of taking drugs sin against their intelligence and endanger their whole after life... if all would seek to become intelligent in regard to their bodily necessities, sickness would be rare instead of common. An ounce of prevention is worth a pound of cure."<sup>37</sup>

## Medical Interventions: Are You Following the Blueprint?

### **(13) WAS I LED OF GOD TO USE THIS INTERVENTION?**

Was I led of God to use this intervention? This begs you experience in following the will of God. We seek: "We ask for a miracle, and the Lord directs the mind to some simple remedy."<sup>38</sup> We wait: "Rest in the LORD, and wait patiently for him: fret not thyself because of him who prospereth in his way, because of the man who bringeth wicked devices to pass."<sup>39</sup> We check everything out with the Bible: "God reveals His will to us in His word, the Holy Scriptures." We determine if providence is at work, "His voice is also revealed in His providential workings; and it will be recognized if we do not separate our souls from Him by walking in our own ways, doing according to our own wills, and following the promptings of an unsanctified heart, until the senses have become so confused that eternal things are not discerned, and the voice of Satan is so disguised that it is accepted as the voice of God." Our leading to a certain natural remedy may also come through impressions. "Another way in which God's voice is heard is through the appeals of His Holy Spirit, making impressions upon the heart, which will be wrought out in the character. If you are in doubt upon any subject you must first consult the Scriptures."<sup>40</sup> Some of how God leads a certain person can be learned from how the Lord has led in their past experience. "We have nothing to fear for the future, except as we shall forget the way the Lord has led us, and His teaching in

our past history."<sup>41</sup> God tends to use a similar way of leading over time with a given individual. And lastly, we must not forget that we are not the only ones who have had to consider these options. Only a fool has to learn everything by his own experience. There are people willing and ready to share their personal experience in these things, "Where no counsel is, the people fall: but in the multitude of counsellors there is safety."<sup>42</sup>

### **A MATTER OF FAITH**

In looking to God for His leading we have to remember that, "whatsoever is not of faith is sin."<sup>43</sup> And, "That which we lack in faith we make up by the use of drugs."<sup>44</sup> Any intervention not founded upon genuine faith cannot be of God. There is no way you can have faith in an intervention if it proceeds from God's adversary.

Medical Interventions: are they of God? We need to know. "There is a way that seemeth right unto a man, but the end thereof are the ways of death."<sup>45</sup> We are told, "Except the LORD build the house, they labour in vain that build it: except the LORD keep the city, the watchman waketh but in vain."<sup>46</sup> To extrapolate we might also say that unless the Lord heals a person, are they really healed at all? And if it was not the Lord who healed a person, under whose healing power have they come?

If or when I become sick, I want to be healed by the Lord. How about you?

*“The paralytic found in Christ healing for both the soul and the body. The spiritual healing was followed by physical restoration. This lesson should not be overlooked. There are today thousands suffering from physical disease, who, like the paralytic, are longing for the message, “Thy sins are forgiven.” The burden of sin, with its unrest and unsatisfied desires, is the foundation of their maladies. They can find no relief until they come to the Healer of the soul. The peace which He alone can give, would impart vigor to the mind, and health to the body.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 270.

## CHAPTER 23

# HEALTH AND SPIRITUALITY: THE MIND BODY CONNECTION

### TIME CAPSULE

I received an email in the mail from my professional society. They wanted to put together a time capsule to be opened at the hundred and fiftieth anniversary of the association in the year 2083. I thought, what should I suggest to have put in that time capsule? Then I thought, wait a minute, 2083! Where will I be in 2083? Then I thought, how old am I now, and if time would continue, where would I be then? I probably would not be around by then and, so I wrote back and told them to put some asbestos in that box, so it will survive hell because it will have happened by then. Now some of you theologians out there are saying, hell doesn't happen till after the thousand years, but we know that Peter says that when the Lord returns the elements will melt with fervent heat, and so in essence it happens then.

There was a time capsule placed by Lakefield elementary school in the year 2000 to be opened a hundred years later. We tend to like time capsules, sometimes we make the cornerstone of a building into a time capsule by hollowing it out and putting into it a newspaper of the day it was built. Then when the building is demolished the newspaper is found telling the news about the time it was built.

I remember back when I was in elementary school NASA sent out a space voyager with a space capsule and they were talking about all the stuff they were going to put on this space probe in case "somebody out there" discovered it. I wasn't personally impressed with some of the things they selected to put on that space probe to represent us, but, just to illustrate that we like time capsules.

### TIME CAPSULE OPENING

You know, there are 66 books in the Bible; can you think of one of those books that was in essence put into a time capsule? Daniel! Daniel was sealed wasn't it? "But thou, O Daniel shut up the words, and seal the book, even to the time of the end: many shall run to and fro, and knowledge shall be increased."<sup>1</sup> Don't publish it, don't send it to your mother, you won't understand it yourself, just put it in a time capsule, prepared for a time when knowledge shall increase. Has knowledge increased? It's hard to keep up in any field! They say knowledge doubles every few years and when you look at the Internet now we have more and more access to a lot of this knowledge.

"And I heard, but I understood not:" said Daniel, "then said I, O my Lord, what shall be the end of these things?" And He said, "Go thy way Daniel: for the words are closed up and sealed till the time of the end."<sup>2</sup> Do we live in the time of the end? How do you know? Signs are all around you say. But how does this verse say we would know that we're in the time the end? We would understand Daniel! So, I'm going to have a little quiz here, Daniel 2, what's the head of gold? Babylon! All right, what are the arms of silver? Medo-Persia! The brass is Greece, the iron Rome, and how about the toes of iron and clay? I'm going to call it modern Babylon, or our day. What is restored at the end of Daniel to God's kingdom? That's correct, "and in the days of these kings shall the God of heaven set up a kingdom which shall never be destroyed."<sup>3</sup> The point is, we understand Daniel so we must be in the time of the end.

And, that stone that is cut out without hands,<sup>4</sup> isn't that the hope of every Christian, where there'll be a kingdom where God reigns,

where His servants do not fight, as he told the Jews. Yes, we hope for that stone, but I'm not here to talk to you about prophecy. The question I have for you is this, why does this book, sealed until our time, commence with a cute little human-interest story about a dietary experiment?

### **THE CHALLENGE: BRAINWASHING**

“King Nebuchadnezzar of Babylon attacked Jerusalem and surrounded the city, the Lord let him capture King Joachim. The King then ordered Aspen, as his chief official, to select from among the Israelites exile some young men of the royal family and of the noble families.”<sup>5</sup> Daniel was among the best, he must either had been of royalty or of the noble families. He must have been a good scholar and very special. Aspen must have been able to identify him when they came into Jerusalem and picked him and then carted him off to Babylon. What was he going to do in Babylon? Be brainwashed! They needed some Jews to look like Babylonians and to go back home and rule the country. Aspen was to teach them to read and write the Babylonian language.<sup>6</sup> Now can you think of any times in American history when we've brought people in here and we've told them, okay, you're not to speak whatever language you know at home, you're only supposed to speak English. Don't speak Swahili, German, Navajo, Spanish; whatever... you're supposed to all speak English. It's brainwashing and enculturation, trained to become Babylonians. We want you to forget your past, we want you to become like us--we want you to think like we think!

Is the brainwashing going on today? What is the biggest tool of brainwashing today? Television! Some professors from the local university came to my meetings when I was doing a series in upstate New York. After the meetings I was speaking with one of them and we got to talking about television. At one point he said, “I am a professional hypnotist, and on that television, they use every technique of hypnotism I ever learned, and they use it constantly.”

### **FOOD ON THE LESSON PLAN**

Part of Daniel's training involved food, “and the King appointed them a daily provision of the King's meat, and of the wine which he drank: so, nourishing them three years, that at the end thereof they might stand before the king.”<sup>7</sup> Three years training, three years on a certain diet, three years of brainwashing, and then they're supposed to stand before the king. And what was the food like? High in saturated fat and cholesterol, inebriating, nothing but what the King would have. Is this the best food for young men who are going to school?

Very interesting is the effect of rich food on the brain. You'd like the oxygen in your brain to be fairly high, maybe somewhere around ninety five percent. This helps you study better, to be able to do your taxes. But do you know what happens when we eat a high fat meal? Within six hours the oxygen in the brain falls below seventy percent, what's more it does not return to normal for three whole days!<sup>8</sup> Wow! That's a long time. Better not eat a high fat meal within three days of taking a test, you won't perform your best. But who only eats one high fat meal a day? The next day another high fat meal is eaten, and you just went back down again and it's going to be yet another day before you return to normal. What is the moral of the story? Some people have never had a fully functioning brain! Be careful, don't point any fingers, and don't name any names.

### **“GIVE ME MY BRAIN BACK!”**

I shared this topic as a talk at my local church. One of the ladies sitting in the back said to herself, “That's me!” Right then and there she decided to go on Daniels diet. Six weeks later she pulled on my sleeve, and said, “I'd like to tell you something, when I heard you give that talk, you know, about the brain not functioning well on certain foods, I decided right then and there that I would go on Daniel's diet. I've lost 30 pounds, and as much as that is wonderful, what I'm even happier about is that I now have my brain back. Now when you and the others are out there preaching I don't go to sleep I listen and I learn. Thank you for giving me my brain back!”



### **CAMPOREE GONE TOO FAR**

How far is it from Jerusalem to Babylon as the crow flies? I have pulled it up on Google Maps and it's 554 miles. But Daniel and his friends did not fly like birds straight across that distance, they went up the sea shore, up the Fertile Crescent, as they call it, where there's green plants and came down the river to Babylon. Historians tell us they probably walked 1,400 miles! That's a long trek and it wasn't exactly a Boy Scout outing, this was more or less a death march. Now I got a question for you, what do you think a bunch of Pathfinders or Boy Scouts would do to a table loaded with deserts and other unhealthy foods after a 1,400-mile trek? They'd devour it, wouldn't they?! But not Daniel! When he got to Babylon and he saw all the food, he "purposed in his heart that he would not defile himself with the portion of the Kings meat nor with the wine which he drank."<sup>9</sup> Daniel had a purpose, he knew who he was, and since he knew who he was and had an inkling of his commission he felt it was more important to take care of himself than to indulge appetite. A lot of people don't know who they are, they eat to feel good about themselves, they eat just because they're worried, they're sad, they're happy, they become emotional eaters, they've lost their purpose and they end up defiling themselves.

### **THEY DRINK AND FORGET THE LAW**

Maybe Daniel had been reading proverbs 31, "It is not for Kings to drink wine, nor for Prince's strong drink, lest they drink, and forget the law, and pervert the judgment of any of the afflicted."<sup>10</sup> Now, can you think of somebody in the Bible who drank alcohol and did pervert the judgment of the afflicted? King Herod! That's correct. Herod had a birthday party where all his guests drank wine and when they drank wine their minds were not working very well, and while their minds were not working very well, he had a young lady come out and dance before them, and then he offered the lady half of his kingdom. She came back and said, I want the head of John the Baptist in a platter. At that point Herod should have said, "Well, it's not mine to give, you must go ask him." But instead, because he had made this promise, and because

all his guests were drunk and didn't protest, he went out and had that head removed and given to the lady, and he regretted it the rest of his life. Now can you think in modern times of somebody who drinks the wine and forgets the law? Have we heard of the wine of Babylon? Does Babylon forget the law? They certainly do.

### **"NONE OF THESE DISEASES"**

There is a book on the market that talks about the benefits of following Biblical health principles, it's called, "None of These Diseases."<sup>11</sup> On the back cover it has this to say, "With over 1 million copies sold, 'None of These Diseases' has become a classic, now completely revised and updated for a new generation it shows how to obtain extra ordinary medical benefits simply by heeding the word of God." Daniel followed these and he benefited! It's because everything follows the law of the universe and that is "cause and effect", "be not deceived God is not mocked for whatsoever a man soweth that shall he also reap."<sup>12</sup> Oh, now sometimes we sow things we don't want to harvest, and we pray for crop failure, and God is sometimes very kind and gives us crop failure, but all in all we reap what we sow. A lot of times we have something bad happen to us, "oh I got sick," "well it just happened to me", but in reality, if we looked at the true law of cause and effect we'd find that there was something that actually started the ball rolling, something we did to bring it on ourselves.

### **HEALTH VERSUS DISABILITY SCALE**

An understanding that helps us to realise what we can do to solve the problem more readily I call the health versus disability scale. Every decision we make in lifestyle puts us somewhere on this continuum, increased indulgence at one end, at the other end increased health, at this end increased strength, at the other end increased disability, every decision we make puts us somewhere along the scale. When I was in medical school the dean came out and wanted to encourage all the students, he told us a little bit about when he was a medical student. He said he made sure that every decision he made supported his goal of being a good student and if the decision came

to go play tennis or to go and study books and he needed to study, right then and there he would make the decision to study, that way every decision put him somewhere closer or further away from his goal. The same is true of every diet or lifestyle decision we make in life. If we want to be free of disease, every decision we make must support that goal.

### **TONGUE TIED**

Have you ever heard of the musical group, "Canadian Brass"? They are one of the best brass groups in the world. Imagine how fast their tongues go when they play classical pieces! They're often featured on the front of important magazines like "The Brass Herald". They came to Andrews University one year and when they arrived there was a reception in progress in their honour. Before the concert they were to give, they were offered punch and cookies and other sweets, but they turned it all down. They said, "If we drink your sugary punch, and eat your sugary sweets, we will not be able to tongue our notes like you'd like to hear them tongued, and our concert will be a disaster!" If sugar does that to their tongues, just think what that kind of diet does to the sensitive nerves of the brain!

Sugar has also been shown, in research, to really affect the brain of children. Children who eat more sugar have less function of the frontal lobes of their brains.<sup>13,14</sup> The frontal lobes are where we make important decisions, like decisions about salvation and decisions about good and bad. Your frontal lobes are what distinguish you from a monkey; it's a distinction you want to maintain! Studies show that children eating more sugar demonstrate more behaviour problems;<sup>15</sup> they also discovered that children eating more sugar usually had one grade letter lower in their grades than those who didn't eat high sugar foods and soft drinks.<sup>16</sup>

Sugar affects the brain, so does meat for that matter, "eating much flesh will diminish intellectual activity. Students would accomplish much more in their studies if they never tasted meat."<sup>17</sup> Daniel must have known something about this. It would seem, that Daniel had insights that go far beyond the average.

### **BABYLONIAN CAPTIVES**

You know, Daniel was a captive of the Babylonians. Babylon has always been the arch typical enemy of God. It came in from the north and invaded Jerusalem. Babylon has always been the headquarters for false religions as well and it takes that role in Revelation. Daniel was a captive of the Babylonians, the question we have to ask ourselves is, are we captives of the Babylonians today, in philosophy, or in our lifestyle and diets? You see there's the perverted diet of rebellious Babylon, and then there's the Biblical diet. "Thousands are continually selling mental and moral vigour for the pleasure of taste."<sup>18</sup> How do you decide how much food you should eat? Oh, if it tastes good, eat more! Right? On the other hand, we have the Biblical diet, "then God said, I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it they will be yours for food and you will eat chocolate bars,"<sup>19</sup> Oh, wait a minute, did I misquote? "And you'll eat the plants of the field."<sup>20</sup> God gave us an excellent diet in the beginning, you see, our brains have to be clear, our brains have to be able to receive the signal from God, that's the way God speaks to us. "The brain nerves which communicate with the entire system are the only medium through which heaven can communicate with man and affect his innermost life.... To make a success of the Christian life, the development of sound minds and sound bodies is of the greatest importance."<sup>21</sup> Daniel was known for his connection with God. God was able to speak to him as we see in some of those prophecies we cited at the beginning.

### **ESSENTIAL BLOOD FLOW**

Now let's talk a little bit about the heart. You have many arteries in your heart which need to stay wide open. If these stay wide open, then you can have good blood flow to the heart muscle and it stays healthy. If the coronary arteries, start to get blocked, say eighty percent, and you go running somewhere you might feel some heaviness in your chest. If they get ninety percent blocked, the pain will come sooner, if they're ninety-five percent blocked, you might feel heaviness in your chest with just walking

around your house. Ninety-nine percent blocked and you might feel heaviness in your chest just thinking stressful thoughts. Well, I have lots of reserve, 80% blockage before you get symptoms. Incidentally, we cannot detect blockages in your heart blood vessels on a simple electric heart monitor (ECG or EKG) till the blockage has exceeded 75% occlusion!<sup>22</sup>

That's the heart, what about the brain? Well, you know if you have atherosclerotic plaque in your heart you probably have it in your brain and other places as well. There're certain blood vessels that are very important to the brain, like the anterior cerebral artery, the artery that comes up in the front of your brain and feeds those important frontal lobes. What is so important about the frontal lobes? The frontal lobes of your brain are where you do your higher thinking, where you distinguish right from wrong, where your conscience resides. Without them you lose your moral compass. Now there is something very important you are going to want to know about the arteries feeding your frontal lobes. If these arteries get blocked by just 20% percent, then your frontal lobe function starts to suffer.<sup>23</sup> The frontal lobes will no longer be working like they're supposed to. We need to make very sure we keep our arteries clean. Did you know that the caffeine in just one cup of coffee will shut down the blood flow to your brain by 30%?<sup>24</sup> What is the effect of that? Just one cup of coffee can make you more likely to share information with others that you would otherwise have been careful to have kept confidential.<sup>25</sup> What's the moral of that story? Don't let coffee make a monkey out of you!

### SCIENTIFIC VALIDATION OF DANIELS DIET

"Yes, but what can I do now?" you may be asking yourself. I've spent my whole life eating high cholesterol and high fat foods, not exercising and I do all kinds of stuff that will destroy my body, so what do I do now? Is it reversible? Do I need a bypass in my head? Well, it's interesting; we think that with our modern medicine that all we need is a bypass! Oh, my doctor, he's the best in the world, and my insurance has no deductible. All I have to do is to show up there and they usher me right into surgery. Well it's good to have insurance, but we

have a duty to take care of ourselves. Dr. Caldwell Esselstyn Jr. M.D. of the Cleveland Clinic has shown on angiography, x-rays of the blood vessels, that these blood vessels can be opened back up with lifestyle changes alone, no angioplasty, no stent, no bypass surgery, simply good lifestyle changes. What's his diet and what does he do? Well, he's written a whole book on this called, 'Prevent and Reverse Heart Disease' but he says the optimal diet consists of grains, legumes (that's beans), vegetables and fruit, with less than ten to fifteen percent of its calories coming from fat—a fairly low-fat diet. Does this sound like Daniel's lifestyle? Yes indeed, Daniel's diet would keep the blood vessels of the brain and of the heart wide open! Dr. Caldwell Esselstyn goes on to say that this diet minimizes the likelihood of stroke, obesity, hypertension, type 2 diabetes, and cancers of the breast, prostate, colon, rectum, uterus, and ovaries!<sup>26</sup> Wow, did Medicare ever promise anything like that? How about private insurance? No, this is really the best insurance program, isn't it? We take care of ourselves and then we don't need to show up at the hospital to get work done on our blood vessels or anything like that.

### PILLS ARE NOT THE ANSWER

Probably two-thirds of the western world have high blood pressure or hypertension as it is called. Some diagnosed, and some not. The majority of them are on some kind of pill to try to fix the problem. They did a study on people with hypertension. They decided to scan the brains of people coming down with high blood pressure to see what they would find. They compared people with hypertension to ones who were not having high blood pressure problems. The researchers discovered that the ones with high blood pressure had 10 times the incidence of Alzheimer's lesions in their brains—white matter lesions, 10 times the incidents.<sup>27</sup> They followed them over time, and said okay, let's see if we can stop this accumulation of white matter lesions and so they gave them pills to bring their blood pressure down, and then they scanned their brains again. The researcher discovered something very interesting, fixing the blood pressure with pills did absolutely nothing to slow the rate at which white matter

## Blue Print for Health and Healing

lesions were accumulating in their brains!<sup>28</sup> In order to stop that process, you'd have to change the lifestyle that was causing both the high blood pressure and causing the white matter lesions. Taking good care of ourselves is the very best way to keep our brains clear and so this is of utmost importance.

### **THE LIGHT ON HEALTHFUL LIVING HELPS CLEAR THE LENS**

In the Christian walk, it is by beholding that we become like Jesus.<sup>29</sup> We have a problem though, we see through a glass darkly.<sup>30</sup> I am here to testify that the light on healthful living helps clear the lens a bit.

### **HEALTH FOR SPIRITUALITY, AND SPIRITUALITY FOR HEALTH**

So, what we've been talking about thus far is how the health of your body affects your spirituality, mostly through the health of your brain. Now we're going to turn it around and talk about how spirituality affects your health.

They've done studies on people who go to church in the Carolinas. They looked at those who weekly attended religious services, versus those who did not. The researchers discovered that people who do not attend religious services have an eighty-seven percent higher risk of dying of all causes.<sup>31</sup> Those who went to church lived longer, to 83 years; those who didn't go to church lived to be only 75 years old. Another study looked at blood pressure. They discovered people who go to church regularly have consistently lower blood pressure than those who do not.<sup>32</sup>

### **BLUE ZONES**

Have you seen the November 2005 National Geographic article entitled, "How They Live Longer"? The magazine took up the question of what makes people live longer, they looked around the world for groups of people who had exceptional longevity and they found the Sardinians in Italy, the Okinawans in Japan, and the Adventists in southern California all lived longer. They noted that only the Adventists were not losing their longevity edge, meaning, it seemed like the others were not going to live as

long a time. They came to this conclusion when they saw the younger generation of Sardinians and Okinawans eating out of crinkly bags. They looked at what they felt were the reasons these people were living longer. For the Adventist, this was their list: they don't smoke, they put family first, they're active every day, keep socially engaged, eat fruits, vegetables, whole grains, nuts and beans, observe the Sabbath, and have faith. I thought that was an interesting list for this magazine to come up with. In one of their articles they mentioned that, "Adventists also observe Sabbath on Saturday socializing with other church members and enjoying a sanctuary in time that helps relieve stress."<sup>33</sup> What an interesting comment by a worldly magazine.

### **FORGIVE TO LIVE**

Down in Florida, at the Florida Hospital, there's a group that does a seminar on forgiveness. The seminar lasts about 6 weeks and during this seminar people learn how to receive and give forgiveness. It's a workshop. They found people were feeling so much better after this workshop they wanted to study it in terms of its impact on their physical health, and so they studied their blood pressure. They found that people who came in to this seminar with high blood pressure were very likely to have their blood pressure returned to normal after the seminar.<sup>34</sup> It's interesting how forgiveness relates to health, even Isaiah points this out, "the inhabitants shall not say I'm sick, the people that dwell therein shall be forgiven their iniquity."<sup>35</sup> Interesting the connection between forgiveness and being well!

In another study they looked at death after surgery, not a desirable outcome, but they found that elderly patients were 14 times less likely to die after heart surgery if they found comfort in their religious faith, and were socially active. On the other hand, those who did not find any strength or comfort from religion were three times more likely to die after surgery.<sup>36</sup> Sounds like, before surgery, they better screen people and find out what their religion is like, well, that probably wouldn't be ethical, but is very interesting to note the impact and for elective surgery maybe a course in faith in God or forgiveness would be a good prerequisite, that is if we are going to be truly scientific.

## Health and Spirituality: The Mind Body Connection

Well, that brings up an important point, that if religion helps dramatically in medical care it would be wise to identify the best religion, right? The religion that has the greatest impact or has the best outcomes, that brings the longest, happiest life, that gives the best health! How would we know? How do we know what is the best religion, that gives the best results? Well, here's an interesting comment from James, "Pure religion", that sounds good, "and undefiled before God and the Father is this, to visit the fatherless and widows in their affliction, and to keep himself unspotted from the world."<sup>37</sup> A religion that helps others, not a self-centered religion—don't spend time studying your navel, spend time helping others. Does it work? Did the studies show any benefit from this? They sure did. We call it, "living to give". Mortality was significantly reduced for individuals who provided support to friends, relatives, neighbors, and their spouse, on the other hand, receiving support had no effect on mortality.<sup>38</sup> Just sitting back and taking it all in doesn't help. Helping others has the biggest benefit. We need to reach out of ourselves, even in the time of our own difficulty perhaps, remember Elijah? He came to the woman who was out gathering sticks for her and her son's last meal and he asks her if she had anything to eat. She tells Elijah that she and her son are about to eat their last meal. He tells her to feed him first and then everything will be ok. And when she fed him first, reaching out in the time of her own great need, she was benefited!

### THE ULTIMATE LAW OF THE UNIVERSE

You know, this is all about the ultimate law of the universe. There are different levels of detail of the law. Remember, one time when Jesus was walking among men, they asked Him about the law, and he said that the law is, love the Lord your God with all your soul and your neighbours as yourself. Another time they got on him saying, you're making yourself God, and He said haven't you read in your law, ye are all gods?<sup>39</sup> Wait a minute, that's from Psalms not from the "law". Actually, the Jews thought of the whole Old Testament as the law, so yes, it was the law! So there are different sized definitions of the law, but if we get down to the most basic definition, it would be "the law of self-

renouncing love is the law of life for earth and heaven;"<sup>40</sup>, that's the ultimate law, it's expressed a number of ways, "God loveth a cheerful Giver"<sup>41</sup>, "it's more blessed to give than to receive"<sup>42</sup>, "the Son of man came not to be ministered unto but to minister and give his life a ransom for many"<sup>43</sup>, "For whosoever will save his life shall lose it; but whosoever shall lose his life for my sake and the gospel's, the same shall save it."<sup>44</sup>, it's the law of life for the universe.

"In heaven itself this law was broken, sin originated in self-seeking. Lucifer the covering cherub desired to be first in heaven,"<sup>45</sup> and we know the result, sin! Selfishness, Insensitivity Neglect--SIN! And these return upon the actor with more force than upon the receiver. When we are selfish and insensitive, when we neglect, we suffer worse health, it affects our whole being, for, again, whosoever will save his life, will lose it, but whosoever shall lose his life for my sake in the Gospels the same shall save it.

### LIVE TO GIVE

This is talked about in Isaiah 58 where we find that God tells us what to do to have good health. Does it say run a marathon? No. It says some interesting things like... "deal thy bread to the hungry" and "bring the poor that are cast out to thy house". Wait a minute God, I haven't vacuumed yet, they haven't either, don't worry, "when thou seest the naked cover him, then thine health shall spring forth speedily." Our health is dependent on helping others. Any amount of volunteering, in one study, reduced mortality by sixty percent, even among weekly attendees at religious services.<sup>46</sup> While we pointed out that it is good to come to church every week, and it shows up in benefits in blood pressure and in mortality, coming to church is not where we should stop, we also need to help other people. Do things for others, and then the mortality drops even further. People who get involved benefit even more, because, "it is more blessed to give than to receive"<sup>47</sup>. "The pleasure of doing good to others imparts a glow to the feelings which flashes through the nerves quickens the circulation of blood and induces mental and physical health."<sup>48</sup> You want to know what to do for your nerves; do you want energy to flash through your nerves? How about if you have congestive heart failure? Doing good

## Blue Print for Health and Healing

to others has a dramatic impact on our own health, it's part of the prescription for recovery.

### PURPOSE IN HIS HEART

Well, back to Daniel, "Then said Daniel to Melzar, prove thy servants, I beseech thee, ten days, and let them give us pulse to eat, and water to drink, then let our countenances be looked upon before thee and the countenances of the children that eat of the portion of the Kings meat, and as thou seest, deal with thy servants."<sup>49</sup> Let's have a case control study here, let's just do a comparison, 10 days, you guys eat what you're going to eat, and we will eat pulse and drink water. Well! Would you be willing to risk your future on a 10-day experiment? ... a 10-day trial of your diet, your lifestyle for 10 days? What would your diet do for someone with diabetes, heart disease or high blood pressure? Would it cure them or give them diabetes, heart disease or high blood pressure? And whom do you think looked better, or worse in 10 days; you think Daniel really looked better? Or do you think all the others looked a lot worse? Or both?

Why only 10 days? Why not one hundred days? It would be three years before he'd stand before the King. Well, in a lot of programs, 10 days is definitely enough to make a dramatic difference! Reversing diabetes, reversing coronary artery disease, especially angina, 10 days can make a dramatic difference! I've seen a difference in three days in some people.

### DETAILS OF DANIELS DIET

What kind of diet was Daniel asking for anyway? What is pulse? Well, if we look in today's English version it says, "test us 10 days he said give us vegetables to eat and water to drink." Vegetables and water! Back to the original diet! Good food!

I have a picture of a banner sign I saw on the internet with somebody in a local parade marching down the street with their poster, "16 Reasons to Be A Vegetarian." Can you think of 16 reasons to be a vegetarian? This is just the public parading this; they're out there marching. The question I have is this, has Daniel been unsealed to the general public? At one time a French politician was reviewing his army, which was marching off, and all of a sudden, I guess he

must have been daydreaming or something, he popped up and said, oh, I better catch up with my army, after all I am their leader! Has the world passed us by, while we sleep?

Daniel, did he do well on his tests at the end of three years? Have you ever been graded on the curve? In medical school we were basically graded on the curve, if somebody did really, really well, it kind of pushed the rest of class down in their grades. Daniel scored ten times wiser, ten times better, I mean, this blows the curve. I wonder if anybody else got any grade.

Was Jesus tested on diet and appetite? Well, remember He was led out in the wilderness after His baptism, and after fasting for forty days, Satan comes to Him all hungry and looking Him over says, "If thou be the Son of God, command that these stones be made bread."<sup>50</sup> It sounded like a good idea, except for the little "if" in there. And Jesus caught that, of course. Jesus wasn't there to use His power to take care of Himself. A lot of times we use our power to indulge self.

Now in the Bible, we recognize that all have sinned and fall short of the glory of God,<sup>51</sup> but there was not a lot to write about Daniel's short comings, about all his faults, I mean, he's one of the few people about whom no sin is recorded. Do you suppose his diet had something to do with his integrity, with this standing up against the devil, even when the Babylonians were trying to brainwash him?

### BOOT CAMP

"The controlling power of appetite will prove the ruin of thousands, when, if they had conquered on this point they would have had moral power to gain the victory over every other temptation of Satan." This sounds like boot camp, right? Saving Private Ryan, boot camp! If they conquer on this point! What's our test? The Sunday law, right? Well, when that comes along it's too late! Our test is initially on appetite, "But those who are slaves of appetite will fail in perfecting Christian character and as we near the close of time Satan's temptation to indulge appetite will be more powerful!"<sup>52</sup> How does Satan make food more addictive today?

### **DANIEL AND THE TIME OF TROUBLE**

Now there are some other things that Daniel is known for besides his good diet, he spent a night with some big kittens didn't he, he got thrown to the Lions! This was his time of trouble, a time of difficulty for Daniel. Do you suppose that his diet had something to do with his making it through his time of trouble? Did you know he mentions a time of trouble for us also? "And there shall be a time of trouble such as never was since there was a nation even to that same time."<sup>53</sup> "Never was since there was a nation"! How many millions died under Hitler in Germany? 16 million? How many died under Stalin under communism? 75 million? How many died under religious persecution during the dark ages? 150 million. But this time of trouble, predicted by Daniel pales all these into insignificance. Do you suppose that Daniel's diet has something to do with us making it through our time of trouble?

Daniel's three friends, had their big test at the golden image. This was their time of trouble. When the entire world was bowing down to the image, these three vegetarians remained standing.

"Those who have had the light upon the subject of eating and dressing, with simplicity, in

obedience to physical and moral laws, and who turn from the light which points out their duty will shun duty in other things. If they blunt their consciences to avoid the cross which they will have to take up to be in harmony with natural law they will, in order to shun reproach, violate the Ten Commandments."<sup>54</sup> Is appetite a test for us? Very much so! Which comes first, the test on the commandments or a test on appetite?

### **BURDEN OR BLESSING**

So, is Daniel's diet another burden, or is it really an inestimable a blessing?

In summary, Daniel is a prophetic book, sealed until our time, not to be opened until the time of the end. Why did God start a book that would be opened in our time with a cute little human-interest story about a dietary experiment? Because God wants us to have clear minds and sound constitutions so we can understand the prophecies of Daniel and survive during the last days!

How many want to remain loyal to their Saviour Jesus Christ during the time of trouble just upon us? How many want to adopt Daniel's diet to assist you in remaining loyal to their Saviour Jesus Christ during the time of trouble?

*“Grains and fruits prepared free from grease, and in as natural a condition as possible, should be the food for the tables of all who claim to be preparing for translation to heaven.”<sup>i</sup>*

– E.G. White.

---

<sup>i</sup> White, E. G. (1897). Healthful Living. Battle Creek, MI: Medical Missionary Board. p. 78.



## CHAPTER 24

### CRACKING THE COCONUT OIL CRAZE

As I looked into the refrigerator my eye caught a large tub of margarine. I liked margarine; I had grown up eating margarine. Margarine on steaming hot baked potatoes. Margarine on hot toast. With the publicity of the dangers of trans-fats my comfortability with this food had taken a real nose dive. Opening the lid, I dipped into the container and came out with a yellow greasy dab on my finger. Now they say, "If it looks like a duck, swims like a duck, and quacks like a duck, then it probably is a duck." And as I fingered the greasy thick spread I was questioning in my mind, it looks like grease, it feels like grease, and it tastes like grease, how then is it not just plain grease? This brought to mind the well stated counsel: "God has furnished man with abundant means for the gratification of an un-perverted appetite. He has spread before him the products of the earth--a bountiful variety of food that is palatable to the taste and nutritious to the system. Of these our benevolent heavenly Father says we may freely eat. Fruits, grains, and vegetables, prepared in a simple way, free from spice and grease of all kinds, make, with milk or cream, the most healthful diet. They impart nourishment to the body and give a power of endurance and a vigor of intellect that are not produced by a stimulating diet."<sup>1</sup>

"free from spice and grease of all kinds"<sup>1</sup>  
What, even media/advertisement promoted grease?

Bible is clear on this topic: "Speak unto the children of Israel, saying, Ye shall eat no manner

of fat, of ox, or of sheep, or of goat."<sup>2</sup> Today God might say it like this: Ye shall eat no manner of fat, of lard, or margarine, or shortening, or Crisco, or saturated fat, or coconut oil, or trans-fat, or hydrogenated fat.

I looked back at the plastic tub of margarine (grease) in my fridge and resolved then and there to dispose of it promptly. In the bin it went.

But I liked my grease, I missed it, what could I replace it with? To the rescue came a charming product claiming health benefits, "Smart Balance". And yes, Smart Balance assumed the vacant spot in my refrigerator. Ok, but sticking my finger into this product and pulling some out I again thought to myself, "If it looks like a duck, swims like a duck, and quacks like a duck, then it probably is a duck."... Whose kidding who here? And how did they make this product so thick if it is not hydrogenated and filled with trans or saturated fat? My eyes searched the ingredients, and there it was, coconut oil! A source of saturated fat. In fact, coconut oil has more saturated fat than butter, lard, or beef-based shortenings (Coconut oil (82% saturated fat) vs Butter (63%) vs beef tallow (50%) vs Lard (40%)).<sup>3</sup>

So, what about coconut oil? Well, if I let the (well informed, always unbiased, ever truthful) popular media be my guide, coconut oil would be my elixir of life. Especially if I had any worries about coming down with Alzheimer's. But this is not an article on Alzheimer's, we have an article

## Blue Print for Health and Healing

on Alzheimer's.<sup>4</sup> Even for Alzheimer's coconut oil is no panacea, as we shall discuss shortly.

Coconut oil may be pressed, heat extracted or separated using a chemical solvent. A thousand mature coconuts weighing approximately 1,440 kilograms (3,170 lbs.) yield around 70 liters of coconut oil making coconut oil a very refined concentrated food source.<sup>5</sup> This puts coconut oil right up there with the other highly refined, processed, unhealthy modern disease fostering foods.

Can we really improve on the diet God gave Adam in the Garden of Eden in his sinless state with processed foods? "By precept and example make it plain that the food which God gave Adam in his sinless state is the best for man's use as he seeks to regain that sinless state."<sup>6</sup>

One time I was staying at someone's house, doing my own cooking. One day while making healthy waffles my supply of olive oil which I applied to the waffle iron's surface to prevent the waffles from sticking ran out. The host offered me some of their coconut oil. After breakfast that day I had a very stunning revelation. I felt very mentally dull and lethargic all morning. A little more experimenting proved the coconut oil to be the culprit. Apparently oils that are thick on your plate will be thick in your blood, and make you thick in the head too. "Fruits, grains, and vegetables, prepared in a simple way, free from spice and grease of all kinds, make, with milk or cream, the most healthful diet. They impart nourishment to the body and give a power of endurance and a vigor of intellect that are not produced by a stimulating diet."<sup>1</sup>

Very interesting is the effect of saturated fat on the brain. You'd like the oxygen in your brain to be fairly high, maybe somewhere around 95%. This helps you study better, to be able to do your taxes and pass tests. But do you know what happens when you eat a saturated fat meal, like with coconut oil? Within six hours of eating the oxygen in the brain falls below 70%,

what's more it does not return to normal for three whole days! Wow! That's a long time. Will you remember those three whole days? Better not eat a high coconut oil meal within three days of taking a test, you won't perform your best on it. But who only eats one high fat meal a day? The next day another high fat meal is eaten, and you just go back down again to below 70% oxygen in your badly needed brain, and it's going to be yet another three days before your brain returns to normal. What is the moral of the story? Some people have never had a fully functioning brain! Be careful now, don't point any fingers at others, and don't name any names who you suspect might be thus affected.<sup>7</sup> So, let me ask you, does a high saturated fat oil sound like it would be beneficial for an aging brain? Hopefully you have not had a high fat meal recently and the answer to that question will come readily to your mind.

And so, really, less oil is better. Here is a good article. Why No Free Oil?<sup>8</sup>

And what of the use of Oil in the Bible. The land was not literally flowing with olive oil, it was rather precious and scarce.<sup>9</sup> In Bible times you did not just run down to the store and drown your Mediterranean cuisine in lipids. Salad and carbohydrates, like bread, coated with oil do not digest well. Soaked with oil, the carbohydrates from bread become unavailable to digest and the nutrients can become lost. The salad becomes impermeable to water-based stomach acid and digestive enzymes and can rot so that you lose the nutrients. The rotting process can cause toxins to enter your system and make you sick. See our article on fermented foods.

And what of the products they sell in the markets under the label of coconut oil?

I spent some time in the islands. One day my uncle, an islander, got up early and announced, "we're going to make coconut oil! Today we will go collect coconuts." So, off we went in the vehicle. My uncle could practically walk up a

## Cracking the Coconut Oil Craze

coconut tree. Up the tree he'd kick off the ripe coconuts and I would run around and pick them up and load them in the vehicle. We'd then cart them to our yard. When the yard was one layer deep in coconuts we proceeded to husk them, crack open the nuts, grind out the coconut meat, and fill a pot with it. We then separated the coconut oil from the pulp and put it into a jar and placed it on a shelf in our well air-conditioned house. Never did the coconut oil go hard. Never did the coconut oil solidify. Never did it turn to a white grease.

When I returned home to Oklahoma from the islands my father was building greenhouses which were to be kept warm (during the winter) with passive solar heat. We headed down to a corn chip factory to obtain their empty steel barrels. The job of cleaning and preparing the barrels fell to my lot. As I scooped and scrapped white sludge out of them, one hot summer day, I became curious as to what I was removing. Looking on a lid I discovered that this waxy/greasy white stuff was none other than coconut oil, that it had 8 ingredients and that it had been hydrogenated. Recalling the corn chip factory and their product line I puzzled about the fact that on their package ingredients labeling they only indicated that their product could contain one of three types of vegetable oil: corn oil, coconut oil or peanut oil. At the time I was a bit frustrated that none of the other 7 ingredients listed on the coconut oil barrel made their way to the corn chip bags ingredient list, and also that the corn chip bag did not describe any of their added oils as having been hydrogenated

A few years later the coconut oil hype burgeoned and every one made a mad dash to the health food store for their share of blocks and jars of hard white coconut grease.

I called my aunt in the islands, "Did any of our homemade coconut oil ever turn white and hard like Crisco?"

"No", she said.

"They're selling blocks of white organic coconut oil here which never turns to liquid without heating it up." I then told her of my barrels of white coconut oil from the corn chip factory and she mused with me that, as Sesame Street sings, "One of these things is not like the other". Recall the council, "free from spice and grease of all kinds".<sup>1</sup> Now, I realize not all coconut oil is hydrogenated, but a lot of it is, and probably more of it is hydrogenated than labels would indicate, and all of it is at a minimum 82% saturated fat with a melting point for this grease above most people's room temperatures.

Science does not bear out that Alzheimer's is truly helped by coconut oil.<sup>10</sup> What's more, coconut oil has a negative effect on the immune system and body inflammation much like any other saturated fat, such as lard, beef tallow, butter or shortening. Coconut oil is not great for arthritis, increases the average Joint Pain Index by 27%, as well as increases morning joint stiffness. It increases inflammatory markers such as serum amyloid A, Erythrocyte sedimentation rate, and IgM rheumatoid factor.<sup>11</sup> Coconut oil also increases high sensitivity C reactive protein (hs-CRP), an inflammatory marker, by 145%.<sup>12</sup> It also increases the proinflammatory cytokine interleukin-6 release.<sup>13</sup> All in all, if it is your goal to lower the oxidative stress and inflammation in your body, coconut oil will not be your helper.

If you are trying to reduce your blood pressure, thick oils in your blood stream, that reduce oxygen to vital tissues will be of no benefit.<sup>14</sup> See our article on hypertension.<sup>15</sup>

Coconut oil, with all its fat, can send your cholesterol skyward. Coconut oil is associated with significant elevations (as compared to corn oil) of: total cholesterol, LDL, and triglycerides, all of which are not beneficial to a healthy heart.<sup>16,17</sup> see our article on cholesterol.<sup>18</sup>

The high blood lipids and low blood oxygen produced by consumption of coconut oil also

## Blue Print for Health and Healing

have a detrimental effect on physical performance. People eating coconut oil actually recover more slowly from exercise.<sup>19</sup> This can be partly due to the fact that coconut oil decreases cardiac performance and increases the hearts susceptibility to hypoxia.<sup>20</sup> So if you don't care to run as far or as fast as you otherwise would, just lather on the saturated lipids and enjoy. But be mindful, your heart won't be happy.

Compared to unsaturated fats, coconut oil is more atherogenic. Laboratory animals could tell us that. Protocols for the study of coronary artery disease use coconut oil to create atherogenic plaque.<sup>21</sup> Compared with peanut oil, corn oil and even butter oil, the most severe gross atherosclerosis is observed with coconut oil.<sup>22</sup> The impact of coconut oil on the physical behavior of cholesterol is remarkable, and not positive. In one study an abnormal stacking of lipoprotein particles in electron micrographs of VLDL, LDL and HDL were observed with coconut oil in the diet.<sup>23</sup> For people who experience the misfortune of a heart attack, having been on a diet with coconut oil results in a higher level of myocardial (heart muscle) damage.<sup>24</sup>

But what shall I spread on my bread or fry my potatoes in? Lard, butter, olive oil, margarine, or coconut oil? What are we advised about olive oil? "When properly prepared, olives, like nuts, supply the place of butter and flesh meats. The oil, as eaten in the olive, is far preferable to animal oil or fat. It serves as a laxative. Its use will be found beneficial to consumptives, and it is healing to an inflamed, irritated stomach."<sup>25</sup> Oil, "as eaten in the olive", does not suggest to me large quantities of industrially processed free lipids.

But what if I discover that studies of coconut oil have been shown to help a particular disease I would like to treat, like autism?<sup>26</sup> You can do the same thing you would do if you discovered that some disease was helped by wheat, choose to use unprocessed whole wheat products not white flour products. So, in the case of coconut,

you would choose whole coconuts, shredded coconut, coconut milk or coconut cream, etc., any product with the least amount of processing and still possessing the entire product as grown with all its fiber, phytonutrients and vitamins.

Frying foods in oil is not particularly healthy. "We do not think fried potatoes are healthful, for there is more or less grease or butter used in preparing them. Good baked or boiled potatoes served with cream and a sprinkling of salt are the most healthful. The remnants of Irish and sweet potatoes are prepared with a little cream and salt and rebaked, and not fried; they are excellent."<sup>27</sup> Frying creates a large amount of oxidation which is unhealthful.

### PARTING WORDS

Refined foods are the bane of 21<sup>st</sup> century health. Bottled (visible) oils increase the risk of cancer, heart disease, stroke diabetes and autoimmune disease. Saturated fats, whether from animals or plants, play a large role in health deterioration. The Bible warns against the use of fats. Coconut oil contributes to disease. The hype about coconut oil as a treatment for neurodegenerative disorders has not been found true by science. Coconut oil contributes to the disease burden in the areas of autoimmune inflammatory disease, arthritis, high blood pressure, high cholesterol and heart disease, and it reduces physical activity performance. My recommendation is to eat unprocessed foods as grown and enjoy the health benefits thereof and help reverse a few diseases.

### HERE IS WHAT YOU SAID

My Thus saith the Lord experience regarding coconut oil:

When I was running a massage school, I felt impressed to put together a certified medical missionary training program. I scheduled it for in

## Cracking the Coconut Oil Craze

the summer when the massage school was not in session.

For some reason the "committee" that made all decisions & approved all programs asked another medical missionary help teach it.

Her lectures included a lengthy presentation and sale pitch on how wonderful coconut oil was, including power point presentation and books on it she was selling. She happened to give me one of the books. I was so busy handling all the admin, coordinating with the kitchen for lunches, plus teaching 3/4 of the lectures that I had no time or energy to look at the book. Our kitchen had a low oil/no oil policy for food for people attending our wellness programs.

After the nine-day course was over and everyone went home, including the guest medical missionary presenter who was blind in one eye and nearly blind in the other from behind the lens cataracts, I sat down at my desk in my little office and pulled out the book on coconut oil that she had given me (same one as she was selling to the students). As I started to open it, I was strongly impressed to get out my Bible, which I happened to have there at work. With Bible in front of me I was impressed to read in Leviticus. When I got to the food rules in Lev., as I got to the one about cutting the fat off of the meat before eating it, I hear an audible voice in my head say 'What type of fat is it?' I answered 'Lord, it's animal fat, but I don't eat animal fat, I am vegan, remember?' The same question was spoken to me again. I gave the same answer. The question came a third time.

Now, as tired as I was, I was now getting irritated with this question a third time. But one can't afford to get irritated with the Lord. So, I paused and thought to myself, what is he asking me? I thought awhile and I think the Holy Spirit must have helped me because I finally asked, Lord, do you mean saturated fat? I knew I had the right answer this time as the next thing I heard was "What type of fat is coconut oil?' In one of the lectures on coconut oil the other medical missionary had said that it was 91% saturated fat. The fat on beef that we are instructed to cut off is saturated fat.

I threw the book on coconut oil in the waste basket without ever opening it. And, I started do research on the internet. All over the internet was the statement that coconut oil raised your HDL. As I started looking at studies on coconut oil, and fortunately I had already learned by that time that you have to look at who funds a study, I finally came across the actual study where the product advertisers get the raising HDL from. Yes, coconut did in fact in the study raise the HDL. But what they neglected to mention in touting the wonderful virtues of coconut oil based on scientific studies, is that same study showed that it also raised LDL, VLDL, apo proteins A & B, all significantly!!! One in fact went up 512%.

By the time I was done, I had a 2 hour PPT presentation against oils in general and definitely coconut oil, with every slide pretty much documented with the study reference(s) on the slide.

*“The oil, as eaten in the olive, is far preferable to animal oil or fat.”<sup>i</sup>*

—E. G. White

---

<sup>i</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association.

## CHAPTER 25

### OIL IN MY BREAD

A lot of interesting reactions to the Coconut oil article came in, with some good questions which are the inspiration for this particular article. Here is your comment:

“Recently in my attempt to make light whole wheat/spelt bread for my family I started using extra virgin cold pressed organic olive oil in the bread (about 1-1 1/2 tablespoons in a large loaf). My family loves good healthy bread. I don't feel sluggish after eating it and no one seems to suffer from digestive issues, but I'm still wondering about it. Is this something to be concerned about? Does this create a problem for digesting the starches? Does your wife have a good, light whole wheat bread recipe that does not use oil? (I'd be interested!!). Thank you and God bless,”

Thank you for writing in and for your questions. Here is a good link to how to make good bread without oil:  
<https://youtu.be/xsmchOVc8mU>

What about baking with oil, after all wasn't oil used in Bible times? My question is, would we recognize the oil used in Bible times? And, for over a million people traveling on foot through a desert, how much oil per person do you believe they used on a daily basis?

But what about baking with oils? Now, as an aside, but in approach to this topic, one common way oils are used is in frying, which we know significantly deteriorates their valuable properties and saturates them with oxidized products of thermal degeneration, referred to as Lipid peroxidation.<sup>1</sup> Oxidized fats are a source of much disease and suffering.

But what about simple baking with oils, as adding a little bottled oil to a bread recipe. I was fascinated to serendipitously discover (while doing the scientific research on why it is so harmful to mix fruits and vegetables such as lettuce and tomatoes) a set of articles on bread baking, which, when compared showed that adding oil to bread increased its oxidative stress by 10 times!<sup>2,3</sup> That's right, ten times higher oxidative stress in bread which has been baked with one of its ingredients being bottled oil. We are talking here about the same oxidative stress that increases the risk of cardiovascular disease,<sup>4,5</sup> rheumatoid arthritis<sup>6</sup>, and psychological disorders<sup>7</sup>. Yes, psychological disorders. So, if your oil loving friends seem a little bit dysfunctional, just cut them some slack and chalk it up to dietary choices.

Now, obviously, baking and frying aren't the only ways we use bottled oils. But, overall,

## Blue Print for Health and Healing

increased use of bottled vegetable oils has a negative impact on health. Ok, so at this point, you are probably catching your breath and saying to yourself, “He doesn’t sound like a loyal oil company sponsored salesman”. Well, here’s why. A high intake of vegetable oil increases the risk of stomach cancer by 4-1/2 times<sup>8</sup>, and breast cancer by nearly 5 times<sup>9</sup>. What’s more, it increases the risk of high blood pressure<sup>10</sup> with all its attendant health implications.

Now that said, someone is going to ask, “what about my 100% pure extra virgin cold pressed olive oil?” And my first question will be, how do you know you have 100% pure extra virgin cold pressed olive oil? Some say it’s hard to find<sup>11</sup>, some say it’s not<sup>12</sup>. That said, the study above on the deterioration of frying oils was a study on olive oil, it does deteriorate when heated.

Does addition of free oil, i.e. bottle vegetable oil, to baked goods create a problem for digesting the starches? The results of cooking starches with oil is that the starches become resistant to digestion<sup>13</sup>. Whereas starch digestion starts in the mouth, facilitated by water-based enzymes, oil digestion occurs in the small intestine, facilitated by bile or fat based enzymes. If the starch is oil coated, the water-based enzymes cannot get at it to digest it.

So how do I make my favourite recipe without oil. Well, there are some viable alternatives, some good substitutes. I’m not saying you are going to be able to deep fat fry anything in any of these replacements, but in recipes they may work well for you.

Ground flax can be used in some recipes, as used in the bread recipe link above. Here is how it works: for each tablespoon of oil, margarine or butter the recipe calls for, substitute three times as much ground flax meal. Ground flax can be used to substitute for all of the oils or fats in the recipe or for just a portion them. Beware though, this will tend to make the baked goods brown more quickly. You may also want to add a little more liquid to the recipe or decrease the other dry ingredients a bit to make up for the added dry flax meal.

Personally, in breadmaking, I prefer to substitute the oil, tablespoon for tablespoon, with unsweetened applesauce. So, if the recipe calls for one tablespoon of vegetable oil, I would substitute one tablespoon of applesauce.

Another alternative worth knowing, in baking, is to add 2T soy flour per 1 cup grain flour, and this adds natural fat to your culinary creation.

All in all, I want to thank you all for your feedback and questions on the coconut oil article.

### HERE IS WHAT YOU SAID

Greetings. I just read your article on “Sluggish for 3 days “.... And I’m remembering the 80’s. My late wife and I would go to the pie shop ONCE A YEAR before Christmas and I would order Boysenberry Pie Alamo (With 2 scoops of ice cream on top of warm pie). I found that for 3 days I felt sluggish!! My mind was so sluggish that I felt the need (I didn’t use one except then) to use a calculator when figuring



costs. After 3 days the cloud slowly disappeared. I can fully appreciate and understand what you say, and I'm 100 percent in agreement. But it may not affect all people that way. I've asked people if foods such as that affect them that way and most people don't notice .... Or don't know the difference.

I just received your newsletter and article about coconut oil. It confirmed what we already thought. We have never used margarine, smart balance, or any free oils in frying or other cooking. If I happen to eat some while out, I can testify to feeling so sluggish and sleepy and such a dull mind.

Thanks heaps John for this great info - another touchy subject. Should have heard the reaction when I emailed my church brothers and sisters the one on fermentation!

Out goes the coconut oil! Have to hand it to you, you sure are saving me money!

God bless you, Julie and Conner!

Dr. Clark,

Thank you so much for your newsletter. It is so easy to get off track. Your article on Coconut oil and grease was meant for me. I needed the added reminder. We are on the road so much it's easy to eat way too many fats.

Dr. John, Thank you for the good articles. The subjects are well done and ones I have interest in.

In Russia seems all whole wheat bread is sour dough. MY mission service in Phuket Thailand where coconuts were used daily and no heart disease in the rural area at that time. The whole food seems to be the answer.

*“I am advising the people wherever I go to give up liquid food as much as possible.”<sup>i</sup>*

—E. G. White

---

<sup>i</sup> White, E. G. (1897). *Healthful Living*. Battle Creek, MI: Medical Missionary Board.

## CHAPTER 26

### WHAT ABOUT JUICING?

“Juice Your Way to Fabulous Health”, sings a colorful title backed by pretty beverage illustrations. The book opens with this statement: “Have you heard the news? Purchasing a juicer; squeezing fresh juices from raw carrots, beets, celery, kale, lemons, apples, and grapes; and ‘juice fasting’ have suddenly gone mainstream.” “Juicing” has become so popular that it is the subject of books, web sites, and films.<sup>1</sup>

On the other hand, a famous health advocate declares, “I am advising the people wherever I go to give up liquid food as much as possible.”<sup>2</sup> “Taken in a liquid state, your food would not give healthful vigor or tone to the system.”<sup>3</sup> “Solid foods requiring mastication will be far better than mush or liquid foods.”<sup>4</sup>

As a medical doctor, who lectures on lifestyle medicine concerns, I am frequently approached with questions about the health benefits of juicing and/or smoothies.

It is essential to evaluate the origin of a health practice before you recommend it. “Juice therapy has long been a component of the 5,000 year-old tradition of Ayurveda. Ayurveda was a traditional system of medicine that originated in India.”<sup>5</sup> This ancient Indian healing tradition involves believing in universal energy called prana—energy that is believed to travel through the body via channels called chakras.<sup>6</sup> Ayurveda is concerned with achieving balance in body and mind by restoring the balance of three elements, or factors...VATA, PITTA and KAPHA (Air, Fire and Water) of which the body is made in their paradigm. Juice is said to be important to balance these elements.<sup>7</sup> I would show you a

picture of the Hindu god Dhanvantari associated with juicing, but the god is poorly clad and I won’t risk offending your sense of modesty. “It is common practice in Hinduism for worshipers to pray to Dhanvantari seeking his blessings for sound health for themselves and/or others, especially on Dhanteras.”<sup>8</sup>

It is important to note that your body handles liquid foods differently than it handles solid foods. Liquid food does not give healthful vigor to the body.

“Your stomach was not receiving that vigor that it should from your food. Taken in a liquid state, your food would not give healthful vigor or tone to the system. But when you change this habit, and eat more solids and less liquids, your stomach will feel disturbed. Notwithstanding this, you should not yield the point; you should educate your stomach to bear a more solid diet.”<sup>9</sup>

More happens in the mouth than many appreciate. The immune tissue in the mouth and throat, like the tonsils, test substances coming into the body to let the immune system know what is being eaten as food.<sup>10,11,12,13,14</sup> Allergy, inflammation and autoimmune diseases are more likely to flare up when food is not chewed long and well, when the body has not had sufficient time or impetus to identify the incoming antigens.<sup>15,16</sup> One technique, of alternative allergists, is to take a food to which someone is allergic and make a liquid tincture

## Blue Print for Health and Healing

out of it, then have that person hold this tincture under their tongue for 15 minutes prior to eating, thus presenting the inflaming antigen to the testing cells of the mouth (dendritic cells), which, in turn will lower the sensitivity of the body to that substance. Chewing your food long, thoroughly, and well are part of avoiding or preventing annoying food sensitivity diseases.

Liquid diet fad is like a man falling into sin.

“Man has fallen by sin; but there is no need of his continually repeating the transgression of Adam and Eve. There is no necessity for pleasing and gratifying the appetite by indulging in forbidden things. All should understand that by indulging perverted appetite, they violate the laws of health and life. Many have misinterpreted health-reform, and have received perverted ideas of what constitutes right living. Some honestly think that a proper dietary consists chiefly of porridge. To eat largely of porridge would not insure health to the digestive organs; for it is too much like liquid. Encourage the eating of fruit and vegetables and bread.”<sup>17</sup>

Most people making liquid meals are not careful to follow good food combining principles. They intake a large variety of food at each meal in their smoothies or juices as though they had to balance their entire life’s nutritional requirements in one sitting. This confuses the stomach.

“To eat largely of porridge would not insure health to the digestive organs; for it is too much like liquid. Encourage the eating of fruit and vegetables and bread. ... If we would preserve the best health, we should avoid eating vegetables and fruit at the same meal. If the stomach is feeble, there will be distress, the brain will be confused, and unable to put forth mental effort. Have fruit at one meal and vegetables at the next.”<sup>18</sup>

Liquid foods are not as wholesome.

“Grains used for porridge or "mush" should have several hours' cooking. But soft or liquid foods are less wholesome than dry foods, which require thorough mastication. Zwieback, or twice-baked bread, is one of the most easily digested and most palatable of foods. Let ordinary raised bread be cut in slices and dried in a warm oven till the last trace of moisture disappears. Then let it be browned slightly all the way through. In a dry place this bread can be kept much longer than ordinary bread, and, if reheated before using, it will be as fresh as when new.”<sup>19</sup>

Each type of food takes a different digestive approach. You may realize that your body reacts very differently to a lemon than it does to broccoli. Excessive variety, as encountered in a complex meal composed of multiple diverse foods or complex smoothies, can provoke allergy, inflammation and autoimmunity.<sup>20</sup>

Super blenders are capable of making a drink of almost any solid food. When solids are whizzed up with liquid in a blender they are atomized into nano-particles. These nano-particles then tend to absorb into the bloodstream unchecked by the usual filtering mechanisms provided by the wall of the intestines. This is like a dangerous condition referred to as leaky gut syndrome.<sup>21</sup> This has been the drawback to homogenization of milk.<sup>22,23,24</sup> When these nano-particles enter unfiltered in the blood stream the body can develop sensitivities and/or unhealthy reactions.

Juicing has gained considerable popularity in the alternative and integrative approach to cancer therapy. One such system is that of Gerson. Gerson therapy daily regimen calls for drinking 13 glasses of juice from fresh, organic fruits, vegetables and calves' livers, and eating vegetarian meals prepared from organically grown fruits, vegetables and whole grains.<sup>25</sup>

Interesting to note that studies have been unable to demonstrate any antioxidant

## What About Juicing?

advantage for consuming fruit as juice over eating the whole fruit.<sup>26</sup>

Do large multinational epidemiological studies support juicing as effective for fighting cancer? March 4-6, 2008, I attended the Fifth International Congress on Vegetarian Nutrition. Over 700 attended representing over 40 countries. This congress has become the premiere scientific conference on plant-based diets. Scientists from a dozen different countries shared the podium to impart their evidence for the efficacy of vegetarian nutrition. In many cases we were asked not to photograph the presenters slides as they contained unpublished data. In one such lecture a presenter from Europe revealed his data from several countries demonstrating the benefit of vegetable consumption for the prevention of cancer. One slide showed that consumption of the recommended servings of whole vegetables reduced the risk of cancer by 30% (OR 0.7), while for the same population, consumption of the same vegetables as juice raised the risk for cancer by 30% (OR 1.3).<sup>27</sup> In other words, juicing increases the risk of cancer. One study showed a 3 times higher risk for stomach cancer in juice drinkers.<sup>28</sup>

One rationale often sighted for the use of liquid food is that nutrients are absorbed more quickly and go straight to the cells. One example might be sugar. The removal of fiber from food in juicing or blending and physically disrupting the fiber can result in faster nutrient ingestion and faster absorption. This can result in decreased satisfaction and disturbed glucose control. Drinking your meals often results in the blood sugar rising faster and higher than the body can control. This causes excessive insulin production with resultant low blood sugars (hypoglycemia). Because liquids have less fiber / disrupted fiber, people drinking their meals tend to get hungry sooner, before their next scheduled mealtime.<sup>29</sup> These effects favor over-nutrition and, if often repeated, could lead to diabetes<sup>23,30</sup> For the diabetic, juice drinking spells high blood sugar or hyperglycemia.<sup>31</sup> In fact, orange juice proved to be no better than a cola drink in its effect on blood sugar.<sup>32</sup>

Another example of unbridled absorption and subsequent health compromise is the case of oxalate as found in such commonly liquefied foods as spinach. Oxalate is a component of some painful renal compromising kidney stones. People who make liquid nutrition a significant portion of their food intake have been documented to suffer from oxalate overload and kidney stone formation.<sup>33</sup>

That's the story for sugar and oxalate, what about other nutrients driven out of balance by liquefying them? Kale is another example. kale juice can even drive down thyroid function.<sup>34</sup> So what are you going to juice. My personal recommendation is to use medicinal teas, where you can be more selective on the nutrients you are wanting.

Hearty chewing is part of good appetite control. Juices are significantly less satisfying than purées, sauces or smoothies. Purées, sauces or smoothies are significantly less satisfying than whole fruit.<sup>35,36,37</sup> The faster food is eaten the more calories that are typically eaten. People drinking more liquid food tend to eat faster and gain more weight.<sup>38,39</sup>

Choosing foods that require more chewing can help reduce the number of calories eaten and help with weight management. Thorough chewing increases food satisfaction and decreases appetite.<sup>40</sup> The more you chew, the less food it takes to satisfy your appetite.<sup>41</sup> Appetite is reduced by nerve feedback from the teeth to the brain when you chew something that is hard.<sup>42</sup> Liquid nutrition does not engage the teeth as solid foods do, therefore they do not satisfy the appetite as do solid foods.

Liquids consumed with a solid meal do not decrease the amount of food eaten, they just tend to add to the total number of calories consumed.<sup>43</sup> If you drink with your meal you will tend to eat the same amount of food, the liquid just adds calories, this will just add to your weight gain.

When the intestines do not sense the presence of substantial fiber in the food the appetite is not suppressed and over nutrition can result.<sup>44,45</sup> People who eat more fiber will tend to eat fewer calories and be less apt to

## Blue Print for Health and Healing

become obese and get diabetes.<sup>46,47</sup> This effect is not limited to the meal currently being eaten, low natural fiber content in food makes it so the person will eat a greater amount of food at the next meal too.<sup>48</sup>

Most any food or drink that increases your insulin levels also tends to raise your cholesterol.<sup>49</sup>

Digestion begins in your mouth. You need saliva with amylase and other enzymes to digest your food properly and for you to get all the nutrients you need from it. Solid foods in your mouth that require extensive chewing stimulate the saliva glands to produce a greater volume and better quality of saliva to begin digestion.<sup>50,51</sup>

Saliva is the liquid you need with your meals not drink.

“Many make a mistake in drinking cold water with their meals. Taken with meals water diminishes the flow of the salivary glands; and the colder the water, the greater the injury to the stomach. Ice water or iced lemonade, drank with meals, will arrest digestion until the system has imparted sufficient warmth to the stomach to enable it to take up its work again. Hot drinks are debilitating; and besides, those who indulge in their use become slaves to the habit. Food should not be washed down; no drink is needed with meals. Eat slowly, and allow the saliva to mingle with the food. The more liquid there is taken into the stomach with the meals, the more difficult it is for the food to digest; for the liquid must first be absorbed. ... But if anything is needed to quench thirst, pure water drank some little time before or after the meal is all that nature requires. Never take tea, coffee, beer, wine, or any spirituous liquors. Water is the best liquid possible to cleanse the tissues.”<sup>52</sup>

Saliva is rich in enzymes, cofactors and water necessary to process your food. How hard you chew determines how much saliva will be

produced and how loaded it will be in enzymes. Dry foods stimulate the glands to produce even more saliva higher in amylase than liquid foods.<sup>53</sup> If you are quickly drinking down smoothies or juices, enzymes will be missing from your digestion, digestion will be incomplete, nutrients from the valuable food you are eating will be lost to you and you could become deficient in some necessary nutrient.

“But I don’t have enough time to eat, I’m in a hurry!” Stress decreases saliva production.<sup>54</sup> If you do not have enough time to eat, better to skip the meal and just drink water than to slurp down a smoothie. Stressed living is the source of many modern ailments. Failing to plan adequate time for meals and substituting with liquid nutrition are not healthy. Interestingly, thorough chewing helps relieve the physiological effects of stress.<sup>55</sup>

Longer in the mouth, better for the health.

“In order to have healthy digestion, food should be eaten slowly. Those who wish to avoid dyspepsia, and those who realize their obligation to keep all their powers in the condition which will enable them to render the best service to God, will do well to remember this. If your time to eat is limited, do not bolt your food, but eat less, and eat slowly. The benefit you derive from your food does not depend so much on the quantity eaten as on its thorough digestion, nor the gratification of the taste so much on the amount of food swallowed as on the length of time it remains in the mouth. Those who are excited, anxious, or in a great hurry, would do well not to eat until they have found rest or relief; for the vital powers, already severely taxed, cannot supply the necessary gastric juice.”<sup>56</sup>

For children, eating foods that require more chewing builds the jaw, spreads the teeth and makes it less likely that they will need braces from an orthodontist to straighten out their bite.<sup>57,58</sup>

## What About Juicing?

Fruit smoothies tend to be acidic and have been shown to soften teeth and cause dental erosion. The article concludes, in order to minimize the risk of developing dental erosion their consumption should be confined to mealtimes.<sup>59</sup> Which goes without saying, since eating juices or smoothies between meals is not something people pursuing optimal health would choose to do. Dental cavities or decay are significantly higher in juice drinkers.<sup>60</sup>

Juicing separates juice from the whole fruit or vegetable. The processing results in a reduction in vitamins and minerals, because the nutrient-rich skin and fiber is left behind or the fiber is disrupted with blending.

Liquid food is classified with meat.

“The dishes of soft foods, the soups and liquid foods, or the free use of meat, are not the best to give healthful muscles, sound digestive organs, or clear brains. O how slow we are to learn! ... Solid foods requiring mastication will be far better than mush or liquid foods.”<sup>61</sup>

In the stomach, a liquid meal just makes for more work; the excess fluid must be adsorbed before serious digestion can begin.<sup>62,63</sup> Having not spent much time in the mouth, the fluid is in danger of being warmer or colder than what the stomach likes, thus hampering or even delaying digestion.<sup>64</sup>

Liquid food must be adsorbed before the real process of digestion can begin.

“In fact, the more liquid there is taken with the meals, the more difficult it is for the food to digest; for the liquid must be absorbed before digestion can begin.”<sup>65</sup>

Many people suffer with reflux disease. For the esophagus, a liquid taken into the stomach just tends to put it at greater risk for reflux and its associated heart burn.<sup>66,67</sup> Solid food stays down much better.

Fiber is the bulk in food that gives it body or fullness. When a meal, complete with unprocessed natural fiber enters the intestines,

it provides bulk, which stretches the intestinal walls. When the walls or the intestines sense stretching, they send a signal to the stomach to cut back on digestive acid. Juices and smoothies with disrupted fiber do not provide this stimulus for acid reduction; the stomach continues to make too much acid, and heart burn, reflux and indigestion can be the result.<sup>68</sup>

When pre-digested liquid meals such as juices are substituted instead of whole foods the intestines atrophy.<sup>69</sup> Intestines that are atrophied are more prone to disease and poor adsorption of nutrients.

Good dietary fiber is important for the health of the intestines, it reduces inflammation and as it breaks down it actually feeds healthy intestinal flora.<sup>70</sup> We call this good fiber prebiotics.

Where does all this liquid food end up that goes rushing into the blood stream? The filters are the kidneys and they really suffer, not to mention, until the kidneys do clear the murk out of the blood you may experience some brain fog. Liquid food is a major hazard for people with kidney failure and increases the risk of kidney cancer.<sup>71,72</sup>

Liquid food taxes the kidneys

“I told them that the preparation of their food was wrong, and that living principally on soups and coffee and bread was not health reform; that so much liquid taken into the stomach was not healthful, and that all who subsisted on such a diet placed a great tax upon the kidneys, and so much watery substance debilitated the stomach.”

“I was thoroughly convinced that many in the establishment were suffering with indigestion because of eating this kind of food. The digestive organs were enfeebled and the blood impoverished. Their breakfast consisted of coffee and bread with the addition of prune sauce. This was not healthful. The stomach, after rest and sleep, was better able to take care of a substantial meal than when wearied with work. Then the

## Blue Print for Health and Healing

noon meal was generally soup, sometimes meat. The stomach is small, but the appetite, unsatisfied, \*partakes largely of this liquid food; so it is burdened.”<sup>73</sup>

A lot of people fight high blood pressure. Studies of people consuming liquid nutrition demonstrate that juices are no aid in controlling hypertension, in fact they compound the problem by increasing, especially diastolic blood pressure.<sup>74</sup>

In case I forget, I want to mention, people who drink juice every day have lower total brain volume, lower hippocampal volume, and poorer memories, making juice drinking a serious risk factor for Alzheimer’s dementia.<sup>75</sup> Studies show that chewing actually has a positive effect on brain function, cognition,<sup>76</sup> and reduces depression. In fact, poor dentition correlates with cognitive decline.<sup>77</sup>

Liquid food is not good for students.

“I know not who is cook at the boarding hall, but I beseech you, do not place any persons to oversee the cooking of food for the college students unless they have a thorough knowledge of the right kind of cooking, that the students shall take away with them the very best intelligence of what hygienic cooking means. The much-liquid food, the pastries, the desserts, prepared for the table after European hotel fashion, is not the proper food to place before a hungry lot of students, whose appetites are keen to devour the most substantial food. ... The students pay for their board; give them good, solid, nourishing food.”<sup>78</sup>

I am not saying to never take a sip of juice. Pointing out the disadvantages of some lifestyle practice is not a complete condemnation of it entirely. Situations where a little liquid food could be lifesaving would include someone with dangerously low blood sugar, or someone who has extreme debilitating fatigue.

Is there any place for juice?

“The pure juice of the grape, free from fermentation, is a wholesome drink. But many of the alcoholic drinks which are now so largely consumed contain death-dealing potions. Those who partake of them are often maddened, bereft of their reason. Under their deadly influence men commit crimes of violence and often murder.”<sup>79</sup>

“Make fruit the article of diet to be placed on your table, which shall constitute the bill of fare. The juices of fruit, mingled with bread, will be highly enjoyed. Good, ripe, undecayed fruit is a thing we should thank the Lord for, because it is beneficial to health.”<sup>80</sup>

“Cider and wine may be canned when fresh and kept sweet a long time, and if used in an unfermented state they will not dethrone reason.”<sup>81</sup>

“It is a treat to have all the oranges we want. I use lemon juice freely. It is the best thing you could use for rheumatism, for your head, and for malaria.”<sup>82</sup>

“We are now expressing juice from the oranges and canning the same. We have pressed out the juice from the lemons also, in order that we may furnish palatable drink for hot weather.”<sup>83</sup>

“The third day when the aromatic odor of the cigars came to me I became stomach-sick. The most intense pain pierced my eyeballs and back of the eyeballs in my head. It seemed that the top of my head was crashing like broken glass. My distress became very great. I thought I was going into a fit. Large drops of perspiration stood upon my face and my entire body broke out in profuse perspiration. Then came a confused noise in my head and I became blind and fainted entirely away. In half an hour I



## What About Juicing?

revived by lemon juice being pressed in my mouth. I knew as soon as I revived that it was the smoking of cigars which had thus affected me. All in the cars were alarmed and smoking was banished from the car. I have not fully recovered from the effects of this illness.”<sup>84</sup>

“When you see that you are becoming weak physically, it is essential for you to makes changes, and at once. Put into your diet something you have left out. It is your duty to do this. Get eggs of healthy fowls. Use these eggs cooked or raw. Drop them uncooked into the best unfermented wine you can find. (DR. KRESS ACCEPTED THIS COUNSEL. HE FOLLOWED THE RAW-EGG AND GRAPE-JUICE REGIMEN REGULARLY UNTIL HIS DEATH IN 1956 AT THE AGE OF 94.) This will supply that which is necessary to your system. Do not for a moment suppose that it will not be right to do this.”<sup>85</sup>

“I was weak, and my heart pained me. I felt the need of a strong cordial, but there was nothing in the house but grape juice. I took some of this, and it strengthened me, but I was much exhausted.”<sup>86</sup>

“It is many years since I have had meat on my table at home. We never use tea or coffee. Occasionally I have used red-clover-blossom tea for a warm drink, but few of my family drink any fluid at our

meals. The table is provided with cream instead of butter, even though we have company present. I have not used butter for many years.”<sup>87</sup>

“Taken in a liquid state, your food would not give healthful vigor or tone to the system. But when you change this habit, and eat more solids and less liquids, your stomach will feel disturbed. Notwithstanding this, you should not yield the point; you should educate your stomach to bear a more solid diet.”<sup>88</sup>

### Example of author leaving off liquid food

“I have recently left off the use of all liquids, such as homemade coffee, with my meals. I eat my food as dry as possible. The result is excellent. In the morning I take lemon and water. I drink nothing between meals unless it be occasionally some lemon and water. At the table I do not eat many things either. I use dry peas boiled, then strained, then baked, and canned tomatoes. When fresh, I use the tomatoes uncooked with bread. This is my principal article of food.”<sup>89</sup>

Habits are difficult to change, and some of these practices we have embraced unwittingly. But God loves us and is willing to supply the power for positive change. Aren't you glad we serve a God like that?

*“The truth for this time, the third angel’s message, is to be proclaimed with a loud voice, meaning with increasing power, as we approach the great final test. This test must come to the churches in connection with the true medical missionary work, a work that has the Great Physician to dictate and preside in all it comprehends. Under the great Head we are to present God’s word requiring obedience to the system of Bible truth, which is a system of authority and power, convicting and converting the conscience. The demand of the Word to obedience is a life-and-death question.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1981). Loma Linda Messages. Payson, AZ: Leaves-Of-Autumn Books. p. 336.

## CHAPTER 27

### MANDATORY HEALTHCARE: Does God Care?

Fear, which could not be disguised, yet determined conviction could be heard in the voice of a distraught parent as they requested an evaluation of their small child, who they feared might have cancer. "Could you examine my child and do some lab tests, he has a lump under his skin and we would like to know what it is." They were members of a church congregation where another child had contracted cancer and had been forced to take treatments that this family's convictions opposed. The child had died, only after going deaf and blind. They had come to me in hoping that I could render them a diagnosis without exposing their child to a similar fate.

Who is invested with authority to decide what care is right for a person, and what criteria govern that choice, and where does that authority come from? A person's conscientious convictions about moral choices in health care are assaulted in many different ways, some passive and some aggressive.

Passively, there is the social pressure, perhaps by well-meaning relatives or so-called friends who feel their views on the subject are the only ones that can rule health (co-dependency at work here). They, "come to you in sheep's clothing, but inwardly they are ravening wolves." (Matthew 7:13-15).

There is pressure through the media, designed to influence (or brain wash) the public sentiment in favor of health care practices not generally in harmony with a firm "thus saith the Lord" but rather in opposition thereto. "...to seduce, if it were possible, even the elect." (Mark 13:21-23).

There are subtle enticements, like from the snake in the tree of the Garden of Eden, advertising and promoting treatments that are not on God's acceptable list. "But every man is tempted, when he is drawn away of his own lust, and enticed." (James 1:14,15).

Then there are the public health guises, claiming to have the better good of society in view and venerating the benefits as out weighing the

risks (herd immunity and the like), "it is expedient for us, that one man should die for the people, and that the whole nation perish not." (John 11:50). But what are the risks; a guilty conscience and eternal loss? "There is a way that seemeth right unto a man, but the end thereof are the ways of death." (Proverbs 16:25).

#### LIBERTY OF CONSCIENCE THREATENED

Sometimes those in power become aggressive and resort to methods of deadly force to secure homage to their dictates regarding health care. An aggressive way in which the God-ordained mandate to care for one's body is defied is through oppressive legislation. "...commanding to abstain from meats, which God hath created to be received with thanksgiving of them which believe and know the truth." (1 Timothy 4:1-3). Groups of men in government dare to dictate the care of man's body, in disregard to God's will. "Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator,..." (Romans 1:25). Satan (the leader of the opposition to God's government) has, as the pillars of his kingdom, force, fear, intimidation, manipulation and/or bribery. "...and cause that as many as would not worship the image of the beast should be killed." (Revelation 13:15-17).

#### THE LAMBS OF OUR FOLD

The control of children's health care seems to be more disputed than any other.

God tells us that children are a gift from Him, to their parents, "Lo, children are an heritage of the LORD: and the fruit of the womb is his reward." (Psalms 127:3, Genesis 33:5;48:9, Hebrews 2:13). Parents are held accountable to teach their children right principles and ways of life, "Train up a child in the way he should go: and when he is old, he will not depart from it." (Proverbs 22:6;

## Blue Print for Health and Healing

Deuteronomy 4:9; 6:7; Psalms 78:1-8). "And, ye fathers, provoke not your children to wrath: but bring them up in the nurture and admonition of the Lord." (Ephesians 6:4). Those who follow this directive are commended, "For I know him, that he will command his children and his household after him, and they shall keep the way of the LORD, to do justice and judgment; that the LORD may bring upon Abraham that which he hath spoken of him." (Genesis 18:19). The end result is that children keep the commands of God, "And shalt return unto the LORD thy God, and shalt obey his voice according to all that I command thee this day, thou and thy children, with all thine heart, and with all thy soul;" (Deuteronomy 30:2).

The Bible further teaches that parents—not the state—are entrusted with the care and welfare of their children, "But if any provide not for his own, and specially for those of his own house, he hath denied the faith, and is worse than an infidel." (1 Timothy 5:8). "For the children ought not to lay up for the parents, but the parents for the children." (2 Corinthians 12:14). Biblically, the state does not have a good track record in their approach to caring for God's children (Exodus 1:22; Amos 1:13; Matthew 2:16-18; Revelation 12:4). Of no one on earth is a more rigorous account going to be required in the judgment than of parents. "Where is the flock that was given thee, thy beautiful flock?" (Jeremiah 13:20; Isaiah 8:18). "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me." (Matthew 25:40).

### SPIRITUAL NATURE OF HEALING

In the Old Testament sickness seemed only to come in response to disobedience and was a call to return to God (2 Chronicles 7:13,14; Isaiah 6:9-12). In contrast, health came from God in response to obeying His law and meditating on His word (Proverbs 3:1-7; 4:20-22; Exodus 15:26). The real question that we all need to answer is this: Is our illness (disease) a call from God to soul searching and repentance?

Does God promise that He'll protect us from pestilence? Moses knew this. He knew if they didn't meet together they would get a pestilence. When he went before Pharaoh he said, "The God of the Hebrews hath met with us: let us go, we pray thee, three days' journey into the desert, and sacrifice unto the LORD our God; lest he fall upon us with pestilence, or with the sword." Exodus 5:3. "Hurricanes, storms, tempests, fire and flood, disasters by sea and land, follow each other in quick succession. Science seeks to explain all these. The signs thickening around us, telling of

the near approach of the Son of God, are attributed to any other than the true cause." (Testimonies for the Church Vol. 6, Pg. 408). What caused the pestilence in David's Day? Satan stood up against Israel and provoked David to number Israel and a pestilence came. What happened, what caused a pestilence when Balaam got the people of Israel to come over to Balak and Moab and had the festival at Baalpeor? It was their apostasy. There is no place in the Bible that says, "Oh, it was a bad year, and we had a really bad mutation, and some funny bugs showed up." Does Matthew 24 tell us why pestilence comes? In the end time it's a sign of Jesus coming, isn't it? There is also the true philosophy of history, where righteousness exalts a nation (Proverbs 14:34). Has China been a champion of religious freedom lately, or has it been cracking down on Christians? Recently you may have heard stories about them saying they're intending to rewrite the Bible so it looks more like the Communist Manifesto, so the Christian churches will come more in line with Communist doctrine. Maybe that's why they got the pandemic over there first.

"Natural means, used in accordance with God's will, bring about supernatural results. We ask for a miracle, and the Lord directs the mind to some simple remedy. We ask to be kept from the pestilence that walketh in darkness, that is stalking with such power through the world; we are then to cooperate with God, observing the laws of health and life. Having done all that we possibly can, we are to keep asking in faith for health and strength. We are to eat that food which will preserve the health of the body. God gives us no encouragement that He will do for us what we can do for ourselves. Natural laws are to be obeyed. We are not to fail of doing our part. God says to us, 'Work out your own salvation with fear and trembling. For it is God which worketh in you both to will and to do of his good pleasure' (Phil. 2:12, 13)." (Selected Messages Vol. 2, Pg. 346).

Healing was often sought at the hand of the priests or prophets. For example, Naaman came to prophet Elisha and found healing after following God's natural treatment regimen (2 Kings 5). The very word health is religious, in fact in the new testament one Greek word "Sozo" serves to carry both the meaning "save" (e.g., Matthew 18:11). and "heal" (e.g., Mark 5:34). God links good physical health to soul prosperity, "Beloved, I wish above all things that thou mayest prosper and be in health, even as thy soul prospereth." 3 John 2. In other words, many people will not find physical healing until they find spiritual healing. Is your current health care

## Mandatory Healthcare: Does God Care?

provider prepared to mentor you in spiritual healing as well as physical healing?

When human help fails James tells us what we are to do. Call the elders, anoint the sick, and then he says that the prayer of faith shall “save” (Greek “Sozo”) the sick. (James 5:14,15).

The opposing sides of this issue differ on their views on the origin of life, which impacts their opinion on who has authority to decide the treatment and fate of an ill person. But for the Christian, the Bible answers the question with a ring of authority that only God can wield, “To the law and to the testimony: if they speak not according to this word, it is because there is no light in them.” (Isaiah 8:20).

### **OWNERSHIP DICTATES “POWER OF ATTORNEY”**

If you were working on a broken automobile and came to a point where several options were available, who would you look to for direction on which option to pursue? The car’s owner, of course. Only the owner of the car has the legal right to decide what they will have done to their car. Who owns us and has the final word in our care? God created man. (Genesis 1:26,27). Not only was man God’s workmanship by creation (“For we are his workmanship, created in Christ Jesus” Ephesians 2:10), but when man fell to Satan’s lies through transgression of God’s command, God bought him back by the life of His dear Son. Thus, man became doubly God’s both by redemption and by creation. “But now thus saith the LORD that created thee, O Jacob, and he that formed thee, O Israel, Fear not: for I have redeemed thee, I have called thee by thy name; thou art mine.” (Isaiah 43:1,2). We owe a double debt of gratitude and submission to our Creator-Redeemer. Does God tie His healthcare statutes to His authority as our Savior? “What? know ye not that your body is the temple of the Holy Ghost which is in you, which ye have of God, and ye are not your own? For ye are bought with a price: therefore glorify God in your body, and in your spirit, which are God’s.” (1 Corinthians 6:19,20).

### **GOD DECIDES OUR CARE**

“Woe unto him that striveth with his Maker! Let the potsherd strive with the potsherds of the earth. Shall the clay say to him that fashioneth it, What makest thou? or thy work, He hath no hands?” (Isaiah 45:9-13). “Ye are bought with a price; be not ye the servants of men.” (1 Corinthians 7:23). Anyone else presuming to dictate our care could be a thief and a robber. “Verily, verily, I say unto you, He that entereth not

by the door into the sheepfold, but climbeth up some other way, the same is a thief and a robber.” “I am the door:” “The thief cometh not, but for to steal, and to kill, and to destroy: I am come that they might have life, and that they might have it more abundantly.” (John 10:1,9,10).

### **THERE IS A PURPOSE**

God, who is so invested in man, is not silent on His purpose for man, to be a praise and a blessing in the earth. “and the people which shall be created shall praise the LORD.” (Psalms 102:18). “for I have created him for my glory,” (Isaiah 43:7), to glorify God in his body. (1 Corinthians 6:19,20. quoted above). And God, who is so invested in man, is also not silent on the care He intends for man to take of his own physical being. “That every one of you should know how to possess his vessel in sanctification and honour;” (1 Thessalonians 4:4). It is the violation of God’s expressed command at the beginning that exposed man to the risk of disease and death, and anyone who likewise violates God’s natural law can also only expect to reap disease and death. “Be not deceived, God is not mocked: for whatsoever a man soweth, that shall he also reap.” (Galatians 6:7). So, who decides if you are going to cooperate with the Creator in the physical care of your body? “when thou shalt be old, thou shalt stretch forth thy hands, and another shall gird thee, and carry thee whither thou wouldest not.” (John 21:18,19).

### **BEYOND DESTINY**

Ultimately, God would like mankind to escape disease, death and the limitations of his well-being resulting from his Eden transgression. Presently God desires to dwell in our hearts and live out the principles of His kingdom through us. “I will dwell in them, and walk in them; and I will be their God, and they shall be my people.” (2 Corinthians 6:16,17). If faithful in taking care of our body here, “...if ye have not been faithful in that which is another man’s, who shall give you that which is your own?” (Luke 16:10-12). The plan is for man to be given immortality and a body like Christ’s. “Who shall change our vile body, that it may be fashioned like unto his glorious body,...” (Philippians 3:21). Otherwise he will be destroyed. “If any man defile the temple of God, him shall God destroy; for the temple of God is holy, which temple ye are.” (1Cor 3:16,17). We are not going to be rewarded positively if we continue to follow any of Satan’s health and spirituality compromising lies. “For we must all appear before the judgment seat of Christ; that every one may

## Blue Print for Health and Healing

receive the things done in his body, according to that he hath done, whether it be good or bad.” (2 Corinthians 5:10). In the judgment, is God going to commend you for the care which has been given to your body?

### TRUE HEALTH FROM YOUR SUSTAINER

God is not just an absentee landlord who created us, who wound us up like a clock and has now left us on our own. As a creature of God’s unremitting care, man never has a moment when he is not sustained, breath-by-breath by his Creator. “He giveth to all life, and breath, and all things;...in him we live, and move, and have our being” (Acts 17:24,27). And perchance illness befalls man, it is his Creator who has His way with the disease. “Who forgiveth all thine iniquities; who healeth all thy diseases; Who redeemeth thy life from destruction;” (Psalms 103:3,4). We are all dependent upon God. “...he maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust.” (Matthew 5:45). You are either healed at God’s will by God or you are not really healed at all. “for I am the LORD that healeth thee.” (Exodus 15:26). “Except the LORD build the house, they labour in vain that build it: except the LORD keep the city, the watchman waketh but in vain.” (Psalms 127:1). Except the Lord heal you, are you really healed at all? And if healed, but not by the Lord, who then healed you?

There is health power in the word of God. “My son, attend to my words; incline thine ear unto my sayings. Let them not depart from thine eyes; keep them in the midst of thine heart. For they are life unto those that find them, and health to all their flesh.” (Proverbs 4:20-22). God’s word is a “tree of life” to those who receive it (see Proverbs 3:13-19).

### GOD RATHER THAN MAN

Truly, what is at stake here is religious liberty. “We ought to obey God rather than men.” (Acts 5:29). Man has a charge from God and a God given right to medical self-determination. Those who usurp authority from God over His children claim the right to dictate the care of man’s body (God given and God sustained) according to their judgment in ways that are physically and philosophically different than God’s will and ways, and that violate the judgment and conscience of the individual. “Every one of you should know how to possess his vessel in sanctification and honour;” (1 Thessalonians 4:4). We are warned that we cannot serve two masters “No man can serve two masters: for either he will hate the one, and love

the other; or else he will hold to the one, and despise the other.” (Matthew 6:24). Either you choose the will of God in your healing, or you don’t.

Ultimately who you turn to in your time of need for healing demonstrates who you worship. Jesus said, “And ye will not come to me, that ye might have life.” (John 5:40). If we believe in Him, He can work for our recovery. If not, where can we turn? “And he did not many mighty works there because of their unbelief.” (Matthew 13:58). Are you looking to God’s dear Son for life and His sanctified means for recovery, or are you seeking only for physical life at all costs (even to the cost of eternal life)? In the end we will either trust in God or we will turn to His adversary. “And all that dwell upon the earth shall worship him, whose names are not written in the book of life of the Lamb slain from the foundation of the world.” (Revelation 13:8).

Is the Christian to seek care of the non-believer or even an anti-Christian? What if the witch of Endor (1Samuel 28:7), who was definitely an anti-Christian, boasts a 100% success rate at healing the disease from which you suffer (p<0.00001); does that make her God’s gift of healing for you? What if the witch of Endor goes off to medical school and learns to prescribe drugs and becomes a designated government accredited health care provider; does that make her God’s gift of healing to you? What if your best Christian friend goes off to witch doctor school; does that make them God’s gift of healing to you? What if the respected atheist neighbor next door goes off to medical school and becomes a famous doctor for a famous atheistic institution of renown; does that make them God’s gift of healing to you? Is God indebted to where His enemy has led the way in medical technology for your healing? God is looking for true health practitioners who can care for the spiritual as well as the physical needs of His people. We must be healed body soul and spirit, or we are not really healed at all.

“If any among us are sick, let us not dishonor God by applying to earthly physicians, but apply to the God of Israel. If we follow his directions (James 5:14, 15) the sick will be healed. God’s promise cannot fail. Have faith in God, and trust wholly in him, that when Christ who is our life shall appear we may appear with him in glory.” (Broadside2, January 31, 1849).

God has promised health to the obedient, “Wherefore it shall come to pass, if ye hearken to these judgments, and keep, and do them, that the LORD thy God shall keep unto thee the covenant and the mercy which he sware unto thy fathers:...And the LORD will take away from thee

## Mandatory Healthcare: Does God Care?

all sickness, and will put none of the evil diseases of Egypt, which thou knowest, upon thee; but will lay them upon all them that hate thee.” (Deuteronomy 7:12-15; Proverbs 4:20-22; Jeremiah 30:17; Exodus 15:26). Is your health care provider and their health recommendations a call to obedience and worship of God?

If you want to be lost, just follow the health plans and suggestions of Satan instead of God. “Forasmuch then as the children are partakers of flesh and blood, he also himself likewise took part of the same; that through death he might destroy him that had the power of death, that is, the devil; And deliver them who through fear of death were all their lifetime subject to bondage.” (Hebrews 2:14,15; 1 John 3:8).

Good king Asa and bad king Ahaziah went outside of God’s approved channels of healing and it proved their ruin. Of king Asa it is said, “And Asa in the thirty and ninth year of his reign was diseased in his feet, until his disease was exceeding great: yet in his disease he sought not to the LORD, but to the physicians.” (2 Chronicles 16:12). When Ahaziah sought not to God for his care he was asked, “Is it not because there is not a God in Israel, that ye go to enquire of Baalzebub the god of Ekron?” (2Kings 1:1-6). Similarly, others have found only financial loss. “And a certain woman, which had an issue of blood twelve years, And had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse,” (Mark 5:25,26). Sometimes there does appear to be healing, but in the end only the symptoms were addressed and the person is not well. “For they have healed the hurt of the daughter of my people slightly, saying, Peace, peace; when there is no peace.” (Jeremiah 8:11).

Daniel is an example of one who took the management of the health of his mind and body under his own supervision in line with his understanding of God’s will for his care. When

presented by the state with a diet deemed to be official (Daniel 1:5,10), Daniel negotiated a diet after God’s plan (Daniel 1:12). It is said, “But Daniel purposed in his heart that he would not defile himself with the portion of the king’s meat, nor with the wine which he drank: therefore he requested of the prince of the eunuchs that he might not defile himself.” (Daniel 1:8).

Who is invested with authority to decide what health care is right for a person and what criteria governs that choice?

### THE BOTTOM LINE

God owns you because He created you and has paid for your redemption. God has given to you the responsibility of taking care of the body he has entrusted you with and He has given directions to be followed in its care, and will hold you responsible thereunto. Health care legislation is moral legislation. When it opposes God, you have to decide to whom your worship belongs, God or man (Matthew 21:33-41).

Are there health care practices which you would be willing to stand up for, as did the three worthies, and say, “If it be so, our God whom we serve is able to deliver us from the burning fiery furnace, and he will deliver us out of thine hand, O king. But if not, be it known unto thee, O king, that we will not serve thy gods, nor worship the golden image which thou hast set up.” (Daniel 3:17, 18)? We are apply advised, “And fear not them which kill the body, but are not able to kill the soul: but rather fear him which is able to destroy both soul and body in hell.” (Matthew 10:28). “But he that shall endure unto the end, the same shall be saved (or healed, Gr. Sozo).” (Matthew 24:13).

When it comes to the care of your body are you willing to, “Trust in the LORD with all thine heart;” and have Him, “direct thy paths.” (Proverbs 3:5,6)?

*“What? know ye not that your body is the temple of the Holy Ghost which is in you, which ye have of God, and ye are not your own? For ye are bought with a price: therefore glorify God in your body, and in your spirit, which are God’s.”<sup>i</sup>*

-Paul the Apostle

---

<sup>i</sup> 1 Corinthians 6:19-20. King James Version of the Holy Bible.



## CHAPTER 28

### GLORIFY GOD IN YOUR BODY: A BIBLE STUDY

1. What does the first angel's message of Revelation 14 tell us we should be doing? (Italics supplied).
  - A "And I saw another angel fly in the midst of heaven, having the everlasting gospel to preach unto them that dwell on the earth, and to every nation, and kindred, and tongue, and people, Saying with a loud voice, *Fear God, and give glory to him*; for the hour of his judgment is come: and worship him that made heaven, and earth, and the sea, and the fountains of waters." Revelation 14:6,7.
2. Toward the close of probation, the last of the seven angels with trumpets is to sound his trumpet. What is to be finished during this critical time?
  - A "But in the days of the voice of the seventh angel, when he shall begin to sound, the *mystery of God should be finished*, as he hath declared to his servants the prophets." Revelation 10:7.
3. To whom will this mystery eventually be revealed and by whom will it be revealed?
  - A "Unto me, who am less than the least of all saints, is this grace given, that I should preach among the Gentiles the unsearchable riches of Christ; And to make all men see what is the fellowship of the mystery, which from the beginning of the world hath been hid in God, who created all things by Jesus Christ: To the intent that now *unto the principalities and powers* in heavenly places *might be known by the church* the manifold wisdom of God, According to the eternal purpose which he purposed in Christ Jesus our Lord: In whom we have boldness and access with confidence by the faith of him." Ephesians 3:8-12.
4. Paul calls us a spectacle, to whom are we a spectacle?
  - A "For I think that God hath set forth us the apostles last, as it were appointed to death: for we are made a *spectacle unto the world, and to angels, and to men.*" 1Corinthians 4:9.
5. What is the mystery of God?
  - A "Whereof I am made a minister, according to the dispensation of God which is given to me for you, to fulfill the word of God; Even the mystery which hath been hid from ages and from generations, but now is made manifest to his saints: To whom God would make known what is the riches of the glory of this mystery among the Gentiles; which is *Christ in you, the hope of glory*: Whom we preach, warning every man, and teaching every man in all wisdom; that we may present every man perfect in Christ Jesus: Whereunto I also labour, striving according to his working, which worketh in me mightily. Colossians 1:25-29.
6. Why were we originally created?
  - A "I will say to the north, Give up; and to the south, Keep not back: bring my sons from far, and my daughters from the ends of the earth; Even every one that is called by my name: for *I have created him for my glory*, I have formed him; yea, I have made him." Isaiah 43:6,7.

## Blue Print for Health and Healing

7. When Jesus' ministry was reaching its completion, He said that He had glorified His Father in heaven. How did he say he had glorified His Father?
- A "And this is life eternal, that they might know thee the only true God, and Jesus Christ, whom thou hast sent. I have glorified thee on the earth: I have finished the work which thou gavest me to do. And now, O Father, glorify thou me with thine own self with the glory which I had with thee before the world was. *I have manifested thy name unto the men which thou gavest me out of the world: thine they were, and thou gavest them me; and they have kept thy word.*" John 17:3-6.
8. When the Bible speaks of the name of God it is talking about His character. How is His character described?
- A "And the LORD descended in the cloud, and stood with him there, and proclaimed the name of the LORD. And the LORD passed by before him, and proclaimed, The LORD, The LORD God, *merciful and gracious, longsuffering, and abundant in goodness and truth,*" Exodus 34:5,6.
9. To glorify God is to reveal His character or name in our lives. What all does this include?
- A "Whether therefore ye *eat, or drink, or whatsoever ye do*, do all to the glory of God." 1Corinthians 10:31.
10. What will happen when we do this?
- A "Let your light so shine before men, that they may see your good works, and *glorify your Father which is in heaven.*" Matthew 5:16.
11. The mystery of God to be finished just before the close of probation is "Christ in you the hope of glory". If Christ lives in us, what does that make us?
- A "What? know ye not that your body is the *temple of the Holy Ghost* which is in you, which ye have of God, and ye are not your own? For ye are bought with a price: therefore glorify God in your body, and in your spirit, which are God's." 1Corinthians 6:19,20.
12. What happens if we defile our temple?
- A "Know ye not that ye are the temple of God, and that the Spirit of God dwelleth in you? If any man defile the temple of God, *him shall God destroy*; for the temple of God is holy, which temple ye are." 1Corinthians 3:16,17.
13. The Bible sometimes speaks of God as causing or doing that which He allows or foresees. How does Romans describe what God does to those who do not glorify Him?
- A "Because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened. Professing themselves to be wise, they became fools, And changed the glory of the uncorruptible God into an image made like to corruptible man, and to birds, and fourfooted beasts, and creeping things. *Wherefore God also gave them up* to uncleanness through the lusts of their own hearts, to dishonour their own bodies between themselves: Who changed the truth of God into a lie, and worshipped and served the creature more than the Creator, who is blessed for ever. Amen." Romans 1:21-25.
14. The Day of Atonement is a special day, what does God say should be done on that day?
- A "Also on the tenth day of this seventh month there shall be a day of atonement: it shall be an holy convocation unto you; and *ye shall afflict your souls*, and offer an offering made by fire unto the LORD. And ye shall do no work in that same day: for it is a day of atonement, to make an atonement for you before the LORD your God." Leviticus 23:27,28. ("Every man was to afflict his soul while the work of atonement was going forward. All business was laid aside, and the whole congregation of Israel spent the day in

## Glorify God in Your Body: A Bible Study

solemn humiliation before God, with prayer, fasting, and deep searching of heart." PP 355.)

15. The Day of Atonement was a day of judgment for Israel, prefiguring the final judgment of the world. Since 1844 we have been living in what the Bible calls "God's judgment hour". Upon what evidence are we being judged?

A "For we must all appear before the judgment seat of Christ; that every one may receive the *things done in his body*, according to that he hath done, whether it be good or bad." 2Corinthians 5:10.

16. During the time of judgment, ancient Israel was to be sober and search their hearts so God could cleanse the sanctuary of their sins. What happened to these people's sin when they decided to celebrate instead?

A "And in that day did the Lord GOD of hosts call to weeping, and to mourning, and to baldness, and to girding with sackcloth: And behold joy and gladness, slaying oxen, and killing sheep, eating flesh, and drinking wine: let us eat and drink; for to morrow we shall die. And it was revealed in mine ears by the LORD of hosts, *Surely this iniquity shall not be purged from you till ye die*, saith the Lord GOD of hosts." Isaiah 22:12-14.

17. How does Paul describe those who live for their own glory and please their own bellies?

A "For many walk, of whom I have told you often, and now tell you even weeping, that they are the enemies of the cross of Christ: Whose end is destruction, *whose God is their belly, and whose glory is in their shame, who mind earthly things.*" Philippians 3:18,19.

18. Have you heard it said, eat to live and don't live to eat? How does Solomon say this?

A "Blessed art thou, O land, when thy king is the son of nobles, and thy princes *eat in due season, for strength, and not for drunkenness!*" Ecclesiastes 10:17.

19. Can we love the sins of the world and glorify God?

A "Love not the world, neither the things that are in the world. *If any man love the world, the love of the Father is not in him.* For all that is in the world, the lust of the flesh, and the lust of the eyes, and the pride of life, is not of the Father, but is of the world. And the world passeth away, and the lust thereof: but he that doeth the will of God abideth for ever." 1John 2:15-17.

20. How can we be prepared for the judgment; how can we glorify God?

A Now unto him that is able to keep you from falling, and to present you faultless before the presence of his glory with exceeding joy, To the only wise God our Saviour, be glory and majesty, dominion and power, both now and ever. Amen. Jude 1:24-25.

21. What happened to Moses when he came into the presence of God's glory? How did the children of Israel feel in Moses presence?

A "And it came to pass, when Moses came down from mount Sinai with the two tables of testimony in Moses' hand, when he came down from the mount, that Moses wist not that the *skin of his face shone* while he talked with him. And when Aaron and all the children of Israel saw Moses, behold, the skin of his face shone; and *they were afraid to come nigh him.* And Moses called unto them; and Aaron and all the rulers of the congregation returned unto him: and Moses talked with them. And afterward all the children of Israel came nigh: and he gave them in commandment all that the LORD had spoken with him in mount Sinai. And till Moses had done speaking with them, he put a vail on his face. But when Moses went in before the LORD to speak with him, he took the vail off, until he came out. And he came out, and spake unto the children of Israel that which he was commanded. And the children of Israel saw the face of Moses, that

## Blue Print for Health and Healing

the skin of Moses' face shone: and Moses put the vail upon his face again, until he went in to speak with him." Exodus 34:29-35.

22. The only way we will ever be able to stand in God's glory is if we are without sin. How does Romans describe this condition?

A "I beseech you therefore, brethren, by the mercies of God, that ye present your bodies a *living sacrifice, holy, acceptable unto God*, which is your reasonable service. And be not conformed to this world: but be ye transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect, will of God." Romans 12:1.

23. Could just any sheep be used for a sacrifice?

A "Your lamb shall be *without blemish*, a male of the first year: ye shall take (it) out from the sheep, or from the goats:" Exodus 12:5.

24. Could just any man go into the temple to be a priest?

A "Speak unto Aaron, saying, Whosoever he be of thy seed in their generations that hath any blemish, let him not approach to offer the bread of his God. For whatsoever man he be that hath a blemish, he shall not approach: a blind man, or a lame, or he that hath a flat nose, or any thing superfluous, Or a man that is brokenfooted, or brokenhanded, Or crookbackt, or a dwarf, or that hath a blemish in his eye, or be scurvy, or scabbed, or hath his stones broken; No man that hath a blemish of the seed of Aaron the priest shall come nigh to offer the offerings of the LORD made by fire: he hath a blemish; he shall not come nigh to offer the bread of his God. He shall eat the bread of his God, (both) of the most holy, and of the holy. Only he shall not go in unto the vail, nor come nigh unto the altar, *because he hath a blemish*; that he profane not my sanctuaries: for I the LORD do sanctify them." Levi 21:17-23.

25. Can we go into God's presence if we have any blemish?

A "And the city had no need of the sun, neither of the moon, to shine in it: for the glory of God did lighten it, and the Lamb is the light thereof. And the nations of them which are saved shall walk in the light of it: and the kings of the earth do bring their glory and honour into it. And the gates of it shall not be shut at all by day: for there shall be no night there. And they shall bring the glory and honour of the nations into it. And *there shall in no wise enter into it any thing that defileth, neither whatsoever worketh abomination, or maketh a lie*: but they which are written in the Lamb's book of life." Revelation 21:23-27.

26. God wants us to be sanctified, what all does this entail?

A "And the very God of peace *sanctify you wholly*; and I pray God your whole *spirit and soul and body be preserved blameless* unto the coming of our Lord Jesus Christ. Faithful is he that calleth you, who also will do it." 1The 5:23,24.

27. Which one of the fruits of the Spirit has to do with health and helps to combat the lust of the flesh?

A "This I say then, Walk in the Spirit, and ye shall not fulfil the lust of the flesh. For the flesh lusteth against the Spirit, and the Spirit against the flesh: and these are contrary the one to the other: so that ye cannot do the things that ye would. But the fruit of the Spirit is love, joy, peace, longsuffering, gentleness, goodness, faith, Meekness, *temperance*: against such there is no law. And they that are Christ's have crucified the flesh with the affections and lusts. If we live in the Spirit, let us also walk in the Spirit." Galatians 5:16-23.

28. Will God share our hearts with anything else?

## Glorify God in Your Body: A Bible Study

- A “And what agreement hath the temple of God with idols? for ye are the temple of the living God; as God hath said, I will dwell in them, and walk in them; and I will be their God, and they shall be my people. *Wherefore come out from among them, and be ye separate, saith the Lord, and touch not the unclean thing;* and I will receive you, And will be a Father unto you, and ye shall be my sons and daughters, saith the Lord Almighty.” 2Corinthians 6:16-18.
29. Who praised God when they realized how special were their physical gifts?
- A “*I will praise thee; for I am fearfully and wonderfully made: marvellous are thy works; and that my soul knoweth right well.*” Psalms 139:14.
30. Has anyone lived to an old age without sickness, disease or disability?
- A “And Moses was an hundred and twenty years old when he died: his eye was not dim, nor his natural force abated.” Deuteronomy 34:7.
31. How are we to love the Lord our God?
- A “And, behold, a certain lawyer stood up, and tempted him, saying, Master, what shall I do to inherit eternal life? He said unto him, What is written in the law? how readest thou? And he answering said, Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy *strength*, and with all thy mind; and thy neighbour as thyself. And he said unto him, Thou hast answered right: this do, and thou shalt live.” Luke 10:25-28.
32. Does God have an insurance policy for us?
- A “If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, *I will put none of these diseases upon thee,* which I have brought upon the Egyptians: for I am the LORD that healeth thee.” Exodus 15:26
33. Why is alcohol use a bad idea for those who want to treat others well?
- A “It is not for kings, O Lemuel, it is not for kings to drink wine; nor for princes strong drink: *Lest they drink, and forget the law, and pervert the judgment of any of the afflicted.*” Proverbs 31:4,5.
34. Should priests and ministers use alcoholic beverages as a part of a religious service? Why or why not?
- A “And the LORD spake unto Aaron, saying, *Do not drink wine nor strong drink,* thou, nor thy sons with thee, when ye go into the tabernacle of the congregation, lest ye die: it shall be a statute for ever throughout your generations: *And that ye may put difference between holy and unholy, and between unclean and clean;* And that ye may teach the children of Israel all the statutes which the LORD hath spoken unto them by the hand of Moses.” Leviticus 10:8-11.
35. How does God feel when people confuse His worship service with that of Satan’s? What happens to society when this confusion is introduced?
- A “Her priests have violated my law, and have profaned mine holy things: they have put no difference between the holy and profane, neither have they shewed difference between the unclean and the clean, and have hid their eyes from my sabbaths, and *I am profaned among them.* Her princes in the midst thereof are like wolves ravening the prey, to shed blood, and to destroy souls, to get dishonest gain. And her prophets have daubed them with untempered mortar, seeing vanity, and divining lies unto them, saying, Thus saith the Lord GOD, when the LORD hath not spoken. *The people of the land have used oppression, and exercised robbery, and have vexed the poor and needy: yea, they have oppressed the stranger*”

## Blue Print for Health and Healing

*wrongfully*. And I sought for a man among them, that should make up the hedge, and stand in the gap before me for the land, that I should not destroy it: but I found none. Therefore have I poured out mine indignation upon them; I have consumed them with the fire of my wrath: their own way have I recompensed upon their heads, saith the Lord GOD.” Ezekiel 22:26-31.

36. Is there a cross in health reform—does it require denying self?

A “*Always bearing about in the body the dying of the Lord Jesus, that the life also of Jesus might be made manifest in our body.*” 2Corinthians 4:10.

37. Jesus’ death on the cross was the climax or redemption, but what does His self-denying life do for us?

A “For if, when we were enemies, we were reconciled to God by the death of his Son, much more, being reconciled, *we shall be saved by his life.*” Romans 5:10.

38. As it was in the days of Noah, so shall it be in the days of Jesus second coming. What do people of our generation love more than God?

A “This know also, that in the last days perilous times shall come. For men shall be lovers of their own selves, covetous, boasters, proud, blasphemers, disobedient to parents, unthankful, unholy, Without natural affection, trucebreakers, false accusers, incontinent, fierce, despisers of those that are good, Traitors, heady, highminded, *lovers of pleasures more than lovers of God;* Having a form of godliness, but denying the power thereof: from such turn away.” 2Timothy 3:1-5.

39. How can I avoid overwhelming feelings of condemnation as the judgment moves forward?

A “There is therefore now no condemnation to them which are in Christ Jesus, *who walk not*

*after the flesh, but after the Spirit.*” Romans 8:1.

40. How important is bodily health in being able to practice what we preach?

A “Know ye not that they which run in a race run all, but one receiveth the prize? So run, that ye may obtain. And every man that striveth for the mastery is temperate in all things. Now they do it to obtain a corruptible crown; but we an incorruptible. I therefore so run, not as uncertainly; so fight I, not as one that beateth the air: *But I keep under my body, and bring it into subjection: lest that by any means, when I have preached to others, I myself should be a castaway.*” 1Corinthians 9:24-27.

41. How does John describe the relation between our health and our spiritual life?

A “Beloved, I wish above all things that thou mayest prosper and *be in health, even as thy soul prospereth.*” 3John 1:2.

42. When God “gave in” to the Israelites and gave them meat to eat, how did it affect their souls?

A “But lusted exceedingly in the wilderness, and tempted God in the desert. And he gave them their request; but *sent leanness into their soul.* They envied Moses also in the camp, and Aaron the saint of the LORD.” Psalms 106:14-16.

43. There is one word in Greek (sozo) translated either as save or heal.

A “For the Son of man is come to *save* that which was lost.” Matthew 18:11

A “And he said unto her, Daughter, thy faith hath *made thee whole;*” Mark 5:34

44. How did Jesus illustrate this principle?

A “And they come unto him, bringing one sick of the palsy, which was borne of four. And when they could not come nigh unto him for the press, they uncovered the roof where he was: and when they had broken it up, they

## Glorify God in Your Body: A Bible Study

let down the bed wherein the sick of the palsy lay. When Jesus saw their faith, he said unto the sick of the palsy, Son, thy sins be forgiven thee. But there were certain of the scribes sitting there, and reasoning in their hearts, Why doth this man thus speak blasphemies? who can forgive sins but God only? And immediately when Jesus perceived in his spirit that they so reasoned within themselves, he said unto them, Why reason ye these things in your hearts? *Whether is it easier to say to the sick of the palsy, Thy sins be forgiven thee; or to say, Arise, and take up thy bed, and walk?* But that ye may know that the Son of man hath power on earth to forgive sins, (he saith to the sick of the palsy,).” Mark 2:3-10.

45. In conclusion, in light of the current judgment hour and our commission to glorify God before the world, what is the greatest threat to our soul?

A “But ye are a chosen generation, a royal priesthood, an holy nation, a peculiar people; that ye should shew forth the praises of him who hath called you out of darkness into his marvellous light: Which in time past were not a people, but are now the people of God: which had not obtained mercy, but now have obtained mercy. Dearly beloved, I beseech you as strangers and pilgrims, *abstain from fleshly lusts, which war against the soul;*” 1 Peter 2:9-11.

*“Let this mind be in you, which was also in Christ Jesus: Who, being in the form of God, thought it not robbery to be equal with God: But made himself of no reputation, and took upon him the form of a servant, and was made in the likeness of men: And being found in fashion as a man, he humbled himself, and became obedient unto death, even the death of the cross. Wherefore God also hath highly exalted him, and given him a name which is above every name: That at the name of Jesus every knee should bow, of things in heaven, and things in earth, and things under the earth; And that every tongue should confess that Jesus Christ is Lord, to the glory of God the Father.”<sup>i</sup>*

- Paul the Apostle

---

<sup>i</sup> Philippians 2:5-11. King James Version of the Holy Bible.



## CHAPTER 29

### ILL-GOTTEN GAIN AND THE WAGES OF SIN

Sixty-two percent of all bankruptcies in the United States were tied to medical expenses in 2007. Most medical debtors were well educated, owned homes, and had middle-class occupations. Three quarters had health insurance.<sup>1</sup> You've come a long way baby. How is it that a profession which is supposed to save life has come to be such a financial burden?

In the thirteenth century 20,000 Albigensian (Cathar) natural healers sealed with their blood their commitment to follow in the self-denying footsteps of Jesus Christ and heed His admonition "heal the sick" (Luke 9:2). In the late twelfth century A.D., the early protestant Waldensian and Cathar (or Albigensian) religious movements began practicing medicine according to the dictates of their conscience. The Waldensians were especially noted for their desire to go from house to house, regardless to monetary remuneration, and spend days to even weeks at a time nursing the sick back to health. "They had much experience in medicine and surgery, and in these arts possessed amazing secrets, wonderful in their simplicity...."<sup>2</sup>

The Roman Catholic Church re-established the pagan healing shrines and centered them on Roman Catholic saints. During this time the papal system flourished monetarily due to the fact that it had now established a system whereby it could exact even greater means from its servitors. Upon many hospital deathbeds, priests were able to exact entire inheritances from those going to their grave with guilty consciences. Historians today, reflecting upon the

establishment of the hospital systems of the Papacy refer to them as "money spinners" or as we would call them today—profit-based. As we know, this leads to a multitude of other issues.

In his Lateran Council of 1215, the Papal See saw to it that only doctors approved by the church could practice medicine.<sup>3</sup>

Cathar (Albigensian) doctors quickly became known as the "best of doctors." In response to this growing threat to its dominance in all matters concerning humanity, the Romish Church, at the directive of Pope Innocent III, carried out a massive assault on the Cathars and Waldensians. As a result, twenty thousand Cathars were murdered and along with them the hopes of a large scale change for the better in the medical establishment.<sup>4</sup>

"For the love of money is the root of all evil: which while some coveted after, they have erred from the faith, and pierced themselves through with many sorrows."<sup>5</sup>

There are two different symbols sometimes employed to represent medicine. One is a rod with one snake wrapped around it called the rod of Asclepius; the second is a rod with wings at the top and two snakes wrapped around it, called the caduceus. "The caduceus is sometimes used as a symbol for medicine or physicians (instead of the rod of Asclepius) even though the symbol has no connection with Hippocrates and any association with healing arts is something of a stretch; its singularly inappropriate connotations of theft, commerce, deception and death have provided fodder for academic humor."<sup>6</sup>

## Blue Print for Health and Healing

As a healthcare worker or physicians, am I exempt from self-sacrificing wages, after all I spent far more time in school? Doesn't society owe me a debt of financial gratitude? Do I as a healthcare provider have a special professional immunity to the need for self-sacrifice?

A Professor in a Christian university tells of an encounter he had with one of his elementary education students who was soon to graduate. The student approached him with a big smile and proudly announced, there were 400 applications for the job I applied for and I got it. To which the professor replied, "what a waste!" "What a waste?", the student looked stunned. "What a waste! You mean to tell me there were 400 other qualified applicants and you took the job? Let me take you to a little school in the mission field where if you don't take the job nobody else will." I'm happy to say that she turned down the job she had just been accepted for and went to the mission field.

Moses faced a similar life-shaking decision. As heir to the throne of pharaoh, he was literally in line to be the next god of Egypt. "Ye shall be as gods" was his option, the other option was poverty, following the will of God. Moses chose the latter, "By faith Moses, when he was come to years, refused to be called the son of Pharaoh's daughter; Choosing rather to suffer affliction with the people of God, than to enjoy the pleasures of sin for a season; Esteeming the reproach of Christ greater riches than the treasures in Egypt: for he had respect unto the recompence of the reward."<sup>7</sup> Today Moses watches me write this article, today, Pharaoh is returning to dust. God willing, I want to join Moses.

Likewise, Paul was a gifted and highly educated man. His position even surpassed that of a physician who stands between patients and death; Paul could be seen as standing between people and their hope of eternal life. How much can you charge to bring somebody to eternal security? But Paul was very humble. He saw himself, not as a benefactor, but as a debtor to those less fortunate than himself, "I am debtor," Paul declares, 'both to the Greeks, and to the barbarians; both to the wise, and to the unwise.' Romans 1:14. So also are we. By all that has blessed our life above others, we are placed under obligation to every human being whom we might benefit."<sup>8</sup>

Satan particularly hates those who go around the earth undoing the pain and suffering he is try to produce, says Roger J Morneau, a former spiritualist and author of the book, "A Trip Into the Supernatural". Could it be that Satan has gained control of those he hates simply by playing upon their love of gain and extortion? Satan knows that, "Nor thieves, nor covetous, nor drunkards, nor revilers, nor extortioners, shall inherit the kingdom of God."<sup>9</sup>

In the Old Testament the priests also functioned as physicians. For example: "And the LORD spake unto Moses and Aaron, saying, When a man shall have in the skin of his flesh a rising, a scab, or bright spot, and it be in the skin of his flesh like the plague of leprosy; then he shall be brought unto Aaron the priest, or unto one of his sons the priests: And the priest shall look on the plague in the skin of the flesh:"<sup>10</sup> When the Priest and other religious personal began to commercialize their roles God could not keep silent about this evil: "The heads thereof judge for reward, and the priests thereof teach for hire, and the prophets thereof divine for money: yet will they lean upon the LORD, and say, Is not the LORD among us? none evil can come upon us."<sup>11</sup> God is the one that has promised to supply all my needs, why need I extort money from His children?

God's goal is to bring a group of people to heaven who will in no way endanger the universe with another rebellion like Satan's. "We are all to be tested here in this life to prove whether, if admitted to heaven, we shall repeat the same course that Satan pursued there.... if men desire to be highly esteemed among men, if they are seeking for the highest positions, and demanding the highest remuneration they can obtain in this life, they will have just such characters in the future life. All heaven will pronounce them unfit for the kingdom, disqualified for any position of trust in the great work of God in the courts above."<sup>12</sup>

There are certain professions where large gains are justifiable and there are other professions where they are not easily excused.

It was my fortune and privilege to meet a Hungarian pharmaceutical research laboratory CEO as he toured our lifestyle center. He told of a pharmaceutical preparation that his company developed which, in one dose, could cure a prevalent European disease. They took the

### Ill-Gotten Gain and the Wages of Sin

invention to the investors. The investor's response? "Wow, that's cool, but we won't invest, that's not a good business model." The lifesaving preparation never made it to market.

"All heaven is looking on with intense interest to see what character medical missionary work will assume under supervision of human beings. Will men make merchandise of God's ordained plan for reaching the dark parts of the earth with a manifestation of His benevolence?...Is the enterprise of mercy through which in the past God has manifested His grace in rescuing the ignorant, the sick, and the sorrowing, to become a matter of selfish merchandise? Shall God's agency of blessing be used by those who profess to believe the truth, in buying and selling and getting gain?...My brother, use every advantage possible to secure the salvation of souls. Never forsake the true standard, even though to cling to it makes you a beggar."<sup>13</sup>

Most ministers commit themselves to the gospel commission without regard to financial incentives, but what about the healthcare worker—the nurse, the physical therapist, the physician, the administrator? I am reminded of a medical school experience. "I've progressed to a more lucrative branch of the Lord's vineyard", a chuckle rippled through the class. A medical school classmate of mine was at the front of the lecture hall addressing the assembly of students. A minister in his former career, he had commanded the pulpit of one of the largest churches in the state, a most enviable success by most ministerial standards. "A more lucrative branch of the Lord's vineyard"? Are we not told, "We then that are strong ought to bear the infirmities of the weak, and not to please ourselves."<sup>14</sup> Jesus did not become a medical missionary to better His social standing or improve His financial status. "It is just as consistent for the minister of the gospel to demand an excessive salary for visiting the sick, comforting the desponding, bringing peace and joy to the oppressed, as for the physician to make large charges for his professional visits."<sup>15</sup>

"Christ has purchased us at an infinite cost, and today He lifts His hand, and calls our names as He did the name of Matthew as he sat at the receipt of custom. Jesus said, "Follow Me" (Matthew 9:9). Matthew left all, --all his gains, --and followed his Lord. He did not wait and stipulate a certain sum reaching the amount he

had received in his former occupation, before he would render service, but without a question, he arose and followed Jesus."<sup>16</sup>

Jesus was the ultimate minister and the Great Physician, "Let this mind be in you, which was also in Christ Jesus: Who, being in the form of God, thought it not robbery to be equal with God: But made himself of no reputation, and took upon him the form of a servant, and was made in the likeness of men: And being found in fashion as a man, he humbled himself, and became obedient unto death, even the death of the cross."<sup>17</sup>

My great-grandfather, Dr. Earl Warner, was a Godly physician during horse and buggy days out in the Midwest of America. Grandmother tells of how he would deliver the third, fourth and fifth baby from a farm family and still have not received any remuneration for the first child. A retired pastor once told me of how my grandfather had taught him to preach; that when he came to the church district my grandfather had 40 people ready to join the church. What has happened to medical care since those days?

Really, if I want to be truly successful in the medical missionary work, self-sacrifice, like Christ practiced, is crucial. "In ministering to the sick, more than in any merely secular business, success depends on the spirit of consecration and self-sacrifice with which the work is done."<sup>18</sup>

"Here is \$10, I counted it myself." A young mother placed a handful of money on my receptionist's counter at my clinic. As she left I asked my secretary about the incident. "She is so faithful, she comes here every week and pays \$10 on her bill." She was a young mother with a bony anomaly and had undergone a very expensive medical diagnostic workup, which calmed everyone's fears that it could be a worse disease, but left her with an outrageous medical debt. I was mortified, I said, "We are not here to do this to these people, please cancel her debt."

The Biblical account is clear, "And a certain woman, which had an issue of blood twelve years, And had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse,"<sup>19</sup> This is a business in which there are no medical outcome guarantees, and yet, there's also no

## Blue Print for Health and Healing

mercy to the debtor. The only one at risk seems to be the patient.

Not far distant from the emergency department at the medical school where I attended stood full-size statues of the good Samaritan—a call to remember that benevolent work done for the man caught among robbers. But in the emergency department financially underprivileged patients often experienced far less than Good Samaritan arrangements. Not all passed the “wallet biopsy”. “Someone has not spent enough time meditating out in front of the statues stationed in front of the administration building”, I thought. “What they desire is a method of forgetting God which shall pass as a method of remembering Him.”<sup>20</sup>

“Do something that has procedures, it pays better.” A friend of mine was trying to decide on his residency specialty and called on a Christian doctor to learn his specialty recommendation. This doctor was an internist who had taken up doing colonoscopies and was building a financial empire. “It is not right for a physician to make an extravagant outlay of means, and then charge exorbitant prices for performing small operations. God looks at all these matters in their true light.”<sup>21</sup> And why do procedures pay so well? Because people feel they have to have them. This is reminiscent of Zacchaeus in the Bible, a tax collector, who padded his pockets with tax excess which people were obliged to pay. In business language we would refer to this practice as gouging or profiteering. People often look at a physician as standing between them and death. “Skin for skin, yea, all that a man hath will he give for his life.”<sup>22</sup> Am I justified if I exploit this fear of death to my own financial advantage? “The money physicians generally take from rich and poor, is in many cases too large for the services rendered and is reckoned no more or less than dishonest gain, by the God of Heaven; yet they demand these exorbitant prices for their professional aid, simply because they can do it; for when suffering, people must have help.”<sup>23</sup>

“CEO’s income as a multiple of the average workers wage.” I was on a flight and had picked up a copy of the newspaper, USA Today, and glanced at the headline. According to the article, twenty years earlier CEOs made 56 times the average employ wage, at the time of the article’s writing that number had risen to 526. I

have to ask myself, as a physician, how many times more than the average person is my income, and why? Do I put my pants on differently than they do?

I had an occasion to require the services of a lawyer or solicitor. The gentleman told me his rate, \$400 per hour. Just to make sure I did not have a heart attack on the spot, he shared with me that all the other lawyers in town charge \$500 per hour. Who sets the standard? Who is enticing whom? If the world sins 10 times a day am I safe in sinning only twice? “Thus saith the LORD, Learn not the way of the heathen,”<sup>24</sup>

We were between classes and one of my classmates, the son of a physician, took the lectern to entertain the class. According to his anecdote, a young medical graduate came home to take over his father’s medical practice. A young hot shot with all the latest and greatest, he boasted to his father of his recent success. “You know that woman, dad, with the skin condition you have been treating for 20 years, I cured her!” to which the father was said to have replied, “you fool, that lady put you through medical school.” “The exorbitant price charged by physicians in this country (Australia), when called upon to attend suffering humanity is robbery, fraud. God gave physicians their wisdom and skill. It is not man who saves life; it is the Great Restorer. But poor men are often charged for services they never received.”<sup>25</sup> “The medical profession in general carries a heavy stock of unjust exactions; but shall we copy their sin? We are reformers. We are supposed to be pursuing a course that will represent the character of perfect humanity, the pure, elevated character of Christ.”<sup>26</sup> “Many good and merciful acts have been done by practicing physicians, but I was shown that as a general thing the medical profession has become a den of thieves. In connection with the cause of God the work of the Christian physician is to be beautified by the presence of Christ; for He would cooperate with the physician who professes His name. But when men become extortioners, all He can do is to drive them from His courts.”<sup>27</sup>

Am I doing unto my fellow men as I would have them do unto me? “And as ye would that men should do to you, do ye also to them likewise.”<sup>28</sup>

### Ill-Gotten Gain and the Wages of Sin

Did they said it was a privilege, when you went off to university to obtain an education for your healthcare career? Yes, it was a privilege, but, it was an even greater responsibility. For to whom much is given, much! much! will be required.<sup>29</sup> God blesses with wisdom and skill. I am accountable to Him for my use of these gifts. He made me, He called me, He equipped me, He is sending me, and woe unto me if I waste it all on myself! “For what shall it profit a man, if he shall gain the whole world, and lose his own soul? Or what shall a man give in exchange for his soul?”<sup>30</sup>

Yes, but as a medical person I study hard, work hard, and sometimes keep late hours! How much can someone pay me to entice me to overwork, destroy my own health and lose heaven? “Why should the Christian physician, who is believing, expecting, looking, waiting, and longing for the coming and kingdom of Christ, when sickness and death will no longer have power over the saints, expect more pay for his services than the Christian editor or the Christian minister? He may say that his work is more wearing. That is yet to be proved. Let him work as he can endure it, and not violate the laws of life which he teaches to his patients. There are no good reasons why he should overwork and receive large pay for it, more than the minister or the editor.”<sup>31</sup>

The question I have to face is, am I a consumer or a producer? Consumers draw on the resources of the universe during their lifetime leaving behind a negative balance when they're gone. Producers add to the value of the universe during their lifetime. How is this earth better off for my having been here? The universe was definitely better off for Jesus having spent time among us. He lived a life of unselfishness; He was the Giver of all. “For ye know the grace of our Lord Jesus Christ, that, though he was rich, yet for your sakes he became poor, that ye through his poverty might be rich.”<sup>32</sup>

God's forewarning is, “For with what judgment ye judge, ye shall be judged: and with what measure ye mete, it shall be measured to you again.”<sup>33</sup> “God will require a return from men in proportion as they set a value upon themselves and their services, for they will be judged according to their deeds, and by no less a standard than they themselves have

established....When they demand exorbitant prices for their services, God, the judge of all earth, will hold them to the measure of their own overrated estimation, and require of them to the full extent of the value they put upon themselves....As they judge of their worth from a money point of view, God will judge of their works, comparing their services with their valuation of them.”<sup>34</sup>

If I strive with all my might to accumulate wealth and possessions here in this life, I will be granted the unenviable privilege of doing so, but Jesus warns, “Verily I say unto you, They have their reward.”<sup>35</sup> I want more than just a reward in this life; I am working for eternity. God has called us to a mission of mercy to the sick and suffering and the most prized remuneration He has for us is eternal life. “Friend, I do thee no wrong: didst not thou agree with me for a penny?”<sup>36</sup> As regards the merit of our work we are only, “unprofitable servants: we have done that which was our duty to do.”<sup>37</sup> God does not promise us a life of ease here on earth, or a certain salary.

“And this is why I am so glad that I get to work with you medical students given the fact that you have not made financial acquisitions the focus of your careers.” My PhD teacher, renown for exposing fraud in health care, was finishing up his lecture on some fraudulent practitioners and comparing us to what he had just described. The class erupted in raucous laughter. The speaker reeled backwards as if an explosion had hit him. In a startled voice he stammered, “I never thought I would get a reaction like that out of a medical school class.” Taking a step backward he again said, “I never thought I would get a reaction like that out of a medical school class.” Still quivering and retiring even further he said a third time with great emphasis, “I never thought I would get a reaction like that out of a medical school class.” With that he snatched up his lecture notes and disappeared from the room. “The greatest want of the world is the want of men—men who will not be bought or sold, men who in their inmost souls are true and honest, men who do not fear to call sin by its right name, men whose conscience is as true to duty as the needle to the pole, men who will stand for the right though the heavens fall.”<sup>38</sup>

## Blue Print for Health and Healing

Studies in medical school were punctuated with recreational activities design to disrupt the monotony. One such recreational venture involved dinner at faculty homes and a roundtable discussion. The next day in class one of my classmates said, with his face aglow, "I can't wait till we get to live in those kind of big houses". Who is the role model? "And Jesus said unto him, Foxes have holes, and birds of the air have nests; but the Son of man hath not where to lay his head."<sup>39</sup> Jesus Christ did not come to this earth, walk in dusty sandals, and surrender his life to the most ignominious death, so I could live in a split-level wonderland and drive a Ferrari. And what about those faculty houses, from which one could gaze across the valley, across the railroad tracks, to one of the poorest most heavily government-subsidized cities in the state?

As a physician, I am admired. In order to help cultivate this respect, shouldn't I drive a luxurious automobile, live in an impressive house and wear extravagant clothing? Don't people have a right to feel proud of me as their health care provider? "Expensive, outward show does not elevate men and women in the eyes of sensible people."<sup>40</sup> As a health care professional I worry lest I become of the class of the rich young ruler whom Jesus told, "One thing thou lackest: go thy way, sell whatsoever thou hast, and give to the poor, and thou shalt have treasure in heaven: and come, take up the cross, and follow me."<sup>41</sup> Hopefully I will not, as did this young man, go away sorrowful.

I had the privilege of working with a very fine Jewish doctor from Poland. He was very good at what he did. One day as we were talking, he commented that, for a Christian institution, there sure were a lot of psychedelic cars out in the parking lot. And so it was, if anyone wanted to see the latest and greatest, a trip to the hospital parking lot would give him or her a good survey of current models. What a testimony to this observant non-Christian. Even the world knows to expect self-denial of Christians. If our example, Jesus, lived a life of self-denial, would not to do otherwise risk denying Him? "The question as to whether the medical profession is to be controlled by Christian principles in regard to compensation, or by the selfish standard of the world, has long been ignored, but can be ignored no longer. Shall the pure

elevating principles of Christianity be exemplified in the physician's life?... Shall he practice self-denial for Christ's sake? or is it only for a few men of more common occupation to follow in the footsteps of Jesus, while merchants, lawyers, and professional men, go free to follow the bent of a selfish will? Is the world to see no representatives of Christianity in the medical profession?"<sup>42</sup>

I'm called to think about Jesus Christ, the great physician, who gave up heaven to come to this earth, and show us what God was really like by healing our diseases and sharing the way of salvation. I can find no record of Him making merchandise of His services. I take it as a challenge and as a pledge of honour to follow in the footsteps of Jesus. I want to be able say with sincerity and commitment, "I am not bound to be rich, but I am under obligation to be righteous and to represent my Redeemer. I will not imperil my soul by declaring I must have a certain revenue. I have purposed in my heart that I will not give Satan reason to triumph over me because I endanger my spiritual life and become the servant of sin. I will not cultivate or encourage selfishness and covetousness, for it is the ruin of the world."<sup>43</sup>

And, many an aspiring medical missionary gets dollar signs in their eyes thinking of all the money they are going to make charging patients for the humanitarian services they are going to offer. Is medical missionary work supposed to make you rich? Are you going to fund a whole sanitarium on patient charges? Wouldn't this be like a gospel missionary charging people for sharing with them the light of the gospel? Did Christ charge patients for His work of healing?

"All heaven is looking on with intense interest to see what character medical missionary work will assume under supervision of human beings. Will men make merchandise of God's ordained plan for reaching the dark parts of the earth with a manifestation of His benevolence? Will they cover mercy with selfishness, and then call it medical missionary work?"

"All heaven is watching with intense anxiety to see what is to be the outcome of the work that is so large and so important. God is watching, the heavenly

### Ill-Gotten Gain and the Wages of Sin

universe is watching; and souls are perishing. And a change has come that has hindered the work which God designed should move forward without a trace of selfishness. Is the enterprise of mercy through which in the past God has manifested His grace in rescuing the ignorant, the sick, and the sorrowing, to become a matter of selfish merchandise? Shall God's agency of blessing be used by those who profess to believe the truth, in buying and selling and getting gain?"

"God will test the sincerity of men. Those who will deny self, take up the cross, and follow Christ, will have a continual work to do in the line of restoring. Those who sacrifice for truth make a deep impression on the world. Their example is contagious and convincing. Men see that there is in the church that faith which works by love and purifies the soul. But when those who profess to be working only for God seek to benefit themselves, they greatly retard the work, and cast reproach upon it."

"My brother, use every advantage possible to secure the salvation of souls. Never forsake the true standard, even though to cling to it makes you a beggar.

God has set up a high standard of righteousness. He has made a plain distinction between human and divine wisdom. All who work on Christ's side must work to save, not to destroy. Worldly policy is not to become the policy of the servants of God. Divine authority is to be acknowledged. The church on earth is to be the representative of heavenly principles. Amidst the awful confusion of injustice, deception, robbery, and crime, she is to shine with light from on high. In the righteousness of Christ, she is to stand firm against the prevailing apostasy."<sup>44</sup>

"No man can serve two masters: for either he will hate the one, and love the other; or else he will hold to the one, and despise the other. Ye cannot serve God and mammon." Matthew 6:24

So I've shared a bird's eye view of an issue too big for any one of us to tackle alone. It's so big, this selfishness/sin problem, that it has taken all the resources that God can possibly muster, including the life of His Son, too endeavour to resolve it. Two great forces battle for the heart, the force of selfishness, and the force of love. To which force is my life a testimony of loyalty?

*“Eating the flesh of dead animals has  
an injurious effect upon  
spirituality.”<sup>i</sup>*

– E. G. White

---

<sup>i</sup> White, E. G. (1977). Mind, Character, and Personality, vol. 2. Nashville, TN: Southern Publishing Association. p. 407.



## CHAPTER 30

### DOES MEAT EATING SPOIL YOUR SPIRITUALITY?

You are what you eat. I often tell people that if you do not like what you are, change what you eat. The juices and fluids of what we eat pass into the circulation of our blood, and we are composed of what we eat. Our bones, our muscles, our skin, and yes, our brains are made of what passes between our lips. What is your brain composed of, and how does what you feed it impact its efficiency? There are nutrients that promote mental acuity and there are the foods that impede good thinking.

In approaching this subject, I want to make sure the experiences of the Jews are not lost on us. In the wilderness, the children of Israel were said to have *lusted* for, or craved, a flesh diet.

“And the mixt multitude that was among them fell a *lusting*: and the children of Israel also wept again, and said, “Who shall give us flesh to eat?”<sup>1</sup>

In the words of a famous advertisement campaign the question was asked, “Where’s the Beef”!?<sup>2</sup>

Now their cravings after an animal-based diet were not by any means unique to their era. Addictions to, and cravings for meat, are universal. Ever wonder why people have a hard time giving up eating meat? One reason meat is so addictive lies in its ability to stimulate the same receptors in the brain as does heroin. That’s right; heroin addicts experience the same challenge giving up their habit as carnivores do theirs.<sup>3</sup>

As with addiction to heroin, the true realities of life are overshadowed by the impulsive pursuit of the addictive substance, in this case: flesh. In fact, the Israelites are said to have chosen meat over their very salvation. Let’s look at this in the Bible. We are told that in lusting after meat in the wilderness, the Israelites

hardened their hearts and provoked God and this kept them from entering Canaan and rest.

“To day if ye will hear his voice, Harden not your heart, as in the *provocation*, and as in the day of temptation in the wilderness: When your fathers tempted me, proved me,” “Unto whom I swear in my wrath that they should not enter into my rest.”<sup>4</sup>

What was the “provocation”? How did they provoke God?

“And they sinned yet more against him by *provoking* the most High in the wilderness. And they tempted God in their heart by asking meat for their *lust*.” “Because they believed not in God, and trusted not in his salvation.”<sup>5</sup>

God wanted to take the Israelites home to Canaan. God wants to take us home to heaven and the new earth; to Eden restored, a restored garden, and a restored people. So, our challenge, in essence, is to take back the Garden of Eden. This will require warfare—going through a time of trial and difficulty.

“The reason why many of us will fall in the time of trouble is because of laxity in temperance and indulgence of appetite. Moses preached a great deal on this subject, and the reason the people did not go through to the promised land was because of repeated indulgence of appetite. Nine-tenths of the wickedness among the children of today is caused by intemperance in eating and drinking. Adam and Eve lost Eden through the indulgence of appetite, and we can only regain it by the denial of the same.”<sup>6</sup>

Ever wish you could improve your mental performance? It has been documented that a meat eater’s brain performance suffers.

In a study of diet and mental performance, Granic and Nyaradi discovered that putting people on a (western) diet including red meat,

## Blue Print for Health and Healing

potatoes with rich gravy, and butter significantly limited brain function.<sup>7,8</sup> How well your brain functions will determine how clear are your spiritual perceptions of God and His will.

Meat is not the only food that can degrade brain performance. Refined foods, especially sugar negatively impact brain function and learning ability. Most people would like their brains to be able to comprehend and retain all that it is possible to, but researcher Molteni has discovered in his laboratory experiments that a diet high in animal fat and sugar significantly depresses the ability to learn and grow new brain pathways.<sup>9</sup> This is just like eating meat! “And from the light given me, sugar, when largely used, is more injurious than meat.”<sup>10</sup>

What does the Bible record about the impact of meat eating on a person’s soul? Does eating meat ruin your spiritual life? As usual, the Bible is very clear.

“But *lusted* exceedingly in the wilderness, and tempted God in the desert. And he gave them their request; but sent leanness into their soul.”<sup>11</sup>

This can be confirmed in modern research in studies looking at the impact of animal foods on psychological health. Studying psychological health, researcher Beezhold has demonstrated that vegetarian diets are associated with healthier mood states, with less negative emotions, compared to a diet that includes meat. Conversely, he discovered that restricting the eating of meat, fish, and poultry could improve the mood.<sup>12,13</sup>

Now there is the Lord’s Supper, or table of the Lord, and there is the table of devils.

“Ye cannot drink the cup of the Lord, and the cup of devils: ye cannot be partakers of the Lord’s table, and of the table of devils.”<sup>14</sup>

What might one find to eat on the table of the devil? Zechariah can help us understand what is on the devils table.

“And the LORD said unto me, Take unto thee yet the instruments of a foolish shepherd. For, lo, I will raise up a shepherd in the land, which shall not visit those that be cut off, neither shall seek the young one, nor heal that that is broken, nor feed that that standeth still: but he shall eat the flesh of the fat,”<sup>15</sup>

Why would Satan want people to be eating meat?

“Dr. Morrow took 200 New Zealand rabbits and divided them into five groups of about 40 rabbits each. Each group was fed a different diet ranging from the standard rabbit food of alfalfa pellets to hamburger. The rabbits given hamburger required extra time getting accustomed to a meat diet. But after developing a taste for it, they consistently refused supplemental rabbit chow. Their preference for hamburger was so strong that they would go several days without eating available vegetable food, waiting for the hamburger to be served.”

“Ordinarily rabbits are peaceful animals, but the hamburger diet made a dramatic change in their personalities. They actually became vicious. They were prone to kill and eat their babies. It was not uncommon for them to fight to the death. At times, if one of the rabbits would die, the others would become cannibalistic. Eventually the caretaker had to be careful in handling these hamburger-eating rabbits in order to keep from being bitten. The caretaker himself, after noticing the change in the rabbits, became a vegetarian.”

“Dr. Morrow went on to explain that man is considered an omnivore, or both herbivorous and carnivorous, and yet it has been fairly well recognized that if one wishes to have a tough, mean fighter in the human, this can be achieved by a meat diet as opposed to a vegetarian diet. He stated that this is well known in boxing circles. He testified personally to the difference in himself when on a vegetarian diet as opposed to a meat diet. He felt much more aggressive on a flesh diet. He concluded that to strengthen those characteristics that are associated with a higher level of spirituality, a vegetarian diet would be helpful.”<sup>16</sup>

Meat is not the only food known to incite aggression. This violent characteristic can also be incited by a diet high in sugar, especially from soft drinks. Solnick, a research scientist, has demonstrated that students who use more sugar-laden soft drinks exhibit increased aggressive behaviour toward their fellow classmates.<sup>17,18</sup>

Metaphors are employed in the Bible to improve our understanding of spiritual things. One such is the concept that Jesus was the manna Israel ate in the wilderness. Jesus says, “I am the living bread which came down from heaven: if any man eat of this bread, he shall live

## Does Meat Eating Spoil Your Spirituality?

for ever: and the bread that I will give is my flesh, which I will give for the life of the world.”<sup>19</sup> Here’s the question: If manna represented Jesus Christ, what does the meat that they *lusted* after represent?

Paul states that by seducing the Israelites to *lust* for a meat diet, Satan overthrew them in the wilderness, and that we can learn from their failure.

“But with many of them God was not well pleased: for they were overthrown in the wilderness. Now these things were our examples, to the intent we should not *lust* after evil things, as they also *lusted*.” “Now all these things happened unto them for ensamples: and they are written for our admonition, upon whom the ends of the world are come.”<sup>20</sup>

Behaviour can deteriorate significantly on a meat diet. Research scientist Oddy found that adolescent behaviour is significantly better on a fresh fruit and vegetable diet than on a meat diet.<sup>21</sup>

Diet reform is to be progressive. As we near the heavenly Canaan, our diet will more closely match that of heaven.

“Let the diet reform be progressive. Tell them that the time will soon come when there will be no safety in using eggs, milk, cream, or butter, because disease in animals is increasing in proportion to the increase of wickedness among men.” “Let them teach the people to preserve the health and increase the strength by avoiding the large amount of cooking that has filled the world with chronic invalids. By precept and example make it plain that the food which God gave Adam in his sinless state is the best for man's use as he seeks to regain that sinless state.”<sup>22</sup>

What was Jesus talking about when He mentions a fast for His followers?

“And they said unto him, Why do the disciples of John fast often, and make prayers, and likewise the disciples of the Pharisees; but thine eat and drink? And he said unto them, Can ye make the children of the bride chamber fast, while the bridegroom is with them? But the days will come, when the bridegroom shall be taken away from them, and then shall they fast in those days.”<sup>23</sup>

Josephus, the great historian of the Jews makes some very interesting observations about the sacrificial system. At the time of Jesus’

statement, regarding a coming era of fasting, the sacrificial system was still in full swing. Josephus estimates that toward the close of the Jewish feasts, the Passover was associated with the slaughter of 255,000 sacrificial animals.<sup>24</sup> Indeed, the sacrificial system, as conducted in the days of Israel, practically necessitated a herdsman’s occupation, and thus lent itself to a meat diet. One could easily get the idea by reading all the dietary accounts of the post flood Bible heroes that all the world was eating meat.

Jesus came to fulfil prophecy. One such prophecy foretold the termination of the sacrificial system, which we have pointed out, that made meat eating seem so natural.

“And he shall confirm the covenant with many for one week: and in the midst of the week he shall cause the sacrifice and the oblation to cease,”<sup>25</sup>

Jesus was moving the early Christian church away from an economy based on animals to one based on plant foods. The early disciples were transitioning to the New Testament or diet of the new Christian church. This can be seen in the menu of the Lord’s supper.

“And they made ready the Passover.” “And he said unto them, With desire I have desired to eat this Passover with you before I suffer: For I say unto you, I will not any more eat thereof, until it be fulfilled in the kingdom of God. And he took the cup, and gave thanks, and said, Take this, and divide it among yourselves: For I say unto you, I will not drink of the fruit of the vine, until the kingdom of God shall come. And he took bread, and gave thanks, and brake it, and gave unto them, saying, This is my body which is given for you: this do in remembrance of me. Likewise also the cup after supper, saying, This cup is the new testament in my blood, which is shed for you.”<sup>26</sup>

From this passage it is clear that whatever was served at the Lord’s supper will be on the menu in Heaven. Heaven is a place of peace and non-violence. No article of food will be served necessitating the suffering of innocent animals. The lion will lay down with the lamb and neither of them will be in fear that Jesus or us will want to eat them.

Jesus was preparing His disciples for the long haul through the dark ages until He should return to receive them as His own. Are we

## Blue Print for Health and Healing

cooperating with Him in preparing for translation?

“Grains and fruits prepared free from grease, and in as natural a condition as possible, should be the food for the tables of all who claim to be preparing for translation to heaven. The less feverish the diet, the more easily can the passions be controlled. Gratification of taste should not be consulted irrespective of physical, intellectual, or moral health.”<sup>27</sup>

Our goal is to accustom ourselves here to the diet we know God will be providing for us when we reach the beauties of heaven. We need to progress to the diet of heaven.

To recap: the menu of the Lord’s Supper was something that Jesus can eat with us in heaven. It seems Jesus was instituting a new dietary era for His church. He was causing the economy of meat eating to cease and the era fasting from flesh and a luxurious diet to begin. This is referred to in terms of a fast that would last till the bridegroom should return at His second coming.

“How could the children of the bride-chamber fast when the bridegroom was yet with them? But when he should go back to Heaven, leaving his disciples to meet alone the unbelief and darkness of the world, then it would be fitting for the church to fast and mourn, until her absent Lord should return the second time.”<sup>28</sup>

Meat was not a part of the Jesus’ preparation went to meet the devil in the wilderness.

“And Jesus being full of the Holy Ghost returned from Jordan, and was led by the Spirit into the wilderness, being forty days tempted of the devil. And in those days he did eat nothing: and when they were ended, he afterward hungered.”<sup>29</sup>

We are to follow Jesus in everything as the children of Israel should have, even in their diet choices.

“Although Christ was suffering the keenest pangs of hunger, He withstood the temptation. He repulsed Satan with the same scripture He had given Moses to repeat to rebellious Israel when their diet was restricted and they were clamoring for flesh meats in the wilderness, “Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God.”<sup>30</sup>

We are to follow Jesus in His use of scripture to meet temptation, and in His choice of diet in

preparation for spiritual warfare. This fasting is a preparation for the final conflict. The 144,000 are those who “follow the lamb where ever He goeth”. They do what He does; they follow Him in His abstemious diet in preparation for the final showdown.

Why fast? The Bible is clear: “Howbeit this kind goeth not out but by prayer and fasting.”<sup>31</sup>

Fasting and “afflicting” your soul go together. “Then I proclaimed a fast there, at the river of Ahava, that we might afflict ourselves before our God, to seek of him a right way for us, and for our little ones, and for all our substance.”<sup>32</sup>

Even the heathen realize the importance of fasting! When confronted with annihilation, the inhabitants of Nineveh fasted as they sought the God of heaven. Are we as insightful, as we live in the hour of the Judgment?

“So the people of Nineveh believed God, and proclaimed a fast, and put on sackcloth, from the greatest of them even to the least of them.”<sup>33</sup>

The layout of the sanctuary suggests a progression in diet. As one came to the tabernacle, the first door or curtain led to the courtyard. The gentiles were left outside the courtyard, and they were known to eat unclean meat. Within the courtyard was the alter of sacrifice where lambs were offered. The common Jew offered sacrifices of only clean animals in the courtyard. The next door or curtain led into the Holy Place. Only the priest entered the Holy Place where food items included bread, grape juice and olive oil. The next curtain or door led to the Most Holy Place. The high priest entered the Most Holy Place where were found only manna and almonds. Our goal is to be able to enter the Most Holy Place where the presence of God is, where only the pure and holy, those thoroughly cleansed of sin, can enter and not die from His holy presence.

The time since the commencement of the Judgment in 1844 in a time of fasting and soul searching as it was for ancient Israel on the Day of Atonement.

“On the tenth day of this seventh month there shall be a day of atonement: it shall be an holy convocation unto you; and ye shall afflict your souls,”<sup>34</sup>

This afflicting of the soul included the fasting about which we have been speaking.

## Does Meat Eating Spoil Your Spirituality?

"I humbled (afflicted) my soul with fasting; and my prayer returned into mine own bosom."<sup>35</sup>

Not everyone catches this spirit of fasting. To fast or not to fast is the question? Isaiah speaks to this dilemma. He writes of God's call to fast and afflict one's soul. He writes about the people's rebellious reaction. Then, he tells of God's judgment on their refusal to fast and afflict their souls in preparation for the final judgment.

"And in that day did the Lord GOD of hosts call to weeping, and to mourning, and to baldness, and to girding with sackcloth: And behold joy and gladness, slaying oxen, and killing sheep, eating flesh, and drinking wine: let us eat and drink; for to morrow we shall die. And it was revealed in mine ears by the LORD of hosts, Surely this iniquity shall not be purged from you till ye die, saith the Lord GOD of hosts."<sup>36</sup>

When God says, "Get ready! Fast and pray!", partying, eating meat and drinking wine, is not suitable.

Daniel teaches us some important principles of fasting. Daniel's fast was not total abstinence of food.

"I ate no pleasant bread, neither came flesh nor wine in my mouth, neither did I anoint myself at all, till three whole weeks were fulfilled."<sup>37</sup>

What is the purpose and effect of this kind of fast, a fast from stimulating foods?

A fascinating study was conducted at UCLA. Researcher Douglass wanted to see the effect of a vegan diet on sufferers of high blood pressure and being overweight. The participants were fed a largely fresh fruit and vegetable diet like God gave Adam. Yes, they lost weight and their blood pressures came down, but what really caught the attention of the researchers, and of myself, was an unexpected finding. In their comments

about the study, the researchers stated, "Eighty percent of those who smoked or drank alcohol abstained spontaneously." Now let's put this in perspective, Alcoholics Anonymous would be happy with a 15% recovery rate. Here in the UCLA study, we have a group of people who are NOT told to stop drinking and smoking, but on a largely raw vegan diet, 80% of them spontaneously stop drinking and smoking. Get this; here is a diet that science proves is supportive of a victorious life in Christ.<sup>38</sup>

If we are to be among Jesus' end time faithful people, we will need to pay a special attention to God's diet for us.

Is your body ready for heaven? God wants to sanctify it for heaven.

"And the very God of peace sanctify you wholly; and I pray God your whole spirit and soul and **body** be preserved blameless unto the coming of our Lord Jesus Christ."<sup>39</sup>

Either we will be sanctified for heaven, aided with the help of a good diet, or we will fail in preparation for Christ's second coming.

### CONCLUSION

- The ultimate goal is a return to the Garden of Eden, on the new earth, where no trace of sin or meat eating will be found.
- The journey must lead one to heaven, as God operates it. In God's order, a plant based abstemious diet is optimal for the unimpaired happiness of all His creatures.
- Jesus championed this by transitioning the Hebrew economy from one centered on animal sacrifice to one founded on the last supper--based in plant foods, in preparation for the enjoyment of heaven's diet and the marriage supper of the Lamb.

*“There are many whose hearts are aching under a load of care because they seek to reach the world’s standard. They have chosen its service, accepted its perplexities, adopted its customs. Thus their character is marred, and their life made a weariness. In order to gratify ambition and worldly desires, they wound the conscience, and bring upon themselves an additional burden of remorse. The continual worry is wearing out the life forces. Our Lord desires them to lay aside this yoke of bondage. He invites them to accept His yoke; He says, “My yoke is easy, and My burden is light.” He bids them seek first the kingdom of God and His righteousness, and His promise is that all things needful to them for this life shall be added. Worry is blind, and cannot discern the future; but Jesus sees the end from the beginning. In every difficulty He has His way prepared to bring relief. Our heavenly Father has a thousand ways to provide for us, of which we know nothing. Those who accept the one principle of making the service and honor of God supreme will find perplexities vanish, and a plain path before their feet.”<sup>i</sup>*

– E. G. White.

---

<sup>i</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 330.

## CHAPTER 31

### STRESS MANAGEMENT GOD'S WAY

Stress has an incredibly harmful impact on health! According to some authors, ninety percent of disease originates from stress and anxiety.\*

A sarcastic voice rang out above the din of the crowd mocking what was being taught to those gathered. She had been coming every day now for many days and her influence was starting to negatively impact public opinion.

It was a week filled with major life event stressors. A lesser man would have crumpled under the pressure. Before the day was over there would be an encounter with demons, a run in with the authorities, a life-threatening physical beating, jail confinement in stocks, and a major natural disaster—an earthquake, which would demolish the building over their heads! Yet Paul was at peace, and it showed. (see Acts 16:16-34).

Everywhere they tried to talk to people about Jesus, a spiritualist woman followed them calling out in a mocking sarcastic voice, "These men are servants of the Most High God! They announce to you how you can be saved!" How stressful. Ever have someone stalk you that you wish you could get off your trail?

As a devout Jew, of high religious education, he had grown up in a strikingly gentile town, Tarsus. He stood for what he believed and put his whole heart, soul, mind and strength into whatever he did. Paul had every reason to be stressed; he was a very driven man—a bit of an overachiever. I do not know why, but his mother had given him the name of the first king of Israel, "Saul".

After a few days this woman got on Paul's nerves. Looking right at her he said, "I command thee in the name of Jesus Christ to come out of her." And a demon came out of her.

This angered her managers. Ever gotten in the way of someone's money making? They had commercialized her channelling and fortune telling. This meddling in their merchandizing infuriated them and they physically dragged Paul to the council. As a result, Paul and Silas took a severe beating from the government, and found

themselves bound in cruel stocks in a filthy jail. How unfair, this was not supposed to happen to Roman citizens.

Praise the Lord! Their voices broke the grumbling of the inmates with sweet melody. The jailer was impressed.

How could they sing? It had been a bad week. The woman had troubled them. The magistrates had beaten them. They were in a dirty jail.

That night disaster hit. The ground trembled in a major earthquake. The jail was demolished. The jailer was now the one feeling ultimate stress. What would he do if the government charged him with irresponsibility and loss of prisoners? They would humiliate him and execute him.

Paul's life was the life that was truly in jeopardy more than the jailer's! How did he cope so well? What advice does he have for us?

"For God hath not given us the spirit of fear; but of power, and of love, and of a sound mind. Be not thou therefore ashamed of the testimony of our Lord, nor of me his prisoner: but be thou partaker of the afflictions of the gospel according to the power of God; Who hath saved us, and called us with an holy calling, not according to our works, but according to his own purpose and grace, which was given us in Christ Jesus before the world began, But is now made manifest by the appearing of our Saviour Jesus Christ, who hath abolished death, and hath brought life and immortality to light through the gospel: Whereunto I am appointed a preacher, and an apostle, and a teacher of the Gentiles. For the which cause I also suffer these things: nevertheless I am not ashamed: for I know whom I have believed, and am persuaded that he is able to keep that which I have committed unto him against that day. Hold fast the form of sound words, which thou hast

## Blue Print for Health and Healing

heard of me, in faith and love which is in Christ Jesus." 2 Timothy 1:7-13.

The stress was too great and the jailer proceeded to attempt a violent suicide. Rather than lose face and be tortured to death, the jailer decides to take his own life, before the government could prosecute him. About to run himself through with his own sword, Paul called out to him, "Don't kill yourself, we are all here."

I marvel at this next part of the story.

"Then he called for a light, and sprang in, and came trembling, and fell down before Paul and Silas, And brought them out, and said, Sirs, what must I do to be saved? (sozo: saved or healed)" Acts 16:29-30.

Who are the Christians in this story and what is their state of mind amidst all their trials? Who is the pagan here in this story and what is his state of mind? Are we pagans, or are we Christians in our response to stress? What did the jailer realize Paul and Silas had that he lacked, and that he greatly wanted? What was he asking to be saved or healed from? Freedom from sin's stress, worry, freedom from the fear of death!

Have you ever been afraid of death?

"Forasmuch then as the children are partakers of flesh and blood, he also himself likewise took part of the same; that through death he might destroy him that had the power of death, that is, the devil; And deliver them who through fear of death were all their lifetime subject to bondage." Hebrews 2:14-15.

What was Paul's solution? Antidepressants? Months of psychoanalysis? Anxiolytic Medication? A diagnosis of fibromyalgia, MS or Crohn's and frequent doctor visits? Breathing exercises? Transcendental meditation? Cognitive behavioural therapy?

"And they spake unto him the word of the Lord, and to all that were in his house. And he took them the same hour of the night, and washed their stripes; and was baptized, he and all his, straightway. And when he had brought them into his house, he set meat before them, and rejoiced, believing in God with all his house." Acts 16:32-34.

Is the jailer rejoicing now too? Yes! What did Paul teach them?

"I am crucified with Christ: nevertheless I live; yet not I, but Christ liveth in me: and the life which I now live in the flesh I live by the faith of the Son of God, who loved me, and gave himself for me." Galatians 2:20.

"I die daily." 1 Corinthians 15:31.

Why did this work for Paul in coping with stress?

"Those who take Christ at His word, and surrender their souls to His keeping, their lives to His ordering, will find peace and quietude. Nothing of the world can make them sad when Jesus makes them glad by His presence. In perfect acquiescence there is perfect rest. The Lord says, 'Thou wilt keep him in perfect peace, whose mind is stayed on Thee: because he trusteth in Thee.' Isa. 26:3. Our lives may seem a tangle; but as we commit ourselves to the wise Master Worker, He will bring out the pattern of life and character that will be to His own glory. And that character which expresses the glory--character--of Christ will be received into the Paradise of God. A renovated race shall walk with Him in white, for they are worthy." {The Desire of Ages p.331}

How does Jesus teach us to deal with stress and rejection?

"Blessed are ye, when men shall hate you, and when they shall separate you from their company, and shall reproach you, and cast out your name as evil, for the Son of man's sake. Rejoice ye in that day, and leap for joy: for, behold, your reward is great in heaven: for in the like manner did their fathers unto the prophets." Luke 6:22-23.

How did Jesus deal with personal stress and rejection?

"For even hereunto were ye called: because Christ also suffered for us, leaving us an example, that ye should follow his steps: Who did no sin, neither was guile found in his mouth: Who, when he was



## Stress Management God's Way

reviled, reviled not again; when he suffered, he threatened not; but committed himself to him that judgeth righteously." 1 Peter 2:21-23.

Jesus knew that everything that happened was under God's supervision.

"Jesus answered, Thou couldest have no power at all against me, except it were given thee from above: therefore he that delivered me unto thee hath the greater sin." John 19:11.

"The Father's presence encircled Christ, and nothing befell Him but that which infinite love permitted for the blessing of the world. Here was His source of comfort, and it is for us. He who is imbued with the Spirit of Christ abides in Christ. The blow that is aimed at him falls upon the Saviour, who surrounds him with His presence. Whatever comes to him comes from Christ. He has no need to resist evil, for Christ is his defense. Nothing can touch him except by our Lord's permission, and 'all things' that are permitted 'work together for good to them that love God.' Romans 8:28." {Thoughts from the Mount of Blessing p.71}

Why didn't Paul have Post Traumatic Stress Disorder (PTSD) after all this trauma?

Have you heard of "Little-Faith" in Pilgrims Progress? He is robbed by three thugs in the allegory. And though he escapes with his life and his religious experience, he spends the rest of his days bemoaning his losses and informing everyone of the past tragedy in his life. We have to ask ourselves, are we of little faith?

So how did Paul escape PTSD?

"Brethren, I count not myself to have apprehended: but this one thing I do, forgetting those things which are behind, and reaching forth unto those things which are before, I press toward the mark for the prize of the high calling of God in Christ Jesus. Let us therefore, as many as be perfect, be thus minded: and if in any thing ye be otherwise minded, God shall reveal even this unto you." Philippians 3:13-15.

The work of Christ before him, Paul laid to rest the things behind him.

Is there any more advice from Paul on how to practice this, "forgetting those things which are behind"?

"Therefore leaving the principles of the doctrine of Christ, let us go on unto perfection; not laying again the foundation of repentance from dead works, and of faith toward God," Hebrews 6:1.

What about Jesus, what does He advise about the past?

"And he said unto another, Follow me. But he said, Lord, suffer me first to go and bury my father. Jesus said unto him, Let the dead bury their dead: but go thou and preach the kingdom of God. And another also said, Lord, I will follow thee; but let me first go bid them farewell, which are at home at my house. And Jesus said unto him, No man, having put his hand to the plough, and looking back, is fit for the kingdom of God." Luke 9:59-62.

The gospel plow, service to others, is a key to stress management. Isaiah helps with this concept.

"Let the wicked forsake his way, and the unrighteous man his thoughts: and let him return unto the LORD, and he will have mercy upon him; and to our God, for he will abundantly pardon. For my thoughts are not your thoughts, neither are your ways my ways, saith the LORD." Isaiah 55:7-8.

Can I really "forsake" my unrighteous thoughts?

"For though we walk in the flesh, we do not war after the flesh: (For the weapons of our warfare are not carnal, but mighty through God to the pulling down of strong holds;) Casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ;" 2 Corinthians 10:3-5.

## Blue Print for Health and Healing

Do I have a guide to instruct me in the best thoughts to entertain in my mind as a weapon against PTSD?

“And the peace of God, which passeth all understanding, shall keep your hearts and minds through Christ Jesus. Finally, brethren, whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, and if there be any praise, think on these things. Those things, which ye have both learned, and received, and heard, and seen in me, do: and the God of peace shall be with you.” Philippians 4:7-9.

The Paralytic of Bethesda Jesus told to sin no more lest a worse thing come upon him. How does a Paralyzed man Sin? I believe his thoughts needed guarding.

How can you keep from looking back when you've committed yourself to the gospel plow? Paul has the answer:

“Or saith he it altogether for our sakes? For our sakes, no doubt, this is written: that he that ploweth should plow in hope; and that he that thresheth in hope should be partaker of his hope.” 1 Corinthians 9:10.

“The gospel is a wonderful simplifier of life's problems. Its instruction, heeded, would make plain many a perplexity and save us from many an error. It teaches us to estimate things at their true value and to give the most effort to the things of greatest worth--the things that will endure.” {The Ministry of Healing p. 363}

Does the apostle Peter address this issue?

“Wherefore let them that suffer according to the will of God commit the keeping of their souls to him in well doing, as unto a faithful Creator.” 1 Peter 4:19.

Believe it or not, this remedy has almost universal impact!

“The pleasure of doing good to others imparts a glow to the feelings which flashes through the nerves, quickens the circulation of the blood, and induces

mental and physical health.” {Testimonies for the Church, Volume 4, p. 56.2}

Just like Jesus:

“Who, when he was reviled, reviled not again; when he suffered, he threatened not; but committed himself to him that judgeth righteously:” 1 Peter 2:23.

We must commit our ways unto Jesus the author and finisher of our faith.

“Looking unto Jesus the author and finisher of our faith; who for the joy that was set before him endured the cross, despising the shame, and is set down at the right hand of the throne of God.” Hebrews 12:2.

The biggest source of our stress comes from our expectations and the opinions of others we believe are important.

“There are many whose hearts are aching under a load of care because they seek to reach the world's standard. They have chosen its service, accepted its perplexities, adopted its customs. Thus their character is marred, and their life made a weariness. In order to gratify ambition and worldly desires, they wound the conscience, and bring upon themselves an additional burden of remorse. The continual worry is wearing out the life forces. Our Lord desires them to lay aside this yoke of bondage. He invites them to accept His yoke; He says, ‘My yoke is easy, and My burden is light.’ He bids them seek first the kingdom of God and His righteousness, and His promise is that all things needful to them for this life shall be added. Worry is blind, and cannot discern the future; but Jesus sees the end from the beginning. In every difficulty He has His way prepared to bring relief. Our heavenly Father has a thousand ways to provide for us, of which we know nothing. Those who accept the one principle of making the service and honor of God supreme will find perplexities vanish, and a plain path before their feet.” {The Desire of Ages p. 330}

## Stress Management God's Way

Paul could be content in Jesus, and this gave him peace.

"Not that I speak in respect of want: for I have learned, in whatsoever state I am, therewith to be content. I know both how to be abased, and I know how to abound: every where and in all things I am instructed both to be full and to be hungry, both to abound and to suffer need. I can do all things through Christ which strengtheneth me." Philipians 4:11-13.

Paul advises the same for us:

"Let your conversation be without covetousness; and be content with such things as ye have: for he hath said, I will never leave thee, nor forsake thee." Hebrews 13:5.

Covetousness will destroy your peace.

"Perverse disputings of men of corrupt minds, and destitute of the truth, supposing that gain is godliness: from such withdraw thyself. But godliness with contentment is great gain. For we brought nothing into this world, and it is certain we can carry nothing out. And having food and raiment let us be therewith content. But they that will be rich fall into temptation and a snare, and into many foolish and hurtful lusts, which drown men in destruction and perdition. For the love of money is the root of all evil: which while some coveted after, they have erred from the faith, and pierced themselves through with many sorrows. But thou, O man of God, flee these things; and follow after righteousness, godliness, faith, love, patience, meekness. Fight the good fight of faith, lay hold on eternal life, whereunto thou art also called, and hast professed a good profession before many witnesses." 1 Timothy 6:5-12.

Are your wages the problem? John the Baptist taught contentment in one's income.

"And the soldiers likewise demanded of him, saying, And what shall we do? And he said unto them, Do violence to no man, neither accuse any falsely; and be content with your wages." Luke 3:14.

Paul had learned the blessing of persecution, distress, infirmities, and reproaches:

"And he said unto me, My grace is sufficient for thee: for my strength is made perfect in weakness. Most gladly therefore will I rather glory in my infirmities, that the power of Christ may rest upon me. Therefore I take pleasure in infirmities (sickness), in reproaches, in necessities, in persecutions, in distresses for Christ's sake: for when I am weak, then am I strong. I am become a fool in glorying; ye have compelled me: for I ought to have been commended of you: for in nothing am I behind the very chiefest apostles, though I be nothing." 2 Corinthians 12:9-11.

What are we invited to do with all our stress?

"Come unto me, all ye that labour and are heavy laden, and I will give you rest. Take my yoke upon you, and learn of me; for I am meek and lowly in heart: and ye shall find rest unto your souls. For my yoke is easy, and my burden is light." Matthew 11:28-30.

"Casting all your care upon him; for he careth for you." 1 Peter 5:7.

"Then said Jesus unto his disciples, If any man will come after me, let him deny himself, and take up his cross, and follow me. For whosoever will save his life shall lose it: and whosoever will lose his life for my sake shall find it." Matthew 16:24-25.

Appeal: Do you want to live in the perfect peace of Jesus? Will you commit all to him, take up your cross and put the stress behind you, casting it all at Jesus feet?

\*"Sickness of the mind prevails everywhere. Nine tenths of the diseases from which men suffer have their foundation here." (Mind Character and Personality, Volume 1, p. 59)

*“The Lord desires us to appreciate the great plan of redemption, to realize our high privilege as the children of God, and to walk before Him in obedience, with grateful thanksgiving. He desires us to serve Him in newness of life, with gladness every day. He longs to see gratitude welling up in our hearts because our names are written in the Lamb’s book of life, because we may cast all our care upon Him who cares for us. He bids us rejoice because we are the heritage of the Lord, because the righteousness of Christ is the white robe of His saints, because we have the blessed hope of the soon coming of our Saviour.”<sup>i</sup>*

- E.G. White

---

<sup>i</sup> White, E. G. (1900). Christ’s Object Lessons. Review and Herald Publishing Association. p. 299.

## CHAPTER 32

# IF WE WOULD BE BUT MORE GRATEFUL: THE POWER AND SCIENCE OF GRATITUDE

A powerful church sign caught my attention. It unflinchingly proclaimed, "The covetous man is always poor." "How true", I thought. It's a paradigm, a perspective, when you're always wanting something, your thoughts are thoughts of discontent, with your current plight. As such, you're not cultivating feelings of satisfaction or peace, but of want and desire. Really, it's selfishness. Then it came to my mind that there must be an opposite truth. Perhaps a sign could read, "The grateful man is always wealthy!"

Have you ever heard, or sung the song, "Count Your Blessings" by Johnson Oatman? Here it is:

### COUNT YOUR BLESSINGS

1. When upon life's billows you are tempest-tossed,  
When you are discouraged, thinking all is lost,  
Count your many blessings; name them one by one,  
And it will surprise you what the Lord has done.

[Chorus]

Count your blessings;  
Name them one by one.  
Count your blessings;  
See what God hath done.  
Count your blessings;  
Name them one by one.  
Count your many blessings;  
See what God hath done.

2. Are you ever burdened with a load of care?  
Does the cross seem heavy you are called to bear?

Count your many blessings; ev'ry doubt will fly,  
And you will be singing as the days go by.

3. When you look at others with their lands and gold,  
Think that Christ has promised you his wealth untold.

Count your many blessings; money cannot buy  
Your reward in heaven nor your home on high.

4. So amid the conflict, whether great or small,  
Do not be discouraged; God is over all.  
Count your many blessings; angels will attend,  
Help and comfort give you to your journey's end.

I believe that singing that song, in truth and in the Spirit, could really make you richer! Are you ready for a raise? You are going to have to sing for it. :-)

### WHAT IS GRATITUDE?

What does a dictionary say about gratitude?  
Good old Webster's 1828 Dictionary says the following:

GRATITUDE, n. [L. gratitudo, from gratus, pleasing. See Grace.]  
An emotion of the heart, excited by a favor or benefit received; a sentiment of kindness or good will towards a benefactor; thankfulness. Gratitude is an agreeable emotion, consisting in or accompanied with good will to a benefactor, and a disposition to make a suitable return of benefits or services, or when no return can be made, with a desire to see the benefactor

## Blue Print for Health and Healing

prosperous and happy. Gratitude is a virtue of the highest excellence, as it implies a feeling and generous heart, and a proper sense of duty. The love of God is the sublimest gratitude.

A thesaurus has these synonyms to compare:

Acknowledgment  
Obligation  
Recognition  
Thanks  
Appreciativeness  
Grace  
Gratefulness  
Honor  
*Indebtedness*  
*Praise*  
*Requital*  
*Response*  
*Responsiveness*  
*Thankfulness*  
*Thanksgiving*  
*Sense of Obligation*

Ultimately, to whom is our gratefulness directed? I like Psalms 50:23 on this, it's worth reading: "Whoso offereth praise glorifieth me:" This is a part of the great circle of beneficence: God showers blessings down on us, we share blessings with others, then praise and gratitude return back to God!

"Looking unto Jesus we see that it is the glory of our God to give. 'I do nothing of Myself,' said Christ; 'the living Father hath sent Me, and I live by the Father.' 'I seek not Mine own glory, but the glory of Him that sent Me.'" John 8:28; 6:57; 8:50; 7:18. In these words is set forth the great principle which is the law of life for the universe. All things Christ received from God, but He took to give. So in the heavenly courts, in His ministry for all created beings: through the beloved Son, the Father's life flows out to all; through the Son it returns, in praise and joyous service, a tide of love, to the great Source of all. And thus, through Christ the circuit of beneficence is complete, representing the character of the great Giver, the law of life."<sup>1</sup>

### ARE ALL GRATEFUL?

"This know also, that in the last days perilous times shall come. For men shall be lovers of their own selves, covetous, boasters, proud,

blasphemers, disobedient to parents, unthankful,"<sup>2</sup>

The wicked are characterized as unthankful.

"Because that, when they knew God, they glorified him not as God, neither were thankful; but became vain in their imaginations, and their foolish heart was darkened."<sup>3</sup>

Why be grateful? What are the benefits?

### GRATITUDE IMPROVES YOUR HEALTH

"A merry [rejoicing] heart doeth good like a medicine.' Proverbs 17:22. Gratitude, rejoicing, benevolence, trust in God's love and care—these are health's greatest safeguard."<sup>4</sup>

A grateful outlook—recognizing and appreciating the positives in our lives can:

- Make us more optimistic. Optimism, in turn, makes us happier, improves our health, and has been shown to increase lifespan by several years. Optimism has been shown to decrease depression, anxiety, PTSD (Post Traumatic Stress Disorder) and suicides.<sup>5,6</sup>
- Decrease the likelihood of being suicidal when showing gratitude to others.<sup>7</sup>
- Make heart failure patients less fatigued, less depressed and more optimistic about controlling their symptoms.<sup>8</sup>
- Lower blood sugar and HbA1c levels.<sup>9</sup> Elevated HbA1c levels have been associated with chronic kidney disease, cancer, and diabetes.
- Improve long term survival in cancer patients.<sup>10</sup>
- Lower triglycerides making heart attacks less likely.<sup>11</sup>
- Decrease the risk of another heart attack in someone who has already had one.<sup>12,13</sup>
- Decrease psychological stress and harmful stress hormones.<sup>14</sup>
- Reduce inflammation: TNF- $\alpha$  and IL-6 decrease as gratitude increases.<sup>15</sup>
- Decelerate the effects of neurodegeneration, helping to stave off Alzheimer's and other dementias.<sup>16</sup>
- Reduce the amount of fatty comfort foods people eat, thus helping to combat obesity.<sup>17</sup>
- Help alleviate insomnia, giving better sleep quality.<sup>18,19</sup>

## If We Would Be But More Grateful: The Power and Science of Gratitude

- Lower dangerously high blood pressure.<sup>20</sup>

Nothing means nothing! Look at this quote: “Nothing tends more to promote health of body and of soul than does a spirit of gratitude and praise...While words express thoughts, it is also true that thoughts follow words. If we would give more expression to our faith, rejoice more in the blessings that we know we have, --the great mercy and love of God, --we should have more faith and greater joy.”<sup>21</sup>

### GRATITUDE IMPROVES OUR LIVES

Gratitude makes us feel good.<sup>22</sup> Gratitude is really happiness that we recognize after-the-fact, from the kindness of others. Gratitude doesn't just make us happier, it is a form of happiness in and of itself! “The soul may ascend nearer heaven on the wings of grateful praise.”<sup>23</sup>

Gratitude strengthens our positive emotions.<sup>24</sup> Gratitude helps us: bounce back quicker from stress, reduces feelings of envy, and lets us experience more good feelings. As we are grateful, God gives us more for which to be grateful. “God loves the thankful heart, trusting implicitly in His words of promise, gathering comfort and hope and peace from them; and He will reveal to us still greater depths of His love.”<sup>25</sup>

Gratitude reduces materialism.<sup>26,27,28</sup> Materialism reduces the sense of well-being and increases rates of mental disorders.<sup>29</sup> The problem with materialism is that it makes you feel less competent, reduces your feelings of relatedness and gratitude, reduces your ability to appreciate and enjoy the good in life, generates negative emotions, and makes you more self-centered. How does gratitude reduce materialism?<sup>30</sup> Gratitude helps by reducing our tendency to compare ourselves to those with a higher social status. Those who cultivate an attitude of gratitude are more likely to perceive benevolence, which in turn causes their brains to assume they are in an environment full of social support, which in turn kills insecurity and materialism.

Gratitude makes us less self-centered. The very nature of gratitude is to focus on others (on

their acts of benevolence toward us or people we are close to).<sup>31</sup>

“As every blessing we enjoy is brought to us through the condescension, humiliation, and sacrifice of Jesus Christ, we should render to him our best gifts, above all not withholding ourselves. The infinite sacrifice which Christ has made to free us from the guilt and woe of sin, should work in every heart a spirit of gratitude and self-denial which is not manifested by the world. God's gift of Christ to man filled all Heaven with amazement, and inspired at his birth the angelic song, ‘Glory to God in the highest, and on earth peace, good will toward men.’”<sup>32</sup>

“Looking upon the crucified Redeemer, we more fully comprehend the magnitude and meaning of the sacrifice made by the Majesty of heaven. The plan of salvation is glorified before us, and the thought of Calvary awakens living and sacred emotions in our hearts. Praise to God and the Lamb will be in our hearts and on our lips; for pride and self-worship cannot flourish in the soul that keeps fresh in memory the scenes of Calvary.”<sup>33</sup>

Did you know that gratitude can makes our past memories happier? Cultivating a grateful spirit helps us to remember the past in a more positive light. It can actually transform some of our neutral or even negative memories into positive ones.<sup>34</sup>

As Chronicles says, “All things come of thee”<sup>35</sup>

Gratitude reduces feelings of envy.<sup>36</sup> Envy produces feelings of inadequacy, insecurity, materialism, inferiority, distrust, and unhappiness. Just like it is impossible to feel optimistic and pessimistic at the same time, gratitude is the act of perceiving benevolence, while envy and jealousy is the act of perceiving inadequacy. Benevolence and inadequacy cannot be completely perceived at the same time.<sup>37</sup> “A humble mind and a grateful heart will elevate us above petty trials and real difficulties.”<sup>38</sup> The Bible speaks of love as charity and says, “charity envieth not;” 1 Corinthians 13:4. Showing gratitude to others must then be an expression of love. One way of loving your neighbour would be to show or express to him something about him for which you are grateful.

Gratitude increases your spirituality.<sup>39</sup> Gratitude awakens our spiritual nature, helping

## Blue Print for Health and Healing

us feel closer to God. “O give thanks unto the LORD; for he is good: for his mercy endureth for ever.”<sup>40</sup>

There is an inconceivable blessing in being grateful! “No tongue can express, no finite mind can conceive, the blessing that results from appreciating the goodness and love of God.”<sup>41</sup>

Really, Christianity is all about gratitude! “In this was manifested the love of God toward us, because that God sent his only begotten Son into the world, that we might live through him. Herein is love, not that we loved God, but that he loved us, and sent his Son to be the propitiation for our sins. Beloved, if God so loved us, we ought also to love one another.”<sup>42</sup>

Gratitude makes you more likely to take part in healthy exercise.<sup>43</sup> In one study, those who kept a weekly gratitude journal exercised 40 minutes more per week.

Gratitude increases your energy levels.<sup>44</sup> Gratitude and vitality are strongly correlated – the grateful are much more likely to report physical and mental vigor. “Gratitude deepens as we give it expression, and the joy it brings is life to soul and body.”<sup>45</sup>

Gratitude increases your productivity. Gratitude fosters life satisfaction and improved motivation in youth.<sup>46</sup> “Let each give love rather than exact it. Cultivate that which is noblest in yourselves, and be quick to recognize the good qualities in each other. The consciousness of being appreciated is a wonderful stimulus and satisfaction. Sympathy and respect encourage the striving after excellence, and love itself increases as it stimulates to nobler aims.”<sup>47</sup>

Gratitude helps you network with others<sup>48</sup> and make friends more readily.<sup>49</sup> And who doesn’t need more good friends, especially ones that are attracted to grateful people?

Gratitude improves your decision-making ability.<sup>50</sup> It helps not to be too self-focused when attempting objective decision-making.

Gratitude helps you relax.<sup>51</sup> Gratitude and positive emotions are among the strongest relaxants known to man. “I will both lay me down in peace, and sleep: for thou, LORD, only makest me dwell in safety.”<sup>52</sup>

Gratitude helps us bounce back. People who express gratitude are more resilient, their negative emotional swings don’t last as long. Those that have more gratitude are less likely to develop post-traumatic stress disorder, and are

more likely to grow in times of stress.<sup>53</sup> “In every thing give thanks: for this is the will of God in Christ Jesus concerning you.”<sup>54</sup> “And we know that all things work together for good to them that love God, to them who are the called according to his purpose.”<sup>55</sup> Like Joseph, we can say, “But as for you, ye thought evil against me; but God meant it unto good, to bring to pass, as it is this day, to save much people alive.”<sup>56</sup> Joseph could see the good in all things and trust all to God with gratefulness.

Gratitude helps your marriage.<sup>57</sup> There is a ration that has been called the Losada ratio, which divides the total number of positive expressions (support, encouragement, and appreciation) made during a given period of time, by the number of negative expressions (disapproval, sarcasm, and cynicism). When the ratio is below .9, that is, there are 11% more negative expressions than positive expressions, marriages tend to plummet towards divorce. Marriages that last and are satisfying, are those with a positivity ratio above 5.1 (five positive expressions to each negative). You may want to start a gratitude journal just to list positive things about your spouse.

### BECOMING MORE GRATEFUL

One of the most effective ways you can improve your thankfulness is to keep a gratitude journal.<sup>58</sup> Take time daily to remind yourself of the gifts, grace, benefits, and good things you enjoy. Recall moments of gratitude associated with ordinary events, your personal attributes, or valued people in your life. “Then they that feared the LORD spake often one to another: and the LORD hearkened, and heard it, and a book of remembrance was written before him for them that feared the LORD, and that thought upon his name.”<sup>59</sup>

Be aware, through your senses, of things in your surroundings that call fourth your grateful praise.<sup>60</sup> Through our senses— the ability to touch, see, smell, taste, and hear— we gain an appreciation of God’s blessings and of what an incredible miracle it is to be alive. Seen through the lens of gratitude, the human body is not only a miraculous construction, but also a gift.<sup>61</sup> “I will praise thee; for I am fearfully and



## If We Would Be But More Grateful: The Power and Science of Gratitude

wonderfully made: marvellous are thy works; and that my soul knoweth right well.”<sup>62</sup>

It is also helpful to have visual reminders. The two obstacles to gratefulness are forgetfulness and a lack of mindful awareness, visual reminders can serve as cues to trigger thoughts of gratitude. Some people keep a crucifix around to remind them of Christ's death on Calvary. Often times, the best visual reminders are other people.<sup>63</sup> In the Bible, visual reminders include the rainbow<sup>64</sup> and scenes and articles from Jesus' parables.<sup>65</sup>

“The irregular mountains of the earth we should look upon as God's fountains of blessings from which flow forth the waters to supply all the living creatures. Every time I look upon the mountains, I feel gratitude to God. My heart is lifted up in praise to Him who knows the wants and needs of man. If the earth had been a uniform level, there would be stagnant marshes.”<sup>66</sup>

Go through the physical motions of being grateful. If you go through grateful motions, the emotion of gratitude should be triggered. Grateful motions include smiling, saying thank you, and writing letters of gratitude. Fake it till you make it.<sup>67</sup>

Do your words tend toward thankfulness? Watch closely what you say. Grateful people have a particular linguistic style that uses the language of gifts, givers, blessings, blessed, fortune, fortunate, and abundance. I had one friend who always, when asked how he was doing, would say, “I am blessed”. In gratitude, you should not focus on how inherently good you are, but rather on the good things others have done on your behalf.<sup>68</sup>

“The language of the soul should be that of joy and gratitude. If any have dark chapters in their experience let them bury them. Let this history not be kept bright by repetition. Forgetting the things that are behind, press forward to the things that are before. Cultivate only those thoughts and those feelings which shall produce gratitude and praise. If you have been wronged, forget it, and think only of the

great mercies, the loving-kindness, and inexpressible love of Jesus. Learn to praise rather than to censure.”<sup>69</sup>

Make a pledge to practice gratitude. Research shows that making an oath to perform a behavior increases the likelihood that the action will be repeated. Therefore, write your own gratitude vow, which could be as simple as “I vow to count my blessings each day,” and post it somewhere where you will be reminded of it every day.<sup>70</sup>

Establish and maintain rituals of gratitude.<sup>71</sup> When rituals of gratitude are a normal part of both your routine and your special events, you connect with those around you in a way that benefits everyone. The experience you share with your partner and/or your children becomes a meaningful time of bonding. So, say thank you, say it often, and say it together.<sup>72</sup> For example, the yearly ritual of the feast of tabernacles was a joyous commemoration of the blessings of God to us as a people. “Well would it be for us to have a feast of tabernacles, a joyous commemoration of the blessings of God to us as a people. As the children of Israel celebrated the deliverance that God wrought for their fathers, and his miraculous preservation of them during their journeyings from Egypt to the promised land, so should the people of God at the present time gratefully call to mind the various ways he has devised to bring them out from the world, out from the darkness of error, into the precious light of truth.”<sup>73</sup>

Did you know that in the Bible God prescribes a day for gratitude? We learn this by looking at the Psalm written specifically for the weekly Sabbath. “A Psalm or Song for the sabbath day. It is a good thing to give thanks unto the LORD, and to sing praises unto thy name, O most High.”<sup>74</sup>

Learn prayers of gratitude. For example, “O give thanks unto the LORD; for he is good; for his mercy endureth for ever. And say ye, Save us, O God of our salvation, and gather us together, and deliver us from the heathen, that we may give thanks to thy holy name, and glory in thy

## Blue Print for Health and Healing

praise. Blessed be the LORD God of Israel for ever and ever. And all the people said, Amen, and praised the LORD.”<sup>75</sup> Prayers of gratitude are a powerful form of prayer, because through these prayers people recognize the ultimate source of all they are and all they will ever be. “Begin every day with earnest prayer, not omitting to offer praise and thanksgiving.”<sup>76</sup> “Be careful for nothing; but in every thing by prayer and supplication with thanksgiving let your requests be made known unto God.”<sup>77</sup> “Prayer is addressing the mind to God, the Fountain of wisdom, the Source of strength and peace and happiness. Prayer includes acknowledgment of the divine perfections, gratitude for mercies received, penitential confession of sins, and earnest entreaty for the blessing of God, both for ourselves and for others.”<sup>78</sup>

“When you open your eyes in the morning, thank God that He has kept you through the night. Thank Him for His peace in your heart. Morning, noon, and night, let gratitude as a sweet perfume ascend to heaven.”<sup>79</sup>

Can you always be grateful? If you have God in your life you can: “Although the fig tree shall not blossom, neither shall fruit be in the vines; the labour of the olive shall fail, and the fields shall yield no meat; the flock shall be cut off from the fold, and there shall be no herd in the stalls: Yet I will rejoice in the LORD, I will joy in the God of my salvation.”<sup>80</sup>

In seeking to cultivate an attitude of gratitude it may be helpful to remember the not-so-good we have experienced in the past. To be grateful in your current situation, you may find it helpful to remember the hard times that you once lived through. When you remember how difficult life used to be and how far you have come, this contrast is fertile ground for gratefulness. As Ezekiel says, “Then shall ye remember your own evil ways, and your doings that were not good.”<sup>81</sup> This contrast will become especially real to us when we reach heaven, where, upon thinking back and comparing heaven with the trials in this current earth we will be compelled

to exclaim, “Alleluia! heaven is cheap enough.”<sup>82</sup>

“Now therefore, our God, we thank thee, and praise thy glorious name. But who am I, and what is my people, that we should be able to offer so willingly after this sort? for all things come of thee, and of thine own have we given thee.”<sup>83</sup>

“And I thank Christ Jesus our Lord, who hath enabled me, for that he counted me faithful, putting me into the ministry; Who was before a blasphemer, and a persecutor, and injurious: but I obtained mercy, because I did it ignorantly in unbelief.”<sup>84</sup>

“We must know our real condition, or we shall not feel our need of Christ's help. We must understand our danger, or we shall not flee to the refuge. We must feel the pain of our wounds, or we should not desire healing.”<sup>85</sup>

“The degree of our love for God depends upon the clearness and fullness of our conviction of sin. ‘By the law is the knowledge of sin.’ The more we see of the perils to which we have been exposed by sin, the more grateful we shall be for deliverance.”<sup>86</sup>

Your diet could affect your capacity to be more grateful. “The gratitude we offer to God for His blessings is greatly affected by the food placed in the stomach. Indulgence of appetite is the cause of dissension, strife, discord, and many other evils.”<sup>87</sup>

“But Jeshurun waxed fat, and kicked: thou art waxen fat, thou art grown thick, thou art covered with fatness; then he forsook God which made him, and lightly esteemed the Rock of his salvation.”<sup>88</sup>

“Remove far from me vanity and lies: give me neither poverty nor riches; feed me with food convenient for me: Lest I be full, and deny thee, and say, Who is the LORD? or lest I be poor, and steal, and take the name of my God in vain.”<sup>89</sup>

### SHOWING GRATITUDE TO OTHERS

Give a gift of gratitude.<sup>90</sup> When choosing a gift aimed specifically at expressing gratitude, opt for meaningful over monetary value. Gratitude in itself is a gift, but giving a thoughtful, personal gift, that can be kept, displayed, and treasured is something really special.<sup>91</sup>

We can give God gifts of gratitude. “It is God who blesses men with property, and He does this that they may be able to give toward the advancement of His cause. In turn, He would have men and women show their gratitude by returning Him a portion in tithes and offerings-- in thank offerings, in freewill offerings, in trespass offerings.”<sup>92</sup>

Show gratitude by random acts of kindness.<sup>93</sup> Random acts of kindness can yield substantial reward in terms of subjective well-being.<sup>94</sup> If you see a stranger struggling under a heavy load of shopping, offer a hand. Donate unwanted clothes to charity. Help someone with directions who is lost.<sup>95</sup> “We should be self-forgetful, ever looking out for opportunities, even in little things, to show gratitude for the favors we have received of others, and watching for opportunities to cheer others and lighten and relieve their sorrows and burdens by acts of tender kindness and little deeds of love.”<sup>96</sup>

“Gratitude deepens as we give it expression, and the joy it brings is life to soul and body.”<sup>97</sup>

Show gratitude through your own creative work. A friend of ours showed their appreciation for a bridal shower gift we had given them by including in a thank you card a book mark they had hand painted themselves. What a treasure and unforgettable expression of gratitude!

Express your gratitude in words. Words are powerful and the simplest, most direct, way to express gratitude to the people we may otherwise take for granted. Given proximity, a verbal expression of your appreciation in person is effective – if you can’t do it in person, make the phone call and brighten somebody’s day.<sup>98</sup>

Express your appreciation face to face with a gratitude visit.<sup>99</sup> While expressing gratitude in person might be a big step for some, the gesture of going out of your way to tell someone how much you appreciate them is enough for everyone to feel the benefits. If you can’t make the visit in person, you could send a personalized video message.<sup>100</sup>

Do not criticize, condemn or complain. We tend to focus on the negative. Every time we complain we’re reinforcing a negative state of mind, making it more difficult to feel and express gratitude. Remember some things are out with your control; focus on the positive instead.<sup>101</sup>

Show an interest in them, ask how they are doing and listen attentively to their response! It’s easy to feel overwhelmed; the simple act of actively listening to your loved ones can be an effective way to show you value them. Put down your phone, remain attentive and let them steer the conversation.<sup>102</sup>

Write a note or letter of gratitude.<sup>103</sup> Spend some time thinking about what you appreciate most about your friends, teacher, or parents and draft a letter by hand, expressing your sentiments. While recognizing your gratitude is important – just writing it down is enough to make you feel warm inside – actually reading the letter out loud is worth so much more. Maybe jumping in with a full gratitude letter is too big a first step for you to make, that’s OK! Why not try a “thank you” note in a thoughtfully selected or handmade card? While writing thank you notes is a bit of a lost art; it takes almost no time at all, and can be a sincere expression of gratitude.<sup>104</sup>

What does God really long for, what is the inner desire of His heart? “The Lord desires us to appreciate the great plan of redemption, to realize our high privilege as the children of God, and to walk before Him in obedience, with grateful thanksgiving. He desires us to serve Him in newness of life, with gladness every day. He longs to see gratitude welling up in our hearts because our names are written in the Lamb’s

## Blue Print for Health and Healing

book of life, because we may cast all our care upon Him who cares for us. He bids us rejoice because we are the heritage of the Lord, because the righteousness of Christ is the white robe of His saints, because we have the blessed hope of the soon coming of our Saviour.”<sup>105</sup>

“Our hearts are to be so filled with the love of Christ that our words of thanksgiving shall warm other hearts.”<sup>106</sup>

“God so loved the world that he would not suffer it to remain possible for it to be said that he could have given us more, or manifested for the human family a greater measure of love. He knew that the great manifestation of love, displayed in the life and death of the Son of God, would awaken the fiercest jealousy on the part of Satan. The gift of Christ to the world was beyond computation, and no power could compete with God by giving a gift that would bear any comparison to the value of heaven's best treasure. The greatness of this gift was to furnish men with a theme of thanksgiving and praise that would last through time and through eternity. Having given his all in Christ, God lays claim to the heart, mind, soul, and strength of man. Looking upon the treasure which God has provided in the full and complete gift of Christ, we can exclaim: ‘Herein is love!’”<sup>107</sup>

“Those who show true gratitude glorify God by loving him supremely and their neighbors as themselves.”<sup>108</sup>

“Many, walking along the path of life, dwell upon their mistakes and failures and disappointments, and their hearts are filled with grief and discouragement. While I was in Europe, a sister who had been doing this, and who was in deep distress, wrote to me, asking for some word of encouragement. The night after I had read her letter I dreamed that I was in a garden, and one who seemed to be the owner of the garden was conducting me through its paths. I was gathering the flowers and enjoying their fragrance, when this sister, who had been walking

by my side, called my attention to some unsightly briars that were impeding her way. There she was mourning and grieving. She was not walking in the pathway, following the guide, but was walking among the briars and thorns. “Oh,” she mourned, “is it not a pity that this beautiful garden is spoiled with thorns?” Then the guide said, “Let the thorns alone, for they will only wound you. Gather the roses, the lilies, and the pinks.”

Have there not been some bright spots in your experience? Have you not had some precious seasons when your heart throbbed with joy in response to the Spirit of God? When you look back into the chapters of your life experience do you not find some pleasant pages? Are not God's promises, like the fragrant flowers, growing beside your path on every hand? Will you not let their beauty and sweetness fill your heart with joy?

The briars and thorns will only wound and grieve you; and if you gather only these things, and present them to others, are you not, besides slighting the goodness of God yourself, preventing those around you from walking in the path of life?

It is not wise to gather together all the unpleasant recollections of a past life, — its iniquities and disappointments, — to talk over them and mourn over them until we are overwhelmed with discouragement. A discouraged soul is filled with darkness, shutting out the light of God from his own soul and casting a shadow upon the pathway of others.

Thank God for the bright pictures which He has presented to us. Let us group together the blessed assurances of His love, that we may look upon them continually: The Son of God leaving His Father's throne, clothing His divinity with humanity, that He might rescue man

## If We Would Be But More Grateful: The Power and Science of Gratitude

from the power of Satan; His triumph in our behalf, opening heaven to men, revealing to human vision the presence chamber where the Deity unveils His glory; the fallen race uplifted from the pit of ruin into which sin had plunged it, and brought again into connection with the infinite God, and having endured the divine test through faith in our Redeemer, clothed in the righteousness of Christ, and exalted to His throne—these are the pictures which God would have us contemplate.”<sup>109</sup>

### **IN SUMMARY:**

- A spirit of gratitude yields physical, mental, social and spiritual health benefits.
- Make it a practice to remember what you are grateful for.
- Spread gratitude by expressing it to others in words and acts.
- Our greatest gratitude goes to God to whom we owe everything in life.

*“According to your faith  
be it unto you.”<sup>i</sup>*

- Jesus Christ, The Great Physician

---

<sup>i</sup> Matthew 9:29. King James Version of the Holy Bible.

## CHAPTER 33

# HEALTH BY FAITH: WHOLE PERSON HEALING

### HEALING FAITH

Health of body and restoration of the sick depend on the faith, submission and obedience of the suppliant and are the prerogative of God. God works in mysterious ways His wonders to perform. “Not by might, nor by power, but by my spirit, saith the LORD of hosts.”<sup>1</sup>

A recognized author from the 1800s, AT Jones, well respected for his contributions to our understandings of “righteousness by faith” declares:

“Health reform, as such, is to be practiced by faith in Christ. And when our people get to that place where they will live health reform by faith in Christ, then they will live righteousness by faith in Christ. Any one who does not live righteousness by faith in Christ, cannot live health reform as God has given it. One is just as really a matter of faith as the other. Did not God give it? Has he not prescribed it? Is he not the source of it? Does he not intend to be not only the author but the finisher of it? Then is it not of faith? Read Romans, fourteenth chapter, and note especially the last verse, and the last words of that verse, —‘Whatsoever is not of faith is sin.’ And this is spoken of eating and drinking, too. Well, let us get hold of it that way, and apply it that way, and then that will bring in a better practice of health reform among us.”<sup>2</sup>

This means I carry out in faith that which I know to be the best according to God’s revealed will and I rest in confidence that God will do the rest.

Another author says it this way: “If the sick and suffering will do only as well as they know in regard to living out the principles of health reform perseveringly, then they will in nine cases out of ten recover from their ailments.”<sup>3</sup>

The implication is, 90% of the diseases from which we suffer are related in some way to our lifestyle practices, good, bad or negligent. Can we expect or ask the blessing of God on poor management of the physical resources with which He has endowed us? Can we expect Him to save us from ourselves despite an ambivalence over His instructions regarding the preservation of our bodies from disease? Can I in good faith pray for healing while continuing the lifestyle practices which brought disease? On the other hand, is worry about illness reasonable if I *have done* all in my knowledge and power to be a diligent custodian of my physical endowments?

### NATURE IS NOT SELF-WORKING

To better understand this, a realization of the involvement of God in our existence is relevant. Did He just create everything and then leave it to run all on its own, like a perpetual motion machine? Has God made me so very intricate and complicated only to hand off the maintenance of this precious body machinery to me? Or is He at work keeping it all in order? His word declares to us that: “He giveth to all life, and breath, and all things;” that: “in him we live, and move, and have our being;”<sup>4</sup> And that He is: “upholding all things by the word of his power”<sup>5</sup> The reason why all things continue is that: “he is strong in power; not one faileth.”<sup>6</sup> *There is not a breath you take, nor a move you make, that is not a blessing directly from God at that very moment.* Were it not for Him, all life would disintegrate. Feel for your pulse! Have you noticed the hand of God in your life today?

“The mechanism of the human body cannot be fully understood; it presents mysteries that

## Blue Print for Health and Healing

baffle the most intelligent. It is not as the result of a mechanism, which, once set in motion, continues its work, that the pulse beats and breath follows breath. In God we live and move and have our being. Every breath, every throb of the heart, is a continual evidence of the power of an ever-present God.”<sup>7</sup>

Reach down and find your pulse; that predictable throb is God at work in your life. Do you trust Him?

### SUSTAINED IN HEALTH OR DISEASE

And so, the question arises, If He sustains me in everything I do, is He not just as able to make me well as to sustain me in sickness? And what would make the difference? I believe His words in Exodus 15:26 have the answer:

“If thou wilt diligently hearken to the voice of the LORD thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the LORD that healeth thee.”<sup>8</sup>

So long as we cooperate with God, obeying His instructions for the care of our bodies and souls, He can do for us that which we cannot do for ourselves. Notice that the freedom from disease and the healing come in the context of obedience. Conversely, we put Him at a disadvantage, in caring for us, when we violate the natural laws governing our existence. Can we do in faith that which we know harms or is not the best for us and expect Him to override our misdoings?

What do I do if I find myself at the receiving end of blessings removed? Of disease and a need for healing? Of God keeping me alive, but just barely?

We often think of faith healing as supernatural in character and in results. And while I believe God has some miraculous intervention He would like to do for us, His chosen way of working is in cooperation with simple divinely inspired remedies and in adherence to His natural laws.

“Natural means, used in accordance with God’s will, bring about supernatural results. We ask for a miracle, and the Lord directs the mind to some simple remedy. We ask to be kept from the pestilence that walketh in darkness, that is

stalking with such power through the world; we are then to cooperate with God, observing the laws of health and life. Having done all that we possibly can, we are to keep asking in faith for health and strength. We are to eat that food which will preserve the health of the body. God gives us no encouragement that He will do for us what we can do for ourselves. Natural laws are to be obeyed. We are not to fail of doing our part. God says to us, ‘Work out your own salvation with fear and trembling. For it is God which worketh in you both to will and to do of His good pleasure’ (Philippians 2:12, 13).

“We cannot disregard the laws of nature without disregarding the laws of God. We cannot expect the Lord to work a miracle for us while we neglect the simple remedies He has provided for our use, which, aptly and opportunely applied, will bring about a miraculous result. “Therefore, pray, believe, and work.”<sup>9</sup>

### REMEDY OF THE DAY

And God’s remedies are not always predictable or the same every time. Take for example the two instances of the healing of bitter waters mentioned in the Bible. For Moses, a tree had to be cut down and thrown into the water. For Elisha, a vessel of salt to be poured in to the water was prescribed. Both enjoyed the blessing of God, but the solution varied. Following God by faith brings blessing. Likewise, the healing of leprosy in the Bible shares the blessing of healing amongst many different interventions of remedies. Naaman is told to go dip in a muddy river seven times, Miriam goes out on a period of quarantine, ten lepers are sent on a run and find relief, and several are simply touched by the hand of God as He walked on earth. And while the apparent solution varied, the involvement of faith remained the same--men did what God asked.

So, ask in prayer, apply simple remedies, follow natural law and expect healing as providence sees best. Thus, faith in healing is like faith in redemption.



## Health by Faith: Whole Person Healing

### **RIGHTEOUSNESS BY FAITH IS OBEDIENCE BY FAITH.**

We do what God has said is right and His power sustains us and saves us from the wages or results of our sin. Health reform by faith is obedience by faith to *all God's health laws and instructions*. We do what God has said is right and His power sustains us and saves from physical death and disease.

"When we bring our lives to complete obedience to the law of God, regarding God as our supreme Guide, and clinging to Christ as our hope of righteousness, God will work in our behalf. This is a righteousness of faith, a righteousness hidden in a mystery of which the worldling knows nothing, and which he cannot understand. Sophistry and strife follow in the train of the serpent; but the commandments of God diligently studied and practiced, open to us communication with heaven, and distinguish for us the true from the false. This obedience works out for us the divine will, bringing into our lives the righteousness and perfection that was seen in the life of Christ."<sup>10</sup>

Faith it is, and in faith I am to act, and by faith I experience health.

### **LIFESTYLE OF FAITH**

And what is it that I am to live on (in faith)?

"If fruits, vegetables and grains are not sufficient to meet the wants of man, then the Creator made a mistake in providing for Adam."<sup>11</sup>

Today is that food only "sufficient" if I add to it supplements? (of ... protein, vitamins, dead animals, bottled fats, refined sugars, glyconutrients...?) If we do what God has prescribed, can we not expect His blessings of health?

The garden of Eden is not the only time that God got involved in our actual menu. In the wilderness God gave, what to many minds might seem a very monotonous diet--one thing on the menu for 40 years. Where's the variety in that? But what is the lesson from that menu? God said that He prescribed that particular diet for a purpose. The purpose was said to be to "prove" them. "Then said the LORD unto Moses, Behold, I will rain bread from heaven for you; and the people shall go out and gather a certain rate every day, that I may prove them, whether they

will walk in my law, or no."<sup>12</sup> The proving revealed their hearts. They rebelled against the diet. They said: "our soul loatheth this light bread."<sup>13</sup> This incident became an immortal lesson for all generations to follow of Israel's failure to enter into a righteousness by faith covenant with God. This incident of refusing the menu is referred to as the "provocation"<sup>14</sup> "To day if ye will hear his voice, Harden not your heart, as in the provocation, and as in the day of temptation in the wilderness: When your fathers tempted me, proved me, and saw my work. Forty years long was I grieved with this generation, and said, It is a people that do err in their heart, and they have not known my ways: Unto whom I swear in my wrath that they should not enter into my rest."<sup>15</sup> They did not like the diet that God had provided for them and which He had promised to bless. After all, it was He who was giving them every breath of air, why not trust Him on the food too? That would be like us turning our noses up at fresh fruits and vegetables, "loathing" them, and requesting a menu change (probably to something health destroying but appealing to a perverted appetite). We **must** have faith in our food and choose food by faith. Food God has chosen for us. Look at what Romans 14 says and note that it is in the context of food.

"It is good neither to eat flesh, nor to drink wine, nor any thing whereby thy brother stumbleth, or is offended, or is made weak. Hast thou faith? have it to thyself before God. Happy is he that condemneth not himself in that thing which he alloweth. And he that doubteth is damned if he eat, because he eateth not of faith: for whatsoever is not of faith is sin."<sup>16</sup> How do I apply this to food? Only eat that which in good conscience you can believe will add to the health of your body and spirit—the Creator's diet! "Then God said, 'I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food.'"<sup>17</sup> "and you will eat the plants of the field."<sup>18</sup>

### **GOD SAID IT, I BELIEVE IT, THAT SETTLES IT FOR ME**

Perhaps we need a little of the attitude, "God said it, I believe it, that settles it for me!" Do right and expect health! "Without faith it is

## Blue Print for Health and Healing

impossible to please him: for he that cometh to God must believe that he is, and that he is a rewarder of them that diligently seek him."<sup>19</sup>

One famous faith healing experience in the Bible is when the people of Israel were bitten by poisonous serpents. Moses was instructed to make a serpent out of brass and hang it on a pole in front of the congregation. All who had been bitten, if they looked at the serpent, in faith, would live. "The command came to Moses to lift up a brazen serpent on a pole, and to tell the people that if they would look upon it, they should live. Suppose that one had said, 'O, my wounds are too grievous. I am so full of fever and suffering that I cannot raise my eyes. Wait till I am a little better.' Could he get better without following the directions? -- No, he would only grow worse and worse, and die. The only remedy was to fasten his eyes on the brazen serpent. The instruction was, "Look and live," and every soul who did this was healed."<sup>20</sup>

Jesus used this as an example of salvation in the New Testament. "And as Moses lifted up the serpent in the wilderness, even so must the Son of man be lifted up: That whosoever believeth in him should not perish but have eternal life."<sup>21</sup>

### FAITH IS FOLLOWING THE DIRECTIONS

And if we have a righteousness that is not by such faith, what kind of righteousness do we possess? And if we have health that is not by a faith that follows the directions of God, what kind of health do we have? And what are we most apt to substitute for faith?

"He says, 'Whatsoever ye shall ask the Father in My name, He will give it you.' He promises to come to us as a Comforter to bless us. Why do we not believe these promises? That which we lack in faith we make up by the use of drugs. Let us give up the drugs, believing that Jesus does not desire us to be sick, and that if we live according to the principles of health reform, He will keep us well."<sup>22</sup> What pill do you take for salvation? And do we keep going to the doctors of the Philistines to see if we are well or not?

### THE PRAYER OF FAITH IS NOT PRESUMPTION

Drugs do not cure disease, they do not heal. Or if they seem to, they do so only partially or slightly. And really, to be only partially healed, is

not to be healed at all. "They have healed also the hurt of the daughter of my people slightly,"<sup>23</sup> God sees through this and is not really pleased with the whole charade. "For my people have committed two evils; they have forsaken me the fountain of living waters, and hewed them out cisterns, broken cisterns, that can hold no water."<sup>24</sup>

### WHO IS YOUR HEALER?

Who is your healer? And if not God, are you really healed? Who do you want to be your healer? The Bible comments on building in a way that I think is instructive to our whole discussion of healing. "Except the LORD build the house, they labour in vain that build it: except the LORD keep the city, the watchman waketh but in vain."<sup>25</sup> If it is not God building the house, who is doing it? If it is not God watching the city, who then is the watchman? "Who forgiveth all thine iniquities; who healeth all thy diseases;"<sup>26</sup> If it is not God who has healed you, then who did you entrust with the care of your blood bought body? Who we turn to in time of illness shows who we honour or worship.

"If any among us are sick, let us not dishonor God by applying to earthly physicians, but apply to the God of Israel. If we follow his directions (James 5:14, 15) the sick will be healed. God's promise cannot fail. Have faith in God, and trust wholly in him, that when Christ who is our life shall appear we may appear with him in glory."<sup>27</sup> The Bible comments on a king who exemplifies this principle. "And Asa in the thirty and ninth year of his reign was diseased in his feet, until his disease was exceeding great: yet in his disease he sought not to the LORD, but to the physicians."<sup>28</sup>

But what if we have exhausted all our options and no recovery has come?

"Why is it that men are so unwilling to trust Him who created man, and who can by a touch, a word, a look, heal all manner of disease? Who is more worthy of our confidence than the One who made so great a sacrifice for our redemption? Our Lord has given us definite instruction through the apostle James as to our duty in case of sickness. When human help fails, God will be the helper of His people. 'Is any sick among you? let him call for the elders of the church; and let them pray over him, anointing

## Health by Faith: Whole Person Healing

him with oil in the name of the Lord: and the prayer of faith shall save the sick, and the Lord shall raise him up.' If the professed followers of Christ would, with purity of heart, exercise as much faith in the promises of God as they repose in satanic agencies, they would realize in soul and body the life-giving power of the Holy Spirit."<sup>29</sup>

Are we ready to give up on the world and let God be our healer?

### HOW DO WE GET THIS HEALING?

"The Lord has given me light that when the Israel of today humble themselves before Him, and cleanse the soul-temple from all defilement, He will hear their prayers in behalf of the sick and will bless in the use of His remedies for disease. When in faith the human agent does all he can to combat disease, using the simple methods of treatment that God has provided, his efforts will be blessed of God."<sup>30</sup>

When we do our part in faith God can do His part in faith too. But, what if it is not in God's will to heal us? What if He sees that it is not in our best interest to return to life. Hezekiah is a good illustration of this principle.

### WHAT IF IT IS NOT GOD'S WILL FOR YOU TO BE HEALED?

"In those days was Hezekiah sick unto death. And Isaiah the prophet the son of Amoz came unto him, and said unto him, Thus saith the LORD, Set thine house in order: for thou shalt die, and not live."<sup>31</sup> Wouldn't it be just lovely to know, not only when you are going to die, but that you were assured of the accomplishment of the task of setting your house in order—being a guaranteed inheritor of salvation. Not Hezekiah, "Then Hezekiah turned his face toward the wall, and prayed unto the LORD, And said, Remember now, O LORD, I beseech thee, how I have walked before thee in truth and with a perfect heart, and have done that which is good in thy sight. And Hezekiah wept sore."<sup>32</sup> At this God was not insensitive to Hezekiah's wishes, however misdirected. "Then came the word of the LORD to Isaiah, saying, Go, and say to Hezekiah, Thus saith the LORD, the God of David thy father, I

have heard thy prayer, I have seen thy tears: behold, I will add unto thy days fifteen years."<sup>33</sup>

But what of the additional fifteen years? During that lingering time Hezekiah sold the nation out to the Babylonians, raised a son, Manasseh, who would apostatize and actually take the life of the prophet Isaiah. The point is, Hezekiah did not know when to die! Now I am not making a point for dying, but, in God's providence and wisdom, there is a time for everything, a time to live and a time to die. "A time to be born, and a time to die; a time to plant, and a time to pluck up that which is planted;"<sup>34</sup> We don't want to be so eager to maintain our own life here on earth that we resort to unhallowed means to achieve our existence. "For whosoever will save his life shall lose it; but whosoever shall lose his life for my sake and the gospel's, the same shall save it."<sup>35</sup> All must be on the altar, ready to live or sacrifice as God in His all-knowing providence shall indicate.

And what if God decides not to heal us? "Although the fig tree shall not blossom, neither shall fruit be in the vines; the labour of the olive shall fail, and the fields shall yield no meat; the flock shall be cut off from the fold, and there shall be no herd in the stalls: Yet I will rejoice in the LORD, I will joy in the God of my salvation."<sup>36</sup> Just trust in Jesus, He has your best interest in view. Do you believe that? "Often your mind may be clouded because of pain. Then do not try to think. You know that Jesus loves you. He understands your weakness. You may do His will by simply resting in His arms."<sup>37</sup>

### HEALTH BY FAITH NECESSITATES TRANSFORMATION BY FAITH.

The heart must be in it or it is of no avail. "All true obedience comes from the heart. It was heart work with Christ. And if we consent, He will so identify Himself with our thoughts and aims, so blend our hearts and minds into conformity to His will, that when obeying Him we shall be but carrying out our own impulses. The will, refined and sanctified, will find its highest delight in doing His service. When we know God as it is our privilege to know Him, our life will be a life of continual obedience."<sup>38</sup> Given a new heart, we will want to engage in life

preserving health reform. "Those who would work in God's service must not be seeking worldly gratification and selfish indulgence. The physicians in our institutions must be imbued with the living principles of health reform. Men will never be truly temperate until the grace of Christ is an abiding principle in the heart. All the pledges in the world will not make you or your wife health reformers. No mere restriction of your diet will cure your diseased appetite. Brother and Sister Maxson will not practice temperance in all things until their hearts are transformed by the grace of God and they shall wear Christ's yoke and have Christ's meekness and lowliness of heart."<sup>39</sup> Following good health practices because you "have to" only makes you into an enemy of God. It is not health by faith. It makes God out to be an arbitrary tyrant. "A sullen submission to the will of the Father will develop the character of a rebel."<sup>40</sup> "The man who attempts to keep the commandments of God from a sense of obligation merely--because he is required to do so--will never enter into the joy of obedience." In fact, "He does not obey."<sup>41</sup> True faith, in regard to health, is the whole-hearted engagement in the practices of healthful living while looking to God for strength and life.

### **MOTIVE POWER**

It really comes down to motive. Paul, in the Bible, is a good illustration of the true motive which must underlie health by faith. "At the time of his conversion, Paul was inspired with a longing desire to help his fellow men to behold Jesus of Nazareth as the Son of the living God, mighty to transform and to save. Henceforth his life was wholly devoted to an effort to portray the love and power of the Crucified One. His great heart of sympathy took in all classes. 'I am debtor,' he declared, 'both to the Greeks, and to the barbarians; both to the wise, and to the unwise.' Romans 1:14. Love for the Lord of glory, whom he had so relentlessly persecuted in the person of His saints, was the actuating principle of his conduct, his motive power. If ever his ardor in the path of duty flagged, one glance at the cross and the amazing love there revealed, was enough to cause him to gird up the loins of his mind and press forward in the path of self-denial."<sup>42</sup>

### **IN MANY RESPECTS, THE ONLY LIMIT ON YOUR HEALTH IS YOUR FAITH**

Jesus has said, "According to your faith be it unto you."<sup>43</sup> A story that is illustrative of this point is of a father whose son was possessed of a demon. Jesus, "asked his father, How long is it ago since this came unto him? And he said, Of a child. And oftentimes it hath cast him into the fire, and into the waters, to destroy him:" The man then showed his lack of faith, "but if thou canst do any thing, have compassion on us, and help us." Jesus knew that the child was not going to be healed without faith—faith that this man did not have. "Jesus said unto him, If thou canst believe, all things are possible to him that believeth." At this the father realized that it was his unbelief that stood between his son and healing, "And straightway the father of the child cried out, and said with tears, Lord, I believe; help thou mine unbelief."<sup>44</sup> If we are having difficulty believing, this should be our prayer too, "Lord, I believe; help thou mine unbelief."

Healing and health are dependent upon faith; Jesus knew this. It was people's lack of faith that limited His healing ministry, as it does today. "And he did not many mighty works there because of their unbelief."<sup>45</sup> He was known to say, "And ye will not come to me, that ye might have life."<sup>46</sup> How often do we stay away when we could have life if we only came to Him in faith, believing that He does not want us to be sick, following His instructions and claiming His promises. "Who his own self bare our sins in his own body on the tree, that we, being dead to sins, should live unto righteousness: by whose stripes ye were healed."<sup>47</sup> Can we believe that by His stripes we are/were healed?

### **WE NEED MORE FAITH, BUT HOW?**

"So, then faith cometh by hearing, and hearing by the word of God."<sup>48</sup> When do we have time for the word? "And ye shall teach them your children, speaking of them when thou sittest in thine house, and when thou walkest by the way, when thou liest down, and when thou risest up."<sup>49</sup> And then we will become strong in faith, not wavering, "But let him ask in faith, nothing wavering. For he that wavereth is like a wave of the sea driven with the wind and tossed. For let

## Health by Faith: Whole Person Healing

not that man think that he shall receive any thing of the Lord.”<sup>50</sup>

One of the things we need to believe, have faith in, or, in other words trust, is the instruction God has given us regarding health found in the writings of His prophets. “Believe in the LORD your God, so shall ye be established; believe his prophets, so shall ye prosper.”<sup>51</sup> And what kind of prosperity are we talking about here? How about prosperity in health? “Beloved, I wish above all things that thou mayest prosper and be in health, even as thy soul prospereth.”<sup>52</sup> So you read the instruction, in faith practice it and leave the results, by faith, in the hands of God. In the words of AT Jones: “Well, then, you must eat good victuals in order to have good blood.... Therefore the Lord has told us what is good to eat. Here is the rule: Find out what God says is good to eat; ... Then thank the Lord for it, eat it with a glad heart. And THEN LET IT ALONE.... Be sure that it is good, and good for you, and when you have eaten it, let it alone. Of course it will not digest right when you are bothering it all the time, and keeping it from digesting. Let it alone. Having thanked the Lord for it, and asked His blessing upon it, believe that His blessing is upon it. Why do we ask the Lord to bless our food and bless it to its intended use, and then not believe that He does it? Where is the faith in that? That is not health reform. Let us quit it.”<sup>53</sup>

The insightful statement, “According to your faith be it unto you.”<sup>54</sup> goes both ways. You will receive no greater results than your faith encompasses, be it good or be it otherwise. “If you are in constant fear that your food will hurt you, it most assuredly will.”<sup>55</sup> How instructive is that! And how about this? “Disease is sometimes produced, and is often greatly aggravated, by the imagination. Many are lifelong invalids who might be well if they only thought so. Many imagine that every slight exposure will cause illness, and the evil effect is produced because it is expected. Many die from disease the cause of which is wholly imaginary.”<sup>56</sup>

AT Jones goes on in his comparison of healing to salvation. “Health reform, then, is just as certainly—I do not say as much but as certainly—a part of God’s plan of salvation as righteousness by faith. He wishes us our souls prosper; but how can our souls prosper without

righteousness by faith?—They cannot do it. He wishes above all things that we may prosper and be in health even as our souls prosper. Then how can our health prosper as he wishes it without health reform by faith?—It cannot do it.”<sup>57</sup> Can you make yourself righteous? Can you make yourself healthy? Can you have a settled faith in the righteousness of Christ? Can you have a settled faith in the outcome of health you experience upon diligently following all God’s health instructions for you? Salvation is freedom from sin (which is disobedience). “No one can believe with the heart unto righteousness, and obtain justification by faith, while continuing the practice of those things which the Word of God forbids, or while neglecting any known duty.”<sup>58</sup> Likewise, true health only comes in freedom from sin (which includes disobedience to natural health laws). Are you willing for God to save you, not only from your moral sins, but from your transgressions of His natural laws—are you willing to have a salvation that includes not only forgiveness, but a will and strength to do the right things?

The healing message of God is a classroom, a lesson book, for the saving message of God! It is righteousness by faith in action. “From the simple Bible account of how Jesus healed the sick, we may learn something about how to believe in Him for the forgiveness of sins. Let us turn to the story of the paralytic at Bethesda. The poor sufferer was helpless; he had not used his limbs for thirty-eight years. Yet Jesus bade him, ‘Rise, take up thy bed, and walk.’ The sick man might have said, ‘Lord, if Thou wilt make me whole, I will obey Thy word.’ But, no, he believed Christ’s word, believed that he was made whole, and he made the effort at once; he willed to walk, and he did walk. He acted on the word of Christ, and God gave the power. He was made whole.”<sup>59</sup> “Well then, I say again that the object of health reform is not merely for health’s sake, and that that is not God’s view of it. When it is practiced and taught anywhere merely for health’s sake, it is not meeting God’s mind. Of course, the person who practices it will have better health, but will he be prepared for what it is to prepare him? —No. Getting people ready to meet Jesus Christ, to be translated, ready for the Lord, —that is the Lord’s idea and purpose in health reform.”<sup>60</sup>

### **AT THE TIME OF THEIR IGNORANCE GOD WINKED AT**

Now suppose in the past you have ignorantly (or not so ignorantly) transgressed the natural health laws of life established by God and are now reaping the results of ill health. What then? Well, God has a solution. If you return to Him in contrition and obedience, His promise is, "And I will restore to you the years that the locust hath eaten,"<sup>61</sup> In such case we have a job, a duty, we are to work to recover the loss. "Wherefore, O king, let my counsel be acceptable unto thee, and break off thy sins by righteousness, and thine iniquities by shewing mercy to the poor; if it may be a lengthening of thy tranquillity."<sup>62</sup> We are to replace bad habits with good ones. "Bring forth therefore fruits meet for repentance:"<sup>63</sup> If in the past we have doubted God's methods of healing, are we now willing to take His Power, and "Break off our sins by righteousness"?

I am reminded of a dear lady who was a member of the team which hosted one of our health seminars. While she was helpful and worked hard in the meetings, her personal acceptance of the health message was superficial. This all changed a year later when she received a diagnosis of cancer. Now she was all ears, now the health message was a priority. All of a sudden, she was a believer and diligent to apply all the information she could get. And

she did adopt standards of healthy living, and she was blessed of God, and she did have a remission in her cancer. And was she delighted. But as time went on and things seemed to be all good in the health department, she let her standards down, it was then that the cancer returned, and it returned with a vengeance, and her funeral was a sad one.

We are talking here about health by faith, a faith that intelligently applies the remedies given. We trust in God and in the wise implementation of His guiding principles for our health. Having done all in our power to align ourselves with God's principles of life, we commit the keeping of our health to Him and rely on His strength to be happy whatever the apparent results. As with salvation we can say, "Nothing in my hand I bring; Simply to thy cross I cling."

In conclusion, there is no health or salvation in neglect of faith-based health reform. God includes health with salvation. Salvation is by truehearted obedient faith. Health is by truehearted obedient faith. There is no salvation in disobedience. There is no health in disobedience. A saving relationship with Jesus is a healing relationship with Jesus. Do you want to ask God to give you complete faith in His health care plan for you? Do you want Jesus to be your all-encompassing Saviour today of mind, body and spirit?

## Works Cited

### Chapter 1 - References

- <sup>1</sup> The Baltimore Sun, Oct 26, 1997.
- <sup>2</sup> Zimmet P, Alberti KG, Shaw J. Global and societal implications of the diabetes epidemic. *Nature*. 2001 Dec 13;414(6865):782-7.
- <sup>3</sup> CDC, Diabetes Data and Trends, 2005 and CDC, Diabetes Fact Sheet, Oct. 26, 2005
- <sup>4</sup> Narayan KM, Boyle JP, Thompson TJ, Sorensen SW, Williamson DF. Lifetime risk for diabetes mellitus in the United States. *JAMA*. 2003 Oct 8;290(14):1884-90.
- <sup>5</sup> Hogan P, Dall T, Nikolov P; American Diabetes Association. Economic costs of diabetes in the US in 2002. *Diabetes Care*. 2003 Mar;26(3):917-32.
- <sup>6</sup> Sowers JR, Epstein M, Frohlich ED. Diabetes, hypertension, and cardiovascular disease: an update. *Hypertension*. 2001 Apr;37(4):1053-9.
- <sup>7</sup> Hu C, Sarti C, Jousilahti P, Peltonen M, Qiao Q, Antikainen R, Tuomilehto J. The impact of history of hypertension and type 2 diabetes at baseline on the incidence of stroke and stroke mortality. *Stroke*. 2005 Dec;36(12):2538-43.
- <sup>8</sup> Kabakov E, Norymberg C, Osher E, Koffler M, Tordjman K, Greenman Y, Stern N. Prevalence of hypertension in type 2 diabetes mellitus: impact of the tightening definition of high blood pressure and association with confounding risk factors. *J Cardiometaab Syndr*. 2006 Spring;1(2):95-101.
- <sup>9</sup> Klein R, Klein BEK. Vision disorders in diabetes. In: National Diabetes Data Group, editors, *Diabetes in America*, 2nd ed. Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, 1995. NIH Publication No. 95-1468. 293-336.
- <sup>10</sup> U.S. Renal Data System. USRDS 2007 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2007.
- <sup>11</sup> Mota M, Panuș C, Mota E, Sfrdeț V, Patrașcu A, Vanghelle L, Toma E. Hand abnormalities of the patients with diabetes mellitus. *Rom J Intern Med*. 2000;20(1):38-39:89-95.
- <sup>12</sup> Gregg EW, Sorlie P, Paulose-Ram R, Gu Q, Eberhardt MS, Wolz M, Burt V, Curtin L, Engelgau M, Geiss L; Prevalence of lower-extremity disease in the US adult population >40 years of age with and without diabetes: 1999-2000 national health and nutrition examination survey. *Diabetes Care*. 2004 Jul;27(7):1591-7.
- <sup>13</sup> Horowitz M, Wishart JM, Jones KL, Hebbard GS. Gastric emptying in diabetes: an overview. *Diabet Med*. 1996 Sep;13(9 Suppl 5):S16-22.
- <sup>14</sup> Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, Division of Health Care Statistics, data from the National Hospital Discharge Survey and Division of Health Interview Statistics, data from the National Health Interview Survey. U.S. Bureau of the Census, census of the population and population estimates and National Center for Health Statistics, CDC, bridged-race population estimates. Data computed by personnel in the Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC.
- <sup>15</sup> Wexler DJ. Low risk of depression in diabetes? Would that it were so. *CMAJ*. 2006 Jul 4;175(1):47.
- <sup>16</sup> Reagan LP. Insulin signaling effects on memory and mood. *Curr Opin Pharmacol*. 2007 Dec;7(6):633-7.
- <sup>17</sup> Narayan KM, Boyle JP, Thompson TJ, Sorensen SW, Williamson DF. Lifetime risk for diabetes mellitus in the United States. *JAMA*. 2003 Oct 8;290(14):1884-90.
- <sup>18</sup> Valiyeva E, Russell LB, Miller JE, Safford MM. Lifestyle-related Risk Factors and Risk of Future Nursing Home Admission. *Arch Intern Med* 2006; 166 (May8):985-990.
- <sup>19</sup> Loriaux DL. Diabetes and The Ebers Papyrus: 1552 B.C. *Endocrinologist*. 16(2):55-56, March/April 2006.
- <sup>20</sup> Exodus 15:26 King James Version of the Holy Bible.
- <sup>21</sup> American Diabetes Association. Standards of medical care in diabetes. *Diabetes Care*. 2005 Jan;28 Suppl 1:S4-S36.
- <sup>22</sup> Anderson JW, Herman RH, Zakim D. Effect of high glucose and high sucrose diets on glucose tolerance of normal men. *Am J Clin Nutr*. 1973 Jun;26(6):600-7.
- <sup>23</sup> Adapted from: Salmeron J, Hu FB, Manson JE, Stampfer MJ, Colditz GA, Rimm EB, Willett WC. Dietary fat intake and risk of type 2 diabetes in women. *Am J Clin Nutr*. 2001 Jun;73(6):1019-26.
- <sup>24</sup> Wang Y, Wang PY, Qin LQ, Davaasambuu G, Kaneko T, Xu J, Murata S, Katoh R, Sato A. The development of diabetes mellitus in Wistar rats kept on a high-fat/low-carbohydrate diet for long periods. *Endocrine*. 2003 Nov;22(2):85-92.
- <sup>25</sup> Storlien LH, Jenkins AB, Chisholm DJ, Pascoe WS, Khouri S, Kraegen EW. Influence of dietary fat composition on development of insulin resistance in rats. Relationship to muscle triglyceride and omega-3 fatty acids in muscle phospholipid. *Diabetes*. 1991 Feb;40(2):280-9-Links
- <sup>26</sup> Hu FB, van Dam RM, Liu S. Diet and risk of Type II diabetes: the role of types of fat and carbohydrate. *Diabetologia*. 2001 Jul;44(7):805-17.
- <sup>27</sup> Trichopoulos A, Lagiou P. Worldwide patterns of dietary lipids intake and health implications. *Am J Clin Nutr*. 1997 Oct;66(4 Suppl):961S-964S.
- <sup>28</sup> Picinato MC, Curi R, Machado UF, Carpinelli AR. Soybean- and olive-oils-enriched diets increase insulin secretion to glucose stimulus in isolated pancreatic rat islets. *Physiol Behav*. 1998 Nov 15;65(2):289-94.
- <sup>29</sup> Jiang R, Manson JE, Stampfer MJ, Liu S, Willett WC, Hu FB. Nut and peanut butter consumption and risk of type 2 diabetes in women. *JAMA*. 2002 Nov 27;288(20):2554-60.
- <sup>30</sup> Pereira MA, Kartasov AI, Ebeling CB, Van Horn L, Slattery ML, Jacobs DR Jr, Ludwig DS. Fast-food habits, weight gain, and insulin resistance (the CARDIA study): 15-year prospective analysis. *Lancet*. 2005 Jan 1;365(9453):36-42.
- <sup>31</sup> Schulze MB, Manson JE, Ludwig DS, Colditz GA, Stampfer MJ, Willett WC, Hu FB. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. *JAMA*. 2004 Aug 25;292(8):927-34.
- <sup>32</sup> Softic S, Stanhope KL, Boucher J, Divanovic S, Lanasa MA, Johnson RJ, Kahn CR. Fructose and hepatic insulin resistance. *Crit Rev Clin Lab Sci*. 2020 Aug;57(5):308-322.
- <sup>33</sup> Sartorelli DS, Franco LJ, Gimeno SG, Ferreira SR, Cardoso MA; Japanese-Brazilian Diabetes Study Group. Dietary fructose, fruits, fruit juices and glucose tolerance status in Japanese-Brazilians. *Nutr Metab Cardiovasc Dis*. 2009 Feb;19(2):77-83.
- <sup>34</sup> Papakonstantinou E, Panagiotakos DB, Pitsavos C, Chrysohoou C, Zampelas A, Skoumas Y, Stefanadis C. Food group consumption and glycaemic control in people with and without type 2 diabetes: the ATTICA study. *Diabetes Care*. 2005 Oct;28(10):2539-40. Related Articles, Links
- <sup>35</sup> Pan A, Sun Q, Bernstein AM, Schulze MB, Manson JE, Willett WC, Hu FB. Red meat consumption and risk of type 2 diabetes: 3 cohorts of US adults and an updated meta-analysis. *Am J Clin Nutr*. 2011 Oct;94(4):1088-96.
- <sup>36</sup> Hur NW, Kim HC, Nam CM, Jee SH, Lee HC, Suh I. Smoking cessation and risk of type 2 diabetes mellitus: Korea Medical Insurance Corporation Study. *Eur J Cardiovasc Prev Rehabil*. 2007 Apr;14(2):244-9.
- <sup>37</sup> Lane JD, Hwang AL, Feinglos MN, Surwit RS. Exaggeration of postprandial hyperglycemia in patients with type 2 diabetes by administration of caffeine in coffee. *Endocr Pract*. 2007 May-Jun;13(3):239-43.
- <sup>38</sup> Lee S, Hudson R, Kilpatrick K, Graham TE, Ross R. Caffeine ingestion is associated with reductions in glucose uptake independent of obesity and type 2 diabetes before and after exercise training. *Diabetes Care*. 2005 Mar;28(3):566-72.
- <sup>39</sup> Greenhouse L, Lardinois CK. Alcohol-associated diabetes mellitus. A review of the impact of alcohol consumption on carbohydrate metabolism. *Arch Fam Med*. 1996 Apr;5(4):229-33.
- <sup>40</sup> Li Y, Eitan S, Wu J, Evans C, Kieffer B, Sun X, Polakiewicz RD. Morphine induces desensitization of insulin receptor signaling. *Mol Cell Biol*. 2003 Sep;23(17):6255-66.
- <sup>41</sup> Radzeviciene L, Ostrauskas R. Adding Salt to Meals as a Risk Factor of Type 2 Diabetes Mellitus: A Case-Control Study. *Nutrients*. 2017 Jan 13;9(1):67.
- <sup>42</sup> Izzedine H, Launay-Vacher V, Devauch C, Bourry E, Barrou B, Deraf G. Drug-induced diabetes mellitus. *Expert Opin Drug Saf*. 2005 Nov;4(6):1097-109.
- <sup>43</sup> Spellacy WN. Carbohydrate metabolism during treatment with estrogen, progestogen, and low-dose oral contraceptives. *Am J Obstet Gynecol*. 1982 Mar 15;142(6 Pt 2):732-4.
- <sup>44</sup> Culver AL, Ockene IS, Balasubramanian R, Olendick BC, Sepavich DM, Wactawski-Wende J, Manson JE, Qiao Y, Liu S, Merriam PA, Rahilly-Tiemy C, Thomas F, Berger JS, Ockene JK, Curb JD, Ma Y. Statin use and risk of diabetes mellitus in postmenopausal women in the Women's Health Initiative. *Arch Intern Med*. 2012 Jan 23;172(2):144-52.
- <sup>45</sup> Zigmont VA, Shoben AB, Lu B, et al. Statin users have an elevated risk of dysglycemia and new-onset diabetes. *Diabetes Metab Res Rev*. 2019;35:e3189.
- <sup>46</sup> ACCORD Study Group, Gerstein HC, Miller ME, Genuth S, Ismail-Beigi F, Buse JB, Goff DC Jr, Probstfield JL, Cushman WC, Ginsberg HN, Bigger JT, Grimm RH Jr, Byington RP, Rosenberg YD, Friedewald WT. Long-term effects of intensive glucose lowering on cardiovascular outcomes. *N Engl J Med*. 2011 Mar 3;364(9):818-28.
- <sup>47</sup> Meo SA, Alsubaie Y, Almutbarak Z, Almutawa H, AlQasem Y, Hasanato RM. Association of Exposure to Radio-Frequency Electromagnetic Field Radiation (RF-EMFR) Generated by Mobile Phone Base Stations with Glycated Hemoglobin (HbA1c) and Risk of Type 2 Diabetes Mellitus. *Int J Environ Res Public Health*. 2015 Nov 13;12(11):4519-28.
- <sup>48</sup> Gu C, Brereton N, Schweitzer A, Cotter M, Duan D, Børshøj E, Wolfe RR, Pham LV, Polotsky VY, Jun JC. Metabolic Effects of Late Dinner in Healthy Volunteers-A Randomized Crossover Clinical Trial. *J Clin Endocrinol Metab*. 2020 Aug 2;105(8):2789-802.
- <sup>49</sup> Kahleova H, Belinova L, Malinska H, Oliyarnyk O, Trnovska J, Skop V, Kazdova L, Dezortova M, Hajek M, Tura A, Hill M, Pelikanova T. Eating two larger meals a day (breakfast and lunch) is more effective than six smaller meals in a reduced-energy regimen for patients with type 2 diabetes: a randomised crossover study. *Diabetologia*. 2014 Aug;57(8):1552-60. doi: 10.1007/s00125-014-3253-5.
- <sup>50</sup> Sebtı Y, Hebras A, Pourcet B, Staels B, Duez H. The Circadian Clock and Obesity. *Handb Exp Pharmacol*. 2022;274:29-56.
- <sup>51</sup> Farschi HR, Taylor MA, Macdonald IA. Beneficial metabolic effects of regular meal frequency on dietary thermogenesis, insulin sensitivity, and fasting lipid profiles in healthy obese women. *Am J Clin Nutr*. 2005 Jan;81(1):16-24.
- <sup>52</sup> Zatońska K, Basiak-Rasala A, Poltyn-Zaradna K, Kinastowski K, Szuba A. Sleep Duration and Bedtime in the PURE Poland Cohort Study and the Link with Noncommunicable Diseases. *Int J Environ Res Public Health*. 2021 Dec 30;19(11):403.
- <sup>53</sup> Anderson JW, Kendall CW, Jenkins DJ. Importance of weight management in type 2 diabetes: review with meta-analysis of clinical studies. *J Am Coll Nutr*. 2003 Oct;22(5):331-9.
- <sup>54</sup> Narayan KM, Boyle JP, Thompson TJ, Gregg EW, Williamson DF. Effect of BMI on lifetime risk for diabetes in the U.S. *Diabetes Care*. 2007 Jun;30(6):1562-6.
- <sup>55</sup> Mobley CC. Lifestyle interventions for "diabetes": the state of the science. *Compend Contin Educ Dent*. 2004 Mar;25(3):207-18.
- <sup>56</sup> Mori Y, Hoshino K, Yokota K, Itoh Y, Tajima N. Differences in the pathology of the metabolic syndrome with or without visceral fat accumulation: a study in pre-diabetic Japanese middle-aged men. *Endocrine*. 2006 Feb;29(1):149-53.
- <sup>57</sup> Hu C, Li L, Lu M. Case control study of the relationship between type A character and type II diabetes mellitus. *Zhonghua Yi Xue Za Zhi*. 2001 Feb 25;81(4):205-7.
- <sup>58</sup> Gogiberidze OG, Gogiberidze KO, Kavtaradze GV. Behavioral risk factors in patients with diabetes mellitus type II. *Georgian Med News*. 2005 Jan;(118):29-31.
- <sup>59</sup> Björntorp P. Body fat distribution, insulin resistance, and metabolic diseases. *Nutrition*. 1997 Sep;13(9):795-803.
- <sup>60</sup> Borissova AM, Tankova TI, Koev DJ. Insulin secretion, peripheral insulin sensitivity and insulin-receptor binding in subjects with different degrees of obesity. *Diabetes Metab*. 2004 Nov;30(5):425-31.
- <sup>61</sup> Jenkins DJ, Wolever TM, Taylor RH, Barker H, Fielden H, Baldwin JM, Bowling AC, Newman HC, Jenkins AL, Goff DV. Glycemic index of foods: a physiological basis for carbohydrate exchange. *Am J Clin Nutr*. 1981 Mar;34(3):362-6.
- <sup>62</sup> Venn BJ, Green TJ. Glycemic index and glycemic load: measurement issues and their effect on diet-disease relationships. *Eur J Clin Nutr*. 2007 Dec;61 Suppl 1:S122-31.
- <sup>63</sup> Pawlak DB, Kushner JA, Ludwig DS. Effects of dietary glycemic index on adiposity, glucose homeostasis, and plasma lipids in animals. *Lancet*. 2004 Aug 28-Sep 3;364(9436):778-85.
- <sup>64</sup> Roberts SB. High-glycemic index foods, hunger, and obesity: is there a connection? *Nutr Rev*. 2000 Jun;58(6):163-9.
- <sup>65</sup> Augustin LS, Franceschi S, Jenkins DJ, Kendall CW, La Vecchia C. Glycemic index in chronic disease: a review. *Eur J Clin Nutr*. 2002 Nov;56(11):1049-71.
- <sup>66</sup> Kolb H, Kempf K, Röhling M, Martin S. Insulin: too much of a good thing is bad. *BMC Med*. 2020 Aug 21;18(1):224. doi: 10.1186/s12916-020-01688-6.
- <sup>67</sup> Reaven GM. Pathophysiology of insulin resistance in human disease. *Physiol Rev*. 1995 Jul;75(3):473-86.
- <sup>68</sup> Hammarsten J, Högestedt B. Hyperinsulinaemia: a prospective risk factor for lethal clinical prostate cancer. *Eur J Cancer*. 2005 Dec;41(18):2887-95.
- <sup>69</sup> Lawlor DA, Smith GD, Ebrahim S. Hyperinsulinaemia and increased risk of breast cancer: findings from the British Women's Heart and Health Study. *Cancer Causes Control*. 2004 Apr;15(3):267-75.
- <sup>70</sup> Kijak E, Foust G, Steinman R.R.; Relationship of Blood Sugar Level and Leukocytic Phagocytosis; Southern California Dental Association 1964; 32(9):349-351.
- <sup>71</sup> United States Department of Agriculture, Office of Communications. *Agriculture Fact Book 2001-2002*. March 2003. <http://www.usda.gov/factbook/2002factbook.pdf>
- <sup>72</sup> Sullivan MJ, Scott RL. Postprandial glycemic response to orange juice and nondiet cola: is there a difference? *Diabetes Educ*. 1991 Jul-Aug;17(4):274-8.
- <sup>73</sup> Bolton RP, Heaton KW, Burroughs LF. The role of dietary fiber in satiety, glucose, and insulin: studies with fruit and fruit juice. *Am J Clin Nutr*. 1981 Feb;34(2):211-7.
- <sup>74</sup> Bazzano LA, Tricia YL, Kamudi JF, Frank BH. Intake of Fruit, Vegetables, and Fruit Juices and Risk of Diabetes in Women. *Diabetes Care* 31:1311-1317, 2008
- <sup>75</sup> Lahtinen JI, Tuorila HM, Uusitupa MI. Changes in hedonic responses to sweet and fat in recently diagnosed non-insulin-dependent diabetic patients during diet therapy. *Eur J Clin Nutr*. 1991 Aug;45(8):393-400.
- <sup>76</sup> Jenkins DJ. Carbohydrate tolerance and food frequency. *Eur J Nutr*. 1997 Apr;77 Suppl 1:S71-S81.
- <sup>77</sup> Bertelsen J, Christensen C, Thomsen C, Poulsen PL, Vestergaard S, Steinvik A, Rasmussen LH, Rasmussen O, Hermansen K. Effect of meal frequency on blood glucose, insulin, and free fatty acids in NIDDM subjects. *Diabetes Care*. 1993 Jan;16(1):4-7.
- <sup>78</sup> de Verdier MG, Longnecker MP. Eating frequency—a neglected risk factor for colon cancer? *Cancer Causes Control*. 1992 Jan;3(1):77-81.
- <sup>79</sup> Franceschi S, La Vecchia C, Bidoli E, Negri E, Talamini R. Meal frequency and risk of colorectal cancer. *Cancer Res*. 1992 Jul 15;52(13):3589-92.
- <sup>80</sup> Ewe K, Press AG, Bollen S, Schuhn I. Gastric emptying of indigestible tablets in relation to composition and time of ingestion of meals studied by metal detector. *Dis Dig Sci*. 1991 Feb;36(2):146-52.
- <sup>81</sup> Khaw KT, Wareham N, Luben R, Bingham S, Oakes S, Welch A, Day N. Glycated haemoglobin, diabetes, and mortality in men in Norfolk cohort of european prospective investigation of cancer and nutrition (EPIC-Norfolk). *BMJ*. 2001 Jan 6;322(7277):15-8.
- <sup>82</sup> Moss SE, Klein R, Klein BE, Meuer SM. The association of glycemia and cause-specific mortality in a diabetic population. *Arch Intern Med*. 1994 Nov 14;154(21):2473-9.
- <sup>83</sup> Moss SE, Klein R, Klein BE. Long-term incidence of lower-extremity amputations in a diabetic population. *Arch Fam Med*. 1996 Jul-Aug;5(7):391-8.
- <sup>84</sup> The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. The Diabetes Control and Complications Trial Research Group. *N Engl J Med*. 1993 Sep 30;329(14):977-86.
- <sup>85</sup> <http://www.reversingdiabetes.org/?cat=him&page=testimonies>
- <sup>86</sup> Knowler WC, Barrett-Connor E, Fowler SE, Hamman RF, Lachin JM, Walker EA, Nathan DM; Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med*. 2002 Feb 7;346(6):393-403.
- <sup>87</sup> Barnard ND, Cohen J, Jenkins DJ, Turner-McGrievy G, Gloede L, Jaster B, Seidl K, Green AA, Talpers S. A low-fat vegan diet improves glycemic control and cardiovascular risk factors in a randomized clinical trial in individuals with type 2 diabetes. *Diabetes Care*. 2006 Aug;29(8):1777-83.
- <sup>88</sup> Anderson JW, Randles KM, Kendall CW, Jenkins DJ. Carbohydrate and fiber recommendations for individuals with diabetes: a quantitative assessment and meta-analysis of the evidence. *J Am Coll Nutr*. 2004 Feb;23(1):5-17.
- <sup>89</sup> Salmeron J, Manson JE, Stampfer MJ, Colditz GA, Wing AL, Willett WC. Dietary fiber, glycemic load, and risk of non-insulin-dependent diabetes mellitus in women. *JAMA*. 1997 Feb 12;277(6):472-7.
- <sup>90</sup> *Am Diet Assoc*. 1996 Dec;96(12):1254-61. Oat bran concentrate bread products improve long-term control of diabetes: a pilot study. Pick ME, Hawrysh ZJ, Gee MJ, Toth E, Garg ML, Hardin RT.
- <sup>91</sup> Fraser RB, Ford FA, Milner RD. A controlled trial of a high dietary fibre intake in pregnancy—effects on plasma glucose and insulin levels. *Diabetologia*. 1983 Sep;25(3):238-41.
- <sup>92</sup> Anderson JW, Gustafson NJ, Bryant CA, Tietjen-Clark J. Dietary fiber and diabetes: a comprehensive review and practical application. *J Am Diet Assoc*. 1987 Sep;87(9):1189-97.
- <sup>93</sup> Liu S, Manson JE, Stampfer MJ, Hu FB, Giovannucci E, Colditz GA, Hennekens CH, Willett WC. A prospective study of whole-grain intake and risk of type 2 diabetes mellitus in US women. *Am J Public Health*. 2000 Sep;90(9):1409-15.
- <sup>94</sup> Jukka Montonen, Paul Knekt, Ritva Järvinen, Arpo Aromaa, and Antti Reunanen. Whole-grain and fiber intake and the incidence of type 2 diabetes. *Am J Clin Nutr* 2003 77: 622-629.
- <sup>95</sup> Suzuki H, Fukushima M, Okamoto S, Takahashi O, Shimbo T, Kurose T, Yamada Y, Inagaki N, Seino Y, Fukui T. Effects of thorough mastication on postprandial plasma glucose concentrations in nonobese Japanese subjects. *Metabolism*. 2005 Dec;54(12):1593-9.
- <sup>96</sup> Sakata T, Yoshimatsu H, Masaki T, Tsuda K. Anti-obesity actions of mastication driven by histamine neurons in rats. *Exp Biol Med (Maywood)*. 2003 Nov;228(10):1106-10.
- <sup>97</sup> Holluszky JO, Fontana L. Caloric restriction in humans. *Exp Gerontol*. 2007 Aug;42(8):709-12. Epub 2007 Mar 31.
- <sup>98</sup> Wing RR, Blair EH, Bononi P, Marcus MD, Watanabe R, Bergman RN. Caloric restriction per se is a significant factor in improvements in glycemic control and insulin sensitivity during weight loss in obese NIDDM patients. *Diabetes Care*. 1994 Jan;17(1):30-6.

99 Farschi HR, Taylor MA, Macdonald IA. Deleterious effects of omitting breakfast on insulin sensitivity and fasting lipid profiles in healthy lean women. *Am J Clin Nutr.* 2005 Feb;81(2):388-96.

100 Mark A Pereira, Alex I Kartashov, Children's Hospital, Boston, Boston, MA; Linda Van Horn. Reported Breakfast Habits and Incidence of Obesity and the Insulin Resistance Syndrome in Young Black and White Adults: The CARDIA Study Program and Abstracts of the 43rd Annual Conference on Cardiovascular Disease Epidemiology and Prevention: in association with the Council on Nutrition, Physical Activity and Metabolism Circulation 2003;107:e7001-e7039. p. 35.

101 Yasumoto Y, Hashimoto C, Nakao R, Yamazaki H, Hirayama H, Nemoto Y, Yamamoto S, Sakurai M, Oike H, Wada N, Yoshida-Noro C, Oishi K. Short-term feeding at the wrong time is sufficient to desynchronize peripheral clocks and induce obesity with hyperphagia, physical inactivity and metabolic disorders in mice. *Metabolism.* 2016 May;65(5):714-727.

102 Bruns W. Treatment of type 2 (non-insulin dependent) diabetes and the metabolic syndrome with diet Z Gesamte Inn Med. 1991 Oct;46(15):563-7.

103 Ponikowska I. Dietary habits of obese patients with type 2 diabetes mellitus *Pol Tyg Lek.* 1996 Jan;51(1-5):23-5.

104 Simon SL, Behn CD, Cree-Green M, Kaar JL, Pyle L, Hawkins SMM, Rahat H, Garcia-Reyes Y, Wright KP Jr, Nadeau KJ. Too Late and Not Enough: School Year Sleep Duration, Timing, and Circadian Misalignment Are Associated with Reduced Insulin Sensitivity in Adolescents with Overweight/Obesity. *J Pediatr.* 2019 Feb;205:257-264.e1.

105 Hummel M, Standl E, Schnell O. Chromium in metabolic and cardiovascular disease. *Horm Metab Res.* 2007 Oct;39(10):743-51.

106 Mertz W. Chromium in human nutrition: a review. *J Nutr.* 1993 Apr;123(4):626-33

107 Quraishi I, Collins S, Pestaner JP, Harris T, Bagasra O. Role of zinc and zinc transporters in the molecular pathogenesis of diabetes mellitus. *Med Hypotheses.* 2005;65(5):887-92.

108 Simon SF, Taylor CG. Dietary zinc supplementation attenuates hyperglycemia in db/db mice. *Exp Biol Med (Maywood).* 2001 Jan;226(1):43-51.

109 Diabetes Care. 2007 Mar;30(3):523-8. Serum zinc level and coronary heart disease events in patients with type 2 diabetes. Sooino M, Marniemi J, Laakso M, Pyörälä K, Lehto S, Rönömaa T.

110 Singh RB, Niaz MA, Rastogi SS, Bajaj S, Gaoi Z, Shoumin Z. Current zinc intake and risk of diabetes and coronary artery disease and factors associated with insulin resistance in rural and urban populations of North India. *J Am Coll Nutr.* 1998 Dec;17(6):564-70.

111 He K, Song Y, Belin RJ, Chen Y. Magnesium intake and the metabolic syndrome: epidemiologic evidence to date. *J Cardiolometab Syndr.* 2006 Fall;1(5):351-5.

112 Sharma A, Dabla S, Agrawal RP, Barjajya H, Kochari DK, Kothari RP. Serum magnesium: an early predictor of course and complications of diabetes mellitus. *J Indian Med Assoc.* 2007 Jan;105(1):16, 18, 20.

113 Larsson SC, Wolk A. Magnesium intake and risk of type 2 diabetes: a meta-analysis. *J Intern Med.* 2007 Aug;262(2):208-14.

114 Kataya HA, Hamza AA. Red Cabbage (*Brassica oleracea*) Ameliorates Diabetic Nephropathy in Rats. *Evid Based Complement Alternat Med.* 2008 Sep;5(3):281-7.

115 Nagulesparan M, Savage PJ, Bennion LJ, Unger RH, Bennett PH. Diminished effect of caloric restriction on control of hyperglycemia with increasing known duration of type II diabetes mellitus. *J Clin Endocrinol Metab.* 1981 Sep;53(3):560-8.

116 Li RJ, Qiu SD, Chen HX, Tian H, Liu GQ. Effect of Astragalus polysaccharide on pancreatic cell mass in type 1 diabetic mice. *Zhongguo Zhong Yao Za Zhi.* 2007 Oct;32(20):2169-73.

117 Kojio Agyemang, Lifeng Han, Erwei Liu, Yi Zhang, Tao Wang, and Xiumei Gao. Recent Advances in Astragalus membranaceus Anti-Diabetic Research: Pharmacological Effects of its Phytochemical Constituents. Evidence-Based Complementary and Alternative Medicine Volume 2013 (2013), Article ID 654643

118 Kim K, Kim HY. Korean red ginseng stimulates insulin release from isolated rat pancreatic islets. *J Ethnopharmacol.* 2008 Nov 20;120(2):190-5.

119 Hui H, Tang G, Go VL. Hypoglycemic herbs and their action mechanisms. *Chin Med.* 2009 Jun 12;4:11. doi: 10.1186/1749-8546-4-11.

120 Norberg A, Hoa NK, Liepinsh E, Van Phan D, Thuan ND, Jörnvall H, Sillard R, Ostenson CG. A novel insulin-releasing substance, phanoside, from the plant *Gynostemma pentaphyllum*. *J Biol Chem.* 2004 Oct 12;279(40):41361-7.

121 Melzig MF, Funke I. Inhibitors of alpha-amylase from plants—a possibility to treat diabetes mellitus type II by phytotherapy? *Wien Med Wochenschr.* 2007;157(13-14):320-4.

122 Rao KY, Lee MK, Chen K, Lee YC, Wu WS, Tzeng YH. Insulin-Mimetic Action of Rhofiolin and Cosmosin Isolated from Citrus grandis (L.) Osbeck Leaves: Enhanced Adiponectin Secretion and Insulin Receptor Phosphorylation in 3T3-L1 Cells. *Evid Based Complement Alternat Med.* 2011;2011:624375. Mar 10

123 Kim KT, Rioux LE, Turgeon SL. Alpha-amylase and alpha-glucosidase inhibition is differentially modulated by fucoidan obtained from *Fucus vesiculosus* and *Ascophyllum nodosum*. *Phytochemistry.* 2014 Feb;98:27-33.

124 Jiang X, Yu J, Ma Z, Zhang H, Xie F. Effects of fucoidan on insulin stimulation and pancreatic protection via the cAMP signaling pathway in vivo and in vitro. *Mol Med Rep.* 2015 Sep;12(3):4501-7.

125 Wang Y, Nie M, Lu Y, Wang R, Liu J, Yang B, Xia M, Zhang H, Li X. Fucoidan exerts protective effects against diabetic nephropathy related to spontaneous diabetes through the NF-κB signaling pathway in vivo and in vitro. *Int J Mol Med.* 2015 Apr;35(4):1067-73.

126 Li Z, Geng YN, Jiang JD, Kong WJ. Antioxidant and anti-inflammatory activities of berberine in the treatment of diabetes mellitus. *Evid Based Complement Alternat Med.* 2014;2014:289264.

127 Gong J, Dong H, Jiang SJ, Wang DK, Fang K, Yang DS, Zou X, Xu LJ, Wang KF, Lu FE. Fucogreen lactone attenuates palmitate-induced apoptosis and dysfunction in pancreatic β-cells. *World J Gastroenterol.* 2015 Dec 28;21(48):13457-65.

128 Aggarwal S, Shalendra G, Ribnicki DM, Burk D, Karki N, Qingxia Wang MS. An extract of *Artemisia dracunculifolia* stimulates insulin secretion from β cells, activates AMPK and suppresses inflammation. *J Ethnopharmacol.* 2015 Jul 21;170:98-105.

129 Abd E, Latif A, El Bialy Bel S, Mahboud AB, Abd Eldaim MA. Moringa oleifera leaf extract ameliorates alloxan-induced diabetes in rats by regeneration of β cells and reduction of pyruvate carboxylase expression. *Biochem Cell Biol.* 2014 Oct;92(5):413-9.

130 Chipkin SR, Klugh SA, Chasan-Taber L. Exercise and diabetes. *Cardiol Clin.* 2001 Aug;19(3):489-505.

131 Hu FB, Sigal RJ, Rich-Edwards JW, Colditz GA, Solomon CG, Willett WC, Speizer FE, Manson JE. Walking compared with vigorous physical activity and risk of type 2 diabetes in women: a prospective study. *JAMA.* 1999 Oct 20;282(15):1433-9.

132 Li Z, Hu Y, Yan R, Li H, Zhang D, Li F, Su X, Ma J. Twenty Minute Moderate-Intensity Post-Dinner Exercise Reduces the Postprandial Glucose Response in Chinese Patients with Type 2 Diabetes. *Med Sci Monit.* 2018 Oct 8;24:7170-7177.

133 Heden TD, Kanaley JA. Dosing Exercise With Meals and Circadian Clocks. *Exerc Sport Sci Rev.* 2019 Jan;47(1):22-28.

134 Borer KT, Lin PJ, Wuorinen E. Timing of Meals and Exercise Affects Hormonal Control of Glucose regulation, Insulin Resistance, Substrate Metabolism, and Gastrointestinal Hormones, but Has Little Effect on Appetite in Postmenopausal Women. *Nutrients.* 2021 Dec 1;13(12):4342.

135 Munan M, Oliveira CLP, Marcotte-Chénard A, Rees JL, Prado CM, Riesco E, Boulé NG. Acute and Chronic Effects of Exercise on Continuous Glucose Monitoring Outcomes in Type 2 Diabetes: A Meta-Analysis. *Front Endocrinol (Lausanne).* 2020 Aug 4;11:495. doi: 10.3389/fendo.2020.00495.

136 Dixit S, Maiya AG, Shastry BA. Effect of aerobic exercise on peripheral nerve functions of population with diabetic peripheral neuropathy in type 2 diabetes: a single blind, parallel group randomized controlled trial. *J Diabetes Complications.* 2014 May-Jun;28(3):332-9.

137 Hallgren CE, Hall KD. Allometric relationship between changes of visceral fat and total fat mass. *Int J Obes (Lond).* 2007 Dec 18 (Epub ahead of print).

138 Moore LL, VISION AJ, Wilson PW, D'Agostino RB, Finkle WD, Ellison RC. Can sustained weight loss in overweight individuals reduce the risk of diabetes mellitus? *Epidemiology.* 2004 May;11(3):269-73.

139 Boucher B. Inadequate vitamin D status: does it contribute to the disorders comprising syndrome "X"? *Br J Nutr.* 1998 Apr;79(4):315-27.

140 Pittas AG, Lau J, Hu FB, Dawson-Hughes B. The role of vitamin D and calcium in type 2 diabetes. A systematic review and meta-analysis. *J Clin Endocrinol Metab.* 2007 Jun;92(6):2017-29.

141 Lorenz I. Retrospective study of serum glucose concentration in cattle with mucosal disease. *J Vet Med A Physiol Pathol Clin Med.* 2000 Oct;47(8):489-93.

142 Burge MR, Garcia N, Qualls CR, Schade DS. Differential effects of fasting and dehydration in the pathogenesis of diabetic ketoacidosis. *Metabolism.* 2001 Feb;50(2):171-7.

143 Jayashree M, Singhi S. Diabetic ketoacidosis: predictors of outcome in a pediatric intensive care unit of a developing country. *Pediatr Crit Care Med.* 2004 Sep;5(5):427-33.

144 Andersen H, Jakobsen J. Diabetes mellitus. *Curr Opin Neurol.* 1997 Oct;10(5):376-80.

145 Sawka MN, Chevronton SN, Carter R 3rd. Human water needs. *Nutr Rev.* 2005 Jun;63(6 Pt 2):S30-9.

146 Johnson EC, Bardin CN, Jansen LT, Adams JD, Kirkland TW, Kavouasis SA. Reduced water intake deteriorates glucose regulation in patients with type 2 diabetes. *Nutr Res.* 2017 Jul;43:25-32.

147 Crane, MG and Sample, C. Regression of diabetic neuropathy with total vegetarian (vegan) diet. *J Nutr Med* 1994; 4:431-439.

148 <http://www.reversingdiabetes.org/?cat=hiw&page=testimonies>

149 Genesis 1:29; 3:18 (NIV). Scripture taken from the HOLY BIBLE, NEW INTERNATIONAL VERSION®. Copyright © 1973, 1978, 1984 International Bible Society. Used by permission of Zondervan. All rights reserved. The "NIV" and "New International Version" trademarks are registered in the United States Patent and Trademark Office by International Bible Society. Use of either trademark requires the permission of International Bible Society.

150 Exodus 15:26 King James Version of the Holy Bible.

## Chapter 2 – References

1 Erlanson-Albertsson C, Zetterström R. The global obesity epidemic: snacking and obesity may start with free meals during infant feeding. *Acta Paediatr.* 2005 Nov;94(11):1523-31.

2 <http://www.cdc.gov/nchs/data/has/hus06.pdf#0703>

3 Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med.* 1997 Sep 25;337(13):869-73.

4 Hannon TS, Rao G, Arslanian SA. Childhood obesity and type 2 diabetes mellitus. *Pediatrics.* 2005 Aug;116(2):473-80.

5 Edmunds L, Waters E, Elliott EJ. Evidence based paediatrics: Evidence based management of childhood obesity. *BMJ.* 2001 Oct 20;323(7318):916-9.

6 Lee JM, Appugliese D, Kaciroti N, Corwyn RF, Bradley RH, Lumeng JC. Weight status in young girls and the onset of puberty. *Pediatrics.* 2007 Oct;120(4):924-5.

7 German AJ. The growing problem of obesity in dogs and cats. *J Nutr.* 2006 Jul;136(7 Suppl):1940S-1946S.

8 Hill JO. Understanding and addressing the epidemic of obesity: an energy balance perspective. *Endocr Rev.* 2006 Dec;27(7):750-6.

9 Bray GA. The epidemic of obesity and changes in food intake: the Fluoride Hypothesis. *Physiol Behav.* 2004 Aug;82(1):115-21.

10 Kushner RF. Roadmaps for Clinical Practice: Case Studies in Disease Prevention and Health Promotion—Assessment and Management of Adult Obesity: A Primer for Physicians. Chicago, Ill: American Medical Association; 2003.

11 McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA.* 1993 Nov 10;270(18):2207-12.

12 Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999–2000. *JAMA.* 2002;288:1723–1727.

13 Monsivais P, Drewnowski A. The rising cost of low-energy-density foods. *J Am Diet Assoc.* 2007 Dec;107(12):2071-6.

14 Serudula MK, Mokdad AH, Williamson D, Galuska DA, Mendlein JM, Heath GW. Prevalence of obesity to lose weight and strategies for controlling weight. *JAMA.* 1999;282:1353–1358.

15 Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults—The Evidence Report. National Institutes of Health. *Obes Res.* 1998 Sep;6 Suppl 2:S15S-209S.

16 Stein CJ, Colditz GA. The epidemic of obesity. *J Clin Endocrinol Metab.* 2004 Jun;89(6):2522-5.

17 LAST AR, WILSON SA. Low-Carbohydrate Diets. *Am Fam Physician* 2006;73:1942-8, 1951.

18 Matthew 24:37-39 King James Version of The Holy Bible.

19 Kushner RF. Roadmaps for Clinical Practice: Case Studies in Disease Prevention and Health Promotion—Assessment and Management of Adult Obesity: A Primer for Physicians. Chicago, Ill: American Medical Association; 2003.

20 Fontaine KR, Redden DT, Wang C, Westfall AO, Allison DB. Years of life lost due to obesity. *JAMA.* 2003 Jan 8;289(2):187-93.

21 Wannamethee SG, Shaper AG, Lennon L. Reasons for intentional weight loss, unintentional weight loss, and mortality in older men. *Arch Intern Med.* 2005 May 9;165(9):1035-40.

22 Williamson DF, Thompson TJ, Thun M, Flanders D, Pamuk E, Byers T. Intentional weight loss and mortality among overweight individuals with diabetes. *Diabetes Care.* 2000 Oct;23(10):1499-504.

23 Moore LL, VISION AJ, Wilson PW, D'Agostino RB, Finkle WD, Ellison RC. Can sustained weight loss in overweight individuals reduce the risk of diabetes mellitus? *Epidemiology.* 2000 May;11(3):269-73.

24 Goldstein DJ. Beneficial health effects of modest weight loss. *Int J Obes Relat Metab Disord.* 1992 Jun;16(6):397-415.

25 Wolf AM, Colditz GA. Current estimates of the economic cost of obesity in the United States. *Obes Res.* 1998 Mar;6(2):97-106.

26 Mokdad AH, Ford ES, Bowman BA, Dietz WH, Vinicor F, Bales VS, Marks JS. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *JAMA.* 2003 Jan 1;289(1):76-9.

27 Erlinger S. Gallstones in obesity and weight loss. *Eur J Gastroenterol Hepatol.* 2000 Dec;12(12):1347-52.

28 Onyike CU, Crum RM, Lee HB, Lyketsos CG, Eaton WW. Is obesity associated with major depression? Results from the Third National Health and Nutrition Examination Survey. *Am J Epidemiol.* 2003 Dec 15;158(12):1139-47.

29 Daltro CH, Fontes FH, Santos-Jesus R, Gregorio PB, Araújo LM. Obstructive sleep apnea and hypopnea syndrome (OSAHS): association with obesity, gender and age. *Arg Bras Endocrinol Metabol.* 2006 Feb;50(1):74-81.

30 Luder E, Ehrlich RI, Lou WY, Melnik TA, Kattan M. Body mass index and the risk of asthma in adults. *Respir Med.* 2004 Jan;98(1):29-37.

31 Hampel H, Abraham NS, El-Serag HB. Meta-analysis: obesity and the risk for gastroesophageal reflux disease and its complications. *Ann Intern Med.* 2005 Aug 2;143(3):199-211.

32 Samama MM. An epidemiologic study of risk factors for deep vein thrombosis in medical outpatients: the Sirius study. *Arch Intern Med.* 2000 Dec 11-25;160(22):3415-20.

33 Rogers RP, Bemelmans WJ, Hoogenveen RT, Boshuizen HC, Woodward M, Knekt P, van Dam RM, Hu FB, Visscher TL, Menotti A, Thorpe RJ Jr, Jamrozik K, Calling S, Strand BH, Shipley MJ, for the BMI-CH Collaboration Investigators. Association of overweight with increased risk of coronary heart disease partly independent of blood pressure and cholesterol levels: a meta-analysis of 21 cohort studies including more than 300 000 persons. *Arch Intern Med.* 2007 Sep 10;167(16):1720-8.

34 Choi HK, Atkinson K, Karlson EW, Curhan G. Obesity, weight change, hypertension, diuretic use, and risk of gout in men: the health professionals follow-up study. *Arch Intern Med.* 2005 Apr 11;165(7):742-8.

35 Grodstein F, Goldman MB, Cramer DW. Body mass index and ovulatory infertility. *Epidemiology.* 1994 Mar;5(2):247-50.

36 Hammond AO, Wilde N, Gibson M, Parks A, Carrell DT, Meikle AW. Male obesity and alteration in sperm parameters. *Fertil Steril.* Epub Jan 4, 2008.

37 Masho SW, Adera T, South-Paul J. Obesity as a risk factor for premenstrual syndrome. *J Psychosom Obstet Gynaecol.* 2005 Mar;26(1):33-9.

38 Hu G, Tuomilehto J, Silventoinen K, Sarti C, Männistö S, Jousilahti P. Body mass index, waist circumference, and waist-hip ratio on the risk of total and type-specific stroke. *Arch Intern Med.* 2007 Jul 9;167(13):1420-7.

39 Hu G, Tuomilehto J, Silventoinen K, Sarti C, Männistö S, Jousilahti P. Body mass index, waist circumference, and waist-hip ratio on the risk of total and type-specific stroke. *Arch Intern Med.* 2007 Jul 9;167(13):1420-7.

40 Lawrence JM, Lukacz ES, Liu LI, Nager CW, Luber KM. Pelvic floor disorders, diabetes, and obesity in women: findings from the Kaiser Permanente Continence Associated Risk Epidemiology Study. *Diabetes Care.* 2007 Oct;30(10):2536-41. Epub 2007 Jul 9.

41 Ioannou GN, Weiss NS, Boyko EJ, Knowlley KW, Kahn SE, Carithers RL, Tsai EC, Dominitz JA. Is central obesity associated with cirrhosis-related death or hospitalization? A population-based, cohort study. *Clin Gastroenterol Hepatol.* 2005 Jan;3(1):67-74.

42 Hensrud DD. Dietary treatment and long-term weight loss and maintenance in type 2 diabetes. *Obes Res.* 2001 Nov;9 Suppl 4:348S-353S.

43 Mogley CC. Lifestyle interventions for "diabesity": the state of the science. *Compend Contin Educ Dent.* 2004 Mar;25(3):207-18, 211-2, 214-8.

44 Narayan KM, Boyle JP, Thompson TJ, Gregg EW, Williamson DF. Effect of BMI on lifetime risk for diabetes in the U.S. *Diabetes Care.* 2007 Jun;30(6):1562-6.

45 Mori V, Hoshino K, Yokota K, Itoh Y, Tajima N. Differences in the pathology of the metabolic syndrome with or without visceral fat accumulation: a study in pre-diabetic Japanese middle-aged men. *Endocrine.* 2006 Feb;29(1):149-53.

46 Björntorp P. -to: Shafir E, Raz I (2003) For debate. Diabetes: mellitus or lipidus? *Diabetologia* 46: 433-440. Comment on: *Diabetologia.* 2003 Mar;46(3):433-40. *Diabetologia.* 2003 Nov;46(11):1586-7; author reply 1587.

47 Chen J, Tian ZQ, Zhang WG, Chen JH, Yan ZC, Ni YX, Zhong J, Jin J, Zhao ZG, Mu H, Zhu ZM. Relationship between visceral adipose tissue and prevalence of metabolic syndrome MS in patients with MS, and hypertension and/or diabetes. *Zhonghua Yi Xue Za Zhi.* 2006 Aug 15;86(30):2110-3.

48 Després JP, Pascot A, Lemieux I. Risk factors associated with obesity: a metabolic perspective. *Ann Endocrinol (Paris).* 2000 Dec;61 Suppl 6:31-38.

49 Donegan WL, Johnstone MF, Biedrzycki L. Obesity, estrogen production, and tumor estrogen receptors in women with carcinoma of the breast. *Am J Clin Oncol.* 1983 Feb;6(1):19-24.

50 Reeves GK, Pirie K, Beral V, Green J, Spencer E, Bull D. Cancer incidence and mortality in relation to body mass index in the Million Women Study: cohort study. *BMJ* 2007;335:1134-1139.

51 Yang G, Shu XO, Gao YT, Zhang X, Li H, Zheng W. Impacts of weight change on prehypertension in middle-aged and elderly women. *Int J Obes (Lond).* 2007 Dec;31(12):1818-25.

52 Hays NP, Bathalon GP, Roubenoff R, Lipman R, Roberts SB. The association of eating behavior with risk for morbidity in older women. *J Gerontol A Biol Sci Med Sci.* 2002 Feb;57(2):M128-33.

53 Rodacki AL, Fowler NE, Provensi CL, Rodacki Cole L, Dezan VH. Body mass as a factor in stature change. *Clin Biomech (Bristol, Avon).* 2005 Oct;20(8):799-805.

54 Ghroubi S, Elleuch H, Guermazi M, Kaffel N, Feki H, Abid M, Baklouti S, Elleuch MH. Abdominal obesity and knee osteoarthritis. *Ann Readapt Med Phys.* 2007 Nov;50(8):661-666.

55 Mokdad AH, Ford ES, Bowman BA, Dietz WH, Vinicor F, Bales VS, Marks JS. Prevalence of obesity, diabetes, and obesity-related health risk factors, 2001. *JAMA.* 2003 Jan 1;289(1):76-9.

56 Garcia Hidalgo N. Dermatological complications of obesity. *Am J Clin Dermatol.* 2002;3(7):497-506.



# References

- <sup>57</sup> Yosiopovitch G, DeVore A, Dawn A. Obesity and the skin: skin physiology and skin manifestations of obesity. *J Am Acad Dermatol*. 2007 Jun;56(6):901-16.
- <sup>58</sup> Pasinetti GM, Zhao Z, Qin W, Ho L, Shrishalain Y, Macgregor D, Ressmann W, Humala N, Liu X, Romero C, Stetka B, Chen L, Ksiezak-Reding H, Wang J. Caloric intake and Alzheimer's disease. Experimental approaches and therapeutic implications. *Interdiscip Top Gerontol*. 2007;35:159-75.
- <sup>59</sup> Chikunguwo S, Brethauer S, Nirujogi V, Pitt T, Udomasawangsap S, Chand B, Schauer P. Influence of obesity and surgical weight loss on thyroid hormone levels. *Surg Obes Relat Dis*. 2007 Nov-Dec;3(6):631-5.
- <sup>60</sup> Simon GE, Ludman EJ, Linde JA, Operskalski BH, Ichikawa L, Rohde P, Finch EA, Jeffery RW. Association between obesity and depression in middle-aged women. *Gen Hosp Psychiatry*. 2008 Jan-Feb;30(1):32-9.
- <sup>61</sup> Onyike CU, Crum RM, Lee HB, Lyketsos CG, Eaton WW. Is obesity associated with major depression? Results from the Third National Health and Nutrition Examination Survey. *Am J Epidemiol*. 2003 Dec 15;158(12):1139-47.
- <sup>62</sup> Sarlio-Lähteenkorva S, LaHela M. The association of body mass index with social and economic disadvantage in women and men. *Int J Epidemiol*. 1999 Jun;28(3):445-9.
- <sup>63</sup> Tsai SP, Ahmed FS, Wendt JK, Bhojani F, Donnelly RP. The impact of obesity on illness absence and productivity in an industrial population of petrochemical workers. *Ann Epidemiol*. 2008 Jan;18(1):8-14.
- <sup>64</sup> Alley DE, Chang VW. The changing relationship of obesity and disability, 1988-2004. *JAMA*. 2007 Nov 7;298(17):2020-7.
- <sup>65</sup> Kraemer WJ, Volek JS, Clark KL, Gordon SE, Puhl SM, Koziris LP, McBride JM, Triplett-McBride NT, Putukian M, Newton RW, Häkkinen K, Bush JA, Sebastianelli WJ. Influence of exercise training on physiological and performance changes with weight loss in men. *Med Sci Sports Exerc*. 1999 Sep;31(9):1320-9.
- <sup>66</sup> Hinton PS, Rector RS, Thomas TR. Weight-bearing, aerobic exercise increases markers of bone formation during short-term weight loss in overweight and obese men and women. *Metabolism*. 2006 Dec;55(12):1616-8.
- <sup>67</sup> Kraemer WJ, Volek JS, Clark KL, Gordon SE, Inledon T, Puhl SM, Triplett-McBride NT, McBride JM, Putukian M, Sebastianelli WJ. Physiological adaptations to a weight-loss dietary regimen and exercise programs in women. *J Appl Physiol*. 1997 Jul;83(1):270-9.
- <sup>68</sup> Hu FB, Li TY, Colditz GA, Willett WC, Manson JE. Television watching and other sedentary behaviors in relation to risk of obesity and type 2 diabetes mellitus in women. *JAMA*. 2003 Apr 9;289(14):1785-91.
- <sup>69</sup> Nixon GM, Thompson JMD; Han DY, Bectoff DM; Clark PM; Robinson E; Waldie KE; Wild CJ; Black PN; Mitchell EA. Short sleep duration in middle childhood: risk factors and consequences. *SLEEP*. 2008;31(1):71-78.
- <sup>70</sup> Zatońska K, Basiak-Rasata A, Poltyn-Zaradna K, Kinasowski K, Szuba A. Sleep Duration and Bedtime in the PURE Poland Cohort Study and the Link with Noncommunicable Diseases. *Int J Environ Res Public Health*. 2021 Dec 30;19(1):403.
- <sup>71</sup> Hofbauer KG. Molecular pathways to obesity. *Int J Obes Relat Metab Disord*. 2002 Sep;26 Suppl 2:S18-27.
- <sup>72</sup> Larsen JJ, Dela F, Kjær M, Galbo H. The effect of moderate exercise on postprandial glucose homeostasis in NIDDM patients. *Diabetologia*. 1997 Apr;40(4):447-53.
- <sup>73</sup> Ecclesiastes 10:17. King James Version of the Holy Bible.
- <sup>74</sup> Gappmaier E, Lake W, Nelson AG, Fisher AG. Aerobic exercise in water versus walking on land: effects on indices of fat reduction and weight loss of obese women. *J Sports Med Phys Fitness*. 2006 Dec;46(4):564-9.
- <sup>75</sup> Jakkic JM, Winters C, Lang W, Wing RR. Effects of intermittent exercise and use of home exercise equipment on adherence, weight loss, and fitness in overweight women: a randomized trial. *JAMA*. 1999 Oct 27;282(16):1554-60.
- <sup>76</sup> Ruegger JJ, Squires RW, Marsh HM, Haymond MW, Cryer PE, Rizza RA, Miles JM. Differences between prebreakfast and late afternoon glycemic responses to exercise in IDDM patients. *Diabetes Care*. 1990 Feb;13(2):104-10.
- <sup>77</sup> Davis JM, Sargent RG, Braybro TD, Bartoli WV. Thermogenic effects of pre-prandial and post-prandial exercise in obese females. *Addict Behav*. 1992;17(2):185-90.
- <sup>78</sup> Larsen JJ, Dela F, Madsbad S, Galbo H. The effect of intense exercise on postprandial glucose homeostasis in type II diabetic patients. *Diabetologia*. 1999 Nov;42(11):182-92.
- <sup>79</sup> Schmidt WD, Bivier CJ, Kalscheuer LK. Effects of long versus short bout exercise on fitness and weight loss in overweight females. *J Am Coll Nutr*. 2001 Oct;20(5):494-501.
- <sup>80</sup> Hu FB, Li TY, Colditz GA, Willett WC, Manson JE. Television watching and other sedentary behaviors in relation to risk of obesity and type 2 diabetes mellitus in women. *JAMA*. 2003 Apr 9;289(14):1785-91.
- <sup>81</sup> Williamson DF, Madans J, Anda RF, Kleinman JC, Kahn HS, Byers T. Recreational physical activity and ten-year weight change in a US national cohort. *Int J Obes Relat Metab Disord*. 1993 May;17(5):279-86.
- <sup>82</sup> Martin K, Fontaine KR, Nicklas BJ, Dennis KE, Goldberg AP, Hochberg MC. Weight loss and exercise walking reduce pain and improve physical functioning in overweight postmenopausal women with knee osteoarthritis. *J Clin Rheumatol*. 2001 Aug;7(4):219-23.
- <sup>83</sup> Messier SP, Loeser RF, Miller GD, Morgan TM, Rejeski JW, Sevick MA, Ettinger WH Jr, Pahor M, Williamson JD. Exercise and dietary weight loss in overweight and obese older adults with knee osteoarthritis: the Arthritis, Diet, and Activity Promotion Trial. *Arthritis Rheum*. 2004 May;50(5):1501-10.
- <sup>84</sup> Messier SP, Loeser RF, Mitchell MN, Valle G, Morgan TP, Rejeski JW, Ettinger WH. Exercise and weight loss in obese older adults with knee osteoarthritis: a preliminary study. *J Am Geriatr Soc*. 2000 Sep;48(9):1062-72.
- <sup>85</sup> Christensen R, Astrup A, Blangsted A. Weight loss: the treatment of choice for knee osteoarthritis? A randomized trial. *Osteoarthritis Cartilage*. 2005 Jan;13(1):20-7.
- <sup>86</sup> Ryan AS, Nicklas BJ, Berman DM. Aerobic exercise is necessary to improve glucose utilization with moderate weight loss in women. *Obesity (Silver Spring)*. 2006 Jun;14(6):1064-72.
- <sup>87</sup> Scanga CB, Verde TJ, Paolone AM, Andersen RE, Wadden TA. Effects of weight loss and exercise training on natural killer cell activity in obese women. *Med Sci Sports Exerc*. 1998 Dec;30(12):1666-71.
- <sup>88</sup> Kiernan M, King AC, Stefanick ML, Killen JD. Men gain additional psychological benefits by adding exercise to a weight-loss program. *Obes Res*. 2001 Dec;9(12):770-7.
- <sup>89</sup> Pendleton VR, Goodrick GK, Poston WS, Reeves RS, Foreyt JP. Exercise augments the effects of cognitive-behavioral therapy in the treatment of binge eating. *Int J Eat Disord*. 2002 Mar;31(2):172-84.
- <sup>90</sup> Sopko G, Leon AS, Jacobs DR Jr, Foster N, Moy J, Kuba K, Anderson JT, Casal D, McNally C, Frantz J. The effects of exercise and weight loss on plasma lipids in young obese men. *Metabolism*. 1985 Mar;34(3):227-36.
- <sup>91</sup> Wadden TA, Vogt RA, Foster GD, Anderson DA. Exercise and the maintenance of weight loss: 1-year follow-up of a controlled clinical trial. *J Consult Clin Psychol*. 1998 Apr;66(2):429-33.
- <sup>92</sup> Mayo MJ, Grantham JR, Balasekaran G. Exercise-induced weight loss preferentially reduces abdominal fat. *Med Sci Sports Exerc*. 2003 Feb;35(2):207-13.
- <sup>93</sup> You T, Murphy KM, Lyles MF, Demons JL, Lenchik L, Nicklas BJ. Addition of aerobic exercise to dietary weight loss preferentially reduces abdominal adipocyte size. *Int J Obes (Lond)*. 2006 Aug;30(8):1211-6.
- <sup>94</sup> Blair SN. Evidence for success of exercise in weight loss and control. *Ann Intern Med*. 1993 Oct 1;119(7 Pt 2):702-6.
- <sup>95</sup> Georgiades A, Sherwood A, Gullette EC, Babayk MA, Hinderliter A, Waugh R, Tweedy D, Craighead L, Bloomer R, Blumenthal JA. Effects of exercise and weight loss on mental stress-induced cardiovascular responses in individuals with high blood pressure. *Hypertension*. 2000 Aug;36(2):171-6.
- <sup>96</sup> Watkins LL, Sherwood A, Feinglos M, Hinderliter A, Babayk M, Gullette E, Waugh R, Blumenthal JA. Effects of exercise and weight loss on cardiac risk factors associated with syndrome X. *Arch Intern Med*. 2003 Sep 8;163(16):1889-95.
- <sup>97</sup> Weintraub MS, Rosen Y, Otto R, Eisenberg S, Breslow JL. Physical exercise conditioning in the absence of weight loss reduces fasting and postprandial triglyceride-rich lipoprotein levels. *Circulation*. 1989 May;79(5):1007-14.
- <sup>98</sup> Dengel DR, Habegger JM, Pratley RE, Rogus EM, Goldberg AP. Improvements in blood pressure, glucose metabolism, and lipoprotein lipids after aerobic exercise plus weight loss in obese, hypertensive middle-aged men. *Metabolism*. 1998 Sep;47(9):1075-82.
- <sup>99</sup> Rector RS, Warner SO, Liu Y, Hinton PS, Sun GY, Cox RH, Stump CS, Laughlin MH, Dellsperger KC, Thomas TR. Exercise and diet induced weight loss improves measures of oxidative stress and insulin sensitivity in adults with characteristics of the metabolic syndrome. *Am J Physiol Endocrinol Metab*. 2007 Aug;293(2):E500-6.
- <sup>100</sup> Willrud KR, Feeney LA, Tomayko EJ, Chung HR, Kim K. Endurance Exercise Training Reduces Galtstone Development in Mice. *J Appl Physiol*. Epub Jan 10, 2008.
- <sup>101</sup> Sui X, LaMonte MJ, Laditka JN, Hardin JN, Chase N, Hooker SP, Blair SN. Cardiorespiratory fitness and adiposity as mortality predictors for adults. *JAMA*. 2007 Dec 5;298(21):2254-61.
- <sup>102</sup> Bjursell M, Gardin AK, Lelliott CJ, Egecioglu E, Elmgin A, Tornlj O, Ossoson J, Bohlooly-Y M. Acutely reduced locomotor activity is a major contributor to Western diet-induced obesity in mice. *Am J Physiol Endocrinol Metab*. 2008 Feb;294(2):E251-60.
- <sup>103</sup> Newby PK, Tucker KL, Wolk A. Risk of overweight and obesity among semivegetarian, lactovegetarian, and vegan women. *Am J Clin Nutr*. 2005 Jun;81(6):1267-74.
- <sup>104</sup> Smith CF, Burke LE, Wing RR. Vegetarian and weight-loss diets among young adults. *Obes Res*. 2000 Mar;8(2):123-9.
- <sup>105</sup> Swithers SE, Davidson TL. A Role for Sweet Taste: Calorie Predictive Relations in Energy Regulation by Rats. *Behav Neurosci*. 2008 Feb;122(1):161-73.
- <sup>106</sup> Lavin JH, French SJ, Read NW. The effect of sucrose- and aspartame-sweetened drinks on energy intake, hunger and food choice of female, moderately restrained eaters. *Int J Obes Relat Metab Disord*. 1997 Jun;21(1):37-42.
- <sup>107</sup> Yeung KS, McKewon-Eyssen GE, Li GF, Glazer E, Hay K, Child P, Gurgin V, Zhu SL, Baptista J, Aloe M, Mee D, Jazmaji V, Austin DF, Li CC, Bruce WR. Comparisons of diet and biochemical characteristics of stool and urine between Chinese populations with low and high colorectal cancer rates. *J Natl Cancer Inst*. 1991 Jan 2;83(1):46-50.
- <sup>108</sup> Fitzwater SL, Weinsier RL, Woolridge NH, Birch R, Liu C, Bartolucci AA. Evaluation of long-term weight changes after a multidisciplinary weight control program. *J Am Diet Assoc*. 1991 Apr;91(4):421-6, 429.
- <sup>109</sup> Anton SD, Morrison CD, Cafalo WT, Hartig CK, Coulon S, Geiselman P, Han H, White CL, Williamson DA. Effects of chromium picolinate on food intake and satiety. *Diabetes Technol Ther*. 2008 Oct;10(5):405-12.
- <sup>110</sup> Turner-McGrievy GM, Barnard ND, Scialli AR. A two-year randomized weight loss trial comparing a vegan diet to a more moderate low-fat diet. *Obesity (Silver Spring)*. 2007 Sep;15(9):2276-81.
- <sup>111</sup> Stamler J, Dolecek TA. Relation of food and nutrient intakes to body mass in the special intervention and usual care groups in the Multiple Risk Factor Intervention Trial. *Am J Clin Nutr*. 1997 Jan;65(1 Suppl):366S-373S.
- <sup>112</sup> Yao M, Roberts SB. Dietary energy density and weight regulation. *Nutr Rev*. 2001 Aug;59(8 Pt 1):247-58.
- <sup>113</sup> Ledikwe JH, Blanton HM, Khan LK, Serdula MK, Seymour J, Tohill BC, Rolls BJ. Dietary energy density is associated with energy intake and weight status in US adults 1-4. *Am J Clin Nutr*. 2006;83:1362-8.
- <sup>114</sup> Duncan KH, Bacon JA, Weinsier RL. The effects of high and low energy density diets on satiety, energy intake, and eating time of obese and nonobese subjects. *Am J Clin Nutr*. 1983 May;37(5):763-7.
- <sup>115</sup> Linde JA, Utter J, Jeffery RW, Sherwood NE, Pronk NP, Boyle RG. Specific food intake, fat and fiber intake, and behavioral correlates of BMI among overweight and obese members of a managed care organization. *Int J Behav Nutr Phys Act*. 2006 Nov 26;3:42.
- <sup>116</sup> Rolls BJ, Eilo-Martin JA, Tohill BC. What can intervention studies tell us about the relationship between fruit and vegetable consumption and weight management? *Nutr Rev*. 2004 Jan;62(1):1-17.
- <sup>117</sup> Bell EA, Rolls BJ. Energy density of foods affects energy intake across multiple levels of fat content in lean and obese women. *Am J Clin Nutr*. 2001 Jun;73(6):1010-8.
- <sup>118</sup> Bell EA, Castellanos VH, Pelkman CL, Thorwart ML, Rolls BJ. Energy density of foods affects energy intake in normal-weight women. *Am J Clin Nutr*. 1998 Mar;67(3):412-20.
- <sup>119</sup> Wang G, Tomasi D, Backus W, Wang R, Telang F, Gelleiber A, Korner J, Bauman A, Fowler JS, Thanos PK, Volkow ND. Gastric distention activates satiety circuitry in the human brain. *Neuroimage*. 2008 Feb 15;39(4):1824-31.
- <sup>120</sup> www.cdc.gov/nccddp/dnps
- <sup>121</sup> Haber GB, Heaton KW, Murphy D, Burroughs LF. Depletion and disruption of dietary fibre. Effects on satiety, and vegetable consumption and weight management? *Nutr Rev*. 1977 Oct 1;35(804):679-82.
- <sup>122</sup> Bolton RP, Heaton KW, Burroughs LF. The role of dietary fiber in satiety, glucose, and insulin: studies with fruit and fruit juice. *Am J Clin Nutr*. 1981 Feb;32(2):211-7.
- <sup>123</sup> He FJ, Marrero NM, MacGregor GA. Salt intake is related to soft drink consumption in children and adolescents: a link to obesity? *Hypertension*. 2008 Mar;51(3):629-34.
- <sup>124</sup> www.cdc.gov/nccddp/dnps
- <sup>125</sup> McCarty CA, McCarty DJ, Wetter AC. Calories from newspaper dessert recipes are associated with country obesity rates. *WJG*. 2007 Apr;106(2):68-70.
- <sup>126</sup> Ruddick WD, Kolk SJ, Northey AJ. Holiday waistline. Room for dessert: an expanded anatomy of the stomach. *CMAJ*. 2006 Dec 5;175(12):1567-8.
- <sup>127</sup> Herman CP, Olmsted P, Polivy J. Obesity, externality, and susceptibility to social influence: an integrated analysis. *J Pers Soc Psychol*. 1983 Oct;45(4):926-34.
- <sup>128</sup> Bes-Rastrollo M, Sabaté J, Gómez-Gracia E, Alonso A, Martínez JA, Martínez-González MA. Nut consumption and weight gain in a Mediterranean cohort: The SUN study. *Obesity (Silver Spring)*. 2007 Jan;15(1):107-16.
- <sup>129</sup> Jiang R, Manson JE, Stampfer MJ, Liu S, Willett WC, Hu FB. Nut and peanut butter consumption and risk of type 2 diabetes in women. *JAMA*. 2002 Nov 27;288(20):2554-60.
- <sup>130</sup> Howarth NC, Saltzman E, Roberts SB. Dietary fiber and weight regulation. *Nutr Rev*. 2001 May;59(5):129-39.
- <sup>131</sup> Liu S, Willett WC, Manson JE, Hu FB, Rosner B, Colditz G. Relation between changes in intakes of dietary fiber and grain products and changes in weight and development of obesity among middle-aged women. *Am J Clin Nutr*. 2003 Nov;78(5):920-7.
- <sup>132</sup> Ullrich H, Albrink WJ. The effect of dietary fiber and other factors on insulin response: role in obesity. *J Environ Pathol Toxicol Oncol*. 1985 Jul;5(6):137-55.
- <sup>133</sup> Aller R, de Luis DA, Izalza O, La Calle F, del Olmo L, Fernandez L, Arranz T, Hernandez JM. Effect of soluble fiber intake in lipid and glucose levels in healthy subjects: a randomized clinical trial. *Diabetes Res Clin Pract*. 2004 Jul;65(1):7-11.
- <sup>134</sup> Trallero Casañas R. Fiber in the treatment of obesity and its comorbidities. *Nutr Hosp*. 2002 Feb;17 Suppl 1:17-22.
- <sup>135</sup> Quade F, Vrist E, Astrup A. Dietary fiber added to a very-low caloric diet reduces hunger and alleviates constipation. *Ugeskr Laeger*. 1990 Jan 8;152(2):95-8.
- <sup>136</sup> Burton P, Lightowler H. The impact of freezing and toasting on the glycaemic response of white bread. *Eur J Clin Nutr*. Epub Apr 4 2007.
- <sup>137</sup> Sakata T, Yoshimatsu H, Masaki T, Tsuda K. Anti-Obesity Actions of Mastication Driven by Histamine Neurons in Rats. *Exp Biol Med* 228:1106-1110, 2003.
- <sup>138</sup> Smeets AJ, Westerterp-Plantenga MS. Oral exposure and sensory-specific satiety. *Physiol Behav*. 2006 Sep 30;89(2):281-6.
- <sup>139</sup> Hermanussen M, Garcia AP, Sunder M, Voigt M, Salazar V, Tresguerres JA. Obesity, voracity, and short stature: the impact of glutamate on the regulation of appetite. *Eur J Clin Nutr*. 2006 Jan;60(1):25-31.
- <sup>140</sup> He K, Zhao L, Daviglus ML, Dyer AR, Van Horn L, Garside D, Zhu L, Guo D, Wu Y, Zhou B, Stamler J; INTERMAP Cooperative Research Group. Association of monosodium glutamate intake with overweight in Chinese adults: the INTERMAP Study. *Obesity (Silver Spring)*. 2008 Aug;16(8):1875-80.
- <sup>141</sup> Hirata AE, Andrade IS, Vaskevicius P, Dolnikoff MS. Monosodium glutamate (MSG) may rats develop glucose intolerance and insulin resistance to peripheral glucose uptake. *Braz J Med Biol Res*. 1997 May;30(5):671-4.
- <sup>142</sup> Bray GA, Nielsen SJ, Popkin BM. Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. *Am J Clin Nutr*. 2004 Apr;79(4):537-43.
- <sup>143</sup> Nouguchi T, Tanaka T. Insulin resistance in obesity and its molecular control. *Obes Res*. 1995 Sep;3 Suppl 2:195S-198S.
- <sup>144</sup> Basciano H, Federico L, Adeli K. Fructose, insulin resistance, and metabolic lipidemia. *Nutr Metab (Lond)*. 2005 Feb;2(12):15-9.
- <sup>145</sup> Raysisquier Y, Gueux E, Nowacki W, Rock E, Mazur A. High fructose consumption combined with low dietary magnesium intake may increase the incidence of the metabolic syndrome by inducing inflammation. *Magnes Res*. 2006 Dec;19(4):237-43.
- <sup>146</sup> Gaby AR. Adverse effects of dietary fructose. *Altern Med Rev*. 2005 Dec;10(4):294-306.
- <sup>147</sup> Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. *Am J Clin Nutr*. 2006 Aug;84(2):274-88.
- <sup>148</sup> Harrington S. The role of sugar-sweetened beverage consumption in adolescent obesity: a review of the literature. *J Sch Nurs*. 2008 Feb;24(1):31-12.
- <sup>149</sup> Stookey JD, Barclay D, Arlieff A, Popkin BM. The altered fluid distribution in obesity may reflect plasma hypotonicity. *Eur J Clin Nutr*. 2007 Feb;61(2):90-9.
- <sup>150</sup> He FJ, Marrero NM, MacGregor GA. Salt intake is related to soft drink consumption in children and adolescents: a link to obesity? *Hypertension*. 2008 Mar;51(3):629-34.
- <sup>151</sup> Stookey JD. Another look at: fuel + O<sub>2</sub> → CO<sub>2</sub> + H<sub>2</sub>O. Developing a water-oriented perspective. *Med Hypotheses*. 1999 Apr;52(4):285-90.
- <sup>152</sup> Wolf A, Bray GA, Popkin BM. A short history of beverages and how our body treats them. *Obes Rev*. 2008 Mar;9(2):161-73.
- <sup>153</sup> Van Wallegheh EL, Orr JS, Gentile CL, Davy BM. Pre-meal water consumption reduces meal energy in older but not younger subjects. *Obesity (Silver Spring)*. 2007 Jan;15(1):93-9.
- <sup>154</sup> Bertéus Forslund H, Torgerson JS, Sjöström L, Lindroos AK. Snacking frequency in relation to energy intake and food choices in obese men and women compared to a reference population. *Int J Obes (Lond)*. 2005 Jun;29(6):711-9.
- <sup>155</sup> Sánchez-Villegas A, Martínez-González MA, Toledo E, de Irala-Estévez J, Martínez JA. Relative role of physical inactivity and snacking between meals in weight gain. *Med Clin (Barc)*. 2002 Jun 15;119(2):46-52.
- <sup>156</sup> Crystal SR, Teff KL. Tasting fat: cephalic phase hormonal responses and food intake in restrained and unrestrained eaters. *Physiol Behav*. 2006 Sep 30;89(2):213-20.
- <sup>157</sup> Erlanson-Albertsson C. How palatable food disrupts appetite regulation. *Basic Clin Pharmacol Toxicol*. 2005 Aug;97(2):61-73.
- <sup>158</sup> Erlanson-Albertsson C. Appetite regulation and energy balance. *Acta Paediatr Suppl*. 2005 Jun;94(448):40-1.
- <sup>159</sup> Astrup A, Grunwald GK, Melanson EL, Saris WH, Hill JO. The role of low-fat diets in body weight control: a meta-analysis of ad libitum dietary intervention studies. *Int J Obes Relat Metab Disord*. 2000 Dec;24(12):1545-52.
- <sup>160</sup> Bray GA, Popkin BM. Dietary fat intake does affect obesity! *Am J Clin Nutr*. 1998 Dec;68(6):1157-73.
- <sup>161</sup> Mark A Pereira, Alex I Kartshov, Children's Hospital, Boston, Boston, MA; Linda Van Horn. Reported Breakfast Habits and Incidence of Obesity and the Insulin Resistance Syndrome in Young Black and White Adults: The CARDIA Study Program and Abstracts of the 43rd Annual Conference on Cardiovascular Disease Epidemiology and Prevention: in association with the Council on Nutrition, Physical Activity and Metabolism Circulation 2003;107:e7001-e7039. #5.
- <sup>162</sup> Appleby PN, Thorogood M, Mann J, Key TJ. Low body mass index in non-meat eaters: the possible roles of animal fat, dietary fibre and alcohol. *Int J Obes Relat Metab Disord*. 1998 May;22(5):454-60.
- <sup>163</sup> Linde JA, Utter J, Jeffery RW, Sherwood NE, Pronk NP, Boyle RG. Specific food intake, fat and fiber intake, and behavioral correlates of BMI among overweight and obese members of a managed care organization. *Int J Behav Nutr Phys Act*. 2006 Nov 26;3:42.
- <sup>164</sup> Nicklas TA, Wang SJ, Baranowski T, Zakeri I, Berenson G. Eating patterns and obesity in children. The Bogalusa Heart Study. *Am J Prev Med*. 2003 Jul;25(1):9-16.
- <sup>165</sup> Drewnowski A, Krahn DD, Demitrack MA, Nairn K, Gosnell BA. Taste responses and preferences for sweet high-fat foods: evidence for opioid involvement. *Physiol Behav*. 1992 Feb;51(2):371-9.
- <sup>166</sup> Avena MM. Examining the addictive-like properties of binge eating using an animal model of sugar dependence. *Exp Clin Psychopharmacol*. 2007 Oct;15(5):481-91.
- <sup>167</sup> Citation: Lenoir M, Serre F, Cantin L, Ahmed SH (2007) Intense Sweetness Surpasses Cocaine Reward. *PLoS ONE* 2(8): e998. doi:10.1371/journal.pone.0000698.
- <sup>168</sup> Heller RF, Heller RF. Hyperinsulinemic obesity and carbohydrate addiction: the missing link is the carbohydrate frequency factor. *Med Hypotheses*. 1994 May;42(5):307-12.
- <sup>169</sup> Kaminski S, Giesliska A, Kostyra E. Polymorphism of bovine beta-casein and its potential effect on human health. *J Appl Genet*. 2007;48(3):189-98.

# Blue Print for Health and Healing

<sup>170</sup> Riserus U, Ingelsson E. Alcohol intake, insulin resistance, and abdominal obesity in elderly men. *Obesity (Silver Spring)*. 2007 Jul;15(7):1766-73.

<sup>171</sup> Sung KC, Kim SH, Reaven GM. Relationship among alcohol, body weight, and cardiovascular risk factors in 27,030 Korean men. *Diabetes Care*. 2007 Oct;30(10):2690-4.

<sup>172</sup> Herman CP, Roth DA, Polivy J. Effects of the presence of others on food intake: a normative interpretation. *Psychol Bull*. 2003 Nov;129(6):873-86.

<sup>173</sup> Johnson WG, Corrigan SA, Lennon CR, Bergeron KB, Crusco AH. Energy regulation over the menstrual cycle. *Physiol Behav*. 1994 Sep;56(3):523-7.

<sup>174</sup> Nielsen SJ, Popkin BM. Patterns and trends in food portion sizes, 1977-1998. *JAMA*. 2003 Jan 22;289(4):450-3.

<sup>175</sup> Elio-Martin JA, Ledikwe JH, Rolls BJ. The influence of food portion size and energy density on energy intake: implications for weight management. *Am J Clin Nutr*. 2005 Jul;82(1 Suppl):236S-241S.

<sup>176</sup> Raynor HA, Epstein LH. Dietary variety, energy regulation, and obesity. *Psychol Bull*. 2001 May;127(3):325-41.

<sup>177</sup> Rolls BJ, Van Duijvenvoorde PM, Rowe EA. Variety in the diet enhances intake in a meal and contributes to the development of obesity in the rat. *Physiol Behav*. 1983 Jul;31(1):21-7.

<sup>178</sup> Lamas O, Martinez JA, Mari A. Energy restriction restores the impaired immune response in overweight (cafeteria) rats. *J Nutr Biochem*. 2004 Jul;15(7):418-25.

<sup>179</sup> Kagawa Y. Impact of Westernization on the nutrition of Japanese: changes in physique, cancer, longevity and centenarians. *Prev Med*. 1978 Jun;7(2):205-17.

<sup>180</sup> Goldman L, and Bennett JC (eds). *Cecil Textbook of Medicine*, 21st Edition, W. B. Saunders Company, Philadelphia, PA, 1999, pp. 1161.

<sup>181</sup> Thompson OM, Ballew C, Resnicow K, Gillespie C, Must A, Bandini LG, Cyr H, Dietz WH. Dietary pattern as a predictor of change in BMI z-score among girls. *Int J Obesity (Lond)*. 2006 Jan;30(1):176-82.

<sup>182</sup> Berteus Forslund H, Lindroos AK, Sjöström L, Lissner L. Meal patterns and obesity in Swedish women—a simple instrument describing usual meal types, frequency and temporal distribution. *Eur J Clin Nutr*. 2002 Aug;56(8):740-7.

<sup>183</sup> Xiao Q, Garaulet M, Scheer FAJL. Meal timing and obesity: interactions with macronutrient intake and chronotype. *Int J Obesity (Lond)*. 2019 Sep;43(9):1701-1711.

<sup>184</sup> Warren JM, Henry CKJ, Simonite V. Low Glycemic Index Breakfasts and Reduced Food Intake in Preadolescent Children. *Pediatrics* 2003;112:e414–e419.

<sup>185</sup> Farschi HR, Taylor MA, Macdonald IA. Dieteric effects of omitting breakfast on insulin sensitivity and fasting lipid profiles in healthy lean women. *Am J Clin Nutr*. 2005 Feb;81(2):388-96.

<sup>186</sup> Croezen S, Visscher TL, Ter Bogt NC, Veling ML, Haveman-Nies A. Skipping breakfast, alcohol consumption and physical inactivity as risk factors for overweight and obesity in adolescents: results of the E-MOVO project. *Eur J Clin Nutr*. Epub 2018 Feb 28.

<sup>187</sup> Oblacinska A, Jodkowska M. Eating patterns of school-aged children and adolescents in Poland - questionnaire investigation. *Med Wiek Rozwoj*. 2000;4(3 Suppl 1):53-64.

<sup>188</sup> Farschi HR, Taylor MA, Macdonald JA. Beneficial metabolic effects of regular meal frequency on dietary thermogenesis, insulin sensitivity, and fasting lipid profiles in healthy obese women. *Am J Clin Nutr*. 2005 Jan;81(1):16-24.

<sup>189</sup> Franceschi S, La Vecchia C, Bidoli E, Negri E, Talamini R. Meal frequency and risk of colorectal cancer. *Cancer Res*. 1992 Jul 15;52(13):3589-92.

<sup>190</sup> Benito E, Obrador A, Stiggebout A, Bosch FX, Mulet M, Muñoz N, Kaldor J. A population-based case-control study of colorectal cancer in Majorca. I. Dietary factors. *Int J Cancer*. 1990 Jan 15;45(1):69-76.

<sup>191</sup> de Verdier MG, Longnecker MP. Eating frequency—a neglected risk factor for colon cancer? *Cancer Causes Control*. 1992 Jan;3(1):77-81.

<sup>192</sup> Ellen G. White. *Counsels on Diet and Foods* (Washington, D.C.: Review and Herald Pub. Assn., 1946), pg. 177.

<sup>193</sup> Oliver G, Wardle J, Gibson EL. Stress and food choice: a laboratory study. *Psychosom Med*. 2000 Nov-Dec;62(6):853-65.

<sup>194</sup> Lissau I, Sørensen TI. Parental neglect during childhood and increased risk of obesity in young adulthood. *Lancet*. 1994 Feb 5;343(8893):324-7.

<sup>195</sup> Gunstad J, Paul RH, Spitznagel MB, Cohen RA, Williams LM, Kohn M, Gordon E. Exposure to early life trauma is associated with adult obesity. *Psychiatry Res*. 2006 May 30;142(1):31-7.

<sup>196</sup> Morse SA, Ciechanowski PS, Katon WJ, Hirsch IB. Isn't this just bedtime snacking? The potential adverse effects of night-eating symptoms on treatment adherence and outcomes in patients with diabetes. *Diabetes Care*. 2006 Aug;29(8):1800-4.

<sup>197</sup> Williamson DF, Thompson JT, Anda RF, Dietz WH, Felitti V. Body weight and obesity in adults and self-reported abuse in childhood. *Int J Obesity Relat Metab Disord*. 2002 Aug;26(8):1075-82.

<sup>198</sup> Townsend MS, Peerson J, Love B, Achterberg C, Murphy SP. Food insecurity is positively related to overweight in women. *J Nutr*. 2001 Jun;131(6):1738-45.

<sup>199</sup> Hebrews 2:15. King James Version of the Holy Bible.

<sup>200</sup> Laederach-Hofmann K, Kupferschmid S, Mussgay L. Links between body mass index, total body fat, cholesterol, high-density lipoprotein, and insulin sensitivity in patients with obesity related to depression, anger, and anxiety. *Int J Eat Disord*. 2002 Jul;32(1):58-71.

<sup>201</sup> Serlachius A, Hamer M, Wardle J. Stress and weight change in university students in the United Kingdom. *Physiol Behav*. 2007 Nov 23;92(4):548-53.

<sup>202</sup> Tuck I, Aleyne R, Thinganjana W. Spirituality and stress management in healthy adults. *J Holist Nurs*. 2006 Dec;24(4):245-53; discussion 254-5.

<sup>203</sup> Matthew 11:28. King James Version of the Holy Bible.

<sup>204</sup> Green MW, Elliman NA, Kretsch ML. Weight loss strategies, stress, and cognitive function: supervised versus unsupervised dieting. *Psychoneuroendocrinology*. 2005 Oct;30(9):908-18.

<sup>205</sup> Daubennier JJ, Weidner G, Sumner MD, Mendell N, Merritt-Worden T, Studley J, Ornish D. The contribution of changes in diet, exercise, and stress management to changes in coronary risk in women and men in the multisite cardiac lifestyle intervention program. *Ann Behav Med*. 2007 Feb;33(1):57-68.

<sup>206</sup> Kruger J, Blanck HM, Gillespie C. Dietary and physical activity behaviors among adults successful at weight loss maintenance. *Int J Behav Nutr Phys Act*. 2006 Jul 19:3:17.

<sup>207</sup> Wing RR, Phelan S. Long-term weight loss maintenance. *Am J Clin Nutr*. 2005 Jul;82(1 Suppl):225S-225S.

<sup>208</sup> DelParigi A, Chen K, Salbe AD, Hill JO, Wing RR, Reiman EM, Ataranni PA. Successful dieters have increased neural activity in cortical areas involved in the control of behavior. *Int J Obesity (Lond)*. 2007 Mar;31(3):440-8.

<sup>209</sup> Joshua 24:15. King James Version of the Holy Bible.

<sup>210</sup> Francis LA, Lee Y, Birch LL. Parental weight status and girls' television viewing, snacking, and body mass indexes. *Obes Res*. 2003 Jan;11(1):143-51.

<sup>211</sup> Bellissimo N, Pencharz PB, Thomas SG, Anderson GH. Effect of television viewing at mealtime on food intake after a glucose preload in boys. *Pediatr Res*. 2007 Jun;61(6):745-9.

<sup>212</sup> Mendoza JA, Zimmerman FJ, Christakis DA. Television viewing, computer use, obesity, and adiposity in US preschool children. *Int J Behav Nutr Phys Act*. 2007 Sep 25:4:4.

<sup>213</sup> Ellen G. White. *Counsels on Diet and Foods* (Washington, D.C.: Review and Herald Pub. Assn., 1946), pg. 154.

<sup>214</sup> Matthew 4:4. King James Version of the Holy Bible.

<sup>215</sup> Matthew 20:28. King James Version of the Holy Bible.

<sup>216</sup> James 4:7. King James Version of the Holy Bible.

<sup>217</sup> Isaiah 59:19. King James Version of the Holy Bible.

<sup>218</sup> 1 Corinthians 10:13. King James Version of the Holy Bible.

<sup>219</sup> Leviticus 26:26. King James Version of the Holy Bible.

<sup>220</sup> Psalms 22:26. King James Version of the Holy Bible.

<sup>221</sup> Isaiah 58:10,11. King James Version of the Holy Bible.

**Chapter 3 - References**

<sup>1</sup> Suhr JA, Patterson SM, Austin AW, Heffner KL. The relation of hydration status to declarative memory and working memory in older adults. *J Nutr Health Aging*. 2010 Oct;14(10):840-3.

<sup>2</sup> Khokhar AM, Slater JD. Increased renal excretion of arginine-vasopressin during mild hydropenia in young men with mild essential benign hypertension. *Clin Sci Mol Med Suppl*. 1976 Dec;3:681s-694s.

<sup>3</sup> Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, Jones DW, Materson BJ, Oparil S, Wright JT Jr, Roccella EJ, National Heart, Lung, and Blood Institute Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; National High Blood Pressure Education Program Coordinating Committee. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. *JAMA*. 2003 May 21;289(19):2560-72.

<sup>4</sup> Thornton SM. Thirst and hydration: physiology and consequences of dysfunction. *Physiol Behav*. 2010 Apr 26;100(1):15-21.

<sup>5</sup> Roudaut R, Gosse P, Auouzerate E, Dallochio M. Low blood pressure. *Ann Cardiol Angeiol (Paris)*. 1989 May;38(5):279-80.

<sup>6</sup> Pearce KA, Furberg CD, Rushing J. Does antihypertensive treatment of the elderly prevent cardiovascular events or prolong life? A meta-analysis of hypertension treatment trials. *Arch Fam Med*. 1995 Nov;4(11):943-9.

<sup>7</sup> Franco OH, Peeters A, Bonneux L, de Laet C. Blood pressure in adulthood and life expectancy with cardiovascular disease in men and women: life course analysis. *Hypertension*. 2005 Aug;46(2):280-6. Epub 2005 Jun 27.

<sup>8</sup> van Dijk EJ, Breteler MM, Schmidt R, Berger K, Nilsson LG, Oudkerk M, Pajak A, Sans S, de Ridder M, Dufouil C, Fuhrer R, Giampaoli S, Launer LJ, Hofman A; CASCADE Consortium. The association between blood pressure, hypertension, and cerebral white matter lesions: cardiovascular determinants of dementia study. *Hypertension*. 2004 Nov;44(5):625-30.

<sup>9</sup> van Swieten JC, Geyskes GG, Derix MM, Peock BM, Ramos LM, van Latum JC, van Gijn J. Hypertension in the elderly is associated with white matter lesions and cognitive decline. *Ann Neurol*. 1991 Dec;30(6):825-30.

<sup>10</sup> Longstreth WT Jr, Arnold AM, Basuchamp NJ Jr, Manolio TA, Lefkowitz D, Jungreis C, Hirsch CH, O'Leary DH, Furberg CD. Incidence, manifestations, and predictors of worsening white matter on serial cranial magnetic resonance imaging in the elderly: the Cardiovascular Health Study. *Stroke*. 2005 Jan;36(1):56-61.

<sup>11</sup> Wilburn AJ, King DS, Glisson J, Rockhold RW, Wofford MR. The natural treatment of hypertension. *J Clin Hypertens (Greenwich)*. 2004 May;6(5):242-8.

<sup>12</sup> Sivaprakasapillai B, Edirisinghe I, Randolph J, Steinberg F, Kappagoda T. Effect of grape seed extract on blood pressure in subjects with the metabolic syndrome. *Metabolism*. 2009 Dec;58(12):1743-6.

<sup>13</sup> Häckli LP, Cuttler G, Dovichi SS, Lima-Landman MT, Nicolau M. Inhibition of angiotensin-converting enzyme by quercetin alters the vascular response to bradykinin and angiotensin I. *Pharmacology*. 2002 Aug;65(4):182-6.

<sup>14</sup> Rosenfeldt FJ, Haas SJ, Krum H, Hadi A, Ng K, Leong JY, Watts GF. Coenzyme Q10 in the treatment of hypertension: a meta-analysis of the clinical trials. *J Hum Hypertens*. 2007 Apr;21(4):297-306.

<sup>15</sup> Kwon YI, Vatterm DA, Shetty K. Evaluation of clonal herbs of Lamiaceae species for management of diabetes and hypertension. *Asia Pac J Clin Nutr*. 2006;15(1):107-18.

<sup>16</sup> Apostolidis E, Kwon YI, Shetty K. Potential of cranberry-derived herbal synergies for diabetes and hypertension management. *Asia Pac J Clin Nutr*. 2006;15(3):433-41.

<sup>17</sup> El Bardai S, Lyoussi B, Wibo M, Morel N. Pharmacological evidence of hypotensive activity of Marrubium vulgare and Foeniculum vulgare (Fennel) in spontaneously hypertensive rat. *Clin Exp Hypertens*. 2001 May;23(4):329-43.

<sup>18</sup> Idahw RB, Bhatnagar SP, Surana SJ. Diuretic activity of squamate mistletoe, *Viscum angulatum*. *Pharm Biol*. 2010 Apr;48(4):433-40.

<sup>19</sup> Ye F, Du GZ, Cui AQ, Lu XT. Study on the mechanism of compound mistletoe fluidextract in relieving hypertension. *J Tradit Chin Med*. 2009 Dec;29(4):291-5.

<sup>20</sup> Imenshahidi M, Hossainzadeh H, Javadpour Y. Hypotensive effect of aqueous saffron extract (*Crocus sativus* L.) and its constituents, safranal and crocin, in normotensive and hypertensive rats. *Phytother Res*. 2010 Jul;24(7):990-4.

<sup>21</sup> Walker AF, Marakis G, Simpson E, Hope JL, Robinson PA, Hassanein M, Simpson HC. Hypotensive effects of Hawthorn for patients with diabetes taking prescription drugs: a randomised controlled trial. *Br J Gen Pract*. 2006 Jun;56(527):437-43.

<sup>22</sup> Circoata C, De Pasquale R, Samperi S, Pino A, Occhiuto F. Biological and analytical characterization of two extracts from *Valeriana officinalis* (Valerian). *J Ethnopharmacol*. 2007 Jun 13;112(2):361-7.

<sup>23</sup> Katarainen MJ, Puska PM, Korhonen MH, Mustonen JN, Salomaa VV, Sundvall JE, Tuomilehto JO, Uusitupa M, Nissinen AM; LIFE Study Group. Non-pharmacological treatment of hypertension in primary health care: a 2-year open randomized controlled trial of lifestyle intervention against hypertension in eastern Finland. *J Hypertens*. 2002 Dec;20(12):2505-12.

<sup>24</sup> García-Ruiz PJ, Javier Jiménez-Jiménez F, García de Yébenes J. Calcium channel blocker-induced parkinsonism: clinical features and comparisons with Parkinson's disease. *Parkinsonism Relat Disord*. 1998 Dec;4(4):211-214.

<sup>25</sup> Skoog I, Lernfelt B, Landahl S, Palmertz B, Andreasson LA, Nilsson L, Persson G, Öden A, Svanborg A. 15-year longitudinal study of blood pressure and dementia. *Lancet*. 1996 Apr 27;347(9009):1141-5.

<sup>26</sup> Longstreth WT Jr, Arnold AM, Beauchamp NJ Jr, Manolio TA, Lefkowitz D, Jungreis C, Hirsch CH, O'Leary DH, Furberg CD. Incidence, manifestations, and predictors of worsening white matter on serial cranial magnetic resonance imaging in the elderly: the Cardiovascular Health Study. *Stroke*. 2005 Jan;36(1):56-61.

<sup>27</sup> Salerno JA, Murphy DG, Horwitz B, DeCarli C, Haxby JV, Rapoport SI, Schapiro MB. Brain atrophy in hypertension. A volumetric magnetic resonance imaging study. *Hypertension*. 1992 Sep;20(3):340-8.

<sup>28</sup> Lubianca JN, Faccin CS, Fuchs FD. Oral contraceptives: a risk factor for uncontrolled blood pressure among hypertensive women. *Contraception*. 2003 Jan;67(1):19-24.

<sup>29</sup> Lubianca JN, Moreira LB, Gus M, Fuchs FD. Stopping oral contraceptives: an effective blood pressure-lowering intervention in women with hypertension. *J Hum Hypertens*. 2005 Jun;19(6):451-5.

<sup>30</sup> Licht CM, de Geus EJ, Seldenkijk A, van Hout HP, Zitman FG, van Dyck R, Penninx BW. Depression is associated with decreased blood pressure, but antidepressant use increases the risk for hypertension. *Hypertension*. 2009 Apr;53(4):631-8.

<sup>31</sup> Forman JP, Rimm EB, Curhan GC. Frequency of analgesic use and risk of hypertension among men. *Arch Intern Med*. 2007 Feb 26;167(4):394-9.

<sup>32</sup> Laine L, White WB, Rostom A, Hochberg M. COX-2 selective inhibitors in the treatment of osteoarthritis. *Semin Arthritis Rheum*. 2008 Dec;38(3):165-87.

<sup>33</sup> Gaziano JM. Nonnarcotic analgesics and hypertension. *Am J Cardiol*. 2006 May 8;97(9A):10-6. Epub 2006 Mar 30.

<sup>34</sup> Forman JP, Stampfer MJ, Curhan GC. Non-narcotic analgesic dose and risk of incident hypertension in US women. *Hypertension*. 2005 Sep;46(3):500-7.

<sup>35</sup> Sudano I, Flammer AJ, Perlat D, Enselmet F, Herrmann M, Wolfrum M, Hirt A, Kaiser P, Hurlimann D, Neidhart M, Gay S, Holmeister J, Nussberger J, Mocharha P, Landmesser U, Halle SR, Corti R, Vanhoutte PM, Lüscher TF, Noll G, Ruschitzka F. Acetaminophen increases blood pressure in patients with coronary artery disease. *Circulation*. 2010 Nov 2;122(18):1789-96.

<sup>36</sup> Ostchega Y, Yoon SS, Hughes J, Louis T. Hypertension awareness, treatment, and control – continued disparities in adults: United States, 2005–2006. NCHS data brief no Hyattsville, MD: National Center for Health Statistics. 2008.

<sup>37</sup> Nedley N. *Proof Positive: How to Reliably Combat Disease and Achieve Optimal Health through Nutrition and Lifestyle* (Ardmore, OK: Nedley Publishing, 1999).

<sup>38</sup> Okken VS, Niemeijer MG, Dijkstra A, Baars MW, Said S, Hoogenberg C, Orfgen H, Otten S, Cleophas TJ. The effect of physical, social and psychological factors on drug compliance in patients with mild hypertension. *Neth Heart J*. 2008 Jun;16(6):197-200.

<sup>39</sup> Haider AW, Larson MG, Franklin SS, Levy D. Systolic blood pressure, diastolic blood pressure, and pulse pressure as predictors of risk for congestive heart failure in the Framingham Heart Study. *Ann Intern Med*. 2003 Jan 7;138(1):10-6.

<sup>40</sup> Kannel WB, Schwartz MJ, McNamara PM. Blood pressure and risk of coronary heart disease: the Framingham Study. 1969. *Chest*. 2009 Nov;136(5 Suppl):e23.

<sup>41</sup> Law M, Wald N, Morris J. Lowering blood pressure to prevent myocardial infarction and stroke: a new preventive strategy. *Health Technol Assess*. 2003;7(31):1-94.

<sup>42</sup> Cremen D, Coker PM, Buring JE, Glynn RJ. Risk of cardiovascular events among women with high normal blood pressure or blood pressure progression: prospective cohort study. *BMJ*. 2007 Sep 1;335(7617):432.

<sup>43</sup> Hiramoto JS, Howell B, Reilly LM, Chuter TA. Effect of systemic blood pressure on aneurysm size in the presence of a type II endoleak. *Vascular*. 2008 Nov-Dec;16(6):321-5.

<sup>44</sup> Neal B, MacMahon S, Chapman N; Effects of ACE inhibitors, calcium antagonists, and other blood-pressure-lowering drugs: results of prospectively designed overviews of randomised trials. *Blood Pressure Lowering Treatment Trialists' Collaboration*. *Lancet*. 2000 Dec 9;356(9246):1955-64.

<sup>45</sup> Strano A, Novo S, Avellone G, Di Garbo V, Abbrignani MG, Liquiri M, Panno V. Hypertension and other risk factors in peripheral arterial disease. *Clin Exp Hypertens*. 1993;15 Suppl 1:71-89.

<sup>46</sup> Islam TM, Fox CS, Mann D, Mumtaz P. Age-related associations of hypertension and diabetes mellitus with chronic kidney disease. *BMC Nephrol*. 2009 Jun 30;10:17.

<sup>47</sup> Furberg AS, Thune I. Metabolic abnormalities (hypertension, hyperglycemia and overweight), lifestyle (high energy intake and physical inactivity) and endometrial cancer risk in a Norwegian cohort. *Int J Cancer*. 2003 May 10;104(6):669-76.

<sup>48</sup> Jennings JR, Muldoon MF, Ryan C, Price JC, Greer P, Sutton-Tyrrell K, van der Veer FM, Meltzer CC. Reduced cerebral blood flow response and compensation among patients with untreated hypertension. *Neurology*. 2005 Apr 26;64(8):1358-65.

<sup>49</sup> Jennings JR, Muldoon MF, Price J, Christie IC, Meltzer CC. Cerebrovascular support for cognitive processing in hypertensive patients is altered by blood pressure treatment. *Hypertension*. 2008 Jul;52(1):65-71.

<sup>50</sup> Kuller LH, Margolis KL, Gausson SA, Bryan NR, Kerwin D, Linnacher M, Wassertheil-Smolter S, Williamson J, Robinson JG. Relationship of hypertension, blood pressure, and blood pressure control with white matter abnormalities in the Women's Health Initiative Memory Study (WHIMS)-MRI trial. *J Clin Hypertens (Greenwich)*. 2010 Mar;12(3):203-12.

<sup>51</sup> Waldstein SR, Manuck SB, Ryan CM, Muldoon MF. Neuropsychological correlates of hypertension: review and methodologic considerations. *Psychol Bull*. 1991 Nov;110(3):451-68.

<sup>52</sup> Foroughan M, Farahani ZG, Shariatpanahi M, Vaeznejad M, Kameran AA, Sheikhatvan M. Risk factors of Alzheimer's disease among Iranian population. *Curr Alzheimer Res*. 2008 Feb;5(1):70-2.

<sup>53</sup> Redon J, Clifton R, Laurent S, Nilsson P, Narkiewicz K, Erdine S, Mancia G. Mechanisms of hypertension in the cardiometabolic syndrome. *J Hypertens*. 2009 Mar;27(3):441-51.

<sup>54</sup> Li S, He H, Ding M, He C. The correlation of osteoporosis to clinical features: a study of 4382 female cases of a hospital cohort with musculoskeletal symptoms in southwest China. *BMC Musculoskelet Disord*. 2010 Aug 16;11:183.

<sup>55</sup> Hyman L, Schachat AP, He Q, Leske MC. Hypertension, cardiovascular disease, and age-related macular degeneration. Age-Related Macular Degeneration Risk Factors Study Group. *Arch Ophthalmol*. 2000 Mar;118(3):351-8.

<sup>56</sup> [1] Chew KJ, Bremner A, Jamrozik K, Earle C, Stuckey B. Male erectile dysfunction and cardiovascular disease: is there an intimate nexus? *J Sex Med*. 2008 Apr;5(4):928-34.

<sup>57</sup> Shibahara N, Matsuda H, Umeno K, Shimada Y, Itoh T, Terasawa K. The responses of skin blood flow, mean arterial pressure and R-R interval induced by cold stimulation with cold wind and ice water. *J Auton Nerv Syst*. 1996 Nov 6;61(2):109-15.

<sup>58</sup> Dickinson BD, Havas S. Reducing the population burden of cardiovascular disease by reducing sodium intake: a report of the Council on Science and Public Health. *Arch Intern Med*. 2007 Jul 23;167(14):1460-8.

<sup>59</sup> Morgenstern LB, Escobar JD, Sánchez BN, Hughes R, Zuniga BG, Garcia N, Lisabeth LD. Fast food and neighborhood stroke risk. *Ann Neurol*. 2009 Aug;66(2):165-70.

<sup>60</sup> <http://nutritiondata.self.com/>

# References

- <sup>61</sup> Zuccarelli MT, Faraj L. Sodium and potassium content of some fresh, frozen and canned vegetables. *Arch Latinoam Nutr.* 1986 Sep;36(3):477-82.
- <sup>62</sup> Anderson CA, Appel LJ, Okuda N, Brown IJ, Chan Q, Zhao L, Ueshima H, Kesteloot H, Miura K, Curb JD, Yoshita K, Elliott P, Yamamoto ME, Stamler J. Dietary sources of sodium in China, Japan, the United Kingdom, and the United States, women and men aged 40 to 59 years: the INTERMAP study. *J Am Diet Assoc.* 2010 May;110(5):736-45.
- <sup>63</sup> Song J, Hu X, Shi M, Knepper MA, Ecelbarger CA. Effects of dietary fat, NaCl, and fructose on renal sodium and water transporter abundances and systemic blood pressure. *Am J Physiol Renal Physiol.* 2004 Dec;287(6):F1204-12.
- <sup>64</sup> Preuss HG. Diet, genetics and hypertension. *J Am Coll Nutr.* 1997 Aug;16(4):296-305.
- <sup>65</sup> Harshfield GA, Dong Y, Kapuku GK, Zhu H, Hanevol CD. Stress-induced sodium retention and hypertension: a review and hypothesis. *Curr Hypertens Rep.* 2009 Feb;11(1):29-34.
- <sup>66</sup> Shi Z, Yuan B, Taylor AW, Dai Y, Pan X, Gill TK, Wittert GA. Monosodium glutamate is related to a higher increase in blood pressure over 5 years: findings from the Jiangsu Nutrition Study of Chinese adults. *J Hypertens.* 2011 May;29(5):846-53.
- <sup>67</sup> Han TS, Gates E, Truscott E, Lean ME. Clothing size as an indicator of adiposity, ischaemic heart disease and cardiovascular risks. *J Hum Nutr Diet.* 2005 Dec;18(6):423-30.
- <sup>68</sup> Chockalingam A. Healthy weight - healthy blood pressure. *Can J Cardiol.* 2010 May;26(5):259-60.
- <sup>69</sup> Bellentani S, Scaglioni F, Marino M, Bedogni G. Epidemiology of non-alcoholic fatty liver disease. *Dig Dis.* 2010;28(1):155-61.
- <sup>70</sup> Ohashi K, Ouchi N, Matsuzawa Y. Adiponectin and Hypertension. *Am J Hypertens.* 2011 Mar;24(3):263-9.
- <sup>71</sup> Houston DK, Driver KE, Bush AJ, Kritchevsky SB. The association between cheese consumption and cardiovascular risk factors among adults. *J Hum Nutr Diet.* 2008 Apr;21(2):129-40.
- <sup>72</sup> Coli-Ramirez E, Castillo-Martinez L, Orea-Tejeda A, Villa Romero AR, Vergara Castaneda A, Asensio Lafuente E. Waist circumference and fat intake are associated with high blood pressure in Mexican children aged 8 to 10 years. *J Am Diet Assoc.* 2009 Jun;109(6):996-1003.
- <sup>73</sup> Yang G, Shu XO, Gao YT, Zhang X, Li H, Zheng W. Impacts of weight change on prehypertension in middle-aged and elderly women. *Int J Obes (Lond).* 2007 Dec;31(12):1818-25.
- <sup>74</sup> McCarron DA, Reusser ME. Body weight and blood pressure regulation. *Am J Clin Nutr.* 1996 Mar;63(3 Suppl):423S-425S.
- <sup>75</sup> Menghetti E, D'Addesa D, Censi L, Spagnolo A, Martone D, Cellitti R, Sette S. Hypertension in schoolchildren: research carried out in a secondary school in Rome and observations on dietary patterns. *Minerva Pediatr.* 2004 Jun;56(3):311-6.
- <sup>76</sup> Agadzhanov SA. Diet therapy of patients with chronic renal failure in its initial stage. *Vopr Pitan.* 1984 Nov-Dec;(6):28-31.
- <sup>77</sup> Wang YF, Yancy WS Jr, Yu D, Champagne C, Appel LJ, Lin PH. The relationship between dietary protein intake and blood pressure: results from the PREMIER study. *J Hum Hypertens.* 2008 Nov;22(11):745-54.
- <sup>78</sup> Rivas M, Garay RP, Escanero JF, Cia P Jr, Cia P, Alda JO. Soy milk lowers blood pressure in men and women with mild to moderate essential hypertension. *J Nutr.* 2002 Jul;132(7):1900-2.
- <sup>79</sup> Palanisami N, Viswanathan P, Ravichandran MK, Anuradha CV. Renoprotective and blood pressure-lowering effect of dietary soy protein via protein kinase C beta II inhibition in a rat model of metabolic syndrome. *Can J Physiol Pharmacol.* 2010 Jan;88(1):28-37.
- <sup>80</sup> Nevala R, Vasjonen T, Vehniäinen J, Korpela R, Vapaatalo H. Soy based diet attenuates the development of hypertension when compared to casein based diet in spontaneously hypertensive rat. *Life Sci.* 2000;66(2):115-24.
- <sup>81</sup> Farag NH, Vincent AS, McKey BS, Al'Absi M, Whittsett TL, Lovallo WR. Sex differences in the hemodynamic responses to mental stress: Effect of caffeine consumption. *Psychophysiology.* 2006 Jul;43(4):337-43.
- <sup>82</sup> Riksen NP, Rongen GA, Smits P. Acute and long-term cardiovascular effects of coffee: implications for coronary heart disease. *Pharmacol Ther.* 2009 Feb;121(2):185-91.
- <sup>83</sup> Jee SH, He J, Whelton PK, Suh I, Klag MJ. The effect of chronic coffee drinking on blood pressure: a meta-analysis of controlled clinical trials. *Hypertension.* 1999 Feb;33(2):647-52.
- <sup>84</sup> Langer S, Marshall LJ, Day AJ, Morgan MR. Flavanols and methylxanthines in commercially available dark chocolate: a study of the correlation with nonfat cocoa solids. *J Agric Food Chem.* 2011 Aug 10;59(15):8435-41.
- <sup>85</sup> Grassi D, Necozione S, Lippi C, Croce G, Valeri L, Pasqualetti P, Desideri G, Blumberg JB, Ferri C. Cocoa reduces blood pressure and insulin resistance and improves endothelium-dependent vasodilation in hypertensives. *Hypertension.* 2005 Aug;46(2):398-405.
- <sup>86</sup> Alonso A, de la Fuente C, Beunza JJ, Sánchez-Villegas A, Martínez-González MA. Chocolate consumption and incidence of hypertension. *Hypertension.* 2005 Dec;46(6):e21-2; author reply e22.
- <sup>87</sup> Dochi M, Sakata K, Oishi M, Tanaka K, Kobayashi E, Suwazono Y. Smoking as an independent risk factor for hypertension: a 14-year longitudinal study in male Japanese workers. *Tohoku J Exp Med.* 2009 Jan;217(1):37-43.
- <sup>88</sup> McGwin G, Liener T, Kennedy JL. Formaldehyde exposure and asthma in children: a systematic review. *Environ Health Perspect.* 2010 Mar;118(3):313-7.
- <sup>89</sup> Green MA, Egle JL Jr. Effects of intravenous acetaldhehyde, acrolein, formaldehyde and propionaldehyde on arterial blood pressure following acute guanethidine treatment. *Res Commun Chem Pathol Pharmacol.* 1983 May;40(2):337-40.
- <sup>90</sup> Braune S, Wrocklage C, Raczek J, Gailus T, Lukiung CH. Resting blood pressure increase during exposure to a radio-frequency electromagnetic field. *Lancet.* 1998 Jun 20;351(9119):1857-8.
- <sup>91</sup> Hiramatsu K, Yamada T, Katakura M. Acute effects of cold on blood pressure, renin-angiotensin-aldosterone system, catecholamines and adrenal steroids in man. *Clin Exp Pharmacol Physiol.* 1984 Mar-Apr;11(2):171-9.
- <sup>92</sup> Collins KJ. Low indoor temperatures and morbidity in the elderly. *Age Ageing.* 1986 Jul;15(4):212-20.
- <sup>93</sup> Shahar DR, Froom P, Harari G, Yerushalmi N, Lubin F, Kristal-Boneh E. Changes in dietary intake account for seasonal changes in cardiovascular disease risk factors. *Eur J Clin Nutr.* 1999 May;53(5):395-400.
- <sup>94</sup> Öpländer C, Volkmar CM, Paunel-Görgülü A, van Faassen EE, Heiss C, Kelm M, Halmer D, Mürtz M, Pallua N, Suschek CV. Whole body UVA irradiation lowers systemic blood pressure by release of nitric oxide from intracutaneous photolabile nitric oxide derivatives. *Circ Res.* 2009 Nov 6;105(10):1034-40.
- <sup>95</sup> Shani J, Kushelevsky AP, Harari M, Even-Paz Z. Sustained decrease of blood pressure in psoriatic patients during treatment at the Dead Sea. *Pharmacol Res.* 1995 Jun;31(6):355-9.
- <sup>96</sup> Kim MK, Il Kang M, Won Oh K, Kwon HS, Lee JH, Lee WC, Yoon KH, Son HY. The association of serum vitamin D level with presence of metabolic syndrome and hypertension in middle-aged Korean subjects. *Clin Endocrinol (Oxf).* 2010 Sep;73(3):330-8.
- <sup>97</sup> Arakawa K. Hypertension and exercise. *Clin Exp Hypertens.* 1993 Nov;15(6):1171-9.
- <sup>98</sup> Dermot C, Dignat-George F, Fortrat JO, Sabatier F, Gharib C, Larina I, Gaudouin-Koch G, Hugonin R, Custaud MA. WISE 2005: chronic bed rest impairs microcirculatory endothelium in women. *Am J Physiol Heart Circ Physiol.* 2007 Nov;293(5):H159-64.
- <sup>99</sup> Just H. Peripheral adaptations in congestive heart failure: a review. *Am J Med.* 1991 May;29(505):235-265.
- <sup>100</sup> Novo S, Pinto A, Alaimo G, Galati D, Strano A. Calif blood flow and vascular resistance in borderline hypertensives in comparison with control subjects. *J Cardiovasc Pharmacol.* 1986;8 Suppl 5:S122-4.
- <sup>101</sup> Leung FP, Yung LM, Laher I, Yao X, Chen ZY, Huang Y. Exercise, vascular wall and cardiovascular diseases: an update (Part 1). *Sports Med.* 2008;38(12):1009-24.
- <sup>102</sup> Yung LM, Laher I, Yao X, Chen ZY, Huang Y, Leung FP. Exercise, vascular wall and cardiovascular diseases: an update (part 2). *Sports Med.* 2009;39(1):45-63.
- <sup>103</sup> Iwane M, Arita M, Tomimoto S, Satani O, Matsumoto M, Miyashita K, Nishio I. Walking 10,000 steps/day or more reduces blood pressure and sympathetic nerve activity in mild essential hypertension. *Hypertens Res.* 2000 Nov;23(6):573-80.
- <sup>104</sup> Mota MR, Pardo E, Lima LC, Arsa G, Bottaro M, Campbell CS, Simões HG. Effects of treadmill running and resistance exercises on lowering blood pressure during the daily work of hypertensive subjects. *J Strength Cond Res.* 2009 Nov;23(8):2331-8.
- <sup>105</sup> Meek SS. Effects of slow stroke back massage on relaxation in hospice clients. *Image J Nurs Sch.* 1993 Spring;25(1):17-21.
- <sup>106</sup> Nakawamoto R, Okamoto K, Yamada A, Oguni T. Effect of warm bathing on blood pressure in bedridden patients. *ippon Ronen Igakkai Zasshi.* 1998 Apr;35(4):299-302.
- <sup>107</sup> Rafacz W, McGill SM. Wearing an abdominal belt increases diastolic blood pressure. *J Occup Environ Med.* 1996 Sep;38(9):925-7.
- <sup>108</sup> Wang SZ, Li S, Xu XY, Lin GP, Shao L, Zhao Y, Wang TH. Effect of slow abdominal breathing combined with biofeedback on blood pressure and heart rate variability in prehypertension. *J Altern Complement Med.* 2010 Oct;16(10):1039-45.
- <sup>109</sup> Jefferson L. Exploring effects of therapeutic massage and patient teaching in the practice of diaphragmatic breathing on blood pressure, stress, and anxiety in hypertensive African-American women: an intervention study. *J Natl Black Nurses Assoc.* 2010 Jul;21(1):17-24.
- <sup>110</sup> Linde T, Sandhagen B, lin C, Wikström B, Danielsson BG. Blood viscosity and peripheral vascular resistance in patients with untreated essential hypertension. *J Hypertens.* 1993 Jul;11(7):731-6.
- <sup>111</sup> Cicco G, Vicenti P, Stingi GD, Tarallo, Pirrelli A. Hemorheology in complicated hypertension. *Clin Hemorheol Microcirc.* 1999;21(3-4):315-9.
- <sup>112</sup> Bogar L. Hemorheology and hypertension: not "chicken or egg" but two chickens from similar eggs. *Clin Hemorheol Microcirc.* 2002;26(2):81-3.
- <sup>113</sup> Burstyn PG, Firth WR. Effects of three fat-enriched diets on the arterial pressure of rabbits. *Cardiovasc Res.* 1975 Nov;9(6):807-10.
- <sup>114</sup> Beegom R, Singh RB. Association of higher saturated fat intake with higher risk of hypertension in an urban population of Trivandrum in south India. *Int J Cardiol.* 1997 Jan 3;58(1):63-70.
- <sup>115</sup> Borghi C, Veronesi M, Cosentino E, Cicero AF, Kuria F, Dormi A, Ambrosioni E. Interaction between serum cholesterol levels and the renin-angiotensin system on the new onset of arterial hypertension in subjects with high-normal blood pressure. *J Hypertens.* 2007 Oct;25(10):2051-7.
- <sup>116</sup> Leviticus 7:23. King James Version of The Holy Bible.
- <sup>117</sup> Tamaya N, Uemura K, Yoshioka S, Ueda M, Hattori A, Kuzuya M, Ohmoto Y, Muraguchi M, Nakamura J, Iguchi A. Noninvolvement of hypertriglyceridemia and hyperleptinemia in blood pressure increases induced by dietary fat in rats. *Drugs Exp Clin Res.* 2001;27(5-6):177-84.
- <sup>118</sup> Tamaya-Mori N, Uemura K, Tanaka S, Iguchi A. Aging accelerates dietary lard-induced increase in blood pressure in rats. *Exp Gerontol.* 2003 Aug;38(8):905-10.
- <sup>119</sup> Deuteronomy 14:8. King James Version of The Holy Bible.
- <sup>120</sup> Slavicek J, Kittnar O, Dohnalová A, Trojan S, Novák V, Tichý JA, Trefný ZM. Effect of a 10-day animal fat-free diet on cholesterol and glucose serum levels, blood pressure and body weight in 50-year-old volunteers. *Sb Lek. 2001;102(4):519-25.*
- <sup>121</sup> Stolberg HO, Norman G, Trop I. Randomized controlled trials. *AJR Am J Roentgenol.* 2004 Dec;183(6):1539-44.
- <sup>122</sup> Daniel 1:12. King James Version of The Holy Bible.
- <sup>123</sup> Naito Y, Yoshida H, Nagata T, Tanaka A, Ono H, Ohara N. Rapeseed intake of rapeseed oil or soybean oil as the only fat nutrient in spontaneously hypertensive rats and Wistar Kyoto rats - blood pressure and pathophysiology. *Toxicology.* 2000 May 5;146(2-3):197-208.
- <sup>124</sup> Kaufman LN, Peterson MM, Smith SM. Hypertensive effect of polyunsaturated dietary fat. *Metabolism.* 1994 Jan;43(1):1-3.
- <sup>125</sup> Naito Y, Nagata T, Takano Y, Nagatsu T, Ohara N. Rapeseed oil ingestion and exacerbation of hypertension-related conditions in stroke prone spontaneously hypertensive rats. *Toxicology.* 2003 May 3;187(2-3):205-16.
- <sup>126</sup> Soriguer F, Rojo-Martinez G, Dobarganes MC, García-Almeida JM, Esteve I, Beltan M, Ruiz De Adana MS, Tinahones F, Gomez-Zumaquero JM, García-Fuentes E, Gonzalez-Romero S. Hypertension is related to the degradation of dietary frying oils. *Am J Clin Nutr.* 2003 Dec;78(6):1092-7.
- <sup>127</sup> Gosmanov AR, Smiley DJ, Robalino G, Siquiera J, Khan B, Le NA, Patel RS, Quyyumi AA, Peng L, Kitabchi AE, Umpierrez GE. Effects of oral and intravenous fat load on blood pressure, endothelial function, sympathetic activity, and oxidative stress in obese healthy subjects. *Am J Physiol Endocrinol Metab.* 2010 Dec;299(6):E953-8.
- <sup>128</sup> Giannotti G, Doerries C, Mocharia PS, Mueller MF, Bahlmann FH, Horvath T, Jiang H, Sorrentino SA, Steenken N, Manes C, Marzilli M, Rudolph KL, Luscher TF, Drexler H, Landmesser U. Impaired endothelial repair capacity of early endothelial progenitor cells in hypertension: relation to endothelial dysfunction. *Hypertension.* 2010 Jun;55(6):1389-97.
- <sup>129</sup> Cugini P, Baldoni F, De Rosa R, Pandolfi C, Colotto M, Buccarella PA, Zamparelli C, Bert D, Passini B, Roncoroni V, Sabino D, Capria A. Higher blood pressure load (baric impact) in normotensives with endothelial dysfunction: a parapsychological status of "pre-hypertension". *Clin Ter.* 2002 Sep-Oct;153(5):309-15.
- <sup>130</sup> Blandea MC, Barak M, Sowers J, Winer N. High-fat meal impairs vascular compliance in a subgroup of young healthy subjects. *Metabolism.* 2005 Oct;54(10):1337-44.
- <sup>131</sup> Sofola O, Knill A, Myers D, Hainsworth R, Drinkhill M. High-salt diet and responses of the pressurized mesenteric artery of the dog to noradrenaline and acetylcholine. *Clin Exp Pharmacol Physiol.* 2004 Oct;31(10):696-9.
- <sup>132</sup> Fiore MC, Jimenez PM, Cremonesi D, Juncos LI, Garcia AM. Status reverse renal inflammation and endothelial dysfunction induced by chronic high salt intake. *Am J Physiol Renal Physiol.* 2011 Aug;301(2):F623-70.
- <sup>133</sup> Lind L. Lipids and endothelium-dependent vasodilation—a review. *Lipids.* 2002 Jan;37(1):1-15.
- <sup>134</sup> Morieri P, Sevastian A, Ajzen S, Zanella MT, Plavnik F, Rubbo H, Abdalla ES. Nitric oxide, cholesterol oxides and endothelium-dependent vasodilation in plasma of patients with essential hypertension. *Braz J Med Biol Res.* 2002 Nov;35(11):1301-9.
- <sup>135</sup> Sasaki S, Higashi Y, Nakagawa K, Kimura M, Noma K, Sasaki S, Hara K, Matsura H, Goto C, Oshima T, Chayama K. A low-calorie diet improves endothelium-dependent vasodilation in obese patients with essential hypertension. *Am J Hypertens.* 2002 Apr;15(4 Pt 1):302-9.
- <sup>136</sup> Vaag A, Brøns C, Appel JS, Toubro S. Metabolic consequences of overeating. *Ugeskr Laeger.* 2006 Jan 9;168(2):183-7.
- <sup>137</sup> Gomes MB, Afonso FS, Cailleaux S, Almeida AL, Pinto LF, Tibirica E. Glucose levels observed in daily clinical practice induce endothelial dysfunction in the rabbit macro- and microcirculation. *Fundam Clin Pharmacol.* 2004 Jun;18(3):339-46.
- <sup>138</sup> Tran LT, Yuen VG, McNeill JH. The fructose-fed rat: a review on the mechanisms of fructose-induced insulin resistance and hypertension. *Mol Cell Biochem.* 2009 Dec;332(1-2):145-59.
- <sup>139</sup> Winer N, Sowers JR. Vascular compliance in diabetes. *Curr Diab Rep.* 2003 Jun;3(3):230-4.
- <sup>140</sup> Lin CL, Fang TC, Gueng MK. Vascular dilatory functions of ovo-lactovegetarians compared with omnivores. *Atherosclerosis.* 2001 Sep;158(1):247-51.
- <sup>141</sup> Katz DL, Nawaz H, Boukhail J, Giannamore V, Chan W, Ahmadi R, Sarrel PM. Acute effects of oats and vitamin E on endothelial responses to ingested fat. *Am J Prev Med.* 2001 Feb;20(2):124-9.
- <sup>142</sup> Suganuma H, Inakuma T. Protective effect of dietary tomatato against endothelial dysfunction in hypercholesterolemic mice. *Biochim Biophys Acta.* 1999 Jan;631(1):78-82.
- <sup>143</sup> Sato J, O'Brien T, Katusic ZS, Fu A, Nygren J, Singh R, Nair KS. Dietary antioxidants preserve endothelium dependent vasorelaxation in overfed rats. *Atherosclerosis.* 2002 Apr;161(2):327-33.
- <sup>144</sup> Ribeiro Jorge PA, Neyra LC, Ozaki RM, de Almeida E. Improvement in the endothelium-dependent relaxation in hypercholesterolemic rabbits treated with vitamin E. *Atherosclerosis.* 1998 Oct;140(2):333-9.
- <sup>145</sup> Browning JD, Reeves PG, O'Dell BL. Zinc deficiency in rats reduces the vasodilation response to bradykinin and prostacyclin. *J Nutr.* 1987 Mar;117(3):490-5.
- <sup>146</sup> Schuschke DA, Saari JT, Miller FN. A role for dietary copper in nitric oxide-mediated vasodilation. *Microcirculation.* 1995 Dec;2(4):371-6.
- <sup>147</sup> Covington MB. Omega-3 fatty acids. *Am Fam Physician.* 2004 Jul 1;70(11):133-40.
- <sup>148</sup> Beegg DP, Sinclair AJ, Stahl LA, Premaratna SD, Hafandi A, Jois M, Weisinger RS. Hypertension induced by omega-3 polyunsaturated fatty acid deficiency is alleviated by alpha-linolenic acid regardless of dietary source. *Hypertens Res.* 2010 Aug;33(8):808-13.
- <sup>149</sup> Zhang HY, Reddy S, Kotchen TA. A high sucrose, high linoleic acid diet potentiates hypertension in the Dahl salt sensitive rat. *Am J Hypertens.* 1999 Feb;12(2 Pt 1):183-7.
- <sup>150</sup> Ahrens RA. Reply to Dr. Walker. *Am J Clin Nutr.* 1975 Mar;28(3): 197-200.
- <sup>151</sup> United States Department of Agriculture, Office of Communications, Agriculture Fact Book 2001-2002, ISBN 001-000-04709-4.
- <sup>152</sup> Peti-Peterdi J. High glucose and renin release: the role of succinate and GPR91. *Kidney Int.* 2010 Dec;78(12):1214-7.
- <sup>153</sup> Meyer KA, Kushi LH, Jacobs DR Jr, Slavin J, Sellers TA, Folsom AR. Carbohydrates, dietary fiber, and incident type 2 diabetes in older women. *Am J Clin Nutr.* 2000 Apr;71(4):921-30.
- <sup>154</sup> Pavan L, Casiglia E, Braga LM, Winnick M, Puato M, Paulto P, Pessina AC. Effects of a traditional lifestyle on the cardiovascular risk profile: the Amondava population of the Brazilian Amazon. Comparison with matched African, Italian and Polish populations. *J Hypertens.* 1999 Jun;17(6):749-56.
- <sup>155</sup> Preuss HG, Fournier RD, Chieuh CC, Kopin IB, Knappa J, DiPette D, More NS, Rao NA. Refined carbohydrates affect blood pressure and renal vasculature in spontaneously hypertensive and Wistar-Kyoto rats. *J Hypertens Suppl.* 1986 Oct;4(3):S459-62.
- <sup>156</sup> Chen L, Caballero B, Mitchell DC, Loria C, Lin PH, Champagne CM, Elmer PJ, Ard JD, Batch BC, Anderson CA, Appel LJ. Reducing consumption of sugar-sweetened beverages is associated with reduced blood pressure: a prospective study among United States adults. *Circulation.* 2010 Jun 8;121(22):2398-406.
- <sup>157</sup> Ziemian SJ, Kass DA. Advanced glycation endproduct crosslinking in the cardiovascular system: potential therapeutic target for cardiovascular disease. *Drugs.* 2004;64(5):459-70.
- <sup>158</sup> Vasdev S, Gill V, Singal P. Role of advanced glycation end products in hypertension and atherosclerosis: therapeutic implications. *Cell Biochem Biophys.* 2007;49(1):48-63.
- <sup>159</sup> Anderson RA. Chromium and insulin resistance. *Nutr Res Rev.* 2003 Dec;16(2):267-75.
- <sup>160</sup> Rupp H. Insulin resistance, hyperinsulinemia, and cardiovascular disease. The need for novel dietary prevention strategies. *Basic Res Cardiol.* 1992 Mar-Apr;87(2):99-105.
- <sup>161</sup> Torimitsu M, Nagase R, Yanagi M, Homma M, Sasai Y, Ito Y, Hayamizu K, Nonaka S, Hosono T, Kise M, Seki T, Ariga T. Replacing white rice with pre-germinated brown rice mildly ameliorates hyperglycemia and imbalance of adipocytokine levels in type 2 diabetes model rats. *J Nutr Sci Vitaminol (Tokyo).* 2010;56(5):287-92.
- <sup>162</sup> Radhika G, Van Dam RM, Sudha V, Ganesan A, Mohan V. Refined grain consumption and the metabolic syndrome in urban Asian Indians (Chennai Urban Rural Epidemiology Study 57). *Metabolism.* 2009 May;58(5):675-81.
- <sup>163</sup> Kynde I, Johnsen NF, Wedderkopp N, Bybjerg IB, Helge JW, Heitmann BL. Intake of total dietary sugar and fiber is associated with insulin resistance among Danish 8-10- and 14-16-year-old girls but not boys. *European Youth Heart Studies I and II. Public Health Nutr.* 2010 Oct;13(10):1669-74.
- <sup>164</sup> Ferreira MdL R, Lombardo YB, Chicco A.  $\beta$ -Cell adaptation/dysfunction in an animal model of dyslipidemia and insulin resistance induced by the chronic administration of a sucrose-rich diet. *Islets.* 2010 Nov 1;6(6):367-73.
- <sup>165</sup> Dekker MJ, Su Q, Baker C, Rutledge AC, Adeli K. Fructose: a highly lipogenic nutrient implicated in insulin resistance, hepatic steatosis, and the metabolic syndrome. *Am J Physiol Endocrinol Metab.* 2010 Nov;299(5):E685-94.
- <sup>166</sup> Stanhope KL, Schwarz JM, Keim NL, Griffen SC, Bremer AA, Graham JL, Hatcher B, Cox CL, Dyachenko A, Zhang W, McGahan JP, Seiber A, Krauss RM, Chiu S, Schaefer EJ, Ai M, Tokozawa S, Nakajima K, Nakano T, Beyens C, Hellerstein MK, Berglund L, Havel PJ. Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans. *J Clin Invest.* 2009 May;119(5):1322-34.
- <sup>167</sup> Costa RR, Villalpando N, Souza MD, Boa BC, Cyrino FZ, Silva SV, Lisboa PC, Moura EG, Barja-Fidalgo TC, Bouskela E. High fat diet induces central obesity, insulin resistance and microvascular dysfunction in hamsters. *Microvasc Res.* 2011 Aug 25.
- <sup>168</sup> Bruns W. Treatment of type 2 (non-insulin dependent) diabetes and the metabolic syndrome with diet. *Z Gesamte Inn Med.* 1991 Oct;46(15):563-7.
- <sup>169</sup> Reaven GM. Insulin resistance: the link between obesity and cardiovascular disease. *Med Clin North Am.* 2011 Sep;95(5):875-92.

# Blue Print for Health and Healing

- 175 Robins SJ, Lyass A, Zachariah JP, Massaro JM, Vasan RS. Insulin resistance and the relationship of a dyslipidemia to coronary heart disease: the Framingham Heart Study. *Arterioscler Thromb Vasc Biol.* 2011 May;31(5):1208-14.
- 176 Lai TS, Curhan GC, Forman JP. Insulin resistance and risk of incident hypertension among men. *J Clin Hypertens (Greenwich).* 2009 Sep;11(9):483-90.
- 177 Sung KC, Lim S, Rosenson RS. Hyperinsulinemia and homeostasis model assessment of insulin resistance as predictors of hypertension: a 5-year follow-up study of Korean sample. *Am J Hypertens.* 2011 Sep;24(9):1041-5.
- 178 Kawamoto R, Kohara K, Tabara Y, Abe M, Kusunoki T, Miki T. Insulin resistance and prevalence of prehypertension and hypertension among community-dwelling persons. *J Atheroscler Thromb.* 2010 Feb 26;17(2):148-55.
- 179 Harte AL, McTernan PG, McTernan CL, Crocker J, Swczynski J, Barnett AH, Matyka K, Kumar S. Insulin increases angiotensinogen expression in human abdominal subcutaneous adipocytes. *Diabetes Obes Metab.* 2003 Nov;5(6):462-7.
- 180 Jalal DJ, Smits G, Johnson RJ, Chonchol M. Increased Fructose Associates with Elevated Blood Pressure. *J Am Soc Nephrol.* 2010 Sep;21(9):1543-9.
- 181 Winkelmayr WC, Stampfer MJ, Willett WC, Curhan GC. Habitual caffeine intake and the risk of hypertension in women. *JAMA.* 2005 Nov 9;294(18):2330-5.
- 182 Roberts HJ. Overlooked aspartame-induced hypertension. *South Med J.* 2008 Sep;101(9):969.
- 183 Ulbricht C, Isaac R, Milkin T, Poole EA, Rusie E, Grimes Serrano JM, Weissner W, Windsor RC, Woods J. An evidence-based systematic review of stevia by the Natural Standard Research Collaboration. *Cardiovasc Hematol Agents Med Chem.* 2010 Apr;8(2):113-27.
- 184 Lee CN, Wong KL, Liu JC, Chen YJ, Cheng JT, Chan P. Inhibitory effect of stevioside on calcium influx to produce antihypertension. *Phlanta Med.* 2001 Dec;67(9):796-9.
- 185 Peralta CA, Adeney KL, Shlipak MG, Jacobs D Jr, Duprez D, Bluemke D, Polak J, Psaty B, Kestenbaum BR. Structural and functional vascular alterations and incident hypertension in normotensive adults: the Multi-Ethnic Study of Atherosclerosis. *Am J Epidemiol.* 2010 Jan 1;171(1):63-71.
- 186 Al-Nimer MS, Hussein II, Lasso WS. Subtype of hypertension is evidence for preclinical atherosclerosis. A study of carotid artery ultrasonography and biochemical markers. *Neurosciences (Riyadh).* 2010 Apr;15(2):79-83.
- 187 Floras JS. Hypertension, sleep apnea, and atherosclerosis. *Hypertension.* 2009 Jan;53(1):1-3.
- 188 Li JJ, Chen JL. Inflammation may be a bridge connecting hypertension and atherosclerosis. *Med Hypotheses.* 2005;64(5):925-9.
- 189 Mattace-Raso FJ, Verwoert GC, Hofman A, Witteman JC. Inflammation and incident-isolated systolic hypertension in older adults: the Rotterdam study. *J Hypertens.* 2010 May;28(5):892-5.
- 190 Zhang Y, Thompson AM, Tong W, Xu T, Chen J, Zhao L, Kelly TN, Chen CS, He J. Biomarkers of inflammation and endothelial dysfunction and risk of hypertension among Inner Mongolians in China. *J Hypertens.* 2010 Jan;28(1):35-40.
- 191 Bussemaker EJ, Hillbrand U, Hausberg M, Pavenstäd H, Oberhelmer H. Pathogenesis of hypertension: interactions among sodium, potassium, and aldosterone. *Am J Kidney Dis.* 2010 Jun;55(6):1111-20.
- 192 MacGregor GA, Smith SJ, Markandu ND, Sagnella GA. Does increasing potassium intake lower blood pressure in essential hypertension? *J Cardiovasc Pharmacol.* 1984;6 Suppl 1:524-9.
- 193 Haddy FJ. Role of dietary salt in hypertension. *Life Sci.* 2006 Sep 20;79(17):1585-92.
- 194 Lenda DM, Boegehold MA. Effect of a high salt diet on microvascular antioxidant enzymes. *J Vasc Res.* 2002 Jan-Feb;39(1):41-50.
- 195 Chandramohan G, Bai Y, Norris K, Rodriguez-Iturbe B, Vaziri ND. Effects of dietary salt on intrarenal angiotensin system, NAD(P)H oxidase, COX-2, MCP-1 and PAI-1 expressions and NF-kappaB activity in salt-sensitive and -resistant rat kidneys. *Am J Nephrol.* 2008;28(1):158-67.
- 196 Navas-Acien A, Guallar E, Silbergeld EK, Rothenberg SJ. Lead exposure and cardiovascular disease—a systematic review. *Environ Health Perspect.* 2007 Mar;115(3):472-82.
- 197 Kwok RK, Mendola P, Liu ZY, Savitz DA, Heiss G, Ling HL, Xia Y, Lobdell D, Zeng D, Thorp JM Jr, Creason JP, Mumford JL. Drinking water arsenic exposure and blood pressure in healthy women of reproductive age in Inner Mongolia, China. *Toxicol Appl Pharmacol.* 2007 Aug 1;222(3):337-43.
- 198 Ross EA, Szabo NJ, Tebbett IR. Lead content of calcium supplements. *JAMA.* 2000 Sep 20;284(11):1425-9.
- 199 Chen CJ, Wang SL, Chiou JM, Tseng CH, Chiou HY, Hsueh YM, Chen SY, Wu MM, Lai MS. Arsenic and diabetes and hypertension in human populations: a review. *Toxicol Appl Pharmacol.* 2007 Aug 1;222(3):298-304.
- 200 Sullivan MJ, Levey S. Heavy metals in bottled natural spring water. *J Environ Health.* 2011 Jun;73(10):8-13.
- 201 Taylor DA. Funky chicken: consumers exposed to arsenic in poultry. *Environ Health Perspect.* 2004 Jan;112(1):A50.
- 202 Holcman A, Stibilj V. Arsenic residues in eggs from laying hens fed with a diet containing arsenic (III) oxide. *Arch Environ Contam Toxicol.* 1997 May;32(4):407-10.
- 203 Lasky T, Sun W, Kadry A, Hoffman MK. Mean total arsenic concentrations in chicken 1989-2000 and estimated exposures for consumers of chicken. *Environ Health Perspect.* 2004 Jan;112(1):18-21.
- 204 Choi BS, Choi SJ, Kim DW, Huang M, Kim NY, Park KS, Kim CY, Lee HM, Yum YN, Han ES, Kang TS, Yu JJ, Park JD. Effects of repeated seafood consumption on urinary excretion of arsenic species by volunteers. *Arch Environ Contam Toxicol.* 2010 Jun;58(1):22-9.
- 205 Wu L, Noyan Ashraf MH, Wang R, Paterson PG, Ferrie A, Juurlink BH. Dietary approach to attenuate oxidative stress, hypertension, and inflammation in the cardiovascular system. *Proc Natl Acad Sci U S A.* 2004 May 4;101(18):7094-9.
- 206 Seaman DR. The diet-induced proinflammatory state: a cause of chronic pain and other degenerative diseases? *J Manipulative Physiol Ther.* 2002 Mar-Apr;25(3):168-79.
- 207 Azadbakht L, Surkan PJ, Esmailzadeh A, Willett WC. The Dietary Approaches to Stop Hypertension eating plan affects C-reactive protein, coagulation abnormalities, and hepatic function tests among type 2 diabetic patients. *J Nutr.* 2011 Jun;141(6):1083-8.
- 208 Ceriello A, Giugliano D, Quattraro A, Lefebvre PJ. Anti-oxidants show an anti-hypertensive effect in diabetic and hypertensive subjects. *Clin Sci (Lond).* 1991 Dec;81(6):739-42.
- 209 Agarwal D, Haque M, Sriramaula S, Mariappan N, Pariat R, Francis J. Role of proinflammatory cytokines and redox homeostasis in exercise-induced delayed progression of hypertension in spontaneously hypertensive rats. *Hypertension.* 2009 Dec;54(6):1393-400.
- 210 Desvarieux M, Demmer RT, Jacobs DR Jr, Rundek T, Boden-Albala B, Sacco RL, Papapanou PN. Periodontal bacteria and hypertension: the oral infections and vascular disease epidemiology study (INVEST). *J Hypertens.* 2010 Jul;28(7):1413-21.
- 211 Paulis L, Pechanova O, Zicha J, Barta A, Gardlik R, Celec P, Kunes J, Simko F. Melatonin interactions with blood pressure and vascular function during L-NAME-induced hypertension. *J Pineal Res.* 2010 Mar;48(2):102-8.
- 212 Reiter RJ, Korkmaz A. Clinical aspects of melatonin. *Saudi Med J.* 2008 Nov;29(11):1537-47.
- 213 Geolley J, Chamrath K, Kulkarni KA, Khalsa SB, Rajaratnam SM, Van Reen E, Zeitzer JM, Zeisler CA, Lockley SW. Exposure to Room Light before Bedtime Suppresses Melatonin Onset and Shortens Melatonin Duration in Humans. *J Clin Endocrinol Metab.* 2011 Mar;96(3):E463-72.
- 214 Simko F, Pechanova O, Pelouch V, Krajcovicova K, Celec P, Palffy R, Bednarova K, Vrankova S, Adamcova M, Paulis L. Continuous light and L-NAME-induced left ventricular remodeling: different protection with melatonin and captopril. *J Hypertens.* 2010 Sep;28 Suppl 1:S13-8.
- 215 Forman JP, Curhan GC, Schernhammer ES. Urinary melatonin and risk of incident hypertension among young women. *J Hypertens.* 2010 Mar;28(3):446-51.
- 216 Reiter RJ, Tan DX, Korkmaz A. The circadian melatonin rhythm and its modulation: possible impact on hypertension. *J Hypertens Suppl.* 2009 Aug;27(6):S17-20.
- 217 McCubbin JA, Pilcher JF, Moore DD. Blood Pressure Increases During a Simulated Night Shift in Persons at Risk for Hypertension. *Int J Behav Med.* 2010 Dec;17(4):314-20.
- 218 Su TC, Lin LY, Baker D, Schnall PL, Chen MF, Hwang WC, Chen CF, Wang JD. Elevated blood pressure, decreased heart rate variability and incomplete blood pressure recovery after a 12-hour night shift work. *J Occup Health.* 2008;50(5):380-6.
- 219 Calhoun DA, Harding SM. Sleep and hypertension. *Chest.* 2010 Aug;138(2):434-43.
- 220 Steffen LM, Kroenke CH, Yu X, Pereira MA, Slaterry ML, Van Horn L, Gross MD, Jacobs DR Jr. Associations of plant food, dairy product, and meat intakes with 15-y incidence of elevated blood pressure in young black and white adults: the Coronary Artery Risk Development in Young Adults (CARDIA) Study. *Am J Clin Nutr.* 2005 Dec;82(6):1169-77.
- 221 Burch GE. Pork and hypertension. *Am Heart J.* 1973 Nov;86(5):713-4.
- 222 Leviticus 11:7 King James Version of The Holy Bible.
- 223 Ivan A, Groll M, Duda R, Hurjui J, Serban F, Mitroi I. Interventions associated with some risk factors for essential arterial hypertension. I. Epidemiologic observations in adults. *Rev Med Chir Soc Med Nat Iasi.* 1989 Apr-Jun;93(2):309-13.
- 224 Polovinkina OV, Oshchepkova EV, Dmitriev VA, Titov VN. Role of uric acid in development of essential hypertension: modern conceptions. *Ter Arkh.* 2011;83(8):38-41.
- 225 Zhang L, Curhan GC, Forman JP. Diet-dependent net acid load and risk of incident hypertension in United States women. *Hypertension.* 2009 Oct;54(4):751-5.
- 226 Remer T, Miani F. Potential renal acid load of foods and its influence on urine pH. *J Am Diet Assoc.* 1995 Jul;95(7):791-7.
- 227 Mellen PB, Bleyer AJ, Erlinger TP, Evans GW, Nieto FJ, Wagenknecht LE, Wofford MR, Herrington DM. Serum uric acid predicts incident hypertension in a biethnic cohort: the atherosclerosis risk in communities study. *Hypertension.* 2006 Dec;48(6):1037-42.
- 228 Chuang SY, Lee SC, Hsieh YT, Pan WH. Trends in hyperuricemia and gout prevalence: Nutrition and Health Survey in Taiwan from 1993-1996 to 2005-2008. *Asia Pac J Clin Nutr.* 2011;20(2):301-8.
- 229 Villegas R, Xiang YB, Elasy T, Xu WH, Cai H, Cai Q, Linton MF, Fazio S, Zheng W, Shu XO. Purine-rich foods, protein intake, and the prevalence of hyperuricemia: The Shanghai Men's Health Study. *Nutr Metab Cardiovasc Dis.* 2011 Jan 27.
- 232 Nguyen S, Choi HK, Lustig RH, Hsu CY. Sugar-sweetened beverages, serum uric acid, and blood pressure in adolescents. *J Pediatr.* 2009 Jun;154(6):807-13.
- 233 Ka T, Moriwaki Y, Inokuchi T, Yamamoto A, Takahashi S, Tsutsumi Z, Yamamoto T. Effects of allopurinol on beer-induced increases in plasma concentrations and urinary excretion of purine bases (uric acid, hypoxanthine, and xanthine). *Horm Metab Res.* 2006 Mar;38(3):188-92.
- 234 Aras B, Kalfazade N, Tuğcu V, Kemahli E, Ozbay B, Polat H, Taşci AI. Can lemon juice be an alternative to potassium citrate in the treatment of urinary calcium stones in patients with hypocitraturia? A prospective randomized study. *Urol Res.* 2008 Dec;36(6):313-7.
- 235 Jacob RA, Spinozzi GM, Simon VA, Kelley DS, Prior RL, Hess-Pierce B, Kader AA. Consumption of cherries lowers plasma urate in healthy women. *J Nutr.* 2003 Jun;133(6):1826-9.
- 236 Tullipani S, Mezzetti B, Battino M. Impact of strawberries on human health: insight into marginally discussed bioactive compounds for the Mediterranean diet. *Public Health Nutr.* 2009 Sep;12(9A):1656-62.
- 237 Pamplona-Roger, GD. ENCYCLOPEDIA OF FOODS AND THEIR HEALING POWER, Hagerstown Maryland, Review & Herald Publishing association, 2004.
- 238 Taylor B, Irving HM, Ballunas D, Roerecke M, Patra J, Mohapatra S, Rehm J. Alcohol and hypertension: gender differences in dose-response relationships determined through systematic review and meta-analysis. *Addiction.* 2009 Dec;104(12):1981-90.
- 239 Ueshima H, Shimamoto T, Iida M, Konishi M, Tanigaki M, Doi M, Tsujioka K, Nagano E, Tsuda C, Ozawa H, et al. Alcohol intake and hypertension among urban and rural Japanese populations. *J Chronic Dis.* 1984;37(7):585-92.
- 240 Proverbs 20:1. King James Version of The Holy Bible.
- 241 Teixeira Rde C, Moggio Mdel C, Zandonade E, Mill JG. Cardiovascular risk in vegetarians and omnivores: a comparative study. *Arg Bras Cardiol.* 2007 Oct;39(4):237-44.
- 242 Carvalho JI, Baruzzi RG, Howard PF, Poulter N, Alpers MP, Franco LJ, Marcopito LF, Spooner VJ, Dyer AR, Elliott P, Stamler J, Stamler R. Blood pressure in four remote populations in the INTERSALT Study. *Hypertension.* 1989 Sep;14(3):238-46.
- 243 Pavan L, Casiglia E, Braga LM, Winnicki M, Puato M, Pualetto P, Pessina AC. Effects of a traditional lifestyle on the cardiovascular risk profile: the Amondava population of the Brazilian Amazon. Comparison with matched African, Italian and Polish populations. *J Hypertens.* 1999 Jun;17(6):749-56.
- 244 Appleby PN, Davey GK, Key TJ. Hypertension and blood pressure among meat eaters, fish eaters, vegetarians and vegans in EPIC-Oxford. *Public Health Nutr.* 2002 Oct;5(5):645-54.
- 245 Fraser GE. Vegetarian diets: what do we know of their effects on common chronic diseases? *Am J Clin Nutr.* 2009 May;89(5):1607S-1612S.
- 246 Lindahl O, Lindvall L, Spångberg A, Stenram A, Ockerman PA. A vegan regimen with reduced medication in the treatment of hypertension. *Br J Nutr.* 1984 Jul;52(1):11-20.
- 247 Alonso A, de la Fuente C, Martiñ-Arnau AM, de Irala J, Martiñez JA, Martiñez-González MA. Fruit and vegetable intake is inversely associated with blood pressure in a Mediterranean population with a high vegetable-fat intake: the Segimiento Universidad de Navarra (SUN) Study. *Br J Nutr.* 2004 Aug;92(2):311-9.
- 248 Dauchet L, Czernichow S, Bertrais S, Blacher J, Galan P, Hercberg S, SFHTA. Fruits and vegetables intake in the SU.VI.MAX study and systolic blood pressure change. *Arch Mal Coeur Vaiss.* 2006 Jul-Aug;99(7-8):669-73.
- 249 He K, Song Y, Belin RJ, Chen Y. Magnesium intake and the metabolic syndrome: epidemiologic evidence to date. *J Cardiovasc Syndr.* 2006 Fall;1(5):351-5.
- 250 D. Tsi and B. K. H. Tan Cardiovascular Pharmacology of 3-n-butylphthalide (found in celery) in Spontaneously Hypertensive Rats *Phytotherapy Research*, Dec 1997, 11(8), 576-582.
- 251 Gilani AH, Shaheen E, Saeed SA, Bibi S, Irfanullah, Sadiq M, Faizi S. Hypotensive action of coumarin glycosides from *Daucus carota*. *Phytochemistry.* 2000 Oct;7(5):423-6.
- 252 Tappell LC, Hemphill I, Cobiac L, Patch CS, Sullivan DR, Fenech M, Roodenrys S, Keogh JB, Clifton PM, Williams PG, Fazio VA, Inge K. Health benefits of herbs and spices: the past, the present, the future. *Med J Aust.* 2006 Aug 21;185(4 Suppl):54-24.
- 253 Wu L, Noyan Ashraf MH, Facci M, Wang R, Paterson PG, Ferrie A, Juurlink BH. Dietary approach to attenuate oxidative stress, hypertension, and inflammation in the cardiovascular system. *Proc Natl Acad Sci U S A.* 2004 May 4;101(18):7094-9.
- 254 Ferreira LF, Behnke BJ. A toast to health and performance! Beetroot juice lowers blood pressure and the O2 cost of exercise. *J Appl Physiol.* 2011 Mar;110(3):585-6.
- 255 Umar A, Imam G, Yimin W, Kerim P, Tohti I, Berke B, Moore N. Antihypertensive effects of *Ocimum basilicum* L. (OBL) on blood pressure in renovascular hypertensive rats. *Hypertens Res.* 2010 Jul;33(7):727-30.
- 256 Sobenin IA, Andrianova IV, Fomchenkov IV, Gorchakova TV, Orekhov AN. Time-released garlic powder tablets lower systolic and diastolic blood pressure in men with mild and moderate arterial hypertension. *Hypertens Res.* 2009 Jun;32(6):433-7.
- 257 Kawamoto E, Saito Y, Okamura Y, Yamamoto Y. Effects of boiling on the antihypertensive and antioxidant activities of onion. *J Nutr Sci Vitaminol (Tokyo).* 2004 Jun;50(3):171-6.
- 258 Utsugi MT, Okhubo T, Kikuya M, Kurimoto A, Sato RI, Suzuki K, Metoki H, Hara A, Tsubono Y, Imai Y. Fruit and vegetable consumption and the risk of hypertension determined by self measurement of blood pressure at home: the Ohasama study. *Hypertens Res.* 2008 Jul;31(7):1435-43.
- 259 Kwon YJ, Apostolides E, Shetty K. In vitro studies of eggplant (*Solanum melongena*) phenolics as inhibitors of key enzymes relevant for type 2 diabetes and hypertension. *Bioresour Technol.* 2008 May;99(8):2981-8.
- 260 Paran E, Novack V, Engelhart YN, Hazan-Halevy I. The effects of natural antioxidants from tomato extract in treated but uncontrolled hypertensive patients. *Cardiovasc Drugs Ther.* 2009 Apr;23(2):145-51.
- 261 Kwon YJ, Apostolides E, Kim YC, Shetty K. Health benefits of traditional corn, beans, and pumpkin: in vitro studies for hyperglycemia and hypertension management. *J Med Food.* 2007 Jun;10(2):266-75.
- 262 Apostolides E, Kwon YJ, Shetty K. Potential of cranberry-based herbal synergies for diabetes and hypertension management. *Asia Pac J Clin Nutr.* 2006;15(3):433-41.
- 263 Sasaki N. Life styles and blood pressure: the protective effect of apple-eating habits on high blood pressure in a high-salt population. *Nippon Eiseigaku Zasshi.* 1990 Dec;45(5):954-63.
- 264 Aviram M, Rosenblat M, Gaitini D, Nitecki S, Hoffman A, Dornfeld L, Volkova N, Presser D, Attias J, Liker H, Hayek T. Pomegranate juice consumption for 3 years by patients with carotid artery stenosis reduces common carotid intima-media thickness, blood pressure and LDL oxidation. *Clin Nutr.* 2004 Jun;23(3):423-33.
- 265 Diaz-Juarez JA, Tenorio-López FA, Zarco-Olvera G, Valle-Mondragón LD, Torres-Narváez JC, Pastelin-Hernández G. Effect of Citrus paradisi extract and juice on arterial pressure both in vitro and in vivo. *Phytother Res.* 2009 Jul;23(7):94-54.
- 266 Gilani AH, Khan AU, Shah AJ, Connor J, Jabeen Q. Blood pressure lowering effect of olive is mediated through calcium channel blockade. *Int J Food Sci Nutr.* 2005 Dec;56(8):613-20.
- 267 Galan P, Vergnaud AC, Zoulaki I, Buyck JF, Blacher J, Czernichow S, Hercberg S. Low total and nonheme iron intakes are associated with a greater risk of hypertension. *J Nutr.* 2010 Jan;140(1):75-80.
- 268 Krishna GG. Role of potassium in the pathogenesis of hypertension. *Am J Med Sci.* 1994 Feb;307 Suppl 1:S21-5.
- 269 Dyckner T, Wester PO. Potassium/magnesium depletion in patients with cardiovascular disease. *Am J Med.* 1987 Mar 20;82(3A):1-17.
- 270 Hajjar IM, Grim CE, Kotchen TA. Dietary calcium lowers the age-related rise in blood pressure in the United States: the NHANES III survey. *J Clin Hypertens (Greenwich).* 2003 Mar-Apr;5(2):122-6.
- 271 Temple NJ. Refined carbohydrates - a cause of suboptimal nutrient intake. *Med Hypotheses.* 1983 Apr;10(4):411-24.
- 272 Aliabadi H. A deleterious interaction between copper deficiency and sugar ingestion may be the missing link in heart disease. *Med Hypotheses.* 2008;70(6):1163-6.
- 273 Johnson S. The multifaceted and widespread pathology of magnesium deficiency. *Med Hypotheses.* 2001 Feb;5(2):163-70.
- 274 Sakata K, Matsumura Y, Yoshimura N, Tamaki J, Hashimoto T, Oguri S, Okayama A, Yanagawa H. Relationship between skipping breakfast and cardiovascular disease risk factors in the national nutrition survey data. *Nippon Koshu Eisei Zasshi.* 2001 Oct;48(10):837-41.
- 275 Caster WO, Parthemous MD. Growth, hemoglobin, cholesterol, and blood pressure observed in rats fed common breakfast cereals. *Am J Clin Nutr.* 1976 May;29(5):529-34.
- 276 Ascherio A, Hennekens C, Willett WC, Sacks F, Rosner B, Manson J, Witztman J, Stampfer MJ. Prospective study of nutritional factors, blood pressure, and hypertension among US women. *Hypertension.* 1996 May;27(5):1065-72.
- 277 Alonso A, Beunza JJ, Bes-Rastrollo M, Pajares RM, Martínez-González MA. Vegetable protein and fiber from cereal are inversely associated with the risk of hypertension in a Spanish cohort. *Arch Med Res.* 2006 Aug;37(6):778-86.
- 278 Anderson JW. Plant fiber and blood pressure. *Ann Intern Med.* 1983 May;98(5 Pt 2):842-6.
- 279 Miller WL, Crabtree BF, Evans DK. Exploratory study of the relationship between hypertension and diet diversity among Saba Islanders. *Public Health Rep.* 1992 Jul-Aug;107(4):426-32.
- 280 Djouss L, Rudich T, Gaziano JM. Nut consumption and risk of hypertension in US male physicians. *Clin Nutr.* 2009 Feb;28(1):10-4.
- 281 Welty FK, Lee KS, Lew NS, Zhou JR. Effect of soy nuts on blood pressure and lipid levels in hypertensive, prehypertensive, and normotensive postmenopausal women. *Arch Intern Med.* 2007 May 28;167(10):1060-7.
- 282 Block G, Jensen DC, Norkus EP, Hudes M, Crawford PB. Vitamin C in plasma is inversely related to blood pressure and change in blood pressure during the previous year in young Black and White women. *Nutr J.* 2008 Dec 17;7:35.
- 283 Kim MK, Sasaki S, Sasazuki S, Okubo S, Hayashi M, Tsugane S. Lack of long-term effect of vitamin C supplementation on blood pressure. *Hypertension.* 2002 Dec;40(6):797-803.
- 284 Hsieh YC, Hung CT, Lien LM, Bai CH, Chen WH, Yeh CY, Chen YH, Hsieh FJ, Chiu HC, Chiou HY, Hsu CY. A significant decrease in blood pressure during a family-based nutrition health education program among community residents in Taiwan. *Public Health Nutr.* 2009 Apr;12(4):570-7.

# References

290 Shintani TT, Beckham S, Brown AC, O'Connor HK. The Hawaii Diet: ad libitum high carbohydrate, low fat multi-cultural diet for the reduction of chronic disease risk factors: obesity, hypertension, hypercholesterolemia, and hyperglycemia. *Hawaii Med J.* 2001 Mar;60(3):69-73.

291 Douglas JM, Rasgon IM, Fleiss PM, Schmidt RD, Peters SN, Abelmann EA. Effects of a raw food diet on hypertension and obesity. *South Med J.* 1985 Jul;78(7):841-4.

292 Genesis 1:29; 3:18, King James Version of The Holy Bible.

293 White. EG. Counsels on Diet and Foods, Hagerstown Maryland, Review & Herald Publishing association (1938). [http://wordoftruth.seedoftruth.net/downloads/counsels\\_on\\_diet\\_and\\_foods](http://wordoftruth.seedoftruth.net/downloads/counsels_on_diet_and_foods)

294 Proverbs 23:2, King James Version of The Holy Bible.

295 Antic V, Dulloo A, Montani JP. Short-term (5-day) changes in food intake alter daily hemodynamics in rabbits. *Am J Hypertens.* 2003 Apr;16(4):302-6.

296 Ren J. Leptin and hyperleptinemia - from friend to foe for cardiovascular function. *J Endocrinol.* 2004 Apr;181(1):1-10.

297 Ecclesiastes 10:17 King James Version of The Holy Bible.

298 Dolinsky VW, Morton JS, Oka T, Robillard-Frayne I, Bagdan M, Lopuschuk GD, Des Rosiers C, Walsh K, Davidge ST, Dyck JR. Calorie restriction prevents hypertension and cardiac hypertrophy in the spontaneously hypertensive rat. *Hypertension.* 2010 Sep;56(3):412-21.

299 Sharifi AM, Mohseni S, Nekoparvar S, Larjani B, Fakhrazadeh H, Oryan S. Effect of caloric restriction on nitric oxide production, ACE activity, and blood pressure regulation in rats. *Acta Physiol Hung.* 2008 Mar;95(1):55-63.

300 McCarty MF. A preliminary fast may potentiate response to a subsequent low-salt, low-fat vegan diet in the management of hypertension - fasting as a strategy for breaking metabolic vicious cycles. *Med Hypotheses.* 2003 May;60(5):624-33.

301 Goldhamer AC, Lisle DJ, Sultana P, Anderson SV, Parpia B, Hughes B, Campbell TC. Medically supervised water-only fasting in the treatment of borderline hypertension. *J Altern Complement Med.* 2002 Oct;8(5):643-50.

302 Andersson B, Wallin G, Hedner T, Ahlberg AC, Andersson OK. Acute effects of short-term fasting on blood pressure, circulating noradrenaline and efferent sympathetic nerve activity. *Acta Med Scand.* 1988;223(6):485-90.

303 Gharbi N, Mornagui B, El-Fazaas S, Kamoun A, Gharib C. Effect of dehydration on nitric oxide, corticotropic and vasopressinergic axis in rat. *C R Biol.* 2004 Jan;327(1):12-20.

304 Miyake Y, Kuzuya K, Ueno C, Katayama N, Hayakawa T, Tsuge H, Osawa T. Suppressive Effect of Components in Lemon Juice on Blood Pressure in Spontaneously Hypertensive Rats *Food Sci. Technol. Int.* Tokyo, 4 (1), 29-32, 1998.

305 Inoue T, Iseki K, Iseki C, Kinjo K, Ohya Y, Takishita S. Higher heart rate predicts the risk of developing hypertension in a normotensive screened cohort. *Circ J.* 2007 Nov;71(11):1755-60.

306 Pirowska A, Piotrowski W, Pieta G, Drygas W, Gluszek I, Zdrojewski T, Kozakiewicz K, Stepaniak U, Bandosz P. The relationship between resting heart rate and atherosclerosis risk factors. *Kardiol Pol.* 2008 Oct;66(10):1069-75.

307 Tan Y, Gan Q, Kneuper MM. Central alpha-adrenergic receptors and corticotropin releasing factor mediate hemodynamic responses to acute cold stress. *Brain Res.* 2003 Apr 4;968(1):122-9.

308 Tomoda F, Takata M, Kagitani S, Kinuno H, Yasumoto K, Tomita S, Inoue H. Different platelet aggregability during mental stress in two stages of essential hypertension. *Am J Hypertens.* 1999 Nov;12(11 Pt 1):1063-70.

309 Markovitz JH, Matthews KA, Kannel WB, Cobb JL, D'Agostino RB. Psychological predictors of hypertension in the Framingham Study. Is there tension in hypertension? *JAMA.* 1993 Nov 24;270(20):2439-43.

310 Matthew 6:34. King James Version of The Holy Bible.

311 Lal N, Ahuja RC, Madhukar. Life events in hypertensive patients. *J Psychosom Res.* 1982;26(4):441-5.

312 Guo ZC. The matched case-control study of the risk factors associated with edema-proteinuria hypertension syndrome (EPHS). *Zhonghua Liu Xing Bing Xue Za Zhi.* 1992 Dec;13(6):351-4.

313 Gasperin D, Netuveli G, Dias-da-Costa JS, Pattussi MP. Effect of psychological stress on blood pressure increase: a meta-analysis of cohort studies. *Cad Saude Publica.* 2009 Apr;25(4):715-26.

314 Everson SA, Goldberg DE, Kaplan GA, Julkunen J, Salonen JT. Anger expression and incident hypertension. *Psychosom Med.* 1998 Nov-Dec;60(6):730-5.

315 Player MS, King DE, Mainous AG 3rd, Geesey ME. Psychosocial factors and progression from prehypertension to hypertension or coronary heart disease. *Ann Fam Med.* 2007 Sep-Oct;5(5):403-11.

316 Proverbs 16:32, King James Version of The Holy Bible.

317 Blanchflower DG, Oswald AJ. Hypertension and happiness across nations. *J Health Econ.* 2008 Mar;27(2):218-33.

318 Linden W, Lenz JW, Con AH. Individualized stress management for primary hypertension: a randomized trial. *Arch Intern Med.* 2001 Apr 23;161(8):1071-80.

319 Theorell T, Emlund N. On physiological effects of positive and negative life changes—a longitudinal study. *J Psychosom Res.* 1993 Sep;37(6):653-9.

320 John 8:3. King James Version of The Holy Bible.

321 John 4:18. King James Version of The Holy Bible.

322 Luke 12:22-31. King James Version of The Holy Bible.

323 Gerin W, Davidson KW, Christenfeld NJ, Goyal T, Schwartz JE. The role of angry rumination and distraction in blood pressure recovery from emotional arousal. *Psychosom Med.* 2006 Jan-Feb;68(1):64-72.

324 Philipians 3:13. King James Version of The Holy Bible.

325 Gao X, Nelson ME, Tucker KL. Television viewing is associated with prevalence of metabolic syndrome in Hispanic elders. *Diabetes Care.* 2007 Mar;30(3):694-700.

326 Halanayh JH, Safford MM, Kertesz SG, Pletcher MK, Kim YJ, Person SD, Lewis CE, Kiefe CI. Alcohol consumption in young adults and incident hypertension: 20-year follow-up from the Coronary Artery Risk Development in Young Adults Study. *Am J Epidemiol.* 2010 Mar 1;171(5):532-9.

327 Himmelstein DU, Thorne D, Warren E, Woolhandler S. Medical bankruptcy in the United States, 2007: results of a national study. *Am J Med.* 2009 Aug;122(8):741-6.

328 Siegrist J. Effort-reward imbalance at work and cardiovascular diseases. *Int J Occup Med Environ Health.* 2010;23(3):279-85.

329 Vrijkotte TG, van Doornen LJ, de Geus EJ. Effects of work stress on ambulatory blood pressure, heart rate, and heart rate variability. *Hypertension.* 2000 Apr;35(4):880-6.

330 Garcia-vera MP, Sanz J, Espinosa R, Fortun M, Magan I. Differences in emotional personality traits and stress between sustained hypertension and normotension. *Hypertens Res.* 2010 Mar;33(3):203-8.

331 Mezzick EJ, Matthews KA, Hall M, Kamarck TW, Stroloff PJ, Buysse DJ, Owens JF, Reis SE. Low life purpose and high hostility are related to an attenuated decline in nocturnal blood pressure. *Health Psychol.* 2010 Mar;29(2):196-204.

332 Holt-Lunstad J, Uchino BN, Smith TW, Hicks A. On the importance of relationship quality: the impact of ambivalence in friendships on cardiovascular functioning. *Ann Behav Med.* 2007 Jun;33(3):278-90.

333 Spitzer SB, Labre MM, Ironson GH, Gellman MD, Schneiderman N. The influence of social situations on ambulatory blood pressure. *Hypertension.* 1992 Jan-Feb;54(1):79-86.

334 Allen K, Blascovich J, Mendes WB. Cardiovascular reactivity and the presence of pets, friends, and spouses: the truth about cats and dogs. *Psychosom Med.* 2002 Sep-Oct;64(5):727-39.

335 Zanini CR, Jardim PC, Salgado CM, Nunes MC, Urzêda FL, Carvalho MV, Pereira DA, Jardim Tde S, Souza WK. Music therapy effects on the quality of life and the blood pressure of hypertensive patients. *Arq Bras Cardiol.* 2009 Nov;93(5):534-40.

336 Chafin S, Roy M, Gerin W, Christenfeld N. Music can facilitate blood pressure recovery from stress. *Br J Health Psychol.* 2004 Sep;9(3):393-403.

337 Sobngwi E, Mbanya JC, Unwin NC, Porcher R, Kengne AP, Fezeu L, Minkoulou EM, Tournoux C, Gautier JF, Aspray TJ, Alberti K. Exposure over the life course to an urban environment and its relation with obesity, diabetes, and hypertension in rural and urban Cameroon. *Int J Epidemiol.* 2004 Aug;33(4):769-76.

338 Mordukhovich I, Wilker E, Suh H, Wright R, Sparrow D, Vokonas PS, Schwartz J. Black carbon exposure, oxidative stress genes, and blood pressure in a repeated-measures study. *Environ Health Perspect.* 2009 Nov;117(11):1767-72.

339 Wiecek A, Kokot F. Does industrial environment influence the prevalence of arterial hypertension, plasma cholesterol and uric acid concentration and activity of the renin-aldosterone system? *Przegl Lek.* 1996;53(4):356-9.

340 Chang TY, Su TC, Lin SY, Jain RM, Chan CC. Effects of occupational noise exposure on 24-hour ambulatory vascular properties in male workers. *Environ Health Perspect.* 2007 Nov;115(11):1660-4.

341 Haralabidis AS, Dimakopoulou K, Vigna-Taglianti F, Giampaolo M, Borgini A, Dudley ML, Pershagen G, Blumh G, Houthuys D, Babich W, Velonakis M, Katsouyanni K, Jarup L; HYENA Consortium. Acute effects of night-time noise exposure on blood pressure in populations living near airports. *Eur Heart J.* 2008 Mar;29(5):658-64.

342 Psalms 46:10. King James Version of The Holy Bible.

343 Belojevic GA, Jakovljevic BD, Stojanov JV, Stepećević VZ, Pاونović KZ. Nighttime road-traffic noise and arterial hypertension in an urban population. *Hypertens Res.* 2008 Apr;31(4):775-81.

344 Hartig T, Evans GW, Jamner LD, David DS, Garlinge T. Tracking restoration in natural and urban field settings. *J Environ Psychol.* 2003 23(2):109-23.

345 Lohr VJ, Pearson-Mims CH, Goodwin GK. Interior Plants May Improve Worker Productivity and Reduce Stress in a Windowless Environment. *J. Environ. Hort.* 14(2):97-100. June 1996

346 Park SH, Mattson RH. Ornamental indoor plants in hospital rooms enhanced health outcomes of patients recovering from surgery. *J Altern Complement Med.* 2009 Sep;15(9):975-80.

347 Burr JA, Tavares J, Mutchler JE. Volunteering and Hypertension Risk in Later Life. *J Aging Health.* 2011 Feb;23(1):24-51.

348 Acts 20:35. King James Version of The Holy Bible.

349 Sullivan PA. Procoagulant and proinflammatory effects of acute stress. Schoonhoven S, Levine D, van der Meulen J, Bornheimer JF. Anger, anxiety, guilt and increased basal and stress-induced neurogenic tone: causes or effects in primary hypertension? *Clin Sci (Lond).* 1981 Dec;61 Suppl 7:389s-392s.

350 Janner LD, Shapiro D, Hui KK, Oakley ME, Lovett M. Hostility and differences between clinic, self-determined, and ambulatory blood pressure. *Psychosom Med.* 1993 Mar-Apr;55(2):203-11.

351 Chafin S, Roy M, Gerin W, Christenfeld N. Music can facilitate blood pressure recovery from stress. *Br J Health Psychol.* 2004 Sep;9(3):393-403.

352 Exodus ch. 20, Deuteronomy ch. 5. King James Version of The Holy Bible.

353 Romans 3:20. King James Version of The Holy Bible.

354 1Peter 2:22. King James Version of The Holy Bible.

355 Romans 3:23. King James Version of The Holy Bible.

356 1John 1:8. King James Version of The Holy Bible.

357 White EG. Steps to Christ p. 49 <http://www.ted-advntist.org/sites/default/files/Setps%20to%20Christ-EGW.pdf>

358 1Timothy 6:12. King James Version of The Holy Bible.

359 Philipians 3:14. King James Version of The Holy Bible.

360 Romans 2:7. King James Version of The Holy Bible.

361 Leviticus 19:18. King James Version of The Holy Bible.

362 Matthew 18:15-18. King James Version of The Holy Bible.

363 Yan LL, Liu K, Matthews KA, Daviglus ML, Ferguson TF, Kiefe CI. Psychosocial factors and risk of hypertension: the Coronary Artery Risk Development in Young Adults (CARDIA) study. *JAMA.* 2003 Oct 22;290(16):2138-48.

364 Revelation 14:12. King James Version of The Holy Bible.

365 Lawler-Row KA, Karremans JC, Scott C, Edlis-Mattiyahou M, Edwards L. Forgiveness, physiological reactivity and health: the role of anger. *Int J Psychophysiol.* 2008 Apr;68(1):51-8.

366 Ephesians 6:22. The King James Version of The Holy Bible.

367 Belding JN, Howard MG, McGuire AM, Schwartz AC, Wilson JH. Social buffering by God: prayer and measures of stress. *J Relig Health.* 2010 Jun;49(2):179-87.

368 Gillum RF, Ingram DD. Frequency of attendance at religious services, hypertension, and blood pressure: the Third National Health and Nutrition Examination Survey. *Psychosom Med.* 2006 May-Jun;68(3):382-5.

369 Koenig HG, George LK, Hays JC, Larson DB, Cohen HJ, Blazer DG. The relationship between religious activities and blood pressure in older adults. *Int J Psychiatry Med.* 1998;28(2):189-213.

370 Pickering TG. Mental stress as a causal factor in the development of hypertension and cardiovascular disease. *Curr Hypertens Rep.* 2001 Jun;3(3):249-54.

371 Mark 13:8. King James Version of The Holy Bible.

372 Krause N, Liang J, Shaw BA, Sugisawa H, Kim HK, Sugihara Y. Religion, death of a loved one, and hypertension among older adults in Japan. *J Gerontol B Psychol Sci Soc Sci.* 2002 Mar;57(2):596-5107.

373 John 14:1-3. The King James Version of The Holy Bible.

374 Matthew 16:27. The King James Version of The Holy Bible.

375 2Timothy 4:1,8. The King James Version of The Holy Bible.

376 Daniel 7. The King James Version of The Holy Bible.

377 John 5:28,29. The King James Version of The Holy Bible.

378 Psalms 146:4. The King James Version of The Holy Bible.

379 Psalms 6:5; 115:17. The King James Version of The Holy Bible.

380 Ecclesiastes 9:5, 6, 10. The King James Version of The Holy Bible.

381 1Thessalonians 4:15-18. The King James Version of The Holy Bible.

382 Job 14:14. The King James Version of The Holy Bible.

383 1Corinthians 15:52-58. The King James Version of The Holy Bible.

384 Daniel 12:2. The King James Version of The Holy Bible.

385 Matt 25:41. The King James Version of The Holy Bible.

386 2Peter 3:9. The King James Version of The Holy Bible.

387 Malachi 4:1,3. The King James Version of The Holy Bible.

388 Matt 3:12. The King James Version of The Holy Bible.

389 Jude 1:7. The King James Version of The Holy Bible.

390 Revelation 21:4. The King James Version of The Holy Bible.

391 Isaiah 65:17. The King James Version of The Holy Bible.

392 Nahum 1:9. The King James Version of The Holy Bible.

393 Obadiah 1:15,16. The King James Version of The Holy Bible.

394 Revelation 22:2. The King James Version of The Holy Bible.

## Chapter 4 - References

1 Glatz JF, Katan MB. Dietary saturated fatty acids increase cholesterol synthesis and fecal steroid excretion in healthy men and women. *Eur J Clin Invest.* 1993 Oct;23(10):648-55.

2 Bu SY, Mashek DG. Trans fats: foods, facts, and biology. *Minn Med.* 2008 Oct;91(10):41-4.

3 Varghese S, Oommen OV. Long-term feeding of dietary oils alters lipid metabolism, lipid peroxidation, and antioxidant enzyme activities in a teleost (*Anabas testudineus* Bloch). *Lipids.* 2000 Jul;35(7):757-62.

4 Bertolotti M, Spady DK, Dietschly JM. Regulation of hepatic cholesterol metabolism in the rat in vivo: effect of a synthetic fat-free diet on sterol synthesis and low-density lipoprotein transport. *Biochim Biophys Acta.* 1995 Apr 6;1265(3):293-300.

5 Hata Y, Nakajima K. Life-style and serum lipids and lipoproteins. *J Atheroscler Thromb.* 2000;7(4):177-97.

6 Corti MC, Guralnik JM, Salive ME, Harris T, Field TS, Wallace RB, Berkman LF, Seeman TE, Glynn RJ, Hennekens CH, et al. HDL cholesterol predicts coronary heart disease mortality in older persons. *JAMA.* 1995 Aug 16;274(7):539-44.

7 Heijmans BT, Beekman M, Houwing-Duistermaat JJ, Cobain MR, Powell J, Blaauw GJ, van der Ouderwa F, Westendorp RG, Slagboom PE. Lipoprotein particle profiles mark familial and sporadic human longevity. *PLoS Med.* 2006 Dec;3(12):e495.

8 Halle M, Berg A, Baumstark MW, Keul J. LDL subfractions and coronary heart disease—an overview. *Z Kardiol.* 1998 May;87(5):317-30.

9 Decewicz DJ, Neatrou DM, Burke A, Haberkorn MJ, Patney HL, Vernalis MN, Ellsworth DL. Effects of cardiovascular lifestyle change on lipoprotein subclass profiles defined by nuclear magnetic resonance spectroscopy. *Lipids Health Dis.* 2009 Jun 29;8:26.

10 van Ee JH. Soy constituents: modes of action in low-density lipoprotein management. *Nutr Rev.* 2009 Apr;67(4):222-34.

11 Shimabukuro T, Sunagawa M, Ohta T. Low-density lipoprotein particle size and its regulatory factors in school children. *J Clin Endocrinol Metab.* 2004 Jun;89(6):2923-7.

12 Hartwich J, Malec MM, Partyla K, Pérez-Martínez P, Marin C, López-Miranda J, Tierney AC, Mc Monagle J, Roche HM, Defoort C, Wolow P, Dembinska-Kieć A. The effect of the plasma n-3/n-6 polyunsaturated fatty acid ratio on the dietary LDL phenotype transformation - insights from the LIPGENE study. *Clin Nutr.* 2009 Oct;28(5):510-5.

13 Willett WC, Ascherio A. Trans fatty acids: are the effects only marginal? *Am J Public Health.* 1994 May;84(5):722-4.

14 Bevilacqua MR, Gimeno SG, Matsumura LK, Ferreira SR. Hyperlipidemias and dietary patterns: transversal study of Japanese Brazilians. *Arq Bras Endocrinol Metabol.* 2007 Jun;51(4):547-58.

15 Block RC, Harris WS, Reid KJ, Spertus JA. Omega-6 and trans fatty acids in blood cell membranes: a risk factor for acute coronary syndromes? *Am Heart J.* 2008 Dec;156(6):1117-23.

16 Mozaffarian D, Aro A, Willett WC. Health effects of trans-fatty acids: experimental and observational evidence. *Eur J Clin Nutr.* 2009 May;63 Suppl 2:55-21.

17 Katcher HI, Hill AM, Lanford JL, Yoo JS, Kris-Etherton PM. Lifestyle approaches and dietary strategies to lower LDL-cholesterol and triglycerides and raise HDL-cholesterol. *Endocrinol Metab Clin North Am.* 2009 Mar;38(1):45-78.

18 Basset GM, McCullough RS, Edel AL, Maddafor TG, Dibrov E, Blackwood DP, Austria JA, Pierce GN. Trans-fatty acids in the diet stimulate atherosclerosis. *Metabolism.* 2009 Dec;58(12):1802-8.

19 Tan MH, Dickinson MA, Albers JJ, Havel RJ, Cheung MK, Vigne JL. The effect of a high cholesterol and saturated fat diet on serum high-density lipoprotein-cholesterol, apoprotein A-I, and apoprotein E levels in normolipidemic humans. *Am J Clin Nutr.* 1980 Dec;33(12):2559-65.

20 Lichtenstein AH, Ausman LM, Carrasco W, Jenner JL, Ordovas JM, Schaefer EJ. Hypercholesterolemic effect of dietary cholesterol in diets enriched in polyunsaturated and saturated fat. Dietary cholesterol, fat saturation, and plasma lipids. *Arterioscler Thromb.* 1994 Jan;14(1):168-75.

21 Nestel PJ, Chronopoulos A, Cehun M. Dairy fat in cheese raises LDL cholesterol less than that in butter in mildly hypercholesterolemic subjects. *Eur J Clin Nutr.* 2005 Sep;59(9):1059-63.

22 Grande F, Anderson JT, Keys A. Comparison of effects of palmitic and stearic acids in the diet on serum cholesterol in man. *Am J Clin Nutr.* 1970 Sep;23(9):1184-93.

23 Fisher EA, Blum CB, Zannis VI, Breslow JL. Independent effects of dietary saturated fat and cholesterol on plasma lipids, lipoproteins, and apolipoprotein E. *J Lipid Res.* 1983 Aug;24(8):1039-48.

24 Berglund L, Lefevre M, Ginsberg HN, Kreis-Etherton PM, Elmer PJ, Stewart PW, Ershov A, Pearson TA, Dennis BH, Roheim PS, Ramakrishnan R, Reed R, Stewart K, Phillips KM; DELTA Investigators. Comparison of monounsaturated fat with carbohydrates as a replacement for saturated fat in subjects with a high metabolic risk profile: studies in the fasting and postprandial states. *Am J Clin Nutr.* 2007 Dec;86(6):1611-20.

25 Diniz NS, Cicogna AC, Padovani CP, Santana LS, Faine LA, Novelli EL. Diets rich in saturated and polyunsaturated fatty acids: metabolic shifting and cardiac health. *Nutrition.* 2004 Feb;20(2):230-4.

26 Crane, MG. *Plugged Arteries & a clogged Immune System!* Teach Services, 1998.

27 Bodenmann A, Ackermann-Lieblich U, Keller U. Meat consumption and serum cholesterol concentration. *Dtsch Med Wochenschr.* 1991 Jul 12;116(28-29):1089-94.

28 Teixeira Rde C, Molina Mdcl C, Zandonade E, Mill JG. Cardiovascular risk in vegetarians and omnivores: a comparative study. *Arq Bras Cardiol.* 2007 Oct;89(4):237-44.

# Blue Print for Health and Healing

29 Chi D, Nakano M, Yamamoto K. Milk and milk products consumption in relationship to serum lipid levels: a community-based study of middle-aged and older population in Japan. *Cent Eur J Public Health*. 2004 Jun;12(2):84-7.

30 Steenkamp HJ, Jooste PL, Rossouw JE, Benadé AJ, Swanepoel AS. Hypercholesterolaemia in a rural white population and its relationship with other coronary risk factors. *S Afr Med J*. 1990 Jul 21;78(2):85-8.

31 Kuroswa EM, Carroll KK. Hypercholesterolemic responses in rabbits to selected groups of dietary essential amino acids. *J Nutr*. 1994 Mar;124(3):364-70.

32 Satoh T, Goto M, Igarashi K. Effects of protein isolates from radish and spinach leaves on serum lipids levels in rats. *J Nutr Sci Vitaminol (Tokyo)*. 1993 Dec;39(6):627-33.

33 McMillan-Price J, Potocz P, Atkinson F, O'Neill K, Samman S, Steinbeck K, Caterson I, Brandt-Miller J. Comparison of 4 diets of varying glycaemic load on weight loss and cardiovascular risk reduction in overweight and obese young adults: a randomized controlled trial. *Arch Intern Med*. 2006 Jul 24;166(14):1466-75.

34 Anderson JW, Johnstone BM, Cook-Newell ME. Meta-analysis of the effects of soy protein intake on serum lipids. *N Engl J Med*. 1995 Aug 3;333(5):276-82.

35 Weghuber D, Widhalm K. Effect of 3-month treatment of children and adolescents with familial and polygenic hypercholesterolaemia with a soya-substituted diet. *Br J Nutr*. 2008 Feb;99(2):281-6.

36 Kendall CW, Augustin LS, Emann A, Josse AR, Saxena N, Jenkins DJ. The glycaemic index: methodology and use. *Nestle Nutr Workshop Ser Clin Perform Programme*. 2006;11:43-53.

37 Levitan EB, Cook NR, Stamper MJ, Ridker PM, Rexrode KM, Buring JE, Manson JE, Liu S. Dietary glycaemic index, dietary glycaemic load, blood lipids, and C-reactive protein. *Metabolism*. 2008 Mar;57(3):437-43.

38 Ma Y, Li Y, Chiriboga DE, Olendzki BC, Hebert JR, Li W, Leung K, Hafner AR, Ockene IS. Association between carbohydrate intake and serum lipids. *J Am Coll Nutr*. 2006 Apr;25(2):155-63.

39 Dickinson S, Brand-Miller J. Glycaemic index, postprandial glycaemia and cardiovascular disease. *Curr Opin Lipidol*. 2005 Feb;16(1):69-75.

40 Dietschy JM. Dietary fatty acids and the regulation of plasma low density lipoprotein cholesterol concentrations. *J Nutr*. 1998 Feb;128(2 Suppl):445-448S.

41 Stamler J, Daviglius ML, Garside DB, Dyer AR, Greenland P, Neaton JD. Relationship of baseline serum cholesterol levels in 3 large cohorts of younger men to long-term coronary, cardiovascular, and all-cause mortality and to longevity. *JAMA*. 2000 Jul 19;284(3):311-8. Click here to read Links

42 Lloyd-Jones DM, Wilson PW, Larson MG, Leip E, Beiser A, D'Agostino RB, Cleeman JJ, Levy D. Lifetime risk of coronary heart disease by cholesterol levels at selected ages. *Arch Intern Med*. 2003 Sep 8;163(16):1966-72.

43 Menotti A, Lanti M, Kromhout D, Blackburn H, Jacobs D, Nissinen A, Dontas A, Kafatos A, Nedeljkovic S, Adachi H. Homogeneity in the relationship of serum cholesterol to coronary deaths across different cultures: 40-year follow-up of the Seven Countries Study. *Eur J Cardiovasc Prev Rehabil*. 2008 Dec;15(6):719-25. Links

44 Menotti A, Lanti M, Kromhout D, Kafatos A, Nedeljkovic S, Nissinen A. Short and long term association of a single serum cholesterol measurement in middle-aged men in prediction of fatal coronary and other cardiovascular events: a cross-cultural comparison through Europe. *Eur J Epidemiol*. 2005;20(7):597-604.

45 Klag MJ, Ford DE, Mead LA, He J, Whelton PK, Liang KY, Levine DM. Serum cholesterol in young men and subsequent cardiovascular disease. *N Engl J Med*. 1993 Feb 4;328(5):313-8.

46 Lehr HA, Sagan TA, Kirkpatrick CJ. Atherosclerosis--progression by nonspecific activation of the immune system. *Med Klin (Munich)*. 2002 Apr 15;97(4):229-35.

47 Brown BG, Zhao XQ, Sacco DE, Albers JJ. Lipid lowering and plaque regression. New insights into prevention of plaque disruption and clinical events in coronary disease. *Circulation*. 1993 Jun;87(6):1781-91.

48 Glueck CJ, Gartside P, Fallat RW, Sielski J, Steiner PM. Longevity syndromes: familial hyperlipobeta and familial hyperalphalipoproteinemia. *J Lab Clin Med*. 1976 Dec;88(6):941-57.

49 Chhatwalia AK, Nicholls SJ, Wang TH, Woloski K, Sipahi I, Crowe T, Schoenhagen P, Kapadia S, Tuzcu EM, Nissen SE. Low levels of low-density lipoprotein cholesterol and blood pressure and progression of coronary atherosclerosis. *J Am Coll Cardiol*. 2009 Mar 31;53(13):1110-5.

50 Anderson KM, Castelli WP, Levy D. Cholesterol and mortality. 30 years of follow-up from the Framingham study. *JAMA*. 1987 Apr 24;257(16):1776-80.

51 Stamler J, Daviglius ML, Garside DB, Dyer AR, Greenland P, Neaton JD. Relationship of baseline serum cholesterol levels in 3 large cohorts of younger men to long-term coronary, cardiovascular, and all-cause mortality and to longevity. *JAMA*. 2000 Jul 19;284(3):311-8.

52 Rosengren A, Hagman M, Wedel H, Wilhelmson L. Serum cholesterol and long-term prognosis in middle-aged men with myocardial infarction and angina pectoris. A 16-year follow-up of the Primary Prevention Study in Göteborg, Sweden. *Eur Heart J*. 1997 May;18(5):754-61.

53 Pekkanen J, Linn S, Heiss G, Suchindran CM, Leon A, Rifkind BM, Tyroler HA. Ten-year mortality from cardiovascular disease in relation to cholesterol level among men with and without preexisting cardiovascular disease. *N Engl J Med*. 1990 Jun 14;322(24):1700-7.

54 Baigent C, Keech A, Kearney PM, Blackwell L, Buck G, Pollicino C, Kirby A, Sourjina T, Peto R, Collins R, Simes R; Cholesterol Treatment Trialists' (CTT) Collaborators. Efficacy and safety of cholesterol-lowering treatment: prospective meta-analysis of data from 90,056 participants in 14 randomised trials of statins. *Lancet*. 2005 Oct 8;366(9493):1267-78.

55 van Weel W, de Vries M, Voshol PJ, Verloop RE, Eilers PH, van Hinsbergh VW, van Bockel JH, Quax PH. Hypercholesterolemia reduces collateral artery growth more dominantly than hyperglycemia or insulin resistance in mice. *Arterioscler Thromb Vasc Biol*. 2006 Jun;26(6):1383-90.

56 Nordestgaard BG, Benn M, Schnorh P, Tybjaerg-Hansen A. Nonfasting triglycerides and risk of myocardial infarction, ischemic heart disease, and death in men and women. *JAMA*. 2007 Jul 18;298(3):299-308.

57 Assmann G, Schulte H, von Eckardstein A. Hypertriglyceridemia and elevated lipoprotein(a) are risk factors for major coronary events in middle-aged men. *Am J Cardiol*. 1996 Jun 1;77(14):1179-84.

58 Ogunrin OA, Unuigbo E. Serum lipids in patients with stroke—a cross-sectional case-control study. *J Natl Med Assoc*. 2008 Sep;100(9):986-90.

59 Tanne D, Koren-Morag N, Graff E, Goldbourt U. Blood lipids and first-ever ischemic stroke/transient ischemic attack in the Bezafibrate Infarction Prevention (BIP) Registry: high triglycerides constitute an independent risk factor. *Circulation*. 2001 Dec 11;104(24):2892-7.

60 Esselstyn CB Jr. Resolving the Coronary Artery Disease Epidemic Through Plant-Based Nutrition. *Prev Cardiol*. 2001 Autumn;4(4):171-177.

61 Ray G, Husain SA. Role of lipids, lipoproteins and vitamins in women with breast cancer. *Clin Biochem*. 2001 Feb;34(1):71-6.

62 Althaimeneh A, Ezzat A, Mohamed G, Muammer T, Al-Madoug A. Dietary fat and breast cancer in Saudi Arabia: a case-control study. *East Mediterr Health J*. 2004 Nov;10(6):879-86.

63 Chan JM, Wang F, Holly EA. Pancreatic cancer, animal protein and dietary fat in a population-based study, San Francisco Bay Area. *Cancer Causes Control*. 2007 Dec;18(10):1153-67.

64 de Carvalho JF, Bonfá E, Bezerra MC, Pereira RM. High frequency of lipoprotein risk levels for cardiovascular disease in Takayasu arteritis. *Clin Rheumatol*. 2009 Jul;28(7):801-5.

65 Wierzbowska J, Figurska M, Stankiewicz A, Sierdziński I. Risk factors in age-related macular degeneration and glaucoma—own observations. *Stankiewicz A, Sierdziński I. Risk factors in age-related macular degeneration and glaucoma—own observations. Klin Oczna*. 2008;110(10-12):370-4.

66 Król W, Smuzynska M. The assessment of the lipopidogram and the proteingram profile in patients with nonexudative age-related macular degeneration. *Wiek Lek*. 2007;60(9-10):415-7.

67 Belda Sanchis JI, Quijada González A, Muñoz Ruiz G, Rodríguez-Galitero A, Romero Gómez FJ, Diaz-Llopis M. Are blood lipids a risk factor for age-related macular degeneration? *Arch Soc Esp Oftalmol*. 2001 Jan;76(1):13-7.

68 Hyman L, Schacht AP, He Q, Leske MC. Hypertension, cardiovascular disease, and age-related macular degeneration. *Age-Related Macular Degeneration Risk Factors Study Group*. *Arch Ophthalmol*. 2000 Mar;118(3):351-8.

69 Tomany SC, Wang JJ, Van Leeuwen R, Klein R, Mitchell P, Vingerling JR, Klein BE, Smith W, De Jong PT. Risk factors for incident age-related macular degeneration: pooled findings from 3 continents. *Ophthalmology*. 2004 Jul;111(7):1280-7.

70 Monastero R, Pipia C, Cefalù AB, Liveri ET, Rosano R, Camarda R, Camarda C. Association between plasma lipid levels and migraine in subjects aged > or =50 years: preliminary data from the Zabùt Aging Project. *Neuro Sci*. 2008 May;29 Suppl 1:S179-81.

71 Borghi C, Veronesi M, Cosentino E, Cicero AF, Kuria F, Dormi A, Ambrosioni E. Interaction between serum cholesterol levels and the renin-angiotensin system on the new onset of arterial hypertension in subjects with high-normal blood pressure. *J Hypertens*. 2007 Oct;25(10):2051-7.

72 Sasaki S, Kawai K, Honjo Y, Nakamura H. Thyroid hormones and lipid metabolism. *Nippon Rinsho*. 2006 Dec;64(12):2323-9.

73 Duntas LH. Thyroid disease and lipids. *Thyroid*. 2002 Apr;12(4):287-93.

74 Goldstein FC, Ashley AV, Endeshaw YW, Hanfelt J, Lah JJ, Levey AL. Effects of hypertension and hypercholesterolemia on cognitive functioning in patients with Alzheimer disease. *Alzheimer Dis Assoc Disord*. 2008 Oct;22(4):336-42.

75 Ghribi O. Potential mechanisms linking cholesterol to Alzheimer's disease-like pathology in rabbit brain, hippocampal organotypic slices, and skeletal muscle. *J Alzheimers Dis*. 2008 Dec;15(4):673-84.

76 Carlsson CM, Nondahl DM, Klein BE, McBride PE, Sager MA, Schubert CR, Klein R, Selhub J, Selhub J, Selhub J, Selhub J. Increased atherogenic lipoproteins are associated with cognitive impairment: effects of statins and subclinical atherosclerosis. *Alzheimer Dis Assoc Disord*. 2009 Jun;23(1):11-7.

77 Farr SA, Yamada KA, Butterfield DA, Abdul HM, Xu L, Miller NE, Banks WA, Morley JE. Obesity and hypertriglyceridemia produce cognitive impairment. *Endocrinology*. 2008 May;149(5):2628-36.

78 Wiggins TD, Sullivan KA, Pop-Busui R, Amato A, Sima AA, Feldman EL. Elevated triglycerides correlate with progression of Diabetic Neuropathy. *Diabetes*. 2009 Jul;58(7):1634-40.

79 Nakao M, Ando K, Nomura S, Kuboki T, Uehara Y, Toyooka T, Fujita T. Depressive mood accompanies hypercholesterolemia in young Japanese adults. *Jpn Heart J*. 2001 Nov;42(6):739-48.

80 Nakao M, Yano E. Relationship between major depression and high serum cholesterol in Japanese men. *Tohoku J Exp Med*. 2004 Dec;204(4):273-87.

81 Weidner G, Connor SL, Gerhardt CT, Duell PB, Connor WE. The effects of dietary cholesterol-lowering on psychologic symptoms: a randomized controlled study. *Psychol Health*. 2009 May;14(3):255-61.

82 Ginsberg HN, Karmally W, Siddiqui M, Holleran S, Tall AR, Rumsey SC, Deckelbaum RJ, Blamer WS, Ramakrishnan R. A dose-response study of the effects of dietary cholesterol on fasting and postprandial lipid and lipoprotein metabolism in healthy young men. *Arterioscler Thromb*. 1994 Apr;14(4):576-86.

83 Weggemans RM, Zock PL, Katan MB. Dietary cholesterol from eggs increases the ratio of total cholesterol to high-density lipoprotein cholesterol in humans: a meta-analysis. *Am J Clin Nutr*. 2001 May;73(5):885-91.

84 Nedley N. *Proof Positive* (Ardmore, Okla.: Nedley Publishing, 1998).

85 O'Brien, B. C.; Reiser, R. Human plasma lipids responses to red meat, poultry, fish, and eggs. *Am J Clin Nutr*. 1990 Dec;3(12):2573-80.

86 Hodis HN, Crawford DW, Sevastian A. Cholesterol feeding increases plasma and aortic tissue cholesterol oxide levels in parallel: further evidence for the role of cholesterol oxidation in atherosclerosis. *Atherosclerosis*. 1991 Aug;89(2-3):117-26.

87 Subramanian S, Chait A. The effect of dietary cholesterol on macrophage accumulation in adipose tissue: implications for systemic inflammation and atherosclerosis. *Curr Opin Lipidol*. 2009 Feb;20(1):39-44.

88 Oh KW, Nam CM, Jee SH, Choe KO, Suh I. Coronary artery calcification and dietary cholesterol intake in Korean men. *Acta Cardiol*. 2002 Feb;57(1):5-11.

89 Yeh YF, Huang SL. Enhancing effect of dietary cholesterol and inhibitory effect of pravastatin on allergic pulmonary inflammation. *J Biomed Sci*. 2004 Sep-Oct;11(5):599-606.

90 Yeh YF, Huang SL. Diet cholesterol enhances pulmonary eosinophilic inflammation in a murine model of asthma. *Int Arch Allergy Immunol*. 2001 Aug;125(4):329-34.

91 Yasutake K, Nakamura M, Shima Y, Ohyama A, Masuda K, Haruta N, Fujino T, Aoyagi Y, Fukuzumi K, Yoshimoto T, Takemoto R, Miyahara T, Harada N, Hayata F, Nakashima M, Enjoji M. Nutritional investigation of non-obese patients with non-alcoholic fatty liver disease: The significance of dietary cholesterol. *Scand J Gastroenterol*. 2008 Dec 4:1-7.

92 Wouters K, van Gorp PJ, Bieghs V, Gijbels MJ, Duimel H, Lütjohann D, Kerkisiek A, van Kruchten R, Maeda N, Staels B, van Bilsen M, Shiri-Sverdlov R, Hofker MH. Dietary cholesterol, rather than liver steatosis, leads to hepatic inflammation in hyperlipidemic mouse models of nonalcoholic steatohepatitis. *Hepatology*. 2008 Aug;48(2):474-86.

93 Klemmner R, Verschuren L, van Erk MJ, Nikolsky Y, Cnubben NH, Verheij ER, Smilde AK, Hendriks HF, Zadelaar S, Smith GJ, Kazanchev V, Nikolskaya T, Melnikov A, Hurt-Camejo E, van der Greef J, van Ommen B, Koistra T. Atherosclerosis and liver inflammation induced by increased dietary cholesterol intake: a combined transcriptomics and metabolomics analysis. *Genome Biol*. 2007;8(9):R200.

94 Homma Y, Kondo Y, Kaneko M, Kitamura T, Nyou UT, Yanagisawa M, Yamamoto Y, Kakizoe T. Promotion of carcinogenesis and oxidative stress by dietary cholesterol in rat prostate. *Carcinogenesis*. 2004 Jun;25(6):1011-4.

95 Kanner J. Dietary advanced lipid oxidation endproducts are risk factors to human health. *Mol Nutr Food Res*. 2007 Sep;51(9):1094-101.

96 Ogawa T, Yoshida J, Kokuba Y. Influence of a long-term load of dietary cholesterol on the rat kidney. *Nippon Jintok Gakkaishi*. 2005;45(4):361-6.

97 de Boer IH, Astor BC, Kramer H, Palmas W, Seliger SL, Shipak MG, Siscovick DS, Tsai MY, Kestenbaum B. Lipoprotein abnormalities associated with mild impairment of kidney function in the multi-ethnic study of atherosclerosis. *Clin J Am Soc Nephrol*. 2008 Jan;3(1):125-32.

98 Ravid M, Brosh D, Ravid-Safra D, Levy Z, Rachmani R. Main risk factors for nephropathy in type 2 diabetes mellitus are plasma cholesterol levels, mean blood pressure, and hyperglycemia. *Arch Intern Med*. 1998 May 11;158(9):998-1004.

99 Verharme P, Quarcq R, Hao H, Knaepen M, Dymarkowski S, Bernar H, Van Cleemput J, Janssens S, Vermylen J, Gabbiani G, Kockx M, Holvoet P. Dietary cholesterol withdrawal reduces vascular inflammation and induces coronary plaque stabilization in miniature pigs. *Cardiovasc Res*. 2002 Oct;56(1):135-44.

100 Sanbe T, Tomofuji T, Ekuni D, Azuma T, Tamaki N, Yamamoto T. Oral administration of vitamin C prevents alveolar bone resorption induced by high dietary cholesterol in rats. *J Periodontol*. 2007 Nov;78(11):2165-70.

101 Micala V, Scapagnini G, Colombrita C, Mazzola C, Alkon DL, Drago F. Behavioral effects of dietary cholesterol in rats tested in experimental models of mild stress and cognition tasks. *Eur Neuropsychopharmacol*. 2008 Jun;18(6):462-71.

102 Granholm AC, Bimonte-Nelson HA, Moore AB, Nelson ME, Freeman LR, Sambamurti K. Effects of a saturated fat and high cholesterol diet on memory and hippocampal morphology in the middle-aged rat. *J Alzheimers Dis*. 2008 Jun;14(2):333-45.

103 Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol*. 1960 Jan;198:217-20.

104 Verschuren WM, Jacobs DR, Bloemberg BP, Kromhout D, Menotti A, Aravanis C, Blackburn H, Buzina R, Dontas AS, Fidanza F, Karvonen MJ, Nedeljkovic S, Nissinen A, Toshima H. Serum total cholesterol and long-term coronary heart disease mortality in different cultures. Twenty-five-year follow-up of the seven countries study. *JAMA*. 1995 Jul 12;274(2):131-6.

105 Peng SK, Taylor CB, Hill JC, Morin RJ. Cholesterol oxidation derivatives and arterial endothelial damage. *Atherosclerosis*. 1985 Feb;54(2):121-33.

106 Yuan XM, Li W, Brunk UT, Dalen H, Chang YH, Sevastian A. Lysoosomal destabilization during macrophage damage induced by cholesterol oxidation products. *Free Radic Biol Med*. 2000 Jan 15;28(2):208-18.

107 Al-Kanani MA, Ahmad F, Al-Othman AA, Arif Z, Al-Ost S, Al-Murshed KS. Effect of pure and oxidized cholesterol-rich diets on some biochemical parameters in rats. *Int J Food Sci Nutr*. 2002 Sep;53(5):381-8.

108 Stapanis I, Pan XM, Rapp JH, Feingold KR. Oxidized cholesterol in the diet accelerates the development of aortic atherosclerosis in cholesterol-fed rabbits. *Arterioscler Thromb Vasc Biol*. 1998 Jun;18(6):977-83.

109 Griminger P, Fisher H. The effect of dried and fresh eggs on plasma cholesterol and atherosclerosis in chickens. *Poult Sci*. 1986 May;65(5):979-82.

110 Taylor CB, Peng SK, Imai H, Mikkelsen B, Lee KT, Werhessen N.T. Hereditary hyperlipidemia in chickens—model for study of toxic oxidation products found in significant amounts in U.S.P. cholesterol, powdered eggs and milk. *Adv Exp Med Biol*. 1977;82:252-5.

111 Salonen JT, Nyssönen K, Salonen R, Porkkala-Sarataho E, Tuomainen TP, Diczfalussy U, Björkhem I. Lipoprotein oxidation and progression of atherosclerosis. *Circulation*. 1997 Feb 18;95(4):840-5.

112 Miwa S, Inoue M, Ohmura G, Mitsuhashi N, Onuma T, Kawano R. Relationship between carotid atherosclerosis and erythrocyte membrane cholesterol oxidation products in type 2 diabetic patients. *Diabetes Res Clin Pract*. 2003 Aug;61(2):81-8.

113 Stapanis I, Pan XM, Rapp JH, Feingold KR. The role of dietary oxidized cholesterol and oxidized fatty acids in the development of atherosclerosis. *Mol Nutr Food Res*. 2005 Nov;49(11):1075-82.

114 Rong JX, Rangaswamy S, Shen L, Dave R, Chang YH, Peterson H, Hodis HN, Chisolm GM, Sevastian A. Arterial injury by cholesterol oxidation products causes endothelial dysfunction and arterial wall cholesterol accumulation. *Arterioscler Thromb Vasc Biol*. 1998 Dec;18(12):1885-94.

115 Guardiola F, Trías A, Godoy R, Adis PB, Bergmann SD, Zavoral JH. Lack of effect of oral supplementation with antioxidants on cholesterol oxidation product concentration of human plasma, as revealed by an improved gas chromatography method. *Anal Bioanal Chem*. 2007 Sep;389(1):277-89.

116 Stapanis I, Pan XM, Rapp JH, Feingold KR. Oxidized cholesterol in the diet is a source of oxidized lipoproteins in human serum. *J Lipid Res*. 2003 Apr;44(4):705-15.

117 Vine DF, Croft KD, Beilin LJ, Mamo JC. Absorption of dietary cholesterol oxidation products and incorporation into rat lymph chylomicrons. *Lipids*. 1997 Aug;32(8):887-93.

118 Selley ML, McGuinness JA, Ardlie NG. The effect of cholesterol oxidation products on human platelet aggregation. *Thromb Res*. 1996 Sep 15;83(6):449-61.

119 Peng SK, Hu B, Peng AY, Morin RJ. Effect of cholesterol oxides on prostacyclin production and platelet adhesion. *Artery*. 1993;20(3):122-34.

120 Panzenko OM, Vol'nova TV, Azizova OA, Vladimirov IA. Lipid peroxidation—the factor promoting cholesterol accumulation in cells in atherosclerosis. *Biull Eksp Biol Med*. 1988 Sep;106(9):277-80.

121 Azizova OA, Panzenko OM, Vol'nova TV, Vladimirov IA. Free radical lipid oxidation affects cholesterol transfer between lipoproteins and erythrocytes. *Free Radic Biol Med*. 1989;7(3):251-7.

122 Vine DF, Croft KD, Beilin LJ, Mamo JC. Effect of dietary cholesterol oxidation products on the plasma clearance of chylomicrons in the rat. *Lipids*. 2002 May;37(5):455-62.

123 Kelishadi R, Pour MH, Zadeqan NS, Kabhazi M, Sadry G, Amani A, Ansari R, Alkhassey H, Bashardoust N. Dietary fat intake and lipid profiles of Iranian adolescents: Isfahan Healthy Heart Program—Heart Health Promotion from Childhood. *Prev Med*. 2004 Oct;39(4):760-6.

124 Finocchiaro ET, Lee K, Richardson T. Identification and quantification of cholesterol oxides in grated cheese and bleached butter. *J Am Oil Chem Soc*. 1984 May;61(5):877-883.

125 Linselsen J, Wolfram G. Absorption of cholesterol oxidation products from ordinary foodstuff in humans. *Ann Nutr Metab*. 1998;42(4):221-30.

126 Martin JC, Canlet C, Delplanque B, Agnani G, Lairon D, Gottardi G, Bencharif K, Gripos D, Thaminy A, Paris A. (1H) NMR metabolomics can differentiate the early atherogenic effect of dairy products in hyperlipidemic hamsters. *Atherosclerosis*. 2009 Sep;206(1):127-33.

127 Lee HW, Chien JT, Chen BH. Formation of cholesterol oxidation products in marinated foods during heating. *J Agric Food Chem*. 2006 Jun 28;54(13):4873-9.

128 Al-Sagheer S, Thurmer K, Wagner KH, Frisch G, Luf W, Razzazi-Fazeli E, Elmadafa I. Effects of different cooking procedures on lipid quality and cholesterol oxidation of farmed salmon fish (*Salmo salar*). *J Agric Food Chem*. 2004 Aug 11;52(16):5290-6.

129 Savage GP, Dutta PC, Rodriguez-Estrada MT. Cholesterol oxides: their occurrence and methods to prevent their generation in foods. *Asia Pac J Clin Nutr*. 2002;11(1):72-8.

130 Mahfouz MM, Hulea SA, Kummerow FA. Cigarette smoke increases cholesterol oxidation and lipid peroxidation of human low-density lipoprotein and decreases its binding to the hepatic receptor in vitro. *J Environ Pathol Toxicol Oncol*. 1995;14(3-4):181-92.

# References

- 131 Fabbri P, Ghigliotti G, Brunelli C, Balbi M, Spallarossa P, Rossettin P, Barsotti A, Odetti P, Garibaldi S. Intense lipid peroxidation in premature clinical coronary atherosclerosis is associated with metabolic abnormalities. *J Lab Clin Med*. 2004;143(2):99-105.
- 132 Khan-Merchant N, Penumetcha M, Meilach O, Parthasarathy S. Oxidized fatty acids promote atherosclerosis only in the presence of dietary cholesterol in low-density lipoprotein receptor knockout mice. *J Nutr*. 2002 Nov;132(11):3256-62.
- 133 Rao K, Du GH, Yang WM. Correlation between abnormal serum lipid and erectile dysfunction. *Zhonghua Nan Ke Xue*. 2005 Feb;11(2):112-5.
- 134 Saltzman EA, Guay AT, Jacobson J. Improvement in erectile function in men with organic erectile dysfunction by correction of elevated cholesterol levels: a clinical observation. *J Urol*. 2004 Jul;172(1):255-8.
- 135 Yang G, Chen Z, Wang H. Establishment of the animal model of induced high-cholesterol-atherosclerotic erectile dysfunction and the mechanisms of atherosclerotic erectile dysfunction. *Zhonghua Nan Ke Xue*. 2004 Aug;10(8):608-11.
- 136 Wei M, Macera CA, Davis DR, Hornung CA, Nankin HR, Blair SN. Total cholesterol and high density lipoprotein cholesterol as important predictors of erectile dysfunction. *Am J Epidemiol*. 1994 Nov 15;140(10):930-7.
- 137 Arlt S, Kontush A, Müller-Thomsen T, Beisiegel U. Lipid peroxidation as a common pathomechanism in coronary heart disease and Alzheimer disease. *Z Gerontol Geriatr*. 2001 Dec;34(6):461-5.
- 138 Duwe AK, Fitch M, Ostwald R. Depressed natural killer and lectin-induced cell-mediated cytotoxicity in cholesterol-fed guinea pigs. *J Natl Cancer Inst*. 1984 Feb;72(2):333-8.
- 139 Kendall CW, Kuo M, Sokoloff E, Rao AV. Effect of dietary oxidized cholesterol on azoxymethane-induced colonic neoplasia in mice. *Cancer Lett*. 1992 Oct 21;66(3):241-8.
- 140 Tseng TH, Hsu JD, Chu CY, Wang CJ. Promotion of colon carcinogenesis through increased lipid peroxidation induced in rats by a high cholesterol diet. *Cancer Lett*. 1996 Feb 27;100(1-2):81-7.
- 141 Morin RU, Hu B, Peng SK, Sevanian A. Cholesterol oxides and carcinogenesis. *J Clin Lab Anal*. 1991;5(3):219-25.
- 142 Swank RL. Multiple sclerosis: fat-ol relationship. *Nutrition*. 1991 Sep-Oct;7(5):368-76.
- 143 Stokes KY, Cooper D, Taylor A, Granger DN. Hypercholesterolemia promotes inflammation and microvascular dysfunction: role of nitric oxide and superoxide. *Free Radic Biol Med*. 2002 Oct 15;33(8):1026-36.
- 144 Sipos P, Gamal EM, Blázovics A, Metzger P, Mikó I, Furka I. Free radical reactions in the gallbladder. *Acta Chir Hung*. 1997;36(1-4):329-30.
- 145 Eder MI, Miquel JF, Jongst D, Paumgartner G, von Ritter C. Reactive oxygen metabolites promote cholesterol crystal formation in model bile: role of lipid peroxidation. *Free Radic Biol Med*. 1996;20(5):743-9.
- 146 Shirlow MJ, Mathers CD. Caffeine consumption and serum cholesterol levels. *Int J Epidemiol*. 1984 Dec;13(4):422-7.
- 147 Onuegbu AJ, Agedban EA. The effects of coffee consumption on serum lipids and lipoprotein in healthy individuals. *Afr J Med Med Sci*. 2001 Mar-Jun;30(1-2):43-5.
- 148 Lane JD, Pieper CF, Barakat LC, Williams RB Jr, Stiegler IC. Caffeine and cholesterol: interactions with hostility. *Psychosom Med*. 1994 May-Jun;56(3):260-6.
- 149 Du Y, Melchert HU, Knopf H, Braemer-Hauth M, Gerding B, Pabel E. Association of serum caffeine concentrations with blood lipids in caffeine-drug users and nonusers - results of German National Health Surveys from 1984 to 1999. *Eur J Epidemiol*. 2005;20(4):311-6.
- 150 Happonen P, Vuolteenaho S, Salonen JT. Coffee drinking is dose-dependently related to the risk of acute coronary events in middle-aged men. *J Nutr*. 2004 Sep;134(9):2381-6.
- 151 Balk L, Hoekstra T, Twisk J. Relationship between long-term coffee consumption and components of the metabolic syndrome: the Amsterdam Growth and Health Longitudinal Study. *Eur J Epidemiol*. 2009;24(4):203-9.
- 152 Hata Y, Nakajima K. Life-style and serum lipids and lipoproteins. *J Atheroscler Thromb*. 2000;7(4):177-97.
- 153 Calada MM, Reguero JR, Kubeko GI. The interrelationship among tobacco consumption, high-density lipoprotein cholesterol and leukocyte counts. *J Cardiovasc Risk*. 1997 Aug;4(4):279-81.
- 154 Moffatt RJ, Stamford BA, Biggerstaff KJ. Influence of worksite environmental tobacco smoke on serum lipoprotein profiles of female nonsmokers. *Metabolism*. 1995 Dec;44(12):1536-9.
- 155 Wahl PW, Warnick GR, Albers JJ, Hoover JI, Walden CE, Bergelin RO, Ogilvie JT, Hazzard WR, Knopp RH. Distribution of lipoproteins triglyceride and lipoprotein cholesterol in an adult population by age, sex, and hormone use - The Pacific Northwest Bell Telephone Company health survey. *Atherosclerosis*. 1981 Apr;39(1):111-24.
- 156 Van Stiphout WA, Grobbee DE, Hofman A, de Bruijn AM. Do oral contraceptives increase blood pressure and serum total cholesterol in young women? *Prev Med*. 1990 Nov;19(6):623-9.
- 157 Alsheikh-Ali AA, Karas RH. The relationship of statins to rhabdomyolysis, malignancy, and hepatic toxicity: evidence from clinical trials. *Curr Atheroscler Rep*. 2009 Mar;11(2):100-4.
- 158 Jacobson TA. Toward "pain-free" statin prescribing: clinical algorithm for diagnosis and management of myalgia. *Mayo Clin Proc*. 2008 Jun;83(6):687-700. Links
- 159 King DS, Wilburn AJ, Wofford MR, Harrell TK, Lindley BJ, Jones DW. Cognitive impairment associated with atorvastatin and simvastatin. *Pharmacotherapy*. 2003 Dec;23(12):1663-7.
- 160 Galatti L, Polimeni G, Salvo F, Romani M, Sessa A, Spina E. Short-term memory loss associated with rosuvastatin. *Pharmacotherapy*. 2006 Aug;26(8):1190-2.
- 161 Wagstaff IR, Mutton MW, Avvik BM, Doraiswamy PM. Statin-associated memory loss: analysis of 60 case reports and review of the literature. *Pharmacotherapy*. 2003 Jul;23(7):871-80.
- 162 Kucharska J, Gvozdjaková A, Simko F. Simvastatin decreased coenzyme Q in the left ventricle and skeletal muscle but not in the brain and liver in L-NAME-induced hypertension. *Physiol Res*. 2007;56 Suppl 2:S49-54.
- 163 Chu CS, Kou HS, Lee KJ, Lee KT, Chen SH, Voon WC, Sheu SH, Lai WT. Effect of atorvastatin withdrawal on circulating coenzyme Q10 concentration in patients with hypercholesterolemia. *Biofactors*. 2006;28(3-4):177-84.
- 164 Berthold HK, Naini A, Di Mauro S, Hallikainen M, Gylling H, Krone W, Gouni-Berthold I. Effect of ezetimibe and/or simvastatin on coenzyme Q10 levels in plasma: a randomised trial. *Drug Saf*. 2006;29(8):703-12.
- 165 Molyneux SL, Fordkowski CM, George PM, Pilbrow AP, Frampton CM, Lever M, Richards AM. Coenzyme Q10: an independent predictor of mortality in chronic heart failure. *J Am Coll Cardiol*. 2008 Oct 28;52(18):1435-41.
- 166 Silver MA, Langston PH, Szabo S, Patti H, Zelinger A. Effect of atorvastatin on left ventricular diastolic function and ability of coenzyme Q10 to reverse that dysfunction. *Am J Cardiol*. 2004 Nov 15;94(10):1306-10.
- 167 Yilmaz A, Reiss C, Weng A, Cicha I, Stumpf C, Steinkasserer A, Daniel WG, Garlachs CD. Differential effects of statins on relevant functions of human monocyte-derived dendritic cells. *J Leukoc Biol*. 2006 Mar;79(3):529-38. Epub 2005 Dec 30.
- 168 Shaw SM, Najam O, Khan U, Yonan N, Williams SG, Filides JG. Ezetimibe and atorvastatin both immunoregulate CD4+ T cells from cardiac transplant recipients invitro. *Transpl Immunol*. 2009 Jul 21;23(3):179-82.
- 169 Ji P, Si MS, Podnos Y, Chow H, Steward E, Imagawa GK. Prevention of chronic rejection by pravastatin in a rat kidney transplant model. *Transplantation*. 2002 Sep 27;74(6):821-7.
- 170 Blaschke S, Viereck V, Schwarz G, Klinger HM, Guerlucks S, Muller GA. Anti-inflammatory effects of atorvastatin on peripheral blood mononuclear cells and synovial fibroblasts in rheumatoid arthritis. *Scand J Rheumatol*. 2009 Feb 26;1-5.
- 171 Namazi MR. Statins: novel additions to the dermatologic arsenal? *Exp Dermatol*. 2004 Jun;13(6):337-9.
- 172 Neuhaus O, Strasser-Fuchs S, Fazekas F, Kieseier CB, Niederwieser G, Hartung HP, Archelos JI. Statins as immunomodulators: comparison with interferon-beta 1b in MS. *Neurology*. 2002 Oct 8;59(7):990-7.
- 173 Mascitelli L, Goldstein MR, Pezzetta F. Immunomodulatory properties of statins and cancer risk. *Recenti Prog Med*. 2009 Jun;100(1):33-9.
- 174 Jenkins DJ, Kendall CW, Marchie A, Faulkner DA, Wong JM, de Souza R, Emam A, Parker TL, Vidgen E, Lapsley KG, Trautwein EA, Josse RG, Leiter LA, Connelly PW. Effects of a dietary portfolio of cholesterol-lowering foods vs lovastatin on serum lipids and C-reactive protein. *JAMA*. 2003 Jul 23;290(4):502-10.
- 175 Tuttle ML, Skeaff CM, Mann JI, Cox B. The effect of a low-fat, high-carbohydrate diet on serum high density lipoprotein cholesterol and triglyceride. *Eur J Clin Nutr*. 1998 Oct;52(10):728-32.
- 176 Clarke R, Frost C, Collins R, Appleby P, Peto R. Dietary lipids and cholesterol: quantitative meta-analysis of metabolic ward studies. *BMJ*. 1997 Jan 11;314(7074):112-7.
- 177 Shintani TT, Beckham S, Brown AC, O'Connor HK. The Hawaii Diet: ad libitum high carbohydrate, low fat multi-cultural diet for the reduction of chronic disease risk factors: obesity, hypertension, hypercholesterolemia, and hyperglycemia. *Hawaii Med J*. 2001 Mar;60(3):69-73.
- 178 Jang Y, Lee JH, Kim OY, Park HY, Lee SY. Consumption of whole grain and legume powder reduces insulin demand, lipid peroxidation, and plasma homocysteine concentrations in patients with coronary artery disease: randomized controlled clinical trial. *Arterioscler Thromb Vasc Biol*. 2001 Dec;21(12):2065-71.
- 179 Hata Y, Nakajima K. Life-style and serum lipids and lipoproteins. *J Atheroscler Thromb*. 2000;7(4):177-97.
- 180 Dinçer Y, Akçay T, Konukoglu D, Hatemi H. Erythrocyte susceptibility to lipid peroxidation in patients with coronary atherosclerosis. *Acta Med Okayama*. 1999 Dec;53(6):259-64.
- 181 Jatuporn S, Sangwathanaroj S, Saengsiri AO, Rattanaprak S, Srimahachota S, Uthayachalern W, Kuanoon W, Pankadee O, Tangkijvanich P, Tosukhowong P. Short-term effects of an intensive lifestyle modification program on lipid peroxidation and antioxidant systems in patients with coronary artery disease. *Clin Hemorheol Microcirc*. 2003;29(3-4):429-36.
- 182 Varday KA, Houweling AH, Jones PJ. Effect of plant sterols and exercise training on cholesterol absorption and synthesis in previously sedentary hypercholesterolemic subjects. *Transl Res*. 2007 Jan;149(1):22-30.
- 183 Brufau G, Canela MA, Rafeas M. Phytosterols: physiologic and metabolic aspects related to cholesterol-lowering properties. *Nutr Res*. 2008 Apr;28(4):217-25.
- 184 Katan MB, Grundy SM, Jones P, Law M, Miettinen T, Paolietti R. Efficacy and safety of plant stanols and sterols in the management of blood cholesterol levels. *Mayo Clin Proc*. 2003 Aug;78(8):965-78.
- 185 Wu T, Fu J, Yang Y, Zhang L, Han J. The effects of phytosterols/stanols on blood lipid profiles: a systematic review with meta-analysis. *Asia Pac J Clin Nutr*. 2009;18(2):179-86.
- 186 Ryan E, Galvin K, O'Connor TP, Maguire AR, O'Brien NM. Fatty acid profile, tocopherol, squalene and phytosterol content of brazil, pecan, pine, pistachio and cashew nuts. *Int J Food Sci Nutr*. 2006 May-Jun;57(3-4):219-28.
- 187 Griel AE, Cao Y, Bagshaw DD, Cifelli AM, Holub B, Kris-Etherton PM. A macadamia nut-rich diet reduces total and LDL-cholesterol in mildly hypercholesterolemic men and women. *J Nutr*. 2008 Apr;138(4):761-7.
- 188 Maguire LS, O'Sullivan SM, Galvin K, O'Connor TP, O'Brien NM. Fatty acid profile, tocopherol, squalene and phytosterol content of walnuts, almonds, peanuts, hazelnuts and the macadamia nut. *Int J Food Sci Nutr*. 2004 May;55(3):171-8.
- 189 Phillips KM, Ruggio DM, Ashraf-Khorassani M. Phytosterol composition of nuts and seeds commonly consumed in the United States. *J Agric Food Chem*. 2005 Nov 30;53(24):9436-45.
- 190 Marcone MF, Kakuda Y, Yada RY. Amaranth as a rich dietary source of beta-sitosterol and other phytosterols. *Plant Foods Hum Nutr*. 2003;58(3):207-11.
- 191 Han JH, Yang YX, Feng MY. Contents of phytosterols in vegetables and fruits commonly consumed in China. *Biomed Environ Sci*. 2008 Dec;21(6):449-53.
- 192 Han J, Yang Y, Feng M, Wang G. Analysis of phytosterol contents in Chinese plant food and primary estimation of its intake of people. *Wei Sheng Yan Jiu*. 2007 May;36(3):302-5.
- 193 López Ledesma R, Frati Munari AC, Hernández Domínguez BC, Cervantes Montalvo S, Hernández Luna MH, Juárez C, Morán Lira S. Monounsaturated fatty acid (avocado) rich diet for mild hypercholesterolemia. *Arch Med Res*. 1996 Winter;27(4):519-23.
- 194 Carranza J, Alzavouri M, Alvarado MR, Chávez F, Gómez M, Herrera JE. Effects of avocado on the level of blood lipids in patients with phenotype II and IV dyslipidemias. *Arch Inst Cardiol Mex*. 1995 Jul-Aug;65(4):342-8.
- 195 Rajaram S, Haddad EH, Mejia A, Sabaté J. Walnuts and fatty fish influence different serum lipid fractions in normal to mildly hyperlipidemic individuals: a randomized controlled study. *Am J Clin Nutr*. 2009 May;89(5):1657S-1663S.
- 196 Sabaté J, Fraser GE, Burke K, Knutsen SF, Bennett H, Lindstedt KD. Effects of walnuts on serum lipid levels and blood pressure in normal men. *N Engl J Med*. 1993 Mar 4;328(9):603-7.
- 197 Spiller GA, Jenkins DA, Cragin LN, Gates JE, Bosello O, Braga R, Ruhl C, Stevenson M, Superko R. Effect of a diet high in monounsaturated fat from almonds on plasma cholesterol and lipoproteins. *J Am Coll Nutr*. 1992 Apr;11(2):126-30.
- 198 Sheridan MJ, Cooper JN, Erario M, Cheifetz CE. Pistachio nut consumption and serum lipid levels. *J Am Coll Nutr*. 2007 Apr;26(2):141-8.
- 199 Binkoski AE, Kris-Etherton PM, Wilson TA, Mountain ML, Nicolosi RJ. Department of Nutrition and Dietetics, Messiah College, Grantham, PA, USA. Balance of unsaturated fatty acids is important to a cholesterol-lowering diet: comparison of mid-oleic sunflower oil and olive oil on cardiovascular disease risk factors. *J Am Diet Assoc*. 2005 Jul;105(7):1080-6.
- 200 Allman-Fineman MA, Gomes K, Favaloro EJ, Petocz P. A diet rich in high-oleic acid sunflower oil favorably alters low-density lipoprotein cholesterol, triglycerides, and factor VII coagulant activity. *J Am Diet Assoc*. 2005 Jul;105(7):1071-9.
- 201 Perez-Jimenez F, Espino A, Lopez-Segura F, Blanco J, Ruiz-Gutierrez V, Prada JL, Lopez-Miranda J, Jimenez-Perez P, Ordoñez JM. Lipoprotein concentrations in normolipidemic males consuming oleic acid-rich diets from two different sources: olive oil and oleic acid-rich sunflower oil. *Am J Clin Nutr*. 1995 Oct;62(4):769-75.
- 202 Reuter W, Vorberg B, Sauer I, Krumpolt C. Changes in parameters of lipid metabolism and anti-oxidative potentials in elderly hyperlipoproteinemic patients treated with omega-3 fatty acids. *Z Gerontol*. 1994 May-Jun;27(3):204-7.
- 203 Kaul U, Sanghvi S, Bahl VK, Dev V, Wasir HS. Fish oil supplements for prevention of restenosis after coronary angioplasty. *Int J Cardiol*. 1992 Apr;35(1):87-93.
- 204 Witt T, Lofgren RP, Nichol K, Schorer AE, Crespin L, Downes D, Eckfeldt J. Fish oil supplementation does not lower plasma cholesterol in men with hypercholesterolemia. Results of a randomized, placebo-controlled crossover study. *Ann Intern Med*. 1989 Dec 1;111(11):900-5.
- 205 Harris WS, Dujovne CA, Zucker M, Johnson B. Effects of a low saturated fat, low cholesterol fish oil supplement in hypertriglyceridemic patients. A placebo-controlled trial. *Ann Intern Med*. 1988 Sep 15;109(6):465-70.
- 206 Cullinan K. Olive oil in the treatment of hypercholesterolemia. *Med Health R I*. 2006 Mar;89(3):113.
- 207 Cintra DE, Costa AV, Peluzio Mdo C, Matta SL, Silva MT, Costa NM. Lipid profile of rats fed high-fat diets based on flaxseed, peanut, trout, or chicken skin. *Nutrition*. 2006 Feb;22(2):197-205.
- 208 Vasil'ev AP, Strel'tsova NN, Sekisova MA. Effect of omega-3 fatty acids on the serum lipid profile and microcirculation in patients with metabolic syndrome and hypertensive disease. *Klin Med (Mosk)*. 2009;87(4):37-41.
- 209 Lin MH, Lu SC, Huang PC, Liu YC, Liu SY. The amount of dietary cholesterol changes the mode of effects of (n-3) polyunsaturated fatty acid on lipoprotein cholesterol in hamsters. *Ann Nutr Metab*. 2004 Sep-Oct;48(5):321-8.
- 210 Spiller GA, Jenkins DA, Bosello O, Gates JE, Cragin LN, Bruce B. Nuts and plasma lipids: an almond-based diet lowers LDL-C while preserving HDL-C. *J Am Coll Nutr*. 1998 Jun;17(3):285-90.
- 211 Neuvonen PJ, Kuusisto P, Vapaatalo H, Manninen V. Activated charcoal in the treatment of hypercholesterolemia: dose-response relationships and comparison with cholestyramine. *Eur J Clin Pharmacol*. 1989;37(3):225-30.
- 212 Tishler AV, Winston SH, Bell SM. Correlative studies of the hypocholesterolemic effect of a highly activated charcoal. *Methods Find Exp Clin Pharmacol*. 1987 Dec;9(12):799-806.
- 213 Kuusisto P, Vapaatalo H, Manninen V, Huttunen JK, Neuvonen PJ. Effect of activated charcoal on hypercholesterolemia. *Lancet*. 1986 Aug 16;2(8503):366-7.
- 214 Neuvonen PJ, Kuusisto P, Manninen V, Vapaatalo H, Miettinen TA. The mechanism of the hypocholesterolemic effect of activated charcoal. *Eur J Clin Invest*. 1989 Jun;19(3):251-4.
- 215 Theuvsen E, Mensink RP. Water-soluble dietary fibers and cardiovascular disease. *Physiol Behav*. 2008 May 23;94(2):285-92. Epub 2008 Jan 5.
- 216 Brown L, Rosner B, Willett WW, Sacks FM. Cholesterol-lowering effects of dietary fiber: a meta-analysis. *Am J Clin Nutr*. 1999 Jan;69(1):30-42.
- 217 Streppel MT, Ocké MC, Boshuizen HC, Kok FJ, Kromhout D. Dietary fiber intake in relation to coronary heart disease and all-cause mortality over 40 y: the Zutphen Study. *Am J Clin Nutr*. 2008 Oct;88(4):1119-25.
- 218 Davy BM, Davy KO, Ho RC, Beske SD, Davrath LR, Melby CL. High-fiber oat cereal compared with wheat cereal consumption favorably alters LDL-cholesterol subclass and particle numbers in middle-aged and older men. *Am J Clin Nutr*. 2002 Aug;76(2):351-8.
- 219 Ikegami S, Tomita M, Honda S, Yamaguchi M, Mizukawa R, Suzuki Y, Ishii K, Ohsawa S, Kiyooka N, Higuchi M, Kobayashi S. Effect of boiled barley-rice-feeding in hypercholesterolemic and normolipemic subjects. *Plant Foods Hum Nutr*. 1996 Jun;49(4):317-28.
- 220 Takai R, Baker WL, Pahlonia MS, White CM, Coleman CI. The effects of barley-derived soluble fiber on serum lipids. *Ann Fam Med*. 2009 Mar-Apr;7(2):157-63.
- 221 Lupton JR, Robinson SK, Morin JL. Cholesterol-lowering effect of barley bran flour and oil. *J Am Diet Assoc*. 1994 Jun;94(1):65-70.
- 222 Xu Z, Hua N, Gooder JS. Antioxidant activity of tocopherols, tocotrienols, and gamma-oryzanol components from rice bran against cholesterol oxidation accelerated by 2,2'-azobis(2-methylpropanoimidine) dihydrochloride. *J Agric Food Chem*. 2001 Apr;49(4):2077-81.
- 223 Zhang HW, Zhang YH, Lu MJ, Tong WJ, Cao GW. Comparison of hypertension, dyslipidemia and hyperglycemia between buckwheat seed-consuming and non-consuming Mongolian-Chinese populations in Inner Mongolia, China. *Clin Exp Pharmacol Physiol*. 2007 Sep;34(9):836-44.
- 224 Lin LY, Peng CC, Yang LY, Peng RY. Optimization of bioactive compounds in buckwheat sprouts and their effect on blood cholesterol in hamsters. *J Agric Food Chem*. 2008 Feb 27;56(4):1216-23. Epub 2008 Jan 24.
- 225 McIntosh GH, Whyte J, McArthur R, Nestel PJ. Barley and wheat foods: influence on plasma cholesterol concentrations in hypercholesterolemic men. *Am J Clin Nutr*. 1991 May;53(5):1205-9.
- 226 Tinker LF, Davis PA, Schneeman BO. Prune fiber or pectin compared with cellulose lowers plasma and liver lipids in rats with diet-induced hyperlipidemia. *J Nutr*. 1994 Jun;124(1):31-40.
- 227 Tinker LF, Schneeman BO, Davis PA, Gallaher DD, Waggoner CR. Consumption of prunes as a source of dietary fiber in men with mild hypercholesterolemia. *Am J Clin Nutr*. 1991 May;53(5):1259-65.
- 228 Gallaher CW, Gallaher DD. Dried plums (prunes) reduce atherosclerosis lesion area in apolipoprotein E-deficient mice. *Br J Nutr*. 2009 Jan;101(2):233-9. Epub 2008 Sep 2.
- 229 Stacewicz-Sapuntzakis M, Bowen PE, Hussain RN, Damayanti-Wood BJ, Farnsworth NR. Chemical composition and potential health effects of prunes: a functional food? *Crit Rev Food Sci Nutr*. 2001 May;41(4):251-86.
- 230 Gorinstein S, Caspi A, Libman I, Lerner HT, Huang D, Leontowicz H, Leontowicz M, Tashma Z, Katrič E, Feng S, Trahtenberg S. Red grapefruit positively influences serum triglyceride level in patients suffering from coronary atherosclerosis: studies in vitro and in humans. *J Agric Food Chem*. 2006 Mar 8;54(5):1887-92.
- 231 Cerda JJ, Robbins FL, Burgin CW, Baumgartner TG, Rice RW. The effects of grapefruit pectin on patients at risk for coronary heart disease without altering diet or lifestyle. *Clin Cardiol*. 1988 Sep;11(9):589-94.
- 232 Baeke PA, Cerda JJ, Burgin CW, Robbins FL, Rice RW, Baumgartner TG. Grapefruit pectin inhibits hypercholesterolemia and atherosclerosis in miniature swine. *Clin Cardiol*. 1988 Sep;11(9):597-600.
- 233 Lampe JW, Slavin JL, Baglien KS, Thompson WO, Duane WC, Zavoral JH. Serum lipid and fecal bile acid changes with cereal, vegetable, and sugar-beet fiber feeding. *Am J Clin Nutr*. 1991 May;53(5):1235-41.
- 234 Anderson JW, Aligood LD, Turner J, Oeltgen PR, Daggy BR. Effects of psyllium on glucose and serum lipid responses in men with type 2 diabetes and hypercholesterolemia. *Am J Clin Nutr*. 1999 Oct;70(4):466-73.
- 235 Jenkins DJ, Kendall CW, Faulkner D, Vidgen E, Trautwein EA, Parker TL, Marchie A, Koumridis G, Lapsley KG, Josse RG, Leiter LA, Connelly PW. A dietary portfolio approach to cholesterol reduction: combined effects of plant sterols, vegetable proteins, and viscous fibers in hypercholesterolemia. *Metabolism*. 2002 Dec;51(12):1596-604.
- 236 Anderson JW, Gustafson NJ, Spencer DB, Tietjen J, Bryant CA. Serum lipid response of hypercholesterolemic men to single and divided doses of canned beans. *Am J Clin Nutr*. 1990 Jun;51(6):1013-9.
- 237 Pittaway JK, Robertson IJ, Ball M. Chickpeas may influence fatty acid and fiber intake in an ad libitum diet, leading to small improvements in serum lipid profile and glycemic control. *J Am Diet Assoc*. 2008 Jun;108(6):1009-13.
- 238 Nicolle C, Cardinault N, Aprikian O, Busslerolles J, Grolier P, Rock E, Demigné C, Mazur A, Scalbert A, Amouroux P, Rémyés C. Effect of carrot intake on cholesterol metabolism and on antioxidant status in cholesterol-fed rats. *Eur J Nutr*. 2003 Oct;42(5):254-61.

# Blue Print for Health and Healing

<sup>233</sup> Zaleska-Fiolka J, Kasperczyk A, Kasperczyk S, Błaszczyk U, Birkner E. Effect of garlic supplementation on erythrocytes antioxidant parameters, lipid peroxidation, and atherosclerotic plaque formation process in oxidized oil-fed rabbits. *Biol Trace Elem Res*. 2007 Winter;120(1-3):195-204.

<sup>234</sup> Sobenin IA, Andrianova IV, Demidova ON, Gorchakova T, Orekhov AN. Lipid-lowering effects of time-released garlic powder tablets in double-blinded placebo-controlled J Atheroscler Thromb. 2008 Dec;15(6):334-8.

<sup>235</sup> Reinhardt KM, Talati R, White CM, Coleman CI. The impact of garlic on lipid parameters: a systematic review and meta-analysis. *Nutr Res Rev*. 2009 Jun;22(1):39-48.

<sup>236</sup> Augusti KT, Narayanan A, Pillai LS, Ebrahim RS, Sivadasan R, Sindhu KR, Subha I, Abdeen S, Nair SS. Beneficial effects of garlic (*Allium sativum* Linn) on rats fed with diets containing cholesterol and either of the oil seeds, coconuts or groundnuts. *Indian J Exp Biol*. 2001 Jul;39(7):660-7.

<sup>237</sup> Gorinstein S, Leontowicz H, Leontowicz M, Jastrzebski Z, Najman K, Tashma Z, Katrich E, Heo BG, Cho JY, Park YJ, Trakhtenberg S. The influence of raw and processed garlic and onions on plasma classical and non-classical atherosclerosis indices: investigations in vitro and in vivo. *Phytother Res*. 2009 Oct 13. (Epub ahead of print )

<sup>238</sup> Gabler NK, Orsowska E, Jmsic M, Eagling DR, Jois M, Tatham BG, Dunshie FR. Dietary onion intake as part of a typical high fat diet improves indices of cardiovascular health using the mixed sex pig model. *Plant Foods Hum Nutr*. 2006 Dec;61(4):179-85.

<sup>239</sup> Soudamini KK, Unnikrishnan MC, Soni KB, Kuttan R. Inhibition of lipid peroxidation and cholesterol levels in mice by curcumin. *Indian J Physiol Pharmacol*. 1992 Oct;36(4):239-43.

<sup>240</sup> Molgaard J, von Schenck H, Olsson AG. Alfalfa seeds lower low density lipoprotein cholesterol and apolipoprotein B concentrations in patients with type II hyperlipoproteinemia. *Atherosclerosis*. 1987 May;65(1-2):173-9.

<sup>241</sup> Story JA, LePage SL, Petro MS, West LG, Cassidy MM, Lightfoot FG, Vahouny GV. Interactions of alfalfa plant and sprout saponins with cholesterol in vitro and in cholesterol-fed rats. *Am J Clin Nutr*. 1984 Jun;39(6):917-29.

<sup>242</sup> Tsi D, Tan BK. The mechanism underlying the hypocholesterolaemic activity of aqueous celery extract, its butanol and aqueous fractions in genetically hypercholesterolaemic RICO rats. *Life Sci*. 2000 Jan 14;66(8):755-67.

<sup>243</sup> Tsi D, Das NP, Tan BK. Effects of aqueous celery (*Apium graveolens*) extract on lipid parameters of rats fed a high fat diet. *Planta Med*. 1995 Feb;61(1):18-21.

<sup>244</sup> Tsi D, Tan BK. Effects of celery extract and 3-n-butylphthalide on lipid levels in genetically hypercholesterolaemic (RICO) rats. *Clin Exp Pharmacol Ther*. 1996 Mar;23(3):214-7.

<sup>245</sup> Fujimura I, Geraldes SM, Ito LS, Matsuda CK, de Oliveira E, Povoas MF, Sclerarc EA, Zanotto A. Correlation between hypercholesterolemia and vitamin C deficient diet. *Rev Hosp Clin Fac Med Sao Paulo*. 1991 Jan-Feb;46(1):14-8.

<sup>246</sup> Uchida K, Nomura Y, Takase H, Tasaki T, Seo S, Hayashi Y, Takeuchi N. Effect of vitamin C depletion on serum cholesterol and lipoprotein levels in ODS (od/od) rats unable to synthesize ascorbic acid. *J Nutr*. 1990 Oct;120(10):140-7.

<sup>247</sup> Gey KF, Ståhelin HB, Puska P, Evans A. Relationship of plasma level of vitamin C to mortality from ischemic heart disease. *Ann N Y Acad Sci*. 1987;498:110-23.

<sup>248</sup> Ginter E, Zichynec B, Holzerová O, Tichá E, Kobza R, Koziačková M, Černá O, Ozdin L, Hrubá F, Nováková V, Sasko E, Gaher M. Hypocholesterolemic effect of ascorbic acid in maturity-onset diabetes mellitus. *Int J Vitam Nutr Res*. 1978;48(4):368-73.

<sup>249</sup> Ginter E, Černá O, Budlovský J, Baláz V, Hrubá F, Roch V, Sasko E. Effect of ascorbic acid on plasma cholesterol in humans in a long-term experiment. *Int J Vitam Nutr Res*. 1977;47(2):123-34.

<sup>250</sup> Kaplan M, Hayek T, Raz A, Coleman R, Dornfeld L, Vaya J, Aviram M. Pomegranate juice supplementation to atherosclerotic mice reduces macrophage lipid peroxidation, cellular cholesterol accumulation and development of atherosclerosis. *J Nutr*. 2001 Aug;131(8):2082-9.

<sup>251</sup> Kamada C, da Silva EL, Ohnishi-Kameyama M, Moon JH, Terao J. Attenuation of lipid peroxidation and hyperlipidemia by quercetin glucoside in the aorta of high cholesterol-fed rabbit. *Free Radic Res*. 2005 Feb;39(2):185-94.

<sup>252</sup> Ogino Y, Osada K, Nakamura S, Ohta Y, Kanda T, Sugano M. Absorption of dietary cholesterol oxidation products and their downstream metabolic effects are reduced by dietary apple polyphenols. *Lipids*. 2007 Mar;42(2):151-61.

<sup>253</sup> Cohen HW, Sloop GD; PDA Study. Glucose interaction magnifies atherosclerotic risk from cholesterol. Findings from the PDA Study. *Atherosclerosis*. 2004 Jan;172(1):115-20.

<sup>254</sup> Khan SR, Ayub N, Nawab S, Shamsi TS. Triglyceride profile in dyslipidemia of type 2 diabetes mellitus. *J Coll Physicians Surg Pak*. 2008 May;18(5):270-3.

<sup>255</sup> Griffin M, Frazer A, Johnson A, Collins P, Owens D, Tomkin GH. Cellular cholesterol synthesis—the relationship to post-prandial glucose and insulin following weight loss. *Atherosclerosis*. 1998 Jun;138(2):313-8.

<sup>256</sup> Stinson JC, Owens D, Collins P, Johnson A; Tomkin GH. Hyperinsulinemia is associated with stimulation of cholesterol synthesis in both type 1 and type 2 diabetes. *Diabet Med*. 1993; 10(5):412-9.

<sup>257</sup> Zavaroni I, Bonini L, Fantuzzi M, Dall'Aglio E, Passeri M, Reaven GM. Hyperinsulinemia, obesity, and syndrome X. *J Intern Med*. 1994 Jan;235(1):51-6.

<sup>258</sup> Ladeia AM, Adan L, Couto-Silva AC, Hiltner A, Guimaraes AC. Lipid profile correlates with glycemic control in young patients with type 1 diabetes mellitus. *Prev Cardiol*. 2006 Spring;9(2):82-8.

<sup>259</sup> Pettitt DJ, Imperatore G, Pihoker C, Daniels SR, Dolan LM, Kershner AK, Marcovina S, Pettitt DJ, Pihoker C. SEARCH for Diabetes in Youth Study Group. Serum lipids and glucose control: the SEARCH for Diabetes in Youth study. *Arch Pediatr Adolesc Med*. 2007 Feb;161(2):159-65.

<sup>260</sup> Smith JB, Niven BE, Mann JJ. The effect of reduced extrinsic sucrose intake on plasma triglyceride levels. *Eur J Clin Nutr*. 1996 Aug;50(8):498-504.

<sup>261</sup> Liu S, Manson JE, Stampfer MJ, Holmes MD, Hu FB, Hankinson SE, Willett WC. Dietary glycemic load assessed by food-frequency questionnaire in relation to plasma high-density-lipoprotein cholesterol and fasting plasma triacylglycerols in postmenopausal women. *Am J Clin Nutr*. 2001 Mar;73(3):560-6.

<sup>262</sup> Stanhope KL, Schwarz JM, Keim NL, Griffen SC, Bremer AA, Graham JL, Hatcher B, Cox CL, D'yachenko A, Zhang W, McGAhan JP, Seibert A, Krauss RM, Chiu S, Schaefer EJ, Ai M, Otokozawa S, Nakajima K, Nakano T, Beyens C, Hellerstein MK, Berglund L, Havel PJ. Consuming fructose-sweetened, not glucose-sweetened, beverages increases visceral adiposity and lipids and decreases insulin sensitivity in overweight/obese humans. *J Clin Invest*. 2009 May;119(5):1322-34.

<sup>263</sup> Schaefer EJ, Gleason JA, Dansinger ML. Dietary fructose and glucose differentially affect lipid and glucose homeostasis. *J Nutr*. 2009 Jun;139(6):12575-12625.

<sup>264</sup> Dhingra R, Sullivan L, Jacques PF, Wang TJ, Fox CS, Meigs JB, D'Agostino RB, Gaziano JM, Vasan RS. Soft drink consumption and risk of developing cardiometabolic risk factors and the metabolic syndrome in middle-aged adults in the community. *Circulation*. 2007 Jul 31;116(5):480-8.

<sup>265</sup> Yaghoobi N, Al-Waili N, Ghayour-Mobarhan M, Parizadeh SM, Abasalti Z, Yaghoobi Z, Yaghoobi F, Esmaeili H, Kazemi-Bajestani SM, Aghazadeh R, Saloom KY, Ferns GA. Natural honey and cardiovascular risk factors; effects on blood glucose, cholesterol, triacylglycerole, CRP, and body weight compared with sucrose. *ScientificWorldJournal*. 2008 Apr;2008:119-25.

<sup>266</sup> Uribarri J, Cai W, Sandu O, Peppas M, Goldberg T, Vlassara H. Diet-derived advanced glycation end products are major contributors to the body's AGE pool and induce inflammation in healthy subjects. *Ann N Y Acad Sci*. 2005 Jun;1043:461-6.

<sup>267</sup> Zhang WR, Hou FF, Liu SX, Guo ZJ, Zhou ZM, Wang GB, Fu N, Liu ZQ, Wang L, Zhou M. Advanced glycation end products accelerate atherosclerosis via enhancement of oxidative stress. *Zhonghua Yi Xue Za Zhi*. 2004 Jul 2;84(13):1066-72.

<sup>268</sup> Makita Z, Yanagisawa K, Kuwajima S, Bucala R, Vlassara H, Koike T. The role of advanced glycosylation end-products in the pathogenesis of atherosclerosis. *Nephrol Dial Transplant*. 1996;11 Suppl 5:31-3.

<sup>269</sup> Goldberg T, Cai W, Peppas M, Dardaine V, Baliga BS, Uribarri J, Vlassara H. Advanced glycosylation end products in commonly consumed foods. *J Am Diet Assoc*. 2004 Aug;104(8):1287-91.

<sup>270</sup> Gugliucci A, Kotani K, Taing J, Matsuoka Y, Sano Y, Yoshimura M, Egawa K, Horikawa C, Kitagawa Y, Kiso Y, Kimura S, Sakane N. Short-term low calorie diet intervention reduces serum advanced glycation end products in healthy overweight or obese adults. *Ann Nutr Metab*. 2009;54(3):197-201.

<sup>271</sup> Sakata K, Matsumura Y, Yoshimura N, Tamaki J, Hashimoto T, Oguri S, Okayama A, Yanagawa H. Relationship between skipping breakfast and cardiovascular disease risk factors in the national nutrition survey data. *Nippon Koshu Eisei Zasshi*. 2001 Oct;48(10):837-41.

<sup>272</sup> Berglund H, Jepsen H. Intervention in shift scheduling and changes in biomarkers of heart disease in hospital wards. *Scand J Work Environ Health*. 2001 Apr;27(2):87-96.

<sup>273</sup> Ghiasvand M, Heshmat R, Golpira R, Haghpanah V, Soleimani A, Shoushtarizadeh P, Tavangar SM, Larjani B. Shift working and risk of lipid disorders: a cross-sectional study. *Lipids Health Dis*. 2006 Apr;10:5-9.

<sup>274</sup> Copertaro A, Bracci M, Barbaresi M, Santarelli L. Role of waist circumference in the diagnosis of metabolic syndrome and assessment of cardiovascular risk in shift workers. *Med Lav*. 2008 Nov-Dec;99(6):444-53.

<sup>275</sup> Kirby RJ, Howles PN, Hui DY. Rate of gastric emptying influences dietary cholesterol absorption efficiency in selected inbred strains of mice. *J Lipid Res*. 2004 Jan;45(1):89-98.

<sup>276</sup> Murphy MC, Chapman C, Lovegrove JA, Isherwood SG, Morgan LM, Wright JW, Williams CM. Meal frequency; does it determine postprandial lipaemia? *Eur J Clin Nutr*. 1996 Aug;50(8):491-7.

<sup>277</sup> Dewailly P, Moulin S, Fievet C, Dedonder E, Sezille G, Jaillard J. Circadian meal-related changes in serum lipoprotein levels in normal subjects. *Nouv Presse Med*. 1981 May;23(10):1913-4, 1919-21.

<sup>278</sup> Roen PB. The evening meal and atherosclerosis. *J Am Geriatr Soc*. 1978 Jun;26(6):284-5.

<sup>279</sup> Sparks DL, Martin T, Stankovic G, Wagoner T, Van Andel R. Influence of water quality on cholesterol induced systemic pathology. *J Nutr Health Aging*. 2007 Mar-Apr;11(2):189-93.

<sup>280</sup> Sparks DL, Lochhead J, Horstman D, Wagoner T, Martin T. Water quality has a pronounced effect on cholesterol-induced accumulation of Alzheimer amyloid beta (Aβeta) in rabbit brain. *J Alzheimers Dis*. 2002 Dec;4(6):523-9.

<sup>281</sup> Campbell NR, Wickert W, Wagner P, Shumak SL. Dehydration during fasting increases serum lipids and lipoproteins. *Clin Invest Med*. 1994 Dec;17(6):570-6.

<sup>288</sup> Ishikawa-Takata K, Ohta T, Moritaki K, Gotou T, Inoue S. Obesity, weight change and risks for hypertension, diabetes and hypercholesterolemia in Japanese men. *Eur J Clin Nutr*. 2002 Jul;56(7):601-7.

<sup>289</sup> Tresaco B, Muñoz LA, Ruiz JR, Ortega FB, Bueno G, González-Gross M, Wärnberg J, Gutiérrez A, García-Fuentes M, Marcos A, Castillo M, Bueno M; the AVENA Study Group. Truncal and Abdominal Fat as Determinants of High Triglycerides and Low HDL-cholesterol in Adolescents. *Obesity (Silver Spring)*. 2009 Jan 29.

<sup>290</sup> Wiseman H. Vitamin D is a membrane antioxidant. Ability to inhibit iron-dependent lipid peroxidation in liposomes compared to cholesterol, ergosterol and tamoxifen and relevance to anticancer action. *FEBS Lett*. 1993 Jul 12;326(1-3):285-8.

<sup>291</sup> Carbone LD, Rosenberg EW, Tolley EA, Holick MF, Hughes TA, Watsky MA, Barrow KD, Chen TC, Wilkin NK, Bhattacharya SK, Dowdy JC, Sayre RM, Weber KT. 25-Hydroxyvitamin D, cholesterol, and ultraviolet irradiation. *Metabolism*. 2008 Jun;57(6):741-8.

<sup>292</sup> Grimes DS, Hindle E, Dyer T. Sunlight, cholesterol and coronary heart disease. *QJM*. 1996 Aug;89(8):579-89.

<sup>293</sup> Lippi G, Schena F, Salvagno GL, Montagnana M, Balleslerii F, Guidi GC. Comparison of the lipid profile and lipoprotein(a) between sedentary and highly trained subjects. *Clin Chem Lab Med*. 2006;44(3):322-6.

<sup>294</sup> Williams PT. Relationship of running intensity to hypertension, hypercholesterolemia, and diabetes. *Med Sci Sports Exerc*. 2008 Oct;40(10):1740-8.

<sup>295</sup> Halverstad A, Phares DA, Wilund KR, Goldberg AP, Hagberg JM. Endurance exercise training raises high-density lipoprotein cholesterol and lowers small low-density lipoprotein and very low density lipoprotein independent of body fat phenotypes in older men and women. *Metabolism*. 2007 Apr;56(4):444-50.

<sup>296</sup> Shaw I, Shaw BS. Relationship between resistance training and lipoprotein profiles in sedentary male smokers. *Cardiovasc J Afr*. 2008 Jul-Aug;19(4):194-7.

<sup>297</sup> Hata Y, Nakajima K. Life-style and serum lipids and lipoproteins. *J Atheroscler Thromb*. 2000;7(4):177-97.

<sup>298</sup> Boreham CA, Kennedy RA, Murphy MH, Tully M, Wallace WF, Young I. Training effects of short bouts of stair climbing on cardiorespiratory fitness, blood lipids, and homocysteine in sedentary young women. *Br J Sports Med*. 2005 Sep;39(9):590-3.

<sup>299</sup> Murphy M, Nevill A, Neville C, Biddle S, Hardman A. Accumulating brisk walking for fitness, cardiovascular risk, and psychological health. *Med Sci Sports Exerc*. 2002 Sep;34(9):1468-74.

<sup>300</sup> Lefevre M, Redman LM, Heilbronn LK, Smith JN, Martin CK, Rood JC, Greenway FL, Williamson DA, Smith SR, Ravussin E; Pennington CALERIE team. Caloric restriction alone and with exercise improves CVD risk in healthy non-obese individuals. *Atherosclerosis*. 2009 Mar;203(1):206-13.

<sup>301</sup> Kuchchokkar BJ, Sodhi HS, Mason DT, Borhani ND. Effects of acute caloric restriction on cholesterol metabolism in man. *Am J Clin Nutr*. 1977 Jul;30(7):1135-46.

<sup>302</sup> Skripchenko ND, Sharafetdinov Khkh, Plotnikova OA, Meshcheriakova VA. Influence of caloric restriction diet on clinical and biochemical parameters in patients with type 2 diabetes mellitus. *Vopr Pitan*. 2002;7(14):13-7.

<sup>303</sup> Kerkhofs M, Boujelletia KZ, Stenuit P, Brohée D, Cauchie P, Vanhaeverbeek M. Sleep restriction increases blood neutrophils, total cholesterol and low density lipoprotein cholesterol in postmenopausal women: A preliminary study. *Maturitas*. 2007 Feb 20;56(2):212-5.

<sup>304</sup> Bjorvatn B, Sagen IM, Øyane N, Waage S, Fveit A, Pallesen S, Ursin R. The association between sleep duration, body mass index and metabolic measures in the Hordaland Health Study. *J Sleep Res*. 2007 Mar;16(1):66-76.

<sup>305</sup> Kerkhofs M, Boujelletia KZ, Stenuit P, Brohée D, Cauchie P, Vanhaeverbeek M. Sleep restriction increases blood neutrophils, total cholesterol and low density lipoprotein cholesterol in postmenopausal women: A preliminary study. *Maturitas*. 2007 Feb 20;56(2):212-5.

<sup>306</sup> van den Berg JF, Miedema HM, Tulen JH, Neven AK, Hofman A, Witterman JC, Tiemeier H. Long sleep duration is associated with serum cholesterol in the elderly: the Rotterdam Study. *Psychosom Med*. 2008 Nov;70(9):1005-11.

<sup>307</sup> Kaneita Y, Uchiyama M, Yoshike N, Ohida T. Associations of usual sleep duration with serum lipid and lipoprotein levels. *Sleep*. 2008 May 1;31(5):645-52.

<sup>308</sup> Kitaoka-Higashiguchi K, Morikawa Y, Miura K, Sakurai M, Ishizaki M, Kido T, Naruse Y, Nakagawa H. Burnout and Risk Factors for Arteriosclerotic Disease: Follow-up Study. *J Occup Health*. 2009;51(2):123-31.

<sup>309</sup> Wattoo FH, Memon NS, Memon AN, Wattoo MH, Tirmizai SA, Iqbal J. Estimation and correlation of stress and cholesterol levels in college teachers and housewives of Hyderabad-Pakistan. *J Pak Med Assoc*. 2008 Jan;58(1):15-8.

<sup>310</sup> Muldoon MF, Bachan EA, Manuck SB, Waldstein SR, Bricker PL, Bennett JA. Acute cholesterol responses to mental stress and change in posture. *Arch Intern Med*. 1992 Apr;152(4):775-80.

<sup>311</sup> Berk L. Laughter May Lower Heart Attack Risk In Diabetics. *HealthDay News*, Friday, April 17, 2009

<sup>312</sup> Friedlander Y, Kark JD, Stein Y. Religious observance and plasma lipids and lipoproteins among 17-year-old Jewish residents of Jerusalem. *Prev Med*. 1987 Jan;16(1):70-9.

<sup>313</sup> Friedlander Y, Kark JD, Kaufmann NA, Stein Y. Coronary heart disease risk factors among religious groupings in a Jewish population sample in Jerusalem. *Am J Clin Nutr*. 1985 Sep;42(3):511-21.

<sup>314</sup> Holy Bible, Matthew 11:28, King James Version.

## Chapter 5 – References

<sup>1</sup> Yuan L, Tang D, Peng J, Qu N, Yue C, Wang F. Study on lifestyle in patients with gastroesophageal reflux disease. *Zhong Nan Da Xue Yue Bao Yi Xue Ban*. 2017 May 28;42(5):558-564.

<sup>2</sup> El-Serag HB, Sweet S, Winchester CC, and Dent J. Update on the epidemiology of gastro-oesophageal reflux disease: a systematic review. *Gut*. 2014 Jun; 63(6): 871–880.

<sup>3</sup> Lacy BE, Carter J, Weiss JE, Crowell MD. The effects of intraduodenal nutrient infusion on serum CCK, LES pressure, and gastroesophageal reflux. *Neurogastroenterol Motil*. 2011 Jul;23(7):631-e256.

<sup>4</sup> Babka JC, Castell DO. On the genesis of heartburn. The effects of specific foods on the lower esophageal sphincter. *Am J Dig Dis*. 1973 May;18(5):391-7.

<sup>5</sup> Kim YK1, Moon JS, Ryu SH, Lee JH, Kim YS. The relationship between the popular beverages in Korea and reported postprandial heartburn. *Korean J Gastroenterol*. 2010 Feb;55(2):109-18.

<sup>6</sup> Nagasaki A, Ishimori A, Masamune O, Yamagata S. Response of lower esophageal sphincter pressure to beef soup or AOC-tetrapeptide stimulation in esophagitis. *Tohoku J Exp Med*. 1977 Jan;121(1):91-7.

<sup>7</sup> Wright LE, Castell DO. The adverse effect of chocolate on lower esophageal sphincter pressure. *Am J Dig Dis*. 1975 Aug;20(8):702-7.

<sup>8</sup> Thomas F, B, Steinbaugh JT, Fromkes JI, Mekhjian HS, Caldwell JH. Inhibitory effect of coffee on lower esophageal sphincter pressure. *Gastroenterology*. 1980 Dec;79(6):1262-6.

<sup>9</sup> Gudjonsson H, McAlluffe TL, Kaye MD. The effect of coffee and tea upon lower esophageal sphincter function. *Laeknabladid*. 1995 Jun;81(6):484-8.

<sup>10</sup> Braverman AS, Vegesna AK, Miller LS, Barbe MF, Tiwana M, Hussain K, Ruggieri MR SR. Pharmacologic specificity of nicotinic receptor-mediated relaxation of muscarinic receptor precontracted human gastric clasp and sling muscle fibers within the gastroesophageal junction. *J Pharmacol Exp Ther*. 2011 Jul;338(1):37-46.

<sup>11</sup> Ness-Jensen E, Lageregren J. Tobacco smoking, alcohol consumption and gastro-oesophageal reflux disease. *Best Pract Res Clin Gastroenterol*. 2017 Oct;31(5):501-508.

<sup>12</sup> Kahrltas PJ. GERD pathogenesis, pathophysiology, and clinical manifestations. *Cleve Clin J Med*. 2003 Nov;70 Suppl 5:54-19.

<sup>13</sup> Piche T, des Varannes SB, Sacher-Huvelin S, Holst JJ, Cuber JC, Galmiche JP. Colonic fermentation influences lower esophageal sphincter function in gastroesophageal reflux disease. *Gastroenterology*. 2003 Apr;124(4):894-902.

<sup>14</sup> Hamoui N, Lord RV, Hagen JA, Theisen J, Demeester TR, Crookes PF. Response of the lower esophageal sphincter to gastric distention by carbonated beverages. *J Gastrointest Surg*. 2006 Jun;10(6):870-7.

<sup>15</sup> Ford AC, Talley NJ, Walker MM, Jones MP. Increased prevalence of autoimmune diseases in functional gastrointestinal disorders: case-control study of 23471 primary care patients. *Aliment Pharmacol Ther*. 2014 Oct;40(7):827-34.

<sup>16</sup> Souza RF, Huo X, Mittal V, Schuler CM, Carmack SW, Zhang HY, Zhang Y, Yu C, Hormi-Carver K, Genta RM, Speclher SJ. Gastroesophageal reflux might cause esophagitis through a cytokine-mediated mechanism rather than caustic acid injury. *Gastroenterology*. 2009 Nov;137(5):1776-84.

<sup>17</sup> Ferraz JG, Tigley AW, Appleyard CB, Wallace JL. TNF-alpha contributes to the pathogenesis of ethanol-induced gastric damage in cirrhotic rats. *Am J Physiol*. 1997 Apr;272(4 Pt 1):G809-14.

<sup>18</sup> Ramirez-Barrios JA, Toro-Monjaraz EM, Romero-Trujillo J, Cervantes-Bustamante R, Zárate-Mondragón F, Montijo-Mayans E, Cadena-León J, Cazares-Méndez M. 24-h intraesophageal pH determination in children allergic to cow's milk protein at a tertiary care hospital. *Rev Gastroenterol Mex*. 2014 Jan-Mar;79(1):3-6.

<sup>19</sup> Myers BM, Smith JL, Graham DY. Effect of red pepper and black pepper on the stomach. *Am J Gastroenterol*. 1987 Mar;82(3):412-4.

<sup>20</sup> Vasudevan K, Vembar S, Veerarghavan K, Haranath PS. Influence of intragastric perfusion of aqueous spice extracts on acid secretion in anesthetized albino rats. *Indian J Gastroenterol*. 2000 Apr-Jun;39(2):53-6.

<sup>21</sup> V Schönfeld J, Evans DF. Fat, spices and gastro-oesophageal reflux. *Z Gastroenterol*. 2007 Feb;45(2):171-5.

<sup>22</sup> Kim YK, Moon JS, Ryu SH, Lee JH, Kim YS. The relationship between the popular beverages in Korea and reported postprandial heartburn. *Korean J Gastroenterol*. 2010 Feb;55(2):109-18.

<sup>23</sup> Feldman M, Barnett C. Relationships between the acidity and osmolality of popular beverages and reported postprandial heartburn. *Gastroenterology*. 1995 Jan;108(1):125-31.

<sup>24</sup> Drug induced lesions of the oesophageal mucosa. *Prescrire Int*. 2015 Sep;24(163):210-1, 213.

<sup>25</sup> Mungan Z, Pinarbaş Simsık B. Which drugs are risk factors for the development of gastroesophageal reflux disease? *Turk J Gastroenterol*. 2017 Dec;28(Suppl 1):S38-S43.

<sup>26</sup> Shibata T, Nakamura M, Omori T, Tahara T, Ichikawa Y, Okubo M, Ishizuka T, Nakagawa Y, Nagasaka M, Nakamura M, Arisawa T, Hirata I. Association between individual response to food taste and gastroesophageal symptoms. *J Dig Dis*. 2015 Jun;16(6):337-41.

<sup>27</sup> Riegler M, Kristo I, Asari R, Rieder E, Schoppmann SF. Dietary sugar and Barrett's esophagus. *Eur Surg*. 2017;49(6):279-281.



# References

- 28 Li N, Petrick JL, Steck SE, Bradshaw PT, McClain KM, Niehoff NM, Engel LS, Shaheen NJ, Corley DA, Vaughan TL, Gammon MD. Dietary sugar/starches intake and Barrett's esophagus: a pooled analysis. *Eur J Epidemiol*. 2017 Nov;32(11):1007-1017.
- 29 Tasevska N, Jiao L, Cross AJ, Kipnis V, Subar AF, Hollenbeck A, Schatzkin A, Potoschman N. Sugars in diet and risk of cancer in the NIH-AARP Diet and Health Study. *Int J Cancer*. 2012 Jan 15;130(1):159-69.
- 30 Chirila I, Morariu ID, Barboi OB, Drug VL. The role of diet in the overlap between gastroesophageal reflux disease and functional dyspepsia. *Turk J Gastroenterol*. 2016 Jan;27(1):73-80.
- 31 Fox M, Barr C, Nolan S, Lomer M, Anggiansah A, Wong T. The effects of 77 dietary fat and calorie density on esophageal acid exposure and reflux symptoms. *Clin Gastroenterol Hepatol*. 2007 Apr;5(4):439-44.
- 32 Saqui-Salces M, Dowdle WE, Reiter JF, Merchant JL. A high-fat diet regulates gastrin and acid secretion through primary cilia. *FASEB J*. 2012 Aug;26(8):3127-39.
- 33 Alkhatami AM, Alzahrani AA, Alzahrani MA, Alsawat OB, Mahfouz MEM. Risk Factors for Gastroesophageal Reflux Disease in Saudi Arabia. *Gastroenterology Res*. 2017 Oct;10(5):294-300.
- 34 Arya V, Agarwal S, Singh S, Sison C, Gupta KA. The effect of increased chewing strokes on the DeMeester score. *Dis Esophagus*. 2017 May 1;30(5):1-5.
- 35 Sariosiek J, Scheurich CJ, Marcinkiewicz M, McCallum RW. Enhancement of salivary esophagoprotection: rationale for a physiological approach to gastroesophageal reflux disease. *Gastroenterology*. 1996 Mar;110(3):675-81.
- 36 Takehisa E, Furukawa S, Sakai T, Niya T, Miyakoa H, Miyake T, Yamamoto S, Senba H, Yamamoto Y, Arimitsu E, Yagi S, Utsunoyama H, Tanaka K, Ikeda Y, Matsuo H, Miyake Y, Hiasa Y. Eating Behaviours and Prevalence of Gastroesophageal Reflux Disease in Japanese Patients with Type 2 Diabetes Mellitus: The Dogo Study. *Can J Diabetes*. 2017 Oct 19. pii: S1499-2671(17)30130-2.
- 37 Nathanson BH, Navab F. An Analysis of Weight Gains and Body Mass Index in Patients with Barrett's Esophagus. *J Acad Nutr Diet*. 2016 Jul;116(7):1156-62.
- 38 Lanzon-Miller S, Pounder RE, Mclsaac RL, Wood JR. The timing of the evening meal affects the pattern of 24-hour intragastric acidity. *Aliment Pharmacol Ther*. 1990 Oct;4(5):547-53.
- 39 Gudjonsson H, McCallum TL, Kaye MD. The effect of coffee and tea upon lower esophageal sphincter function. *Laeknabladid*. 1995 Jun;81(6):484-8.
- 40 Kaufman SE, Kaye MD. Induction of gastro-oesophageal reflux by alcohol. *Gut*. 1978 Apr;19(4):336-8.
- 41 Walsh NP, Laing SJ, Oliver SJ, Montague JC, Walters R, Bilzon JL. Saliva parameters as potential indices of hydration status during acute dehydration. *Med Sci Sports Exerc*. 2004 Sep;36(9):1535-42.
- 42 Decker DL, Robinson M, Maton PN, Lanza FL, Gottlieb S. Effects of Aluminum/Magnesium Hydroxide and Calcium Carbonate on Esophageal and Gastric pH in Subjects with Heartburn. *Am J Ther*. 1995 Aug;2(8):546-552.
- 43 Fischbach LA, Correa P, Feldman M, Fontana E, Priest E, Goodman KJ, Jain R. Increased reflux symptoms after calcium carbonate supplementation and successful anti-Helicobacter pylori treatment. *Dig Dis Sci*. 2003 Aug;48(8):1487-94.
- 44 Campanozzi A, Capano G, Miele E, Romano A, Scuccimarra G, Del Giudice E, Strisciuglio C, Milentri R, Staiano A. Impact of malnutrition on gastrointestinal disorders and gross motor abilities in children with cerebral palsy. *Brain Dev*. 2007 Jan;29(1):25-9.
- 45 Weijenborg PW, Smout AJ, Verseijden C, van Veen HA, Verheij J, de Jonge WJ, Bredenoord AJ. Hypersensitivity to acid is associated with impaired esophageal mucosal integrity in patients with gastroesophageal reflux disease with and without esophagitis. *Am J Physiol Gastrointest Liver Physiol*. 2014 Aug 1;307(3):G323-9.
- 46 Grønbech JE, Lacy ER. Role of gastric blood flow in impaired defense and repair of aged rat stomachs. *Am J Physiol*. 1995 Nov;269(5 Pt 1):G737-44.
- 47 Grønbech JE, Møtze K, Stangland L, Svanes K, Varhaug JE. Gastric mucosal repair in the rat: the role of the hyperemic response to mucosal damage. *Gastroenterology*. 1988 Aug;95(2):311-20.
- 48 Ayazi S, Tamhankar A, DeMeester SR, Zehetner J, Wu C, Lipham JC, Hagen JA, DeMeester TR. The impact of gastric distension on the lower esophageal sphincter and its exposure to acid gastric juice. *Ann Surg*. 2010 Jul;252(1):57-62.
- 49 Lara JF, Carranque G, Oehling H, Hernández JM, Oliva H. Psychological modulation in patients surgically intervened for gastroesophageal reflux disease. *Dis Esophagus*. 2014 Aug;27(6):538-46.
- 50 Holtmann G, Kriebel R, Singer MV. Mental stress and gastric acid secretion. Do personality traits influence the response? *Dig Dis Sci*. 1990 Aug;35(8):998-1007.
- 51 Wu KL, Rayner CK, Chuah SK, Chiu YC, Chiu KW, Hu TH, Chiu CT. Effect of liquid meals with different volumes on gastroesophageal reflux disease. *J Gastroenterol Hepatol*. 2014 Mar;29(3):469-73.
- 52 Proverbs 23:2. King James Version of the Holy Bible.
- 53 Randhawa MA, Yar T, Gillissen A. An effective and physiological lifestyle change for management of gastroesophageal reflux disease. *J Ayub Med Coll Abbottabad*. 2013 Jan-Jun;25(1-2):206-7.
- 54 Jackson SJ, Leahy FE, Jebb SA, Prentice AM, Coward WA, Bluck L. Frequent feeding delays the gastric emptying of a subsequent meal. *Appetite*. 2007 Mar;48(2):199-205. Epub 2006 Nov 1.
- 55 Reshetnikov OV, Kurilovich SA, Denisov Mlu. Mode of dieting as a risk factor for dyspeptic symptoms: a two-year prospective study. *Vopr Pitan*. 2010;79(2):39-42.
- 56 Pera P, Bucca C, Borro P, Bernocco C, De La, Carossa S. Influence of mastication on gastric emptying. *J Dent Res*. 2002 Mar;81(3):230-8.
- 57 Horowitz M, Maddox A, Bochner M, Wishart J, Bratsiuk R, Collins P, Shearman D. Relationships between gastric emptying of solid and caloric liquid meals and alcohol absorption. *Am J Physiol*. 1989 Aug;257(2 Pt 1):G291-8.
- 58 Edelbrock M, Horowitz M, Maddox A, Bellen J. Gastric emptying and intragastric distribution of oil in the presence of a liquid or a solid meal. *J Nucl Med*. 1992 Jul;33(7):1283-90.
- 59 Meyer JH, Elshoff JD, Lake R. Gastric emptying of indigestible versus digestible oils and solid fats in normal humans. *Dig Dis Sci*. 1999 Jun;44(6):1076-82.
- 60 Benini L, Bighenti F, Castellani G, Brentegani MT, Casiraghi MC, Ruzzenente O, Sembenini C, Pellegrini N, Calari S, Porrini M, et al. Gastric emptying of solids is markedly delayed when meals are fried. *Dig Dis Sci*. 1994 Nov;39(11):2288-94.
- 61 Peracchi M, Gebbia C, Ogliari C, Fraquelli M, Viganò R, Baldassarri A, Bianchi PA, Conte D. Influence of caloric intake on gastric emptying of solids assessed by 13C-octanoic acid breath test. *Scand J Gastroenterol*. 2000 Aug;35(8):814-8.
- 62 Troncon LE, Izagui N. Effect of test meal temperature on the gastric emptying of liquids. *Braz J Med Biol Res*. 1988;21(1):57-60.
- 63 Scott AM, Kellow JE, Eckersley GM, Nolan JM, Jones MP. Cigarette smoking and nicotine delay postprandial mouth-cecum transit time. *Dig Dis Sci*. 1992 Oct;37(10):1544-7.
- 64 Franke A, Nakhbandi IA, Schneider A, Harder H, Singer MV. The effect of ethanol and alcoholic beverages on gastric emptying of solid meals in humans. *Alcohol*. 2005 May-Jun;40(3):187-93.
- 65 Horowitz M, Maddox A, Bochner M, Wishart J, Bratsiuk R, Collins P, Shearman D. Relationships between gastric emptying of solid and caloric liquid meals and alcohol absorption. *Am J Physiol*. 1989 Aug;257(2 Pt 1):G291-8.
- 66 Gudczek F, Mitchell CL, Newton JM, Evans D, Short MB. The gastric emptying of food as measured by gamma-scintigraphy and electrical impedance tomography (EIT) and its influence on the gastric emptying of tablets of different dimensions. *J Pharm Pharmacol*. 2007 Nov;59(11):1527-36.
- 67 Jackson SJ, Leahy FE, Jebb SA, Prentice AM, Coward WA, Bluck L. Frequent feeding delays the gastric emptying of a subsequent meal. *Appetite*. 2007 Mar;48(2):199-205. Epub 2006 Nov 1.
- 68 Moore JG, Datz FL, Christian PE, Greenberg E, Alzarak N. Effect of body posture on radionuclide measurements of gastric emptying. *Dig Dis Sci*. 1988; 33(12):1592-5.
- 69 Goo RH, Moore JG, Greenberg E, Alzarak NP. Circadian variation in gastric emptying of meals in humans. *Gastroenterology*. 1987 Sep;93(3):515-8.
- 70 Kalkan C, Soykan I, Soydal C, Özkan E, Kalkan E. Assessment of Gastric Emptying in Patients with Autoimmune Gastritis. *Dig Dis Sci*. 2016 Jun;61(6):1597-602.
- 71 Murray R. The effects of consuming carbohydrate-electrolyte beverages on gastric emptying and fluid absorption during and following exercise. *Sports Med*. 1987 Sep-Oct;4(5):322-51.
- 72 Roland J, Dobbelaire A, Vandevivere J, Ham HR. Effect of mild mental stress on solid phase gastric emptying in healthy subjects. *Nucl Med Commun*. 1990 Apr;11(4):319-26.
- 73 Ohlholm M, Jensen SM. Gastroesophageal reflux in pregnant women. *Ugeskr Laeger*. 1995 Mar 27;157(13):1835-8.
- 74 Salvoara S, Larsson Alminger M, Eklund-Jonsson C, Andliff T, Sandberg AS. Prolonged transit time through the stomach and small intestine improves iron dialyzability and uptake in vitro. *J Agric Food Chem*. 2003 Aug 13;51(17):5131-6.
- 75 Kelsay JL, Behall KM, Prather ES. Effect of fiber from fruits and vegetables on metabolic responses of human subjects I. Bowel transit time, number of defecations, fecal weight, urinary excretions of energy and nitrogen and apparent digestibilities of energy, nitrogen, and fat. *Am J Clin Nutr*. 1978 Jul;31(7):1149-53.
- 76 Erbil Y, Berber E, Seven R, et al. The effect of intestinal transit time on bacterial translocation. *Acta Chir Belg*. 1998 Dec;98(6):245-9.
- 77 Wigg AJ, Roberts-Thomson IC, Dymock RB, et al. The role of small intestinal bacterial overgrowth, intestinal permeability, endotoxaemia, and tumour necrosis factor alpha in the pathogenesis of non-alcoholic steatohepatitis. *Gut*. 2001 Feb;48(2):206-11.
- 78 Bauer TM, Schwacha H, Steinbrucker B, et al. Small intestinal bacterial overgrowth in human cirrhosis is associated with systemic endotoxaemia. *Am J Gastroenterol*. 2002 Sep;97(9):2364-70.
- 79 Spaeth G, Berg RD, Specian RD, et al. Food without fiber promotes bacterial translocation from the gut. *Surgery*. 1990 Aug;108(2):240-6; discussion 246-7.
- 80 Roen PB. The evening meal and atherosclerosis. *J Am Geriatr Soc*. 1978 Jun;26(6):284-5.
- 81 Gögler H. Intestinal transit time in Togo (Western Africa) and Germany. *Z Gastroenterol*. 1976 Apr;14(2):280-4.
- 82 Spiller GA, Storey JA, Wong LG, et al. Effect of increasing levels of hard wheat fiber on fecal weight, minerals and sterols and gastrointestinal transit time in healthy young women. *J Nutr*. 1986 May;116(5):778-85.
- 83 Spiller GA, Storey JA, Lodic TA, et al. Effect of sun-dried raisins on bile acid excretion, intestinal transit time, and fecal weight: a dose-response study. *J Med Food*. 2003 Summer;6(2):87-91.
- 87 Anitha M, Reichardt F, Tabatabavakili S, Nezami BG, Chassaing B, Mwangi S, Vijay-Kumar M, Gewirtz A, Srinivasan S. Intestinal dysbiosis contributes to the delayed gastrointestinal transit in high-fat diet fed mice. *Cell Mol Gastroenterol Hepatol*. 2016 May;2(2):208-219.
- 88 Kelsay JL, Behall KM, Prather ES. Effect of fiber from fruits and vegetables on metabolic responses of human subjects I. Bowel transit time, number of defecations, fecal weight, urinary excretions of energy and nitrogen and apparent digestibilities of energy, nitrogen, and fat. *Am J Clin Nutr*. 1978 Jul;31(7):1149-53.
- 89 Chaudhary HR. Study of intestinal transit time in patient with anxiety and depression. *J Assoc Physicians India*. 1989 Feb;37(2):156-7.
- 90 Yuan L, Tang D, Peng J, Qu N, Yue C, Wang F. Study on lifestyle in patients with gastroesophageal reflux disease. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*. 2017 May;28(4):55-58.
- 91 Stanich PP, Peck J, Murphy C, Porter KM, Meyer MM. Physical activity during video capsule endoscopy correlates with shorter bowel transit time. *Endosc Int Open*. 2017 Sep;5(9):E856-E860.
- 92 Kim JH. The physical activity level in female affects colon transit time. *J Neurogastroenterol Motil*. 2012 Jan;18(1):4-5.
- 93 Morley JE, Levine AS, Yamada T, Gebhard RL, Prigge WF, Shafer RB, Goetz FC, Silvis SE. Effect of exorphins on gastrointestinal function, hormonal release, and appetite. *Gastroenterology*. 1983 Jun;84(6):1517-23.
- 94 Chiarioni G, Bassotti G, Germani U, Battaglia E, Brentegani MT, Morelli A, Vantini I. Gluten-free diet normalizes mouth-to-cecum transit of a caloric meal in adult patients with celiac disease. *Dig Dis Sci*. 1997 Oct;42(10):2100-5.
- 95 Haug A, Høstmark AT, Harstad OM. Bovine milk in human nutrition—a review. *Lipids Health Dis*. 2007 Sep 25;6:25.
- 96 Zheng Y, Hu J, Murphy PA, Alekel DL, Franke WD, Hendrich S. Rapid gut transit time and slow fecal isoflavone disappearance phenotype are associated with greater genistein bioavailability in women. *J Nutr*. 2003 Oct;133(10):3110-6.
- 97 Gögler H. Intestinal transit time in Togo (Western Africa) and Germany. *Z Gastroenterol*. 1976 Apr;14(2):280-4.
- 98 Bhat PA, Patel JA, Parikh P, Ingle MA, Phadke A, Sawant PD. Total and Segmental Colon Transit Time Study in Functional Constipation: Comparison With Healthy Subjects. *Gastroenterology Res*. 2015 Feb;8(1):157-159.
- 99 Jahng J, Jung IS, Choi EJ, Conklin JL, Park H. The effects of methane and hydrogen gases produced by enteric bacteria on ileal motility and colonic transit time. *Neurogastroenterol Motil*. 2012 Feb;24(2):185-90. e92.
- 100 Neurogastroenterol Motil. 2007 Feb;19(2):94-102. Impedance monitoring shows that posture and a meal influence gastro-oesophageal reflux composition and frequency. Shay SS, Lopez R.
- 101 Caselli M, Zuliani G, Cassoli F, Fusetti N, Zeni E, Lo Cascio N, Soave C, Gullini S. Test-based exclusion diets in gastro-oesophageal reflux disease patients: a randomized controlled pilot trial. *World J Gastroenterol*. 2014 Dec 7;20(45):17190-5.
- 102 Niu CY, Zhou YL, Yan R, Mu NL, Gao BH, Wu FX, Luo YJ. Incidence of gastroesophageal reflux disease in Uygur and Han Chinese adults in Urumqi. *World J Gastroenterol*. 2012 Dec 28;18(48):7333-40.
- 103 Huang W, Han Y, Xu J, Zhu W, Li Z. Red and processed meat intake and risk of esophageal adenocarcinoma: a meta-analysis of observational studies. *Cancer Causes Control*. 2013 Jan;24(1):193-201.
- 104 Chung CH. Corrosive oesophageal injury following vinegar ingestion. *Hong Kong Med J*. 2002 Oct;8(5):365-6.
- 105 Dryahina K, Pospíšilová V, Sovová K, Shestivska V, Kubísta J, Špejvlý A, Pehal F, Turzíkova J, Votruba J, Španěl P. Exhaled breath concentrations of acetic acid vapour in gastro-esophageal reflux disease. *J Breath Res*. 2014 Sep;3(3):037109.
- 106 Surdea-Blaga T, Negrutu DE, Palage M, Dumitrascu DL. Food and Gastroesophageal Reflux Disease. *Curr Med Chem*. 2017 May 15.
- 107 Dai Q, Cantwell MM, Murray LJ, Zheng W, Anderson LA, Coleman HG; FINBAR study group. Dietary magnesium, calcium:magnesium ratio and risk of reflux esophagitis, Barrett's esophagus and oesophageal adenocarcinoma: a population-based case-control study. *Br J Nutr*. 2016 Jan;28;115(2):342-50.
- 108 Murphy SJ, Anderson LA, Ferguson HR, Johnston BT, Watson PR, McGuigan J, Comber H, Reynolds JV, Murray LJ, Cantwell MM. Dietary antioxidant and mineral intake in humans is associated with reduced risk of esophageal adenocarcinoma but not reflux esophagitis or Barrett's esophagus. *J Nutr*. 2010 Oct;140(10):1757-63.
- 109 Mercer CD, Rue C, Hanelin L, Hill LD. Effect of obesity on esophageal transit. *Am J Surg*. 1985 Jan;149(1):177-81.
- 110 Drug induced lesions of the oesophageal mucosa. *Prescrire Int*. 2015 Sep;24(163):210-1, 213.
- 111 Wright CE, Ebrecht M, Mitchell R, Anggiansah A, Weiman J. The effect of psychological stress on symptom severity and perception in patients with gastro-oesophageal reflux. *J Psychosom Res*. 2005 Dec;59(6):415-24.
- 112 Eherer A. Management of gastroesophageal reflux disease: lifestyle modification and alternative approaches. *Dig Dis*. 2014;32(1-2):149-51.
- 113 Ito Y, Suzuki K, Ichino N, Imai H, Sakaguchi H, Hokama M, Nishii M, Nakano H. The Risk of Helicobacter Pylori Infection and Atrophic Gastritis from Food and Drink Intake: a Cross-sectional Study in Hokkaido, Japan. *Asian Pac J Cancer Prev*. 2000;1(2):147-156.
- 114 Riegler M, Kristo I, Asari R, Rieder E, Schoppmann SF. Dietary sugar and Barrett's esophagus. *Eur Surg*. 2017;49(6):279-821.
- 115 Li N, Petrick JL, Steck SE, Bradshaw PT, McClain KM, Niehoff NM, Engel LS, Shaheen NJ, Corley DA, Vaughan TL, Gammon MD. Dietary sugar/starches intake and Barrett's esophagus: a pooled analysis. *Eur J Epidemiol*. 2017 Nov;32(11):1007-1017.
- 116 Schneider JL, Corley DA. The Troublesome Epidemiology of Barrett's Esophagus and Esophageal Adenocarcinoma. *Gastrointest Endosc Clin N Am*. 2017 Jul;27(3):353-364.
- 117 Shivappa N, Hebert JR, Anderson LA, Shrubsole MJ, Murray LJ, Getty LB, Coleman HG. Dietary inflammatory index and risk of reflux esophagitis, Barrett's esophagus and oesophageal adenocarcinoma: a population-based case-control study. *Br J Nutr*. 2017 May;117(9):1323-1331.
- 118 Nathanson BH, Navab F. An Analysis of Weight Gains and Body Mass Index in Patients with Barrett's Esophagus. *J Acad Nutr Diet*. 2016 Jul;116(7):1156-62.
- 119 Sun L, Zhang Z, Xu J, Xu G, Liu X. Dietary fiber intake reduces risk for Barrett's esophagus and esophageal cancer. *Crit Rev Food Sci Nutr*. 2017 Sep 2;57(13):2749-2757.
- 120 Petrick JL, Steck SE, Bradshaw PT, Chow WH, Engel LS, H, Kirsch HA, Vaughan TL, Gammon MD. Dietary flavonoid intake and Barrett's esophagus in western Washington State. *Ann Epidemiol*. 2015 Oct;25(10):730-5, e2.
- 121 Lee YY, McColl KE. Disruption of the gastroesophageal junction by central obesity and waist belt: role of raised intra-abdominal pressure. *Dis Esophagus*. 2015 May-Jun;28(4):318-25.
- 122 Jiao L, Kramer JR, Chen L, Ruggie M, Parente P, Verstovsek G, Alsarraf A, El-Serag HB. Dietary consumption of meat, fat, animal products and advanced glycation end-products and the risk of Barrett's esophagus. *Aliment Pharmacol Ther*. 2013 Oct;38(7):817-24.
- 123 Jiao L, Kramer JR, Ruggie M, Parente P, Verstovsek G, Alsarraf A, El-Serag HB. Dietary intake of vegetables, folate, and antioxidants and the risk of Barrett's esophagus. *Cancer Causes Control*. 2013 May;24(5):1005-14.
- 124 Ibbelbe TL, Hughes MC, Nagle CM, Bain CJ, Whiteman DC, Webb PM; Study of Digestive Health and Australian Cancer Study. Dietary antioxidants and risk of Barrett's esophagus and adenocarcinoma of the esophagus in an Australian population. *Int J Cancer*. 2013 Jul;133(1):214-24.
- 125 Murphy SJ, Anderson LA, Ferguson HR, Johnston BT, Watson PR, McGuigan J, Comber H, Reynolds JV, Murray LJ, Cantwell MM. Dietary antioxidant and mineral intake in humans is associated with reduced risk of esophageal adenocarcinoma but not reflux esophagitis or Barrett's esophagus. *J Nutr*. 2010 Oct;140(10):1757-63.
- 126 Kubo A, Corley DA, Jensen CD, Kaur R. Dietary factors and the risks of oesophageal adenocarcinoma and Barrett's esophagus. *Nutr Res Rev*. 2010 Dec;23(2):230-46.
- 127 Chen KH, Mukaisho K, Sugihara H, Araki Y, Yamamoto G, Hattori T. High animal-fat intake changes the bile-acid composition of bile juice and enhances the development of Barrett's esophagus and esophageal adenocarcinoma in a rat duodenal-contents reflux model. *Cancer Sci*. 2007 Nov;98(11):1683-8.
- 128 Anderson LA, Watson RG, Murphy SJ, Johnston BT, Comber H, Mc Guigan J, Reynolds JV, Murray LJ. Risk factors for Barrett's esophagus and oesophageal adenocarcinoma: results from the FINBAR study. *World J Gastroenterol*. 2007 Mar;14(3):1015-85-94.
- 129 Moe GL, Kristal AR, Levine DS, Vaughan TL, Reid BJ. Waist-to-hip ratio, weight gain, and dietary and serum selenium are associated with DNA content flow cytometry in Barrett's esophagus. *Nutr Cancer*. 2000;36(1):7-13.
- 130 Van Cutsem E, Vantrappen G. Epidemiology and clinical aspects of esophageal cancer. *J Belge Radiol*. 1991;74(5):365-8.
- 131 Huang W, Han Y, Xu J, Zhu W, Li Z. Red and processed meat intake and risk of esophageal adenocarcinoma: a meta-analysis of observational studies. *Cancer Causes Control*. 2013 Jan;24(1):193-201.
- 132 Miller G, Wong C, Pollack A. Gastro-oesophageal reflux disease (GORD) in Australian general practice patients. *Aust Fam Physician*. 2015 Oct;44(10):701-4.
- 133 Hollingsworth S, Duncan EL, Martin JH. Marked increase in proton pump inhibitors use in Australia. *Pharmacoeconomics Drug Saf*. 2010 Oct;19(10):1019-20.
- 134 Gouraud A, Vochelle V, Descotes J, Vial T. Proton pump inhibitor-induced neurotoxicity: possible cross-reactivity between omeprazole and pantoprazole. *Clin Drug Investig*. 2010;30(8):559-63.
- 135 Canani RB, Cirillo P, Roggero P, Romano C, Malamisura B, Terrin G, Passariello A, Manguso F, Morelli L, Guarino A; Working Group on Intestinal Infections of the Italian Society of Pediatric Gastroenterology, Hepatology and Nutrition (SIGENP). Therapy with gastric acidity inhibitors increases the risk of acute gastroenteritis and community-acquired pneumonia in children. *Pediatrics*. 2006 May;117(5):e817-20.
- 136 Valuck RJ, Ruscini JM. A case-control study on adverse effects: H2 blocker or proton pump inhibitor use and risk of vitamin B12 deficiency in older adults. *J Clin Epidemiol*. 2004 Apr;57(4):422-8.
- 137 Ruscini JM, Page RL, 2nd, Valuck RJ. Vitamin B12 deficiency associated with histamine(2)-receptor antagonists and a proton-pump inhibitor. *Ann Pharmacother*. 2002 May;36(5):812-6.
- 138 McColl KE. Effect of proton pump inhibitors on vitamins and iron. *Am J Gastroenterol*. 2009 Mar;104 Suppl 2:55-9.
- 139 Lin SM, Yang SH, Liang CC, Huang HK. Proton pump inhibitor use and the risk of osteoporosis and fracture in stroke patients: a population-based cohort study. *Osteoporos Int*. 2018 Jan;29(1):153-162.
- 140 Jacob L, Hadji P, Kostev K. The use of proton pump inhibitors is positively associated with osteoporosis in postmenopausal women in Germany. *Climacteric*. 2016 Oct;19(5):478-81.

# Blue Print for Health and Healing

<sup>91</sup> Yang YX, Lewis JD, Epstein S, Metz DC. Long-term proton pump inhibitor therapy and risk of hip fracture. *JAMA*. 2006 Dec 27;296(24):2947-53.

<sup>92</sup> Gray SL, LaCroix AZ, Larson J, Robbins J, Cauley JA, Manson JE, Chen Z. Proton pump inhibitor use, hip fracture, and change in bone mineral density in postmenopausal women: results from the Women's Health Initiative. *Arch Intern Med*. 2010 May 10;170(9):765-71.

<sup>93</sup> Gomm W, von Holt K, Thomé F, Broich K, Maier W, Fink A, Doblhammer G, Haenisch B. Association of Proton Pump Inhibitors With Risk of Dementia: A Pharmacoepidemiological Claims Data Analysis. *JAMA Neurol*. 2016 Apr;73(4):410-6.

<sup>94</sup> Laudisio A, Antonelli Incalzi R, Gemma A, Giovannini S, Lo Monaco MR, Vetrano DL, Padua L, Bernabei R, Zuccalà G. Use of proton-pump inhibitors is associated with depression: a population-based study. *Int Psychogeriatr*. 2018 Jan;30(1):153-159.

<sup>95</sup> Lazarus B, Chen Y, Wilson FP, Sang Y, Chang AR, Coresh J, Grams ME. Proton Pump Inhibitor Use and the Risk of Chronic Kidney Disease. *JAMA Intern Med*. 2016 Feb;176(2):238-46.

<sup>96</sup> Klatté DCF, Gasparini A, Xu H, de Deco P, Trevisan M, Johansson ALV, Wettermark B, Årnlöv J, Janmaat CJ, Lindholm B, Dekker FW, Coresh J, Grams ME, Carrero JJ. Association Between Proton Pump Inhibitor Use and Risk of Progression of Chronic Kidney Disease. *Gastroenterology*. 2017 Sep;153(3):702-710.

<sup>97</sup> Cundy T, Dissanayake A. Severe hypomagnesaemia in long-term users of proton-pump inhibitors. *Clin Endocrinol (Oxf)*. 2008 Aug;69(2):338-41.

<sup>98</sup> Swaminathan K. Proton pump inhibitor-induced hypomagnesaemic hypoparathyroidism. *Indian J Pharmacol*. 2015 May-Jun;47(3):330-1.

<sup>99</sup> Elliott EM. The Relationship Between Resistant Tachycardia and Treatment for GERD. *Explore (NY)*. 2016 Nov-Dec;12(6):456-458.

<sup>100</sup> Gosćimski A, Matras J, Wallner G. Microflora of gastric juice in patients after eradication of *Helicobacter pylori* and treatment with a proton pump inhibitor. *Wiad Lek*. 2002;55(1-2):19-28.

<sup>101</sup> Fouad YM, Katz PO, Castell DO. Oesophageal motility defects associated with nocturnal gastro-oesophageal reflux on proton pump inhibitors. *Aliment Pharmacol Ther*. 1999 Nov;13(11):1467-71.

<sup>102</sup> Kawakami J, Yamamoto K, Shimokawa M, Sawada Y, Asanuma A, Yanagisawa K, Iga T. Neurotoxic study of H2 antagonists using Xenopus oocytes injected with mouse-brain mRNA. *Biol Pharm Bull*. 1997 Sep;20(9):1030-2.

<sup>103</sup> Cobb CA, Curtis GD, Bansi DS, Slade E, Mehal W, Mitchell RG, Chapman RW. Increased prevalence of *Listeria monocytogenes* in the faeces of patients receiving long-term H2-antagonists. *Eur J Gastroenterol Hepatol*. 1996 Nov;8(11):1071-4.

<sup>104</sup> O'Sullivan RL, Greenberg DB. H2 antagonists, restless leg syndrome, and movement disorders. *Psychosomatics*. 1993 Nov-Dec;34(6):530-2.

<sup>105</sup> Tanner LA, Arowsmith JB. Bradycardia and H2 antagonists. *Ann Intern Med*. 1988 Sep 1;109(5):434-5.

<sup>106</sup> Bassan HJ, Zimmerman HJ, Jacob L, Gillespie J, Lukacs L. Effects of three H2 antagonists on the isolated perfused rat liver. Correlates of bile flow changes with potential for causing hepatic disease in patients. *Biochem Pharmacol*. 1986 Dec 15;35(24):4519-22.

<sup>107</sup> Nault MA, Milne B, Parlow JL. Effects of the selective H1 and H2 histamine receptor antagonists loratadine and ranitidine on autonomic control of the heart. *Anesthesiology*. 2002 Feb;96(2):336-41.

<sup>108</sup> Dector DL, Robinson M, Maton PN, Lanza FL, Gottlieb S. Effects of Aluminum/Magnesium Hydroxide and Calcium Carbonate on Esophageal and Gastric pH in Subjects with Heartburn. *Am J Ther*. 1995 Aug;2(8):546-552.

<sup>109</sup> Fischbach LA, Correa P, Feldman M, Fontana E, Priest E, Goodman KJ, Jain R. Increased reflux symptoms after calcium carbonate supplementation and successful anti-*Helicobacter pylori* treatment. *Dig Dis Sci*. 2003 Aug;48(8):1487-94.

<sup>110</sup> Esmailzadeh A, Keshтели AH, Feizi A, Zaribaf F, Feinle-Bisset C, Adibi P. Patterns of diet-related practices and prevalence of gastro-esophageal reflux disease. *Neurogastroenterol Motil*. 2013 Oct;25(10):831-6638.

<sup>111</sup> Keshтели AH, Shaabani P, Tabibian SR, Saneei P, Esmailzadeh A, Adibi P. The relationship between fruit and vegetable intake with gastroesophageal reflux disease in Iranian adults. *J Res Med Sci*. 2017 Nov 28;22:125.

<sup>112</sup> Kubo A, Levin TR, Block G, Rumore GJ, Quesenberry CP Jr, Buffler P, Corley DA. Dietary antioxidants, fruits, and vegetables and the risk of Barrett's esophagus. *Am J Gastroenterol*. 2008 Jul;103(7):3614-23.

<sup>113</sup> Mann SG, Murakami A, McCarroll K, Rao AN, Cottrell J, Mehentee J, Morton R. Low dose famotidine in the prevention of sleep disturbance caused by heartburn after an evening meal. *Aliment Pharmacol Ther*. 1995 Aug;9(4):395-401.

<sup>114</sup> Avidan B, Sonnenberg A, Schnell TG, Sontag SJ. Walking and chewing reduce postprandial acid reflux. *Aliment Pharmacol Ther*. 2001 Feb;15(2):151-5.

<sup>115</sup> Parker HL, Curcic J, Heinrich H, Sauter M, Hollenstein M, Schwizer W, Savarino E, Fox M. What to eat and drink in the festive season: a pan-European, observational, cross-sectional study. *Eur J Gastroenterol Hepatol*. 2017 May;29(5):608-614.

<sup>116</sup> Coffin B, Bortolotti C, Bourgeois O, Denicourt L. Efficacy of a simethicone, activated charcoal and magnesium oxide combination (Carbosymag<sup>®</sup>) in functional dyspepsia: results of a general practice-based randomized trial. *Clin Res Hepatol Gastroenterol*. 2011 Jun;35(6-7):494-9.

<sup>117</sup> <https://www.buycativedcharcoal.com>

<sup>118</sup> Nam SY, Park BJ, Cho YA, Ryu KH, Choi JI, Park S, Kim YW. Different effects of dietary factors on reflux esophagitis and non-reflux esophageal disease in 11,690 Korean subjects. *J Gastroenterol*. 2017 Jul;52(7):818-829.

<sup>119</sup> Pandya V, Shinde P, Deora J, Gupta P. A comparative study of the anticid effect of some commonly consumed foods for hyperacidity in an artificial stomach model. *Complement Ther Med*. 2017 Oct;34:111-115.

<sup>120</sup> Hajizadeh B, Jessri M, Moasheri SM, Rad AH, Rashidkhan B. Fruits and vegetables consumption and esophageal squamous cell carcinoma: a case-control study. *Nutr Cancer*. 2011;63(5):707-13.

<sup>121</sup> Shipard, Isabell. How Can I Use Herbs in My Daily Life? Australia, David Stewart: 2013.

<sup>122</sup> Philippians 3:18-19, King James Version of the Holy Bible.

<sup>123</sup> Ibid 4:13.

## Chapter 6 – References

<sup>1</sup> <https://www.dementia.org.au/statistics>

<sup>2</sup> Cantegrel-Kallen I, Pin S. Fear of Alzheimer's disease in the French population: impact of age and proximity to the disease. *Int Psychogeriatr*. 2012 Jan;24(1):108-16.

<sup>3</sup> <https://www.dementia.org.au/about-dementia/what-is-dementia>

<sup>4</sup> <https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/leading-causes-of-death>

<sup>5</sup> Bloom GS Amyloid- $\beta$  and tau: the trigger and bullet in Alzheimer disease pathogenesis. *JAMA Neurol*. 2014 Apr;71(4):505-8.

<sup>6</sup> <https://www. alz.org/alzheimers-dementia/stages>

<sup>7</sup> <https://www.cdc.gov/aging/aginginfo/pdfs/ALZ-module2-ALZ-other-dementias-The-Basics.pdf>

<sup>8</sup> [https://www. alz.org/national/documents/checklist\\_10signs.pdf](https://www. alz.org/national/documents/checklist_10signs.pdf)

<sup>9</sup> Toda N, Ayajiki K, Okamura T. Obesity-induced cerebral hypoperfusion derived from endothelial dysfunction: one of the risk factors for Alzheimer's disease. *Curr Alzheimer Res*. 2014;11(8):733-44.

<sup>10</sup> Ghanim H, Monte SV, Sia CL, Abuayseh S, Green K, Caruana JA, Dandona P. Reduction in inflammation and the expression of amyloid precursor protein and other proteins related to Alzheimer's disease following gastric bypass surgery. *J Clin Endocrinol Metab*. 2012 Jul;97(7):E1197-201.

<sup>11</sup> Pasinetti GM, Zhao Z, Qin W, Ho L, Shrishailam Y, Macgregor D, Rensmann W, Humala N, Liu X, Romero C, Stetka B, Chen L, Ksiazek-Reding H, Wang J. Caloric intake and Alzheimer's disease. Experimental approaches and therapeutic implications. *Int J Geriatr Top Gerontol*. 2007;35:159-75.

<sup>12</sup> Kagawa Y. Impact of Westernization on the nutrition of Japanese: changes in physique, cancer, longevity and centenarians. *Prev Med*. 1978 Jun;7(2):205-17.

<sup>13</sup> Halagappa VK, Guo Z, Pearson M, Matsuoka Y, Cutler RG, Laferla FM, Mattson MP. Intermittent fasting and caloric restriction ameliorate age-related behavioral deficits in the triple-transgenic mouse model of Alzheimer's disease. *Neurobiol Dis*. 2007 Apr;26(1):212-20. Epub 2007 Jan 13.

<sup>14</sup> Aksenova MV, Aksenov MY, Carney JM, Butterfield DA. Protein oxidation and enzyme activity decline in old brown Norway rats are reduced by dietary restriction. *Mech Ageing Dev*. 1998 Jan 30;100(2):157-68.

<sup>15</sup> Mattson MP, Duan W, Guo Z. Meal size and frequency affect neuronal plasticity and vulnerability to disease: cellular and molecular mechanisms. *J Neurochem*. 2003 Feb;84(3):417-31.

<sup>16</sup> Mattson MP, Duan W, Guo Z. Meal size and frequency affect neuronal plasticity and vulnerability to disease: cellular and molecular mechanisms. *J Neurochem*. 2003 Feb;84(3):417-31.

<sup>17</sup> Loh DH, Jami SA, Flores RE, Truong D, Ghiani CA, O'Dell TJ, Colwell CS. Misaligned feeding impairs memories. *Elife*. 2015 Dec 10;4. pii: e09460.

<sup>18</sup> Tranah GJ, Blackwell T, Stone KL, Ancoli-Israel S, Paudel ML, Ensrud KE, Cauley JA, Redline S, Hillier TA, Cummings SR, Yaffe K. Circadian activity rhythms and risk of incident dementia and mild cognitive impairment in older women. *Ann Neurol*. 2011 Nov;70(5):722-32.

<sup>19</sup> Profenno LA, Perlestein AP, Faraone SV. Meta-analysis of Alzheimer's disease risk with obesity, diabetes, and related disorders. *Biol Psychiatry*. 2010 Mar 15;67(6):505-12.

<sup>20</sup> Ryan D. Obesity in women: a life cycle of medical risk. *Int J Obes (Lond)*. 2007 Nov;31 Suppl 2:S3-7; discussion S3-2.

<sup>21</sup> Ozawa M, Shiple M, Kivimaki M, Singh-Manoux A, Brunner E. Dietary pattern, inflammation and cognitive decline: The Whitehall II prospective cohort study. *Clin Nutr*. 2017 Apr;36(2):506-512.

<sup>22</sup> Grant WB. Trends in diet and Alzheimer's disease during the nutrition transition in Japan and developing countries. *J Alzheimers Dis*. 2014;38(3):611-20.

<sup>23</sup> Thomas MH, Paris C, Magnien M, Colin J, Pelleieux S, Coste F, Escanyé MC, Pillot T, Olivier JL. Dietary arachidonic acid increases deleterious effects of amyloid- $\beta$  oligomers on learning abilities and expression of AMPA receptors: putative role of the ACSL4-cPLA2 balance. *Alzheimers Res Ther*. 2017 Aug 29;9(1):69.

<sup>24</sup> Crichton GE, Murphy KJ, Bryan J. Dairy intake and cognitive health in middle-aged South Australians. *Asia Pac J Clin Nutr*. 2010;19(2):161-71.

<sup>25</sup> Morris MC, Evans DA, Bienias JL, Tangney CC, Wilson RS. Dietary fat intake and 6-year cognitive change in an older biracial community population. *Neurology*. 2004 May 11;62(9):1573-9.

<sup>26</sup> Berrino F. Western diet and Alzheimer's disease. *Epidemiol Prev*. 2002 May-Jun;26(3):107-15.

<sup>27</sup> Linardaki JL, Lamari FN, Margariti M, Saffron (Crocus sativus L.) Tea Intake Prevents Learning/Memory Defects and Neurobiochemical Alterations Induced by Aflatoxin B1 Exposure in Adult Mice. *Neurochem Res*. 2017 Oct;42(10):2743-2754.

<sup>28</sup> Power SE, O'Connor EM, Ross RP, Stanton C, O'Toole PW, Fitzgerald GF, Jeffery IB. Dietary glycaemic load associated with cognitive performance in elderly subjects. *Eur J Nutr*. 2015 Jun;54(4):557-68.

<sup>29</sup> Taylor MK, Sullivan DK, Swerdlow RH, Vidoni ED, Morris JK, Mahkhan JD, Burns JM. A high-glycemic diet is associated with cerebral amyloid burden in cognitively normal older adults. *Am J Clin Nutr*. 2017 Dec;106(6):1463-1470.

<sup>30</sup> Pase MP, Himaili JJ, Jacques PF, DeCarli C, Sattizabal CL, Aparicio H, Vasan RS, Beiser AS, Seshadri S. Sugary beverage intake and preclinical Alzheimer's disease in the community. *Alzheimers Dement*. 2017 Sep;13(2):955-964.

<sup>31</sup> Vercaemere MN, Boutroun-Ruault MC, Ritchie K, Clavel-Chapelon F, Berr C. Long-term association of food and nutrient intakes with cognitive and functional decline: a 13-year follow-up study of elderly French women. *Br J Nutr*. 2009 Aug;102(3):419-27.

<sup>32</sup> Larry Sparks D. Cholesterol, copper, and accumulation of thioflavine S-reactive Alzheimer's-like amyloid beta in rabbit brain. *J Mol Neurosci*. 2004;24(1):97-104.

<sup>33</sup> Broxmeyer L. Thinking the unthinkable: Alzheimer's, Creutzfeldt-Jakob and Mad Cow disease: the age-related reemergence of virulent, foodborne, bovine tuberculosis or losing your mind for the sake of a shake or burger. *Med Hypotheses*. 2005;64(4):699-705.

<sup>34</sup> Athari Nik Azm S, Djazayeri A, Safa M, Azami A, Ahmadvand B, Sabbaghziarani F, Sharifzadeh M, Vafa M. Lactobacilli and bifidobacteria ameliorate memory and learning deficits and oxidative stress in  $\beta$ -amyloid (1-42) injected rats. *Appl Physiol Nutr Metab*. 2018 Jul;43(7):718-726.

<sup>35</sup> Noble EE, Hsu TM, Kanoski SE. Gut to Brain Dysbiosis: Mechanisms Linking Western Diet Consumption, the Microbiome, and Cognitive Impairment. *Front Behav Neurosci*. 2017 Jan 30;11:9.

<sup>36</sup> Campbell AW, rasher JD, Madison RA, Vojdani A, Gray MR, Johnson A. Neural autoantibodies and neurophysiologic abnormalities in patients exposed to molds in water-damaged buildings. *Arch Environ Health* (2003) 58(8):464-74.

<sup>37</sup> Morris G, Berk M, Walder K, Maes M. The putative role of viruses, bacteria, and chronic fungal biotoxin exposure in the genesis of intractable fatigue accompanied by cognitive and physical disability. *Mol Neurobiol* (2016) 53(4):2550-71.

<sup>38</sup> Gordon VA, Cantor JB, Johanning E, Charatz HJ, Ashman TA, Breeze JL, et al. Cognitive impairment associated with toxicigenic fungal exposure: a replication and extension of previous findings. *Appl Neurophysiol* (2004) 11(2):65-74.

<sup>39</sup> Chen R, Ma F, Li PW; Zhang W; Ding XX; Zhang Q; Li M; Wang YR; Xu BC. Effect of ozone on aflatoxins detoxification and nutritional quality of peanuts. *Food Chem*. 2014; 146:284-8.

<sup>40</sup> Madhavadas S, Kutty BM, Subramanian S. Amyloid beta lowering and cognition enhancing effects of ghrelin receptor analog (D-Lys (3)) GHRP-6 in rat model of obesity. *Indian J Biochem Biophys*. 2014 Aug;51(4):257-62.

<sup>41</sup> Diet AE, Kanba ES, Baraka AM, Elshorbagy AK. Monosodium glutamate neurotoxicity increases beta amyloid in the rat hippocampus: a potential role for cyclic AMP protein kinase. *Neurotoxicology*. 2014 May;42:76-82.

<sup>42</sup> Esclaire F, Lesort M, Blanchard C, Hugon J. Glutamate toxicity enhances tau gene expression in neuronal cultures. *J Neurosci Res*. 1997 Aug 1;49(3):309-18.

<sup>43</sup> Ito K, Koyama Y, Hanya Y. Identification of the glutaminase genes of *Aspergillus sojae* involved in glutamate production during soyh sause fermentation. *Biosci Biotechnol Biochem*. 2013;77(9):1832-40.

<sup>44</sup> Tripathi M, Vibha D, Gupta P, Bhatia R, Srivastava MV, Vivekanandhan S, Bhushan Singh M, Prasad K, Dergalust S, Mendez MF. Risk factors of dementia in North India: a case-control study. *Aging Ment Health*. 2012;16(2):228-35.

<sup>45</sup> Ferguson AC. Food allergy. *Prog Food Nutr Sci*. 1984;8(1-2):77-107.

<sup>46</sup> Gilliland K, Andres D. Ad lib caffeine consumption, symptoms of caffeinism, and academic performance. *Am J Psychiatry*. 1981 Apr;138(4):512-4.

<sup>47</sup> Champlin SE, Pasch KE, Perry CL. Is the Consumption of Energy Drinks Associated With Academic Achievement Among College Students? *J Prim Prev*. 2016 Aug;37(4):345-59.

<sup>48</sup> Lesk VE, Honey TE, de Jager CA. The effect of recent consumption of caffeine-containing foodstuffs on neuropsychological tests in the elderly. *Dement Geriatr Cogn Disord*. 2009;27(4):322-8.

<sup>49</sup> Rogers PJ, Hohoff C, Heatherley SV, Mullings EL, Maxfield PJ, Evershed RP, Decker J, Nutt DJ. Association of the anxiogenic and alerting effects of caffeine with ADRORA2A and ADRORA1 polymorphisms and habitual level of caffeine consumption. *Neuropsychopharmacology*. 2010 Aug;35(9):1973-83.

<sup>50</sup> Shilo L, Saban A, Hadari R, Kovatz S, Weinberg L, Dolev S, Dagan Y, Shenkman L. The effects of coffee consumption on sleep and melatonin secretion. *Sleep Med*. 2003 May;3(3):271-3.

<sup>51</sup> Lin L, Huang QX, Yang SS, Chu J, Wang JZ, Tian Q. Melatonin in Alzheimer's disease. *Int J Mol Sci*. 2013 Jul 12;14(7):14575-93.

<sup>52</sup> Dragicevic N, Delic V, Cao C, Copes N, Lin X, Mamcarz M, Wang L, Arendash WG, Bradshaw PC. Caffeine increases mitochondrial function and blocks melatonin signaling to mitochondria in Alzheimer's mice and cells. *Neuropharmacology*. 2012 Dec;63(8):1368-79.

<sup>53</sup> Peters R, Poulter R, Warner J, Beckett N, Burch L, Bulpitt C. Smoking, dementia and cognitive decline in the elderly: a systematic review. *BMC Geriatr*. 2008 Dec 23;8:36.

<sup>54</sup> <https://www.theguardian.com/science/sifting-the-evidence/2014/apr/22/drinking-wine-health-evidence-alc-hol-units>

<sup>55</sup> Gendron TF, McCartney S, Causevic E, Ko LW, Yen SH. Ethanol enhances tau accumulation in neuroblastoma cells that inducibly express tau. *Neurosci Lett*. 2008 Oct 3;443(2):67-71.

<sup>56</sup> Rogers C, Bernstein G, Nakamura R, Endahl G, Bhoopat T. Vaginal fluid zinc concentration as a marker for intercourse. *J Forensic Sci*. 1988 Jan;33(1):77-83.

<sup>57</sup> Purvis K, Magnus O, Mørkås L, Abyholm T, Rui H. Ejaculate composition after masturbation and coitus in the human male. *Int J Androl*. 1986 Dec;9(6):401-6.

<sup>58</sup> Szczyzyk B. Zinc homeostasis and neurodegenerative disorders. *Front Aging Neurosci*. 2013 Jul 19;5:33.

<sup>59</sup> Gromova OA, Torshin IV, Pronin AV, Kilchevsky MA. Synergistic application of zinc and vitamin C to support memory, attention and the reduction of the risk of the neurological diseases. *Zh Nevrol Psikhiatr Im S S Korsakov*. 2017;117(7):112-119.

<sup>60</sup> Sarkar S, Das R. PVP capped silver nanocubes assisted removal of glyphosate from water-A photoluminescence study. *J Hazard Mater*. 2017 Oct 5;339:54-62.

<sup>61</sup> Ait Bali Y, Ba-Mhamed S, Bennis M. Behavioral and Immunohistochemical Study of the Effects of Subchronic and Chronic Exposure to Glyphosate in Mice. *Front Behav Neurosci*. 2017 Aug 8;11:146.

<sup>62</sup> Cattani D, de Liz Oliveira Cavalli VL, Heinz Rieg CE, Domingues JT, Dal-Cim T, Tascia CI, Mena Barreto Silva FR, Zamoner A. Mechanisms underlying the neurotoxicity induced by glyphosate-based herbicide in immature rat hippocampus: involvement of glutamate excitotoxicity. *Toxicology*. 2014 Jun 5;320:34-45.

<sup>63</sup> Yan D, Zhang Y, Liu L, Yan H. Pesticide exposure and risk of Alzheimer's disease: a systematic review and meta-analysis. *Sci Rep*. 2016 Sep 1;6:32222.

<sup>64</sup> Rifkin J. (1992). *Beyond Beef: The Rise and Fall of the Cattle Culture*. New York, New York: Dutton Adult.

<sup>65</sup> Liu X, Zhang Y, Luo C, Kang J, Li J, Wang K, Ma P, Yang X. At seeming safe concentrations, synergistic effects of PM2.5 and formaldehyde co-exposure induce Alzheimer-like changes in mouse brain. *Oncotarget*. 2017 Oct 6;8(58):98567-98579.

<sup>66</sup> Tulpule K, Dringer R. Formaldehyde in brain: an overlooked player in neurodegeneration? *J Neurochem*. 2013 Oct;127(1):7-21.

<sup>67</sup> O'Bryant SE, Edwards M, Menon CV, Gong G, Barber R. Long-term low-level arsenic exposure is associated with poorer neuropsychological functioning: a Project FRONTIER study. *Int J Environ Res Public Health*. 2011 Mar;8(3):861-74.

<sup>68</sup> Nigra AE, Nachman KE, Love DC, Grau-Perez M, Navas-Acien A. Poultry Consumption and Arsenic Exposure in the U.S. Population. *Environ Health Perspect*. 2017 Mar;125(3):370-377.

<sup>69</sup> Holcman A, Stibilj V. Arsenic residues in eggs from laying hens fed with a diet containing arsenic (III) oxide. *Arch Environ Contam Toxicol*. 1997 May;32(4):407-10.

<sup>70</sup> Gupta SK, Le XC, Kachanosky G, Zuidhof MJ, Siddique T. Transfer of arsenic from poultry feed to poultry litter: A mass balance study. *Sci Total Environ*. 2018 Jul 15;630:302-307.

<sup>71</sup> Fort M, Grimalt JO, Casas M, Sunyer J. Food sources of arsenic in pregnant Mediterranean women with high urine concentrations of this metalloid. *Environ Sci Pollut Res Int*. 2014 Oct;21(20):11689-98.

<sup>72</sup> Osorio-Yáñez C, Gelaye B, Engugbarh DA, Qiu C, Williams MA. Dietary intake and urinary metals among pregnant women in the Pacific Northwest. *Environ Pollut*. 2018 May;236:680-688.

<sup>73</sup> Sullivan MJ, Leavey S. Heavy metals in bottled natural spring water. *J Environ Health*. 2011 Jun;73(10):8-13.

<sup>74</sup> deCastro BR, Caldwell KL, Jones RL, Blount BC, Pan Y, Ward C, Mortensen ME. Dietary sources of methylated arsenic species in urine of the United States population, NHANES 2003-2010. *PLoS One*. 2014 Sep 24;9(9):e108098.

<sup>75</sup> Walton JR. An aluminum-based rat model for Alzheimer's disease exhibits oxidative damage, inhibition of P22A activity, hyperphosphorylated tau, and granulovacuolar degeneration. *J Inorg Biochem*. 2007 Sep;101(9):1275-84.

<sup>76</sup> Umoto S, Kakimi S, Ohsaki A, Ishikawa A. Demonstration of aluminum in amyloid fibers in the cores of senile plaques in the brains of patients with Alzheimer's disease. *J Inorg Biochem*. 2009 Nov;103(11):1579-84.

<sup>77</sup> Rogers MA, Simon DG. A preliminary study of dietary aluminum intake and risk of Alzheimer's disease. *Age Ageing*. 1999 Mar;28(2):205-9. doi: 10.1093/ageing/28.2.205. PMID: 10350420.

<sup>78</sup> Herndon JM. Human and Environmental Dangers Posed by Ongoing Global Tropospheric Aerosolized Particulates for Weather Modification. *Front Public Health*. 2016 Jun 30;4:139.

<sup>79</sup> Sayed SM, Yekel RA. Aluminium content of some foods and food products in the USA, with aluminium food additives. *Food Addit Contam*. 2005 Mar;22(3):234-44.

# References

- 80 Rajwanshi P, Singh V, Gupta MK, Kumari V, Shrivastava R, Ramanamurthy M, Dass S. Studies on aluminium leaching from cookware in tea and coffee and estimation of aluminium content in toothpaste, baking powder and paan masala. *Sci Total Environ*. 1997 Jan 30;193(3):243-9.
- 81 Allain P, Gauchard F, Krari N. Enhancement of aluminium digestive absorption by fluoride in rats. *Commu Mol Pathol Pharmacol*. 1996 Feb;9(2):225-31.
- 82 Hussien HM, Abd-Elmegied A, Ghareeb DA, Hafez HS, Ahmed HEA, El-Moneam NA. Neuroprotective effect of berberine against environmental heavy metals-induced neurotoxicity and Alzheimer's-like disease in rats. *Food Chem Toxicol*. 2018 Jan;111:432-444.
- 83 Gao HJ, Zhao Q, Zhang XC, Wan XC, Mao JD. Localization of fluoride and aluminum in subcellular fractions of tea leaves and roots. *J Agric Food Chem*. 2014 Mar 12;62(10):2313-9.
- 84 Peckham S, Awofeso N. Water fluoridation: a critical review of the physiological effects of ingested fluoride as a public health intervention. *ScientificWorldJournal*. 2014 Feb 26;2014:293019.
- 85 Gottfried F. Legal aspects of fluoride in salt, particularly within the EU. *Schweiz Monatsschr Zahnmed*. 2006;116(4):371-5.
- 86 Full CA, Parkins FM. Effect of cooking vessel composition on fluoride. *J Dent Res*. 1975 Jan-Feb;54(1):192.
- 87 Luo W, Gao X, Zhang X. Geochemical processes controlling the groundwater chemistry and fluoride contamination in the Yuncheng Basin, China-An area with complex hydrogeochemical conditions. *PLoS One*. 2018 Jul 26;13(7):e0199082.
- 88 <http://www.sweb.org/ftc/fluorinatedpharm.html>
- 89 Wenstrup D, Ehmman WD, Markesbery WR. Trace element imbalances in isolated subcellular fractions of Alzheimer's disease brains. *Brain Res*. 1990 Nov 12;533(1):125-31.
- 90 Martins C, Vasco E, Paixão E, Alvíto P. Total mercury in infant food, occurrence and exposure assessment in Portugal. *Food Addit Contam Part B Surveill*. 2013;6(3):151-7.
- 91 Reinhardt JW. Side-effects: mercury contribution to body burden from dental amalgam. *Adv Dent Res*. 1992 Sep;6:110-3.
- 92 Chhawchharia R, Puliyel JM. Commentary—Controversies surrounding mercury in vaccines: autism denial as impediment to universal immunisation. *Indian J Med Ethics*. 2014 Oct-Dec;11(4):218-22.
- 93 Dorea JG. Low-dose Thimerosal (ethyl-mercury) is still used in infants' vaccines: Should we be concerned with this form of exposure? *J Trace Elem Med Biol*. 2018 Sep;49:134-139.
- 94 Gandhi N, Tang RW, Bhavsar SP, Arhonditis GB. Fish mercury levels appear to be increasing lately: a report from 40 years of monitoring in the province of Ontario, Canada. *Environ Sci Technol*. 2014 May 20;48(10):5404-14.
- 95 <https://www.fda.gov/RegulatoryInformation/LawsEnforcedbyFDA/SignificantAmendmentsstotheFDCA/CDAM/a/ucm100218.htm>
- 96 Cilandys J, Dreykowski M. Cooking can decrease mercury contamination of a mushroom meal: Cantharellus cibarius and Amanita fulva. *Environ Sci Pollut Res Int*. 2017 May;24(15):13352-13357.
- 97 Dufault R, LeBlanc B, Schnoll R, Cornett C, Schweitzer L, Wallinga D, Hightower J, Patrick L, Lukiw WJ. Mercury from chlor-alkali plants: measured concentrations in food product sugar. *Environ Health*. 2009 Jun 26;8:2.
- 98 Pazin M, Pereira LC, Dorta DJ. Toxicity of brominated flame retardants, BDE-47 and BDE-99 stems from impaired mitochondrial bioenergetics. *Toxicol Mech Methods*. 2015 Jan;25(1):34-41.
- 99 Bulathsinhala AT, Shaw IC. The toxic chemistry of methyl bromide. *Hum Exp Toxicol*. 2014 Jan;33(1):81-91.
- 100 Sosnowska B, Huras B, Bukowska B. Oxidative stress in human erythrocytes treated with bromofenvinphos and its impurities. *Pestic Biochem Physiol*. 2015 Feb;118:43-9.
- 101 Fernandes AR, Mortimer D, Rose M, Smith F, Panton S, Garcia-Lopez M. Bromine content and brominated flame retardants in food and animal feed from the UK. *Chemosphere*. 2016 May;150:472-478.
- 102 Kurokawa Y, Maekawa A, Takahashi M, Hayashi Y. Toxicity and carcinogenicity of potassium bromate—a new renal carcinogen. *Environ Health Perspect*. 1990 Jul;87:309-35.
- 103 Turner A, Fellella M. Bromine in plastic consumer products - Evidence for the widespread recycling of electronic waste. *Sci Total Environ*. 2017 Dec 1;601-602:374-379.
- 104 Bendig P, Maier L, Vetter W. Brominated vegetable oil in soft drinks - An underrated source of human organobromine intake. *Food Chemistry* 133(3):678-682.
- 105 Parinet J, Tabaries S, Coulomb B, Vassallo L, Boudenne JL. Exposure levels to brominated compounds in seawater swimming pools treated with chlorine. *Water Res*. 2012 Mar 1;46(3):828-36.
- 106 Foster HD. Disease family trees: the possible roles of iodine in goitre, cretinism, multiple sclerosis, amyotrophic lateral sclerosis, Alzheimer's and Parkinson's diseases and cancers of the thyroid, nervous system and skin. *Mind Hypotheses*. 1987 Nov;2(4):249-63.
- 107 Longstreth WT Jr, Arnold AM, Beauchamp NJ Jr, Manolio TA, Lefkowitz D, Jungreis C, Hirsch CH, O'Leary DH, Furberg CD. Incidence, manifestations, and predictors of worsening white matter on serial cranial magnetic resonance imaging in the elderly: the Cardiovascular Health Study. *Stroke*. 2005 Jan;36(1):56-61.
- 108 Clouston SAP, Shapira O, Kotov R, Lei L, Waszczuk M, Bromet EJ, Luft BJ. Proton pump inhibitors and the risk of severe cognitive impairment: The role of posttraumatic stress disorder. *Alzheimers Dement (N Y)*. 2017 Sep 23;3(4):579-583.
- 109 Dublin S, Walker RL, Gray SL, Hubbard RA, Anderson ML, Yu O, Montine TJ, Crane PC, Sonnen JA, Larson EB. Use of Analgesics (Opioids and Nonsteroidal Anti-Inflammatory Drugs) and Dementia-Related Neuropathology in a Community-Based Autopsy Cohort. *J Alzheimer's Dis*. 2017;58(2):435-448.
- 110 Boccardi V, Baroni M, Paolacci L, Ercolani S, Longo A, Giordano M, Ruggiero C, Mecocci P. Anticholinergic Burden and Functional Status in Older People with Cognitive Impairment: Results from the Regal Project. *J Nutr Health Aging*. 2017;21(4):389-396.
- 111 Bianchi SL, Tran T, Liu C, Lin S, Li Y, Keller JM, Eckenhoff RG, Eckenhoff MF. Brain and behavior changes in 12-month-old Tg2576 and nontransgenic mice exposed to anesthetics. *Neurobiol Aging*. 2008 Jul;29(7):1002-10.
- 112 Jiang X, Huang J, Song D, Deng R, Wei J, Zhang Z. Increased Consumption of Fruit and Vegetables Is Related to a Reduced Risk of Cognitive Impairment and Dementia: Meta-Analysis. *Front Aging Neurosci*. 2017 Feb 7;9:18.
- 113 Tripathi M, Vibha D, Gupta P, Bhatia R, Srivastava MV, Vivekanandhan S, Bhushan Singh M, Prasad K, Dergalust S, Mendeze MF. Risk factors of dementia in North India: a case-control study. *Aging Ment Health*. 2012;16(2):228-35.
- 114 Wu L, Sun D, Tan Y. Intake of Fruit and Vegetables and the Incident Risk of Cognitive Disorders: A Systematic Review and Meta-Analysis of Cohort Studies. *J Nutr Health Aging*. 2017;21(10):1284-1290.
- 115 Ye X, Bhupathiraju SN, Tucker KL. Variety in fruit and vegetable intake and cognitive function in middle-aged and older Puerto Rican adults. *Br J Nutr*. 2013 Feb 14;109(3):503-10.
- 116 Pase MP, Himall JJ, Jacques PF, DeCarli C, Sattibabal CL, Aparicio H, Vasan RS, Beiser AS, Seshadri S. Sugary beverage intake and preclinical Alzheimer's disease in the community. *Alzheimers Dement*. 2017 Sep;13(9):955-964.
- 117 Hu P, Bretsky P, Crimmins EM, Guralnik JM, Reuben DB, Seeman TE. Association between serum beta-carotene levels and decline of cognitive function in high-functioning older persons with or without apolipoprotein E 4 alleles: MacArthur studies of successful aging. *J Gerontol A Biol Sci Med Sci*. 2006 Jun;61(6):616-20.
- 118 Gibson GE, Hirsch JA, Fonzeppi P, Jordan BD, Criot RT, Elder J. Vitamin B1 (thiamine) and dementia. *Ann N Y Acad Sci*. 2016 Mar;1367(1):21-30.
- 119 Moore K, Hughes CF, Ward M, Hoey L, McNulty H. Diet, nutrition and the ageing brain: current evidence and new directions. *Proc Nutr Soc*. 2018 May;77(2):152-163.
- 120 Qin B, Xun P, Jacobs DR Jr, Zhu N, Daviglus ML, Reis JP, Steffen LM, Van Horn L, Sidney S, He K. Intake of niacin, folate, vitamin B-6, and vitamin B-12 through young adulthood and cognitive function in midlife: the Coronary Artery Risk Development in Young Adults (CARDIA) study. *Am J Clin Nutr*. 2017 Oct;106(4):1032-1040.
- 121 Cansev M, Turkulmaz M, Sijben JWC, Sevinc C, Broersen L, van Wijk N. Synaptic Membrane Synthesis in Rats Depends on Dietary Sufficiency of Vitamin C, Vitamin E, and Selenium: Relevance for Alzheimer's Disease. *J Alzheimer's Dis*. 2017;59(1):301-311.
- 122 Hoel DG, Berwick M, de Grujil FR, Holick MF. The risks and benefits of sun exposure 2016. *Dermatoendocrinol*. 2016 Oct 19;8(1):e1248325.
- 123 Li FJ, Shen L, Ji HF. Dietary intakes of vitamin E, vitamin C, and beta-carotene and risk of Alzheimer's disease: a meta-analysis. *J Alzheimer's Dis*. 2012;31(2):253-8.
- 124 Presse N, Shatenstein B, Gergoat MK, Ferland G. Low vitamin K intakes in community-dwelling elders at an early stage of Alzheimer's disease. *J Am Diet Assoc*. 2008 Dec;108(12):2095-9.
- 125 Raunna AL, Torronen R, Hanninen O, Verhagen H, Mykkanen H. Antioxidant status in long-term adherents to a strict uncooked vegan diet. *Am J Clin Nutr*. 1995 Dec;62(6):1221-7.
- 126 Loeff M, Walach H. Fruit, vegetables and prevention of cognitive decline or dementia: a systematic review of cohort studies. *J Nutr Health Aging*. 2012 Jul;16(7):626-30.
- 127 Nooyens AC, Bueno-de-Mesquita HB, van Boven MP, van Gelder BM, Verhagen H, Verschuren WM. Fruit and vegetable intake and cognitive decline in middle-aged men and women: the Doetinchem Cohort Study. *Br J Nutr*. 2011 Sep;106(5):752-61.
- 128 Morris MC, Wang Y, Barnes LL, Bennett DA, Dawson-Hughes B, Booth SL. Nutrients and bioactives in green leafy vegetables and cognitive decline: Prospective study. *Neurology*. 2018 Jan 16;90(3):e214-e222.
- 129 Williams PT. Lower risk of Alzheimer's disease mortality with exercise, statin, and fruit intake. *J Alzheimer's Dis*. 2015;44(4):1121-9.
- 130 Subash S, Essa MM, Al-Adawi S, Memon MA, Manivasagam T, Akbar M. Neuroprotective effects of berry fruits on neurodegenerative diseases. *Neural Regen Res*. 2014 Aug 15;9(16):1557-66.
- 131 Carey AN, Gomes SM, Shukitt-Hale B. Blueberry supplementation improves memory in middle-aged mice fed a high-fat diet. *J Agric Food Chem*. 2014 May 7;62(18):3972-8.
- 132 Guo H, Dong YQ, Ye BP. Cranberry extract supplementation exerts preventive effects through alleviating Aβ toxicity in Caenorhabditis elegans model of Alzheimer's disease. *Chin J Nat Med*. 2016 Jun;14(6):427-33.
- 133 Burton-Freeman BM, Sandhu AK, Edirisinghe I. Red Raspberries and Their Bioactive Polyphenols: Cardiometabolic and Cognitive Health. *Adv Nutr*. 2016 Jan 15;7(1):44-65.
- 134 Kaewkaen P, Tong-Un T, Wattanathorn J, Muechmapura S, Kaewrueng W, Wongcharoenwanakit S. Mulberry Fruit Extract Protects against Memory Impairment and Hippocampal Damage in Animal Model of Vascular Dementia. *Evid Based Complement Alternat Med*. 2012;2012:263520.
- 135 Shukitt-Hale B, Bielinski DF, Lau FC, Willis LM, Carey AN, Joseph JA. The beneficial effects of berries on cognition, motor behaviour and neuronal function in ageing. *Br J Nutr*. 2015 Nov 28;114(10):1542-9.
- 136 Shukitt-Hale B, Cheng Y, Joseph JA. Effects of blackberries on motor and cognitive function in aged rats. *Nutr Neurosci*. 2009 Jun;12(3):135-40.
- 137 Cheng J, Zhou JW, Sheng HP, He LJ, Fan XW, He ZX, Sun T, Zhang X, Zhao RJ, Gu L, Cao C, Zhou SF. An evidence-based update on the pharmacological activities and possible molecular targets of Lycium barbarum polysaccharides. *Drug Des Devel Ther*. 2014 Dec 17;9:33-78.
- 138 Lee J, Torosyan N, Silverman DH. Examining the impact of grape consumption on brain metabolism and cognitive function in patients with mild decline in cognition: A double-blind placebo controlled pilot study. *Exp Gerontol*. 2017 Jan;87(Pt A):121-128.
- 139 Prakash A, Kumar A. Implicating the role of lycopene in restoration of mitochondrial enzymes and BDNF levels in β-amyloid induced Alzheimer's disease. *Eur J Pharmacol*. 2014 Oct 15;741:104-11.
- 140 Min YJ, Min KB. Serum lycopene, lutein and zeaxanthin, and the risk of Alzheimer's disease mortality in older adults. *Dement Geriatr Cogn Disord*. 2014;37(4):246-56.
- 141 Bookheimer SY, Renner BA, Ekstrom A, Li Z, Henning SM, Brown JA, Jones M, Moody T, Small GW. Pomegranate juice augments memory and FMRI activity in middle-aged and older adults with mild memory complaints. *Evid Based Complement Alternat Med*. 2013;2013:946298.
- 142 Viggiano A, Viggiano A, Monda M, Turco I, Incarnato L, Vinno V, Viggiano E, Baccari ME, De Luca B. Annurca apple-rich diet restores long-term potentiation and induces behavioral modifications in aged rats. *Exp Neurol*. 2006 Jun;199(2):354-61.
- 143 Shukitt-Hale B, Kalk W, Carey AN, Vinqvist-Tymchuk M, McDonald J, Joseph JA. Plum juice, but not dried plum powder, is effective in mitigating cognitive deficits in aged rats. *Nutrition*. 2009 May;25(5):567-73.
- 144 Brady N, Behzad S, Habtemariam S, Ahmed T, Daglia M, Nabavi SM, Sobarzo-Sanchez E, Nabavi SF. Neuroprotective Effects of Citrus Fruit-Derived Flavonoids, Nobiletin and Tangeretin in Alzheimer's and Parkinson's Disease. *CNS Neurol Disord Targets*. 2017;16(4):387-397.
- 145 Ogunrunko OO, Obboh G, Passamonti S, Trammer F, Boligon AA. Capsicum annum var. grossum (Bell Pepper) Inhibits β-Secretase Activity and β-Amyloid-40 Aggregation. *J Med Food*. 2017 Feb;20(2):124-130.
- 146 Peng Y, Hou C, Yang Z, Li C, Jia L, Liu J, Tang Y, Shi L, Li Y, Long J, Liu J. Hydroxytyrosol mildly improve cognitive function independent of APP processing in APP/PS1 mice. *Mol J Nutr Food Res*. 2016 Nov;60(11):2331-2342.
- 147 Killen MJ, Linder M, Pontoniere P, Crea R. NF-κB signaling and chronic inflammatory diseases: exploring the potential of natural products to drive new therapeutic opportunities. *Drug Discov Today*. 2014 Apr;19(4):373-8.
- 148 Daccache A, Lion C, Sibille G, Germon M, Slomianka L, Lippens G, Cotelle P. Oleuropein and derivatives from olives as Tau aggregation inhibitors. *Neurochem Int*. 2011 May;58(6):700-7.
- 149 Lee YM, Han SJ, Song BC, Yeum KJ. Bioactives in Commonly Consumed Cereal Grains: Implications for Oxidative Stress and Inflammation. *J Med Food*. 2015 Nov;18(11):1179-86.
- 150 Chen X, Huang Y, Cheng HG. Lower intake of vegetables and legumes associated with cognitive decline among illiterate elderly Chinese: a 3-year cohort study. *J Nutr Health Aging*. 2012;16(6):549-52.
- 151 Barbour JA, Howe PR, Buckley JD, Bryan J, Coates AM. Nut consumption for vascular health and cognitive function. *Nutr Res Rev*. 2014 Jun;27(1):131-58.
- 152 Klimova B, Kuka K, Valis M, Hort J. Role of Nut Consumption in the Management of Cognitive Decline - A Mini-Review. *Curr Alzheimer Res*. 2018 Feb 1.
- 153 O'Brien J, Okereke O, Devore E, Rosner B, Breteler M, Grodstein F. Long-term intake of nuts in relation to cognitive function in older women. *J Nutr Health Aging*. 2014 May;18(5):496-502.
- 154 Arab L, Ang A. A cross sectional study of the association between walnut consumption and cognitive function among adult US populations represented in NHANES. *J Nutr Health Aging*. 2015 Mar;19(3):284-90.
- 155 Poulou S, Miller MG, Shukitt-Hale B. Role of walnuts in maintaining brain health with age. *J Nutr*. 2014 Apr;144(4 Suppl):5615-5665.
- 156 Bahaeddin Z, Vans A, Khodagholi F, Hajimehdipoor H, Sahranavard S. Hazelnut and neuroprotection: Improved memory and hindered anxiety in response to intra-hippocampal Aβ injection. *Nutr Neurosci*. 2017 Jul;20(6):317-326.
- 157 Cardoso BR, Busse AL, Hare DJ, Cominetti C, Horst MA, McCol J, Magaldi RM, Jacob-Filho WJ, Cazzolino SM. Pro198Leu polymorphism affects the selenium status and GPx activity in response to Brazil nut intake. *Food Funct*. 2016 Feb;7(2):325-33.
- 158 Gao S, Jin Y, Hall KS, Liang C, Unverzagt FW, Ji R, Murrell JR, Cao J, Shen J, Ma F, Matesan J, Ying B, Cheng Y, Bian J, Li P, Hendrie HC. Selenium level and cognitive function in rural elderly Chinese. *Am J Epidemiol*. 2007 Apr 15;165(8):955-65.
- 159 Gorji N, Moieni R, Memariani Z. Almond, hazelnut and walnut, three nuts for neuroprotection in Alzheimer's disease: A neuropharmacological review of their bioactive constituents. *Pharmacol Res*. 2018 Mar;129:115-127.
- 160 Obermann KR, Morris JC, Roe CM. Exploration of 100 commonly used drugs and supplements on cognition in older adults. *Alzheimers Dement*. 2013 Nov;9(6):724-32.
- 161 Keawkeaw R, Shoormarom M, Bunarung W, Sitthithaworn W, Weerapreeyakul N. Sesamin and sesamol reduce amyloid-β toxicity in a transgenic Caenorhabditis elegans. *Biomed Pharmacother*. 2018 Aug 14;107:656-664.
- 162 Lee BH, Choi SH, Kim HJ, Jung SW, Kim HK, Nah SY. Plant Lysophosphatidic Acids: A Rich Source for Bioactive Lysophosphatidic Acids and Their Pharmacological Applications. *Biol Pharm Bull*. 2016;39(2):156-62.
- 163 Psalms 104:14. King James Version of the Bible.
- 164 Occhiuto F, Zangla G, Samperi S, Palumbo DR, Pino A, De Pasquale R, Circosta C. The phytoestrogenic isoflavones from Trifolium pratense L. (Red clover) protects human cortical neurons from glutamate toxicity. *Phytother Res*. 2008 Sep;15(9):676-82.
- 165 Ahmad Rather M, Justin Theinmozhi A, Manivasagam T, Nataraj J, Essa MM, Chidambaram SB. Asiatic acid nullified aluminum toxicity in vitro model of Alzheimer's disease. *Front Biosci (Elite Ed)*. 2018 Jan 1;10:287-299.
- 166 Dhanasekaran M, Holcomb LA, Hitt AR, Tharakan B, Porter JW, Young KA, Manyam BV. Centella asiatica extract selectively decreases amyloid beta levels in hippocampus of Alzheimer's disease animal model. *Phytother Res*. 2009 Jan;23(1):14-9.
- 167 Heo JH, Park MH, Lee JH. Effect of Korean Red Ginseng on Cognitive Function and Quantitative EEG in Patients with Alzheimer's Disease: A Preliminary Study. *J Altern Complement Med*. 2016 Apr;22(4):280-5.
- 168 Li H, Sun X, Yu F, Xu L, Miu J, Xiao P. In Silico Investigation of the Pharmacological Mechanisms of Beneficial Effects of Ginkgo biloba L. on Alzheimer's Disease. *Nutrients*. 2018 May 10;10(5).
- 169 Ha GT, Wong RK, Zhang Y. Huperzine A as potential treatment of Alzheimer's disease: an assessment on chemistry, pharmacology, and clinical studies. *Chem Biodivers*. 2011 Jul;8(7):1189-204.
- 170 Akhondzadeh S, Noroozian M, Mohammadi M, Oshadi S, Jamshidi AH, Khani M. Salvia officinalis extract in the treatment of patients with mild to moderate Alzheimer's disease: a double blind, randomized and placebo-controlled trial. *J Clin Pharm Ther*. 2003 Feb;28(1):53-9.
- 171 Gillette Guyonnet S, Andrieu S, Vellas B. The potential influence of silica present in drinking water on Alzheimer's disease and associated disorders. *J Nutr Health Aging*. 2007 Mar-Apr;11(2):119-24.
- 172 Tang M, Taghbilgou C. The Mechanisms of Action of Curcumin in Alzheimer's Disease. *J Alzheimer's Dis*. 2017;58(4):1003-1016.
- 173 Dube T, Chinnambami S, Brahmi (Bacopa monnieri). An ayurvedic herb against the Alzheimer's disease. *Arch Biochem Biophys*. 2019 Nov 15;676:108153.
- 174 Chaudhari KS, Tiwari NR, Tiwari RR, Sharma RS. Neurocognitive Effect of Nootropic Drug Brahmi (Bacopa monnieri) in Alzheimer's Disease. *Ann Neurosci*. 2017 May;24(2):111-122.
- 175 Selgah N, Gupta A, Valli RK, Joshi SD, Mills JT, Harmel E, Khanna P, Jain SC, Thakur SS, Ravindranath V. Withania somnifera reverses Alzheimer's disease pathology by enhancing low-density lipoprotein receptor-related protein in liver. *Proc Natl Acad Sci U S A*. 2012 Feb 28;109(9):3510-5.
- 176 Bae D, Seol H, Yoon HG, Na JR, Oh K, Choi CY, Lee DW, Jun W, Youl Lee K, Lee J, Hwang K, Lee YH, Kim S. Inhaled essential oil from Chamaecyparis obtuse ameliorates the impairments of cognitive function induced by injection of β-amyloid in rats. *Pharm Biol*. 2012 Jul;50(7):900-10.
- 177 Millán González A, Martínez García R, Serrano Parra D, Nieto López M. Influence of oral intake of water in improving memory and visual acuity. *Nutr Hosp*. 2015 Dec 1;32 Suppl 2:10319.
- 178 Sawka MN, Cheuvront SN, Carter R 3rd. Human water needs. *Nutr Rev*. 2005 Jun;63(6 Pt 2):S30-9.
- 179 Koike Y, Kondo H, Kondo S, Takagi M, Kano Y. Effect of a steam foot spa on geriatric inpatients with cognitive impairment: a pilot study. *Clin Interv Aging*. 2013;8:543-8.
- 180 Laukkanen T, Kunutsor S, Kauhanen J, Laukkanen JA. Sauna bathing is inversely associated with dementia and Alzheimer's disease in middle-aged Finnish men. *Age Ageing*. 2017 Mar 1;46(2):245-249.
- 181 Ohara T, Honda T, Hata J, Yoshida D, Mukai N, Hirakawa Y, Shibata M, Kishimoto H, Kitazono T, Kanba S, Ninomiya T. Association Between Daily Sleep Duration and Risk of Dementia and Mortality in a Japanese Community. *J Am Geriatr Soc*. 2018 Jun 6.
- 182 Cordone S, Annamuma L, Rossini PM, De Gennaro L. Sleep and β-Amyloid Deposition in Alzheimer Disease: Insights on Mechanisms and Possible Innovative Treatments. *Front Pharmacol*. 2019 Jun 20;10:695.
- 183 Ahmadian N, Hejazi S, Mahmoodi I, Talebi M. Tau Pathology of Alzheimer Disease: Possible Role of Sleep Deprivation. *Basic Clin Neurosci*. 2018 Sep-05;9(5):307-316.
- 184 Minakawa E, Miyazaki K, Maruo K, Yagihara H, Fujita H, Wada K, Nagai Y. Chronic sleep fragmentation exacerbates amyloid β deposition in Alzheimer's disease model mice. *Neurosci Lett*. 2017 Jul 13;653:362-369.
- 185 Crispin CA, Zimberg IZ, dos Reis BG, Diniz RM, Tufik S, de Mello MT. Relationship between folic acid and sleep pattern in healthy individuals. *J Clin Sleep Med*. 2011 Dec 15;7(6):659-64.
- 186 Klegeris A, Schutzer M, Harper DG, McGeer PL. Increase in core body temperature of Alzheimer's disease patients as a possible indicator of chronic neuroinflammation: a meta-analysis. *Gerontology*. 2007;53(1):7-11.
- 187 Driver HS, Shulman I, Baker FC, Buffenstein R. Energy content of the evening meal alters nocturnal body temperature but not sleep. *Physiol Behav*. 1999 Dec 1;15:681(2):17-23.
- 188 Dollander M. Etiology of adult insomnia. *Encephale*. 2002 Nov-Dec;28(6 Pt 1):493-502.
- 189 Nie L, Wei G, Peng S, Qu Z, Yang Y, Yang Q, Huang X, Liu J, Zhou Z, Yang X. Melatonin ameliorates anxiety and depression-like behaviors and modulates proteomic changes in triple transgenic mice of Alzheimer's disease. *BioFactors*. 2017 8;43(4):593-611.

# Blue Print for Health and Healing

<sup>190</sup> Gao HX, Zhang LX. Antagonistic effects of melatonin on glutamate-induced neurotoxicity in rat hippocampal neurons. *Sheng Li Xue Bao*. 1999 Aug;51(4):430-4.

<sup>191</sup> Lindstrom HA, Fritsch T, Petot G, Smyth KA, Chen CH, Debanne SM, Lerner AJ, Friedland RP. The relationships between television viewing in midlife and the development of Alzheimer's disease in a case-control study. *Brain Cogn*. 2005 Jul;58(2):157-65.

<sup>192</sup> Wang JY, Zhou DH, Li J, Zhang M, Deng J, Tang M, Gao C, Li J, Lian Y, Chen M. Leisure activity and risk of cognitive impairment: the Chongqing aging study. *Neurology*. 2006 Mar 28;66(6):911-3.

<sup>193</sup> Sobel E, Dunn M, Davanipour Z, Qian Z, Chui HC. Elevated risk of Alzheimer's disease among workers with likely electromagnetic field exposure. *Neurology*. 1996 Dec;47(6):1477-81.

<sup>194</sup> Del Giudice E, Facchinetti F, Nofrate V, Boccaccio P, Binelli T, Dam M, Leon A, Moschini G. Fifty Hertz electromagnetic field exposure stimulates secretion of a metallopeptide in cultured human neuroglia. *Neurosci Lett*. 2007 May 11;418(1):9-12.

<sup>195</sup> Jalilian H, Teshnizi SH, Rössli M, Neghab M. Occupational exposure to extremely low frequency magnetic fields and risk of Alzheimer disease: A systematic review and meta-analysis. *Neurotoxicology*. 2017 Dec 24.

<sup>196</sup> Särkämö T, Teravainen M, Laitinen S, Numminen A, Kurki M, Englund J, Niskanen J, Rantanen P. Cognitive, emotional, and social benefits of regular musical activities in early dementia: randomized controlled study. *Gerontologist*. 2014 Aug;54(4):634-50.

<sup>197</sup> Verghese J, Lipton RB, Katz MJ, Hall CB, Derby CA, Kuslansky G, Ambrose AF, Sliwinski M, Buschke H. Leisure activities and the risk of dementia in the elderly. *N Engl J Med*. 2003 Jun 19;348(25):2508-16.

<sup>198</sup> Palisson J, Rousel-Baclet C, Maillet D, Belin C, Ankrj J, Narme P. Music enhances verbal episodic memory in Alzheimer's disease. *J Clin Exp Neuropsychol*. 2015;37(5):503-17.

<sup>199</sup> Russell-Williams J, Jaroudi W, Perich T, Hoscheidt S, El Haj M, Moustafa AA. Mindfulness and meditation: treating cognitive impairment and reducing stress in dementia. *Rev Neurosci*. 2018 Feb 21.

<sup>200</sup> Last N, Tufts E, Auger LE. The Effects of Meditation on Grey Matter Atrophy and Neurodegeneration: A Systematic Review. *J Alzheimers Dis*. 2017;56(1):275-286.

<sup>201</sup> Psalms 119:97. King James Version of the Bible.

<sup>202</sup> Yang SY, Shan CL, Qing H, Wang W, Zhu Y, Yin MM, Machado S, Yuan TF, Wu T. The Effects of Aerobic Exercise on Cognitive Function of Alzheimer's Disease Patients. *CNS Neurol Disord Drug Targets*. 2015;14(10):1292-7.

<sup>203</sup> Maesako M, Uemura K, Kubota M, Kuzuya A, Sasaki K, Hayashida N, Asada-Utsugi M, Watanabe K, Uemura M, Kihara T, Takahashi R, Shimohama S, Kinoshita A. Exercise is more effective than diet control in preventing high fat diet-induced  $\beta$ -amyloid deposition and memory deficit in amyloid precursor protein transgenic mice. *J Biol Chem*. 2012 Jun 29;287(27):23024-33.

<sup>204</sup> Geda YE, Roberts RO, Knopman DS, Christianson TJ, Pankratz VS, Ivnik RJ, Boeve BF, Tangalos EG, Petersen RC, Rocca WA. Physical exercise, aging, and mild cognitive impairment: a population-based study. *Arch Neurol*. 2010 Jan;67(1):80-6.

<sup>205</sup> Winchester J, Dick MB, Gillen D, Reed B, Miller B, Tinklenberg J, Mungas D, Chui H, Galasko D, Hewett L, Cotman CW. Walking stabilizes cognitive functioning in Alzheimer's disease (AD) across one year. *Arch Gerontol Geriatr*. 2013 Jan-Feb;56(1):96-103.

<sup>206</sup> Varma VR, Chuang YF, Harris GC, Tan EJ, Carlson MC. Low-intensity daily walking activity is associated with hippocampal volume in older adults. *Hippocampus*. 2015 May;25(5):605-15.

<sup>207</sup> Abbott RD, White LR, Ross GW, Masaki KH, Curb JD, Petrovitch H. Walking and dementia in physically capable elderly men. *JAMA*. 2004 Sep 22;292(12):1447-53.

<sup>208</sup> Heusinkveld HJ, Wahle T, Campbell A, Westerink RHM, Tran L, Johnston H, Stone V, Cassee FR, Schins RPF. Neurodegenerative and neurological disorders by small inhaled particles. *Neurotoxicology*. 2016 Sep;56:94-106.

<sup>209</sup> Park JS, Yoon CH. The effects of outdoor air supply rate on work performance during 8-h work period. *Indoor Air*. 2011 Aug;21(4):284-90.

<sup>210</sup> Baron RA. Effects of negative ions on cognitive performance. *J Appl Psychol*. 1987 Feb;72(1):131-7.

<sup>211</sup> Kornhuber HH. Prevention of dementia (including Alzheimer's disease). *Gesundheitswesen*. 2004 May;66(5):346-51.

<sup>212</sup> Hartig T, Evans GW, Jamner LD, David DS, Gärlinge T. Tracking restoration in natural and urban field settings. *J Environ Psych* 2003 23(2):109-23.

<sup>213</sup> Hughes TM, Sink KM. Hypertension and Its Role in Cognitive Function: Current Evidence and Challenges for the Future. *Am J Hypertens*. 2016 Feb;29(2):149-57.

<sup>214</sup> Godzick L, Mosconi L, Tsui W, de Santi S, Zinkowski R, Pirraglia E, Rich KE, McHugh P, Li Y, Williams S, Ali F, Zetterberg H, Blennow K, Mehta P, de Leon MJ. Alzheimer's disease markers, hypertension, and gray matter damage in normal elderly. *Neurobiol Aging*. 2012 Jul;33(7):1215-27.

<sup>215</sup> Cámara AB, de Souza ID, Dalmolin RIS. Sunlight Incidence, Vitamin D Deficiency, and Alzheimer's Disease. *J Med Food*. 2018 Mar 22.

<sup>216</sup> Sommer I, Griebler U, Kien C, Auer S, Klerings I, Hammer R, Holzer P, Gartlehner G. Vitamin D deficiency as a risk factor for dementia: a systematic review and meta-analysis. *BMC Geriatr*. 2017 Jan 13;17(1):12.

<sup>217</sup> Karssemeijer EGA, Aaronson JA, Bossers WJ, Smits T, Olde Rikkert MGM, Kessels RPC. Positive effects of combined cognitive and physical exercise training on cognitive function in older adults with mild cognitive impairment or dementia: A meta-analysis. *Ageing Res Rev*. 2017 Nov;40:75-83.

<sup>218</sup> Gill DP, Gregory MA, Zou G, Liu-Ambrose T, Shigematsu R, Hachinski V, Fitzgerald C, Petrella RJ. The Healthy Mind, Healthy Mobility Trial: A Novel Exercise Program for Older Adults. *Med Sci Sports Exerc*. 2016 Feb;48(2):297-306.

<sup>219</sup> Boyle PA, Buchman AS, Wilson RS, Yu L, Schneider JA, Bennett DA. Effect of purpose in life on the relation between Alzheimer disease pathologic changes on cognitive function in advanced age. *Arch Gen Psychiatry*. 2012 May;69(5):499-505.

<sup>220</sup> Boyle PA, Buchman AS, Barnes LL, Bennett DA. Effect of a purpose in life on risk of incident Alzheimer disease and mild cognitive impairment in community-dwelling older persons. *Arch Gen Psychiatry*. 2010 Mar;67(3):304-10.

<sup>221</sup> Ecclesiastes 9:10. King James Version of the Bible.

<sup>222</sup> Landau SM, Marks SM, Mormino EC, Rabinovici GD, Oh H, O'Neil JP, Wilson RS, Jagust WJ. Association of lifetime cognitive engagement and low  $\beta$ -amyloid deposition. *Arch Neurol*. 2012 May;69(5):623-29.

<sup>223</sup> Wilson RS, Boyle PA, Yu L, Barnes LL, Schneider JA, Bennett DA. Life-span cognitive activity, neuropathologic burden, and cognitive aging. *Neurology*. 2013 Jul 23;81(4):314-21.

<sup>224</sup> Scalco MZ, van Reekum R. Prevention of Alzheimer disease. Encouraging evidence. *Can Fam Physician*. 2006 Feb;52:200-7.

<sup>225</sup> Perls TT, Silver MH, Laueran JF. Living to 100: Lessons in Living to Your Maximum Potential at Any Age. Basic Books (New York, NY), 1999, p. 157.

<sup>226</sup> Verghese J, Lipton RB, Katz MJ, Hall CB, Derby CA, Kuslansky G, Ambrose AF, Sliwinski M, Buschke H. Leisure activities and the risk of dementia in the elderly. *N Engl J Med*. 2003 Jun 19;348(25):2508-16.

<sup>227</sup> Scarmeas N, Lev L, Tang MX, Manly J, Stern Y. Influence of leisure activity on the incidence of Alzheimer's disease. *Neurology*. 2001 Dec 26;57(12):2236-42.

<sup>228</sup> Berezuk C, Zakzakis KK, Ramirez J, Ruocco AC, Edwards JD, Callahan BL, Black SE. Functional Reserve: Experience Participating in Instrumental Activities of Daily Living is Associated with Gender and Functional Independence in Mild Cognitive Impairment. *J Alzheimers Dis*. 2017;58(2):425-434.

<sup>229</sup> Hampstead BM, Sathian K, Bikson M, Stringer AY. Combined mnemonic strategy training and high-definition transcranial direct current stimulation for memory deficits in mild cognitive impairment. *Alzheimers Dement (N Y)*. 2017 May 15;3(3):459-470.

<sup>230</sup> Rosi A, Del Signore F, Canelli E, Allegri N, Bottiroli S, Vecchi T, Cavallini E. The effect of strategic memory training in older adults: who benefits most? *Int Psychogeriatr*. 2017 Dec 7:1-8.

<sup>231</sup> Lee PL. A Joyful Heart is Good Medicine: Positive Affect Predicts Memory Complaints. *Am J Geriatr Psychiatry*. 2016 Aug;24(8):662-670.

<sup>232</sup> Yang H, Yang S, Isen AM. Positive affect improves working memory: implications for controlled cognitive processing. *Cogn Emot*. 2013;27(3):474-82.

<sup>233</sup> Brose A, Lövdén M, Schmiedek F. Daily fluctuations in positive affect positively co-vary with working memory performance. *Emotion*. 2014 Feb;14(1):1-6.

<sup>234</sup> Proverbs 17:22. King James Version of the Bible.

<sup>235</sup> Sirmad M, Hudon C, van Reekum R. Psychological distress and risk for dementia. *Curr Psychiatry Rep*. 2009 Feb;11(4):41-7.

<sup>236</sup> Machado A, Herrera AJ, de Pablos RM, Espinosa-Oliva AM, Sarmiento M, Ayala A, Venero JL, Santiago M, Villarón RF, Delgado-Cortés MJ, Argüelles S, Cano J. Chronic stress as a risk factor for Alzheimer's disease. *Rev Neurosci*. 2014;25(6):785-804.

<sup>237</sup> Wilson RS, Evans DA, Bienias JL, Mendes de Leon CF, Schneider JA, Bennett DA. Proneness to psychological distress is associated with risk of Alzheimer's disease. *Neurology*. 2003 Dec 9;61(11):1479-85.

<sup>238</sup> Gallagher D, Kiss A, Lancot K, Herrmann N. Depression and Risk of Alzheimer Dementia: A Longitudinal Analysis to Determine Predictors of Increased Risk among Older Adults with Depression. *Am J Geriatr Psychiatry*. 2018 Aug;26(8):819-827.

<sup>239</sup> Burke SL, Cadet T, Alcide A, O'Driscoll J, Maramaldi P. Psychosocial risk factors and Alzheimer's disease: the associative effect of depression, sleep disturbance, and anxiety. *Aging Ment Health*. 2017 Oct 27:1-8.

<sup>240</sup> Wang YP, Zhai JB, Zhu F, Zhai ZH, Wang XJ, Qu CY. A three-year follow-up study on the transfer of mild cognitive impairment to Alzheimer's disease among the elderly in Taiyuan city. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2011 Feb;32(2):105-9.

<sup>241</sup> Kroppinigg U, Sebek K, Leonhardsberger A, Schemper M, Dal-Bianco P. Psychosocial risk factors for Alzheimer's disease. *Psychother Psychosom Med Psychol*. 1999 May;49(5):153-9.

<sup>242</sup> Galatians 5:22. The King James Version of the Bible.

<sup>243</sup> Lin KP, Chou YC, Chen JH, Chen CD, Yang SY, Chen TF, Sun Y, Wen LL, Yip PK, Chu YM, Chen YC. Religious affiliation and the risk of dementia in Taiwanese elderly. *Arch Gerontol Geriatr*. 2015 May-Jun;60(3):501-6.

<sup>244</sup> Paganini-Hill A, Kawas CH, Corrada MM. Lifestyle Factors and Dementia in the Oldest-old: The 90+ Study. *Alzheimer Dis Assoc Disord*. 2016 Jan-Mar;30(1):21-6.

<sup>245</sup> Shimanuki H, Honda H, Ito T, Kasai T, Takato J, Sakamoto Y, Inuzuka G, Ito Y, Arayama N, Ueki S, Haga H. Relationships between volunteerism and social-physical health and QOL with community-dwelling elderly participating in a long-term care prevention programme. *Nihon Koshu Eisei Zasshi*. 2007 Nov;54(11):749-59.

<sup>246</sup> Ball LL, Birge SJ. Prevention of brain aging and dementia. *Clin Geriatr Med*. 2002 Aug;18(3):485-503.

<sup>247</sup> Bennett DA, Schneider JA, Tang Y, Arnold SE, Wilson RS. The effect of social networks on the relation between Alzheimer's disease pathology and level of cognitive function in old people: a longitudinal cohort study. *Lancet Neurol*. 2006 May;5(5):406-12.

<sup>248</sup> White E, G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 330-1.

## Chapter 7 – References

<sup>1</sup> National Arthritis and Musculoskeletal and Skin Diseases Advisory Council was held on January 17, 2006, at the National Institutes of Health.

<sup>2</sup> National Osteoporosis Foundation <http://www.nof.org/osteoporosis/diseasefacts.htm>

<sup>3</sup> Gass M, Dawson-Hughes B. Preventing osteoporosis-related fractures: an overview. *Am J Med*. 2006 Apr;119(4 Suppl 1):S3-11.

<sup>4</sup> Wasnich RD. *Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism*. 4th edition, 1999.

<sup>5</sup> Bone Health and Osteoporosis: A Report of the Surgeon General [http://www.surgeongeneral.gov/library/bonehealth/chapter\\_5.html](http://www.surgeongeneral.gov/library/bonehealth/chapter_5.html)

<sup>6</sup> Weiss KE, Redner CM. Osteoarthritis of the wrist. *J Hand Surg (Am J)*. 2007 May-Jun;32(5):725-46.

<sup>7</sup> Chang SF. The silent disease: the quality of life of women with osteoporotic fracture. *Hu Li Za Zhi*. 2004 Oct;51(5):72-7.

<sup>8</sup> Crans GG, Silverman SL, Genant HK, et al. Association of severe vertebral fractures with reduced quality of life: reduction in the incidence of severe vertebral fractures by teriparatide. *Arthritis Rheum*. 2004 Dec;50(12):4028-34.

<sup>9</sup> Osteoporos Int. 1999;9(3):206-13. Number and type of vertebral deformities: epidemiological characteristics and relation to back pain and height loss. European Vertebral Osteoporosis Study Group. Ismail AA, Cooper C, Felsenberg D, et al.

<sup>10</sup> Melton LJ 3rd. Adverse outcomes of osteoporotic fractures in the general population. *J Bone Miner Res*. 2003 Jun;18(6):1139-41.

<sup>11</sup> Fujimoto K. Review article: prevalence and epidemiology of gastro-oesophageal reflux disease in Japan. *Aliment Pharmacol Ther*. 2004 Dec;20 Suppl 8:5-8.

<sup>12</sup> Bianchi ML, Orsini MR, Sarafofer S, et al. Quality of life in post-menopausal osteoporosis. *Health Qual Life Outcomes*. 2005 Dec 1;3:78.

<sup>13</sup> National Osteoporosis Foundation <http://www.nof.org>

<sup>14</sup> Gass M, Dawson-Hughes B. Preventing osteoporosis-related fractures: an overview. *Am J Med*. 2006 Apr;119(4 Suppl 1):S3-11.

<sup>15</sup> Johnell O. The socioeconomic burden of fractures: today and in the 21st century. *Am J Med*. 1997 Aug 18;103(2A):205-25S.

<sup>16</sup> Roche JJ, Wenn RT, Sahota O, Moran CG. Effect of comorbidities and postoperative complications on mortality after hip fracture in elderly people: prospective observational cohort study. *BMJ*. 2005 Dec 10;331(7529):1374.

<sup>17</sup> From AM, Hyder JA, Kearns AM, Bailey KR, Pellikka PA. Relationship between low bone mineral density and exercise-induced myocardial ischemia. *Mayo Clin Proc*. 2007 Jun;82(6):679-85.

<sup>18</sup> Johansson C, Black D, Johnell O, et al. Bone mineral density is a predictor of survival. *Calcif Tissue Int*. 1998 Sep;63(3):190-6.

<sup>19</sup> Trivedi DP, Khaw KT. Bone mineral density at the hip predicts mortality in elderly men. *Osteoporos Int*. 2001;12(4):259-65.

<sup>20</sup> Magaziner J, Fredman L, Hawkes W, et al. Changes in functional status attributable to hip fracture: a comparison of hip fracture patients to community-dwelling aged. *Am J Epidemiol*. 2003 Jun 1;157(11):1023-31.

<sup>21</sup> Willig R, Keinänen-Kiukkaaniemi S, Jalavaara P. Mortality and quality of life after trochanteric hip fracture. *Public Health*. 2001 Sep;115(5):323-7.

<sup>22</sup> Melton LJ 3rd. Adverse outcomes of osteoporotic fractures in the general population. *J Bone Miner Res*. 2003 Jun;18(6):1139-41.

<sup>23</sup> White EG. *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association, 1942 p.127.

<sup>24</sup> Nguyen UN, Dumoulin G, Henriot MT, Regnard J. Aspartame ingestion increases urinary calcium, but not oxalate excretion, in healthy subjects. *J Clin Endocrinol Metab*. 1998 Jan;83(1):165-8.

<sup>25</sup> Nguyen UN, Henriot MT, Dumoulin G, et al. Increase in calcuria and oxaluria after a single chocolate bar load. *Horm Metab Res*. 1994 Aug;26(8):383-6.

<sup>26</sup> Heaney RP. Role of dietary sodium in osteoporosis. *J Am Coll Nutr*. 2006 Jun;25(3 Suppl):271S-276S.

<sup>27</sup> Vieth R. The role of vitamin D in the prevention of osteoporosis. *Ann Med*. 2005;37(4):278-85.

<sup>28</sup>unker VW. The role of nutrition in osteoporosis. *Br J Biomed Sci*. 1994 Sep;51(3):228-40.

<sup>29</sup> Riggs BL, Khosla S, Atkinson EJ, et al. Evidence that type I osteoporosis results from enhanced responsiveness of bone to estrogen deficiency. *Osteoporos Int*. 2003 Sep;14(9):728-33.

<sup>30</sup> Hoidrup S, Sorensen T, Strøger U, et al. Leisure-time physical activity levels and changes in relation to risk of hip fracture in men and women. *Am J Epidemiol*. 2001 Jul 1;154(11):60-8.

<sup>31</sup> Massey KL, Whiting SJ. Caffeine, urinary calcium, calcium metabolism and bone. *J Nutr*. 1993 Sep;123(9):1611-4.

<sup>32</sup> Ferrini RL, Barrett-Connor E. Caffeine intake and endogenous sex steroid levels in postmenopausal women. *The Rancho Bernardo Study*. *Am J Epidemiol*. 1996 Oct 1;144(7):642-4.

<sup>33</sup> Sampson HW. Alcohol and other factors affecting osteoporosis risk in women. *Alcohol Res Health*. 2002;26(4):292-8.

<sup>34</sup> de Vernejoul MC, Bielaoff J, Herve M, et al. Evidence for defective osteoblastic function. A role for alcohol and tobacco consumption in osteoporosis in middle-aged men. *Clin Orthop Relat Res*. 1983 Oct;(179):107-15.

<sup>35</sup> Meszaro S, Ferenc V, Deli M, et al. Effect of cigarette smoking on bone quality parameters in women. *Orv Hetil*. 2006 Mar 19;147(11):495-9.

<sup>36</sup> Kapoor D, Jones TH. Smoking and hormones in health and endocrine disorders. *Eur J Endocrinol*. 2005 Apr;152(4):491-8.

<sup>37</sup> Macleay JM, Olson JD, Turner AS. Effect of dietary-induced metabolic acidosis and ovariectomy on bone mineral density and markers of bone turnover. *J Bone Miner Metab*. 2004;22(6):561-8.

<sup>38</sup> Krampf R. Partial neutralization of the acidogenic Western diet with potassium citrate increases bone mass in postmenopausal women with osteopenia. Interview by Nicola Zitzmann. *Int J Prosthodont*. 2007 Mar-Apr;20(2):113-4.

<sup>39</sup> Remer T, Manz F. Potential renal acid load of foods and its influence on urine pH. *J Am Diet Assoc*. 1995 Jul;95(7):791-7.

<sup>40</sup> Abolew BJ, Ailford TR, Insogna KL. Cross-cultural association between dietary animal protein and hip fracture: a hypothesis. *Calcif Tissue Int*. 1992 Jan;50(1):14-8.

<sup>41</sup> Rothly M, Leonetti F, Iovanna C, et al. Effects of low animal protein or high-fiber diets on urine composition in calcium nephrolithiasis. *Kidney Int*. 2000 Mar;57(3):1115-23.

<sup>42</sup> Giannini S, Noble M, Sartori L, et al. Acute effects of moderate dietary protein restriction in patients with idiopathic hypercalcaemia and calcium nephrolithiasis. *Am J Clin Nutr*. 1999 Feb;69(2):267-71.

<sup>43</sup> Kristensen M, Jensen M, Kudsk J, et al. Short-term effects on bone turnover of replacing milk with cola beverages: a 10-day interventional study in young men. *Osteoporos Int*. 2005 Dec;16(12):1803-8.

<sup>44</sup> Fettman MJ, Coble JM, Hamar DW, et al. Effect of dietary phosphoric acid supplementation on acid-base balance and mineral and bone metabolism in adult cats. *Am J Vet Res*. 1992 Nov;53(11):2125-35.

<sup>45</sup> Kumano H. Osteoporosis and stress. *Clin Calcium*. 2005 Sep;15(9):1544-7.

<sup>46</sup> Kieckl-Glaser JK, Preacher KJ, MacCallum RC, et al. Chronic stress and age-related increases in the proinflammatory cytokine IL-6. *Proc Natl Acad Sci U S A*. 2003 Jul 22;100(15):9090-5.

<sup>47</sup> Mussolino ME. Depression and hip fracture risk: the NHANES I epidemiological follow-up study. *Public Health Rep*. 2005 Jan-Feb;120(1):71-5.

<sup>48</sup> Yirmiya R, Goshen I, Bajayo A, et al. Depression induces bone loss through stimulation of the sympathetic nervous system. *Proc Natl Acad Sci U S A*. 2006 Nov 7;103(45):16876-81.

<sup>49</sup> Robbins J, Hirsch C, Whitmer R, et al. The association of bone mineral density and depression in an older population. *J Am Geriatr Soc*. 2001 Jun;49(6):732-6.

<sup>50</sup> Whoolley MA, Kip KE, Cauley JA, et al. Depression, falls, and risk of fracture in older women. Study of Osteoporotic Fractures Research Group. *N Engl J Med*. 1995 Mar 23;332(12):767-73.

<sup>51</sup> Holy Bible, Proverbs 17:22. King James Version.

<sup>52</sup> Janghorbani M, Feskanih D, Willett WC, Hu F. Prospective study of diabetes and risk of hip fracture: the Nurses' Health Study. *Diabetes Care*. 2006 Jul;29(7):1573-8.

<sup>53</sup> McFarlane S. Bone Metabolism and the Cardiometabolic Syndrome: Pathophysiology Insights. *J Cardiometab Syndr*. 2006 Winter;1(1):53-57.

<sup>54</sup> Sawicki A, Regula A, Godwold K, Debinski A. Peptic ulcer disease and calcium intake as risk factors of osteoporosis in women. *Osteoporos Int*. 2003 Dec;14(12):983-6. Epub 2003 Oct 3.

<sup>55</sup> Cummings SR, Nevitt MC, Browner WS, et al. Risk factors for hip fracture in white women. Study of Osteoporotic Fractures Research Group. *N Engl J Med*. 1995 Mar 23;332(12):767-73.

<sup>56</sup> National Institute of Health. Osteoporosis: consensus conference. *JAMA*. 1984;254:799-802.

<sup>57</sup> Anderson CR, Linkswiler HM. Effect of protein intake on calcium balance of young men given 500 mg calcium daily. *J Nutr*. 1974 Jun;104(6):695-700.

<sup>58</sup> Kerstetter JE, Mitnick ME, Gundberg CM, et al. Changes in bone turnover in young women consuming different levels of dietary protein. *J Clin Endocrinol Metab*. 1999 Mar;84(3):1052-5.

<sup>59</sup> Linkswiler HM, Zemel MB, Hegsted M, Schuette S. Protein-induced hypercalcaemia. *Fed Proc*. 1981 Jul;40(9):2429-33.

# References

<sup>60</sup> Allen LH, Oddoye EA, Margen S. Protein-induced hypercalcaemia: a longer term study. *Am J Clin Nutr.* 1979 Apr;32(4):741-9.

<sup>61</sup> Reid DM. Measurement of bone mass by total body calcium: a review. *J R Soc Med.* 1986 Jan;79(1):33-7.

<sup>62</sup> Hindhede M. The effect of food restriction during war on mortality in Copenhagen. *JAMA* 1920;76(6):381-2.

<sup>63</sup> Rose WC. II. The sequence of events leading to the establishment of the amino acid needs of man. *Am J Public Health Natl Health.* 1968 Nov;58(11):2020-7.

<sup>64</sup> Solomon L. Osteoporosis and fracture of the femoral neck in the South African Bantu. *J Bone Joint Surg Br.* 1968 Feb;50(1):2-13.

<sup>65</sup> Mazess RB, Mather W. Bone mineral content of North Alaskan Eskimos. *Am J Clin Nutr.* 1974 Sep;27(9):916-25.

<sup>66</sup> Mazess RB, Mather WE. Bone mineral content in Canadian Eskimos. *Hum Biol.* 1975 Feb;47(1):44-63.

<sup>67</sup> Abelow BJ, Holford TR, Inosigna KL. Cross-cultural association between dietary animal protein and hip fracture: a hypothesis. *Calcif Tissue Int.* 1992 Jan;50(1):14-8.

<sup>68</sup> Uribarri J. Phosphorus homeostasis in normal health and in chronic kidney disease patients with special emphasis on dietary phosphorus intake. *Semin Dial.* 2007 Jul-Aug;20(4):295-301.

<sup>69</sup> Zemel MB, Schuette SA, Hegsted M, Linkswiler HM. Role of the sulfur-containing amino acids in protein-induced hypercalcaemia in men. *J Nutr.* 1983 Mar;113(3):545-52.

<sup>70</sup> Lemann J Jr. Relationship between urinary calcium and net acid excretion as determined by dietary protein and potassium: a review. *Nephron.* 1999;81 Suppl 1:18-25.

<sup>71</sup> Ihle BU, Becker GJ, Whitworth JA, et al. The effect of protein restriction on the progression of renal insufficiency. *N Engl J Med.* 1989 Dec 28;321(26):1773-7.

<sup>72</sup> Pedrini MT, Levey AS, Lau J, et al. The effect of dietary protein restriction on the progression of diabetic and nondiabetic renal diseases: a meta-analysis. *Ann Intern Med.* 1996 Apr 1;124(7):627-32.

<sup>73</sup> Robertson WG, Peacock M, Heyburn PJ, et al. Should recurrent calcium oxalate stone formers become vegetarians? *Br J Urol.* 1979 Dec;51(6):427-31.

<sup>74</sup> Giannini S, Nobile M, Sartori L, et al. Acute effects of moderate dietary protein restriction in patients with idiopathic hypercalcaemia and calcium nephrolithiasis. *Am J Clin Nutr.* 1999 Feb;69(2):267-71.

<sup>75</sup> Choi HK, Atkinson K, Karlson EW, et al. Purine-rich foods, dairy and protein intake, and the risk of gout in men. *N Engl J Med.* 2004 Mar 11;350(11):1093-103.

<sup>76</sup> Sirtori CR, Agradi E, Conti F, et al. Soybean-protein diet in the treatment of type-II hyperlipoproteinaemia. *Lancet.* 1977 Feb 5;1(8006):275-7.

<sup>77</sup> Anderson JW, Johnstone BM, Cook-Newell ME. Meta-analysis of the effects of soy protein intake on serum lipids. *N Engl J Med.* 1995 Aug 3;333(5):276-82.

<sup>78</sup> Li C, Bai X, Wang S, Tomiyama-Miyaji C, et al. Immunopotential of NKT cells by low-protein diet and the suppressive effect on tumor metastasis. *Cell Immunol.* 2004 Sep-Oct;231(1-2):96-102.

<sup>79</sup> Feskanič D, Willett WC, Stampfer MJ, Colditz G. Milk, dietary calcium, and bone fractures in women: a 12-year prospective study. *Am J Public Health.* 1997 Jun;87(6):992-7.

<sup>80</sup> Weaver CM. Calcium bioavailability and its relation to osteoporosis. *Proc Soc Exp Biol Med.* 1992 Jun;200(2):157-60.

<sup>81</sup> Margen S, Chu JY, Kaufmann NA, Calloway DH. Studies in calcium metabolism. I. The calciuretic effect of dietary protein. *Am J Clin Nutr.* 1974 Jun;27(6):584-9.

<sup>82</sup> Reiss E, Canterbury JM, Bercovitz MA, Kaplan EL. The role of phosphate in the secretion of parathyroid hormone in man. *J Clin Invest.* 1970 Nov;49(11):2146-9.

<sup>83</sup> van Beresteijn EC, Brussaard JH, van Schaik M. Relationship between the calcium-to-protein ratio in milk and the urinary calcium excretion in healthy adults—a controlled crossover study. *Am J Clin Nutr.* 1990 Jul;52(1):142-6.

<sup>84</sup> Ellinger GM, Duncan A. The determination of methionine in proteins by gas-liquid chromatography. *Biochem J.* 1976 Jun 1;155(3):615-21.

<sup>85</sup> Zwart SR, Davis-Street JE, Paddon-Jones D, et al. Amino acid supplementation alters bone metabolism during simulated weightlessness. *J Appl Physiol.* 2005 Jul;99(1):134-40.

<sup>86</sup> Arjmandi BH, Alekx L, Hollis BW, et al. Dietary soybean protein prevents bone loss in an ovariectomized rat model of osteoporosis. *J Nutr.* 1996 Jan;126(1):161-7.

<sup>87</sup> Marini H, Minutoli L, Polito F, et al. Effects of the phytoestrogen genistein on bone metabolism in postmenopausal women: a randomized trial. *Ann Intern Med.* 2007 Jun 19;146(12):839-47.

<sup>88</sup> Weaver CM. Calcium bioavailability and its relation to osteoporosis. *Proc Soc Exp Biol Med.* 1992 Jun;200(2):157-60.

<sup>89</sup> Kemmler W, Lauber D, Weineck J, et al. Benefits of 2 years of intense exercise on bone density, physical fitness, and blood lipids in early postmenopausal osteoporotic women: results of the Erlangen Fitness Osteoporosis Prevention Study (EFOPS). *Arch Intern Med.* 2004 May 24;164(10):1084-91.

<sup>90</sup> Feskanič D, Willett W, Colditz G. Walking and leisure-time activity and risk of hip fracture in postmenopausal women. *JAMA.* 2002 Nov 13;288(18):2300-6.

<sup>91</sup> Chapuy MC, Arlot ME, Dubouef F, et al. Vitamin D3 and calcium to prevent hip fractures in the elderly women. *N Engl J Med.* 1992 Dec 3;327(23):1637-42.

<sup>92</sup> Holick MF. McCollum Award Lecture, 1994: vitamin D—new horizons for the 21st century. *Am J Clin Nutr.* 1994 Oct;60(4):619-30.

<sup>93</sup> Appel LJ, Moore TJ, Obarzanek E, et al. A clinical trial of the effects of dietary patterns on blood pressure. DASH Collaborative Research Group. *N Engl J Med.* 1997 Apr 17;336(16):1117-24.

<sup>94</sup> Genesis 1:29: 3:18 (NIV). Scripture taken from the HOLY BIBLE, NEW INTERNATIONAL VERSION®. Copyright © 1973, 1978, 1984 International Bible Society. Used by permission of Zondervan. All rights reserved. The "NIV" and "New International Version" trademarks are registered in the United States Patent and Trademark Office by International Bible Society. Use of either trademark requires the permission of International Bible Society.

<sup>95</sup> Holy Bible, Isaiah 58:11, King James Version.

## Chapter 8 – References

<sup>1</sup> Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: Development and Initial Validation. *Int J Ment Health Addict.* 2020 Mar 27;1-9. doi: 10.1007/s11469-020-00270-8. <https://covid19.who.int>

<sup>2</sup> <https://covid19.who.int>

<sup>3</sup> Luke 21:10, 11, 21. King James Version of the Holy Bible.

<sup>4</sup> Velavan TP, Meyer CG. The COVID-19 epidemic. *Trop Med Int Health.* 2020 Mar;25(3):278-280. doi: 10.1111/tmi.13383.

<sup>5</sup> Guan W, Ni Z, Yu H, et al. Clinical characteristics of 2019 novel coronavirus infection in China. medRxiv preprint posted online on Feb. 5, 2020. <https://doi.org/10.1101/2020.02.05.20026322>

<sup>6</sup> Ginsberg HS. Formation of noninfectious influenza virus in mouse lungs: its dependence upon extensive pulmonary consolidation initiated by the viral inoculum. *J Exp Med.* 1954 Dec 1;100(6):581-603.

<sup>7</sup> Balazy A, Tovola M, et al. Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks? *Am J Infect Control.* 2006 Mar;34(2):51-7.

<sup>8</sup> Vainshelboim B. Facemasks in the COVID-19 era: A health hypothesis. *Med Hypotheses.* 2021 Jan;146:110411. doi: 10.1016/j.mehy.2020.110411.

<sup>9</sup> Nelson JD. Jails, microbes, and the three-foot barrier. *N Engl J Med.* 1996 Sep 19;335(12):885-6.

<sup>10</sup> Groll DJ, Thomson DJ. Incidence of influenza in Ontario following the Universal Influenza Immunization Campaign. *Vaccine.* 2006 Jun 12;24(24):5245-50.

<sup>11</sup> Schattner A. Coincidence or coincidence? The occurrence, pathogenesis and significance of autoimmune manifestations after viral vaccines. *Vaccine.* 2005 Jun 10;23(30):3876-86.

<sup>12</sup> Geier DA, Geier MR. A case-control study of serious autoimmune adverse events following hepatitis B immunization. *Autoimmunity.* 2005 Jun;38(4):295-301.

<sup>13</sup> *Vaccine.* 2020 Jan 10;38(2):350-354. doi: 10.1016/j.vaccine.2019.10.005.

<sup>14</sup> White, E. G. (1881, January 25). "Sanctification." *The Review and Herald.*

<sup>15</sup> Barry JM. *The Great Influenza: The Epic Story of the Deadliest Plague in History.* Penguin Books, 2005.

<sup>16</sup> White EG. *Ministry of Healing.* Pacific Press Publishing Association, 1942, p.127.

<sup>17</sup> Iwasaki T, Nozima T. Defense mechanisms against primary influenza virus infection in mice. I. The roles of interferon and neutralizing antibodies and thymus dependence of interferon and antibody production. *J Immunol.* 1977 Jan;138(1):256-63.

<sup>18</sup> Gabbay J, Bergerson O, et al. Effect of ionization on microbial air pollution in the dental clinic. *Environ Res.* 1990 Jun;52(1):99-106.

<sup>19</sup> White, E. G. (1871, April 1). "Death In-doors." *The Health Reformer.*

<sup>20</sup> Hobbay RA, Cason JW. The open-air treatment of pandemic influenza. *Am J Public Health.* 2009 Oct;99 Suppl 2(Suppl 2):S236-42. doi: 10.2105/AJPH.2008.134627.

<sup>21</sup> White EG. *Selected Messages, Book Two.* Review and Herald Publishing Association, 1958, p. 301.

<sup>22</sup> Watanabe K, Mofrose F, et al. Interaction between influenza virus proteins and pine cone antitumor substance that inhibits the virus multiplication. *Biochem Biophys Res Commun.* 1995 Sep 14;214(2):318-23.

<sup>23</sup> Wirska K, Mączka W, Łyczko J, Grabarczyk M, Czubsaszek A, Szumny A. Essential Oils as Antimicrobial Agents—Myth or Real Alternatives? *Molecules.* 2019 Jun 5;24(11):2330.

<sup>24</sup> Loizzo MR, Saab AM, Tundis R, Statti GA, Menichini F, Lampronti L, Gambari R, Cinati J, Doerr HW. Phytochemical analysis and in vitro antiviral activities of the essential oils of seven Lebanon species. *Chem Biodivers.* 2008 Mar;5(3):461-70.

<sup>25</sup> Kim HK, Jeon WK, Ko BS. Flavanone glycosides from Citrus junos and their anti-influenza virus activity. *Planta Med.* 2001 Aug;67(6):548-9.

<sup>26</sup> Martins LC, Latorre Mdo R, et al. Air pollution and emergency room visits due to pneumonia and influenza in Sao Paulo, Brazil. *Rev Saude Publica.* 2002 Feb;36(1):88-94.

<sup>27</sup> Baj Z, Majevska E, et al. The effect of chronic exposure to formaldehyde, phenol and organic chlorohydrocarbons on peripheral blood cells and the immune system in humans. *J Invest Allergol Clin Immunol.* 1994 Jul-Aug;4(4):186-91.

<sup>28</sup> Gray MR, Thrasher JD, et al. Mixed mold mycotoxicosis: immunological changes in humans following exposure in water-damaged buildings. *Arch Environ Health.* 2003 Jul;58(7):410-20.

<sup>29</sup> Hershey P, Haratan G, et al. Alteration of T cell subsets and induction of suppressor T cell activity in normal subjects after exposure to sunlight. *J Immunol.* 1983 Jul;131(1):171-4.

<sup>30</sup> Zimmerman S, and Reiter, R. 2019. Melatonin and the Optics of the Human Body. *Melatonin Research.* 2, 1 (Feb. 2019), 138-160.

<sup>31</sup> Marcus PU, Rojek JM, Sekellick MJ. Interferon induction and/or production and its suppression by influenza A viruses. *J Virol.* 2005 Mar;79(5):2880-90.

<sup>32</sup> Riley RL. Ultraviolet air disinfection for protection against influenza. *Johns Hopkins Med J.* 1977 Jan;140(1):25-7.

<sup>33</sup> Akbar MR, Wibowo A, Pranata R, Setiadiudwan B. Low Serum 25-hydroxyvitamin D (Vitamin D) Level Is Associated With Susceptibility to COVID-19, Severity, and Mortality: A Systematic Review and Meta-Analysis. *Front Nutr.* 2021 Mar 29;8:660420.

<sup>34</sup> Kark JD, Lebiush M, Rannon L. Cigarette smoking as a risk factor for epidemic a(h1n1) influenza in young men. *N Engl J Med.* 1982 Oct 21;307(17):1042-6.

<sup>35</sup> Dokur M, Boyadjeva NI, et al. Modulation of hypothalamic beta-endorphin-regulated expression of natural killer cell cytolytic activity regulatory factors by ethanol in male Fischer-344 rats. *Alcohol Clin Exp Res.* 2004 Aug;28(8):1180-6.

<sup>36</sup> Nair MP, Kronfol ZA, Schwartz SA. Effects of alcohol and nicotine on cytotoxic functions of human lymphocytes. *Clin Immunol Immunopathol.* 1990 Mar;54(3):395-409.

<sup>37</sup> Lamas O, Martinez JA, Marti A. Energy restriction restores the impaired immune response in overweight (cafeteria) rats. *J Nutr Biochem.* 2004 Jul;15(7):418-25.

<sup>38</sup> Shihole O, Alper R, et al. Immunomodulation of experimental colitis via caloric restriction: role of Nk1.1+ T cells. *Clin Immunol.* 2002 Oct;105(1):48-56.

<sup>39</sup> Weindruch R, Devens BH, et al. Influence of dietary restriction and aging on natural killer cell activity in mice. *J Immunol.* 1983 Feb;130(2):993-6.

<sup>40</sup> Cheng CW, Adams GB, Perin L, Wei M, Zhou X, Lam BS, Da Sacco S, Mirisola M, Quinn DI, Dorff TB, Kopchick JJ, Longo VD. Prolonged fasting reduces IGF-1/PKA to promote hematopoietic-stem-cell-based regeneration and reverse immunosuppression. *Cell Stem Cell.* 2014 Jun 5;14(6):810-23.

<sup>41</sup> Grimaldi S, Pasquali E, Barbatano L, Lisi A, Santoro N, Serafino A, Pozzi D. Exposure to a 50 Hz electromagnetic field induces activation of the Epstein-Barr virus genome in latently infected human lymphoid cells. *J Environ Pathol Toxicol Oncol.* 1997;16(2-3):205-7.

<sup>42</sup> von Niederhäusern N, Ducray A, Zielinski J, Murbach M, Meivissen M. Effects of radiofrequency electromagnetic field exposure on neuronal differentiation and mitochondrial function in SH-SY5Y cells. *Toxicol In Vitro.* 2019 Dec;61:104609.

<sup>43</sup> Savard J, Laroche L, et al. Chronic insomnia and immune functioning. *Psychosom Med.* 2003 Mar-Apr;65(2):211-21.

<sup>44</sup> Brown R, Pang G, et al. Suppression of immunity to influenza virus infection in the respiratory tract following sleep disturbance. *Reg Immunol.* 1989 Sep-Oct;2(5):321-5.

<sup>45</sup> Davidson RJ, Kabat-Zinn J, et al. Alterations in brain and immune function produced by mindfulness meditation. *Psychosom Med.* 2003 Jul-Aug;65(4):564-70.

<sup>46</sup> Flagg EW, Coates RJ, et al. Plasma total glutathione in humans and its association with demographic and health-related factors. *Br J Nutr.* 1993 Nov;70(3):797-808.

<sup>47</sup> Sallis R, Young DR, Tartof SY, Sallis JF, Sall J, Li Q, Smith GN, Cohen DA. Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: a study in 48 440 adult patients. *Br J Sports Med.* 2021 Apr 13;bjspports-2021-104080.

<sup>48</sup> Nieman DC. Exercise immunology: practical applications. *Int J Sports Med.* 1997 Mar;18 Suppl 1:S91-100.

<sup>49</sup> Davis JM, Murphy EA, et al. Effects of moderate exercise and oat beta-glucan on innate immune function and susceptibility to respiratory infection. *Am J Physiol Regul Integr Comp Physiol.* 2004 Feb;286(2):R366-72.

<sup>50</sup> White EG. *Selected Messages, Book Two.* Review and Herald Publishing Association, 1958, p. 471.

<sup>51</sup> Kim YH, Baek SS, et al. The effect of cold air application on intra-articular and skin temperatures in the knee. *Yonsei Med J.* 2002 Oct;43(5):621-6.

<sup>52</sup> Daanen HA, Ducharme MB. Physiological responses of the human extremities to cold water immersion. *Arctic Med Res.* 1991; 50 Suppl 6:115-21.

<sup>53</sup> White EG. *Child Guidance.* Southern Publishing Association, 1954, p. 425.

<sup>54</sup> MacHose M, Peper E, et al. The effect of clothing on inhalation volume. *Biofeedback Self Reg.* 1991 Sep;13(3):261-5.

<sup>55</sup> Leung KH, Ip MM. Effect of dietary polyunsaturated fat and 7,12-dimethylbenz(a)anthracene on rat splenic natural killer cells and prostaglandin E synthesis. *Cancer Immunol Immunother.* 1986;21(2):161-3.

<sup>56</sup> Duwe AK, Fitch M, Ostwald R. Depressed natural killer and lectin-induced cell-mediated cytotoxicity in cholesterol-fed guinea pigs. *J Natl Cancer Inst.* 1984 Feb;72(2):333-8.

<sup>57</sup> Blyveld M, Pang GT, et al. Fish oil feeding enhances lymphocyte proliferation but impairs virus-specific T lymphocyte cytotoxicity in mice following challenge with influenza virus. *Clin Exp Immunol.* 2000 Feb;119(2):287-92.

<sup>58</sup> Bell RC, Golemboski KA, Diert RR, Campbell TC. Long-term intake of a low-casein diet is associated with higher relative NK cell cytotoxic activity in F344 rats. *Nutr Cancer.* 1994;22(2):151-62.

<sup>59</sup> Nutter RL, Griddle DS, et al. Modification of a transplantable colon tumor and immune responses in mice fed different sources of protein, fat and carbohydrate. *Cancer Lett.* 1983 Feb;18(1):49-62.

<sup>60</sup> Kijak E, Foust G, Steinman R, et al. Relationship of Blood Sugar Level and Leukocytic Phagocytosis; Southern California Dental Association 1964; 32(9):349-351.

<sup>61</sup> Jobin K, Stumpf NE, Schwab S, Eichler M, Neubert P, Rauh M, Adamowski M, Babayk O, Hinz D, Sivalingam S, Weisheit C, Hochheiser K, Schmidt SV, Meissner M, Garbi N, Abdullah Z, Wenzel U, Hölzel M, Jantsch J, Kurts C. A high-salt diet compromises antibacterial neutrophil responses through hormonal perturbation. *Sci Transl Med.* 2020 Mar 25;12(536):eaay3850.

<sup>62</sup> Li C, Bai X, Wang S, et al. Immunopotential of NKT cells by low-protein diet and the suppressive effect on tumor metastasis. *Cell Immunol.* 2004 Sep-Oct;231(1-2):96-102.

<sup>63</sup> Rufer CE, Kulling SE. Antioxidant activity of isoflavones and their major metabolites using different in vitro assays. *J Agric Food Chem.* 2006 Apr 19;54(8):2926-31.

<sup>64</sup> Gaisbauer R, Langosch A. Raw food or immunity. *Fortschr Med.* 1990 Jun 10;108(17):338-40.

<sup>65</sup> Rauma AL, Torronen R, et al. Antioxidant status in long-term adherents to a strict uncooked vegan diet. *Am J Clin Nutr.* 1995 Dec;62(6):1221-7.

<sup>66</sup> Maltzer M, Schriever G, Eilber U. Natural killer cells, vitamins, and other blood components of vegetarian and omnivorous men. *Nutr Cancer.* 1989;12(3):271-8.

<sup>67</sup> Butland BK, Fehily AM, Elwood PC. Diet, lung function, and lung function decline in a cohort of 2512 middle aged men. *Thorax.* 2000 Feb;55(2):102-8.

<sup>68</sup> Hamazui Y, Yasui H, et al. Phenolic profile, antioxidant property, and anti-influenza viral activity of Chinese quince (*Pseudocarya sinensis* Schneid.), quince (*Cydonia oblonga* Mill.), and apple (*Malus domestica* Mill.) fruits. *J Agric Food Chem.* 2005 Feb 23;53(4):928-34. Related Articles, Links

<sup>69</sup> Kumar P, Sharma S, Khanna M, Raj HG. Effect of Quercetin on lipid peroxidation and changes in lung morphology in experimental influenza virus infection. *Int J Exp Pathol.* 2003 Jun;84(3):127-33.

<sup>70</sup> Josling P. Preventing the common cold with a garlic supplement: a double-blind, placebo-controlled survey. *Adv Ther.* 2001 Jul-Aug;18(4):189-93.

<sup>71</sup> Ferrell V, Archbold EE, Cherne HM. *Natural remedies Encyclopedia.* 2004.

<sup>72</sup> Palamara AT, Nencioli L, et al. Inhibition of influenza A virus replication by resveratrol. *J Infect Dis.* 2005 May 15;191(10):1719-29.

<sup>73</sup> Saxena QB, Saxena RK, Adler WH. Effect of feeding a diet with half of the recommended levels of all vitamins on the natural and inducible levels of cytotoxic activity in mouse spleen cells. *Immunology.* 1984 May;52(1):41-8.

<sup>74</sup> Dawson HD, Li NQ, et al. Chronic marginal vitamin A status reduces natural killer cell number and function in aging Lewis rats. *J Nutr.* 1999 Aug;129(8):1510-7.

<sup>75</sup> Gangopadhyay NN, Moldoveanu Z, Stephensen CB. Vitamin A deficiency has different effects on immunoglobulin A production and transport during influenza A infection in BALB/c mice. *J Nutr.* 1996 Dec;126(12):2960-7.

<sup>76</sup> Han SN, Meydani M, et al. Effect of long-term dietary antioxidant supplementation on influenza virus infection. *J Gerontol A Biol Sci Med Sci.* 2000 Oct;55(10):B496-503.

<sup>77</sup> Ganguly R, Park J. Immunostimulating agents against influenza virus infection in senescent rats. *Allerg Immunol (Leipz).* 1988;34(4):239-47.

<sup>78</sup> Gorton HC, Jarvis K. The effectiveness of vitamin C in preventing and relieving the symptoms of virus-induced respiratory infections. *J Manipulative Physiol Ther.* 1999 Oct;22(6):330-3. Related Articles, Links

<sup>79</sup> Tantcheva LP, Stoeva ES, et al. Effect of vitamin E and vitamin C combination on experimental influenza virus infection. *Methods Find Exp Clin Pharmacol.* 2003 May 25;4(4):259-64.

<sup>80</sup> Kim YI, Hayek M, et al. Severe folate deficiency impairs natural killer cell-mediated cytotoxicity in rats. *J Nutr.* 2002 Jun;132(6):1361-7.

<sup>81</sup> Troen AM, Mitchell B, et al. Unmetabolized folic acid in plasma is associated with reduced natural killer cell cytotoxicity among postmenopausal women. *J Nutr.* 2006 Jan;136(1):189-94.

<sup>82</sup> Pietrie HT, Klassen LW, et al. Selenium and the immune response: 2. Enhancement of murine cytotoxic T-lymphocyte and natural killer cell cytotoxicity in vivo. *J Leukoc Biol.* 1989 Mar;45(3):215-20.

<sup>83</sup> Liu Q, Zhao X, Ma J, Mu Y, Wang Y, Yang S, Wu Y, Wu F, Zhou Y. Selenium (Se) plays a key role in the biological effects of some viruses: Implications for COVID-19. *Environ Res.* 2021 Mar 7;196:110984.

<sup>84</sup> Zhang J, Taylor EW, Bennett K, Saad R, Rayman MP. Association between regional selenium status and reported outcome of COVID-19 cases in China. *Am J Clin Nutr.* 2020 Jun 1;111(6):1297-1299.

<sup>85</sup> Moghaddam A, Heller RA, Sun Q, Seelig J, Cherkezoov A, Seibert L, Hackler J, Seemann P, Diegmann J, Pilz M, Bachmann M, Minich WV, Schomburg L. Selenium Deficiency Is Associated with Mortality Risk from COVID-19. *Nutrients.* 2020; 12(7):2098.

# Blue Print for Health and Healing

<sup>86</sup> Beck MA, Nelson HK, et al. Selenium deficiency increases the pathology of an influenza virus infection. *FASEB J*. 2001 Jun;15(8):1481-3.

<sup>87</sup> Ravaglia G, Forti P, et al. Effect of micronutrient status on natural killer cell immune function in healthy free-living subjects aged >=90 y. *Am J Clin Nutr*. 2000 Feb;71(2):590-8.

<sup>88</sup> Vogel-González M, Tallo-Parra M, Herrera-Fernández V, Pérez-Vilaró G, Chillón M, Nogués X, Gómez-Zorrilla S, López-Montesinos I, Arnau-Barrés I, Sorli-Redó ML, Horcajada JP, García-Giralt N, Pascual J, Diez J, Vicente R, Güerri-Fernández I, Low Zinc Levels at Admission Associates with Poor Clinical Outcomes in SARS-CoV-2 Infection. *Nutrients*. 2021 Feb 9;13(2):562.

<sup>89</sup> Koller LD, Mulhern SA, et al. Immune dysfunction in rats fed a diet deficient in copper. *Am J Clin Nutr*. 1987 May;45(5):997-1006.

<sup>90</sup> Weglicki WB, Phillips TM, et al. Magnesium-deficiency elevates circulating levels of inflammatory cytokines and endothelin. *Mol Cell Biochem*. 1992 Mar 25;110(2):169-73.

<sup>91</sup> Chan MM. Inhibition of tumor necrosis factor by curcumin, a phytochemical. *Biochem Pharmacol*. 1995 May 26;49(11):1551-6.

<sup>92</sup> Biswas SK, McClure D, et al. Curcumin induces glutathione biosynthesis and inhibits NF-kappaB activation and interleukin-8 release in alveolar epithelial cells: mechanism of free radical scavenging activity. *Antioxid Redox Signal*. 2005 Jan-Feb;7(1):232-41.

<sup>93</sup> Zakay-Rones Z, Varsano N, Zlotnik M, Manor O, Regev L, Schlesinger M, Mumcuoglu M. Inhibition of several strains of influenza virus in vitro and reduction of symptoms by an elderberry extract (*Sambucus nigra* L.) during an outbreak of influenza B Panama. *J Altern Complement Med*. 1995 Winter;1(4):361-9.

<sup>94</sup> Chen C, Zuckerman DM, Brantley S, Sharpe M, Childress K, Hoizyk E, Pendleton AR. *Sambucus nigra* extracts inhibit infectious bronchitis virus at an early point during replication. *BMC Vet Res*. 2014 Jan 16;10:24. doi: 10.1186/1746-6148-10-24. PMID: 24433341; PMCID: PMC3899428.

<sup>95</sup> Zhang P, Liu X, Liu H, Wang W, Liu X, Li X, Wu X. Astragalus polysaccharides inhibit avian infectious bronchitis virus infection by regulating viral replication. *Microb Pathog*. 2018 Jan;114:124-128. doi: 10.1016/j.micpath.2017.11.026.

<sup>96</sup> Pu JY, He L, Wu SY, Zhang P, Huang X. (Anti-virus research of triterpenoids in licorice). *Bing Du Xue Bao*. 2013 Nov;29(6):673-9.

<sup>97</sup> Han R, Wu WQ, Wu XP, Liu CY. Effect of total flavonoids from the seeds of *Astragalus complanatus* on natural killer cell function. *J Ethnopharmacol*. 2015 Sep 15;173:157-65.

<sup>98</sup> Lau KM, Lee KM, Koon CM, Cheung CS, Lau CP, Ho HM, Lee MY, Au SW, Cheng CH, Lu CB, Tsui SK, Wan DC, Waye MM, Wong KB, Wong CK, Lam CW, Leung PC, Fung KP. Immunomodulatory and anti-SARS activities of *Houttuynia cordata*. *J Ethnopharmacol*. 2008 Jun 19;118(1):79-85.

<sup>99</sup> Chen CJ, Michaels M, Hsu HK, Tsai CC, Yang KD, Wu YC, Cinalt J Jr, Doerr HW. Toona sinensis Roem tender leaf extract inhibits SARS coronavirus replication. *J Ethnopharmacol*. 2008 Oct 30;120(1):108-11.

<sup>100</sup> Gan XH, Zhang L, et al. Mechanism of activation of human peripheral blood NK cells at the single cell level by *Echinacea* water soluble extracts: recruitment of lymphocyte-target conjugates and killer cells and activation of programming for lysis. *Int Immunopharmacol*. 2003 Jun;3(6):811-24.

<sup>101</sup> Genesis 1:29; 3:18 (NIV).

<sup>102</sup> Exodus 15:26.

<sup>103</sup> Mentes J. Oral hydration in older adults: greater awareness is needed in preventing, recognizing, and treating dehydration. *Am J Nurs*. 2006 Jun;106(6):40-9; quiz 50.

<sup>104</sup> White EG. *Ministry of Healing*, Pacific Press Publishing Association, 1942, p. 276

<sup>105</sup> Brenner IK, Castellani JW, et al. Immune changes in humans during cold exposure: effects of prior heating and exercise. *J Appl Physiol*. 1999 Aug;87(2):699-710.

<sup>106</sup> Clark KJ, Sarr AB, et al. In vitro studies on the use of clay, clay minerals and charcoal to adsorb bovine rotavirus and bovine coronavirus. *Vet Microbiol*. 1998 Oct;63(2-4):137-46.

<sup>107</sup> Howell CA, Sandeman SR, Phillips GJ, Mikhalovskiy SV, Tennyson SR, Rawlinson AP, Kozynchenko OP. Nanoporous activated carbon beads and monolithic columns as effective hemoadsorbents for inflammatory cytokines. *Int J Artif Organs*. 2013 Oct 3;36(9):624-32.

<sup>108</sup> Seaman TE, Dubin LF, Seaman M. Religiosity/spirituality and health. A critical review of the evidence for biological pathways. *Am Psychol*. 2003 Jan;58(1):53-63.

<sup>109</sup> Irwin M. Immune correlates of depression. *Adv Exp Med Biol*. 1999;461:1-24.

<sup>110</sup> Pressman SD, Cohen S, et al. Loneliness, social network size, and immune response to influenza vaccination in college freshmen. *Health Psychol*. 2005 May;24(3):297-306.

<sup>111</sup> Irwin M, Caldwell C, et al. Major depressive disorder, alcoholism, and reduced natural killer cell cytotoxicity. Role of severity of depressive symptoms and alcohol consumption. *Arch Gen Psychiatry*. 1990 Aug;47(8):713-9.

<sup>112</sup> Kelly GS. Nutritional and botanical interventions to assist with the adaptation to stress. *Altern Med Rev*. 1999 Aug;4(4):249-65. Links

<sup>113</sup> Cohen S, Tyrrell DA, Smith AP. Psychological stress and susceptibility to the common cold. *N Engl J Med*. 1991 Aug 29;325(9):606-12.

<sup>114</sup> Rein G, Atkinson M, McCraty R. The physiological and psychological effects of compassion and anger. *J Adv Med*. 1995;8:87-105.

<sup>115</sup> Martin KA, Dobbins JP. Sense of humor, hassles, and immunoglobulin A: evidence for a stress-moderating effect of humor. *Int J Psychiatry Med*. 1988;18:93-105.

<sup>116</sup> Brown SL, Nesse RM, et al. Providing social support may be more beneficial than receiving it: results from a prospective study of mortality. *Psychol Sci*. 2003 Jul;14(4):320-7.

<sup>117</sup> Luskin F. Review of the effect of spiritual and religious factors on mortality and morbidity with a focus on cardiovascular and pulmonary disease. *J Cardiopulm Rehabil*. 2000 Jan-Feb;20(1):8-15.

## Chapter 9 – References

<sup>1</sup> Johansen KL, Chertow GM, Foley RN, Gilbertson DT, Herzog CA, Ishani A, Israni AK, Ku E, Kurella Tamura M, Li S, Li S, Liu J, Obrador G, O'Hare AM, Peng Y, Powe NR, Roetker NS, St Peter WL, Abbott KC, Chan KE, Schulman IH, Snyder J, Sridhar ED, Winkelmayer WC, Wetmore JB. US Renal Data System 2020 Annual Data Report: Epidemiology of Kidney Disease in the United States. *Am J Kidney Dis*. 2021 Apr;77(4 Suppl 1):A7-A8.

<sup>2</sup> [https://www.urologyhealth.org/urology-a-z/k/kidney-\(renal\)-failure](https://www.urologyhealth.org/urology-a-z/k/kidney-(renal)-failure)

<sup>3</sup> Clark WF, Sontrop JM, Moist L, Huang SH. Increasing Water Intake in Chronic Kidney Disease: Why? Safe? Possible? *Ann Nutr Metab*. 2015;66 Suppl 3:18-21.

<sup>4</sup> Clark WF, Sontrop JM, Huang SH, Moist L, Bouby N, Bankir L. Hydration and Chronic Kidney Disease Progression: A Critical Review of the Evidence. *Am J Nephrol*. 2016;43(4):281-92.

<sup>5</sup> Sontrop JM, Dixon SN, Garg AK, Buendia-Jimenez J, Doheim O, Huang SH, Clark WF. Association between water intake, chronic kidney disease, and cardiovascular disease: a cross-sectional analysis of NHANES data. *Am J Nephrol*. 2013;37(5):434-42.

<sup>6</sup> Malisova O, Athanasatos A, Pepa A, Husemann M, Dominik K, Braun H, Mora-Rodriguez R, Ortega JF, Fernandez-Elias VE, Kapsokafalou M. Water Intake and Hydration Indices in Healthy European Adults: The European Hydration Research Study (EHRS). *Nutrients*. 2016 Apr 6;8(4):204. doi: 10.3390/nu8040204.

<sup>7</sup> Garcia-Arroyo FE, Cristóbal A, Arellano-Buendia AS, Osorio H, Tapia E, Soto V, Madero M, Lanasa MA, Roncal-Jiménez C, Bankir L, Johnson RJ, Sánchez-Lozada LG. Rehydration with soft drink-like beverages exacerbates dehydration and worsens dehydration-associated renal injury. *Am J Physiol Regul Integr Comp Physiol*. 2016 Jul 1;311(1):R57-65.

<sup>8</sup> García-Trabanino R, Jarquín E, Wesseling C, Johnson JR, González-Quiroz M, Weiss I, Glaser J, José Vindell J, Stockfekt L, Roncal C, Herra T, Barregard L. Heat stress, dehydration, and kidney function in sugarcane cutters in El Salvador—A cross-shift study of workers at risk of Mesoamerican nephropathy. *Environ Res*. 2015 Oct;142:746-55.

<sup>9</sup> Meng XM, Zhang Y, Huang XR, Ren GL, Li J, Lan HY. Treatment of renal fibrosis by rebalancing TGF-β/Smad signaling with the combination of asiatic acid and naringenin. *Oncotarget*. 2015 Nov 10;6(35):36984-97.

<sup>10</sup> Toficos SP, Salah EM, Jackson EK, Melhem M. Early renal injury induced by caffeine consumption in obese, diabetic ZSF1 rats. *Ren Fail*. 2007;29(7):891-902.

<sup>11</sup> Wwanitkit V. Renal function parameters of Thai vegans compared with non-vegans. *Ren Fail*. 2007;29(2):219-20.

<sup>12</sup> Hariharan D, Vellanki K, Kramer H. The Western Diet and Chronic Kidney Disease. *Curr Hypertens Rep*. 2015 Mar;17(3):16.

<sup>13</sup> Gaissbauer M, Langosch A. Raw food and immunity *Fortschr Med*. 1990 Jun 10;108(117):338-40.

<sup>14</sup> 3,4-Dihydroxyphenylglycol (DHPG): an important phenolic compound present in natural table olives. Rodríguez G1, Lama A, Jaramillo S, Fuentes-Alventosa JM, Guillén R, Jiménez-Arango A, Rodríguez-Arcos R, Fernández-Bolaños J. *J Agric Food Chem*. 2009 Jul 22;57(14):6298-304.

<sup>15</sup> Kountouri AM1, Mylona A, Kaliora AC, Andrikopoulos NK. Bioavailability of the phenolic compounds of the fruits (drupes) of *Olea europaea* (olives): impact on plasma antioxidant status in humans. *Phytomedicine*. 2007 Oct;14(10):659-67.

<sup>16</sup> Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol*. 1960 Jan;198:217-20.

<sup>17</sup> Díaz-López A, Buló M, Basora J, Martínez-González MA, Guasch-Ferré M, Estruch R, Wärnberg J, Serra-Majem L, Arós F, Lapetra J, Ros E, Pintó X, Covas MI, Salas-Salvado J. Cross-sectional associations between macronutrient intake and chronic kidney disease in a population at high cardiovascular risk. *Clin Nutr*. 2013 Aug;32(4):606-12.

<sup>18</sup> Chiavaroli L, Mirrahimi A, Sievenpiper JL, Jenkins DJ, Darling PB. Dietary fiber effects in chronic kidney disease: a systematic review and meta-analysis of controlled feeding trials. *Eur J Clin Nutr*. 2015 Jul;69(7):761-8.

<sup>19</sup> Salmean YA, Segal MS, Langkamp-Henken B, Cañales MT, Zello GA, Dahl WJ. Foods with added fiber lower serum creatinine levels in patients with chronic kidney disease *J Ren Nutr*. 2013 Mar;23(2):e29-32.

<sup>20</sup> Sirich TL. Dietary protein and fiber in end stage renal disease. *Semin Dial*. 2015 Jan-Feb;28(1):75-80.

<sup>21</sup> Wang Z, Cui M, Tang L, Li W, Wei Y, Zhu Z, Jia X, Kong X, Xu D. Oral activated charcoal suppresses hyperphosphataemia in haemodialysis patients. *Nephrology (Carlton)*. 2012 Sep;17(7):616-20.

<sup>22</sup> Coss AG, Michelangelo H, Reynaldi J, Martinez B, Vidal F, Quevedo M, Parot M, Waisman G, Algranati L. Combination of oral activated charcoal plus low protein diet as a new alternative for handling in the old end-stage renal disease patients. *Saudi J Kidney Dis Transpl*. 2010 Jan;21(1):102-4.

<sup>23</sup> Yamamoto S, Zuo Y, Ma J, Yancey PG, Hunley TE, Motojima M, Fogo AB, Linton MF, Fazio S, Ichikawa I, Kon V. Oral activated charcoal adsorbent (AST-120) ameliorates extent and instability of atherosclerosis accelerated by kidney disease in apolipoprotein E-deficient mice. *Nephrol Dial Transplant*. 2011 Aug;26(8):2491-7. Epub 2011 Jan 18.

<sup>24</sup> Erdogan A, Rao SS, Thiruvaiyaru D, Lee YY, Coss Adame E, Valesin J, O'Banion M. Randomised clinical trial: mixed soluble/insoluble fibre vs. psyllium for chronic constipation. *Aliment Pharmacol Ther*. 2016 Jul;44(11):35-44.

<sup>25</sup> Lew QJ, Jafar TH, Koh HW, Jin A, Chow KY, Yuan JM, Koh WP. Red Meat Intake and Risk of ESRD. *J Am Soc Nephrol*. 2016 Jul 14.

<sup>26</sup> Almeida JC, Zelmanovitz T, Vaz JS, Steemburgo T, Perassolo MS, Gross JL, Azevedo MJ. Sources of protein and polyunsaturated fatty acids of the diet and microalbuminuria in type 2 diabetes mellitus. *J Am Coll Nutr*. 2008 Oct;27(5):528-37.

<sup>27</sup> Remer T, Manz F. Potential renal acid load of foods and its influence on urine pH. *J Am Diet Assoc*. 1995 Jul;95(7):791-7.

<sup>28</sup> van den Berg E, Hoppers FA, Navis G, Engberink MF, Brink EJ, Geleijnse JM, van Baak MA, Gans RO, Bakker SJ. Dietary acid load and rapid progression to end-stage renal disease of diabetic nephropathy in Westernized South Asian people. *J Nephrol*. 2011 Jan-Feb;24(1):1-7.

<sup>29</sup> D'Amico G, Gentile MG, Manna G, Fellin G, Ciceri R, Cofano F, Petrini C, Lavarda F, Perolini S, Porrini M. Effect of vegetarian soy diet on hyperlipidaemia in nephrotic syndrome. *Renect*. 1992 May 9;33(8802):1131-4.

<sup>30</sup> Palanisamy N, Viswanathan P, Ravichandran MK, Anuradha GC. Lanoprotective and blood pressure-lowering effect of dietary soy protein via protein kinase C beta II inhibition in a rat model of metabolic syndrome. *Can J Physiol Pharmacol*. 2010 Jan;88(1):28-37.

<sup>31</sup> Nath KA, Paller MS. Dietary deficiency of antioxidants exacerbates ischemic injury in the rat kidney. *Kidney Int*. 1990 Dec;38(6):1109-17.

<sup>32</sup> Nadkarni GN, Rao V, Ismail-Beigi F, Fonseca VA, Shah SV, Simonson MS, Cantley L, Devarajan P, Parikh CR, Coca SG. Association of Urinary Biomarkers of Inflammation, Injury, and Fibrosis with Renal Function Decline: The ACCORD Trial. *Clin J Am Soc Nephrol*. 2016 Mar 17.

<sup>33</sup> Shoham DA, Durazo-Arizu R, Kramer H, Luke A, Vupputuri S, Kshirsagar A, Cooper RS. Sugary soda consumption and albuminuria: results from the National Health and Nutrition Examination Survey, 1999-2004. *PLoS One*. 2008;3(10):e3431.

<sup>34</sup> Lin JJ, Curhan GC. Associations of sugar and artificially sweetened soda with albuminuria and kidney function decline in women. *Clin J Am Soc Nephrol*. 2011 Jan;6(1):160-6.

<sup>35</sup> Pokrywczynska M, Flisinski M, Jundziłł A, Krzyżanowska S, Brymora A, Deptuła A, Bodnar M, Kloskowski T, Stefańska A, Marszałek A, Maniutis J, Drewa T. Impact of fructose diet and renal failure on the function of pancreatic islets. *Pancreas*. 2014 Jul;43(5):801-8.

<sup>36</sup> Nakayama T, Kosugi T, Garschi M, Connor T, Sanchez-Lozada LG, Lanasa MA, Roncal C, Perez-Pozo SE, Johnson RJ, Nakagawa T. Dietary fructose causes tubulointerstitial injury in the normal rat kidney. *Am J Physiol Renal Physiol*. 2010 Mar;298(3):F712-20.

<sup>37</sup> García-Aguirre M, Sáenz-Alvaro VA, Rodríguez-Soto MA, Vicente-Maguley JF, Botello-Alvarez E, Jimenez-Islas H, Cárdenas-Manriquez M, Rico-Martinez R, Navarrete-Bolaños JL. Strategy for biotechnological process design applied to the enzymatic hydrolysis of agave fructo-oligosaccharides to obtain fructose-rich syrups. *J Agric Food Chem*. 2009 Nov 11;57(21):10205-10.

<sup>38</sup> Karalius VP, Shoham DA. Dietary sugar and artificial sweetener intake and chronic kidney disease: a review. *Adv Chronic Kidney Dis*. 2013 Mar;20(2):157-64.

<sup>39</sup> Gutiérrez OM, Muntner P, Rizk DV, McClellan WM, Warnock DG, Newby PK, Judd SE. Dietary patterns and risk of death and progression to ESRD in individuals with CKD: a cohort study. *Am J Kidney Dis*. 2014 Aug;64(2):204-13.

<sup>40</sup> Xu H, Sjögren P, Årnlöv J, Banerjee T, Cederholm T, Riserus U, Lindholm B, Lind L, Carroer A. A proinflammatory diet is associated with systemic inflammation and reduced kidney function in elderly adults. *J Nutr*. 2015 Apr;145(4):729-35.

<sup>41</sup> Morrow WJ, Homsy J, Swanson CA, Ohashi Y, Estes J, Levy JA. Dietary fat influences the expression of autoimmune disease in MRL/lpr/lpr mice. *Immunology*. 1986 Nov;59(3):439-43.

<sup>42</sup> Ailou Y, Liao MC, Zhao XP, Chang SY, Chenier I, Ingelfinger JR, Zhang V, Zhang SL. Post-weaning high-fat diet accelerates kidney injury, but not hypertension programmed by maternal diabetes. *Pediatr Res*. 2016 Mar;79(3):416-24.

<sup>43</sup> Koshita KI, Kumano K, Watanabe T, Takashima Y, Cynshi O. Effects of high fat diet and a novel antioxidant (BO653) on ischemia reperfusion injury of rat kidney. *Nihon Jinzo Gakkai Shi*. 1997 Jul;39(5):45-63.

<sup>44</sup> Fellner RC, Cook AK, O'Connor PM, Zhang S, Pollock DM, Incho EW. High-salt diet blunts renal autoregulation by a reactive oxygen species-dependent mechanism. *Am J Physiol Renal Physiol*. 2014 Jul 1;307(1):F33-40.

<sup>45</sup> Xu XM, Cai GY, Bu R, Wang WJ, Bai XY, Sun XF, Chen XM. Beneficial Effects of Caloric Restriction on Chronic Kidney Disease in Rodent Models: A Meta-Analysis and Systematic Review. *PLoS One*. 2015 Dec 22;10(12):e0144442.

<sup>46</sup> Berniéh B, Al-Hakim MR, Boobes Y, Abu Zidan FM. Fasting Ramadan in chronic kidney disease patients: clinical and biochemical effects. *Saudi J Kidney Dis Transpl*. 2010 Sep;21(5):898-902.

<sup>47</sup> Gelber RP, Kuth T, Kautz AT, Manson JE, Buring JE, Levey AS, Gaziano JM. Association between body mass index and CKD in apparently healthy men. *Am J Kidney Dis*. 2005 Nov;46(5):871-80.

<sup>48</sup> Kawamoto R, Kohara K, Tabara Y, Miki T, Ohtsuka N, Kusonoki T, Yoritsumi N. An association between body mass index and estimated glomerular filtration rate. *Hypertens Res*. 2008 Aug;31(8):1559-64.

<sup>49</sup> Othman M, Kawar B, El Nahas AM. Influence of obesity on progression of non-diabetic chronic kidney disease: a retrospective cohort study. *Nephron Clin Pract*. 2009;113(1):c16-23.

<sup>50</sup> Drechsler C, de Mutsert R, Grootendorst DC, Boeschoten EW, Krediet RT, le Cessie S, Wanner C, Dekker FW; NECOSAD Study Group. Association of body mass index with decline in residual kidney function after initiation of dialysis. *Am J Kidney Dis*. 2009 Jun;53(6):1014-23.

<sup>51</sup> Dandona P, Mohanty P, Ghanim H, Aljada A, Browne R, Hamouda W, Prabhala A, Afzal A, Garg R. The suppressive effect of dietary restriction and weight loss in the obese on the generation of reactive oxygen species by leukocytes, lipid peroxidation, and protein carbonylation. *J Clin Endocrinol Metab*. 2001 Jan;86(1):355-62.

<sup>52</sup> Moha A, Catino M, Capanna R, Giannini C, Marcovecchio M, Chiarelli F. Increased oxidative stress in prepubertal severely obese children: effect of a dietary restriction-weight loss program. *J Clin Endocrinol Metab*. 2005 May;90(5):2653-8.

<sup>53</sup> Kanda E, Muneuyuki T, Suwa K, Nakajima K. Effects of Weight Loss Speed on Kidney Function Differ Depending on Body Mass Index in Nondiabetic Healthy People: A Prospective Cohort. *PLoS One*. 2015 Nov 23;10(11):e0143434.

<sup>54</sup> Bolignano D, Zoccali C. Effects of weight loss on renal function in obese CKD patients: a systematic review. *Nephrol Dial Transplant*. 2013 Nov;28 Suppl 4:iv82-98.

<sup>55</sup> Pamplona-Roger GD. Encyclopedia of foods and their healing power : a guide to food science and diet therapy. Madrid : Editorial Safeliz, 2011.

<sup>56</sup> Jang SM, Cerulli J, Grabe DW, Fox C, Vassalotti JA, Prokopenko AJ, Pai AB. NSAID-avoidance education in community pharmacies for patients at high risk for acute kidney injury, upstate New York, 2011. *Prev Chronic Dis*. 2014 Dec 18;11:E220.

<sup>57</sup> Henry D, Page J, Whyte I, Nanra R, Hall C. Consumption of non-steroidal anti-inflammatory drugs and the development of functional renal impairment in elderly subjects. Results of a case-control study. *Br J Clin Pharmacol*. 1997 Jul;44(1):85-90.

<sup>58</sup> Perneger TV, Wheaton PK, Klug MJ. Risk of kidney failure associated with the use of acetaminophen, aspirin, and nonsteroidal antiinflammatory drugs. *N Engl J Med*. 1994 Dec 22;331(25):1675-9.

<sup>59</sup> Curhan GC, Knight EL, Rosner B, Hankinson SE, Stampfer MJ. Lifetime nonnarcotic analgesic use and decline in renal function in women. *Arch Intern Med*. 2004 Jul 26;164(14):1519-24.

<sup>60</sup> Segal R, Lubart E, Leibovitz A, Iaina A, Caspi D. Renal effects of low dose aspirin in elderly patients. *Isr Med Assoc J*. 2006 Oct;8(10):679-82.

<sup>61</sup> Tangkiatkomjai M, Boardman H, Praditpornsilpa K, Walker DM. Association of herbal and dietary supplements with progression and complications of chronic kidney disease: a prospective cohort study. *Nephrology (Carlton)*. 2015 Jun 4.

<sup>62</sup> Nemmar A, Karaca T, Beegam S, Yuvaraju P, Yasin J, Hamadi NK, Ali BH. Prolonged Pulmonary Exposure to Diesel Exhaust Particles Exacerbates Renal Oxidative Stress, Inflammation and DNA Damage in Mice with Adenine-Induced Chronic Renal Failure. *Clin Physiol Biochem*. 2016;38(5):1703-13.

<sup>63</sup> Toxicol Lett. 2016 Jun 7;258:1-10. Mechanism-specific injury biomarkers predict nephrotoxicity early following glyphosate surfactant herbicide (GPSH) poisoning. Mohamed F, Endre ZH, Pickering JW, Jayamanne S, Palangasath C, Shahmy S, Chathuranga U, Wijerathna T, Shihana F, Gawarammana I, Buckley NA.

<sup>64</sup> Soderland P, Lovekar S, Weiner DE, Brooks DR, Kaufman JS. Chronic kidney disease associated with environmental toxins and exposures. *Adv Chronic Kidney Dis*. 2010 May;17(3):254-64.

<sup>65</sup> <https://www.ewg.org/news-and-analysis/2019/02/glyphosate-contamination-food-goes-far-beyond-our-products>

<sup>66</sup> Anyanwu E, Campbell AW, Vojdani A, Ehiré JE, Akpan AI. Biochemical changes in the serum of patients with chronic toxicogen mold exposures: a risk factor for multiple renal dysfunctions. *ScientificWorldJournal*. 2003 Nov 3;3:1058-64.

<sup>67</sup> Mikkola R, Andersson MA, Hautaniemi M, Salkinoja-Salonen MS. Toxic indole alkaloids avrainvillamide and stephachidin B produced by a biocide tolerant indoor mold *Aspergillus westerdijkiae*. *Toxicol*. 2011 May 1;99:58-67.

# References

68 Eren A, Kuştimur S, Kalkancı A, Unverdi S, Aktay F, Sucak GT. Investigation of the effect of constructions in hospital environment on the crucial units for immunocompromised patients and the development of opportunistic mold infections. *Mikrobiyol Bul.* 2008 Jun;42(1):83-93.

69 Séralini, G.-E.; Clair, E.; Mesnage, R.; Gress, S.; Defarge, N.; Malatesta, M.; Hennequin, D.; Spirooux de Vend'ohem, J. Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize. *Food Chem. Toxicol.* 2012, 50, 4221-4231.

70 Penninger TV, Whelton PK, Puddey IB, Klug MJ. Risk of end-stage renal disease associated with alcohol consumption. *Am J Epidemiol.* 1999 Dec 15;150(12):1275-81.

71 Clare BA, Conroy RS, Spelman K. The diuretic effect in human subjects of an extract of *Taraxacum officinale* folium over a single day. *J Altern Complement Med.* 2009 Aug;15(8):929-34.

72 Karakuş A, Değer Y, Yıldırım S. Protective effect of *Silybum marianum* and *Taraxacum officinale* extracts against oxidative kidney injuries induced by carbon tetrachloride in rats. *Ren Fail.* 2017 Nov;39(1):1-6.

73 Rafacz W, McGill SM. Wearing an abdominal belt increases diastolic blood pressure. *J Occup Environ Med.* 1996 Sep;38(9):925-7.

74 Hiramatsu K, Yamada T, Katakura M. Acute effects of cold on blood pressure, renin-angiotensinaldosterone system, catecholamines and adrenal steroids in man. *Clin Exp Pharmacol Physiol.* 1984 Mar-Apr;11(2):371-9.

75 Lin J, Curhan GC. Kidney function decline and physical function in women. *Nephrol Dial Transplant.* 2008 Sep;23(9):2827-33.

76 Association between sedentary time and kidney function in community-dwelling elderly Japanese people. Lee S, Shimada H, Lee S, Makizako H, Doi T, Harada K, Bae S, Harada K, Hotta R, Tsutsumimoto K, Yoshida D, Nakakubo S, Ahan Y, Park H, Suzuki T. *Geriatr Gerontol Int.* 2016 Jun 14.

77 Reinhart GA, Lohmeier TE. Role of the renin-angiotensin system in mediating the effects of posture on renal function. *Am J Physiol.* 1996 Jul;271(1 Pt 2):R282-8.

78 Guo VY, Brage S, Ekelund U, Griffin SJ, Simmons RK; ADDITION-Plus study team. Objectively measured sedentary time, physical activity and kidney function in people with recently diagnosed Type 2 diabetes: a prospective cohort analysis. *Diabet Med.* 2015 Aug 18.

79 Silva SD Jr, Zampieri LT, Ruggeri A, Ceroni A, Araújo DS, Fernandes FB, Casarini DE, Michelini LC. Downregulation of the vascular renin-angiotensin system by aerobic training - focus on the balance between vasoconstrictor and vasodilator axes - . *Circ J.* 2015;79(6):1372-80.

80 Somninen HK, Bovin GP, Elased KM. Daily exercise training protects against albuminuria and angiotensin converting enzyme 2 shedding in db/db diabetic mice. *J Endocrinol.* 2014 Apr 22;221(2):235-51.

81 Cecchini M, LoPresti V. Drug residues store in the body following cessation of use: impacts on neuroendocrine balance and behavior—use of the Hubbard sauna regimen to remove toxins and restore health. *Med Hypotheses.* 2007;68(4):868-79.

82 Ye T, Tu W, Xu G. Hot bath for the treatment of chronic renal failure. *Ren Fail.* 2014 Feb;36(1):126-30.

83 Lumley J, Davenport CA, Pendergast J, Musani SK, Bhavsar NA, Sims M, Mwasongwe S, Wolf M, Diamantidis CJ, Boulware LE, Scialla JJ. Modifiers of Plasma 25-Hydroxyvitamin D and Chronic Kidney Disease Outcomes in Black Americans: The Jackson Heart Study. *J Clin Endocrinol Metab.* 2019 Jun 1;104(6):2267-2276.

84 Park S, Lee S, Kim Y, Lee Y, Kang MW, Kim K, Kim YC, Han SS, Lee H, Lee JP, Joo KW, Lim CS, Kim YS, Kim DK. Short or Long Sleep Duration and CKD: A Mendelian Randomization Study. *J Am Soc Nephrol.* 2020 Dec;31(12):2937-2947.

85 Hrenak J, Paulis L, Repova K, Aziriova S, Nagtegaal EJ, Reiter RJ, Simko F. Melatonin and renal protection: novel perspectives from animal experiments and human studies (review). *Curr Pharm Des.* 2015;21(7):936-49.

86 Ye T, Tu W, Xu G. Hot bath for the treatment of chronic renal failure. *Ren Fail.* 2014 Feb;36(1):126-30.

87 Schmitz W, Mesrobian M, Seichert M, Schöps P, Knorr H, Schneider J, Wassmann M. Die "ausschwemmende" Wirkung des Bades. Untersuchung an gesunden Schwangeren und Patienten mit Ödemem bzw. Gestose. (The diuretic effect of a bath. Study in healthy pregnant females and patients with edema and gestosis ). *Zentralbl Gynakol.* 1989;111(13):864-70.

88 O'Hare JP, Heywood A, Summerhayes C, Lunn G, Evans JM, Walters G, Corral RJ, Dieppe PA. Observations on the effect of immersion in Bath spa water. *Br Med J (Clin Res Ed).* 1985 Dec 21-28;291(6511):1747-51.

89 Becker BE. The biologic aspects of hydrotherapy. *J Back Musculoskelet Rehabil.* 1994 Jan 1;4(4):255-64.

## Chapter 10 - references

1 White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association, p. 127.

2 White, E. G. (1940). *Counsels on Stewardship*. Washington, D.C.: Review and Herald Publishing Association, p. 17.

3 Strosnider H, Kennedy C, Monti M, Yip F. Rural and Urban Differences in Air Quality, 2008-2012, and Community Drinking Water Quality, 2010-2015 - United States. *MMWR Surveill Summ.* 2017 Jun 23;66(13):1-10.

4 Mishra AK, van Ruitenbeek AM, Loomans MGLC, Kort HSM. Window/door opening-mediated bedroom ventilation and its impact on sleep quality of healthy, young adults. *Indoor Air.* 2018 Mar;28(2):339-351.

5 Satish U, Mendell M, Shek J, Hwang J, Hitchcock T, Sullivan D, Streufert S, Fisk WH. Is CO2 an indoor pollutant? Direct effects of low-to-moderate CO2 concentrations on human decision-making performance. *Environ Health Perspect.* 2012 Dec;120(12):1671-7.

6 Hansel NN, Breyse PN, McCormack MC, Matsui EC, Curtin-Brosnan J, Williams DL, Moore JL, Cuhnan JL, Diette GB. A longitudinal study of indoor nitrogen dioxide levels and respiratory symptoms in inner-city children with asthma. *Environ Health Perspect.* 2008 Oct;116(10):1428-32.e

7 Lam NL, Smith KR, Gauthier A, Bates MN. Kerosene: a review of household uses and their hazards in low- and middle-income countries. *J Toxicol Environ Health B Crit Rev.* 2012;15(6):396-432.

8 Skovmand A, Damiao Gouveia AC, Koponen IK, Möller P, Loft S, Roursgaard M. Lung inflammation and genotoxicity in mice lungs after pulmonary exposure to candle light combustion particles. *Toxicol Lett.* 2017 Jul 5;276:31-38.

9 Dales RE, Burnett R, Zwanenberg H. Adverse health effects among adults exposed to home dampness and molds. *Am Rev Respir Dis.* 1991 Mar;143(3):505-9.

10 Gray MR, Thrasher JD, et al. Mixed mold mycotoxicosis: immunological changes in humans following exposure in water-damaged buildings. *Arch Environ Health.* 2003 Jul;58(7):410-20.

11 Pope CA 3rd, Burnett RT, Thun MJ, Calle EE, Krewski D, Ito K, Thurston GD. Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *JAMA.* 2002 Mar 6;287(9):1132-41.

12 Kim HH, Yang JY, Lee JY, Park JW, Kim JI, Lim BS, Lee GW, Lee SE, Shin DC, Lim YW. House-plant placement for indoor air purification and health benefits on asthmatics. *Environ Health Toxicol.* 2010 Aug;29:e2014014.

13 Gutland BK, Fahmy AM, Elwood PC. Diet, lung function, and lung function decline in a cohort of 2512 middle aged men. *Thorax.* 2000 Feb;55(2):102-8.

14 Hamauzu Y, Yasui H, Inno T, Kume C, Omanyuda M. Phenolic profile, antioxidant property, and anti-influenza viral activity of Chinese quince (*Pseudocydonia sinensis* Schneid.), quince (*Cydonia oblonga* Mill.), and apple (*Malus domestica* Mill.) fruits. *J Agric Food Chem.* 2005 Feb 23;53(4):928-34.

15 Palamara AT, Nencioni L, et al. Inhibition of influenza A virus replication by resveratrol. *J Infect Dis.* 2005 May 15;191(10):1719-29.

16 Kumar P, Sharma S, Khanna M, Raj HG. Effect of Quercetin on lipid peroxidation and changes in lung morphology in experimental influenza virus infection. *Int J Exp Pathol.* 2003 Jun;84(3):127-33.

17 Josling P. Preventing the common cold with a garlic supplement: a double-blind, placebo-controlled survey. *Adv Ther.* 2001 Jul-Aug;18(4):489-93.

18 Magioli, Claudia, & Mansur, Elisabeth. (2005). Eggplant (*Solanum melongena* L.): tissue culture, genetic transformation and use as an alternative model plant. *Acta Bot Bras.* 19(1), 139-148.

19 Lee JH, Lim HJ, Lee CW, Son KH, Son JK, Lee SK, Kim HP. Methyl Protodioscin from the Roots of *Asparagus cochinchinensis* Attenuates Airway Inflammation by Inhibiting Cytokine Production. *Evid Based Complement Alternat Med.* 2015;2015:640846.

20 Maurer HR. Bromelain: biochemistry, pharmacology and medical use. *Cell Mol Life Sci.* 2001 Aug;58(9):1234-45.

21 Lotz-Winter H. On the pharmacology of bromelain: an update with special regard to animal studies on dose-dependent effects. *Planta Med.* 1990 Jun;56(5):249-53.

22 Claudia Magioli; Elisabeth Mansur. Eggplant (*Solanum melongena* L.): tissue culture, genetic transformation and use as an alternative model plant. *Acta Bot Bras.* vol.19 no.1 São Paulo Jan./Mar. 2005

23 Kaur H, Corscadden K, Lott C, Elbartary HS, Othman M. Bromelain has paradoxical effects on blood coagulability: a study using thromboelastography. *Blood Coagul Fibrinolysis.* 2016 Oct;27(7):745-52.

24 Stoodley I, Williams L, Thompson C, Scott H. Wood L. Evidence for lifestyle interventions in asthma. *Breath (Sheff).* 2019 Jun;15(2):e50-e61.

25 Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol.* 1960 Jan;198:217-20.

26 Kurti SP, Rosenkranz SK, Levitt M, Cull BJ, Teeman CS, Emerson SR, Harms CA. Does moderate intensity exercise attenuate the postprandial lipemic and airway inflammatory response to a high-fat meal? *Biomol Res Int.* 2015;2015:647952.

27 Fanelli MT, Kaplan ML. Effects of high fat and high carbohydrate diets on the body composition and oxygen consumption of ob/ob mice. *J Nutr.* 1978 Sep;108(9):1491-500.

28 Chung BV, Park SY, Byun YS, Son JH, Choi YW, Cho YS, Kim HO, Park CW. Effect of Different Cooking Methods on Histamine Levels in Selected Foods. *Ann Dermatol.* 2017 Dec;29(6):706-714.

29 Diaz M, del Rio B, Ladero V, Redruello B, Fernández M, Martín KM, Alvarez MA. Isolation and typification of histamine-producing *Lactobacillus vaginalis* strains from cheese. *Int J Food Microbiol.* 2015 Dec 23;215:117-23.

30 Yuan F, Guo ZC, Wu J, Ma YQ, Zhang Z, Zhou X, Li YW. BOLD-MRI evaluation of subcutaneous and visceral adipose tissue oxygenation status: effects of dietary salt intake. *Am J Transl Res.* 2015 Mar 15;7(3):598-606.

31 Zhang WC, Zheng X, Du LJ, Sun JY, Shen ZX, Shi C, Sun S, Zhang Z, Chen XQ, Qin M, Liu X, Tao J, Jia L, Fan HY, Zhou B, Yu Y, Ying H, Hui L, Liu X, Yi X, Liu X, Zhang L, Duan SZ. High salt primes a specific activation state of macrophages, M(Na). *Cell Res.* 2015 Aug;25(8):893-910.

32 Yamauchi K, Ogasawara M. The Role of Histamine in the Pathophysiology of Asthma and the Clinical Efficacy of Antihistamines in Asthma Therapy. *Int J Mol Sci.* 2019 Apr 8;20(7).

33 Battcock M, Azam-Ali S. FERMENTED FRUITS AND VEGETABLES A GLOBAL PERSPECTIVE FAO AGRICULTURAL SERVICES BULLETIN No. 134 <http://www.fao.org/3/a/0560e/0560e12.htm>

34 Saranovic SD, Vidić J, Pešić I, Tomović M, Batinić D, Antić M, Tadić M, Mazić S. The Influence of Tobacco Use on Pulmonary Function in Elite Athletes. *Int J Environ Res Public Health.* 2019 Sep 20;16(19), pii: E3515.

35 Thirion-Romero I, Pérez-Padilla R, Zabert G, Barrientos-Gutiérrez I. RESPIRATORY IMPACT OF ELECTRONIC CIGARETTES AND "LOW-RISK" TOBACCO. *Rev Invest Clin.* 2019;71(1):17-27.

36 Arjomandi M, Haight T, Redberg R, Gold WM. Pulmonary function abnormalities in never-smoking flight attendants exposed to secondhand tobacco smoke in the aircraft cabin. *J Occup Environ Med.* 2009 Jun;51(6):639-46.

37 Ramakrishnan S, Thangjam R, Roy A, Singh S, Ramakrishnan L, Seth S, Narang R, Bhargava B. Acute effects of tobacco chewing on the systemic, pulmonary and coronary circulation. *Am J Cardiovasc Drugs.* 2011;11(2):109-14.

38 Tan WC, Bourbeau J, Aaron SD, Hogg JC, Maltais F, Hernandez P, Marcinuk DD, Chapman KR, To T, FitzGerald JM, Walker BL, Road J, Zheng L, Zhou G, Yau T, Benedetto A, O'Donnell D, Sin DD. The effects of marijuana smoking on lung function in older people. *Eur Respir J.* 2019 Dec 19;54(6), pii: 1900826.

39 Vedala SR, Mane AB, Paul CN. Pulmonary functions in yogic and sedentary population. *Int J Yoga.* 2014 Jul;7(2):155-9.

40 Huang G, Osnes WH. Changes in pulmonary function response to a 10-week controlled exercise program in sedentary elderly adults. *Percept Mot Skills.* 2005 Apr;100(2):394-402.

41 Morais N, Cruz J, Moraes A. Posture and mobility of the upper body quadrant and pulmonary function in COPD: an exploratory study. *Braz J Phys Ther.* 2016 Jul-Aug;20(4):345-54.

42 Gloeckl R, Halle M, Kenn K. Interval versus continuous training in lung transplant candidates: a randomized trial. *J Heart Lung Transplant.* 2012 Sep;31(9):934-41.

43 Ratjen F, Jensen R, Klingel M, McDonald R, Moore C, Benseler N, Wilson D, Stanojevic S. Effect of changes in tidal volume on multiple breath washout outcomes. *PLoS One.* 2019 Jul 3;14(7):e0219309.

44 Buchholz I. Breathing, voice, and movement therapy: applications to breathing disorders. *Biofeedback Self Regul.* 1994 Jun;19(2):141-53.

45 Lu Y, Li P, Lin W, Wang Z, Li J, Liu X, Wu W. Effects of Home-Based Breathing Exercises in Subjects With COPD. *Respir Care.* 2019 Nov 12, pii: respcare.07121.

46 Wirz-Justice A, Grav P, Kräuchi K, Sarrafzadeh A, English J, Arendt J, Sand L. 'Natural' light treatment of seasonal affective disorder. *J Affect Disord.* 1996 Apr 12;37(2-3):109-20.

47 Bachman JL, Deitrick RW, Hillman AR. Exercising in the Fasted State Reduced 24-Hour Energy Intake in Active Male Adults. *J Nutr Metab.* 2016;2016:1984198. [Epub 2016 Sep 21.](https://doi.org/10.1155/2016/1984198)

48 DiPietro L, Gribock A, Stevens MS, Hamm LF, Rumpel W. Three 15-min bouts of moderate postmeal walking significantly improves 24-h glycemic control in older people at risk for impaired glucose tolerance. *Diabetes Care.* 2013 Oct;36(10):3262-8.

49 Olafsdottir G, Cloke P, Schultz A, et al. Health benefits of walking in nature: A randomized controlled study under conditions of real-life stress. *Environ Behav.* 2018;1-27.

50 Sinharay R, Gong J, Barratt B, Ohman-Strickland P, Ernst S, Kelly FJ, Zhang JJ, Collins P, Cullinan P, Chung KF. Respiratory and cardiovascular responses to walking down a traffic-polluted road compared with walking in a traffic-free area in participants aged 60 years and older with chronic lung or heart disease and age-matched healthy controls: a randomised, crossover study. *Lancet.* 2018 Jan 27;391(10118):339-349.

51 MacHose M, Peper E. The effect of clothing on inhalation volume. *Biofeedback Self Regul.* 1991 Sep;16(3):261-5.

52 White EG. *Selected Messages, Book Two*. Review and Herald Publishing Association, 1958, p. 471.

53 Kim YH, Baek SS, et al. The effect of cold air application on intra-articular and skin temperatures in the knee. *Yonsei Med J.* 2002 Oct;43(5):621-6.

54 Daanen HA, Ducharme MB. Physiological responses of the human extremities to cold water immersion. *Arctic Med Res.* 1991; 50 Suppl 6:115-21.

55 Kashevarov SB, Kuzin NM, Zavadnov V, Loshchenov VB, Korablin SN, Markov VK. Changes in the degree of oxygenation of gastric mucosa before and after the operation of creating a small stomach in patients with the extreme degree of alimentary-constitutional obesity. *Khirurgia (Mosk).* 1991 Oct;1(10):70-4.

56 Roche J, Isacco L, Masurier J, Pereira B, Mouglin F, Chaput JP, Thivel D. Are obstructive sleep apnea and sleep improved in response to multidisciplinary weight loss interventions in youth with obesity? A systematic review and meta-analysis. *Int J Obes (Lond).* 2020 Jan 7. (Epub ahead of print)

57 Sawka MN, Cheuvront SN, Carter R 3rd. Human water needs. *Nutr Rev.* 2005 Jun;63(6 Pt 2):530-9.

58 Kalkhoff H. Mild dehydration: a risk factor of broncho-pulmonary disorders? *Eur J Clin Nutr.* 2003 Dec;57 Suppl 2:581-7.

59 Singh M, Singh S, Walia BN. Evaluation of steam therapy in acute lower respiratory tract infections: a pilot study. *Indian Pediatr.* 1990 Sep;27(9):945-51.

60 Batmaz SB, Arkoğlu T, Tamer L, Eskandari G, Kuyucu S. Seasonal variation of asthma control, lung function tests and allergic inflammation in relation to vitamin D levels: a prospective annual study. *Postepy Dermatol Alergol.* 2018 Feb;35(1):99-105.

61 Periasamy S, HSX DZ, Fu YH, Liu MY. Sleep deprivation-induced multi-organ injury: role of oxidative stress and inflammation. *Excl J.* 2015 May 18;14:672-83.

62 Kato K, Miyata S, Ando M, Matsuoka H, Yasuma F, Iwamoto K, Kawano K, Kawano N, Noda A. Influence of sleep duration on cortical oxygenation in elderly individuals. *Psychiatry Clin Neurosci.* 2017 Jan;71(1):44-51.

63 Acts 17:25.

64 White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association, p.417.

## Chapter 11 – References

1 <https://www.thyroid.org/media-main/press-room/>

2 <https://www.uofmhealth.org/health-library/ug1836>

3 Souza LL, Nunes MO, Paula GS, Cordeiro A, Penha-Pinto V, Neto JF, Oliveira KJ, do Carmo Md, Pazos-Moura CC. Effects of dietary fish oil on the thyroid hormone signaling in the liver. *J Nutr Biochem.* 2010 Oct;21(10):935-40. <https://www.mayoclinic.org/diseases-conditions/hypothyroidism/symptoms-causes/syc-200350284>

4 Ruggeri RM, Giovannozzo S, Barbalace MC, Cristani M, Alibrandi A, Vicchio TM, Guiffrida G, Aguenouz MH, Malaguti M, Angeloni C, Trimarchi F, Hrelia S, Campenni A, Cannavò S. Influence of Dietary Habits on Oxidative Stress Markers in Hashimoto's Thyroiditis. *Thyroid.* 2021 Jan;31(1):96-105.

5 Leclère J, Cousty C, Schlienger JL, Wémeau JL. Hypothyroïdisme fruste et qualité de vie chez des femmes hypercholestérolémiques de plus de 50 ans: résultats de l'étude HYOGA (Subclinical hypothyroidism and quality of life of women aged 50 or more with hypercholesterolemia: results of the HYOGA study). *Presse Med.* 2008 Nov;37(11):1538-46.

6 Kalkanin D, Brčić L, Ljubetić K, Barić A, Gračan S, Brekalo M, Torlak Lovrić V, Količić I, Polašek O, Zemunik T, Punda A, Boraska Perica V. Differences in food consumption between patients with Hashimoto's thyroiditis and healthy individuals. *Sci Rep.* 2020 Jun 30;10(1):10670.

7 Breese McCoy SJ. Coincidence of remission of postpartum Graves' disease and use of omega-3 fatty acid supplements. *Thyroid Res.* 2011 Nov 16;4(1):16.

8 Tonstad S, Nathan E, Oda K, Fraser GE. Prevalence of hyperthyroidism according to type of vegetarian diet. *Public Health Nutr.* 2015 Jun;18(8):1482-7.

9 Martins VJF, Filgueiras AR, Almeida VBP, de Moraes RC, Sawaya AL. Changes in Thyroid and Glycemic Status and Food Intake in Children with Excess Weight Who Were Submitted for a Multi-Component School Intervention for 16 Months. *Int J Environ Res Public Health.* 2020 May 28;17(11):3825.

10 Kalkanin D, Brčić L, Ljubetić K, Barić A, Gračan S, Brekalo M, Torlak Lovrić V, Količić I, Polašek O, Zemunik T, Punda A, Boraska Perica V. Differences in food consumption between patients with Hashimoto's thyroiditis and healthy individuals. *Sci Rep.* 2020 Jun 30;10(1):10670.

11 Lambrinakis S, Katsa ME, Zyga S, Ioannidis A, Sachlas A, Panoutsopoulos G, Pistikou AM, Magana M, Kougioumtzi Dimoliogianni DE, Kolovos P, Rojas Gil AP. Correlations Between Nutrition Habits, Anxiety and Metabolic Parameters in Greek Healthy Adults. *Adv Exp Med Biol.* 2017;987:23-34.

12 Ruggeri RM, Vicchio TM, Cristani M, Certo R, Caccamo D, Alibrandi A, Giovannozzo S, Saija A, Campenni A, Trimarchi F, Gangemi S. Oxidative Stress and Advanced Glycation End Products in Hashimoto's Thyroiditis. *Thyroid.* 2016 Apr;26(4):504-11.

13 Chang CH, Yen YC, Caffrey JL, Shih SR, Chuang LM, Tu YK. Metabolic syndrome is associated with an increased incidence of subclinical hypothyroidism: A Cohort Study. *Sci Rep.* 2017 Jul 28;7(1):e7574.

14 Meng X, Xu S, Chen G, Derwahl M, Liu C. Metformin and thyroid disease. *J Endocrinol.* 2017 Apr;233(1):R43-R51.

15 Guo X, Chen X, Zhang C, Zhang J, Zhang C. Hyperinsulinemia and thyroid peroxidase antibody in Chinese patients with papillary thyroid cancer. *Endocr J.* 2019 Aug 29;66(8):731-737.

16 Godini A, Ghaseini A, Zahedi AS. The Possible Mechanisms of the Impaired Insulin Secretion in Hypothyroid Rats. *PLoS One.* 2015 Jul 1;10(7):e0131198.

17 Suzuki Y, Nanno M, Gemma R, Tanaka I, Taminato T, Yoshimi T. (The mechanism of thyroid hormone abnormalities in patients with diabetes mellitus). *Nihon Naibunpi Gakkai Zasshi.* 1994 May 20;70(4):465-70.

18 Guo X, Chen X, Zhang C, Zhang J, Zhang C. Hyperinsulinemia and thyroid peroxidase antibody in Chinese patients with papillary thyroid cancer. *Endocr J.* 2019 Aug 29;66(8):731-737.

19 Lambrinakis S, Katsa ME, Zyga S, Ioannidis A, Sachlas A, Panoutsopoulos G, Pistikou AM, Magana M, Kougioumtzi Dimoliogianni DE, Kolovos P, Rojas Gil AP. Correlations Between Nutrition Habits, Anxiety and Metabolic Parameters in Greek Healthy Adults. *Adv Exp Med Biol.* 2017;987:23-34.

20 Chatenoud L, La Vecchia C, Franceschi S, Tavani A, Jacobs DR Jr, Parpnel MT, Soler M, Negri E. Refined-cereal intake and risk of selected cancers in Italy. *Am J Clin Nutr.* 1999 Dec;70(6):1107-10.

# Blue Print for Health and Healing

22 Sachmechi I, Khalid A, Awan SI, Malik ZR, Sharifzadeh M. Autoimmune Thyroiditis with Hypothyroidism Induced by Sugar Substitutes. *Cureus*. 2018 Sep 7;10(9):e3268.

23 Lambrinikou S, Katsa ME, Zyga S, Ioannidis A, Sachlas A, Panoutsopoulos G, Pistikou AM, Magana M, Koutioglou D, Kolovos P, Rojas Gil AP. Correlations between Thyroid Autoimmunity, Anxiety and Metabolic Parameters in Greek Healthy Adults. *Adv Exp Med Biol*. 2017;987:23-34.

24 Inhatowicz P, Drywień M, Wątor P, Wojsiat J. The importance of nutritional factors and dietary management of Hashimoto's thyroiditis. *Ann Agric Environ Med*. 2020 Jun 19;27(2):184-193.

25 Talebi S, Karimifard M, Heidari Z, Mohammadi H, Askari G. The effects of synbiotic supplementation on thyroid function and inflammation in hypothyroid patients: A randomized, double-blind, placebo-controlled trial. *Complement Ther Med*. 2020 Jan;48:102234.

26 Knezevic J, Starchl C, Tmava Berisha A, Amrein K. Thyroid-Gut-Axis: How Does the Microbiota Influence Thyroid Function? *Nutrients*. 2020 Jun 12;12(6):1769.

27 Baskol G, Atmaca H, Tarriverdi F, Baskol M, Kocer D, Bayram F. Oxidative stress and enzymatic antioxidant status in patients with hypothyroidism before and after treatment. *Exp Clin Endocrinol Diabetes*. 2007 Sep;115(8):522-6.

28 Deshpande UR, Joseph LJ, Patwardhan UN, Samuel AM. Effect of antioxidants (vitamin C, E and turmeric extract) on methimazole induced hypothyroidism in rats. *Indian J Exp Biol*. 2002 Jun;40(6):735-8.

29 Karimi F, Omrani GR. Effects of selenium and vitamin C on the serum level of antithyroid peroxidase antibody in patients with autoimmune thyroiditis. *J Endocrinol Invest*. 2019 Apr;42(4):481-487.

30 Mekkwaw AM, Ahmed YH, Khalaf AAA, El-Sakhawy MA. Ameliorative effect of Nigella sativa oil and vitamin C on the thyroid gland and cerebellum of adult male albino rats exposed to Monosodium glutamate (histological, immunohistochemical and biochemical studies). *Tissue Cell*. 2020 Oct;66:101391.

31 [https://thyroidadvisor.com/effects-vitamin-c-thyroid/#\\_edn11](https://thyroidadvisor.com/effects-vitamin-c-thyroid/#_edn11)

32 Ruggeri RM, Giovannazzo S, Barbalace MC, Cristani M, Alibrandi A, Vicchio TM, Giuffrida G, Aguenouze MH, Malagutti M, Angeloni C, Trimarchi F, Hrelia S, Campenni A, Cannavo S. Influence of Dietary Habits on Oxidative Stress Markers in Hashimoto's Thyroiditis. *Thyroid*. 2021 Jan;31(1):96-105.

33 Hagoopian K, Chen Y, Simmons Damer K, Soo Hoo R, Bentley T, McDonald RB, Ramsey JL. Caloric restriction influences hydrogen peroxide generation in mitochondrial sub-populations from mouse liver. *J Bioenerg Biomembr*. 2011 Jun;43(3):227-36.

34 Sinha RK. Chronic non-thermal exposure of modulated 2450 MHz microwave radiation alters thyroid hormones and behavior of male rats. (1) *Int J Radiat Biol*. 2008 Jun;84(6):505-13.

35 Koyu A, Cesur G, Ozguner F, Akdogan M, Mollaoglu H, Ozen S. Effects of 900 MHz electromagnetic field on TSH and thyroid hormones in rats. *Toxicol Lett*. 2005 Jul 4;157(3):257-62.

36 Baby NM, Koshy G, Mathew A. The Effect of Electromagnetic Radiation due to Mobile Phone Use on Thyroid Function in Medical Students Studying in a Medical College in South India. *Indian J Endocrinol Metab*. 2017 Nov-Dec;21(6):797-802.

37 Meeker JD, Stapleton HM. House dust concentrations of organophosphate flame retardants in relation to hormone levels and semen quality parameters. *Environ Health Perspect*. 2010 Mar;118(3):318-23.

38 Bloomfield RA, Welsch CW, Garner GB, Muhrer ME. Effect of dietary nitrate on thyroid function. *Science*. 1961 Nov 24;134(3491):1690.

39 Basha PM, Rai P, Begum S. Fluoride toxicity and status of serum thyroid hormones, brain histopathology, and learning memory in rats: a multigenerational assessment. *Biol Trace Elem Res*. 2011 Dec;144(1-3):1083-94.

40 Levy SM, Guha-Chowdhury N. Total fluoride intake and implications for dietary fluoride supplementation. *J Public Health Dent*. 1999 Fall;59(4):211-23.

41 Fomon SJ, Ekstrand J, Ziegler EE. Fluoride intake and prevalence of dental fluorosis: trends in fluoride intake with special attention to infants. *J Public Health Dent*. 2000 Summer;60(3):131-9.

42 Heilman JR, Kiritsy MC, Levy SM, Wefel JS. Assessing fluoride levels of carbonated soft drinks. *J Am Dent Assoc*. 1999 Nov;130(11):1593-9.

43 Burgstahler AW, Robinson MA. Fluoride in California wines and raisins. *Fluoride* 1997; 30(3):142-146

44 Pang DT, Phillips CL, Bawden JW. Fluoride intake from beverage consumption in a sample of North Carolina children. *J Dent Res*. 1992 Jul;71(7):1382-8.

45 Marthaler TM. Increasing the public health effectiveness of fluoridated salt. *Schweiz Monatsschr Zahnmed*. 2005;115(9):785-92.

46 Fomon SJ, Ekstrand J, Ziegler EE. Fluoride intake and prevalence of dental fluorosis: trends in fluoride intake with special attention to infants. *J Public Health Dent*. 2000 Summer;60(3):131-9.

47 Dabeka RW, McKenzie AD. Survey of lead, cadmium, fluoride, nickel, and cobalt in food composites and estimation of dietary intakes of these elements by Canadians in 1986-1988. *JAOAC Int*. 1995 Jul-Aug;78(4):897-909.

48 Fein NJ, Cerkowski FL. Fluoride content of foods made with mechanically separated chicken. *J Agric Food Chem*. 2001 Sep;49(9):4284-6.

49 YAMADA T, SCICHIO K. Role of iodine, sodium chloride and antithyroid drugs in the development of goiter in the rat. *Endocrinology*. 1962 Mar;70:314-21.

50 Revis NW, McCauley P, Bull R, Holdsworth G. Relationship of drinking water disinfectants to plasma cholesterol and thyroid hormone levels in experimental studies. *Proc Natl Acad Sci U S A*. 1986 Mar;83(5):1485-9.

51 Chowdhury S, Champagne P. Risk from exposure to trichloroethanes during shower: probabilistic assessment and control. *Sci Total Environ*. 2009 Feb 15;407(5):1570-8.

52 Pavelka S, Babický A, Vobecký M, Lener J. Effect of high bromide levels in the organism on the biological half-life of iodine in the rat. *Biol Trace Elem Res*. 2001 Summer;82(1-3):125-32.

53 Kaya FF, Topaktay M. Genotoxic effects of potassium bromate on human peripheral lymphocytes in vitro. *Mutat Res*. 2007 Jan 10;626(1-2):48-52.

54 Stasiak M, Lewińska A, Karbownik-Lewińska M. Relationship between toxic effects of potassium bromate and endocrine glands. *Endokrynol Pol*. 2009 Jan-Feb;60(1):40-50.

55 Sheikh IA, Beg MA. Structural studies on the endocrine-disrupting role of polybrominated diphenyl ethers (PBDEs) in thyroid diseases. *Environ Sci Pollut Res Int*. 2020 Oct;27(30):37866-37876.

56 Susmann HP, Schaidler LA, Rodgers KM, Rudel RA. Dietary Habits Related to Food Packaging and Population Exposure to PFASs. *Environ Health Perspect*. 2019 Oct;127(10):107003.

57 Ji K, Kim S, Kho Y, Paek D, Sakong J, Ha J, Kim S, Choi K. Serum concentrations of major perfluorinated compounds among the general population in Korea: dietary sources and potential impact on thyroid hormones. *Environ Int*. 2012 Sep 15;45:78-85.

58 Kim MJ, Moon S, Oh BC, Jung D, Ji K, Choi K, Park YJ. Association between perfluoroalkyl substances exposure and thyroid function in adults: A meta-analysis. *PLoS One*. 2018 May 10;13(5):e0197244.

59 EFSA Panel on Contaminants in the Food Chain (EFSA CONTAM Panel), Schrenk D, Bignami M, Bodin L, Chipman JK, Del Mazo J, Grass-Kraupp B, Hogstrand C, Hoogenboom LB, Leblanc JC, Nebbia CS, Nielsen E, Ntzani E, Petersen A, Sand S, Vleminckx C, Wallace H, Barregård L, Ceccatelli S, Cravedi JP, Halldorsson TJ, Haug LS, Johansson N, Knutsen HK, Rose M, Roudot AC, Van Loveren H, Vollmer G, Mackay K, Riolo F, Schwerdtle T. Risk to human health related to the presence of perfluoroalkyl substances in food. *EFSA J*. 2020 Sep 17;18(9):e06223.

60 Ren XM, Zhang YF, Guo LH, Qin ZF, Lu QY, Zhang LY. Structure-activity relations in binding of perfluoroalkyl compounds to human thyroid hormone T3 receptor. *Arch Toxicol*. 2015 Feb;89(2):233-42.

61 Li Y, Cheng Y, Xie Z, Zeng F. Perfluorinated alkyl substances in serum of the southern Chinese general population and potential impact on thyroid hormones. *Sci Rep*. 2017 Feb 27;7:43380.

62 Ji K, Kim S, Kho Y, Paek D, Sakong J, Ha J, Kim S, Choi K. Serum concentrations of major perfluorinated compounds among the general population in Korea: Dietary sources and potential impact on thyroid hormones. *Environ Int*. 2012 Sep 15;45:78-85.

63 White SS, Fenton SE, Hines EP. Endocrine disrupting properties of perfluorooctanoic acid. *J Steroid Biochem Mol Biol*. 2011 Oct;127(1-2):16-26.

64 Negri S, Maestri L, Esabon G, Ferrari M, Zadra P, Ghittori S, Imbriani M. Characteristics, use and toxicity of fluorochemicals: review of the literature. *G Ital Med Lav Ergon*. 2008 Jan-Mar;30(1):61-74.

65 Martin MT, Brennan RJ, Hu W, Ayanoglu E, Lau C, Ren H, Wood CR, Corton JC, Kavlock RJ, Dix DJ. Toxicogenomic study of triazole fungicides and perfluoroalkyl acids in rat livers predicts toxicity and categorizes chemicals based on mechanisms of toxicity. *Toxicol Sci*. 2007 Jun;97(2):595-613.

66 Tittlemier SA, Pepper K, Edwards L. Concentrations of perfluorooctanesulfonamides in Canadian total diet study composite food samples collected between 1992 and 2004. *J Agric Food Chem*. 2006 Oct 18;54(21):8385-9.

67 Weiss JM, Andersson PL, Lamoree MH, Leonards PE, van Leeuwen SP, Hamers T. Competitive binding of poly- and perfluorinated compounds to the thyroid hormone transport protein transthyretin. *Toxicol Sci*. 2009 Jun;109(2):206-16.

68 Melzer D, Rice N, Depledge MH, Henley WE, Galloway TS. Association between serum perfluorooctanoic acid (PFOA) and thyroid disease in the U.S. National Health and Nutrition Examination Survey. *Environ Health Perspect*. 2010 May;118(5):686-92.

69 Kim S, Choi K, Ji K, Seo J, Kho Y, Park J, Kim S, Park S, Hwang I, Jeon J, Yang H, Giesy JP. Trans-placental transfer of thirteen perfluorinated compounds and relations with fetal thyroid hormones. *Environ Sci Technol*. 2011 Sep 14;45(17):7465-72.

70 Wang F, Hua J, Chen M, Xia Y, Zhang Q, Zhao R, Zhou W, Zhang Z, Wang B. High urinary bisphenol A concentrations in workers and possible laboratory abnormalities. *Occup Environ Med*. 2012 Sep;69(9):679-84.

71 Otsuka H, Sugimoto M, Ikeda S, Kume S. Effects of bisphenol A administration to pregnant mice on serum Ca and intestinal Ca absorption. *Anim Sci J*. 2012 Mar;83(3):232-7.

72 Radzikowska J, Gajownik A, Dobrzyńska M. Induction of micronuclei in peripheral blood and bone marrow reticulocytes of male mice after subchronic exposure to x-rays and bisphenol A. *Rocz Panstw Zakh Hig*. 2012;63(1):17-23.

73 Sheng ZG, Tang Y, Liu YX, Yuan Y, Zhao BQ, Chao XJ, Zhu BZ. Low concentrations of bisphenol a suppress thyroid hormone receptor transcription through a nongenomic mechanism. *Toxicol Appl Pharmacol*. 2012 Feb 15;259(1):133-41.

74 Silva MMD, Xavier LF, Gonçalves CFL, Santos-Silva AP, Paiva-Melo FD, Freitas ML, Fortunato RS, Alves LM, Ferreira AC. Bisphenol A increases hydrogen peroxide generation by thyrocytes both in vivo and in vitro. *Endocr Connect*. 2018 Sep 1;7(11):1196-207.

75 Duthoit C, Estienne V, Giraud A, Durand-Gorde JM, Rasmussen AK, Feldt-Rasmussen U, Carayon P, Ruf J. Hydrogen peroxide-induced production of a 40 kDa immunoreactive thyroglobulin fragment in human thyroid cells: the onset of thyroid autoimmunity? *Biochem J*. 2001 Dec 15;360(Pt 3):557-62.

76 Khalaf HA, Arafa EA. Effect of different doses of monosodium glutamate on the thyroid follicular cells of adult male albino rats: a histological study. *Int J Clin Exp Pathol*. 2015 Dec 1;8(12):15498-510.

77 Mekkwaw AM, Ahmed YH, Khalaf AAA, El-Sakhawy MA. Ameliorative effect of Nigella sativa oil and vitamin C on the thyroid gland and cerebellum of adult male albino rats exposed to Monosodium glutamate (histological, immunohistochemical and biochemical studies). *Tissue Cell*. 2020 Oct;66:101391.

78 <https://truthinlabeling.org/>

79 Ursinoyova M, Uhanakova I, Serbin R, Masanova V, Husekova Z, Wsolova L. The relation between human exposure to mercury and thyroid hormone status. *Biol Trace Elem Res*. 2012 Sep;148(3):281-91.

80 Alessio L, Apostoli P, Ferioli A, Di Sipio I, Mussi I, Rigosa C, Albertini A, Bertolini A. Behaviour of biological indicators of internal dose and some neuro-endocrine tests in aluminium workers. *Med Lav*. 1989 Jul-Aug;80(4):290-300.

81 Orihuea D. Aluminium effects on thyroid gland function: iodide uptake, hormone biosynthesis and secretion. *J Inorg Biochem*. 2011 Nov;105(11):1464-8.

82 Fung KF, Zhang ZQ, Wong JW, Wong MH. Aluminium and fluoride concentrations of three tea varieties growing at Lantau Island, Hong Kong. *Environ Geochem Health*. 2003 Jun;25(2):219-32.

83 Yokel RA, Hicks CL, Florence RL. Aluminium bioavailability from basic sodium aluminum phosphate, an approved food additive emulsifying agent, incorporated in cheese. *Food Chem Toxicol*. 2008 Jun;46(6):2261-6.

84 Herndon JM. Human and Environmental Dangers Posed by Ongoing Global Tropospheric Aerosolized Particulates for Weather Modification. *Front Public Health*. 2016 Jun 30;4:139.

85 Boretti A. Reviewing the association between aluminum adjuvants in the vaccines and autism spectrum disorder. *J Trace Elem Med Biol*. 2021 Jul;66:126764.

86 [https://rev14.com/media\\_download/Keeping%20your%20Mind%20Sharp%20Alzheimers%20cb%20pdf.pdf](https://rev14.com/media_download/Keeping%20your%20Mind%20Sharp%20Alzheimers%20cb%20pdf.pdf)

87 Guruge KS, Wu C, Kanan K. Occurrence and exposure assessment of perchlorate, iodide and nitrate ions from dairy milk and water in Japan and Sri Lanka. *J Environ Monit*. 2011 Aug;13(8):2112-20.

88 Murray CG, Egan SK, Kim H, Beru N, Bolger PM. US Food and Drug Administration's Total Diet Study: dietary intake of perchlorate and iodine. *J Expo Sci Environ Epidemiol*. 2008 Nov;18(6):571-80.

89 Valentin-Blasin I, Blount BC, Otero-Santos S, Cao Y, Bernbaum JC, Rogan WJ. Perchlorate exposure and dose estimates in infants. *Environ Sci Technol*. 2011 May 1;45(9):4127-32.

90 Tonacchera M, Pinchera A, Dimida A, Ferrarini E, Agretti P, Vitti P, Santini F, Crump K, Gibbs J. Relative potencies and additivity of perchlorate, thiocyanate, nitrate, and iodide on the inhibition of radioactive iodide uptake by the human sodium iodide symporter. *Thyroid*. 2004 Dec;14(12):1012-9.

91 Wu FH, Zhou X, Zhang R, Pan MZ, Peng KL. The effects of ammonium perchlorate on thyroid function and mRNA expression of thyroglobulin and thyroperoxidase. *Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi*. 2011 Feb;29(2):83-5.

92 Avasilci L, Cucuraru N. Nitrates and nitrites in meat products--nitrosamines precursors. *Rev Med Chir Soc Med Nat Iasi*. 2011 Apr-Jun;115(2):606-11.

93 Hord NG, Tang Y, Bryan SN, Klaunig SD, Bouldin DR. Impact of dairy farming on well water nitrate level and soil content of phosphorus and potassium. *J Dairy Sci*. 1999 Oct;82(10):2164-9.

94 Kou C, Ju X, Zhang F. Nitrogen balance and its effects on nitrate-N concentration of groundwater in three intensive cropping systems of North China. *Ying Yong Sheng Tai Xue Bao*. 2005 Apr;16(4):660-7.

95 Gatsewa PD, Argora MD. Iodine status and goitre prevalence in nitrate-exposed schoolchildren living in rural Bulgaria. *Public Health*. 2008 May;122(5):458-61.

96 Eskioçak S, Dundar C, Basoglu T, Altaner S. The effects of taking chronic nitrate by drinking water on thyroid functions and morphology. *Clin Exp Med*. 2005 Jul;5(2):66-71.

97 Fukayama H, Nasu M, Murakami S, Sugawara M. Examination of antithyroid effects of smoking products in current thyroid follicles: only thiocyanate is a potent antithyroid agent. *Acta Endocrinol (Copenh)*. 1992 Dec;127(6):520-5.

98 Schöne F, Leitner M, Jahreis G, Rudolph B. Effect of rapeseed feedstuffs with different glucosinolate content and iodine administration on gestating and lactating sows. *Zentralblatt Veterinärmed A*. 1997 Aug;44(6):325-39.

99 Niemann RA, Antonsen DL. Determination of iodide and thiocyanate in powdered milk and infant formula by on-line enrichment ion chromatography with photodiode array detection. *J Chromatogr A*. 2008 Jul 25;1200(2):193-7.

100 Papas A, Inalls JR, Campbell LD. Studies on the effects of rapeseed meal on thyroid status of cattle, glucosinolate and iodine content of milk and other parameters. *J Nutr*. 1979 Jul;109(7):1129-39.

101 Felker P, Bunch R, Leung AM. Concentrations of thiocyanate and goiter in human plasma, their precursor concentrations in brassica vegetables, and associated potential risk for hypothyroidism. *Nutr Rev*. 2016 Apr;74(4):248-58.

102 Kim SSR, He X, Braverman LE, Nairl R, Gupta PK, Leung AM. Letter to the Editor. *Endocr Pract*. 2017 Jul;23(7):885-886.

103 Sittig LJ, Herzog LB, Xie H, Batra KK, Shukla PK, Redei EE. Excess folate during adolescence suppresses thyroid function with permanent deficits in motivation and spatial memory. *Genes Brain Behav*. 2012 Mar;11(2):193-200.

104 Zorrilla LM, Gibson EK, Jeffay SC, Crofton KM, Setzer WR, Cooper RL, Stoker TE. The effects of trichloro on puberty and thyroid hormones in male Wistar rats. *Toxicol Sci*. 2009 Jan;107(1):56-64.

105 Chevrier J, Rauch S, Obida M, Crause M, Borman R, Eskenazi B. Sex and poverty modify associations between maternal peripartum concentrations of DDT/E and pyrethroid metabolites and thyroid hormone levels in neonates participating in the VHEMBE study, South Africa. *Environ Int*. 2019 Oct;131:104958.

106 Boas M, Feldt-Rasmussen U, Main KM. Thyroid effects of endocrine disrupting chemicals. *Mol Cell Endocrinol*. 2012 May 22;355(2):49-8.

107 Kwon A, Serdy S. Glyphosate, pathways to modern diseases III: Manganese, neurological diseases, and associated pathologies. *Surg Neurol Int*. 2015 Mar 24;6:45.

108 Shrestha S, Parks CG, Goldner WS, Kamel F, Umbach DM, Ward MH, Lerro CC, Koutros S, Hofmann JN, Beane Freeman LE, Sandler PD. Pesticide Use and Incident Hypothyroidism in Pesticide Applicators in the Agricultural Health Study. *Environ Health Perspect*. 2018 Sep;126(9):97008.

109 Shrestha S, Parks CG, Goldner WS, Kamel F, Umbach DM, Ward MH, Lerro CC, Koutros S, Hofmann JN, Beane Freeman LE, Sandler PD. Pesticide Use and Incident Hypothyroidism in Pesticide Applicators in the Agricultural Health Study. *Environ Health Perspect*. 2018 Sep;126(9):97008.

110 <https://www.greematters.com/p/what-foods-have-glyphosate>

111 <https://www.ewg.org/news-and-analysis/2019/02/glyphosate-contamination-food-goes-far-beyond-oat-products/>

112 Kamely M, Karimi Torshizi MA, Rahimi S. Blood biochemistry, thyroid hormones, and performance in broilers with ascites caused by caffeine. *Poult Sci*. 2016 Nov 1;95(11):2673-2678.

113 Ahmed R. G. Gestational caffeine exposure acts as a fetal thyroid-cytokine disruptor by activating caspase-3/BAX/Bcl-2/Cox2/NF-kB at ED 20. *Toxicol Res (Camb)*. 2018 Dec 11;8(2):196-205.

114 Friedrich N, Pletzner M, Cannet C, Thuesen BH, Hansen T, Wallaschofski H, Grupn N, Skaabj T, Budde K, Pedersen O, Nauck M, Linneberg A. Urinary metabolomics reveals glycofemic and coffee associated signatures of thyroid function in two population-based cohorts. *PLoS One*. 2017 Mar 2;12(3):e0173078.

115 Wolff J, Varrone S. The methyl xanthines—a new class of goitrogens. *Endocrinology*. 1969 Sep;85(3):410-4.

116 Kim W, Lee J, Ha J, Jo K, Lim D, Lee JM, Chang SA, Kang MI, Kim MH. Association between Sleep Duration and Subclinical Thyroid Dysfunction Based on Nationally Representative Data. *J Clin Med*. 2019 Nov 18;8(11):2010.

117 Tsigos C, Chrousos GP. Hypothalamic-pituitary-adrenal axis, neuroendocrine factors and stress. *J Psychosom Res*. 2002 Oct;53(4):865-71.

118 Kikuchi M, Komuro R, Oka H, Kidani T, Hanaoka A, Koshino Y. Relationship between anxiety and thyroid function in patients with panic disorder. *Prog Neuropsychopharmacol Biol Psychiatry*. 2005 Jan;29(1):77-81.

119 Rivlin RS, Melmon KL. Cortisone-provoked depression of plasma tyrosine concentration: relation to enzyme induction in man. *J Clin Invest*. 1965 Oct;44(10):1690-8.

120 Chikunguwo S, Brethauer S, Nirujogi V, Pitt T, Udomsawangsup S, Chand B, Schauer P. Influence of obesity and surgical weight loss on thyroid hormone levels. *Surg Obes Relat Dis*. 2007 Nov-Dec;3(6):631-5; discussion 635-6.

121 Sami A, Iffekhar MF, Rauf MA, Sher A. Subclinical Hypothyroidism among local adult obese population. *Pak J Med Sci*. 2018 Jul-Aug;34(4):980-983.

122 Zynat J, Li S, Ma Y, Han L, Ma F, Zhang Y, Xing B, Wang X, Guo Y. Impact of Abdominal Obesity on Thyroid Auto-Antibody Positivity: Abdominal Obesity Can Enhance the Risk of Thyroid Autoimmunity in Men. *Int J Endocrinol*. 2020 Mar 13;2020:6816198.

123 Hagoopian K, Chen Y, Simmons Damer K, Soo Hoo R, Bentley T, McDonald RB, Ramsey JL. Caloric restriction influences hydrogen peroxide generation in mitochondrial sub-populations from mouse liver. *J Bioenerg Biomembr*. 2011 Jun;43(3):227-36.

124 Ruhla S, Arafa AM, Osterhoff M, Weickert MO, Mai K, Spranger J, Schöf C, Pfeiffer AF, Möhlig M. Levothyroxine medication is associated with adiposity independent of TSH. *Exp Clin Endocrinol Diabetes*. 2012 Jun;120(6):351-4.

125 Cornelli U, Belcaro G, Recchia M, Finco A. Levothyroxine and lung cancer in females: the importance of oxidative stress. *Reprod Biol Endocrinol*. 2013 Aug 8;11:75.



# References

227 Sariosiek K, Gandhi AV, Saxena S, Kang CV, Chiptynsya GJ, Yeo CJ, Arafat HA. Hypothyroidism in Pancreatic Cancer: Role of Exogenous Thyroid Hormone in Tumor Invasiveness-Preliminary Observations. *J Thyroid Res*. 2016;2016:2454989.

228 Age-Related Eye Disease Study Research Group. Risk factors associated with age-related nuclear and cortical cataract: a case-control study in the Age-Related Eye Disease Study. *AREDS Report No. 5*. *Ophthalmology*. 2001 Aug;108(8):1400-8.

229 Ko YJ, Kim JY, Lee J, Song HJ, Kim JY, Choi NK, Park BJ. Levothyroxine dose and fracture risk associated to the osteoporosis status in elderly women. *J Prev Med Public Health*. 2014 Jan;47(1):36-46.

230 Apostou D, Lucaciu O, Oltean-Dan D, Muresan AD, Moisescu-Pop C, Maxim A, Benea H. The Influence of Thyroid Pathology on Osteoporosis and Fracture Risk: A Review. *Diagnostics (Basel)*. 2020 Mar 7;10(3):149.

231 Berkowitz MR. Resolution of hypothyroidism after correction of somatovisceral reflex dysfunction by resection of the cervical spine. *J Am Osteopath Assoc*. 2015 Jan;115(1):46-9.

232 Ybarra J, Fernandez S. Rapid and reversible alterations in thyroid function tests in dehydrated patients. *Nurs Clin North Am*. 2007 Mar;42(1):127-34, viii-ix.

233 Triggiani V, Tafaro E, Giaguoli VA, Sabbà C, Resta F, Licchelli B, Guastamacchia E. Role of iodine, selenium and other micronutrients in thyroid function and disorders. *Endocr Metab Immune Disord Drug Targets*. 2009 Sep;9(3):277-94.

234 Turker O, Kumanlioglu K, Karapolat I, Dogan I. Selenium treatment in autoimmune thyroiditis: 9-month follow-up with variable doses. *J Endocrinol*. 2006 Jul;190(1):151-6.

235 Ventura M, Melo M, Carrilho F. Selenium and Thyroid Disease: From Pathophysiology to Treatment. *Int J Endocrinol*. 2017;2017:1297658.

236 Kawicka A, Regulska-Ilow B, Regulska-Ilow B. Metabolic disorders and nutritional status in autoimmune thyroid diseases. *Postepy Hig Med Dosw (Online)*. 2015 Jan 2;69:80-90.

237 Wang K, Wei H, Zhang W, Li Z, Ding L, Yu T, Tan L, Liu Y, Liu T, Wang H, Fan Y, Zhang P, Shan Z, Zhu M. Severely low serum magnesium is associated with increased risks of positive anti-thyroglobulin antibody and hypothyroidism: A cross-sectional study. *Sci Rep*. 2018 Jul 2;8(1):9904.

238 Ilnatowicz P, Drywan M, Wator P, Wojcik J. The importance of nutritional factors and dietary management of Hashimoto's thyroiditis. *Ann Agric Environ Med*. 2020 Jun 19;27(2):184-193.

239 Baltaci AK, Mogulkoc R, Belvirani M. Serum levels of calcium, selenium, magnesium, phosphorus, chromium, copper and iron—their relation to zinc in rats with induced hypothyroidism. *Acta Clin Croat*. 2013 Jun;52(2):151-6.

240 Rabbani E, Golgiri F, Janani L, Moradi N, Fallah S, Abiri B, Vafa M. Randomized Study of the Effects of Zinc, Vitamin A, and Magnesium Co-supplementation on Thyroid Function, Oxidative Stress, and hs-CRP in Patients with Hypothyroidism. *Biol Trace Elem Res*. 2021 Jan 7.

241 Hasan HG, Mahmood TJ, Ismail PA. Studies on the Relationship Between Chromium(III) ion and Thyroid Peroxidase Activity in Sera of Patients with Thyroid Dysfunction. *Ibn Al-Haitham Journal For Pure And Applied Science*. 2011, Volume 24, Issue 2, Pages 120-127.

242 Kim MJ, Kim SC, Chung S, Kim S, Yoon JW, Park YJ. Exploring the role of copper and selenium in the maintenance of normal thyroid function among healthy Koreans. *J Trace Elem Med Biol*. 2020 May 24;61:126558.

243 Leung AM, Braverman LE, Pearce EN. History of U.S. iodine fortification and supplementation. *Nutrients*. 2012 Nov 13;4(11):1740-6.

244 Ma W, He X, Braverman L. Iodine Content in Milk Alternatives. *Thyroid*. 2016 Sep;26(9):1308-10.

245 Nazeri P, Norouzi MA, Mirmiran P, Hedayati M, Azizi F. Heating Process in Pasteurization and not in Sterilization Decreases the Iodine Concentration of Milk. *Int J Endocrinol Metab*. 2015 Oct 3;13(4):e27995.

246 <https://ods.od.nih.gov/factsheets/Iodine-HealthProfessional/>

247 <https://ods.od.nih.gov/factsheets/Selenium-HealthProfessional/>

248 Khatiwada S, Gelal B, Baral N, Lamsal M. Association between iron status and thyroid function in Nepalese children. *Thyroid Res*. 2016 Jan 27;9:2.

249 JACOBS FA, FLAA RC, BELK WF. Pyridoxal phosphate requirement for intestinal absorption of L-tyrosine. *J Biol Chem*. 1960 Nov;235:3224-7.

250 Psalms 104:14. King James Version of the Holy Bible.

251 Sharma AK, Basu I, Singh S. Efficacy and Safety of Ashwagandha Root Extract in Subclinical Hypothyroid Patients: A Double-Blind, Randomized Placebo-Controlled Trial. *J Altern Complement Med*. 2018 Mar;24(3):243-248.

252 Panda S, Kar A. Changes in thyroid hormone concentrations after administration of ashwagandha root extract to adult male mice. *J Pharm Pharmacol*. 1998 Sep;50(9):1065-8.

253 Alahmadi AA, Alzahrani AA, Ali SS, Alahmadi BA, Arab RA, El-Shitany NAE. Both *Matricaria chamomilla* and *Metformin* Extract Improved the Function and Histological Structure of Thyroid Gland in Polycystic Ovary Syndrome Rats through Antioxidant Mechanism. *Biomolecules*. 2020 Jan 5;10(1):88.

254 Panda S, Kar A. *Withania somnifera* and *Bauhinia purpurea* in the regulation of circulating thyroid hormone concentrations in female mice. *J Ethnopharmacol*. 1999 Nov 1;67(2):233-9.

255 Zubeldia JM, Nabi HA, Jimenez del Rio M, Genova Y. Exploring new applications for *Rhodiola rosea*: can we improve the quality of life of patients with short-term hypothyroidism induced by hormone withdrawal? *J Med Food*. 2010 Dec;13(6):1287-92.

256 Laurberg P. Forskolin stimulation of thyroid secretion of T4 and T3. *FEBS Lett*. 1984 May 21;170(2):273-6.

257 Panda S, Kar A. *Guggulu* (Comphoria mukul) potentially ameliorates hypothyroidism in female mice. *Phytother Res*. 2005 Jan;19(1):78-80.

258 Andersen S, Noahsen P, Rex KF, Florian-Sørensen HC, Mulvad G. Iodine in Edible Seaweed, Its Absorption, Dietary Use, and Relation to Iodine Nutrition in Arctic People. *J Med Food*. 2019 Apr;22(4):421-426.

259 Ozkulu F, Sekeroglu N, Koca U, Yazici G. Selenium concentrations of selected medicinal and aromatic plants in Turkey. *Nat Prod Commun*. 2011 Oct;6(10):1469-72.

260 He T, Zhao R, Lu Y, Li W, Hou X, Sun Y, Dong M, Chen L. Dual-Directional Immunomodulatory Effects of Corbin Capsule on Autoimmune Thyroid Diseases. *Evid Based Complement Alternat Med*. 2016;2016:1360386.

261 Beer AM, Wiebeltz KR, Schmidt-Gayk H. *Lycopus europaeus* (Gypsypwort): effects on the thyroidal parameters and symptoms associated with thyroid function. *Phytomedicine*. 2008 Jan;15(1-2):16-22.

262 Ciloglu F, Peker I, Pehlivan A, Karacabey K, Ilhan N, Saygin O, Ozmerdivenli R. Exercise intensity and its effects on thyroid hormones. *Neuro Endocrinol Lett*. 2005 Dec;26(6):830-4.

263 Ravaglia G, Forti P, Maioli F, Prattelli L, Vettori C, Bastagli L, Mariani E, Facchini A, Cucinotta D. Regular moderate intensity physical activity and blood concentrations of endogenous anabolic hormones and thyroid hormones in aging men. *Mech Ageing Dev*. 2001 Feb;122(2):191-203.

264 Elisse V, Galliano MF, Redoules D, Espinosa E. Effect of thermal spring water on human dendritic cell inflammatory response. *J Inflamm Res*. 2019 Jul 22;12:181-194.

265 Howell CA, Sandeman SR, Phillips GJ, Mikhalovskiy SV, Tennison SR, Rawlinson AP, Kozynchenko OP. Nanoporous activated carbon beads and monolithic columns as effective hemoadsorbents for inflammatory cytokines. *Int J Artif Organs*. 2013 Oct 3;36(9):624-32.

266 Bellan M, Andreoli L, Mele C, Sainaghi RP, Rigamonti C, Piantoni S, De Benedetti C, Aimagretti G, Pirisi M, Marzullo P. Pathophysiological Role and Therapeutic Implications of Vitamin D in Autoimmunity: Focus on Chronic Autoimmune Diseases. *Nutrients*. 2020 Mar 17;12(3):789.

267 Maciejewski A, Wójcicka M, Roszak M, Losy J, Łączka K. Assessment of Vitamin D Level in Autoimmune Thyroiditis Patients and a Control Group in the Polish Population. *Adv Clin Exp Med*. 2015 Sep-Oct;24(5):801-6.

268 Kim D. Low vitamin D status is associated with hypothyroid Hashimoto's thyroiditis. *Hormones (Athens)*. 2016 Jul;15(3):385-393.

269 Nettore IC, Albano L, Ungaro P, Colao A, Macchia PE. Sunshine vitamin and thyroid. *Rev Endocr Metab Disord*. 2017 Sep;18(3):347-354.

270 Kmieć P, Minkiewicz I, Rola R, Sworczak K, Żmijewski MA, Kowalski K. Vitamin D status including 3-epi-25(OH)D3 among adult patients with thyroid disorders during summer months. *Endokrynol Pol*. 2018;69(6):653-660.

271 Daniel PM, Pratt OE, Roitt IM, Torrigiani G. The release of thyroglobulin from the thyroid gland into thyroid lymphatics; the identification of thyroglobulin in the thyroid lymph and in the blood of monkeys by physical and immunological methods and its estimation by radioimmunoassay. *Immunology*. 1967 May;12(5):489-504.

272 Danan HA, Ducharne MB. Physiological responses of the human extremities to cold water immersion. *Arctic Med Res*. 1991;50 Suppl 6:115-21. PMID: 1811564.

## Chapter 12 – References

1 Targeting Arthritis: Reducing Disability for 43 Million Americans: At A Glance 2005. [http://www.cdc.gov/nccdphp/aag/aag\\_arthritis.htm](http://www.cdc.gov/nccdphp/aag/aag_arthritis.htm).

2 Malinin T; Ouellette EA. Articular cartilage nutrition is mediated by subchondral bone: a long-term autograph study in baboons. *Osteoarthritis Cartilage* 2000 Nov;8(6):483-91.

3 BUCKWALTER, J. A., MANKIN, H. J. Articular Cartilage. Part I: Tissue Design and Chondrocyte-Matrix Interactions. *J Bone Joint Surg (Am J)* 1997; 79-A: 600-11.

4 O'Hara BP, Urban JP, Maroudas A. Influence of cyclic loading on the nutrition of articular cartilage. *Ann Rheum Dis* 1990;49(7):536-9.

5 Milentijevic D, Torzilli PA. Influence of stress rate on water loss, matrix deformation and chondrocyte viability in impacted articular cartilage. *J Biomech*. 2005 Mar;38(3):493-502.

6 Dawson J, Juszcak E, Thorogood M, Marks SA, Dodd C, Fitzpatrick R. An investigation of risk factors for symptomatic osteoarthritis of the knee in women using a life course approach. *J Epidemiol Community Health*. 2003 Oct;57(10):823-30.

7 E Aegerter and JA Kirkpatrick, Jr. "Orthopedic Diseases," 4th Ed., W. B. Sanders Co., 1975, p. 639.

8 Cicha I, Suzuki Y, Tateishi N; Maeda N Effects of dietary triglycerides on rheological properties of human red blood cells (abstract). *Clin Hemorheol Microcirc* 2004;30(3-4):301-5.

9 Mas JL, Boussier MG, Lacombe C, Agar N Hyperlipidemic dementia. *Neurology* 1985 Sep;35(9):1385-7.

10 McCarty MF. Favorable impact of a vegan diet with exercise on hemorheology: implications for control of diabetic neuropathy. *Med Hypotheses*. 2002 Jun;58(6):476-86.

11 Ernst E, Pleitsch L, Matrai A, et al. Blood rheology in vegetarians. *Br J Nutr*. 1986 Nov;56(3):555-60.

12 Simopoulos AP. Essential fatty acids in health and chronic disease. *Am J Clin Nutr*. 2004 Mar;79(3):523-4.

13 Poggi M, Palareti G. Biologically active fatty acids in health and chronic disease. *Am J Clin Nutr*. 2004 Mar;79(3):523-4.

14 Newby PK, Tucker KL, Wolk A. Risk of overweight and obesity among semivegetarian, lactovegetarian, and vegan women. *Am J Clin Nutr*. 2005 Jun;81(6):1267-74.

15 Vlastos GA, Tangney CS, Rosenson RS. Effects of hydration on blood rheology. *Clin Hemorheol Microcirc*. 2003;28(1):41-9.

16 Pignatelli B, Ricci R, Santini M. Psychological stress and sudden death. *Ital Heart J Suppl*. 2002 Oct;3(10):1011-21.

17 Matsubara T; Velvart M; Odermatt BF The thickening of basement membrane in synovial capillaries in rheumatoid arthritis. *Rheumatol Int* 1983;3(2):57-64.

18 Pattison DJ, Symmons DP; Lunt M; et al. Dietary risk factors for the development of inflammatory polyarthritis: evidence for a role of high level of red meat consumption. *Arthritis Rheum* 2004 Dec;50(12):3804-12.

19 Choi HK. Dietary risk factors for rheumatic diseases (In Process Citation ) *Curr Opin Rheumatol* 2005 Mar;17(2):141-6.

20 Wilhelmi G. Potential effects of nutrition including additives on healthy and arthritic joints. I. Basic dietary constituents *Z Rheumatol* 1993 May-Jun;52(3):174-9.

21 Parke AL, Huggs GR. Rheumatoid arthritis and food: a case study. *Br Med J (Clin Res Ed)* 1981 Jun 20;282(6281):2027-9.

22 Zhang X, Dong F, Ren J; et al. High dietary fat induces NADPH oxidase-associated oxidative stress and inflammation in rat cerebral cortex. *Exp Neurol* 2005 Feb;191(2):318-25.

23 Hinton DM; Myers MJ; Raybourne RA. et al. Immunotoxicity of aflatoxin B1 in rats: effects on lymphocytes and the inflammatory response in a chronic intermittent dosing study. *Toxicol Sci* 2003 Jun;73(2):362-77.

24 Danao-Camara TC, Shintani TT. The dietary treatment of inflammatory arthritis: case reports and review of the literature. *Hawaii Med J*. 1999 May;58(5):126-31.

25 Middleton Jr JF. Effect of plant flavonoids on immune and inflammatory cell function. *Adv Exp Med Biol*. 1998;439:175-82.

26 Huang Y, Cao S, Nagamani M; et al. Decreased circulating levels of tumor necrosis factor-alpha in postmenopausal women during consumption of soy-containing isoflavones. *J Clin Endocrinol Metab*. 2005 Jul;90(7):3956-62. Epub 2005 Apr 19.

27 Pischon T, Hankinson SE, Hotamisligil GS; et al. Habitual dietary intake of n-3 and n-6 fatty acids in relation to inflammatory markers among US men and women. *Circulation*. 2003 Jul 15;108(2):155-60. Epub 2003 Jun 23.

28 James MJ, Gibson RA, Cleland LG. Dietary polyunsaturated fatty acids and inflammatory mediator production. *Am J Clin Nutr*. 2000 Jan;71(1 Suppl):343S-8S.

29 Alaron de la Lastra C, Barranco MD, Motiva V, et al. Mediterranean diet and health: biological importance of olive oil. *Curr Pharm Des*. 2001 Jul;7(10):933-50.

30 Visioli F, Belozota S, Galli C. Oleuropein, the bitter principle of olives, enhances nitric oxide production by mouse macrophages. *Life Sci*. 1998;62(6):541-6.

31 Brodmann M; Lischning U; Lueger A; et al. The effect of caffeine on peripheral vascular resistance in isolated perfused guinea pig hind limbs. *J Cardiovasc Pharmacol* 2003 Oct;42(4):506-10.

32 Hasenfraz M; Battig K Action profiles of smoking and caffeine: Streop effect, EEG, and peripheral physiology. *Pharmacol Biochem Behav* 1992 May;42(1):155-61.

33 Uematsu Y, Matuzaki H, Iwahashi M. Effects of nicotine on the intervertebral disc: an experimental study in rabbits. *J Orthop Sci*. 2001;6(2):177-82.

34 Miao FJ; Helms C; Benowitz NL; et al. Chronically administered nicotine attenuates bradykinin-induced plasma extravasation and aggravates arthritis-induced joint injury in the rat. *Neuroscience* 1992 Dec;51(3):649-55.

35 Lin CL, Fang TC, Gueng MK. Vascular dilatory functions of ovo-lactovegetarians compared with omnivores. *Atherosclerosis*. 2001 Sep;158(1):247-51.

36 Suganuma H, Inakuma T. Protective effect of dietary tomato against endothelial dysfunction in hypercholesterolemic mice. *Biosci Biotechnol Biochem*. 1999 Jan;63(1):78-82.

37 Ryan M, McInerney D, Owens D, et al. Diabetes and the Mediterranean diet: a beneficial effect of oleic acid on insulin sensitivity, adipocyte glucose transport and endothelium-dependent vasoreactivity. *QJM*. 2000 Feb;93(2):85-91.

38 Vogel RA, Corretti MC, Plotnick GD. The postprandial effect of components of the Mediterranean diet on endothelial function. *J Am Coll Cardiol*. 2000 Nov 1;36(5):1455-60.

39 Sato J, O'Brien T, Katuzis ZS, et al. Dietary antioxidants preserve endothelium dependent vasorelaxation in overfed rats. *Atherosclerosis*. 2002 Apr;161(2):327-33.

40 Ribeiro Jorge PA, Neyra CL, Ozaki RM, et al. Improvement in the endothelium-dependent relaxation in hypercholesterolemic rabbits treated with vitamin E. *Atherosclerosis*. 1998 Oct;140(2):333-9.

41 Browning JD, Reeves GP, O'Dell BL. Zinc deficiency in rats reduces the vasodilation response to bradykinin and prostacyclin. *J Nutr*. 1987 Mar;117(3):490-5.

42 Schuschke DA, Saari JT, Miller FN. A role for dietary copper in nitric oxide-mediated vasodilation. *Microcirculation*. 1995 Dec;2(4):371-6.

43 Lind L. Lipids and endothelium-dependent vasodilation—a review. *Lipids*. 2002Jan;37(1):1-15.

44 Sofola O, Krull A, Myers D, et al. High-salt diet and responses of the pressurized mesenteric artery of the dog to noradrenaline and acetylcholine. *Clin Exp Pharmacol Physiol*. 2004 Oct;31(10):696-9.

45 Naderali EK, Williams G. Effects of short-term feeding of a highly palatable diet on vascular reactivity in rats. *Eur J Clin Invest*. 2001 Dec;31(12):1024-8.

46 Akbari CM, Saouaf R, Barnhill DF, et al. Endothelium-dependent vasodilatation is impaired in both microcirculation and macrocirculation during acute hyperglycemia. *J Vasc Surg*. 1998 Oct;28(4):687-94.

47 Sasaki S, Higashi Y, Nakagawa K, et al. A low-calorie diet improves endothelium-dependent vasodilation in obese patients with essential hypertension. *Am J Hypertens*. 2002 Apr;15(4 Pt 1):302-9.

48 Kelsay LJ, Behall KM; Prather ES Effect of fiber from fruits and vegetables on metabolic responses of human subjects I. Bowel transit time, number of defecations, fecal weight, urinary excretions of energy and nitrogen and apparent digestibilities of energy, nitrogen, and fat. *Am J Clin Nutr* 1978 Jul;31(7):1149-53.

49 Erbil Y, Berber E, Sevin R, et al. The effect of intestinal transit time on bacterial translocation. *Acta Chir Belg*. 1998 Dec;98(6):245-9.

50 Wigg AJ; Roberts-Thomson IC; Dymock RB, et al. The role of small intestinal bacterial overgrowth, intestinal permeability, endotoxaemia, and tumour necrosis factor alpha in the pathogenesis of non-alcoholic steatohepatitis. *Gut* 2001 Feb;48(2):206-11.

51 Yoshikawa T, Furukawa Y, Murakami M, et al. Experimental model of disseminated intravascular coagulation induced by sustained infusion of endotoxin. *Res Exp Med (Berl)*. 1981;179(3):223-8.

52 Levi M, van der Poll T. Coagulation in sepsis: all bugs bite equally (In Process Citation ) *Crit Care* 2004 Apr;8(2):99-100.

53 Grandjeu U, Grimminger F. Endothelial responses to bacterial toxins in sepsis. *Crit Rev Immunol*. 2003;23(4):267-99.

54 Bauer TM; Schwacha H; Steinbrucker B; et al. Small intestinal bacterial overgrowth in human cirrhosis is associated with systemic endotoxaemia. *Am J Gastroenterol* 2002 Sep;97(9):2364-70.

55 Lichtman SN; Wang J; Sartor RB, et al. Reactivation of arthritis induced by small bowel bacterial overgrowth in rats: role of cytokines, bacteria, and bacterial polymers. *Infect Immun* 1995 Jun;63(6):2295-301.

56 Henriksson AE; Blomquist L; Nord CE, et al. Small intestinal bacterial overgrowth in patients with rheumatoid arthritis. *Ann Rheum Dis* 1993 Jul;52(7):503-10.

57 Roen PB. The evening meal and atherosclerosis. *J Am Geriatr Soc* 1978 Jun;26(6):284-5.

58 Goglier H. Intestinal transit time in Togo (Western Africa) and Germany. *Z Gastroenterol*. 1976 Apr;14(2):280-4.

59 Spiller GA, Story JA, Wong LG, et al. Effect of increasing levels of hard wheat fiber on fecal weight, minerals and steroids and gastrointestinal transit time in healthy young women. *J Nutr*. 1986 May;116(5):778-85.

60 Spiller GA, Story JA, Lodicis TA, et al. Effect of sun-dried raisins on bile acid excretion, intestinal transit time, and fecal weight: a dose-response study. *J Med Food*. 2003 Summer;(6):87-91.

61 Chaudhary HR. Study of intestinal transit time in patient with anxiety and depression. *J Assoc Physicians India*. 1989 Feb;37(2):156-7.

62 RW Wissler; In "Heart Disease: A Textbook of Cardiovascular Medicine," 2nd Ed., Editor E Braunwald, W.B. Saunders Co., 1984, pp. 1183-1204.

63 Armstrong ML, Megan MB. Arterial fibrous proteins in cynomolgus monkeys after atherogenic and regression diets. *Circ Res*. 1975 Feb;36(2):256-61.

64 Leonaruzzi G, Sottero B, Poli G. Oxidized products of cholesterol: dietary and metabolic origin, and proatherosclerotic effects (review). *J Nutr Biochem*. 2002 Dec;13(12):700-710.

65 Raith K, Brenner C, Farwanah H, et al. A new LC/APCI-MS method for the determination of cholesterol oxidation products in food. *J Chromatogr A*. 2005 Mar 4;1067(1-2):207-11.

66 Valenzuela A, Sanhueza J, Nieto S. Cholesterol oxidation: health hazard and the role of antioxidants in prevention. *Biol Res*. 2003;36(3-4):291-302.

67 Conchillo A, Ansorena D, Astiasaran I. Combined effect of cooking (grilling and roasting) and chilling storage (with and without air) on lipid and cholesterol oxidation in chicken breast. *J Food Prot*. 2003 May;66(5):840-6.

68 Aguilu MB, Mandarim-de-Lacerda CA. Aorta wall quantitative alterations due to different long-term high-fat diet in rats. *Food Chem Toxicol*. 2003 Oct;41(10):1391-7.

69 Davenport WD Jr, Ball CR. Diet-induced atrial endothelial damage—a scanning electron-microscopic study. *Atherosclerosis*. 1981 Oct;40(2):145-52.

70 Gomez-Alonso S, Fregapano G, Salvador MD, et al. Changes in phenolic composition and antioxidant activity of virgin olive oil during frying. *J Agric Food Chem*. 2003 Jan 29;51(3):667-72.

# Blue Print for Health and Healing

<sup>71</sup> Lopez-Garcia E, Schulze MB, Meigs JB, et al. Consumption of trans fatty acids is related to plasma biomarkers of inflammation and endothelial dysfunction. *J Nutr*. 2005 Mar;135(3):562-6.

<sup>72</sup> Mozaffarian D, Pischon T, Hankinson SE, et al. Dietary intake of trans fatty acids and systemic inflammation in women. *Am J Clin Nutr*. 2004 Apr;79(4):606-12.

<sup>73</sup> Lopez-Garcia E, Hu FB. Nutrition and the endothelium. *Curr Diab Rep*. 2004 Aug;4(4):253-9.

<sup>74</sup> Zock PL, Urgert R, Hulshof PJ, et al. Dietary trans-fatty acids: a risk factor for coronary disease. *Ned Tijdschr Geneesk*. 1998 Jul 25;142(30):1701-4.

<sup>75</sup> Simon G, Jacelek M, Illyes G. Altered structure and distensibility of arteries in salt-fed rats. *J Hypertens*. 2003 Jan;21(1):137-43.

<sup>76</sup> Esselstyn CB Jr. Resolving the Coronary Artery Disease Epidemic Through Plant-Based Nutrition. *Prev Cardiol*. 2001 Autumn;4(4):171-177.

<sup>77</sup> Nestle M. Food lobbies, the food pyramid, and U.S. nutrition policy. *Int J Health Serv*. 1993;23(3):483-96.

<sup>78</sup> Arjmandi BH, Khalil DA, Lucas EA, et al. Soy protein may alleviate osteoarthritis symptoms. *Phytomedicine*. 2004 Nov;11(7-8):567-75.

## Chapter 13 – References

<sup>1</sup> <https://www.boneandjointburden.org/fourth-edition/fiac0/burden-back-pain>

<sup>2</sup> From the Centers for Disease Control and Prevention. Prevalence of disabilities and associated health conditions among adults—United States, 1999. *JAMA*. 2001 Mar 28;285(12):1571-2.

<sup>3</sup> Stewart WF, Ricci JA, Chee E, Morganstein D, Lipton R. Lost productive time and cost due to common pain conditions in the US workforce. *JAMA*. 2003 Nov 12;290(18):2443-54.

<sup>4</sup> Ricci JA, Stewart WF, Chee E, Leotta C, Foley K, Hochberg MC. Back pain exacerbations and lost productive time costs in United States workers. *Spine (Phila Pa 1976)*. 2006 Dec 15;31(26):3052-60.

<sup>5</sup> Guo HR, Tanaka S, Halperin WE, Cameron LL. Back pain prevalence in US industry and estimates of lost workdays. *Am J Public Health*. 1999 Jul;89(7):1029-35.

<sup>6</sup> Katz JN. Lumbar disc disorders and low-back pain: socioeconomic factors and consequences. *J Bone Joint Surg Am*. 2006 Apr;88 Suppl 2:21-4.

<sup>7</sup> Freburger JK, Holmes GM, Agans RP, et al. The Rising Prevalence of Chronic Low Back Pain. *Arch Intern Med*. 2009;169(3):251-258.

<sup>8</sup> Porter JM, Gyi DE. The prevalence of musculoskeletal troubles among car drivers. *Occup Med (Lond)*. 2002 Feb;52(1):4-12.

<sup>9</sup> Barrero LH, Cifuentes M, Rodriguez AC, Rey-Becerra E, Johnson PW, Marin LS, Piedrahita H, Dennerlein JT. Whole-body vibration and back pain-related work absence among heavy equipment vehicle mining operators. *Occup Environ Med*. 2019 Aug;76(8):554-559.

<sup>10</sup> Gotfryd AO, Valesin Filho ES, Viola DC, Lenza M, Silva JA, Emi AS, Tomiozero R, Piccinato Cde A, Antonio E, Ferretti M. Analysis of epidemiology, lifestyle, and psychosocial factors in patients with back pain admitted to an orthopedic emergency unit. *Einstein (Sao Paulo)*. 2015 Apr-Jun;13(2):243-8.

<sup>11</sup> Kim SD. Association between sitting time and orthopedic conditions in Korean older adults. *Geriatr Nurs*. 2019 Nov-Dec;40(6):629-633.

<sup>12</sup> Green BN, Johnson CD, Snodgrass J, Smith M, Dunn AS. Association Between Smoking and Back Pain in a Cross-Section of Adult Americans. *Cureus*. 2016 Sep 26;8(9):e806.

<sup>13</sup> Heuch I, Heuch I, Hagen K, Storheim K, Zwart JA. Associations between the number of children, age at childbirth and prevalence of chronic low back pain: the Nord-Trøndelag Health Study. *BMC Public Health*. 2020 Oct 15;20(1):1556.

<sup>14</sup> Siddiqui AS, Javed S, Abbasi S, Baig T, Afshan G. Association Between Low Back Pain and Body Mass Index in Pakistani Population: Analysis of the Software Bank Data. *Cureus*. 2022 Mar 30;14(3):e23645.

<sup>15</sup> Sørensen IG, Jacobsen P, Gyntelberg F, Suadicani P. Occupational and other predictors of herniated lumbar disc disease—a 33-year follow-up in the Copenhagen male study. *Spine (Phila Pa 1976)*. 2011 Sep 13;36(19):1541-6.

<sup>16</sup> Sørensen IG, Jacobsen P, Gyntelberg F, Suadicani P. Occupational and other predictors of herniated lumbar disc disease—a 33-year follow-up in the Copenhagen male study. *Spine (Phila Pa 1976)*. 2011 Sep 13;36(19):1541-6.

<sup>17</sup> Andias R, Silva AG. Impact of Sex, Sleep, Symptoms of Central Sensitization, and Psychosocial Factors in Adolescents with Chronic Musculoskeletal Pain: An Exploratory Study. *Pain Med*. 2022 Sep 30;23(10):1777-1792.

<sup>18</sup> Hsiang SM, Brogmus GE, Courtney TK. Low back pain (LBP) and lifting technique—a review. *Int J Ind Ergon*. 1997;19:59-74.

<sup>19</sup> Meziat Filho N, Coutinho ES, Azevedo e Silva G. Association between home posture habits and low back pain in high school adolescents. *Eur Spine J*. 2015 Mar;24(3):425-33.

<sup>20</sup> Andersen LL, Vinstrup J, Sundstrup E, Skovlund SV, Villadsen E, Thorsen SV. Combined ergonomic exposures and development of musculoskeletal pain in the general working population: A prospective cohort study. *Scand J Work Environ Health*. 2021 May 1;47(4):287-295.

<sup>21</sup> Tatum M, Mkoba EM, Suzuki Y, Kajiwara Y, Zaidan H, Harada K, Bitoh T, Nishida Y, Nakai K, Shimoura K, Aoyama T. Risk factors of low back pain and the relationship with sagittal vertebral alignment in Tanzania. *BMC Musculoskelet Disord*. 2019 Dec 4;20(1):584.

<sup>22</sup> Wang YXJ, Wu AM, Ruiz Santiago F, Nogueira-Barbosa MH. Informed appropriate imaging for low back pain management: A narrative review. *J Orthop Translat*. 2017 Aug 27;15:21-34.

<sup>23</sup> Bento TPF, Cornelio GP, Perrucini PO, Simeão SFAP, de Conti MHS, de Vitta A. Low back pain in adolescents and association with sociodemographic factors, electronic devices, physical activity and mental health. *J Pediatr (Rio J)*. 2020 Nov-Dec;96(6):717-724.

<sup>24</sup> Brox JI, Nygaard OP, Holm I, Keller A, Ingebrigtsen T, Reikerås O. Four-year follow-up of surgical versus non-surgical therapy for chronic low back pain. *Ann Rheum Dis*. 2010 Sep;69(9):1643-8.

<sup>25</sup> Grunhagen T, Wilde G, Soukane DM, Shirazi-Adl SA, Urban JP. Nutrient supply and intervertebral disc metabolism. *J Bone Joint Surg Am*. 2006 Apr;88 Suppl 2:30-5.

<sup>26</sup> Urban JP, Smith S, Fairbank JC. Nutrition of the intervertebral disc. *Spine (Phila Pa 1976)*. 2004 Dec 1;29(23):2700-9.

<sup>27</sup> Bibby SR, Urban JP. Effect of nutrient deprivation on the viability of intervertebral disc cells. *Eur Spine J*. 2004 Dec;13(8):695-701.

<sup>28</sup> Wilson Zingg R, Kendall R. Obesity, Vascular Disease, and Lumbar Disk Degeneration: Associations of Comorbidities in Low Back Pain. *PM R*. 2017 Apr;9(4):398-402.

<sup>29</sup> Kauppila LI. Atherosclerosis and disc degeneration/low-back pain—a systematic review. *Eur J Vasc Endovasc Surg*. 2009 Jun;37(6):661-70.

<sup>30</sup> Beckworth WJ, Holbrook JF, Foster LG, Ward LA, Welle JR. Atherosclerotic Disease and its Relationship to Lumbar Degenerative Disk Disease, Facet Arthritis, and Stenosis With Computed Tomography Angiography. *PM R*. 2018 Apr;10(4):331-337.

<sup>31</sup> Kauppila LI, Mikkonen R, Mankinen P, Pelto-Vasenius K, Mäenpää I. MR aortography and serum cholesterol levels in patients with long-term nonspecific lower back pain. *Spine (Phila Pa 1976)*. 2004 Oct 1;29(19):2147-52.

<sup>32</sup> Jayson MI. Vascular damage, fibrosis, and chronic inflammation in mechanical back pain problems. *Semin Arthritis Rheum*. 1989 May;18(4 Suppl 2):73-6.

<sup>33</sup> Hughes SP, Freemont AJ, Hukins DW, McGregor AH, Roberts S. The pathogenesis of degeneration of the intervertebral disc and emerging therapies in the management of back pain. *J Bone Joint Surg Br*. 2012 Oct;94(10):1298-304.

<sup>34</sup> Bruckner FE, Greco A, Leung AW. 'Benign thoracic pain' syndrome: role of magnetic resonance imaging in the detection and localization of thoracic disc disease. *J R Soc Med*. 1989 Feb;82(2):81-3.

<sup>35</sup> Savka MN, Chevront SN, Carter R 3rd. Human water needs. *Nutr Rev*. 2005 Jun;63(6 Pt 2):S30-9.

<sup>36</sup> Muñoz CX, Bergeron MF. Characterizing Hydration Practices in Healthy Young Recreationally Active Adults—Is There Utility in First Morning Urine Sampling? *Int J Sport Nutr Exerc Metab*. 2023 May 24:1-10.

<sup>37</sup> McKenzie AL, Muñoz CX, Ellis LA, Perrier ET, Guellinckx I, Klein A, Kavouas SA, Armstrong LE. Urine color as an indicator of urine concentration in pregnant and lactating women. *Eur J Nutr*. 2017 Feb;56(1):355-362.

<sup>38</sup> Rodacki AL, Fowler NE, Provensi CL, Rodacki Cde L, Dezan VH. Body mass as a factor in stature change. *Clin Biomech (Bristol, Avon)*. 2005 Oct;20(8):799-805.

<sup>39</sup> Urquhart MD, Berry P, Wluka AE, Strauss BJ, Wang Y, Proietto J, Jones G, Dixon JB, Cicuttini FM. 2011 Young Investigator Award winner: Increased fat mass is associated with high levels of low back pain intensity and disability. *Spine (Phila Pa 1976)*. 2011 Jul 15;36(16):1320-5.

<sup>40</sup> Sheng B, Feng C, Zhang D, Spitter H, Shi L. Associations between Obesity and Spinal Diseases: A Medical Expenditure Panel Study Analysis. *Int J Environ Res Public Health*. 2017 Feb 13;14(2):183. doi: 10.3390/ijerph14020183. PMID: 28208824; PMCID: PMC5334737.

<sup>41</sup> Wolover TMS, Rahm M, Dioum EH, Jenkins AL, Ezatagha A, Campbell JE, Chu Y. Effect of Oat β-Glucan on Affective and Physical Feeling States in Healthy Adults: Evidence for Reduced Headache, Fatigue, Anxiety and Limb/Joint Pains. *Nutrients*. 2021 May 1;13(5):1534.

<sup>42</sup> Cicha I, Suzuki Y, Tateishi N, Maeda N. Effects of dietary triglycerides on rheological properties of human red blood cells (abstract). *Clin Hemorheol Microcirc*. 2004;30(3-4):301-5.

<sup>43</sup> Candaloros H, Muller S, Ziegler O, Donner M, Drouin P. Role of albumin glycation on the erythrocyte aggregation: an in vitro study. *Diabet Med*. 1996 Jul;13(7):646-50.

<sup>44</sup> Leino-Arjas P, Kauppila L, Kaila-Kangas L, Shiri R, Heistaro S, Heliövaara M. Serum lipids in relation to scintigraphy among Finns. *Atherosclerosis*. 2008 Mar;197(1):43-9.

<sup>45</sup> Longo UG, Denaro L, Spiezia F, Forriol F, Maffulli N, Denaro V. Symptomatic disc herniation and serum lipid levels. *Eur Spine J*. 2011 Oct;20(10):1658-62.

<sup>46</sup> Pountain GD, Keegan AL, Jayson MI. Impaired fibrinolytic activity in defined chronic back pain syndromes. *Spine (Phila Pa 1976)*. 1987 Mar;12(2):83-6.

<sup>47</sup> Jayson MI, Keegan A, Million R, Tomlinson I. A fibrinolytic defect in chronic back pain syndromes. *Lancet*. 1984 Nov 24;2(8413):1186-7.

<sup>48</sup> Devroede G, Girard G, Bouchoucha M, Roy T, Black R, Camerlain M, Pinard G, Schang JC, Arhan P. Idiopathic constipation by colonic dysfunction. Relationship with personality and anxiety. *Dig Dis Sci*. 1989 Sep;34(9):1428-33.

<sup>49</sup> Moezi P, Salehi A, Molavi H, Poustchi H, Gandomkar A, Imanieh MH, Malekzadeh R. Prevalence of Chronic Constipation and Its Associated Factors in Pars Cohort Study: A Study of 9000 Adults in Southern Iran. *Middle East J Dig Dis*. 2018 Apr;10(2):75-83.

<sup>50</sup> Chun J. A patient presenting with abdominal pain radiating to the back. *Intest Res*. 2016 Jul;14(3):289-91.

<sup>51</sup> Dekker Nitert M, Mousa A, Barrett HL, Naderpoor N, de Courten B. Altered Gut Microbiota Composition Is Associated With Back Pain in Overweight and Obese Individuals. *Front Endocrinol (Lausanne)*. 2020 Sep 2;11:605.

<sup>52</sup> Gaisbauer M, Langosch A. Raw food and immunity. *Fortschr Med*. 1990 Jun 10;108(17):338-40.

<sup>53</sup> Rauma AL, Törönen R, Hänninen O, Verhagen H, Mykkänen H. Antioxidant status in long-term adherents to a strict uncooked vegan diet. *Am J Clin Nutr*. 1995 Dec;62(6):1221-7.

<sup>54</sup> Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol*. 1960 Jan;198:217-20.

<sup>55</sup> NaPier Z, Kanim LEA, Arabi Y, Salehi K, Sears B, Perry M, Kim S, Sheyn D, Bae HW, Glaeser JD. Omega-3 Fatty Acid Supplementation Reduces Intervertebral Disc Degeneration. *Med Sci Monit*. 2019 Dec 14;25:e9531-9537.

<sup>56</sup> Peivu Li, Qi Zhang, Daohong Zhang, Di Guan, Xiaoxia, Ding Xuefen Liu, Sufang Fang, Xiupin Wang and Wen Zhang (2011). *Aflatoxin Measurement and Analysis, Aflatoxins - Detection, Measurement and Control*, Dr Irineo Torres-Pacheco (Ed.), ISBN: 978-953-307-711-6, In Tech, Available from: <http://www.intechopen.com/books/aflatoxins-detection-measurement-and-control/aflatoxin-measurement-and-analysis>

<sup>57</sup> Kim YK, Koh E, Chung HJ, Kwon H. Determination of ethyl carbamate in some fermented Korean foods and beverages. *Food Addit Contam*. 2000 Jun;17(6):469-75.

<sup>58</sup> Hinton DM, Myers MJ, Raybourne RA, Francke-Carroll S, Sotomayor RE, Shaddock J, Warbritton A, Chou MW. Immunotoxicity of aflatoxin B1 in rats: effects on lymphocytes and the inflammatory response in a chronic intermittent dosing study. *Toxicol Sci*. 2003 Jun;73(2):362-77.

<sup>59</sup> Roy RN, Russell RI. Crohn's disease & aflatoxins. *J R Soc Health*. 1992 Dec;112(6):277-9.

<sup>60</sup> A case-control study of ulcerative colitis in relation to dietary and other factors in Japan. The Epidemiology Group of the Research Committee of Inflammatory Bowel Disease in Japan. *J Gastroenterol*. 1995 Nov;30 Suppl 8:9-12.

<sup>61</sup> White, E. G. (1987). *Manuscript Releases, vol. 2* [Nos. 97-161]. Silver Spring, MD: Ellen G. White Estate. P. 143.

<sup>62</sup> AlQuaiz A, Albugami M, Kazi A, Alshobaili F, Habib F, Gold EB. Dietary, Psychological and Lifestyle Factors Associated with Premenstrual Symptoms. *Int J Womens Health*. 2022 Dec 14;14(17):1709-1722.

<sup>63</sup> Fujihira K, Hamada Y, Yanaoka T, Yamamoto R, Suzuki K, Miyashita M. The effects of water temperature on gastric motility and energy intake in healthy young men. *Eur J Nutr*. 2020 Feb;59(1):103-109.

<sup>64</sup> Kirsch Micheletti J, Bláfoss R, Sundstrup E, Bay H, Pastré CM, Andersen LL. Association between lifestyle and musculoskeletal pain: cross-sectional study among 10,000 adults from the general working population. *BMC Musculoskelet Disord*. 2019 Dec 17;20(1):609.

<sup>65</sup> Vinstrup J, Jakobsen MD, Andersen LL. Poor Sleep Is a Risk Factor for Low-Back Pain among Healthcare Workers: Prospective Cohort Study. *Int J Environ Res Public Health*. 2020 Feb 5;17(3):996.

<sup>66</sup> Campanini MZ, González AD, Andrade SM, Giroto E, Cabrera MAS, Guidoni CM, Araujo PCA, Mesas AE. Bidirectional associations between chronic low back pain and sleep quality: A cohort study with schoolteachers. *Physiol Behav*. 2022 Oct 1;254:113880.

<sup>67</sup> Genesis 1:29; 3:18 taken from the Holy Bible, New International Version®, NIV®. Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.™ Used by permission of Zondervan. All rights reserved worldwide.

<sup>68</sup> Ahn S, Song R. Bone mineral density and perceived menopausal symptoms: factors influencing low back pain in postmenopausal women. *J Adv Nurs*. 2009 Jun;65(6):1228-36.

<sup>69</sup> Citko A, Górski S, Marciniowicz L, Górska A. Sedentary Lifestyle and Nonspecific Low Back Pain in Medical Personnel in North-East Poland. *Biomed Res Int*. 2018 Sep 9;2018:1965807.

<sup>70</sup> Porter SE, Hanley EN Jr. The musculoskeletal effects of smoking. *J Am Acad Orthop Surg*. 2001 Jan-Feb;9(1):9-17.

<sup>71</sup> Malińska M, Bugajska J, Bartuzi P. Occupational and non-occupational risk factors for neck and lower back pain among computer workers: a cross-sectional study. *Int J Occup Saf Ergon*. 2021 Dec;27(4):1108-1115.

<sup>72</sup> Cook CE, Taylor J, Wright A, Milosavljevic S, Goode A, Whitford M. Risk factors for first time incidence sciatica: a systematic review. *Physiother Res Int*. 2014 Jun;19(2):65-78.

<sup>73</sup> Raspe A, Matthis C, Héon-Klin V, Raspe H. Chronische Rückenschmerzen: Mehr als Schmerzen im Rücken. Ergebnisse eines regionalen Surveys unter Versicherten einer Landesversicherungsanstalt [Chronic back pain: more than pain in the back. Findings of a regional survey among insureds of a workers pension insurance fund]. *Rehabilitation (Stuttg)*. 2003 Aug;42(4):195-203.

<sup>74</sup> Vinstrup J, Jakobsen MD, Andersen LL. Perceived Stress and Low-Back Pain Among Healthcare Workers: A Multi-Center Prospective Cohort Study. *Front Public Health*. 2020 Aug 11;8:297.

<sup>75</sup> Vinstrup J, Jakobsen MD, Andersen LL. Perceived Stress and Low-Back Pain Among Healthcare Workers: A Multi-Center Prospective Cohort Study. *Front Public Health*. 2020 Aug 11;8:297.

<sup>76</sup> Christiansen J, Qualter P, Friis K, Pedersen SS, Lund R, Andersen CM, Bekker-Jeppesen M, Lasgaard M. Associations of loneliness and social isolation with physical and mental health among adolescents and young adults. *Perspect Public Health*. 2021 Jul;141(4):226-236.

<sup>77</sup> Jahre H, Grotle M, Småtunen M, Guddal MH, Smedbråten K, Richardsen KR, Stensland S, Storheim K, Øiestad BE. Risk factors and risk profiles for neck pain in young adults: Prospective analyses from adolescence to young adulthood-The Nord-Trøndelag Health Study. *PLoS One*. 2021 Aug 12;16(8):e0256006.

<sup>78</sup> Almutairi AH 2nd, Almalki AM, Alharthi EK, Alhossaini ZA, Alkurayzi AH, Alharthi N, Filfilan NN. LifeStyle and Exercise Relation to Neck and Back Pain in Saudi Arabia. *Cureus*. 2022 Dec 26;14(12):e32979.

<sup>79</sup> Burns JW, Jensen MP, Thorn B, Lillis TA, Carmody J, Newman AK, Keeffe F. Cognitive therapy, mindfulness-based stress reduction, and behavior therapy for the treatment of chronic pain: randomized controlled trial. *Pain*. 2022 Feb 1;163(2):376-389.

<sup>80</sup> Jeremiah 15:17,18 quoted after the Good News Bible © 1994 published by the British and Foreign Bible Society. Good News Bible © American Bible Society 1966, 1971, 1976, 1992. Used with permission.

<sup>81</sup> Psalms 129:2-3. From the Revised Standard Version of the Bible—Second Catholic Edition (Ignatius Edition) Copyright © 2006 National Council of the Churches of Christ in the United States of America. Used by permission. All rights reserved worldwide.

<sup>82</sup> Psalm 25:18, KJV.

<sup>83</sup> Isaiah 33:24, KJV.

<sup>84</sup> Carson JW, Keeffe FJ, Goli V, Fras AM, Lynch TR, Thorp SR, Buechler JL. Forgiveness and chronic low back pain: a preliminary study examining the relationship of forgiveness to pain, anger, and psychological distress. *J Pain*. 2005 Feb;6(2):84-91.

# References

85. Matted 11:28-30, KJV.

86. Greenwood JF. Optimum Vitamin C Intake As A Factor In The Preservation Of Disc Integrity: Preliminary Report. *Med Ann Dist Columbia*. 1964 Jun;33:274-6.

87. Chan SC, Ferguson SJ, Gantenbein-Ritter B. The effects of dynamic loading on the intervertebral disc. *Eur Spine J*. 2011 Nov;20(11):1796-812.

88. Gullbrand SE, Peterson J, Mastropolo R, Roberts TT, Lawrence JP, Glennon JC, DiRisio DJ, Ledet EH. Low rate loading-induced convection enhances net transport into the intervertebral disc in vivo. *Spine J*. 2015 May 1;15(5):1028-33.

89. Taylor NF; Evans OM; Goldie PA. The effect of walking faster on people with acute low back pain. *Eur Spine J*. 2003; 12(2):166-72 (ISSN: 0940-6719)

90. Rissanen AP, Tikkanen HO, Koponen AS, Aho JM, Hägglund H, Lindholm H, Peltonen JE. Alveolar gas exchange and tissue oxygenation during incremental treadmill exercise, and their associations with blood O(2) carrying capacity. *Front Physiol*. 2012 Jul 11;3:265.

91. Kim Y, Lee YM, Cho M, Lee H. Effect of a Pedometer-Based, 24-Week Walking Intervention on Depression and Acculturative Stress among Migrant Women Workers. *Int J Environ Res Public Health*. 2019 Nov 9;16(22):4385.

92. Ikeda T, Hori D, Arai Y, Muroi K, Ikeda Y, Takahashi T, Shiraki N, Doki S, Oi Y, Sasahara S, Morita E, Matsuzaki I. Association between forest and greenspace walking and stress-coping skills among workers of Tsukuba Science City, Japan: A cross-sectional study. *Public Health Pract (Oxf)*. 2021 Jan 32:100074.

93. Shiri R, Falah-Hassani K, Heliövaara M, Solovieva S, Amiri S, Lallukka T, Burdorf A, Huisaafvel-Pursiainen K, Viikari-Juntura E. Risk Factors for Low Back Pain: A Population-Based Longitudinal Study. *Arthritis Care Res (Hoboken)*. 2019 Feb;71(2):290-299.

94. Zimmermann S, Reiter RJ. Melatonin and the Optics of the Human Body. *Melatonin Research February 2019* 2(1):138-160.

95. Brzeszczyńska J, Brzeszczyński F. Benefit of sunlight and melatonin on back pain and inflammation. *Bone Joint Res*. 2023 Mar 7;12(3):199-201.

96. Lotfi A, Abdel-Nasser AM, Hamdy A, Omran AA, El-Rehany MA. Hypovitaminosis D in female patients with chronic low back pain. *Clin Rheumatol*. 2007 Nov;26(11):1895-901.

97. Kanaujia V, Yadav RK, Verma S, Jain S, Patra B, Nayaz O. Correlation between Vitamin D deficiency and nonspecific chronic low back pain: A retrospective observational study. *J Family Med Prim Care*. 2021 Feb;10(2):893-897.

98. van der Rhee HJ, de Vries E, Coebergh JW. Regular sun exposure benefits health. *Med Hypotheses*. 2016 Dec;97:34-37.

99. Stevenson JM, Weber CL, Smith JT, Dumas GA, Albert WJ. A longitudinal study of the development of low back pain in an industrial population. *Spine (Phila Pa 1976)*. 2001 Jun 15;26(12):1370-7.

100. Hatefi M, Babakhani F, Ashrafzadeh M. The effect of static stretching exercises on hip range of motion, pain, and disability in patients with non-specific low back pain. *J Exp Orthop*. 2021 Jul 27;8(1):55.

101. Chen HM, Wang HH, Chen CH, Hu HM. Effectiveness of a stretching exercise program on low back pain and exercise self-efficacy among nurses in Taiwan: a randomized clinical trial. *Pain Manag Nurs*. 2014 Mar;15(1):283-91.

102. Ghasemi M, Khoshakhlagh AH, Ganjal A, Yazdani-rad S, Laal F. The impacts of rest breaks and stretching exercises on lower back pain among commercial truck drivers in Iran. *Int J Occup Saf Ergon*. 2020 Dec;26(4):662-669.

103. Elhaggar IM, Nordin M, Sheikhzadeh A, Parnianpour M, Kahanovitz N. Effects of spinal flexion and extension exercises on low-back pain and spinal mobility in chronic mechanical low-back pain patients. *Spine (Phila Pa 1976)*. 1991 Aug;16(8):967-72.

104. Dettori JR, Bullock SH, Sutlive TG, Franklin RJ, Patience T. The effects of spinal flexion and extension exercises and their associated postures in patients with acute low back pain. *Spine (Phila Pa 1976)*. 1995 Nov 1;20(21):2303-12.

105. Woo SD, Kim TH. The effects of lumbar stabilization exercise with thoracic extension exercise on lumbosacral alignment and the low back pain disability index in patients with chronic low back pain. *J Phys Ther Sci*. 2016 Jan;28(2):680-4.

106. McGovern RP, Kivlan BR, Martin RL. Length Change Of The Short External Rotators Of The Hip In Common Stretch Positions: A Cadaveric Study. *Int J Sports Phys Ther*. 2017 Dec;12(7):1068-1077.

107. Meng XG, Yu SW. Efficacy of aerobic exercise for treatment of chronic low back pain: a meta-analysis. *Am J Phys Med Rehabil*. 2015 May;94(5):358-65.

## Chapter 14 – References

1 [http://www.pbs.org/wgbh/amex/bubble/gallery/g\\_05.html](http://www.pbs.org/wgbh/amex/bubble/gallery/g_05.html)

2 Psalm 139:14, King James Version of the Holy Bible

3 <http://www.amazingfacts.org/Publications/InsideReport/tabid/123/newsid457206/Dismembered-Avoiding-an-Act-of-Body-Experience/Default.aspx>

4 *Orkwright PD, Abinun M, Cant AJ. Autoimmunity in human primary immunodeficiency diseases. Blood*. 2002 Apr 15;99(8):2694-702.

5 *Prelog M. Aging of the immune system: a risk factor for autoimmunity? Autoimmun Rev*. 2006 Feb;5(2):136-9.

6 *von Känel R, Bellingrath S, Kudielka BM. Association between burnout and circulating levels of pro- and anti-inflammatory cytokines in schoolteachers. J Psychosom Res*. 2008 Jul;65(1):51-9.

7 *Céneac A, Sparfel A, Amiel-Lebigre F, Cleuziou A, Pennec Y, Le Goff P, Mottier D. Effect of stressful life events on clinical development of temporal arteritis and/or polymyalgia rheumatica. Presse Med*. 2002 Jun 1;31(19):873-9.

8 *Altindag O, Karakoc M, Kocycigit A, Celik H, Soran N. Increased DNA damage and oxidative stress in patients with rheumatoid arthritis. Clin Biochem*. 2007 Feb;40(3-4):167-71.

9 *Valentino M, Rapisarda V, Santarelli L, Bracci M, Scorpelletti M, Di Lorenzo L, Cassano F, Soleo L. Effect of lead on the levels of some immunoregulatory cytokines in occupationally exposed workers. Hum Exp Toxicol*. 2007 Jul;26(7):551-6.

10 *Kusaka Y. Occupational diseases caused by exposure to sensitizing metals. Sangyo Igaku*. 1993 Mar;35(2):75-87.

11 *Dong W, Simeonova PP, Gallucci R, Matheson J, Flood L, Wang S, Hubbs A, Luster MI. Toxic metals stimulate inflammatory cytokines in hepatocytes through oxidative stress mechanisms. Toxicol Appl Pharmacol*. 1998 Aug;151(2):359-66.

12 *Ilbäck NG, Wesslén L, Fohlman J, Friman G. Effects of methyl mercury on cytokines, inflammation and virus clearance in a common infection (coxsackie B3 myocarditis). Toxicol Lett*. 1996 Dec;89(1):19-28.

13 *Cushman M, Meilahn EN, Psaty BM, Kuller LH, Dobs AS, Tracy RP. Hormone replacement therapy, inflammation, and hemostasis in elderly women. Arterioscler Thromb Vasc Biol*. 1999 Apr;19(4):893-9.

14 *Sanchez-Guerrero I, Karlson EW, Liang MH, Hunter DJ, Speizer FE, Colditz GA. Past use of oral contraceptives and the risk of developing systemic lupus erythematosus. Arthritis Rheum*. 1997 May;40(5):804-8.

15 *Rácz-Guerrero J, Liang MH, Karlson EW, Hunter DJ, Colditz GA. Postmenopausal estrogen therapy and the risk for developing systemic lupus erythematosus. Ann Intern Med*. 1995 Mar 15;122(6):430-3.

16 *Röder-Stolinski C, Fischöder G, Oostingh GJ, Felten S, Kohse F, von Bergen M, Möhrig N, Eder K, Duschl A, Lehmann L. Styrene induces an inflammatory response in human lung epithelial cells via oxidative stress and NF-kappaB activation. Toxicol Appl Pharmacol*. 2008 Apr 29.

17 *Sverdrup B, Källberg H, Bengtsson C, Lundberg I, Padyukov L, Alfredsson L, Klareskog L. Epidemiological investigation of Rheumatoid Arthritis Study Group. Association between occupational exposure to mineral oil and rheumatoid arthritis: results from the Swedish EIRA case-control study. Arthritis Res Ther*. 2005;7(6):R1296-303. Epub 2005 Sep 23.

18 *Vojdani A, Ghoneim M, Brautbar N. Immune alteration associated with exposure to toxic chemicals. Toxicol Ind Health*. 1992 Sep-Oct;8(5):239-54.

19 *Reckner Olsson A, Skogh T, Wringren G. Comorbidity and lifestyle, reproductive factors, and environmental exposures associated with rheumatoid arthritis. Ann Rheum Dis*. 2001 Oct;60(10):934-9.

20 *Fluhr JW, Keltner D, Fuchs S, Kaatz M, Grieshaber R, Klees P, Elsner P. Additive impairment of the barrier function and irritation by biogenic amines and sodium lauryl sulphate: a controlled in vivo tandem irritation study. Skin Pharmacol Physiol*. 2005 Mar-Apr;18(2):88-97.

21 *Schilderman PA, ten Vaarwerk FJ, Luterjanz JT, Van der Wurff A, ten Hoor F, Kleinjans JC. Induction of oxidative DNA damage and early lesions in rat gastro-intestinal epithelium in relation to prostaglandin H synthase-mediated metabolism of butylated hydroxyanisole. Food Chem Toxicol*. 1995 Feb;33(2):99-109.

22 *Tranuller F. Etiology of Crohn's disease: Do certain food additives cause intestinal inflammation by molecular mimicry of mycobacterial lipids? Med Hypotheses*. 2005;65(5):859-64.

23 *Phukan RK, Narain K, Zornawia E, Hazarika NC, Mahanta J. Dietary habits and stomach cancer in Mizoram, India. J Gastroenterol*. 2006 May;41(5):418-24.

24 *Draelos ZD. The effect of a daily facial cleanser for normal to oily skin on the skin barrier of subjects with acne. Cutis*. 2006 Jul;78(1 Suppl):34-40.

25 *Hinton DM, Myers MJ, Raybourne RA, Francke-Carroll S, Sotomayor RE, Shaddock J, Warbritton A, Chou MW. Immunotoxicity of aflatoxin B1 in rats: effects on lymphocytes and the inflammatory response in a chronic intermittent dosing study. Toxicol Sci*. 2003 Jun;73(2):362-77.

26 *Roy RN, Russell RI. Crohn's disease & aflatoxins. J R Soc Health*. 1992 Dec;112(6):277-9.

27 *A case-control study of ulcerative colitis in relation to dietary and other factors in Japan. The Epidemiology Group of the Research Committee of Inflammatory Bowel Disease in Japan. J Gastroenterol*. 1995 Nov;30 Suppl 8:9-12.

28 *Lavy A, Naveh Y, Coleman R, Mokady S, Werman M1. Dietary Dunaliella bardawil, a beta-carotene rich alga, protects against acetic acid-induced small bowel inflammation in rats. Inflamm Bowel Dis*. 2003 Nov;9(6):372-9.

29 *Slaga TJ, Bowden GT, Boutwell RK. Acetic acid, a potent stimulator of mouse epidermal macromolecular synthesis and hyperplasia but with weak tumor-promoting ability. J Natl Cancer Inst*. 1975 Oct;55(4):983-7.

30 *Cleary K, McFeeters RF. Effects of oxygen and turmeric on the formation of oxidative aldehydes in fresh-pack dill pickles. J Agric Food Chem*. 2006 May 3;54(9):3421-7.

31 *Lynch MP, Faustman C. Effect of aldehyde lipid oxidation products on myoglobin. J Agric Food Chem*. 2000 Mar;48(3):600-4.

32 *MacDonald WC, Anderson FH, Hashimoto S. Histological effect of certain pickles on the human gastric mucosa. A preliminary report. Can Med Assoc J*. 1967 Jun 10;96(23):1521-5.

33 *Kono S, Hirohata T. A review of gastric cancer and life style. Gan No Rinsho*. 1990 Feb;Spec No:257-67.

34 *Kuwahara Y, Kondoh J, Tataru K, Azuma E, Nakajima T, Hashimoto M, Komachi Y. Involvement of urban living environments in atopy and enhanced eosinophil activity: potential risk factors of airway allergic symptoms. Allergy*. 2001 Mar;56(3):224-30.

35 *Reckner Olsson A, Skogh T, Wringren G. Comorbidity and lifestyle, reproductive factors, and environmental exposures associated with rheumatoid arthritis. Ann Rheum Dis*. 2001 Oct;60(10):934-9.

36 *Gray MR, Thrasher JD, Crago R, Madison RA, Arnold L, Campbell AW, Vojdani A. Mixed mold mycotoxicosis: immunological changes in humans following exposure in water-damaged buildings. Arch Environ Health*. 2003 Jul;58(7):410-20.

37 *Jussila J, Komulainen H, Kosma VM, Nevalainen A, Pelkonen J, Hirvonen MR. Spores of Aspergillus versicolor isolated from indoor air of a moisture-damaged building provoke acute inflammation in mouse lungs. Inhal Toxicol*. 2002 Dec;14(12):1261-77.

38 *Jussila J, Komulainen H, Huttunen K, Roponen M, Iiväniemi E, Torikko P, Kosma VM, Pelkonen J, Hirvonen MR. Mycobacterium terrae isolated from indoor air of a moisture-damaged building induces sustained biphasic inflammatory response in mouse lungs. Environ Health Perspect*. 2002 Nov;110(11):1119-25.

39 *Jussila J, Komulainen H, Huttunen K, Roponen M, Hälinen A, Hyvärinen A, Kosma VM, Pelkonen J, Hirvonen MR. Inflammatory responses in mice after intratracheal instillation of spores of Streptomyces californicus isolated from indoor air of a moldy building. Toxicol Appl Pharmacol*. 2001 Feb 15;171(1):61-9.

40 *Marsh PB, Millner PD, Kla JM. A guide to the recent literature on aspergillosis as caused by Aspergillus fumigatus, a fungus frequently found in self-heating organic matter. Mycopathologia*. 1979 Nov 30;69(1-2):67-81.

41 *Mullins J, Harvey R, Seaton A. Sources and incidence of airborne Aspergillus fumigatus (Fres). Clin Allergy*. 1976 May;6(3):209-17.

42 *Signorelli SS, Malaponte MG, Di Pino L, Costa MP, Pennisi G, Mazarino MC. Venous stasis causes release of interleukin 1beta (IL-1beta), interleukin 6 (IL-6) and tumor necrosis factor alpha (TNFalpha) by monocyte-macrophage. Clin Hemorheol Microcirc*. 2000;22(4):311-6.

43 *Tsujii M, Kawano S, Tsuji S, Kobayashi I, Takei Y, Nagano K, Fusamoto H, Kamada T, Ogihara T, Sato N. Colonic mucosal hemodynamics and tissue oxygenation in patients with ulcerative colitis: investigation by organ reflectance spectrophotometry. J Gastroenterol*. 1995 Apr;30(2):183-8. Links

44 *Kell E, Bouchouxa M, Devroede G, Carnot F, Ohrant T, Cugnenc PH. Diversion-related experimental colitis in rats. Dis Colon Rectum*. 1997 Feb;40(2):222-8.

45 *Schölbach T. From the nutcracker-phenomenon of the left renal vein to the midline congestion syndrome as a cause of migraine, headache, back and abdominal pain and functional disorders of pelvic organs. Med Hypotheses*. 2007;68(6):1318-27.

46 *Ma Xi, Yin HJ, Chen KJ. Research progress of correlation between blood-stasis syndrome and inflammation. Zhongguo Zhong Xi Yi Jie He Za Zhi*. 2007 Jul;27(7):669-72.

47 *Park SJ, Tokura H. Effects of different types of clothing on circadian rhythms of core temperature and urinary catecholamines. Jpn J Physiol*. 1998 Apr;48(2):149-56.

48 *Bøkenes L, Alexandersen TE, Østerud B, Tveita T, Mercer JB. Physiological and haematological responses to cold exposure in the elderly. Int J Circumpolar Health*. 2000 Oct;59(3-4):216-21.

49 *Mercer JB, Osterud B, Tveita T. The effect of short-term cold exposure on risk factors for cardiovascular disease. Thromb Res*. 1999 Jul 15;95(2):93-104.

50 *Mori Y, Kioka E, Tokura H. Effects of pressure on the skin exerted by clothing on responses of urinary catecholamines and cortisol, heart rate and nocturnal urinary melatonin in humans. Int J Biometeorol*. 2002 Dec;47(1):1-5.

51 *Okura K, Midorikawa-Tsurutani T, Tokura H. Effects of skin pressure applied by cuffs on resting salivary secretion. J Physiol Anthropol Appl Human Sci*. 2000 Mar;19(2):107-11.

52 *Vikher AM, Zhdanov VS, Lifshits AM. Arteriosclerosis in men doing physical and mental work. Kardiologia*. 1976 Mar;16(3):119-23.

53 *Irwin MR, Wang M, Ribeiro D, Cho HJ, Olmstead R, Breen EC, Martinez-Maza O, Cole S. Sleep Loss Activates Cellular Inflammatory Signaling. Biol Psychiatry*. Epub 2008 Jun 16.

54 *Simpson N, Dinges DF. Sleep and inflammation. Nutr Rev*. 2007 Dec;65(12 Pt 2):S244-52.

55 *Irwin MR, Wang M, Camptomayor CO, Collado-Hidalgo A, Cole S. Sleep deprivation and activation of morning levels of cellular and genomic markers of inflammation. Arch Intern Med*. 2006 Sep 18;166(16):1756-62.

56 *Palma BD, Suchecki D, Catalani B, Tufik S. Effect of sleep deprivation on the corticosterone secretion in an experimental model of autoimmune disease. Neuroimmunomodulation*. 2007;14(2):72-7.

57 *Norbäck D, Wälinder R, Wieslander G, Smedje G, Erwall C, Venge P. Indoor air pollutants in schools: nasal patency and biomarkers in nasal lavage. Allergy*. 2000 Feb;55(2):163-70.

58 *Voice*. 1997 Jun;11(2):165-70. The singing/acting mature adult—singing instruction perspective. Westerner Gregg J.

59 *Anikeeva ZI, Pleshkov IV, Bondareva AV. Clinical features of vocal disorders in population of megapolis. Vestn Otorinolaringol*. 2007;1(1):14-21.

60 *Vassilakopoulos T, Divangahi M, Rallis G, Kishta O, Petrof B, Comtois A, Hussain SN. Differential cytokine gene expression in the diaphragm in response to strenuous resistive breathing. Am J Respir Crit Care Med*. 2004 Jul 15;170(2):354-61.

61 *Vassilakopoulos T, Katsaounou P, Karatza MH, Kollintza A, Zakythinios S, Roussos C. Strenuous resistive breathing induces plasma cytokines: role of antioxidants and monocytes. Am J Respir Crit Care Med*. 2002 Dec 15;166(12 Pt 1):1572-8.

62 *Barbe MF, Barr AE. Inflammation and the pathophysiology of work-related musculoskeletal disorders. Brain Behav Immun*. 2006 Sep;20(5):423-9.

63 *Kivi P. Rheumatic disorders of the upper limbs associated with repetitive occupational tasks in Finland in 1975-1979. Scand J Rheumatol*. 1984;13(2):101-7.

64 *Carp SJ, Barbe MF, Winter KA, Amin M, Barr AE. Inflammatory biomarkers increase with severity of upper-extremity overuse disorders. Clin Sci (Lond)*. 2007 Mar;112(5):305-14.

65 *Clin Sci (Lond)*. 2007 Mar;112(5):305-14. Inflammatory biomarkers increase with severity of upper-extremity overuse disorders. Carp SJ, Barbe MF, Winter KA, Amin M, Barr AE.

66 *Lenda DM, Boegehold MA. Effect of a high salt diet on microsacral antioxidant enzymes. J Vasc Res*. 2002 Jan-Feb;39(1):41-50.

67 *Chandramohan G, Bai Y, Norris K, Rodriguez-Iturbe B, Vaziri ND. Effects of dietary salt on intrarenal angiotensin system, NAD(P)H oxidase, COX-2, MCP-1 and PAI-1 expressions and NF-kappaB activity in salt-sensitive and -resistant rat kidneys. Am J Nephrol*. 2008;28(1):158-67.

68 *Myers BM, Smith JL, Graham DY. Effect of red pepper and black pepper on the stomach. Am J Gastroenterol*. 1987 Mar;82(3):211-4.

69 *Vasudevan K, Vembar S, Veerarghavan K, Haranath PS. Influence of intragastric perfusion of aqueous spice extracts on acid secretion in anesthetized albino rats. Indian J Gastroenterol*. 2000 Apr-Jun;19(2):53-6.

70 *Biochem J*. 1990 Jul 1;269(1):41-6. Induction of C-reactive protein by cytokines in human hepatoma cell lines is potentiated by caffeine. Ganapathi MK, Mackiewicz A, Samols D, Brabenc A, Kushner I, Schultz D, Hu Si.

71 *Russel MG, Engels LG, Muris JW, Limonard CB, Volovics A, Brummer RJ, Stockbrügger RW. Modern life in the epidemiology of inflammatory bowel disease: a case-control study with special emphasis on nutritional factors. Eur J Gastroenterol Hepatol*. 1998 Mar;10(3):243-9.

72 *Pedersen M, Jacobsen S, Klarlund M, Pedersen BV, Wiik A, Wohlfahrt J, Frisch M. Arthritis Res Ther*. 2006;8(4):R133. Environmental risk factors differ between rheumatoid arthritis with and without auto-antibodies against cyclic citrullinated peptides.

73 *Nordmann R. Alcohol and antioxidant systems. Alcohol Alcohol*. 1994 Sep;29(5):513-22.

74 *Vally H, de Klerk N, Thompson PJ. Alcoholic drinks: important triggers for asthma. J Allergy Clin Immunol*. 2000 Mar;105(3):462-7.

75 *Zhang J, Liu Y, Shi J, Larson DF, Watson RR. Side-stream cigarette smoke induces dose-response in systemic inflammatory cytokine production and oxidative stress. Exp Biol Med (Maywood)*. 2002 Oct;227(9):823-9.

76 *Oliver JE, Silman AJ. Risk factors for the development of rheumatoid arthritis. Scand J Rheumatol*. 2006 May-Jun;35(3):169-74.

77 *Costenbader KH, Feskanich D, Mandl LA, Karlson EW. Smoking intensity, duration, and cessation, and the risk of rheumatoid arthritis in women. Am J Med*. 2006 Jun;119(6):503.e1-9.

78 *Pedersen M, Jacobsen S, Klarlund M, Pedersen BV, Wiik A, Wohlfahrt J, Frisch M. Environmental risk factors differ between rheumatoid arthritis with and without auto-antibodies against cyclic citrullinated peptides. Arthritis Res Ther*. 2006;8(4):R133.

# Blue Print for Health and Healing

79 Nettleton JA, Steffen LM, Mayer-Davis EJ, Jenny NS, Jiang R, Herrington DM, Jacobs DR Jr. Dietary patterns are associated with biochemical markers of inflammation and endothelial activation in the Multi-Ethnic Study of Atherosclerosis (MESA). *Am J Clin Nutr.* 2006 Jun;83(6):1369-79.

80 Schulze MB, Hoffmann K, Manson JE, Willett WC, Meigs JB, Weikert C, Heidemann C, Colditz GA, Hu FB. Dietary pattern, inflammation, and incidence of type 2 diabetes in women. *Am J Clin Nutr.* 2005 Sep;82(3):675-84.

81 Tola MR, Granieri E, Malagù S, Cianiatti L, Casetta I, Govoni V, Paolino E, Cinzia Monetti V, Canducci E, Panatta GB. Dietary habits and multiple sclerosis. A retrospective study in Ferrara, Italy. *Acta Neurol (Napoli).* 1994 Aug;16(4):189-97.

82 Ghadirian P, Jain M, Ducic S, Shatenstein B, Morisset R. Nutritional factors in the aetiology of multiple sclerosis: a case-control study in Montreal, Canada. *Int J Epidemiol.* 1998 Oct;27(5):845-52.

83 Kacsur C, Mader R, Ben-Amotz A, Levy Y. Plasma anti-oxidants and rheumatoid arthritis. *Harefuah.* 2002 Feb;141(2):148-50, 223.

84 Kamniti A, Nazerioglou M, Ayleck N, Hacieviyagil C. Plasma lipid peroxidation and antioxidant levels in patients with rheumatoid arthritis. *Cell Biochem Funct.* 2004 Jan-Feb;22(1):53-7.

85 Dunstan JA, Breckler L, Hale J, Lehmann H, Franklin P, Lyons G, Ching SY, Mori TA, Barden A, Prescott SL. Supplementation with vitamins C, E, beta-carotene and selenium has no effect on anti-oxidant status and immune responses in allergic adults: a randomized controlled trial. *Clin Exp Allergy.* 2007 Feb;37(2):180-7.

86 Bae SC, Kim SJ, Sung MK. Inadequate antioxidant nutrient intake and altered plasma antioxidant status of rheumatoid arthritis patients. *J Am Coll Nutr.* 2003 Aug;22(4):311-5.

87 Bo S, Durazzo M, Guidi S, Carello M, Sacerdote C, Silli B, Rosato R, Cassader M, Gentile L, Pagano G. Dietary magnesium and fiber intakes and inflammatory and metabolic indicators in middle-aged subjects from a population-based cohort. *Am J Clin Nutr.* 2006 Nov;84(5):1062-9.

88 Thomas D. The mineral depletion of foods available as a nation (1940-2002)—a review of the 6th Edition of McCance and Widdowson. *Nutr Health.* 2007;19(1-2):21-55.

89 Frigo A, Tambolo C, Bambara LM, Biasi D, Marrella M, Milanino R, Moretti U, Velo G, De Sandre G. Zinc sulfate in the treatment of psoriatic arthritis. *Recenti Prog Med.* 1989 Nov;80(11):577-81.

90 Yunta H, Belda BJ, Arner RJ, Channa Reddy C, Vanden Heuvel JP, Sandeep Prabhu K. Selenium attenuates pro-inflammatory gene expression in macrophages. *Mol Nutr Food Res.* Epub 2008 May 15.

91 Almozino-Sarafian D, Berman S, Mor A, Shteinshneider M, Gorelik O, Tzur I, Alon I, Modai D, Cohen N. Magnesium and C-reactive protein in heart failure: an anti-inflammatory effect of magnesium administration? *Eur J Nutr.* 2007 Jun;46(4):230-7. Epub 2007 May 3.

92 Composition of Foods Raw, Processed, Prepared USDA National Nutrient Database for Standard Reference, Release 18, August 2005. U.S. Department of Agriculture Agricultural Research Service, Beltsville Human Nutrition Research Center, Nutrient Data Laboratory, 10300 Baltimore Avenue, Building 005, Room 107, BARC-West, Beltsville, Maryland 20705.

93 Uriabarril J, Cai W, Sandu O, Peppia M, Goldberg T, Vlassara H. Diet-derived advanced glycation end products are major contributors to the body's AGE pool and induce inflammation in healthy subjects. *Ann N Y Acad Sci.* 2005 Jun;1043:461-6.

94 Kislinger T, Tanji N, Wendt T, Qu W, Lu Y, Ferran LJ Jr, Taguchi A, Olson K, Bucciarelli L, Goova M, Hofmann MA, Cataldegirmen G, D'Agati V, Pischetsrieder M, Stern DM, Schmidt AM. Receptor for advanced glycation end products mediates inflammation and enhanced expression of tissue factor in vasculature of diabetic apolipoprotein E-null mice. *Arterioscler Thromb Vasc Biol.* 2001 Jun;21(6):905-10.

95 Goldberg T, Cai W, Peppia M, Dardaine V, Baliga BS, Uriabarril J, Vlassara H. Advanced glycoxidation end products in commonly consumed foods. *J Am Diet Assoc.* 2004 Aug;104(8):1287-91.

96 Wautier JL, Guillausseau PJ. Advanced glycation end products, their receptors and diabetic angiopathy. *Diabetes Metab.* 2003 Nov;27(5 Pt 1):535-42.

97 Kelley GL, Allan G, Azhar S. High dietary fructose induces a hepatic stress response resulting in cholesterol and lipid dysregulation. *Endocrinology.* 2004 Feb;145(2):548-55.

98 Nyby MD, Abedi K, Smutko V, Esлами P, Tuck ML. Vascular Angiotensin type 1 receptor expression is associated with vascular dysfunction, oxidative stress and inflammation in fructose-fed rats. *Hypertens Res.* 2007 May;30(5):451-7.

99 Glushkova O, Kosugi T, Roncal C, Mu W, Heinig M, Cirillo P, Sánchez-Lozada LG, Johnson RJ, Nakagawa T. Fructose induces the inflammatory molecule ICAM-1 in Endothelial Cells. *J Am Soc Nephrol.* 2008 Sep;19(9):1712-20.

100 Ruffo S, Klein I, Lubin F, Farbstein M, Hallak A, Gilat T. Pre-illness dietary factors in inflammatory bowel disease. *Gut.* 1997 Jun;40(6):754-60.

101 Yeh YF, Huang SL. Enhancing effect of dietary cholesterol and inhibitory effect of pravastatin on allergic pulmonary inflammation. *J Biomed Sci.* 2004 Sep-Oct;11(5):599-606.

102 Li Y, Schwabe RF, DeVries-Seimon T, Yao PM, Gerbod-Giannone MC, Tall AR, Davis RJ, Flavell R, Brenner DA, Tabas I. Free cholesterol-loaded macrophages are an abundant source of tumor necrosis factor- $\alpha$  and interleukin-6: model of NF- $\kappa$ B- and map kinase-dependent inflammation in advanced atherosclerosis. *J Biol Chem.* 2005 Jun 10;280(23):1763-72.

103 Shi Q, Vandenberg JF, Jett C, Rice K, Leland MM, Talley L, Kushwaha RS, Rainwater D, Vandenberg JL, Wang XL. Arterial endothelial dysfunction in baboons fed a high-cholesterol, high-fat diet. *Am J Clin Nutr.* 2005 Oct;82(4):751-9.

104 Shamberger RJ, Shamberger BA, Willis CE. Malonaldehyde content of food. *J Nutr.* 1977 Aug;107(8):1404-9.

105 Parke AL, Hughes GR. Rheumatoid arthritis and food: a case study. *Br Med J (Clin Res Ed).* 1981 Jun 20;282(6281):2027-9.

106 Fujiyama Y, Hokari R, Miura S, Watanabe C, Komoto S, Oyama T, Kurihara C, Nagata H, Hibi T. Butter feeding enhances TNF- $\alpha$  production from macrophages and lymphocyte adhesion in murine small intestinal microvessels. *J Gastroenterol Hepatol.* 2007 Nov;22(11):1838-45. Click here to read links

107 Trapali M, Liapi C, Perelas A, Perrea D, Stroubini T, Dontas I, Couvari E, Mavri M, Galanopoulou P. Effect of isocaloric diets and sibutramine on food intake, body mass variation and serum TNF- $\alpha$  levels in rats. *Pharmacology.* 2008;82(1):15-21.

108 Häversen L, Daniellsson KJ, Fogelstrand L, Wiklund O. Induction of proinflammatory cytokines by long-chain saturated fatty acids in human macrophages. *Atherosclerosis.* Epub 2008 May 28.

109 Perez-Martinez P, Lopez-Miranda J, Blanco-Colio L, Bellido C, Jimenez Y, Moreno JA, Delgado-Lista J, Egido J, Perez-Jimenez F. The chronic intake of a Mediterranean diet enriched in virgin olive oil, decreases nuclear transcription factor kappaB activation in peripheral blood mononuclear cells from healthy men. *Atherosclerosis.* 2007 Oct;194(2):e141-6.

110 Lin BF, Huang CH, Chiang BL, Jeng SJ. Dietary fat influences Ia antigen expression, cytokines and prostaglandin E2 production of immune cells in autoimmune-prone NZB x NZW F1 mice. *Br J Nutr.* 1996 May;75(5):711-22.

111 Lin BF, Lai CC, Lin KW, Chiang BL. Dietary oxidized oil influences the levels of type 2 T-helper cell-related antibody and inflammatory mediators in mice. *Br J Nutr.* 2000 Dec;84(6):911-7.

112 Kanner J. Dietary advanced lipid oxidation endproducts are risk factors to human health. *Mol Nutr Food Res.* 2007 Sep;51(9):1094-101.

113 Martin CA, Milnitsk M, Visentainer JV, Matsushita M, de-Souza NE. Trans fatty acid-forming processes in foods: a review. *An Acad Bras Cienc.* 2007 Jun;79(2):343-50.

114 Naruszewicz M, Daniewski M, Nowicka G, Kozłowska-Wojcieszowska M. Trans-unsaturated fatty acids and acrylamide in food as potential atherosclerosis progression factors. Based on own studies. *Acta Microbiol Pol.* 2003;52 Suppl7:75-81.

115 Viana M, Villacorta L, Bonet B, Indart A, Munteanu A, Sánchez-Vera I, Azzi A, Zingg JM. Effects of aldehydes on CD36 expression. *Free Radic Res.* 2005 Sep;39(9):973-7.

116 Sutherland WH, Walker RJ, de Jong SA, van Rijn AM, Phillips V, Walker HL. Reduced postprandial serum paraoxonase activity after a meal rich in used cooking fat. *Arterioscler Thromb Vasc Biol.* 1999 May;19(5):1340-7.

117 Lopez-Garcia E, Schulze MB, Meigs JB, Manson JE, Rifai N, Stampfer MJ, Willett WC, Hu FB. Consumption of trans fatty acids is related to plasma biomarkers of inflammation and endothelial dysfunction. *J Nutr.* 2005 Mar;135(3):562-6.

118 Baranowski A, Adams CW, High OB, Bowyer DB. Connective tissue responses to oxysterols. *Atherosclerosis.* 1982 Feb;41(2-3):255-6.

119 Fischer KH, Laskawy G, Grosch W. Quantitative analysis of auto-oxidation products of cholesterol in food of animal origin. *Z Lebensm Unters Forsch.* 1985 Jul;181(1):14-9.

120 Ginaldi L, De Martinis M, Monti D, Franceschi C. Chronic antigenic load and apoptosis in immunosenescence. *Trends Immunol.* 2005 Feb;26(2):79-84.

121 Dickinson S, Hancock DP, Petocz P, Ceriello A, Brand-Miller J. High-glycemic index carbohydrate increases nuclear factor-kappaB activation in mononuclear cells of young, lean healthy subjects. *Am J Clin Nutr.* 2008 May;87(5):1188-93.

122 Mantzoros CS, Li T, Manson JE, Meigs JB, Hu FB. Circulating adiponectin levels are associated with better glycemic control, more favorable lipid profile, and reduced inflammation in women with type 2 diabetes. *J Clin Endocrinol Metab.* 2005 Aug;90(8):4542-8.

123 Busslerolls J, Rock E, Gueux E, Mazur A, Grolier P, Rayssiguier Y. Short-term consumption of a high-sucrose diet has a pro-oxidant effect in rats. *Br J Nutr.* 2002 Apr;87(4):337-42.

124 Mohanty P, Hamouda W, Garg R, Aljada A, Ghanim H, Dandona P. Glucose challenge stimulates reactive oxygen species (ROS) generation by leukocytes. *J Clin Endocrinol Metab.* 2000 Aug;85(8):2970-3.

125 Garrett SL, Kennedy LG, Calin A. Patients' perceptions of disease modulation by diet in inflammatory (rheumatoid arthritis/ankylosing spondylitis) and degenerative rthropathies. *Br J Rheumatol* 1993;32(suppl. 2):43.

126 Nilsson AC, Ostman EM, Holst J, Björck IM. Including indigestible carbohydrates in the evening meal of healthy subjects improves glucose tolerance, lowers inflammatory markers, and increases satiety after a subsequent standardized breakfast. *J Nutr.* 2008 Apr;138(4):732-9.

127 Hvatum M, Kanerud L, Hällgren R, Brandtzaeg P. The gut-joint axis: Cross reactive food antibodies in rheumatoid arthritis. *Gut.* 2006 Sep;55(9):1240-7.

128 Malosse D, Perrin H, Saeco A, Seigneux JM. Correlation between milk and dairy product consumption and multiple sclerosis prevalence: a worldwide study. *Neuroepidemiology.* 1992;11(4-6):304-12.

129 Sepčić J, Mesáros E, Materljan E, Sepčić-Grahovac D. Nutritional factors and multiple sclerosis in Gorski Kotar, Croatia. *Neuroepidemiology.* 1993;12(4):234-40.

130 Stoeck M, Ruegg C, Miescher S, Carrel S, Cox D, Von Fliedner V, Alkan S. Comparison of the immunosuppressive properties of milk growth factor and transforming growth factors beta 1 and beta 2. *J Immunol.* 1989 Nov 15;143(10):3258-65.

131 Epstein SS. Unlabeled milk from cows treated with biosynthetic growth hormones: a case of regulatory abdications. *Int J Health Serv.* 1996;26(1):173-85.

132 Appelboom T, Durez P. Effect of milk product deprivation on spondyloarthritis. *Ann Rheum Dis.* 1994 Jul;53(7):481-2.

133 Kjeldsen-Kragh J, Hvatum M, Haugen M, Færre O, Scott H. Antibodies against dietary antigens in rheumatoid arthritis patients treated with fasting and a one-year vegetarian diet. *Clin Exp Rheumatol.* 1995 Mar-Apr;13(2):167-72.

134 Lerner A, Rossi TM, Park B, Albini B, Leenthal E. Serum antibodies to cow's milk proteins in pediatric inflammatory bowel disease. Crohn's disease versus ulcerative colitis. *Acta Paediatr Scand.* 1989 May;78(3):384-9.

135 Knoflach P, Park BH, Cunningham R, Weiser MM, Albini B. Serum antibodies to cow's milk proteins in ulcerative colitis and Crohn's disease. *Gastroenterology.* 1987 Feb;92(2):479-85.

136 Stefferi A, Schurtz A, Storch M, Anfini A, Mather J, Lasmann H, Linnington C. Butyrophilin, a milk protein, modulates the encephalogenic T cell response to myelin oligodendrocyte glycoprotein in experimental autoimmune encephalomyelitis. *J Immunol.* 2000 Sep 1;165(5):2859-65.

137 Panush RS, Stroud RM, Webster EM. Food-induced (allergic) arthritis. Inflammatory arthritis exacerbated by milk. *Arthritis Rheum.* 1986 Feb;29(2):220-6.

138 Motrich RD, Gottero C, Rezonico C, Rezonico C, Riera CM, Rivero V. Cow's milk stimulated lymphocyte proliferation and TNFalpha secretion in hypersensitivity to cow's milk protein. *Clin Immunol.* 2003 Nov;109(2):203-11.

139 Balla G, Vercellotti GM, Muller-Eberhard U, Eaton J, Jacob HS. Exposure of endothelial cells to free heme potentiates damage mediated by granulocytes and toxic oxygen species. *Lab Invest.* 1991 May;64(5):648-55.

140 Pattison DJ, Symmons DP, Lunt M, Welch A, Luben R, Bingham SA, Khaw KT, Day NE, Silman AJ. Dietary risk factors for the development of inflammatory polyarthritides: evidence for a role of high level of red meat consumption. *Arthritis Rheum.* 2004 Dec;50(12):3804-12.

141 Grant WB. The role of meat in the expression of rheumatoid arthritis. *Br J Nutr.* 2000 Nov;84(5):589-95.

142 Ferguson AC. Food allergy. *Prog Food Nutr Sci.* 1984;8(1-2):77-107.

143 Faive LA, Diniz YS, Almeida JA, Novelli EL, Ribas BO. Toxicity of ad lib. overfeeding: effects on cardiac tissue. *Food Chem Toxicol.* 2002 May;40(5):663-8.

144 Bosutti A, Malaponte G, Zanetti M, Castellino P, Meer M, Guarnieri G, Biolo G. Calorie restriction modulates insulin-activated changes in the inflammatory markers CRP and PTK3. *J Clin Endocrinol Metab.* 2008 Aug;93(8):3226-9.

145 Knaoachair L, Ling PR, Blackburn GL, Bistrian BR. Serum levels of interleukin-6 and C-reactive protein correlate with body mass index across the broad range of obesity. *JPEN J Parenter Enteral Nutr.* 2004 Nov-Dec;28(6):410-5.

146 Yudkin JS, Stehouwer CD, Emels JJ, Coppack SW. C-reactive protein in healthy subjects: associations with obesity, insulin resistance, and endothelial dysfunction: a potential role for cytokines originating from adipose tissue? *Arterioscler Thromb Vasc Biol.* 1999 Apr;19(4):972-8.

147 Symmons DP, Bankhead CR, Harrison BJ, Brennan P, Barrett EM, Scott DG, Silman AJ. Blood transfusion, smoking, and obesity as risk factors for the development of rheumatoid arthritis: results from a primary care-based incident case-control study in Norfolk, England. *Arthritis Rheum.* 1997 Nov;40(11):1955-61.

148 Dela Peña A, Leclercq J, Field J, George J, Jones B, Farrell G. NF-kappaB activation, rather than TNF, mediates hepatic inflammation in a murine dietary model of steatohepatitis. *Gastroenterology.* 2005 Nov;129(5):1663-74.

149 van der Poorten D, Milner KL, Hui J, Hodge A, Trenell MJ, Kench JG, London R, Peduto T, Chisholm DJ, George J. Visceral fat: A key mediator of steatohepatitis in metabolic liver disease. *Hepatology.* 2008 Aug;48(2):449-57.

150 Wu Z, Nagano I, Boonmars T, Takahashi Y. Tumor necrosis factor receptor-mediated apoptosis in Trichinella spiralis-infected muscle cells. *Parasitology.* 2005 Sep;131(Pt 3):373-81.

151 Chen Z, Suresz Z, Palmer J, Guzman J, Javed A, Xue J, Yu JG, Cooke H, Awad H, Hassanain AH, Carouanel AJ, Christoff FL. Cyclic AMP signaling contributes to nuclear factor- $\kappa$ B activation and hyperexcitability in A $\delta$  sensory neurons following intestinal Trichinella spiralis-induced inflammation. *Int J Parasitol.* 2007 Jun;37(7):743-61.

152 Akar S, Guiler O, Pozio E, Owen F, Sari I, Gerceker E, Gunes AI, Akinci B, Birlik M, Alkoc N. Frequency and severity of musculoskeletal symptoms in humans during an outbreak of trichinellosis caused by Trichinella britovi. *J Parasitol.* 2007 Apr;93(2):341-4.

153 Ferraccioli FG, Mercadanti M, Salaffi F, Bruschi F, Melissari M, Pozio E. Prospective rheumatological study of muscle and joint symptoms during Trichinella nelsoni infection. *Q J Med.* 1988 Dec;69(260):973-84.

154 Zochling J, Bohl-Bühler MH, Baraliakos X, Feldtkeller E, Braun J. Infection and work pressure are potential triggers of ankylosing spondylitis. *Clin Rheumatol.* 2006 Sep;25(5):660-6.

155 Korzhova TP, Shyrobokov VP, Koliadenko VV, Kornushenko OM, Akhramieva NV, Stepanenko VI. Coxsackie B viral infection in the etiology and clinical pathogenesis of psoriasis. *Liv Sprava.* 2001 May-Jun;(3):54-8.

156 Bartenjev I, Rogi Butina M, Potocnik M. Antimicrobial infection in patients with chronic plaque psoriasis. *Acta Derm Venereol Suppl (Stockh).* 2000;(121):1-7.

157 Ohkusa T, Nomura T, Sato N. The role of bacterial infection in the pathogenesis of inflammatory bowel disease. *Intern Med.* 2004 Jul;43(7):534-9.

158 Caneli F, Betterle C, Vento S. Antinuclear antibodies are common in an infectious environment but do not predict systemic lupus erythematosus. *Ann Rheum Dis.* 2004 Dec;63(12):1707-8.

159 Little CL, Richardson JF, Owen RJ, de Pinna E, Threlfall EJ. Campylobacter and Salmonella in raw red meats in the United Kingdom: prevalence, characterization and antimicrobial resistance pattern, 2003-2005. *Food Microbiol.* 2008 May;25(3):538-43.

160 Pineton de Chambrun G, Colombel JF, Poulain D, Darfeuille-Michaud A. Pathogenic agents in inflammatory bowel diseases. *Gut.* 2007 Oct;56(10):1440-7.

161 Foley SL, Lyne AM, Nayak R. Salmonella challenges: prevalence in swine and poultry and potential pathogenicity of such isolates. *J Anim Sci.* 2008 Apr;86(14 Suppl):E149-62.

162 Mataragas M, Skandamis PN, Drosinos EH. Risk profiles of pork and poultry meat and risk ratings of various pathogen/product combinations. *Int J Food Microbiol.* 2008 Aug 15;126(1-2):1-12.

163 Douris A, Fedorka-Cray PJ, Jackson CR. Characterization of Salmonella enterica serovar Agona slaughter isolates from the animal arm of the National Antimicrobial Resistance Monitoring System-Enteric Bacteria (NARMS): 1997 through 2003. *Microb Drug Resist.* 2008 Mar;14(1):55-63.

164 Khaitsa ML, Kegode RB, Doetkott DK. Occurrence of antimicrobial-resistant salmonella species in raw and ready to eat turkey meat products from retail outlets in the midwestern United States. *Foodborne Pathog Dis.* 2007 Winter;4(4):517-25.

165 Aarestrup FM, Hendriksen RS, Lockett J, Gay K, Teates K, McDermott PF, White DG, Hasman H, Sørensen G, Bangtrakulnonth A, Pornreongwong S, Pulsrikran C, Angulo FJ, Gerner-Smidt P. International spread of multidrug-resistant Salmonella Schwarzengrund in food products. *Emerg Infect Dis.* 2007 May;13(5):726-31.

166 Schattner A. Consequence or coincidence? The occurrence, pathogenesis and significance of autoimmune manifestations after viral vaccines. *Vaccine.* 2005 Jun 10;23(30):3876-86.

167 Geier DA, Geier MR. A case-control study of serious autoimmune adverse events following hepatitis B immunization. *Autoimmunity.* 2005 Jun;38(4):295-301.

168 Fischer CP, Bertens A, Perstrup LB, Eskildsen P, Pedersen BK. Plasma levels of interleukin-6 and C-reactive protein are associated with physical inactivity independent of obesity. *Scand J Med Sci Sports.* 2007 Oct;17(5):580-7.

169 Sonnenberg A. Occupational distribution of inflammatory bowel disease among German employees. *Gut.* 1990 Sep;31(9):1037-40.

170 Doran MF, Crowson CS, Pond GR, O'Fallon WM, Gabriel SE. Frequency of infection in patients with rheumatoid arthritis compared with controls: a population-based study. *Arthritis Rheum.* 2002 Sep;46(9):2287-93.

171 Gabriel SE, Crowson CS, Kremers HM, Doran MF, Turesson C, O'Fallon WM, Matteson EL. Survival in rheumatoid arthritis: a population-based analysis of trends over four years. *Arthritis Rheum.* 2003 Jan;48(1):54-8.

172 Hakoda M, Otwa H, Kasagi F, Masunari N, Yamada M, Suzuki G, Fujiwara S. Mortality of rheumatoid arthritis in Japan: a longitudinal cohort study. *Ann Rheum Dis.* 2005 Oct;64(10):1451-5.

173 Nicola PJ, Maradit-Kremers H, Roger VL, Jacobsen SJ, Crowson CS, Ballman KV, Gabriel SE. The risk of congestive heart failure in rheumatoid arthritis: a population-based study over 46 years. *Arthritis Rheum.* 2005 Feb;52(2):412-20.

174 Maradit-Kremers H, Crowson CS, Nicola PJ, Ballman KV, Roger VL, Jacobsen SJ, Gabriel SE. Increased unrecognized coronary heart disease and sudden deaths in rheumatoid arthritis: a population-based cohort study. *Arthritis Rheum.* 2005 Feb;52(2):402-11.

175 Scheidt-Nave C, Starker A. The prevalence of osteoporosis and associated health care use in women 45 years and older in Germany. Results of the first German Telephone Health Survey 2003. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitschutz.* 2005 Dec;48(12):1338-47.

176 Cibere J, Sibilo J, Hoga M. Rheumatoid arthritis and the risk of malignancy. *Arthritis Rheum.* 1997 Sep;40(9):1580-6.

177 Sonnenberg A. Occupational distribution of inflammatory bowel disease among German employees. *Gut.* 1990 Sep;31(9):1037-40. Click here to read Click here to read Links

178 Patberg WR. Beneficial effect of being outdoors in rheumatoid arthritis. *J Rheumatol.* 2002 Jan;29(1):202-4.

# References

<sup>179</sup> Yamada R, Yanoma S, Akaike M, Tsuburaya A, Sugimasa Y, Takemiya S, Motohashi H, Rino Y, Takahashi Y, Imada T. Water-generated negative air ions activate NK cell and inhibit carcinogenesis in mice. *Cancer Lett*. 2006; 239(2):190-7.

<sup>180</sup> Dawe RS, Ferguson J. History of psoriasis response to sunlight does not predict outcome of UVB phototherapy. *Clin Exp Dermatol*. 2004 Jul;29(4):413-4.

<sup>181</sup> Hayes CE, Donald Acheson E. A unifying multiple sclerosis etiology linking virus infection, sunlight, and vitamin D through viral interleukin-10. *Med Hypotheses*. 2008;71(3):85-90.

<sup>182</sup> Kreuter A, Hyun J, Skryngan M, Sommer A, Bastian A, Altmeyer P, Gambichler T. Ultraviolet A1-induced downregulation of human beta-defensins and interleukin-6 and interleukin-8 correlates with clinical improvement in localized scleroderma. *Br J Dermatol*. 2006 Sep;155(3):600-7.

<sup>183</sup> Ponsonby AL, Lucas RM, van der Mei IA. UVR, vitamin D and three autoimmune diseases—multiple sclerosis, type 1 diabetes, rheumatoid arthritis. *Photochem Photobiol*. 2005 Nov-Dec;81(6):1267-75.

<sup>184</sup> Holick MF. Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. *Am J Clin Nutr*. 2004 Dec;80(6 Suppl):1678S-88S.

<sup>185</sup> Krause Mda S, de Bittencourt PI Jr. Type 1 diabetes: can exercise impair the autoimmune event? The L-arginine/glutamine coupling hypothesis. *Cell Biochem Funct*. 2008 Jul-Aug;26(4):406-33.

<sup>186</sup> Noskova AS, Margazin VA. Efficacy of intensive therapeutic exercise and interval hypoxic training in rheumatoid arthritis. *Vopr Kurortol Fizioter Lech Fiz Kult*. 2005 Jul-Aug;(4):17-9.

<sup>187</sup> Hamer M, Steptoe A. Walking, vigorous physical activity, and markers of hemostasis and inflammation in healthy men and women. *Scand J Med Sci Sports*. Epub 2008 Feb 2.

<sup>188</sup> Hoffman-Goetz L, Spagnuolo PA, Guan J. Repeated exercise in mice alters expression of IL-10 and TNF-alpha in intestinal lymphocytes. *Brain Behav Immun*. 2008 Feb;22(2):195-9.

<sup>189</sup> Rønningen A, Kjekneus I. Effect of an intensive hand exercise programme in patients with rheumatoid arthritis. *Scand J Occup Ther*. 2008 Apr 7:1-11.

<sup>190</sup> Metsios GS, Stavropoulos-Kalinoglou A, Veldhuijzen van Zanten JJ, Trehaner GJ, Panoulas VF, Douglas KM, Koutedakis Y, Kitas GD. Rheumatoid arthritis, cardiovascular disease and physical exercise: a systematic review. *Rheumatology (Oxford)*. 2008 Mar;47(3):259-489.

<sup>191</sup> Lee EO, Kim JI, Davis AH, Kim I. Effects of regular exercise on pain, fatigue, and disability in patients with rheumatoid arthritis. *Fam Community Health*. 2006 Oct-Dec;29(4):320-7.

<sup>192</sup> de Jong Z, Munneke M, Zwiderman AH, Kroon HM, Ronda KH, Lems WF, Dijkmans BA, Breedveld FC, Vliet Ailend JP, Hazes JM, Huizinga TW. Long term high intensity exercise and damage of small joints in rheumatoid arthritis. *Ann Rheum Dis*. 2004 Nov;63(11):1399-405.

<sup>193</sup> Rall LC, Meydani SN, Kehayias JJ, Dawson-Hughes B, Roubenoff R. The effect of progressive resistance training in rheumatoid arthritis. Increased strength without changes in energy balance or body composition. *Arthritis Rheum*. 1996 Mar;39(3):415-26.

<sup>194</sup> Nieman DC. Exercise immunology: practical applications. *Int J Sports Med*. 1997 Mar;18 Suppl 1:S91-100.

<sup>195</sup> Lee YA, Hyun JK, Tokura H. The effects of skin pressure by clothing on circadian rhythms of core temperature and salivary melatonin. *Chronobiol Int*. 2000 Nov;17(6):783-93.

<sup>196</sup> Cutolo M, Sulli A, Pizzorni C, Secchi ME, Soldano S, Serio L, Straub RH, Otsa K, Maestroni GJ. Circadian rhythms: glucocorticoids and arthritis. *Ann N Y Acad Sci*. 2006 Jun;1069:289-99.

<sup>197</sup> Cutolo M, Masi AT. Circadian rhythms and arthritis. *Rheum Dis Clin North Am*. 2005 Feb;31(1):115-29, ix-x.

<sup>198</sup> Roky R, Chapotot F, Hakkou F, Benckroum MT, Buguet A. Sleep during Ramadan intermittently fasting. *J Sleep Res*. 2001 Dec;10(4):319-27.

<sup>199</sup> Wu MW, Li XM, Xian LJ, Lévi F. Effects of meal timing on tumor progression in mice. *Life Sci*. 2004 Jul 23;75(10):1181-93.

<sup>200</sup> Carney CE, Edinger JD, Meyer B, Lindman L, Istre T. Daily activities and sleep quality in college students. *Chronobiol Int*. 2006;23(3):623-37.

<sup>201</sup> Magrini A, Pietroussi A, Coppeta L, Babbucci A, Barnaba E, Papadia C, Iannaccone U, Boscolo P, Bergamaschi E, Bergamaschi A. Shift work and autoimmune thyroid disorders. *Int J Immunopathol Pharmacol*. 2006 Oct-Dec;19(4 Suppl):31-6.

<sup>202</sup> Mamber R, Bootzin RR, Acebo C, Carskadon MA. The effects of regularizing sleep-wake schedules on daytime sleepiness. *Sleep*. 1996 Jun;19(5):432-41.

<sup>203</sup> Taylor A, Wright HR, Lack LC. Sleeping-in on the weekend delays circadian phase and increases sleepiness the following week. *Sleep Biol Rhythms*. 2008; 6:172-179.

<sup>204</sup> Nettleton JA, Steffen LM, Mayer-Davis EJ, Jenny NS, Jiang R, Herrington DM, Jacobs DR Jr. Dietary patterns are associated with biochemical markers of inflammation and endothelial activation in the Multi-Ethnic Study of Atherosclerosis (MESA). *Am J Clin Nutr*. 2006 Jun;83(6):1369-79.

<sup>205</sup> Kjeldsen-Skræh J. Rheumatoid arthritis treated with vegetarian diets. *Am J Clin Nutr*. 1999 Sep;70(3 Suppl):594S-600S.

<sup>206</sup> Kjeldsen-Skræh J, Mellbye OJ, Haugen M, Molines TE, Hammer HB, Sioud M, Førre O. Changes in laboratory variables in rheumatoid arthritis patients during a trial of fasting and one-year vegetarian diet. *Scand J Rheumatol*. 1995;24(2):85-93.

<sup>207</sup> Danao-Camara TC, Shintani TT. The dietary treatment of inflammatory arthritis: case reports and review of the literature. *Hawaii Med J*. 1999 May;58(5):126-31.

<sup>208</sup> McDougall J, Bruce B, Spiller G, Westerdahl J, McDougall M. Effects of a very low-fat, vegan diet in subjects with rheumatoid arthritis. *J Altern Complement Med*. 2002 Feb;8(1):71-5. Click here to read Links

<sup>209</sup> Häfström J, Ringertz B, Spångberg A, von Zweigbergk L, Brannemark S, Nylander I, Rönneld J, Laasonen L, Kläreskog L. A vegan diet free of gluten improves the signs and symptoms of rheumatoid arthritis: the effects on arthritis correlate with a reduction in antibodies to food antigens. *Rheumatology (Oxford)*. 2001 Oct;40(10):1175-9.

<sup>210</sup> Bae SC, Kim SJ, Sung MK. Inadequate antioxidant nutrient intake and altered plasma antioxidant status of rheumatoid arthritis patients. *Am J Coll Nutr*. 2003 Aug;22(4):311-5.

<sup>211</sup> Abe S, Tanaka Y, Fujise N, Nakamura T, Masunaga H, Nagasawa T, Yagi M. An antioxidative nutrient-rich enteral diet attenuates lethal activity and oxidative stress induced by lipopolysaccharide in mice. *JPN J Parenter Enteral Nutr*. 2007 May-Jun;31(3):181-7.

<sup>212</sup> Kumazawa Y, Kawaguchi K, Takimoto H. Immunomodulating effects of flavonoids on acute and chronic inflammatory responses caused by tumor necrosis factor alpha. *Curr Pharm Des*. 2006;12(3):4271-9.

<sup>213</sup> Dragsted LO, Krath B, Ravn-Haren G, Vogel UV, Vinggaard AM, Bor Jensen P, Loft S, Rasmussen SE, Sandstrom TB, Pedersen A. Biological effects of fruit and vegetables. *Proc Nutr Sci*. 2006 Feb;65(1):61-7.

<sup>214</sup> Reifen R, Nur T, Ghebermeskel K, Zaiger G, Urizky R, Pines M. Vitamin A deficiency exacerbates inflammation in a rat model of colitis through activation of nuclear factor-kappaB and collagen formation. *J Nutr*. 2002 Sep;132(9):2743-7.

<sup>215</sup> Gatica L, Alvarez S, Gomez N, Zago MP, Oteiza P, Oliveros L, Gimenez MS. Vitamin A deficiency induces prooxidant environment and inflammation in rat aorta. *Free Radic Res*. 2005 Jun;39(6):621-8.

<sup>216</sup> Qi L, Hu FB. Dietary glycaemic load, whole grains, and systemic inflammation in diabetes: the epidemiological evidence. *Curr Opin Lipidol*. 2007 Feb;18(1):3-8.

<sup>217</sup> Qi L, van Dam RM, Liu S, Franz M, Mantzoros C, Hu FB. Whole-grain, bran, and cereal fiber intakes and markers of systemic inflammation in diabetic women. *Diabetes Care*. 2006 Feb;29(2):207-11.

<sup>218</sup> Jensen MK, Koh-Banerjee P, Franz M, Sampson L, Grønbaek M, Rimm EB. Whole grains, bran, and germ in relation to homocysteine and markers of glycaemic control, lipids, and inflammation. *Am J Clin Nutr*. 2006 Feb;83(2):275-83.

<sup>219</sup> Kasim-Karakas SE, Tsodikov A, Singh U, Jialal I. Responses of inflammatory markers to a low-fat, high-carbohydrate diet: effects of energy intake. *Am J Clin Nutr*. 2006 Apr;83(4):774-9.

<sup>220</sup> Hänninen, Kaartinen K, Rauma AL, Nenonen M, Törönen R, Häkkinen AS, Adlercreutz H, Laakso J. Antioxidants in vegan diet and rheumatic disorders. *Toxicology*. 2000 Nov 30;155(1-3):45-53.

<sup>221</sup> Kaartinen K, Lammi K, Hyten M, Nenonen M, Hänninen O, Rauma AL. Vegan diet alleviates fibromyalgia symptoms. *Scand J Rheumatol*. 2000;29(5):308-13.

<sup>222</sup> Hagfors L, Nilsson I, Sköldstam L, Johansson G. Fat intake and composition of fatty acids in serum phospholipids in a randomized, controlled, Mediterranean dietary intervention study on patients with rheumatoid arthritis. *Nutr Metab (Lond)*. 2005 Oct 10:26.

<sup>223</sup> Lopez-Garcia E, Schulze MB, Manson JE, Meigs JB, Albert CM, Rifai N, Willett WC, Hu FB. Consumption of (n-3) fatty acids is related to plasma biomarkers of inflammation and endothelial activation in women. *J Nutr*. 2004 Jul;134(7):1806-11.

<sup>224</sup> Linos A, Kakkamanis E, Kontomerkos A, Koumantaki Y, Gazi S, Vaiopoulos G, Tsokos GC, Kakkamanis P. The effect of olive oil and fish consumption on rheumatoid arthritis—a case control study. *Scand J Rheumatol*. 1991;20(6):419-26.

<sup>225</sup> Wahle KW, Caruso D, Ochoa JJ, Quiles JL. Olive oil and modulation of cell signaling in disease prevention. *Lipids*. 2004 Dec;39(12):1223-31.

<sup>226</sup> Owen RW, Haubner R, Würtele G, Hull E, Spiegelhalter B, Bartsch H. Olives and olive oil in cancer prevention. *Eur J Cancer Prev*. 2004 Aug;13(4):319-26.

<sup>227</sup> Aviram M, Elias K. Dietary olive oil reduces low-density lipoprotein uptake by macrophages and decreases the susceptibility of the lipoprotein to undergo lipid peroxidation. *Ann Nutr Metab*. 1993;37(2):75-84.

<sup>228</sup> Kremer JM. n-3 fatty acid supplements in rheumatoid arthritis. *Am J Clin Nutr*. 2000 Jan;71(1 Suppl):349S-51S.

<sup>229</sup> Ishiwa J, Sato T, Mimaki Y, Sashida Y, Yano M, Ito A. Citrus flavonoid, nobiletin, suppresses production and gene expression of matrix metalloproteinase 9/gelatinase B in rabbit synovial fibroblasts. *J Rheumatol*. 2000 Jan;27(1):20-5.

<sup>230</sup> Murakami A, Nakamura Y, Ohto Y, Yano M, Koshida T, Koshimizu K, Tokuda H, Nishino H, Ohigashi H. Suppressive effects of citrus fruits on free radical generation and nobiletin, an anti-inflammatory polymethoxyflavonoid. *Biofactors*. 2000;12(1-4):187-92.

<sup>231</sup> Sasaki M, Eirod JW, Jordan P, Itoh M, Joh T, Minagar A, Alexander JS. CYP450 dietary inhibitors attenuate TNF-alpha-stimulated endothelial molecule expression and leukocyte adhesion. *Am J Physiol Cell Physiol*. 2004 Apr;286(4):C931-9.

<sup>232</sup> Kometani T, Fukuda T, Kakuma T, Kawaguchi K, Tamura W, Kumazawa Y, Nagata K. Effects of alpha-glucosylhesperidin, a bioactive food material, on collagen-induced arthritis in mice and rheumatoid arthritis in humans. *Immunopharmacol Immunotoxicol*. 2008;30(1):17-34.

<sup>233</sup> Benavente-García O, Castillo J. Update on uses and properties of citrus flavonoids: new findings in anticancer, cardiovascular, and anti-inflammatory activity. *J Agric Food Chem*. 2008 Aug 13;56(15):6185-205.

<sup>234</sup> Kawaguchi K, Maruyama H, Kometani T, Kumazawa Y. Suppression of collagen-induced arthritis by oral administration of the citrus flavonoid hesperidin. *Planta Med*. 2006 Apr;72(5):477-9.

<sup>235</sup> Atkinson MA, Winter WE, Skordis N, Beppu H, Riley WM, Maclaren NK. Dietary protein restriction reduces the frequency and delays the onset of insulin dependent diabetes in BB rats. *Autoimmunity*. 1988;2(1):11-9.

<sup>236</sup> Mitchell JH, Collins AR. Effects of a soy milk supplement on plasma cholesterol levels and oxidative DNA damage in men—a pilot study. *Eur J Nutr*. 1999 Jun;38(3):143-8.

<sup>237</sup> Burks AW, Laubach S, Jones SM. Oral tolerance, food allergy, and immunotherapy: implications for future treatment. *J Allergy Clin Immunol*. 2008 Jun;121(6):1344-50.

<sup>238</sup> Van Hoogstraten IM, Andersen KE, Von Blomberg BM, Boden D, Bruynzeel DP, Burrows D, Camarasa JG, Dooms-Goossens A, Kraal G, Lahti A, et al. Reduced frequency of nickel allergy upon oral nickel contact at an early age. *Clin Exp Immunol*. 1991 Sep;85(3):441-5.

<sup>239</sup> Van Hoogstraten IM, Boden D, Von Blomberg ME, Kraal G, Scheper RJ. Persistent immune tolerance to nickel and chromium by oral administration prior to cutaneous sensitization. *J Invest Dermatol*. 1992 Nov;99(5):608-16.

<sup>240</sup> Huijbregtse IL, Snoeck V, de Creus A, Braat H, De Jong EC, Van Deventer SJ, Rottiers P. Induction of ovalbumin-specific tolerance by oral administration of Lactococcus lactis secreting ovalbumin. *Gastroenterology*. 2007 Aug;133(2):517-28.

<sup>241</sup> Nagatani K, Dohi M, To Y, Tanaka R, Okunishi K, Nakagome K, Sagawa K, Tanno Y, Komagata Y, Yamamoto K. Splenic dendritic cells induced by oral antigen administration are important for the transfer of oral tolerance in an experimental model of asthma. *J Immunol*. 2006 Feb 1;176(3):1481-9.

<sup>242</sup> Friedman A, al-Sabbagh A, Santos LM, Fishman-Lobell J, Plafki M, Das MP, Khoury SJ, Weiner HL. Oral tolerance: a biologically relevant pathway to generate peripheral tolerance against external and self antigens. *Chem Immunol*. 1994;58:259-90.

<sup>243</sup> Weiner HL, Mackin GA, Matsui M, Orav EJ, Khoury SJ, Dawson DM, Hafler DA. Double-blind pilot trial of oral tolerization with myelin antigens in multiple sclerosis. *Science*. 1993 Feb 26;259(5099):1321-4. Click here to read Links

<sup>244</sup> Ugochukwu NH, Figgers CL. Caloric restriction inhibits up-regulation of inflammatory cytokines and TNF-alpha, and activates IL-10 and haptoglobin in the plasma of streptozotocin-induced diabetic rats. *J Nutr Biochem*. 2007 Feb;18(2):120-6.

<sup>245</sup> Kalani R, Judge S, Carter C, Pahor M, Leeuwenburgh C. Effects of caloric restriction and exercise on age-related, chronic inflammation assessed by C-reactive protein and interleukin-6. *J Gerontol A Biol Sci Med Sci*. 2006 Mar;61(3):211-7.

<sup>246</sup> Dandona P, Mohanty P, Hamouda W, Ghanim H, Aljada A, Garg R, Kumar V. Inhibitory effect of a two day fast on reactive oxygen species (ROS) generation by leukocytes and plasma ortho-tyrosine and meta-tyrosine concentrations. *J Clin Endocrinol Metab*. 2011 Jun;93(6):2899-902.

<sup>247</sup> Müller H, de Toledo FW, Resch KL. Fasting followed by vegetarian diet in patients with rheumatoid arthritis: a systematic review. *Scand J Rheumatol*. 2001;30(1):1-10.

<sup>248</sup> Fujita A, Hashimoto Y, Nakahara K, Tanaka T, Okuda T, Koda M. Effects of a low caloric vegan diet on disease activity and general conditions in patients with rheumatoid arthritis. *Rinsho Byori*. 1999 Jun;47(6):554-60.

<sup>249</sup> Dandona P, Mohanty P, Ghanim H, Aljada A, Browne R, Hamouda W, Prabhala A, Afzal A, Garg R. The suppressive effect of dietary restriction and weight loss in the obese on the generation of reactive oxygen species by leukocytes, lipid peroxidation, and protein carbonylation. *J Clin Endocrinol Metab*. 2001 Jan;86(1):355-62.

<sup>250</sup> Dandona P, Weinstock R, Thusi K, Abdel-Rahman E, Aljada A, Wadden T. Tumor necrosis factor-alpha in sera of obese patients: fall with weight loss. *J Clin Endocrinol Metab*. 1998 Aug;83(8):2907-10.

<sup>251</sup> Jung SH, Park HS, Kim KS, Choi WH, Ahn CW, Kim BT, Kim SM, Lee SY, Ahn SM, Kim YK, Kim JH, Kim DJ, Lee KW. Effect of weight loss on some serum cytokines in human obesity: increase in IL-10 after weight loss. *J Nutr Biochem*. 2008 Jun;19(6):371-5.

<sup>252</sup> Morimoto A, Murakami N, Ono T, Watanabe T. Dehydration enhances endotoxin fever by increased production of endogenous pyrogen. *Am J Physiol*. 1986 Jul;251(1 Pt 2):R41-7.

<sup>253</sup> Pool EJ, van Wyk JH, Leslie AJ. Inflammatory activity as an indicator of water quality: the use of human whole blood cultures. *J Immunology*. 2000 Nov;21(4):387-99.

<sup>254</sup> Pool EJ, Jagals C, van Wyk JH, Jagals P. The use of IL-6 induction as a human biomarker for inflammatory agents in water. *Water Sci Technol*. 2003;47(7):71-5.

<sup>255</sup> Curkovic B, Vitulic V, Babic-Nagic D, Durrig T. The influence of heat and cold on the pain threshold in rheumatoid arthritis. *Z Rheumatol*. 1993 Sep-Oct;53(2):289-91.

<sup>256</sup> Sluka KA, Christy MR, Peterson WL, Ruddle SL, Troy SM. Reduction of pain-related behaviors with either cold or heat treatment in an animal model of acute arthritis. *Arch Phys Med Rehabil*. 1999 Mar;80(3):313-7.

<sup>257</sup> Rychkova MA, Aïrapetova NS, Davydova OB, Krivtsova IE, Doronina UV, Derevnina NA. Contrast baths in the rehabilitation of patients with chronic bronchitis. *Vopr Kurortol Fizioter Lech Fiz Kult*. 1994 May-Jun;3(3):3-6.

<sup>258</sup> Petrofsky J, Lohman E 3rd, Lee S, de la Cuesta Z, Labial L, Iouciulescu R, Moseley B, Korsos R, Al Malty A. Effects of contrast baths on skin blood flow on the dorsal and plantar foot in people with type 2 diabetes and age-matched controls. *Physiother Theory Pract*. 2007 Jul-Aug;23(4):189-97.

<sup>259</sup> Cecchini M, Lopresti V. Drug residues store in the body following cessation of use: Impacts on neuroendocrine balance and behavior - Use of the Hubbard sauna regimen to remove toxins and restore health. *Med Hypotheses*. 2007;68(4):868-79.

<sup>260</sup> Jiao Y, Wilkinson J 4th, Christine Pietsch E, Buss JL, Wang W, Planalp R, Torti FM, Torti SV. Iron chelation in the biological activity of urchem. *Free Radic Biol Med*. 2006 Apr 1;40(7):1152-60.

<sup>261</sup> Barollo M, D'Inca R, Scarpa M, Medici V, Cardin R, Fries W, Angrimm I, Sturniolo GC. Effects of iron deprivation or chelation on DNA damage in experimental colitis. *Int J Colorectal Dis*. 2004 Sep;19(5):461-6.

<sup>262</sup> Horne S. Colon cleansing: a popular, but misunderstood natural therapy. *J Herb Pharmacother*. 2006;6(2):93-100.

<sup>263</sup> Pederson JA, Matter BJ, Czerwinski AW, Llach F. Relief of idiopathic generalized pruritus in dialysis patients treated with activated oral charcoal. *Ann Intern Med*. 1980 Sep;93(3):446-8.

<sup>264</sup> Sologub VK, Kaem RI, Pavlova VV, Ustinova TS, Lopatto IUS. Morphological characteristics of the healing of burn wounds covered by an activated-charcoal tissue dressing. *Bull Eksp Biol Med*. 1989 Mar;107(3):360-3.

<sup>265</sup> Li LG, Chai JK, Guo ZR, Yang HM, Jia XM, Xu MH, Li F, Cao WH, Feng G, Sheng ZY. Application of carbon fiber dressing on burn wounds. *Zhonghua Wei Ke Za Zhi*. 2006 Aug 4;14(4):1047-9.

<sup>266</sup> Barbas IM, Ermolenko IN, Dozoretz DI, Klimova TV, Kozlova IG, Korenko LA, Morozova AA, Skorumets AA, Totolian NA. Enterosorption in the combined treatment of patients with multiple sclerosis. *Klin Med (Mosk)*. 1991 Feb;69(2):88-90.

<sup>267</sup> Bartlett SJ, Piedmont R, Bilderback A, Matsumoto AK, Bathon JM. Spirituality, well-being, and quality of life in people with rheumatoid arthritis. *Arthritis Rheum*. 2003 Dec 15;49(6):778-83.

<sup>268</sup> Potter ML, Zazulniewski JA. Spirituality, resourcefulness, and arthritis impact on health perception of elders with rheumatoid arthritis. *J Holist Nurs*. 2000 Dec;18(4):311-31.

<sup>269</sup> Coruh B, Aylele H, Pugh M, Mulligan T. Does religious activity improve health outcomes? A critical review of the recent literature. *Explore (NY)*. 2005 May;1(3):186-91.

<sup>270</sup> Matthews DA, Marlowe SM, MacNutt FS. Effects of intercessory prayer on patients with rheumatoid arthritis. *South Med J*. 2002 Dec;93(12):1177-86.

<sup>271</sup> Walker JG, Littlejohn GO, McMurray NE, Cutolo M. Stress system response and rheumatoid arthritis: a multilevel approach. *Rheumatology (Oxford)*. 1999 Nov;38(11):1050-7.

<sup>272</sup> Wahle M, Krause A, Pierer M, Hantzschel H, Baerwald GC. Immunopathogenesis of rheumatic diseases in the context of neuroendocrine interactions. *Ann N Y Acad Sci*. 2002 Jun;966:355-64.

<sup>273</sup> Kjeldsen-Skræh J, Haugen M, Førre O, Laache H, Malt UF. Vegetarian diet for patients with rheumatoid arthritis: can the clinical effects be explained by the psychological characteristics of the patients? *Br J Rheumatol*. 1994 Jun;33(6):569-75.

<sup>274</sup> Tuck L, Allynne R, Thingajana W. Spirituality and stress management in healthy adults. *J Holist Nurs*. 2006 Dec;24(4):245-53.

<sup>275</sup> Matthew 11:28, King James Version of the Holy Bible.

<sup>276</sup> Genesis 1:29; 3:18 (NIV). Scripture taken from the HOLY BIBLE, NEW INTERNATIONAL VERSION®. Copyright © 1973, 1978, 1984 International Bible Society. Used by permission of Zondervan. All rights reserved. The "NIV" and "New International Version" trademarks are registered in the United States Patent and Trademark Office by International Bible Society. Use of either trademark requires the permission of International Bible Society.

## Chapter 15 - References

- Jemal A, Siegel R, Ward E, et al. Cancer statistics, 2007. *CA Cancer J Clin*. 2007 Jan-Feb;57(1):43-66.
- U.S. Cancer Statistics Working Group. *United States Cancer Statistics: 2002 Incidence and Mortality*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2005.
- Augustin LS, Dal Maso L, La Vecchia C, et al. Dietary glycaemic index and glycaemic load, and breast cancer risk: a case-control study. *Ann Oncol*. 2001 Nov;12(11):1533-8.
- Augustin LS, Galeone C, Dal Maso L, et al. Glycaemic index, glycaemic load and risk of prostate cancer. *Int J Cancer*. 2004 Nov 10;112(3):446-50.
- Franceschi S, Dal Maso L, Augustin L, et al. Dietary glycaemic load and colorectal cancer risk. *Ann Oncol*. 2001 Feb;12(2):173-8.

# Blue Print for Health and Healing

- <sup>6</sup> Augustin LS, Gallus S, Bosetti C, et al. Glycemic index and glycemic load in endometrial cancer. *Int J Cancer*. 2003 Jun 20;105(3):404-7.
- <sup>7</sup> Augustin LS, Gallus S, Negri E, La Vecchia C. Glycemic index, glycemic load and risk of gastric cancer. *Ann Oncol*. 2004 Apr;15(4):581-4.
- <sup>8</sup> Augustin LS, Polesel J, Bosetti C, et al. Dietary glycemic index, glycemic load and ovarian cancer risk: a case-control study in Italy. *Ann Oncol*. 2003 Jan;14(1):78-84.
- <sup>9</sup> Scherhammer ES, Hu FB, Giovannucci E, et al. Sugar-sweetened soft drink consumption and risk of pancreatic cancer in two prospective cohorts. *Cancer Epidemiol Biomarkers Prev*. 2005 Sep;14(9):2098-105.
- <sup>10</sup> Stattin P, Björ O, Ferrari P, et al. Prospective study of hyperglycemia and cancer risk. *Diabetes Care*. 2007 Mar;30(3):561-7.
- <sup>11</sup> Biernat J, Krzyśk M. The influence of deficient and excessive dietary energy supply on immune system functioning. *Przegl Lek*. 2005;62(8):818-20.
- <sup>12</sup> Bozzetti F. Nutritional issues in the care of the elderly patient. *Crit Rev Oncol Hematol*. 2003 Nov;48(2):113-21.
- <sup>13</sup> Dictor M, Ramebach E, Way D, et al. Human herpesvirus 8 (Kaposi's sarcoma-associated herpesvirus) DNA in Kaposi's sarcoma lesions, AIDS Kaposi's sarcoma cell lines, endothelial Kaposi's sarcoma simulators, and the skin of immunosuppressed patients. *Am J Pathol*. 1996 Jun;148(6):2009-16.
- <sup>14</sup> Johnson ES, Dalmas D, Noss J, et al. Cancer mortality among workers in abattoirs and meatpacking plants: an update. *Am J Ind Med*. 1995 Mar;27(3):389-403.
- <sup>15</sup> Johnson ES, Shorter C, Rider B, Jiles R. Mortality from cancer and other diseases in poultry slaughtering/processing plants. *Int J Epidemiol*. 1997 Dec;26(6):1142-50.
- <sup>16</sup> Singh PN, Fraser GE. Dietary risk factors for colon cancer in a low-risk population. *Am J Epidemiol*. 1998 Oct 15;148(8):761-74.
- <sup>17</sup> Kiani F, Knutsen S, Singh P, Ursin G, Fraser G. Dietary risk factors for ovarian cancer: the Adventist Health Study (United States). *Cancer Causes Control*. 2006 Mar;17(2):137-46.
- <sup>18</sup> Michaud DS, Augustusson K, Rimm EB, et al. A prospective study on intake of animal products and risk of prostate cancer. *Cancer Causes Control*. 2001 Aug;12(6):557-67.
- <sup>19</sup> Talamini R, Polesel J, Montella M, et al. Food groups and risk of non-Hodgkin lymphoma: a multicenter, case-control study in Italy. *Int J Cancer*. 2006 Jun 1;118(11):2871-6.
- <sup>20</sup> Gertrude Buehring, Ph.D. Symposium Abstract (2005) California Breast Cancer Research Program of the University of California, Grant 6PB-0075 [http://www.cbcrp.org/research/PageGrant.asp?grant\\_id=1815](http://www.cbcrp.org/research/PageGrant.asp?grant_id=1815)
- <sup>21</sup> Lewin MH, Bailey N, Bandaletova T, et al. Red meat enhances the colonic formation of the DNA adduct O6-carboxymethyl guanine: implications for colorectal cancer risk. *Cancer Res*. 2006 Feb 1;66(3):1859-65.
- <sup>22</sup> Sinha R, Kulkarni M, Chow WH, et al. Dietary intake of heterocyclic amines, meat-derived mutagenic activity, and risk of colorectal adenomas. *Cancer Epidemiol Biomarkers Prev*. 2001 May;10(5):559-62.
- <sup>23</sup> Taghavi N, Yazdi L. Type of food and risk of oral cancer. *Arch Iran Med*. 2007 Apr;10(2):227-32.
- <sup>24</sup> Li C, Bai X, Wang S, Tomiyama-Miyai C, et al. Immunopotential of NK cells by low-protein diet and the suppressive effect on tumor metastasis. *Cell Immunol*. 2004 Sep-Oct;231(1-2):96-102.
- <sup>25</sup> Bell RC, Golemboski KA, Dieterl RR, Campbell TC. Long-term intake of a low-casestin diet is associated with higher relative NK cell cytotoxic activity in F344 rats. *Nutr Cancer*. 1994;22(2):151-62.
- <sup>26</sup> Epstein SS. Unlabeled milk from cows treated with biosynthetic growth hormones: a case of regulatory abdication. *Int J Health Serv*. 1996;26(1):173-85.
- <sup>27</sup> Heaney RP, McCarron DA, Dawson-Hughes B, et al. Dietary changes favorably affect bone remodeling in older adults. *J Am Diet Assoc*. 1999 Oct;99(10):1228-33.
- <sup>28</sup> Chan JM, Stampfer MJ, Giovannucci E, et al. Plasma insulin-like growth factor-I and prostate cancer risk: a prospective study. *Science*. 1998 Jan 23;279(5350):563-6.
- <sup>29</sup> Hankinson SE, Willett WC, Colditz GA, et al. Circulating concentrations of insulin-like growth factor-I and risk of breast cancer. *Lancet*. 1998 May 9;351(9113):1393-6.
- <sup>30</sup> Frittitta L, Cerrato A, Sacco MG, et al. The insulin receptor content is increased in breast cancers initiated by three different oncogenes in transgenic mice. *Breast Cancer Res Treat*. 1997 Sep;45(2):141-7.
- <sup>31</sup> Yu H, Spitz MR, Mistry J, et al. Plasma levels of insulin-like growth factor-I and lung cancer risk: a case-control analysis. *J Natl Cancer Inst*. 1999 Jan 20;91(2):151-6.
- <sup>32</sup> Russo IH, Russo J. Role of hormones in mammary cancer initiation and progression. *J Mammary Gland Biol Neoplasia*. 1998 Jan;3(1):49-61.
- <sup>33</sup> Liehr JG. Is estradiol a genotoxic mutagenic carcinogen? *Endocr Rev*. 2000 Feb;21(1):40-54.
- <sup>34</sup> Cummings SR, Duong T, Kenyon E, et al. Serum estradiol level and risk of breast cancer during treatment with raloxifene. *JAMA*. 2002 Jan 9;287(2):216-20.
- <sup>35</sup> Daxenberger A, Ibarreta D, Meyer HH. Possible health impact of animal estrogens in food. *Hum Reprod Update*. 2001 May;7(3):340-55.
- <sup>36</sup> Nagata C, Nagao Y, Shibuya C, et al. Fat intake is associated with serum estrogen and androgen concentrations in postmenopausal Japanese women. *J Nutr*. 2005 Dec;135(12):2862-5.
- <sup>37</sup> Carroll KK, Khor HT. Dietary fat in relation to tumorigenesis. *Prog Biochem Pharmacol*. 1975;10:308-53.
- <sup>38</sup> Fradet Y, Meyer F, Bairati I, et al. Dietary fat and prostate cancer progression and survival. *Eur Urol*. 1999;35(6):388-91.
- <sup>39</sup> Kohlmeier L, Simonsen N, van 't Veer P, et al. Adipose tissue trans fatty acids and breast cancer in the European Community Multicenter Study on Antioxidants, Myocardial Infarction, and Breast Cancer. *Cancer Epidemiol Biomarkers Prev*. 1997 Sep;6(9):705-10.
- <sup>40</sup> King IB, Kristal AR, Schaffer S, et al. Serum trans-fatty acids are associated with risk of prostate cancer in beta-Carotene and Retinol Efficacy Trial. *Cancer Epidemiol Biomarkers Prev*. 2005 Apr;14(4):988-92.
- <sup>41</sup> Slattery ML, Benson J, Ma KN, et al. Trans-fatty acids and colon cancer. *Nutr Cancer*. 2001;39(2):170-5.
- <sup>42</sup> Newcomb LM, Newcomb PA, Trentham-Dietz A, et al. Oral contraceptive use and risk of breast cancer by histologic type. *Int J Cancer*. 2003 Oct 10;106(6):961-4.
- <sup>43</sup> Hemminki E, Luostarinen T, Pukkala E, et al. Oral contraceptive use before first birth and risk of breast cancer: a case control study. *BMC Womens Health*. 2002 Aug 5;2(1):9.
- <sup>44</sup> Beral V, Bull D, Reeves G, et al. Endometrial cancer and hormone-replacement therapy in the Million Women Study. *Lancet*. 2005 Apr 30-May 6;365(9470):1543-51.
- <sup>45</sup> Tworoger SS, Missmer SA, Barbieri RL, et al. Plasma sex hormone concentrations and subsequent risk of breast cancer among women using postmenopausal hormones. *J Natl Cancer Inst*. 2005 Apr 20;97(8):595-602.
- <sup>46</sup> Black HS, Herd JA, Goldberg LH, et al. Effect of a low-fat diet on the incidence of actinic keratosis. *N Engl J Med*. 1994 May 5;330(18):1272-5.
- <sup>47</sup> Donegan WL, Johnstone MF, Biedrzycki L. Obesity, estrogen production, and tumor estrogen receptors in women with carcinoma of the breast. *Am J Clin Oncol*. 1983 Feb;6(1):19-24.
- <sup>48</sup> Silverman DT, Swanson CA, Gridley G, et al. Dietary and nutritional factors and pancreatic cancer: a case-control study based on direct interviews. *J Natl Cancer Inst*. 1998 Nov 18;90(22):1710-9.
- <sup>49</sup> Chang SC, Ziegler RG, Dunn B. Association of energy intake and energy balance with postmenopausal breast cancer in the prostate, lung, colorectal, and ovarian cancer screening trial. *Cancer Epidemiol Biomarkers Prev*. 2006 Feb;15(2):334-41.
- <sup>50</sup> Slattery ML, Caan BJ, Potter JD, et al. Dietary energy sources and colon cancer risk. *Am J Epidemiol*. 1997 Feb 1;145(3):199-210.
- <sup>51</sup> Ray G, Husain SA. Role of lipids, lipoproteins and vitamins in women with breast cancer. *Clin Biochem*. 2001 Feb;34(1):71-6.
- <sup>52</sup> Aschengrau A, Coogan PF, Quinn M, et al. Occupational exposure to estrogenic chemicals and the occurrence of breast cancer: an exploratory analysis. *Am J Ind Med*. 1998 Jul;34(1):6-14.
- <sup>53</sup> Klotz DM, Beckman BS, Hwang SM, et al. Identification of environmental chemicals with estrogenic activity using a combination of in vitro assays. *Environ Health Perspect*. 1996 Oct;104(10):1084-9.
- <sup>54</sup> Koner BC, Banerjee BD, Ray A. Organochlorine pesticide-induced oxidative stress and immune suppression in rats. *Indian J Exp Biol*. 1998 Apr;36(4):395-8.
- <sup>55</sup> Svensson BG, Hallberg T, Nilsson A, et al. Parameters of immunological competence in subjects with high consumption of fish contaminated with persistent organochlorine compounds. *Int Arch Occup Environ Health*. 1994;65(6):351-8.
- <sup>56</sup> Güttes S, Failing K, Neumann K, et al. Chlororganic pesticides and polychlorinated biphenyls in breast tissue of women with benign and malignant breast disease. *Arch Environ Contam Toxicol*. 1998 Jul;35(1):140-7.
- <sup>57</sup> Kannan K, Kajiwara N, Watanabe M, et al. Profiles of polychlorinated biphenyl congeners, organochlorine pesticides, and butyltins in southern sea otters and their prey. *Environ Toxicol Chem*. 2004 Jan;23(1):49-56.
- <sup>58</sup> Wu X, Roth JA, Zhao H, et al. Cell cycle checkpoints, DNA damage/repair, and lung cancer risk. *Cancer Res*. 2005 Jan 1;65(1):349-57.
- <sup>59</sup> Sarkaria JN, Busby EC, Tibbetts RS, et al. Inhibition of ATM and ATR kinase activities by the radiosensitizing agent, caffeine. *Cancer Res*. 1999 Sep 1;59(17):4375-82.
- <sup>60</sup> Trichopoulos D, Papapostolou M, Polychronopoulou A. Coffee and ovarian cancer. *Int J Cancer*. 1981 Dec;28(6):691-3.
- <sup>61</sup> Minton JP, Abu-Issa H, Foelcking MK, Striarn MG. Caffeine and unsaturated fat diet significantly promotes DMBA-induced breast cancer in rats. *Cancer*. 1983 Apr 1;51(7):1249-53.
- <sup>62</sup> Newcomb PA, Carbone PP. The health consequences of smoking. *Cancer*. *Med Clin North Am*. 1992 Mar;76(2):305-31.
- <sup>63</sup> Maxcy-Rosenau-Last Public Health & Preventive Medicine, 13 ed. 1992 p.816.
- <sup>64</sup> Baj Z, Majewska E, Zeman K, et al. The effect of chronic exposure to formaldehyde, phenol and organic chlorohydrocarbons on peripheral blood cells and the immune system in humans. *J Invest Allergol Clin Immunol*. 1994 Jul-Aug;4(4):186-91.
- <sup>65</sup> Sax SN, Bennett DH, Chillrud SN, et al. A cancer risk assessment of inner-city teenagers living in New York City and Los Angeles. *Environ Health Perspect*. 2006 Oct;114(10):1558-66.
- <sup>66</sup> Ito N, Fukushima S, Shirai T, et al. Drugs, food additives and natural products as promoters in rat urinary bladder carcinogenesis. *IARC Sci Publ*. 1984;(56):399-407.
- <sup>67</sup> Ito N, Fukushima S, Tsuda H. Carcinogenicity and modification of the carcinogenic response by BHA, BHT, and other antioxidants. *Crit Rev Toxicol*. 1985;15(2):109-50.
- <sup>68</sup> National Toxicology Program. Butylated hydroxyanisole (BHA). *Rep Carcinog*. 2002;10:40-2.
- <sup>69</sup> Umemura T, Kodama Y, Hioki K, et al. Butylhydroxytoluene (BHT) increases susceptibility of transgenic rasH2 mice to lung carcinogenesis. *J Cancer Res Clin Oncol*. 2001 Oct;127(10):583-90.
- <sup>70</sup> Thompson JA, Bolton JL, Malkinson AM. Relationship between the metabolism of butylated hydroxytoluene (BHT) and lung tumor promotion in mice. *Exp Lung Res*. 1991 Mar-Apr;17(2):439-53.
- <sup>71</sup> Wurtzen G, Olsen P. Chronic study on BHT in rats. *Food Chem Toxicol*. 1986 Oct-Nov;24(10-11):1121-5.
- <sup>72</sup> Shiao YH, Kamata SI, Li LM, et al. Mutations in the VHL gene from potassium bromate-induced rat clear cell renal tumors. *Cancer Lett*. 2002 Dec 10;187(1-2):207-14.
- <sup>73</sup> Crosby LM, Morgan KT, Gaskill B. Origin and distribution of potassium bromate-induced testicular and peritoneal mesotheliomas in rats. *Toxicol Pathol*. 2000 Mar-Apr;28(2):253-66.
- <sup>74</sup> DeAngelo AB, George MH, Kilburn SR, et al. Carcinogenicity of potassium bromate administered in the drinking water to male B6C3F1 mice and F344/N rats. *Toxicol Pathol*. 1998 Sep-Oct;26(5):587-94.
- <sup>75</sup> Kurokawa Y, Maekawa A, Takahashi M, et al. Toxicity and carcinogenicity of potassium bromate—a new renal carcinogen. *Environ Health Perspect*. 1990 Jul;87:309-35.
- <sup>76</sup> Byren D, Engholm G, Englund A, Westerholm P. Mortality and cancer morbidity in a group of Swedish VCM and PCV production workers. *Environ Health Perspect*. 1976 Oct;17:167-70.
- <sup>77</sup> Takahashi K, Akiniwa K, Narita K. Regression analysis of cancer incidence rates and water fluoride in the U.S.A. based on IACR/IARC (WHO) data (1978-1992). *International Agency for Research on Cancer*. *J Epidemiol*. 2001 Jul;11(4):170-9.
- <sup>78</sup> Tohyama E. Relationship between fluoride concentration in drinking water and mortality rate from uterine cancer in Okinawa prefecture, Japan. *J Epidemiol*. 1996 Dec;6(4):184-91.
- <sup>79</sup> Kasim K, Levallois P, Johnson KC, et al. Chlorination disinfection by-products in drinking water and the risk of adult leukemia in Canada. *Am J Epidemiol*. 2006 Jan 15;163(2):116-26. Epub 2005 Nov 30.
- <sup>80</sup> Zotenzen BC, Hrubez J, de Greef E, Kool HJ. Mutagenic activity associated with by-products of drinking water disinfection by chlorine, chlorine dioxide, ozone and UV-irradiation. *Environ Health Perspect*. 1982 Dec;46:197-205.
- <sup>81</sup> Larsson SC, Orsini N, Wolk A. Body mass index and pancreatic cancer risk: A meta-analysis of prospective studies. *Int J Cancer*. 2007 May 1;120(9):1993-8.
- <sup>82</sup> Ghadian P, Baillargeon J, Simard A, Perret C. Food habits and pancreatic cancer: a case-control study of the Francophone community in Montreal, Canada. *Cancer Epidemiol Biomarkers Prev*. 1995 Dec;4(8):895-9.
- <sup>83</sup> Porta M, Malats N, Guarnier L, et al. Association between coffee drinking and K-ras mutations in exocrine pancreatic cancer. *PANKRAS II Study Group*. *J Epidemiol Community Health*. 1999 Nov;53(11):702-9.
- <sup>84</sup> Benarde MA, Weiss W. Coffee consumption and pancreatic cancer: temporal and spatial correlation. *Br Med J (Clin Res Ed)*. 1982 Feb 6;284(6313):400-2.
- <sup>85</sup> MacMahon B, Yen S, Trichopoulos D, et al. Coffee and cancer of the pancreas. *N Engl J Med*. 1981 Mar 12;304(11):630-3.
- <sup>86</sup> Hu J, La Vecchia C, Negri E, et al. Diet and brain cancer in adults: a case-control study in northeast China. *Int J Cancer*. 1999 Mar 31;81(1):20-3.
- <sup>87</sup> Behara D, Balamugesh T. Indoor air pollution as a risk factor for lung cancer in women. *J Assoc Physicians India*. 2005 Mar;53:190-2.
- <sup>88</sup> Garshick E, Laden F, Hart JE, et al. Lung cancer in railroad workers exposed to diesel exhaust. *Environ Health Perspect*. 2004 Nov;112(15):1539-43.
- <sup>89</sup> Gasche C, Chang CL, Rhee S, et al. Oxidative stress increases frameshift mutations in human colorectal cancer cells. *Cancer Res*. 2001 Oct 15;61(20):7444-8.
- <sup>90</sup> Souza RF, Morales CP, Speclher SJ. Review article: a conceptual approach to understanding the molecular mechanisms of cancer development in Barrett's esophagus. *Aliment Pharmacol Ther*. 2001 Aug;15(8):1087-100.
- <sup>91</sup> Scherhammer ES, Hankinson SE. Urinary melatonin levels and breast cancer risk. *J Natl Cancer Inst*. 2000 Jul 20;92(14):1084-7.
- <sup>92</sup> Scherhammer ES, Laden F, Speizer FE, et al. Rotating night shifts and risk of breast cancer in women participating in the nurses' health study. *J Natl Cancer Inst*. 2001 Oct 17;93(20):1563-8.
- <sup>93</sup> Pauley SM. Lighting for the human circadian clock: recent research indicates that lighting has become a public health issue. *Med Hypotheses*. 2004;63(4):588-96.
- <sup>94</sup> Reiche EM, Morimoto HK, Nunes SM. Stress and depression-induced immune dysfunction: implications for the development and progression of cancer. *Int Rev Psychiatry*. 2005 Dec;17(6):515-27.
- <sup>95</sup> Reiche EM, Nunes SO, Morimoto HK. Stress, depression, the immune system, and cancer. *Lancet Oncol*. 2004 Oct;5(10):617-25.
- <sup>96</sup> Eysenck HJ. Personality, stress and cancer: prediction and prophylaxis. *Br J Med Psychol*. 1988 Mar;61 (Pt 1):57-75.
- <sup>97</sup> Lillberg K, Verkasalo PK, Kaprio J, et al. Stressful life events and risk of breast cancer in 10,808 women: a cohort study. *Am J Epidemiol*. 2003 Mar 1;157(5):415-23.
- <sup>98</sup> Thomas SP, Groer M, Davis M, et al. Anger and cancer: an analysis of the linkages. *Cancer Nurs*. 2000 Oct;23(5):344-9.
- <sup>99</sup> Ha M, Im H, Lee M, et al. Radio-Frequency Radiation Exposure from AM Radio Transmitters and Childhood Leukemia and Brain Cancer. *Am J Epidemiol*. 2007 Jun 7.
- <sup>100</sup> Hardell L, Mild KH, Carlberg M. Further aspects on cellular and cordless telephones and brain tumours. *Int J Oncol*. 2003 Feb;22(2):399-407.
- <sup>101</sup> Zhu K, Hunter S, Payne-Wilke K, et al. Use of electric bedding devices and risk of breast cancer in African-American women. *Am J Epidemiol*. 2003 Oct 15;158(8):798-806.
- <sup>102</sup> Caplan LS, Schoenfeld ER, O'Leary ES, Leske MC. Breast cancer and electromagnetic fields—a review. *Ann Epidemiol*. 2000 Jan;10(1):31-44.
- <sup>103</sup> Hatch EC, Linet MS, Kleinerman RA, et al. Association between childhood acute lymphoblastic leukemia and use of electrical appliances during pregnancy and childhood. *Epidemiology*. 1998 May 9(3):234-45.
- <sup>104</sup> Ionescu JG, Novotny J, Stejskal V, et al. Increased levels of transition metals in breast cancer tissue. *Neuro Endocrinol Lett*. 2006 Dec;27 Suppl 1:36-9.
- <sup>105</sup> Wang YD, Chen YJ, Wu YM, Xu D. Experiment study on the estrogen-like effect of compounds of mercury, chromium and manganese. *Wei Sheng Yan Jiu*. 2005 Jan;34(1):49-51.
- <sup>106</sup> White EG. *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association, 1942 p.127.
- <sup>107</sup> White EG. *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association, 1942 p.127.
- <sup>108</sup> White EG. *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association, 1942 p.181.
- <sup>109</sup> Yamada R, Yanoma S, Akaike M, et al. Water-generated negative air ions activate NK cell and inhibit carcinogenesis in mice. *Cancer Lett*. 2006 Aug 8;239(2):190-7.
- <sup>110</sup> Williams JH, Phillips TD, Jolly PE, et al. Human aflatoxicosis in developing countries: a review of toxicology, exposure, potential health consequences, and interventions. *Am J Clin Nutr*. 2004 Nov;80(5):1106-22.
- <sup>111</sup> Bowers J, Brown B, Springer J. Risk assessment for aflatoxin: an evaluation based on the multistage model. *Risk Anal*. 1993 Dec;13(6):637-42.
- <sup>112</sup> Kelly JD, Easton ML, Guengerich FP, Coulombe RA. Aflatoxin B1 activation in human lung. *Toxicol Appl Pharmacol*. 1997 Mar;144(1):88-95.
- <sup>113</sup> Thrash AM. *Thrush CL. Hope For Cancer*. Seale, AL: NewLifestyle Books, 2000 p.17.
- <sup>114</sup> White EG. *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association, 1951 p. 52.
- <sup>115</sup> Spina CS, Tangricha V, Uskokovic M, et al. Vitamin D and cancer. *Anticancer Res*. 2006 Jul-Aug;26(4A):2515-24.
- <sup>116</sup> Zhou W, Heist RS, Liu G, Park S, et al. Smoking cessation before diagnosis and survival in early stage non-small cell lung cancer patients. *Lung Cancer*. 2006 Sep;53(3):375-80.
- <sup>117</sup> Bosetti C, Franceschi S, Levi F, et al. Smoking and drinking cessation and the risk of oesophageal cancer. *Br J Cancer*. 2000 Sep;83(5):689-91.
- <sup>118</sup> Jiang W, Zhu Z, Thompson HH. Effect of energy restriction on cell cycle machinery in 1-methyl-1-nitrosourea-induced mammary carcinomas in rats. *Cancer Res*. 2003 Mar 15;63(6):1228-34.
- <sup>119</sup> Haley-Zitlin V, Richardson A. Effect of dietary restriction on DNA repair and DNA damage. *Mutat Res*. 1993 Dec;295(4-6):237-45.
- <sup>120</sup> Kagawa Y. Impact of Westernization on the nutrition of Japanese: changes in physique, cancer, longevity and centenarians. *Prev Med*. 1978 Jun;7(2):205-17.
- <sup>121</sup> Weindruch R, Devens BH, Raff HV, Walford RL. Influence of dietary restriction and aging on natural killer cell activity in mice. *J Immunol*. 1983 Feb;130(2):993-6.
- <sup>122</sup> Lamas O, Martinez JA, Marti A. Energy restriction restores the impaired immune response in overweight (cafeteria) rats. *J Nutr Biochem*. 2004 Jul;15(7):418-25.
- <sup>123</sup> Mark 6:31. King James version of the Holy Bible.
- <sup>124</sup> Savard J, Laroche L, Simard S, et al. Chronic insomnia and immune functioning. *Psychosom Med*. 2003 Mar-Apr;65(2):211-21.
- <sup>125</sup> Wingard DL, Berkman LF. Mortality risk associated with sleeping patterns among adults. *Sleep*. 1983;6(2):102-7.
- <sup>126</sup> Filipkci E, King VM, Li X, et al. Host circadian clock as a control point in tumor progression. *J Natl Cancer Inst*. 2002 May 1;94(9):690-7.
- <sup>127</sup> Septhton S, Spiegel D. Circadian disruption in cancer: a neuroendocrine-immune pathway from stress to disease? *Brain Behav Immun*. 2003 Oct;17(5):321-8.
- <sup>128</sup> Flagg EW, Coates RJ, Jones DP, et al. Plasma total glutathione in humans and its association with demographic and health-related factors. *Br J Nutr*. 1993 Nov;70(3):797-808.
- <sup>129</sup> Lee CD, Blair SN. Cardiorespiratory fitness and smoking-related and total cancer mortality in men. *Med Sci Sports Exerc*. 2000 May;32(5):735-9.
- <sup>130</sup> Nieman DC. Exercise immunology: practical applications. *Int J Sports Med*. 1997 Mar;18 Suppl 1:S91-100.
- <sup>131</sup> Thune I, Brenn T, Lund E, Gaard M. Physical activity and the risk of breast cancer. *N Engl J Med*. 1997 May 1;336(18):1269-75.

# References

- 122 Bernstein L, Henderson BE, Hanisch R, et al. Physical exercise and reduced risk of breast cancer in young women. *J Natl Cancer Inst.* 1994 Sep 21;86(18):1403-8.
- 123 Thune I, Brenn T, Lund E, Gaard M. Physical activity and the risk of breast cancer. *N Engl J Med.* 1997 May 1;336(18):1269-75.
- 124 Breslow RA, Ballard-Barbash R, Munoz K, Graubard BI. Long-term recreational physical activity and breast cancer in the National Health and Nutrition Examination Survey I epidemiologic follow-up study. *Cancer Epidemiol Biomarkers Prev.* 2001 Jul;10(7):805-8.
- 125 Pan SY, Ugnat AM, Mao Y. Physical activity and the risk of ovarian cancer: a case-control study in Canada. *Int J Cancer.* 2005 Nov 1;117(2):300-7.
- 126 Matthews CE, Xu WH, Zheng W, et al. Physical activity and risk of endometrial cancer: a report from the Shanghai endometrial cancer study. *Cancer Epidemiol Biomarkers Prev.* 2005 Apr;14(4):779-85.
- 127 Oliveria SA, Kohl HW, Trichopoulos D, Blair SN. The association between cardiorespiratory fitness and prostate cancer. *Med Sci Sports Exerc.* 1996 Jan;28(1):97-104.
- 128 Whittemore AS, Wu-Williams AH, Lee M, et al. Diet, physical activity, and colorectal cancer among Chinese in North America and China. *J Natl Cancer Inst.* 1990 Jun 6;82(11):915-26.
- 129 Vena JE, Graham S, Zielczynski M, et al. Lifetime occupational exercise and colon cancer. *Am J Epidemiol.* 1985 Sep;122(3):357-65.
- 130 Lee IM, Paffenbarger RS. Physical activity and its relation to cancer risk: a prospective study of college alumni. *Med Sci Sports Exerc.* 1994 Jul;26(7):831-7.
- 131 McTiernan A, Tworoger SS, Ulrich CM, et al. Effect of exercise on serum estrogens in postmenopausal women: a 12-month randomized clinical trial. *Cancer Res.* 2004 Apr 15;64(8):2923-8.
- 132 Fairley AS, Courneya AK, Field CJ, et al. Effects of exercise training on fasting insulin, insulin resistance, insulin-like growth factors, and insulin-like growth factor binding proteins in postmenopausal breast cancer survivors: a randomized controlled trial. *Cancer Epidemiol Biomarkers Prev.* 2003 Aug;12(8):721-7.
- 133 Gaisbauer M, Langosch A. Raw food and immunity. *Fortschr Med.* 1990 Jun 10;108(17):338-40.
- 134 Willett WC. Micronutrients and cancer risk. *Am J Clin Nutr.* 1994 May;59(5 Suppl):1162S-1165S.
- 135 Aggarwal BB, Shishodia S. Molecular targets of dietary agents for prevention and therapy of cancer. *Biochem Pharmacol.* 2006 May 14;71(10):1397-421.
- 136 Kundu JK, Surh YJ. Breaking the relay in deregulated cellular signal transduction as a rationale for chemoprevention with anti-inflammatory phytochemicals. *Mutat Res.* 2005 Dec 11;591(1-2):123-46.
- 137 Enioutina EY, Visic VD, Daynes RA. Enhancement of common mucosal immunity in aged mice following their supplementation with various antioxidants. *Vaccine.* 2000 May 8;18(22):2381-93.
- 138 Steinmetz KA, Potter JD. Vegetables, fruit, and cancer prevention: a review. *J Am Diet Assoc.* 1996 Oct;96(10):1027-39.
- 139 Lindblad P, Wolk A, Bergström R, Adami HO. Diet and risk of renal cell cancer: a population-based case-control study. *Cancer Epidemiol Biomarkers Prev.* 1997 Apr;6(4):215-23.
- 140 Freudenheim JL, Marshall JR, Vena JE, et al. Premenopausal breast cancer risk and intake of vegetables, fruits, and related nutrients. *J Natl Cancer Inst.* 1996 Mar 20;88(6):340-8.
- 141 Roomi MW, House D, Eckert-Maksic M, et al. Growth suppression of malignant leukemia cell line in vitro by ascorbic acid (vitamin C) and its derivatives. *Cancer Lett.* 1998 Jan 9;122(1-2):93-9.
- 142 Mirvish SS. Role of N-nitroso compounds (NOC) and N-nitrosation in etiology of gastric, esophageal, nasopharyngeal and bladder cancer and contribution to cancer of known exposures to NOC. *Cancer Lett.* 1995 Jun 29;93(1):17-48.
- 143 Elson CE, Maltzman TH, Boston JL, et al. Anti-carcinogenic activity of d-limonene during the initiation and promotion/progression stages of DMBA-induced rat mammary carcinogenesis. *Carcinogenesis.* 1998 Feb;19(2):331-2.
- 144 Wattenberg LW, Coccia JB. Inhibition of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone carcinogenesis in mice by D-limonene and citrus fruit oils. *Carcinogenesis.* 1991 Jan;12(1):115-7.
- 145 Pienta KJ, Naik H, Akhtar A, et al. Inhibition of spontaneous metastasis in a rat prostate cancer model by oral administration of modified citrus pectin. *J Natl Cancer Inst.* 1995 Mar 1;87(5):348-53.
- 146 Collins AR, Harrington V, Drew J, Melvin R. Nutritional modulation of DNA repair in a human intervention study. *Carcinogenesis.* 2003 Mar;24(3):511-5.
- 147 Heiser MA, Hotchkiss JH, Roe DA. Influence of fruit and vegetable juices on the endogenous formation of N-nitrosoproline and N-nitrosothiazolidine-4-carboxylic acid in humans on controlled diets. *Carcinogenesis.* 1992 Dec;13(12):2277-80.
- 148 Tinker LF, Schneeman BO, Davis PA, et al. Consumption of prunes as a source of dietary fiber in men with mild hypercholesterolemia. *Am J Clin Nutr.* 1991 May;53(5):1259-65.
- 149 Ohkami H, Tazawa K, Yamashita I, et al. Effects of apple pectin on fecal bacterial enzymes in azoxymethane-induced rat colon carcinogenesis. *Jpn J Cancer Res.* 1995 Jun;86(6):523-9.
- 150 Franceschi S, Bidoli E, La Vecchia C, et al. Tomatoes and risk of digestive-tract cancers. *Int J Cancer.* 1994 Oct 15;59(2):181-4.
- 151 Mills PK, Beeson WL, Phillips RL, Fraser GE. Cohort study of diet, lifestyle, and prostate cancer in Adventist men. *Cancer.* 1989 Aug 4;64(3):598-604.
- 152 Ellinger S, Ellinger J, Stehle P. Tomatoes, tomato products and lycopene in the prevention and treatment of prostate cancer: do we have the evidence from intervention studies? *Curr Opin Clin Nutr Metab Care.* 2006 Nov;9(6):722-7.
- 153 Steinmetz KA, Potter JD. Vegetables, fruit, and cancer prevention: a review. *J Am Diet Assoc.* 1996 Oct;96(10):1027-39.
- 154 Howe GR, Benito E, Castelleto R, et al. Dietary intake of fiber and decreased risk of cancers of the colon and rectum: evidence from the combined analysis of 13 case-control studies. *J Natl Cancer Inst.* 1992 Dec 16;84(24):1887-96.
- 155 Stoevsand GS. Bioactive organosulfur phytochemicals in Brassica oleracea vegetables—a review. *Food Chem Toxicol.* 1995 Jun;33(6):537-43.
- 156 Preobrazhenskaya MN, Bukhman VM, Korolev AM, Efimov SA. Ascorbigen and other indole-derived compounds from Brassica vegetables and their analogs as anticarcinogenic and immunomodulating agents. *Pharmacol Ther.* 1993 Nov;60(2):301-13.
- 157 Marks HS, Anderson JA, Stoevsand GS. Effect of S-methyl cysteine sulphoxide and its metabolite methyl methane thiosulphonate, both occurring naturally in Brassica vegetables, on mouse genotoxicity. *Food Chem Toxicol.* 1993 Jul;31(7):491-5.
- 158 Chen MF, Chen LT, Boyce HW. Cruciferous vegetables and glutathione: their effects on colon mucosal glutathione level and colon tumor development in rats induced by DMH. *Nutr Cancer.* 1995;23(1):77-83.
- 159 Goeger DE, Shelton DW, Hendricks JD, Bailey GS. Mechanisms of anti-carcinogenesis by indole-3-carbinol: effect on the distribution and metabolism of aflatoxin B1 in rainbow trout. *Carcinogenesis.* 1986 Dec;7(12):2025-31.
- 160 Michonovic J, Bradlow HL. Altered estrogen metabolism and excretion in humans following consumption of indole-3-carbinol. *Nutr Cancer.* 1991;16(1):59-66.
- 161 Howe GR, Burch JD. Nutrition and pancreatic cancer. *Cancer Causes Control.* 1996 Jan;7(1):69-82.
- 162 Howe GR, Jain M, Miller AB. Dietary factors and risk of pancreatic cancer: results of a Canadian population-based case-control study. *Int J Cancer.* 1990 Apr 15;45(4):604-8.
- 163 Stoevsand GS. Bioactive organosulfur phytochemicals in Brassica oleracea vegetables—a review. *Food Chem Toxicol.* 1995 Jun;33(6):537-43.
- 164 Guo Z, Smith TJ, Wang E, et al. Effects of phenethyl isothiocyanate, a carcinogenesis inhibitor, on xenobiotic-metabolizing enzymes and nitrosamine metabolism in rats. *Carcinogenesis.* 1992 Dec;13(12):2205-10.
- 165 Preobrazhenskaya MN, Bukhman VM, Korolev AM, Efimov SA. Ascorbigen and other indole-derived compounds from Brassica vegetables and their analogs as anticarcinogenic and immunomodulating agents. *Pharmacol Ther.* 1993 Nov;60(2):301-13.
- 166 You WC, Blot WJ, Chang YS, et al. Allium vegetables and reduced risk of stomach cancer. *J Natl Cancer Inst.* 1989 Jan 18;81(2):162-4.
- 167 Davis DL. Natural anticarcinogens, carcinogens, and changing patterns in cancer: some speculation. *Environ Res.* 1989 Dec;50(2):322-40.
- 168 Mousa O, Vuorela P, Kiviranta J, et al. Bioactivity of certain Egyptian Ficus species. *J Ethnopharmacol.* 1994 Jan;41(1-2):71-6.
- 169 Dorant E, van den Brandt PA, Goldbohm RA, Sturmans F. Consumption of onions and a reduced risk of stomach carcinoma. *Gastroenterology.* 1996 Jan;110(1):12-20.
- 170 Ip C, Lisk DJ, Stoevsand GS. Mammary cancer prevention by regular garlic and selenium-enriched garlic. *Nutr Cancer.* 1992;17(3):279-86.
- 171 Pinto JT, Qiao C, Xing J, et al. Effects of garlic thioalyl derivatives on growth, glutathione concentration, and polyamine formation in human prostate carcinoma cells in culture. *Am J Clin Nutr.* 1997 Aug;66(2):398-405.
- 172 Howard EW, Ling MT, Chua CW, et al. Garlic-derived S-allylmercaptocysteine is a novel in vivo antimetastatic agent for androgen-independent prostate cancer. *Clin Cancer Res.* 2007 Mar 15;13(6):1847-56.
- 173 Shu XO, Zheng W, Potischman N, et al. A population-based case-control study of dietary factors and endometrial cancer in Shanghai, People's Republic of China. *Am J Epidemiol.* 1993 Jan 15;137(2):155-65.
- 174 Riggs DR, DeHaven JI, Lamm DL. Allium sativum (garlic) treatment for murine transitional cell carcinoma. *Cancer.* 1997 May 15;79(10):1987-94.
- 175 Lamm DL, Riggs DR. Enhanced immunocompetence by garlic: role in bladder cancer and other malignancies. *J Nutr.* 2001 Mar;131(3s):1067S-70S.
- 176 Longnecker MP, Newcomb PA, Mittendorf R, et al. Intake of carrots, spinach, and supplements containing vitamin A in relation to risk of breast cancer. *Cancer Epidemiol Biomarkers Prev.* 1997 Nov;6(11):887-92.
- 177 Bidoli E, Franceschi S, Talamini R, et al. Food consumption and cancer of the colon and rectum in north-eastern Italy. *Int J Cancer.* 1992 Jan 21;50(2):223-9.
- 178 Greenberg ER, Baron JA, Karagas MR, et al. Mortality associated with low plasma concentration of beta carotene and the effect of oral supplementation. *JAMA.* 1996 Mar 6;275(9):699-703.
- 179 Giovannucci E, Ascherio A, Rimm EB, et al. Intake of carotenoids and retinol in relation to risk of prostate cancer. *J Natl Cancer Inst.* 1995 Dec 6;87(23):1767-76.
- 180 Furukawa K, Yamamoto I, Tanida N, et al. The effects of dietary fiber from *Lagenaria scineraria* (yugao-melon) on colonic carcinogenesis in mice. *Cancer.* 1995 Mar 15;75(6 Suppl):1508-15.
- 181 Hirayama T. Nutrition and cancer—a large scale cohort study. *Prog Clin Biol Res.* 1986;206:299-311.
- 182 Rojanaw W, Teptsuwan A. Antimutagenic and mutagenic potentials of Chinese radish. *Environ Health Perspect.* 1993 Oct;101 Suppl 3:247-52.
- 183 Kapadia GJ, Azuine MA, Sridhar R, et al. Chemoprevention of DMBA-induced UV-B promoted, NOR-1-induced TPA promoted skin carcinogenesis, and DEN-induced phenobarbital promoted liver tumors in mice by extract of beetroot. *Pharmacol Res.* 2003 Feb;47(2):141-8.
- 184 Espinosa-Aguirre JJ, Reyes RE, Rubio J, et al. Mutagenic activity of urban air samples and its modulation by chili extracts. *Mutat Res.* 1993 Oct;303(2):55-61.
- 185 Nakamura Y, Tomokane I, Mori T, et al. DNA repair effect of traditional sweet pepper Fushimi-togarashi: seen in suppression of UV-induced cyclobutane pyrimidine dimer in human fibroblast. *Biosci Biotechnol Biochem.* 2000 Dec;64(12):2575-80.
- 186 Bueno de Mesquita HB, Maisonneuve P, Rurnia S, Moerman C. Intake of foods and nutrients and cancer of the exocrine pancreas: a population-based case-control study in The Netherlands. *Int J Cancer.* 1991 Jun 19;48(4):540-9.
- 187 Kolonel LN, Hankin JH, Whittemore AS, et al. Vegetables, fruits, legumes and prostate cancer: a multiethnic case-control study. *Cancer Epidemiol Biomarkers Prev.* 2000 Aug;9(8):795-804.
- 188 Messina MJ. Legumes and soybeans: overview of their nutritional profiles and health effects. 2. *Am J Clin Nutr.* 1999 Sep;70(3 Suppl):439S-450S.
- 189 Goodman MT, Hankin JH, Wilkens LR, et al. Diet, body size, physical activity, and the risk of endometrial cancer. *Cancer.* 1997 Nov 15;72(15):707-85.
- 190 Ruder CE, Kulling SE. Antioxidant activity of isoflavones and their major metabolites using different in vitro assays. *J Agric Food Chem.* 2006 Apr 19;54(8):2926-31.
- 191 Guo TL, McCay JA, Zhang LX, et al. Genistein modulates immune responses and increases host resistance to B16F10 tumor in adult female B6C3F1 mice. *J Nutr.* 2001 Dec;131(12):3251-8.
- 192 Chacko BK, Chandler RT, Mundhekar A, et al. Revealing anti-inflammatory mechanisms of soy isoflavones by flow: modulation of leukocyte-endothelial cell interactions. *Am J Physiol Heart Circ Physiol.* 2005 Aug;289(2):H908-15.
- 193 Dijkstra-Bloem N, Vanden Berghe W, De Naeyer A, Haegem G. Soy isoflavone phyto-pharmaceuticals in interkin-5a6fections: Multi-purpose nutraceuticals at the crossroad of hormone replacement, anti-cancer and anti-inflammatory therapy. *Biochem Pharmacol.* 2004 Sep 15;68(6):1171-85.
- 194 Kennedy AR. The evidence for soybean products as cancer preventive agents. *J Nutr.* 1995 Mar;125(3 Suppl):733S-743S.
- 195 Adlercreek W, Markkanen H, Watanabe S. Plasma concentrations of phyto-oestrogens in Japanese men. *Lancet.* 1993 Nov 13;342(8881):1209-10.
- 196 Jacobsen BK, Knutsen SF, Fraser GE. Does high soy milk intake reduce prostate cancer incidence? The Adventist Health Study Cancer Causes Control. 1998 Dec;9(6):553-7.
- 197 Verma SP, Goldin BR, Lin PS. The inhibition of the estrogenic effects of pesticides and environmental chemicals by curcumin and isoflavonoids. *Environ Health Perspect.* 1998 Dec;106(12):807-12.
- 198 Verma SP, Goldin BR. Effect of soy-derived isoflavonoids on the induced growth of MCF-7 cells by estrogenic environmental chemicals. *Nutr Cancer.* 1998;30(3):223-9.
- 199 Schabath MB, Hernandez LM, Wu X, et al. Dietary phytoestrogens and lung cancer risk. *JAMA.* 2005; 294(12):1493-504.
- 200 Hedelin M, Balter KA, Chang ET, et al. Dietary intake of phytoestrogens, estrogen receptor-beta polymorphisms and the risk of prostate cancer. *Prostate.* 2006 Oct 1;66(14):1512-20.
- 201 Horn-Ross PL, John EM, Canchola AJ, et al. Phytoestrogen intake and endometrial cancer risk. *J Natl Cancer Inst.* 2003 Aug 6;95(15):1158-64.
- 202 Xu WH, Zheng W, Xiang YB, et al. Soy food intake and risk of endometrial cancer among Chinese women in Shanghai: population based case-control study. *BMJ.* 2004 May 29;328(7451):1285.
- 203 Lien Z, Niwa K, Tagami K, et al. Preventive effects of isoflavones, genistein and daidzein, on estradiol-17beta-related endometrial carcinogenesis in mice. *Jpn J Cancer Res.* 2001 Jul;92(7):726-34.
- 204 Zhang Y, Song TT, Cunnick JE, et al. Daidzein and genistein glucuronides in vitro are weakly estrogenic and activate human natural killer cells at nutritionally relevant concentrations. *J Nutr.* 1999 Feb;129(2):399-405.
- 205 Nebe B, Peters A, Duske K, et al. Influence of phytoestrogens on the proliferation and expression of adhesion receptors in human mammary epithelial cells in vitro. *Eur J Cancer Prev.* 2006 Oct;15(5):405-15.
- 206 Erhardt JG, Lim SS, Bode JC, Bode C. A diet rich in fat and poor in dietary fiber increases the in vitro formation of reactive oxygen species in human feces. *J Nutr.* 1997 May;127(5):706-9.
- 207 Venkatesan N, Devaraj SN, Devaraj H. A fibre cocktail of fenugreek, gum gum and wheat bran reduces oxidative modification of LDL induced by an atherogenic diet in rats. *Mol Cell Biochem.* 2007 Jan;294(1-2):145-53.
- 208 Diniz YS, Cicogna AC, Padovani CR, et al. Dietary restriction and fibre supplementation: oxidative stress and metabolic shifting for cardiac health. *Can J Physiol Pharmacol.* 2003 Nov;81(11):1042-8.
- 209 Rezar V, Pajk T, Marinsek Logar R, et al. Wheat bran and oat bran effectively reduce oxidative stress induced by high-fat diets in pigs. *Ann Nutr Metab.* 2003;47(2):78-84.
- 210 Korpeia J, Korpeia R, Adlercreek W. Fecal bile acid metabolic pattern after administration of different types of bread. *Gastroenterology.* 1992 Oct;103(4):1246-53.
- 211 Graf E, Eaton JW. Suppression of colonic cancer by dietary phytic acid. *Nutr Cancer.* 1993;19(1):11-9.
- 212 Alabaster O, Tang Z, Frost A, Shivapurkar N. Effect on beta-carotene and wheat bran fiber on colonic aberrant crypt and tumor formation in rats exposed to azoxymethane and high dietary fat. *Carcinogenesis.* 1995 Jan;16(1):127-32.
- 213 Bhargava A. Fiber intakes and anthropometric measures are predictors of circulating hormone, triglyceride, and cholesterol concentrations in the women's health trial. *J Nutr.* 2006 Aug;136(8):2249-54.
- 214 Sowers MR, Crawford S, McConnell DS, et al. Selected diet and lifestyle factors are associated with estrogen metabolites in a multiracial/ethnic population of women. *J Nutr.* 2006 Jun;136(6):1588-95.
- 215 Baghurst PA, Rohan TE. High-fiber diets and reduced risk of breast cancer. *Int J Cancer.* 1994 Jan 15;56(2):173-6.
- 216 Trichopoulos A, Katsouyanni K, Stuver S, et al. Consumption of olive oil and specific food groups in relation to breast cancer risk in Greece. *J Natl Cancer Inst.* 1995 Jan 18;87(2):110-6.
- 217 Babcock TA, Helton WS, Anwar KN, et al. Synergistic anti-inflammatory activity of omega-3 lipid and rofecoxib pretreatment on macrophage proinflammatory cytokine production occurs via divergent NF-kappaB activation. *JEN J Parenter Enteral Nutr.* 2004 Jul-Aug;28(4):232-9.
- 218 Martin-Moreno JM, Willett WC, Gorgojo L, et al. Dietary fat, olive oil intake and breast cancer risk. *Int J Cancer.* 1994 Sep 15;58(6):774-80.
- 219 Aggarwal BB, Shishodia S. Molecular targets of dietary agents for prevention and therapy of cancer. *Biochem Pharmacol.* 2006 May 14;71(10):1397-421.
- 220 Genesis 1:29; 3:18 King James Version.
- 221 Sawka MN, Cheuvront SN, Carter R 3rd. Human water needs. *Nutr Rev.* 2005 Jun;63(6 Pt 2):530-9.
- 222 Cecchini M, Lopresti V. Drug residues store in the body following cessation of use: impacts on neuroendocrine balance and behavior—use of the Hubbard sauna regimen to remove toxins and restore health. *Med Hypotheses.* 2007;68(4):868-79.
- 223 Miller CA. *Nursing for Wellness in Older Adults: Theory and Practice*. 4th ed. Lippincott Williams & Wilkins, 2004 P. 148.
- 224 Exodus 15:26 King James Version.
- 225 Reynolds P, Kaplan GA. Social connections and risk for cancer: prospective evidence from the Alameda County Study. *Behav Med.* 1990 Fall;16(3):101-10.
- 226 Brown SL, Nesse RM, Vinokur AD, Smith DM. Providing social support may be more beneficial than receiving it: results from a prospective study of mortality. *Psychol Sci.* 2003 Jul;14(4):320-7.
- 227 Musick MA, Herzog AR, House JS. Volunteering and mortality among older adults: findings from a national sample. *J Gerontol B Psychol Sci Soc Sci.* 1999 May;54(3):S173-80.
- 228 Acts 20:35. King James Version.
- 229 Luskin F. Review of the effect of spiritual and religious factors on mortality and morbidity with a focus on cardiovascular and pulmonary disease. *J Cardiopulm Rehabil.* 2000 Jan-Feb;20(1):8-15.
- 230 Carter BJ. Long-term survivors of breast cancer. A qualitative descriptive study. *Cancer Nurs.* 1993 Oct;16(5):354-61.
- 231 Pressman SD, Cohen S. Does positive affect influence health? *Psychol Bull.* 2005 Nov;131(6):925-71.
- 232 Barak Y. The immune system and happiness. *Autoimmun Rev.* 2006 Oct;5(8):523-7.

## Chapter 16 - References

- 1 White, E. G. (1905) The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association, p. 127.
- 2 White, E. G. (1932) Medical Ministry. Mountain View, CA: Pacific Press Publishing Association, p. 221.
- 3 White, E. G. (1905) The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association, p. 147.
- 4 White, E. G. (1932) Medical Ministry. Mountain View, CA: Pacific Press Publishing Association, p. 223.
- 5 Farshchi HR1, Taylor MA, Macdonald IA. Regular meal frequency creates more appropriate insulin sensitivity and lipid profiles compared with irregular meal frequency in healthy lean women. *Eur J Clin Nutr.* 2004 Jul;58(7):1071-7.
- 6 Farshchi HR, Taylor MA, Macdonald IA. Beneficial metabolic effects of regular meal frequency on dietary thermogenesis, insulin sensitivity, and fasting lipid profiles in healthy obese women. *Am J Clin Nutr.* 2005 Jan;81(1):16-24.
- 7 Baggild H, Jørgensen HJ. Intervention in shift scheduling and changes in biomarkers of heart disease in hospital wards. *Scand J Work Environ Health.* 2001 Apr;27(2):87-96.

# Blue Print for Health and Healing

<sup>8</sup> Ghiasvand M, Heshmat R, Golpira R, Haghpanah V, Soleimani A, Shoushtarizadeh P, Tavangar SM, Larjani B. Shift working and risk of lipid disorders: a cross-sectional study. *Lipids Health Dis.* 2006 Apr 15;5:9.

<sup>9</sup> Copertaro A, Bracci M, Barbarese M, Santarelli L. Role of waist circumference in the diagnosis of metabolic syndrome and assessment of cardiovascular risk in shift workers. *Med Lav.* 2008 Nov-Dec;99(6):444-53.

<sup>10</sup> Oblacinska A, Jodkowska M. Eating patterns of school-aged children and adolescents in Poland - questionnaire investigations. *Med Wiekia Rozwoj.* 2000;4(3 Suppl 1):53-64.

<sup>11</sup> Franceschi S, La Vecchia C, Bidoli E, Negri E, Talamini R. Meal frequency and risk of colorectal cancer. *Cancer Res.* 1992 Jul 15;52(13):3589-92.

<sup>12</sup> Benito E, Obrador A, Stigelboud A, Bosch FX, Mulet M, Muñoz N, Kaldor J. A population-based case-control study of colorectal cancer in Majorca. I. Dietary factors. *Int J Cancer.* 1990 Jan 15;45(1):69-76.

<sup>13</sup> de Verdier MG, Longnecker MP. Eating frequency—a neglected risk factor for colon cancer? *Cancer Causes Control.* 1992 Jan;3(1):77-81.

<sup>14</sup> Ellen G. White. *Counsels on Diet and Foods* (Washington, D.C.: Review and Herald Pub. Assn., 1946), pg. 177.

<sup>15</sup> The Youth's Instructor, Jan. 28, 1897. [Ev 480.4.]

<sup>16</sup> Cutolo M, Sulli A, Pizzorni C, Secchi ME, Soldano S, Serio B, Straub RH, Otsa K, Maestroni GJ. Circadian rhythms: glucocorticoids and arthritis. *Ann N Y Acad Sci.* 2006 Jun;1069:289-99.

<sup>17</sup> Cutolo M, Masi AT. Circadian rhythms and arthritis. *Rheum Dis Clin North Am.* 2005 Feb;31(1):115-29, ix-x.

<sup>18</sup> Roky R, Chapotot F, Hakkouf F, Benckroun MT, Buguet A. Sleep during Ramadan intermittent fasting. *J Sleep Res.* 2001 Dec;10(4):319-27.

<sup>19</sup> Wu MW, Li XM, Xian LJ, Lévi F. Effects of meal timing on tumor progression in mice. *Life Sci.* 2004 Jul 23;75(10):1181-93.

<sup>20</sup> Carney CE, Edinger JD, Meyer B, Lindman L, Istre T. Daily activities and sleep quality in college students. *Chronobiol Int.* 2006;23(3):623-37.

<sup>21</sup> Magrini A, Pietrousti A, Coppeta L, Babbucci A, Barnaba E, Papadia C, Iannaccone U, Boscolo P, Bergamaschi E, Bergamaschi A. Shift work and autoimmune thyroid disorders. *Int J Immunopathol Pharmacol.* 2006 Oct-Dec;19(4 Suppl):31-6.

<sup>22</sup> Mamber R, Bootzin RR, Acebo C, Carskadon MA. The effects of regularizing sleep-wake schedules on daytime sleepiness. *Wright.* 1996 Jun;19(5):432-41.

<sup>23</sup> Taylor A, Wright HR, Lack LC. Sleeping-in on the weekend delays circadian phase and increases sleepiness the following week. *Sleep Biol Rhythms.* 2008; 6:172–179.

<sup>24</sup> Schernhammer ES, Hankinson SE. Urinary melatonin levels and breast cancer risk. *J Natl Cancer Inst.* 2005 Jul 20;97(14):1084-7.

<sup>25</sup> Schernhammer ES, Laden F, Speizer FE, et al. Rotating night shifts and risk of breast cancer in women participating in the nurses' health study. *J Natl Cancer Inst.* 2001 Oct 17;93(20):1563-8.

<sup>26</sup> Pauley SM. Lighting for the human circadian clock: recent research indicates that lighting has become a public health issue. *Med Hypotheses.* 2004;63(4):589-96.

<sup>27</sup> Mark 6:31. King James version of the Holy Bible.

<sup>28</sup> Savard J, Laroche L, Simard S, et al. Chronic insomnia and immune functioning. *Psychosom Med.* 2003 Mar-Apr;65(2):211-21.

<sup>29</sup> Brown R, Pang G, et al. Suppression of immunity to influenza virus infection in the respiratory tract following sleep disturbance. *Reg Immunol.* 1989 Sep-Oct;2(5):321-5.

<sup>30</sup> Wingard DL, Berkman LF. Mortality risk associated with sleeping patterns among adults. *Sleep.* 1983;6(2):102-7.

<sup>31</sup> Filipiński E, King VM, Li X, et al. Host circadian clock as a control point in tumor progression. *J Natl Cancer Inst.* 2002 May 15;94(9):690-7.

<sup>32</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 85.

<sup>33</sup> White, E. G. (1954) *Child Guidance*. Washington, D.C.: Review and Herald Publishing Association. p. 125.

<sup>34</sup> White, E. G. (1905) *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 276.

<sup>35</sup> White, E. G. (1872) *Testimonies for the Church*, vol. 3. Mountain View, CA: Pacific Press Publishing Association. p. 70.

<sup>36</sup> White, E. G. (1993) *Manuscript Releases*, vol. 21 (Nos. 1501-1598 ). Silver Spring, MD: Ellen G. White Estate. p. 290.

<sup>37</sup> White, E. G. (1923) *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 55.

<sup>38</sup> Ahrens RA. Sucrose, hypertension, and heart disease an historical perspective. *Am J Clin Nutr.* 1974 Apr;27(4):403-22.

<sup>39</sup> White, E. G. (1923) *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 55.

<sup>40</sup> White, E. G. (1952) *My Life Today*. Washington, D.C.: Review and Herald Publishing Association. p. 136.

<sup>41</sup> White, E. G. (1985) *The Paulson Collection of Ellen G. White Letters*. Payson, AZ: Leaves-Of-Autumn Books. p. 31.

<sup>42</sup> White, E. G. (1890) *Patriarchs and Prophets*. Washington, D.C.: Review and Herald Publishing Association. p. 600.

<sup>43</sup> White, E. G. (1905) *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 251.

<sup>44</sup> White, E. G. (1898) *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 270.

<sup>45</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 173.

<sup>46</sup> White, E. G. (1993) *Manuscript Releases*, vol. 21 (Nos. 1501-1598 ). Silver Spring, MD: Ellen G. White Estate. p. 286.

<sup>47</sup> Butland BK, Fehily AM, Elwood PC. Diet, lung function, and lung function decline in a cohort of 2512 middle aged men. *Thorax.* 2000 Feb;55(2):102-8.

<sup>48</sup> White, E. G. (1993) *Manuscript Releases*, vol. 21 (Nos. 1501-1598 ). Silver Spring, MD: Ellen G. White Estate. p. 286.

<sup>49</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 414.

<sup>50</sup> White, E. G. (1868) *Testimonies for the Church*, vol. 2. Mountain View, CA: Pacific Press Publishing Association. p. 603.

<sup>51</sup> White, E. G. (1923) *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 89.

<sup>52</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 103.

<sup>53</sup> White, E. G. (1882) *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 443.

<sup>54</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 419.

<sup>55</sup> White, E. G. (1868) *Testimonies for the Church*, vol. 2. Mountain View, CA: Pacific Press Publishing Association. p. 529.

<sup>56</sup> White, E. G. (1905) *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 303.

<sup>57</sup> White, E. G. (1990) *Manuscript Releases*, vol. 13 (Nos. 1000-1080 ). Silver Spring, MD: Ellen G. White Estate. p. 40.

<sup>58</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 408.

<sup>59</sup> White, E. G. (1923) *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 118.

<sup>60</sup> White, E. G. (1868) *Testimonies for the Church*, vol. 2. Mountain View, CA: Pacific Press Publishing Association. p. 530.

<sup>61</sup> White, E. G. (1932) *Medical Ministry*. Mountain View, CA: Pacific Press Publishing Association. p. 106.

<sup>62</sup> White, E. G. (1993) *Manuscript Releases*, vol. 20 (Nos. 1420-1500 ). Silver Spring, MD: Ellen G. White Estate. p. 280.

<sup>63</sup> White, E. G. (1890) *Christian Temperance and Bible Hygiene*. Battle Creek, MI: Good Health Publishing Co. p. 141.

<sup>64</sup> White, E. G. (1931) *The Place of Herbs in Rational Therapy*. Coalmont, TN: Message Press. p. 25.

<sup>65</sup> White, E. G. (1990) *Manuscript Releases*, vol. 9 (Nos. 664-770 ). Silver Spring, MD: Ellen G. White Estate. p. 46.

<sup>66</sup> White, E. G. (1990) *Manuscript Releases*, vol. 7 (Nos. 419-525 ). Silver Spring, MD: Ellen G. White Estate. p. 224.

## Chapter 17 - References

<sup>1</sup> Williams LE, Bargh JA. Experiencing physical warmth promotes interpersonal warmth. *Science.* 2008 Oct 24;322(5901):606-7.

<sup>2</sup> <https://recipes.howstuffworks.com/caffeine-facts.htm> (Accessed March 26, 2020).

<sup>3</sup> <https://www.coffeewithsummer.com/lifestyle/reasons-i-love-coffee/> (Accessed March 26, 2020).

<sup>4</sup> <https://www.e-importz.com/coffee-statistics.php> (Accessed March 26, 2020).

<sup>5</sup> <https://foodtruckempire.com/coffee/industry-statistics/> (Accessed March 26, 2020).

<sup>6</sup> Ling PM, Glantz SA. Tobacco company strategies to identify and promote the benefits of nicotine. *Tob Control.* 2019 May;28(3):289-296.

<sup>7</sup> Sajadi-Ernazarova KR, Hamilton RJ. Caffeine Withdrawal. StatPearls (Internet). Treasure Island (FL): StatPearls Publishing; 2020-. 2019 Dec 9. PMID: 28613541.

<sup>8</sup> Boublík JH, Quinn MJ, Clements JA, Herington AC, Wynne KN, Funder JW. Coffee contains potent opiate receptor binding activity. *Nature.* 1983 Jan 20;301(5897):246-8.

<sup>9</sup> Wynne KN, Familiari M, Boublík JH, Drummer OH, Rae ID, Funder JW. Isolation of opiate receptor ligands in coffee. *Clin Exp Pharmacol Physiol.* 1987 Oct;14(10):785-90.

<sup>10</sup> White, E. G. (1954). *Child Guidance*. Washington, D.C.: Review and Herald Publishing Association. p. 403.

<sup>11</sup> Ulrich S, de Vries YC, Kühn S, Repantis D, Dresler M, Ohla K. Feeling smart: Effects of caffeine and glucose on cognition, mood and self-judgment. *Physiol Behav.* 2015 Nov 1;151:629-37.

<sup>12</sup> Walters ER, Leck VE. The Effect of Pre-Caffeine Consumption on Neuropsychological Test Performance: A Placebo-Controlled Study. *Dement Geriatr Cogn Disord.* 2016;41(3-4):146-51.

<sup>13</sup> Rogers PJ, Hoffo C, Heatherley SW, Mullings EL, Maxfield PJ, Evershed RP, Deckert J, Nutt DJ. Association of the anxiogenic and alerting effects of caffeine with ADORA2A and ADORA1 polymorphisms and habitual level of caffeine consumption. *Neuropsychopharmacology.* 2010 Aug;35(9):1973-83.

<sup>14</sup> Noever DA, Cronise RJ, Relwani RA. Using Spider-web patterns to determine toxicities. *NASA Tech Briefs April 1995; 19(4):82.*

<sup>15</sup> Perthen JE, Lansing AE, Liu J, Liu TT, Buxton RB. Caffeine-induced uncoupling of cerebral blood flow and oxygen metabolism: a calibrated BOLD fMRI study. *Neuroimage.* 2008 Mar 1;40(1):237-47.

<sup>16</sup> Buch S, Ye Y, Haacke EM. Quantifying the changes in oxygen extraction fraction and cerebral activity caused by caffeine and acetazolamide. *J Cereb Blood Flow Metab.* 2017 Mar;37(3):825-836.

<sup>17</sup> Merola A, Geruska MA, Warnert EA, Richmond L, Helme D, Khot S, Murphy K, Rogers PJ, Hall JE, Wise RG. Mapping the pharmacological modulation of brain oxygen metabolism: The effects of caffeine on absolute CMRO2 measured using dual calibrated fMRI. *Neuroimage.* 2017 Jul 15;155:331-343.

<sup>18</sup> Xu F, Liu P, Pekar JJ, Lu H. Does acute caffeine ingestion alter brain metabolism in young adults? *Neuroimage.* 2015 Apr 15;110:39-47.

<sup>19</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 423.

<sup>20</sup> White, E. G. (1923). *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 616.

<sup>21</sup> Kristjansson AL, Sigfusdottir ID, Frost SS, James JE. Adolescent caffeine consumption and self-reported violence and conduct disorder. *J Youth Adolesc.* 2013 Jul;42(7):1053-62.

<sup>22</sup> Daniello A, Fievsiohn E, Gregory TS. Modeling the effects of caffeine on the sleep/ wake cycle. *Biomed Sci Instrum.* 2012;48:73-80.

<sup>23</sup> Ohayon MM. Interactions between sleep normative data and sociocultural characteristics in the elderly. *J Psychosom Res.* 2004 May;56(5):479-86.

<sup>24</sup> Shilo L, Sabbah H, Hadari R, Kovatz S, Weinberg U, Dolev S, Dagan Y, Shenkman L. The effects of coffee consumption on sleep and melatonin secretion. *Sleep Med.* 2002 May;3(3):271-3.

<sup>25</sup> Hewlett P, Smith A. Correlates of daily caffeine consumption. *Appetite.* 2006 Jan;46(1):97-9.

<sup>26</sup> García-Pérez A, Weidberg S, González-Roz A, Krotter A, Secades-Villa R. Effects of combined coffee and alcohol use over cigarette demand among treatment-seeking smokers. *Behav Processes.* 2020 May;174:104108.

<sup>27</sup> Shiffman S, Balabanis MH, Gwaltney CJ, Paty JA, Gnyms M, Kassel JD, Hickcox M, Paton SM. Prediction of lapse from associations between smoking and situational antecedents assessed by ecological momentary assessment. *Drug Alcohol Depend.* 2007 Dec 1;91(2-3):159-68.

<sup>28</sup> Krall EA, Garvey AJ, Garcia RI. Smoking relapse after 2 years of abstinence: findings from the VA Normative Aging Study. *Nicotine Tob Res.* 2002 Feb;4(1):95-100.

<sup>29</sup> Massey LK, Whiting SJ. Caffeine, urinary calcium, calcium metabolism and bone. *J Nutr.* 1993 Sep;123(9):1611-4.

<sup>30</sup> Ulvik A, Vollset SE, Hoff G, Ueland PM. Coffee consumption and circulating B-vitamins in healthy middle-aged men and women. *Am J Clin Nutr.* 2008 Sep;88(3):489-96.

<sup>31</sup> Kuzminska E, Omelchuk S, Karlova E, Grinzovskyy A. Drug-free modalities of iron deficiency conditions in Ukraine. *Georgian Med News.* 2018 Jun;279:175-180.

<sup>32</sup> Muñoz LM, Lønnerdal B, Keen CL, Dewey GK. Coffee consumption as a factor in iron deficiency anemia among pregnant women and their infants in Costa Rica. *Am J Clin Nutr.* 1988 Sep;48(3):645-51.

<sup>33</sup> Morck TA, Lynch SR, Cook JD. Inhibition of food iron absorption by coffee. *Am J Clin Nutr.* 1983 Mar;37(3):416-20.

<sup>34</sup> Rakesh PS, George LS, Joy TM, George S, Renjini BA, Beena KV. Anemia Among School Children in Ernakulam District, Kerala, India. *Indian J Hematol Blood Transfus.* 2019 Jan;35(1):114-118.

<sup>35</sup> Massey LK, Whiting SJ. Caffeine, urinary calcium, calcium metabolism and bone. *J Nutr.* 1993 Sep;123(9):1611-4.

<sup>36</sup> Ribeiro-Alves MA, Trugo LC, Donangelo CM. Use of oral contraceptives blunts the calciuric effect of caffeine in young adult women. *J Nutr.* 2003 Feb;133(2):393-8.

<sup>37</sup> de França NA, Camargo MB, Lazaretti-Castro M, Peters BS, Martini LA. Dietary patterns and bone mineral density in Brazilian postmenopausal women with osteoporosis: a cross-sectional study. *Eur J Clin Nutr.* 2016 Jan;70(1):85-90.

<sup>38</sup> Tavani A, Negri E, La Vecchia C. Coffee intake and risk of hip fracture in women in northern Italy. *Prev Med.* 1995 Jul;24(4):396-400.

<sup>39</sup> Ferrini RL, Barrett-Connor E. Caffeine intake and endogenous sex steroid levels in postmenopausal women. *The Rancho Bernardo Study.* 2008 Sep;54(9):1447-442-4.

<sup>40</sup> Salas-Huetos A, Bulló M, Salas-Salvado J. Dietary patterns, foods and nutrients in male fertility parameters and fecundability: a systematic review of observational studies. *Hum Reprod Update.* 2017 Jul 1;23(4):371-389.

<sup>41</sup> Vedeğari M, Khazaei M, Anvari M, Eskandari M. Prenatal Caffeine Exposure Impairs Pregnancy in Rats. *Int J Fertil Steril.* 2016 Jan-Mar;9(4):558-62.

<sup>42</sup> Eskenazi B, Stapleton AL, Kharrazi M, Chee WY. Associations between maternal decaffeinated and caffeinated coffee consumption and fetal growth and gestational duration. *Epidemiology.* 1999 May;10(3):242-9.

<sup>43</sup> Bakker R, Steegers EA, Obrador A, Raat H, Hofman A, Jadove VW. Maternal caffeine intake from coffee and tea, fetal growth, and the risks of adverse birth outcomes: the Generation R Study. *Am J Clin Nutr.* 2010 Jun;91(6):1691-8.

<sup>44</sup> Li J, Zhao H, Song JM, Zhang J, Tang YL, Xin CM. A meta-analysis of risk of pregnancy loss and caffeine and coffee consumption during pregnancy. *Int J Gynaecol Obstet.* 2015 Aug;130(2):116-22.

<sup>45</sup> Gaskins AJ, Rich-Edwards JW, Williams PL, Toth TL, Missmer SA, Chavarro JE. Pre-pregnancy caffeine and caffeinated beverage intake and risk of spontaneous abortion. *Eur J Nutr.* 2018 Feb;57(1):107-117.

<sup>46</sup> Wisborg K, Kesmodel U, Bech BH, Hedegaard M, Henriksen TB. Maternal consumption of coffee during pregnancy and stillbirth and infant death in first year of life: prospective study. *BMJ.* 2003 Feb 22;326(7386):420.

<sup>47</sup> Bech BH, Nohr EA, Vaeth M, Henriksen TB, Olsen J. Coffee and fetal death: a cohort study with prospective data. *Am J Epidemiol.* 2005 Nov 15;162(10):983-90.

<sup>48</sup> Dorostghoal M, Erfani Majid N, Nooraei P. Maternal caffeine consumption has irreversible effects on reproductive parameters and fertility in male offspring rats. *Clin Exp Reprod Med.* 2012 Dec;39(4):144-52.

<sup>49</sup> Seal AD, Bardin N, Gavrieli A, Grigorakis P, Adams JD, Arnaoutis G, Yannakoulia M, Kavouras SA. Coffee with High but Not Low Caffeine Content Augments Fluid and Electrolyte Excretion at Rest. *Front Nutr.* 2017 Aug 18;4:40.

<sup>50</sup> <http://www.fao.org/3/x0560e/x0560e12.htm#7.3> (accessed April 10 2020).

<sup>51</sup> Biochem J. 1990 Jul 1;269(1):41-6. Induction of C-reactive protein by cytokines in human hepatoma cell lines is potentiated by caffeine. Ganapathi MK, Mackiewicz A, Samols D, Brabenc A, Kushner I, Schultz D, Hu SI.

<sup>52</sup> Wedick NM, Brennan AM, Sun Q, Hu FB, Mantzoros CS, van Dam RM. Effects of caffeinated and decaffeinated coffee on biological risk factors for type 2 diabetes: a randomized controlled trial. *Int J Nutr.* 2011 Sep 13;10:93.

<sup>53</sup> Keliövaara M, Aho K, Knekt P, Imanen A, Rissanen A, Argamaso A, et al. Coffee consumption, rheumatoid factor, and the risk of rheumatoid arthritis. *Ann Rheum Dis.* 2000 Aug;59(8):631-5.

<sup>54</sup> Pedersen M, Jacobsen S, Klarlund M, Pedersen BV, Wiik A, Wollfahrt J, Frisch M. Arthritis Res Ther. 2006;8(4):R133. Environmental risk factors differ between rheumatoid arthritis with and without auto-antibodies against cyclic citrullinated peptides.

<sup>55</sup> Festugato M. Pilot study on which foods should be avoided by patients with psoriasis. *An Bras Dermatol.* 2011 Nov-Dec;86(6):1103-8.

<sup>56</sup> Jee SH, He J, Whelton PK, Suh I, Klag MJ. The effect of chronic coffee drinking on blood pressure: a meta-analysis of controlled clinical trials. *Hypertension.* 1999 Feb;33(2):647-52.

<sup>57</sup> Esselink AC, Brill LM, Langenhuijsen RW, Bilos A, Riksen NP, Rongen GA. Effect of two dosages of sodium chloride intake on the blood pressure response to caffeinated coffee in humans in vivo. *Int J Food Sci Nutr.* 2019 Dec;70(8):1014-1019.

<sup>58</sup> Riksen NP, Rongen GA, Smits P. Acute and long-term cardiovascular effects of coffee: implications for coronary heart disease. *Pharmacol Ther.* 2009 Feb;121(2):185-91.

<sup>59</sup> Mostofsky E, Schlaug G, Mukamal KJ, Rosamond WD, Mittleman MA. Coffee and acute ischemic stroke onset: the Stroke Onset Study. *Neurology.* 2010 Nov 2;75(18):1583-8.

<sup>60</sup> Lane JD, Hwang AL, Feinglos MN, Surwit RS. Exaggeration of postprandial hyperglycemia in patients with type 2 diabetes by administration of caffeine in coffee. *Endocr Pract.* 2007 May-Jun;13(3):239-43.

<sup>61</sup> Dewar L, Heuberger R. The effect of acute caffeine intake on insulin sensitivity and glycemic control in people with diabetes. *Diabetes Metab Syndr.* 2017 Dec;11 Suppl 2:S631-S635.

<sup>62</sup> Lee S, Hudson R, Kilpatrick K, Graham TE, Ross R. Caffeine ingestion is associated with reductions in glucose uptake independent of obesity and type 2 diabetes before and after exercise training. *Diabetes Care.* 2005 Mar;28(3):566-72.

<sup>63</sup> Sarkaria JN, Busby EC, Tibbetts RS, et al. Inhibition of ATM and ATR kinase activities by the radiosensitizing agent, caffeine. *Cancer Res.* 1999 Sep 1;59(17):4375-82.

<sup>64</sup> Porta M, Malats N, Guarnier L, Carrato A, Rifa J, Salas A, Corominas JM, Andreu M, Real FX. Association between coffee drinking and K-ras mutations in exocrine pancreatic cancer. *PANKRAS II Study Group.* *J Epidemiol Community Health.* 1999 Nov;53(11):702-9.

<sup>65</sup> MacMahon B, Yen S, Trichopoulos D, Warren K, Nardi G. Coffee and cancer of the pancreas. *N Engl J Med.* 1981 Mar 12;304(11):630-3.

<sup>66</sup> Trichopoulos D, Papapostolou M, Polychronopoulou A. Coffee and ovarian cancer. *Int J Cancer.* 1981 Dec;28(6):691-3.

<sup>67</sup> Minton JP, Abou-Issa H, Foelcking MK, Sriram MG. Caffeine and unsaturated fat diet significantly promotes DMBA-induced breast cancer in rats. *Cancer.* 1983 Apr 1;51(7):1249-53.

<sup>68</sup> Lueth NA, Anderson KE, Harnack LJ, Fulkerson JA, Robien K. Coffee and caffeine intake and the risk of ovarian cancer: the Iowa Women's Health Study. *Cancer Causes Control.* 2008 Dec;19(10):1365-72.



# References

<sup>69</sup> Parodi S, Merlo FD, Stagnaro E. Coffee consumption and risk of non-Hodgkin's lymphoma: evidence from the Italian multicentre case-control study. *Cancer Causes Control*. 2017 Aug;28(8):867-876.

<sup>70</sup> Galanis DJ, Kolonel LN, Lee J, Nomura A. Intakes of selected foods and beverages and the incidence of gastric cancer among the Japanese residents of Hawaii: a prospective study. *Int J Epidemiol*. 1998 Apr;27(2):173-80.

<sup>71</sup> Deng W, Yang H, Wang J, Cai J, Bai Z, Song J, Zhang Z. Coffee consumption and the risk of incident gastric cancer - A meta-analysis of prospective cohort studies. *Nutr Cancer*. 2016;68(1):40-7.

<sup>72</sup> Ellison LF. Tea and other beverage consumption and prostate cancer risk: a Canadian retrospective cohort study. *Eur J Cancer Prev*. 2000 Apr;9(2):325-30.

<sup>73</sup> Narita S, Saito E, Sawada N, Shimazumi T, Yamaji T, Iwasaki M, Sasazuki S, Noda M, Inoue M, Tsugane S. Coffee Consumption and Lung Cancer Risk: The Japan Public Health Center-Based Prospective Study. *J Epidemiol*. 2018 Apr 5;28(4):207-213.

<sup>74</sup> Kurahashi N, Inoue M, Iwasaki M, Sasazuki S, Tsugane S. Coffee, green tea, and caffeine consumption and subsequent risk of bladder cancer in relation to smoking status: a prospective study in Japan. *Cancer Sci*. 2009 Feb;100(2):194-91.

<sup>75</sup> Yu Y, Wessells A, van Osch F, Stern MC, Jiang X, Kellen E, Lu CM, Pohlmann H, Steineck G, Marshall J, Allam MF, La Vecchia C, Johnson KC, Benhamou S, Zhang ZF, Bosetti C, Taylor JA, Zeegers MP. The association between coffee consumption and bladder cancer in Cancer Causes Control. 2019 Aug;30(8):859-870. the bladder cancer epidemiology and nutritional determinants (BLEND) international pooled study.

<sup>76</sup> Rubach M, Lang R, Bytof G, Stiebtz H, Lantz I, Hofmann T, Somoza V. A dark brown roast coffee blend is less effective at stimulating gastric acid secretion in healthy volunteers compared to a medium roast medium blend. *Mol Nutr Food Res*. 2014 Jun;58(6):1370-3.

<sup>77</sup> Gudjonsson H, McAuliffe TL, Kaye MD. The effect of coffee and tea upon lower esophageal sphincter function. *Laeknabladid*. 1995 Jun;81(6):484-8.

<sup>78</sup> Thomas FB, Steinbaugh JT, Fromkes JJ, Mekhjian HS, Caldwell JH. Inhibitory effect of coffee on lower esophageal sphincter pressure. *Gastroenterology*. 1980 Dec;79(6):1262-6.

<sup>79</sup> Caselli M, Zuliani G, Cassol F, Fusetto N, Zeni E, Lo Cascio N, Soavi C, Gullini S. Test-based exclusion diets in gastro-esophageal reflux disease patients: a randomized controlled pilot trial. *World J Gastroenterol*. 2014 Dec 7;20(45):1790-5.

<sup>80</sup> Lane JD, Pieper CF, Barefoot JC, Williams RB Jr, Siegler IC. Caffeine and cholesterol: interactions with hostility. *Psychosom Med*. 1994 May-Jun;56(3):260-6.

<sup>81</sup> Du Y, Melchert HU, Knopf H, Braemer-Hauth M, Gerding B, Pabel E. Association of serum caffeine concentrations with blood lipids in caffeine-drug users and nonusers - results of German National Health Surveys from 1984 to 1999. *Eur J Epidemiol*. 2005;20(4):311-6.

<sup>82</sup> Happonen P, Voutilainen S, Salonen JT. Coffee drinking is dose-dependently related to the risk of acute coronary events in middle-aged men. *J Nutr*. 2004 Sep;134(9):2381-6.

<sup>83</sup> Balk L, Hoekstra T, Twisk J. Relationship between long-term coffee consumption and components of the metabolic syndrome: the Amsterdam Growth and Health Longitudinal Study. *Eur J Epidemiol*. 2009;24(4):203-9.

<sup>84</sup> Shirlow NJ, Mathers CD. Caffeine consumption and serum cholesterol levels. *Int J Epidemiol*. 1984 Dec;13(4):422-7.

<sup>85</sup> Onuegbu AJ, Agbedana EO. The effects of coffee consumption on serum lipids and lipoprotein in healthy individuals. *Afr J Med Med Sci*. 2001 Mar-Jun;30(1-2):43-5.

<sup>86</sup> Panagiotakos DB, Pitsavos C, Zampelas A, Zeimbekis A, Chrysohou C, Papademetriou L, Stefanadis C. The association between coffee consumption and plasma total homocysteine levels: the "ATTICA" study. *Heart Vessels*. 2004 Nov;19(6):280-6.

<sup>87</sup> Selb Semerl J, Selb K. Coffee and alcohol consumption as triggering factors for sudden cardiac death: case-crossover study. *Croat Med J*. 2004 Dec;45(6):775-80.

<sup>88</sup> <https://www.doi.gov/sites/doi.gov/files/LA8/ListofGoods.pdf> [Accessed March 26, 2020].

<sup>89</sup> Matthew 25:40 King James Version of the Holy Bible.

<sup>90</sup> <https://www.theworldcounts.com/challenges/consumption/foods-and-beverages/environmental-effects-of-coffee-production> [Accessed March 26, 2020].

<sup>91</sup> [https://www.doi.gov/agencies/ilab/reports/child-labor/list-of-goods?tid=All&field\\_exp\\_good\\_target\\_id=5773&field\\_exp\\_exploitation\\_type\\_target\\_id=1=All&items\\_per\\_page=All](https://www.doi.gov/agencies/ilab/reports/child-labor/list-of-goods?tid=All&field_exp_good_target_id=5773&field_exp_exploitation_type_target_id=1=All&items_per_page=All) [Accessed March 26, 2020].

<sup>92</sup> de Queiroz VT, Azevedo MM, da Silva Quadros IP, Costa AV, do Amaral AA, Dos Santos GMADA, Juvanhol RS, de Almeida Telles LA, Dos Santos AR. Environmental risk assessment for sustainable pesticide use in coffee production. *J Contam Hygiene*. 2018 Dec;219:18-27.

<sup>93</sup> Lee RA, Balick MJ. Rx: Caffeine. *Explore (NY)*. 2006 Jan;2(1):55-9.

## Chapter 18 - References

<sup>1</sup> Michael Webb (Author), Bill Vincent (Illustrator). 101 Romantic Ideas, Publisher: Fraser Keith Johnson. <http://www.theromantic.com/>

<sup>2</sup> <http://www.theromantic.com/stories/chocolate/main.htm>

<sup>3</sup> Rozin P, Levine E, Stoess C. Chocolate craving and liking. *Appetite*. 1991 Dec;17(3):199-212.

<sup>4</sup> Hormes JM, Timko CA. All cravings are not created equal. Correlates of menstrual versus non-cyclic chocolate craving. *Appetite*. 2011 Aug;57(1):1-5.

<sup>5</sup> Zieglerle D, Stojacic E, Stumpf B. Occurrence of beta-phenylethylamine and its derivatives in cocoa and cocoa products. *Z Lebensm Unters Forsch*. 1992 Sep;195(3):235-8.

<sup>6</sup> Schroeder BE, Binzack JM, Kelley AE. A common profile of prefrontal cortical activation following exposure to nicotine- or chocolate-associated contextual cues. *Neuroscience*. 2001;105(3):535-45.

<sup>7</sup> Segal M, Shohami E, Jacobowitz DM. Phenylethylamine, norepinephrine and mounting behavior in the male rat. *Pharmacol Biochem Behav*. 1984 Jan;20(1):133-5.

<sup>8</sup> Salonia A, Fabbri F, Zanni G, Scavini M, Fantini GV, Briganti A, Naspro R, Parazzini F, Gori E, Rigatti P, Montorsi F. Chocolate and women's sexual health: An intriguing correlation. *J Sex Med*. 2006 May;3(3):476-82.

<sup>9</sup> Lima LJ, Almeida MH, Nout MJ, Zwieterring H. Theobroma cacao L. "The food of the Gods": quality determinants of commercial cocoa beans, with particular reference to the impact of fermentation. *Crit Rev Food Sci Nutr*. 2011 Sep;51(8):731-61.

<sup>10</sup> Stark T, Bäreuther S, Hofmann T. Molecular definition of the taste of roasted cocoa nibs (Theobroma cacao) by means of quantitative studies and sensory experiments. *J Agric Food Chem*. 2006 Jul 26;54(15):5530-9.

<sup>11</sup> Smith HJ, Blackburn RJ. Reinforcing effects of caffeine and theobromine as found in chocolate. *Psychopharmacology (Berl)*. 2005 Aug;181(1):101-6.

<sup>12</sup> Tuomisto T, Hetherington MM, Morris MF, Tuomisto MT, Turjanmaa V, Lappalainen R. Psychological and physiological characteristics of sweet food "addiction". *Int J Eat Disord*. 1999 Mar;25(2):169-75.

<sup>13</sup> Heyne A, Kieselbach C, Sahún I, McDonald J, Gaffi M, Dierness M, Wolffgramm J. An animal model of compulsive food-taking behaviour. *Addict Biol*. 2009 Sep;14(4):373-83.

<sup>14</sup> Rozin P, Stoess C. Is there a general tendency to become addicted? *Addict Behav*. 1993 Jan-Feb;18(1):81-7.

<sup>15</sup> Hetherington MM, MacDiarmid JJ. "Chocolate addiction": a preliminary study of its description and its relationship to problem eating. *Appetite*. 1993 Dec;21(3):233-46.

<sup>16</sup> Drenowski A, Krahn DD, Demitrack MA, Nairn K, Gosnell BA. Taste responses and preferences for sweet high-fat foods: evidence for opioid involvement. *Physiol Behav*. 1992 Feb;52(2):371-9.

<sup>17</sup> Biggs TA, Myers RD. Naltrexone and amperozide modify chocolate and saccharin drinking in high alcohol-prefering P rats. *Pharmacol Biochem Behav*. 1998 Jun;60(2):407-13.

<sup>18</sup> McShea A, Ramiro-Puig E, Munro SB, Casadesu G, Castell M, Smith MA. Clinical benefit and preservation of flavonols in dark chocolate manufacturing. *Nutr Rev*. 2008 Nov;66(11):630-41.

<sup>19</sup> di Tomaso E, Beltramo M, Piomelli D. Brain cannabinoids in chocolate. *Nature*. 1996 Aug 22;382(6593):677-8.

<sup>20</sup> James JS, Marijuana and chocolate. *AIDS Treat News*. 1996 Oct 18;(No 257):3-4.

<sup>21</sup> Miracle VA. Chocolate: the health food. *Dimens Crit Care Nurs*. 2010 Mar-Apr;29(2):108-9.

<sup>22</sup> O'Neil CE, Fulgoni VL 3rd, Nicklas TA. Association of candy consumption with body weight measures, other health risk factors for cardiovascular disease, and diet quality in US children and adolescents: NHANES 1999-2004. *Food Nutr Res*. 2011;55. doi: 10.3402/fnr.v55i0.5794.

<sup>23</sup> Hamed NS, Gambert S, Bilden KP, Bailon O, Singla A, Antonino MJ, Hamed F, Tantry US, Gurbel PA. Dark chocolate effect on platelet activity, C-reactive protein and lipid profile: a pilot study. *South Med J*. 2008 Dec;101(12):1203-8.

<sup>24</sup> Alonso A, de la Fuente C, Beunza JJ, Sánchez-Villegas A, Martínez-González MA. Chocolate consumption and incidence of hypertension. *Hypertension*. 2005 Dec;46(6):e21-2.

<sup>25</sup> Bertéus Forslund H, Torgerson JS, Sjöström L, Lindroos AK. Snacking frequency in relation to energy intake and food choices in obese men and women compared to a reference population. *Int J Obes (Lond)*. 2005 Jun;29(6):711-9.

<sup>26</sup> Pennington JAT. Bowes and Church's food values of portions commonly used. New York: Lippincott & Co. 1994.

<sup>27</sup> Drenowski A. Changes in mood after carbohydrate consumption. *Am J Clin Nutr*. 1987 Oct;46(4):703-5.

<sup>28</sup> Avena NM. Examining the addictive-like properties of binge eating using an animal model of sugar dependence. *Exp Clin Psychopharmacol*. 2007 Oct;15(5):481-91.

<sup>29</sup> Lenoir M, Serre F, Cantin L, Ahmed SH. Intense sweetness surpasses cocaine reward. *PLoS One*. 2007 Aug 1;2(8):e698.

<sup>30</sup> Crystal SR, Teff KL. Tasting fat: cephalic phase hormonal responses and food intake in restrained and unrestrained eaters. *Physiol Behav*. 2006 Sep 30;89(2):213-20.

<sup>31</sup> Erlanson-Albertsson C. Appetite regulation and energy balance. *Acta Paediatr Suppl*. 2005 Jun;94(448):40-1.

<sup>32</sup> Erlanson-Albertsson C. How palatable food disrupts appetite regulation. *Basic Clin Pharmacol Toxicol*. 2005 Aug;97(2):61-73.

<sup>33</sup> Slattery ML, West DW. Smoking, alcohol, coffee, tea, caffeine, and theobromine: risk of prostate cancer in Utah (United States). *Cancer Causes Control*. 1993 Nov;4(6):559-63.

<sup>34</sup> Boutron-Ruault MC, Senesse P, Fèvre J, Chatelein N, Belghiti C, Méance S. Foods as risk factors for colorectal cancer: a case-control study in Burgundy (France). *Eur J Cancer Prev*. 1999 Jul;8(3):229-35.

<sup>35</sup> Richardson S, Gerber M, Céné S. The role of fat, animal protein and some vitamin consumption in breast cancer: a case control study in southern France. *Int J Cancer*. 1991 Apr 22;48(1):1-9.

<sup>36</sup> Hodgson JM, Devine A, Burke V, Dick IM, Prince RL. Chocolate consumption and bone density in older women. *Am J Clin Nutr*. 2008 Jan;87(1):175-80.

<sup>37</sup> Nguyen NU, Henriot MT, Dumoulin G, Widmer A, Regnard J. Increase in calciuria and oxaluria after a single chocolate bar load. *Horm Metab Res*. 1994 Aug;26(8):383-6.

<sup>38</sup> Dunning JM, Hodge AT. Influence of cocoa and sugar in milk on dental caries incidence. *J Dent Res*. 1971 Jul-Aug;50(4):854-9.

<sup>39</sup> Khawaja O, Gaziano JM, Djoussé L. Chocolate and coronary heart disease: a systematic review. *Curr Atheroscler Rep*. 2011 Dec;13(6):447-52.

<sup>40</sup> Murphy DW, Castell DO. Chocolate and heartburn: evidence of increased esophageal acid exposure after chocolate ingestion. *Am J Gastroenterol*. 1988 Jun;83(6):633-6.

<sup>41</sup> Castell DO. Physiology and pathophysiology of the lower esophageal sphincter. *Ann Otol Rhinol Laryngol*. 1975 Sep-Oct;84(5 Pt 1):569-75.

<sup>42</sup> Wright LE, Castell DO. The adverse effect of chocolate on lower esophageal sphincter pressure. *Am J Dig Dis*. 1975 Aug;20(8):703-7.

<sup>43</sup> Vorona RD, Ware JC. Exacerbation of REM sleep behavior disorder by chocolate ingestion: a case report. *Sleep Med*. 2002 Jul;3(4):365-7.

<sup>44</sup> Müller-Lissner SA, Kaatz V, Thorssen M, Bjertness E, Lien L. The perceived effect of various foods and beverages on stool consistency. *Eur J Gastroenterol Hepatol*. 2005 Jan;17(1):109-12.

<sup>45</sup> Fukui PT, Gonçalves TR, Strabelli CG, Lucchino NM, Matos FC, Santos JP, Zukerman E, Zukerman-Guendler V, Mercante JP, Masruha MR, Vieira DS, Peres MF. Trigger factors in migraine patients. *Arq Neuropsiquiatr*. 2008 Sep;66(3A):494-9.

<sup>46</sup> Millichap JG, Yee MM. The diet factor in pediatric and adolescent migraine. *Pediatr Neurol*. 2003 Jan;28(1):9-15.

<sup>47</sup> Savi L, Rainero I, Valfrè W, Gentile S, Lo Giudice R, Pinessi L. Food and headache attacks. A comparison of patients with migraine and tension-type headache. *Painmanagement*. 2002 Mar;44(1):27-31.

<sup>48</sup> Russel MG, Engels LG, Muris JW, Limonard CB, Volovics A, Brummer RJ, Stockbrügger RW. Modern life in the epidemiology of inflammatory bowel disease: a case-control study with special emphasis on nutritional factors. *Eur J Gastroenterol Hepatol*. 1998 Mar;10(3):243-9.

<sup>49</sup> Joachim G. The relationship between habits of food consumption and reported reactions to food in people with inflammatory bowel disease—testing the limits. *Nutr Health*. 1999;13(2):69-83.

<sup>50</sup> Martin RH. The role of nutrition and diet in rheumatoid arthritis. *Proc Nutr Soc*. 1998 May;57(2):231-4.

<sup>51</sup> Garrett SL, Kennedy LG, Calin A. Patients' perceptions of disease modulation by diet in inflammatory rheumatoid arthritis/ankylosing spondylitis and degenerative arthropathies. *Br J Rheumatol*. 1993;32(suppl. 2):43.

<sup>52</sup> Friend WG. The cause and treatment of idiopathic pruritus ani. *Dis Colon Rectum*. 1977 Jan-Feb;20(1):40-2.

<sup>53</sup> Halvorsen JA, Dalgaard F, Thorsen M, Bjertness E, Lien L. Is the association between acne and mental distress influenced by diet? Results from a cross-sectional population study among 3775 late adolescents in Oslo, Norway. *BMC Public Health*. 2009 Sep 16;9:340.

<sup>54</sup> Resman BH, Blumenthal P, Jusko WJ. Breast milk distribution of theobromine from chocolate. *J Pediatr*. 1977 Sep;91(3):477-80.

<sup>55</sup> Uenishi T, Sugiura H, Tanaka T, Uehara M. Aggravation of atopic dermatitis in breast-fed infants by tree nut-related foods and fermented foods in breast milk. *J Dermatol*. 2011 Feb;38(2):140-5. doi: 10.1111/j.1346-8138.2010.00968.x.

<sup>56</sup> <http://www.johnrobins.info/blog/is-there-slavery-in-your-chocolate/>

<sup>57</sup> <http://www1.american.edu/teed/chocolate-slave.htm>

<sup>58</sup> [http://en.wikipedia.org/wiki/Children\\_in\\_cocoa\\_production](http://en.wikipedia.org/wiki/Children_in_cocoa_production)

<sup>59</sup> Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (London and New York: Verso, 2001)

## Chapter 19 - References

<sup>1</sup> <https://www.vocabulary.com/dictionary/entropy>

<sup>2</sup> Jung YJ, Lee SH, Kim JM, Park MS, Bae JW, Hahn Y, Madsen EL, Jeon CO. Metagenomic analysis of kimchi, a traditionally Korean fermented food. *Appl Environ Microbiol*. 2011 Apr;77(7):2264-74.

<sup>3</sup> Musshoff F, Albermann E, Madesa B. Ethyl glucuronide and ethyl sulfate in urine after consumption of various beverages and foods—misleading results? *Int J Legal Med*. 2010 Nov;124(6):623-30.

<sup>4</sup> Liu Y, Chan M, Ebersole B, Sy H, Brown PN. Determination of Ethanol Content in Kombucha Products by Gas Chromatography with Flame Ionization Detection: A Multilaboratory Study. *J AOAC Int*. 2018 Sep 18.

<sup>5</sup> Hachmeister KA, Fung DY. Tempeh a mold-modified indigenous fermented food made from soybeans and/or cereal grains. *Crit Rev Microbiol*. 1993;19(3):137-88.

<sup>6</sup> Sivamaruthi BS, Kesika P, Chaiyatu C. Toxins in Fermented Foods: Prevalence and Preventions-A Mini Review. *Toxins (Basel)*. 2018 Dec 24;11(1).

<sup>7</sup> Kim J, Kang M, Lee JS, Inoue M, Sasazuki S, Tsugane S. Fermented and non-fermented soy food consumption and gastric cancer in Japanese and Korean populations: a meta-analysis of observational studies. *Cancer Sci*. 2011 Jan;102(1):231-44.

<sup>8</sup> Park EJ, Kim KH, Abeil GC, Kim MS, Roh SW, Bae JW. Metagenomic analysis of the viral communities in fermented foods. *Appl Environ Microbiol*. 2011 Feb;77(4):1284-91.

<sup>9</sup> <https://www.youtube.com/watch?v=BmTL0wCsmMQ>

<sup>10</sup> Colombo S, Arioli S, Gargari G, Neri E, Della Scala G, Mora D. Characterization of airborne viromes in cheese production plants. *J Appl Microbiol*. 2018 Nov;125(5):1444-1454.

<sup>11</sup> Lee HM, Lee JH, Kim SH, Yoon SR, Lee JY, Ha JH. Correlation between Changes in Microbial/Physicochemical Properties and Persistence of Human Norovirus during Cabbage Kimchi Fermentation. *J Microbiol Biotechnol*. 2017 Nov 28;27(11):2019-2027.

<sup>12</sup> White, E. G. (1932). Medical Ministry. Mountain View, CA: Pacific Press Publishing Association. p. 228.

<sup>13</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 309.

<sup>14</sup> Schelhaas M. Viruses and cancer: molecular relations and perspectives. *Biol Chem*. 2017 Jul 26;398(8):815-816.

<sup>15</sup> White, E. G. (1987). Manuscript Releases, vol. 2 (Nos. 97-161). Silver Spring, MD: Ellen G. White Estate. P. 143.

<sup>16</sup> Matthew 27:34 King James Version of the Holy Bible.

<sup>17</sup> White, E. G. (1889). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 653.

<sup>18</sup> White, E. G. (1887, June 27). "The Ordinances." *The Review and Herald*.

<sup>19</sup> White, E. G. (1905, July 1). "Diet and Health." *Life and Health*.

## Chapter 20 – References

<sup>1</sup> White, E. G., Steps to Christ, (Washington, D. C.: Review and Herald Publishing Association, 1908), pp.9.

<sup>2</sup> FAO (Food and Agriculture Organization of the United Nations) 7.1 Vinegars <http://www.fao.org/docrep/x0560e/x0560e00.htm>

<sup>3</sup> White, E. G., *Counsels on Diet and Foods*. 1938. Washington, D.C.: Review and Herald Publishing Association, 1976, pp. 436.

<sup>4</sup> White, E. G., *Counsels on Diet and Foods*. 1938. Washington, D.C.: Review and Herald Publishing Association, 1976, pp. 309.

<sup>5</sup> White, E. G., Manuscript Releases. Vol 2. Silver Spring, MD: Ellen G. White Estate, 1981, pp. 143-4.

<sup>6</sup> Patel N, Welham SJ. Peptic digestion of beef myofibrils is modified by prior marination. *Food Nutr Res*. 2013 May 23;57.

<sup>7</sup> Peiwei Li, Qi Zhang, Daohong Zhang, Di Guan, Xiaoxia, Ding Xuefen Liu, Sufang Fang, Xiupin Wang and Wen Zhang (2011). Aflatoxin Measurement and Analysis, Aflatoxins - Detection, Measurement and Control, Dr Irineo Torres-Pacheco (Ed.), ISBN: 978-953-307-711-6, Intech, Available from: <http://www.intechopen.com/books/aflatoxins-detection-measurement-and-control/aflatoxin-measurement-and-analysis>

<sup>8</sup> Kim YK, Koh E, Chung HJ, Kwon H. Determination of ethyl carbamate in some fermented Korean foods and beverages. *Food Addit Contam*. 2000 Jun;17(6):469-75.

<sup>9</sup> Hinton DM, Myers MJ, Raybourne RA, Francke-Carroll S, Sotomayor RE, Shaddock J, Warbritton A, Chou MW. Immunotoxicity of aflatoxin B1 in rats: effects on lymphocytes and the inflammatory response in a chronic intermittent dosing study. *Toxicol Sci*. 2003 Jun;73(2):362-77.

<sup>10</sup> Roy RN, Russell RI. Crohn's disease & aflatoxins. *J R Soc Health*. 1992 Dec;112(6):277-9.

<sup>11</sup> A case-control study of ulcerative colitis in relation to dietary and other factors in Japan. The Epidemiology Group of the Research Committee of Inflammatory Bowel Disease in Japan. *J Gastroenterol*. 1995 Nov;30 Suppl 8:9-12.

<sup>12</sup> Peiwei Li, Qi Zhang, Daohong Zhang, Di Guan, Xiaoxia, Ding Xuefen Liu, Sufang Fang, Xiupin Wang and Wen Zhang (2011). Aflatoxin Measurement and Analysis, Aflatoxins - Detection, Measurement and Control, Dr Irineo Torres-Pacheco (Ed.), ISBN: 978-953-307-711-6.

<sup>13</sup> Sakthivel KM, Guruvayoorappan C. Protective effect of Acacia ferruginea against ulcerative colitis via modulating inflammatory mediators, cytokine profile and NF-κB signal transduction pathways. *J Environ Pathol Toxicol Oncol*. 2014;33(2):83-98.

# Blue Print for Health and Healing

<sup>14</sup> Liu L, Cai X, Yan J, Luo Y, Shao M, Lu Y, Sun Z, Cao P. In Vivo and In Vitro Antinociceptive Effect of Fagopyrum cymosum (Trev.) Meisn Extracts: A Possible Action by Recovering Intestinal Barrier Dysfunction. *Evid Based Complement Alternat Med*. 2012;2012:983801.

<sup>15</sup> Lavy A, Naveh Y, Coleman R, Mokady S, Werman MJ. Dietary Dunaliella bardawil, a beta-carotene-rich alga, protects against acetic acid-induced small bowel inflammation in rats. *Inflamm Bowel Dis*. 2003 Nov;9(6):372-9.

<sup>16</sup> Slaga TJ, Bowden GT, Boutwell RK. Acetic acid, a potent stimulator of mouse epidermal macromolecular synthesis and hyperplasia but with weak tumor-promoting ability. *J Natl Cancer Inst*. 1975 Oct;55(4):983-7.

<sup>17</sup> Thijseswamy BS, Mahendran S, Biradar MI, Raj P, Srivastava K, Badami S, Veerapur VP. Protective effect of embelin against acetic acid induced ulcerative colitis in rats. *Eur J Pharmacol*. 2011 Mar 11;654(1):100-5.

<sup>18</sup> Somi MH, Mousavi SM, Naghshahi S, Faramarzi E, Jafarabadi MA, Ghojzade M, Majidi A, Naseri Alavi SA. Is there any relationship between food habits in the last two decades and gastric cancer in North-Western Iran? *Asian Pac J Cancer Prev*. 2015;16(1):283-90.

<sup>19</sup> Qin M, Ma LQ, Tan J, Chen YR, Zhu LR, Lin R, Hu WL, Li JN, Zhang KH, Wang Y, Li JS, Xiao B, Chen HY, Chen YX, Fang JY. Risk factors for colorectal neoplasms based on colonoscopy and pathological diagnoses of Chinese citizens: a multicenter, case-control study. *Int J Colorectal Dis*. 2015 Mar;30(3):353-61.

<sup>20</sup> Cleary K, McFeeters RF. Effects of oxygen and turmeric on the formation of oxidative aldehydes in fresh-pack dill pickles. *J Agric Food Chem*. 2006 May 3;54(9):3423-7.

<sup>21</sup> Lynch MP, Faustman C. Effect of aldehyde lipid oxidation products on myoglobin. *J Agric Food Chem*. 2000 Mar;48(3):600-4.

<sup>22</sup> MacDonald WC, Anderson FH, Hashimoto S. Histological effect of certain pickles on the human gastric mucosa. A preliminary report. *Can Med Assoc J*. 1967 Jun 10;96(23):1521-5.

<sup>23</sup> Kono S, Hirohata T. A review of gastric cancer and life style. *Gan No Rinsho*. 1990 Feb;Spec No:257-67.

<sup>24</sup> Hara N, Sakata K, Nagai M, Fujita Y, Hashimoto T, Yanagawa H. Geographical difference of mortality of digestive cancers and food consumption. *Gan No Rinsho*. 1984 Oct;30(13):1665-74.

<sup>25</sup> Radosavljević V, Janković S, Marinković J, Đokić M. Non-occupational risk factors for bladder cancer: a case-control study. *Tumori*. 2004 Mar-Apr;90(2):175-80.

<sup>26</sup> Fushimi T1, Tayama K, Fukaya M, Kitakoshi K, Nakai N, Tsukamoto Y, Sato Y. Acetic acid feeding enhances glycogen repletion in liver and skeletal muscle of rats. *J Nutr*. 2001 Jul;131(7):1973-7.

<sup>27</sup> Wang YY, Chang RB, Allgood SD, Silver WL, Liman ER. A TRPA1-dependent mechanism for the pungent sensation of weak acids. *J Gen Physiol*. 2011 Jun;137(6):493-505.

<sup>28</sup> Willershausen I, Weyer V, Schulte D, Lampe F, Buhre S, Willershausen B. In vitro study on dental erosion caused by different vinegar varieties using an electron microprobe. *Clin Lab*. 2014;60(5):783-90.

<sup>29</sup> Aihara E, Closson C, Matthias AL, Schumacher MA, Engevik AC1, Zavros Y, Ottemann KM, Montrose MH. Motility and chemotaxis mediate the preferential colonization of gastric injury sites by *Helicobacter pylori*. *PLoS Pathog*. 2014 Jul 17;10(7):e1004275.

<sup>30</sup> Lhotta K, Höfle G, Gasser R, Finkenstedt G. Hypokalemia, hypernecrosis and osteoporosis in a patient ingesting large amounts of cider vinegar. *Nephron*. 1998 Oct;80(2):242-3.

<sup>31</sup> White, E.G., Testimonies for the Church. Vol 2. Mountain View, CA: Pacific Press Publishing Association, 1948. pp. 368.

<sup>32</sup> Budak NH, Kumbul Doguc D, Savas CM, Seydim AC, Kok Tas T, Ciris MI, Guzel-Seydim ZB. Effects of apple cider vinegars produced with different techniques on blood lipids in high-cholesterol-fed rats. *J Agric Food Chem*. 2011 Jun 22;59(12):6638-44.

<sup>33</sup> Hertoghe T, *The Hormone Handbook*. International Medical Books, Surrey, UK, 2006, p87.

<sup>34</sup> White, E.G., *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association, 1923. pp. 169.

<sup>35</sup> White, E.G., *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association, 1898. pp. 746.

<sup>36</sup> White, E.G., *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association, 1942. pp. 325.

<sup>37</sup> White, E.G., *Counsels on Diet and Foods*. 1938. Washington, D.C.: Review and Herald Publishing Association, 1976. pp. 485.

## Chapter 21 – References

<sup>1</sup> Martínez-Anaya MA, Llin ML, Pilar Macias M, Collar C. Regulation of acetic acid production by homo- and heterofermentative lactobacilli in whole-wheat sour-doughs. *Z Lebensw Unters Forsch*. 1994 Sep;199(3):186-90.

<sup>2</sup> Numbers 19:15 (KV).

<sup>3</sup> Oshiro M, Momoda R, Tanaka M, Zendo T, Nakayama J. Dense tracking of the dynamics of the microbial community and chemicals constituents in spontaneous wheat sourdough during two months of backslipping. *J Biosci Bioeng*. 2019 Mar 14.

<sup>4</sup> Amtha R, Zain R, Razak IA, Basuki B, Roelian BO, Gautama W, Purwanto D1. Dietary patterns and risk of oral cancer: a factor analysis study of a population in Jakarta, Indonesia. *Oral Oncol*. 2009 Aug;45(8):e49-53.

<sup>5</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p.301.

<sup>6</sup> White, E. G. (1896). *Lt 11*, 1896.

<sup>7</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. pp. 316-317.

<sup>8</sup> Laatikainen R, Koskenpato J, Hongisto SM, Lopenon J, Poussa T, Huang X, Sontag-Strohm T, Salmenkari H, Korpela R. Pilot Study: Comparison of Sourdough Wheat Bread and Yeast-Fermented Wheat Bread in Individuals with Wheat Sensitivity and Irritable Bowel Syndrome. *Nutrients*. 2017 Nov 4;9(11).

## Chapter 22 – References

<sup>1</sup> Ephesians 4:14, King James Version of the Holy Bible.

<sup>2</sup> Isaiah 8:20, King James Version of the Holy Bible.

<sup>3</sup> Acts 17:25,28, King James Version of the Holy Bible.

<sup>4</sup> 2 Kings 5:10, King James Version of the Holy Bible.

<sup>5</sup> Numbers 12:14,15, King James Version of the Holy Bible.

<sup>6</sup> Luke 17:12-14, King James Version of the Holy Bible.

<sup>7</sup> Luke 5:13, King James Version of the Holy Bible.

<sup>8</sup> White, E. G. (1958). *Selected Messages Book 2*. Washington, D.C.: Review and Herald Publishing Association. p. 346.

<sup>9</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 127.

<sup>10</sup> Ephesians 4:5, King James Version of the Holy Bible.

<sup>11</sup> White, E. G. (1923). *Counsels on Health*. Mountain View, CA: Pacific Press Publishing Association. p. 323.

<sup>12</sup> Romans 6:16, King James Version of the Holy Bible.

<sup>13</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 230.

<sup>14</sup> Isaiah 38:1-5, King James Version of the Holy Bible.

<sup>15</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 668.

<sup>16</sup> White, E. G. (1899, August 15). "Christ's Mission." *The Review and Herald*.

<sup>17</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 194.

<sup>18</sup> *Ibid*. p. 192.

<sup>19</sup> Revelation 14:9.

<sup>20</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 443.

<sup>21</sup> White, E. G. (1958). *Selected Messages Book 2*. Washington, D.C.: Review and Herald Publishing Association. p. 346.

<sup>22</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 443.

<sup>23</sup> Luke 8:43-44, King James Version of the Holy Bible.

<sup>24</sup> White, E. G. (1932). *Medical Ministry*. Mountain View, CA: Pacific Press Publishing Association. p. 223.

<sup>25</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 228.

<sup>26</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 196.

<sup>27</sup> James 5:14-15, King James Version of the Holy Bible.

<sup>28</sup> Mark 6:13, King James Version of the Holy Bible.

<sup>29</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 192.

<sup>30</sup> *Ibid*. p. 193.

<sup>31</sup> White, E. G. (1932). *Medical Ministry*. Mountain View, CA: Pacific Press Publishing Association. p. 228.

<sup>32</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 126.

<sup>33</sup> White, E. G. (1985). *The Paulson Collection of Ellen G. White Letters*. Payson, AZ: Leaves-Of-Autumn Books. p. 14.

<sup>34</sup> Romans 13:1-3, King James Version of the Holy Bible.

<sup>35</sup> White, E. G. (1864). *Spiritual Gifts*, vol. 4a. Battle Creek, MI: Seventh-day Adventist Publishing Association. p. 135.

<sup>36</sup> Starfield B. Is US health really the best in the world? *JAMA*. 2000 Jul 26;284(4):483-5.

<sup>37</sup> White, E. G. (1985). *The Paulson Collection of Ellen G. White Letters*. Payson, AZ: Leaves-Of-Autumn Books. p. 15.

<sup>38</sup> White, E. G. (1958). *Selected Messages Book 2*. Washington, D.C.: Review and Herald Publishing Association. p. 346.

<sup>39</sup> Psalms 37:7, King James Version of the Holy Bible.

<sup>40</sup> White, E. G. (1882). *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 512.

<sup>41</sup> White, E. G. (1915). *Life Sketches of Ellen G. White*. Mountain View, CA: Pacific Press Publishing Association. p. 196.

<sup>42</sup> Proverbs 11:14, King James Version of the Holy Bible.

<sup>43</sup> Romans 14:23, King James Version of the Holy Bible.

<sup>44</sup> White, E. G. (1900). *Manuscript Releases*, vol. 19 (Nos. 1360-1419). Silver Spring, MD: Ellen G. White Estate. p. 51.

<sup>45</sup> Proverbs 16:25, King James Version of the Holy Bible.

<sup>46</sup> Psalms 127:1, King James Version of the Holy Bible.

## Chapter 23 – References

<sup>1</sup> Daniel 12:4, King James Version of the Holy Bible.

<sup>2</sup> *Ibid* 12:8,9, King James Version of the Holy Bible.

<sup>3</sup> *Ibid* 2:44, King James Version of the Holy Bible.

<sup>4</sup> *Ibid* 2:45, King James Version of the Holy Bible.

<sup>5</sup> Daniel 1:1-4, taken from the Good News Bible, Second Edition © 1992 by American Bible Society.

<sup>6</sup> Daniel 1:4, King James Version of the Holy Bible.

<sup>7</sup> *Ibid* v.5.

<sup>8</sup> Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol*. 1960 Jan;198:217-20.

<sup>9</sup> Daniel 1:8, King James Version of the Holy Bible.

<sup>10</sup> Proverbs 31:4-5, King James Version of the Holy Bible.

<sup>11</sup> McMillen SL, Stern DE. None of These Diseases. Revell 1984.

<sup>12</sup> Galatians 6:7, King James Version of the Holy Bible.

<sup>13</sup> Burger KS. Frontostriatal and behavioral adaptations to daily sugar-sweetened beverage intake: a randomized controlled trial. *Am J Clin Nutr*. 2017 Mar;105(3):555-563.

<sup>14</sup> Jastreboff AM, Sinha R, Arora J, Giannini C, Kubat J, Malik S, Van Name MA, Santoro N, Savoye M, Duran EJ, Pierpont B, Cline G, Constable RT, Sherwin RS, Caprio S. Altered Brain Response to Drinking Glucose and Fructose in Obese Adolescents. *Diabetes*. 2016 Jul;65(7):1929-39.

<sup>15</sup> Jansen EC, Millar AL, Lumeng JC, Kaciroti N, Brophy Herb HE, Horodyski MA, Contreras D, Peterson KE. Externalizing behavior is prospectively associated with intake of added sugar and sodium among low socioeconomic status preschoolers in a sex-specific manner. *Int J Behav Nutr Phys Act*. 2017 Oct 3;14(1):135.

<sup>16</sup> Park S, Sherry B, Foti K, Blanck HM. Self-reported academic grades and other correlates of sugar-sweetened soda intake among US adolescents. *J Acad Nutr Diet*. 2012 Jan;112(1):125-31.

<sup>17</sup> White, E. G. (1897). *Healthful Living*. Battle Creek, MI: Medical Missionary Board. p. 101.

<sup>18</sup> White, E. G. (1949). *Temperance*. Mountain View, CA: Pacific Press Publishing Association. p. 59.

<sup>19</sup> Genesis 1:29, New International Version®, NIV® Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.®.

<sup>20</sup> *Ibid*, Genesis 3:18.

<sup>21</sup> White, E. G. (1952). *My Life Today*. Washington, D.C.: Review and Herald Publishing Association. p. 148.

<sup>22</sup> Lipinski M, Do D, Morise A, Froelicher V. What percent luminal stenosis should be used to define angiographic coronary artery disease for noninvasive test evaluation? *Ann Noninvasive Electrocardiol*. 2002 Apr;7(2):98-105.

<sup>23</sup> Dr. John Kelly, personal communication.

<sup>24</sup> Perthen JE, Lansing AE, Liu J, Liu TT, Buxton RB. Caffeine-induced uncoupling of cerebral blood flow and oxygen metabolism: a calibrated BOLD fMRI study. *Neuroimage*. 2008 Mar 1;40(1):237-47.

<sup>25</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 423.

<sup>26</sup> Esselstyn CB Jr. Resolving the Coronary Artery Disease Epidemic Through Plant-Based Nutrition. *Prev Cardiol*. 2001 Autumn;4(4):171-177.

<sup>27</sup> van Swieten JC, Geyskes GG, Derix MM, Peock BM, Ramos LM, van Latum JC, van Gijn J. Hypertension in the elderly is associated with white matter lesions and cognitive decline. *Ann Neurol*. 1991 Dec;30(6):825-30.

<sup>28</sup> Longstreth WT Jr, Arnold AM, Beauchamp NJ Jr, Manolio TA, Lefkowitz D, Jungreis C, Hirsch CH, O'Leary DH, Furberg CD. Incidence, manifestations, and predictors of worsening white matter on serial cranial magnetic resonance imaging in the elderly: the Cardiovascular Health Study. *Stroke*. 2005 Jan;36(1):56-61.

<sup>29</sup> 2Corinthians 3:18, King James Version of the Holy Bible.

<sup>30</sup> 1Corinthians 13:12, King James Version of the Holy Bible.

<sup>31</sup> Hummer RA, Rogers RG, Nam CB, Ellison CG. Religious involvement and U.S. adult mortality. *Demography*. 1999 May;36(2):273-85.

<sup>32</sup> Larson DB, Koenig HG, Kaplan BL, Greenberg RS, Logue E, Tyroler HA. The impact of religion on men's blood pressure. *J Relig Health*. 1989 Dec;28(4):265-78.

<sup>33</sup> <http://ngm.nationalgeographic.com/print/2005/11/longevity-secrets/buettner-text>

<sup>34</sup> Tibbits D, Ellis G, Piramelli C, Luskin F, Lukman R. Hypertension reduction through forgiveness training. *J Pastoral Care Commun*. 2006 Spring-Summer;60(1-2):27-34.

<sup>35</sup> Isaiah 33:24, King James Version of the Holy Bible.

<sup>36</sup> Pavellis KW. Hope: critical therapy. *J Back Musculoskelet Rehabil*. 1997 Jan 1;8(3):237-9.

<sup>37</sup> James 1:27, King James Version of the Holy Bible.

<sup>38</sup> Brown SL, Nesse RM, Vinokur AD, Smith DM. Providing social support may be more beneficial than receiving it: results from a prospective study of mortality. *Psychol Sci*. 2003 Jul;14(4):320-7.

<sup>39</sup> Psalms 82:6, John 10:34, King James Version of the Holy Bible.

<sup>40</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 19.

<sup>41</sup> 2Corinthians 9:7, King James Version of the Holy Bible.

<sup>42</sup> Acts 20:35, King James Version of the Holy Bible.

<sup>43</sup> Matthew 20:28, King James Version of the Holy Bible.

<sup>44</sup> Mark 8:35, King James Version of the Holy Bible.

<sup>45</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 21.

<sup>46</sup> Luskin F. Review of the effect of spiritual and religious factors on mortality and morbidity with a focus on cardiovascular and pulmonary disease. *J Card Rehabil*. 2000 Jan-Feb;20(1):8-15.

<sup>47</sup> Acts 20:35, King James Version of the Holy Bible.

<sup>48</sup> White, E. G. (1881). *Testimonies for the Church*, vol. 4. Mountain View, CA: Pacific Press Publishing Association. p. 56.

<sup>49</sup> Daniel 1:12-13, King James Version of the Holy Bible.

<sup>50</sup> Matthew 4:3, King James Version of the Holy Bible.

<sup>51</sup> Romans 3:23, King James Version of the Holy Bible.

<sup>52</sup> White, E. G. (1875). *Testimonies for the Church*, vol. 3. Mountain View, CA: Pacific Press Publishing Association. p. 491.

<sup>53</sup> Daniel 12:1, King James Version of the Holy Bible.

<sup>54</sup> White, E. G. (1875). *Testimonies for the Church*, vol. 3. Mountain View, CA: Pacific Press Publishing Association. p. 51.

## Chapter 24 - References

<sup>1</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 92.

<sup>2</sup> Leviticus 7:23. King James Version of the Holy Bible.

<sup>3</sup> <https://theconsciouslife.com>

<sup>4</sup> [http://northernlightsheltheeducation.com/newsletters/NewsletterSEP\\_7-2018.html](http://northernlightsheltheeducation.com/newsletters/NewsletterSEP_7-2018.html)

<sup>5</sup> Bourke, RM; Harwood T (2009). *Food and Agriculture in Papua New Guinea*. Australian National University. p. 327.

<sup>6</sup> White, E. G. (1902). *Testimonies for the Church*, vol. 7. Mountain View, CA: Pacific Press Publishing Association. p. 135.

<sup>7</sup> Swank RL, Nakamura H. Oxygen availability in brain tissues after lipid meals. *Am J Physiol*. 1960 Jan;198:217-20.

<sup>8</sup> [https://www.brii.org/pdf/recipes/Why\\_No\\_Free\\_Oil.pdf](https://www.brii.org/pdf/recipes/Why_No_Free_Oil.pdf)

<sup>9</sup> White, E. G. (1898). *The Desire of Ages*. Mountain View, CA: Pacific Press Publishing Association. p. 47.

<sup>10</sup> deDea L. Can coconut oil replace caprylidene for Alzheimer disease? *JAAPA*. 2012 Aug;25(8):19.

<sup>11</sup> van der Tempel H, Tulleken JE, Limburg PC, Muskiet FA, van Rijswijk MH. Effects of fish oil supplementation in rheumatoid arthritis. *Ann Rheum Dis*. 1990 Feb;49(2):76-80.

<sup>12</sup> Maki KC, Hasse W, Dicklin MR, Bell M, Buggia MA, Cansens ME, Eren F. Corn Oil Lowers Plasma Cholesterol Compared with Coconut Oil in Adults with Above-Desirable Levels of Cholesterol in a Randomized Crossover Trial. *J Nutr*. 2018 Oct 1;148(10):1556-1563.

<sup>13</sup> García-Escobar E, Rodríguez-Pacheco F, García-Serrano S, Gómez-Zumaquero JM, Haro-Mora JI, Soriguer F, Rojo-Martínez G. Nutritional regulation of interleukin-6 release from adipocytes. *Int J Obes (Lond)*. 2010 Aug;34(8):1328-32.

<sup>14</sup> Beegom R, Singh RB. Association of higher saturated fat intake with higher risk of hypertension in an urban population of Trivandrum in south India. *Int J Cardiol*. 1997 Jan 3;58(1):63-70.

<sup>15</sup> [http://northernlightsheltheeducation.com/media\\_download/High%20Blood%20Pressure-control%20it%20naturally.pdf](http://northernlightsheltheeducation.com/media_download/High%20Blood%20Pressure-control%20it%20naturally.pdf)

<sup>16</sup> Fisher EA, Blum CB, Zannis VI, Breslow JL. Independent effects of dietary saturated fat and cholesterol on plasma lipids, lipoproteins, and apolipoprotein E. *J Lipid Res*. 1983 Aug;24(8):1039-48.

<sup>17</sup> Brattsand R. Distribution of cholesterol and triglycerides among lipoprotein fractions in fat-fed rabbits at different levels of serum cholesterol. *Atherosclerosis*. 1976 Jan-Feb;23(1):97-110.

<sup>18</sup> [http://northernlightsheltheeducation.com/media\\_download/Cholesterol\\_Handout.pdf](http://northernlightsheltheeducation.com/media_download/Cholesterol_Handout.pdf)

# References

<sup>19</sup> Early RJ, Spielman SP. Muscle respiration in rats is influenced by the type and level of dietary fat. *J Nutr*. 1995 Jun;125(6):1546-53.

<sup>20</sup> Agnolola C, McKenzie DJ, Taylor EW, Bolis CL, Tota B. Cardiac performance in relation to oxygen supply varies with dietary lipid composition in sturgeon. *Am J Physiol*. 1996 Aug;271(2 Pt 2):R417-25.

<sup>21</sup> Wilson TA, Foxall TL, Nicolosi RJ. Doxazosin, an alpha-1 antagonist, prevents further progression of the advanced atherosclerotic lesion in hypercholesterolemic hamsters. *Metabolism*. 2003 Oct;52(10):1240-5.

<sup>22</sup> Kritchevsky D, Tepper SA, Kim HK, Story JA, Vesselinovitch D, Wissler RW. Experimental atherosclerosis in rabbits fed cholesterol-free diets. 5. Comparison of peanut, corn, butter, and coconut oils. *Exp Mol Pathol*. 1976 Jun;24(3):375-91.

<sup>23</sup> Stange E, Agostini B, Paenbergh J. Changes in rabbit lipoprotein properties by dietary cholesterol, and saturated and polyunsaturated fats. *Atherosclerosis*. 1975 Jul-Aug;22(1):125-48.

<sup>24</sup> Nageswari K, Banerjee R, Menon VP. Effect of saturated, omega-3 and omega-6 polyunsaturated fatty acids on myocardial infarction. *J Nutr Biochem*. 1999 Jun;10(6):338-44.

<sup>25</sup> White, E. G. (1905). *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 298.

<sup>26</sup> Lee RWY, Corley MJ, Pang A, Arakaki G, Abbott L, Nishimoto M, Miyamoto R, Lee E, Yamamoto S, Maunakea AK, Lum-Jones A, Wong M. A modified ketogenic gluten-free diet with MCT improves behavior in children with autism spectrum disorder. *Physiol Behav*. 2018 May 1;188:205-211.

<sup>27</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association, p. 323.

## Chapter 25 - References

<sup>1</sup> Gómez-Alonso S, Fregapano G, Salvador MD, Gordon MH. Changes in phenolic composition and antioxidant activity of virgin olive oil during frying. *J Agric Food Chem*. 2003 Jan 29;51(3):667-72.

<sup>2</sup> Ranawana V, Campbell F, Bestwick C, Nicol P, Milne L, Duthie G, Raikos V. Breads Fortified with Freeze-Dried Vegetables: Quality and Nutritional Attributes. Part II: Breads Not Containing Oil as an Ingredient. *Foods*. 2016 Sep 8;5(3): pii: E62.

<sup>3</sup> Ranawana V, Raikos V, Campbell F, Bestwick C, Nicol P, Milne L, Duthie G. Breads Fortified with Freeze-Dried Vegetables: Quality and Nutritional Attributes. Part I: Breads Containing Oil as an Ingredient. *Foods*. 2016 Mar 14;5(1): pii: E19.

<sup>4</sup> Schisterman EF, Faraggi D, Browne R, Freudenheim J, Dorn J, Muti P, Armstrong D, Reiser B, Trevisan M. Minimal and best linear combination of oxidative stress and antioxidant biomarkers to discriminate cardiovascular disease. *Nutr Metab Cardiovasc Dis*. 2002 Oct;12(5):259-66.

<sup>5</sup> Walter MF, Jacob RF, Jeffers B, Ghadafar MM, Preston GM, Buch J, Mason RP. PREVENT study. Serum levels of thiobarbituric acid reactive substances predict cardiovascular events in patients with stable coronary artery disease: a longitudinal analysis of the PREVENT study. *J Am Coll Cardiol*. 2004 Nov 16;44(10):1996-2002.

<sup>6</sup> Mateen S, Mooin S, Khan AQ, Zafar A, Fatima N. Increased Reactive Oxygen Species Formation and Oxidative Stress in Rheumatoid Arthritis. *PLoS One*. 2016 Apr 4;11(4):e0152925.

<sup>7</sup> Chakraborty S, Singh OP, Dasgupta A, Mandal N, Nath DS. H. Correlation between lipid peroxidation-induced TBARS level and disease severity in obsessive-compulsive disorder. *Prog Neuropsychopharmacol Biol Psychiatry*. 2009 Mar 17;33(2):363-6.

<sup>8</sup> Suwanrungruang K, Sriamporn S, Wiangnon S, Rangsrakjuee D, Sookprasert A, Thipsuntornsak N, Satitvipavee P, Poomphakwank K, Tokudome S. Lifestyle-related risk factors for stomach cancer in northeastern Thailand. *Asian Pac J Cancer Prev*. 2008 Jan-Mar;9(1):71-5.

<sup>9</sup> Cöber E, Sogukpinar N, Mermer G, Aydemir G. Nutrition, lifestyle, and breast cancer risk among Turkish women. *Nutr Cancer*. 2005;53(2):152-9.

<sup>10</sup> Kaufman LN, Peterson MM, Smith SM. Hypertensive effect of polyunsaturated dietary fat. *Metabolism*. 1994 Jan;43(1):1-3.

<sup>11</sup> <https://www.forbes.com/sites/ceciliarodriguez/2016/02/10/the-olive-oil-scam-if-80-is-fake-why-do-you-keep-buying-it/#67c0dc03639d>

<sup>12</sup> <https://www.aboutoliveoil.org/olive-oil-fraud>

<sup>13</sup> Farooq AM, Dhital S, Li C, Zhang B, Huang Q. Effects of palm oil on structural and in vitro digestion properties of cooked rice starches. *Int J Biol Macromol*. 2018 Feb;107(Pt A):1080-1085.

## Chapter 26 – References

<sup>1</sup> <https://www.amazon.com/Juice-Your-Way-Fabulous-Health-ebook/gp/B00C1WVVIC>

<sup>2</sup> White, E. G. (1897). *Healthful Living*. Battle Creek, MI: Medical Missionary Board, p. 90.

<sup>3</sup> White, E. G. (1938). *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association, p. 105.

<sup>4</sup> White, E. G. (1923). *Fundamentals of Christian Education*. Nashville, TN: Southern Publishing Association, p. 225.

<sup>5</sup> <http://www.greenlifemarket.com/ns/DisplayMonograph.asp?StoreID=031EC774495D4578A871144D579B9A87&DocID=bottomline-upgrading-juicetherapy>

<sup>6</sup> Edwin A. Noyes. *Expanded Spiritualistic Practices In Healing*. Forest Grove Publishing, 2012.

<sup>7</sup> <http://www.ayurvedtoronto.com/ayurvedicmed.htm>

<sup>8</sup> <http://en.wikipedia.org/wiki/Dhanvantari>

<sup>9</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 105.

<sup>10</sup> Burks AW, Laubach S, Jones SM. Oral tolerance, food allergy, and immunotherapy: implications for future treatment. *J Allergy Clin Immunol*. 2008 Jun;121(6):1344-50.

<sup>11</sup> Van Hoogstraten IM, Andersen KE, Von Blomberg BM, Boden D, Bruynzeel DP, Burrows D, Camarasa JG, Dooms-Goossens A, Kraal G, Lahti A, et al. Reduced frequency of nickel allergy upon oral nickel contact at an early age. *Clin Exp Immunol*. 1991 Sep;85(3):441-5.

<sup>12</sup> van Hoogstraten IM, Boden D, von Blomberg ME, Kraal G, Schepet RJ. Persistent immune tolerance to nickel and chromium by oral administration prior to cutaneous sensitization. *J Invest Dermatol*. 1992 Nov;99(5):608-16.

<sup>13</sup> Huijbregtse IL, Snoeck V, de Creus A, Braat H, De Jong EC, Van Deventer SJ, Rottiers P. Induction of ovalbumin-specific tolerance by oral administration of Lactococcus lactis secreting ovalbumin. *Gastroenterology*. 2007 Aug;133(2):517-28.

<sup>14</sup> Nagatani K, Dohi M, To Y, Tanaka R, Okunishi K, Nakagome K, Sagawa K, Tanno Y, Komagata Y, Yamamoto K. Splenic dendritic cells induced by oral antigen administration are important for the transfer of oral tolerance in an experimental model of asthma. *J Immunol*. 2006 Feb 1;176(3):1481-9.

<sup>15</sup> Friedman A, el-Sabbagh A, Santos LM, Fishman-Lobell J, Polanski M, Das MP, Khoury SJ, Weiner HL. Oral tolerance: a biologically relevant pathway to generate peripheral tolerance against external and self antigens. *Chem Immunol*. 1994;58:259-90.

<sup>16</sup> Weiner HL, Mackin GA, Matsui M, Orav EJ, Khoury SJ, Dawson DM, Hafler DA. Double-blind pilot trial of oral tolerization with myelin antigens in multiple sclerosis. *Science*. 1993 Feb 26;259(5099):1321-4.

<sup>17</sup> Ellen G. White, "Words to Students", *Youth's Instructor*, May 31, 1894.

<sup>18</sup> *ibid*.

<sup>19</sup> White, E. G. (1905) *The Ministry of Healing*. Mountain View, CA: Pacific Press Publishing Association. p. 301.

<sup>20</sup> Ferguson AC. Food allergy. *Proc Food Nutr Sci*. 1984;8(1-2):77-107.

<sup>21</sup> Rapin JR, Wiensperger N. Possible links between intestinal permeability and food processing: A potential therapeutic niche for glutamine. *Clinics (Sao Paulo)*. 2010 Jun;65(6):635-43.

<sup>22</sup> Poulsen OM, Nielsen BR, Basse A, Hau J. Comparison of intestinal anaphylactic reactions in sensitized mice challenged with untreated bovine milk and homogenized bovine milk. *Allergy*. 1990 Jul;45(5):321-6.

<sup>23</sup> Miller JD. Absence of homogenization might explain the benefits of raw cow's milk. *J Allergy Clin Immunol*. 2013 Jan 12. (Epub ahead of print).

<sup>24</sup> Poulsen OM, Hau J, Kollerup J. Effect of homogenization and pasteurization on the allergenicity of bovine milk analysed by a murine anaphylactic shock model. *Clin Allergy*. 1987 Sep;17(5):449-58.

<sup>25</sup> <http://www.naturalnews.com/news/200504048.asp>

<sup>26</sup> Hollis JH, Houchins JB, Blumberg JB, Mattes RD. Effects of concord grape juice on appetite, diet, body weight, lipid profile, and antioxidant status of adults. *J Am Coll Nutr*. 2009 Oct;28(5):574-82.

<sup>27</sup> <http://www.vegetariannutrition.org/fifthcongress.html>

<sup>28</sup> Khan MM, Goto R, Kobayashi K, Suzumura S, Nagata Y, Sonoda T, Sakauchi F, Washio M, Mori M. Dietary habits and cancer mortality among middle aged and older Japanese living in hokkaido, Japan by cancer site and sex. *Asian Pac J Cancer Prev*. 2004 Jan-Mar;5(1):58-65.

<sup>29</sup> Bolton RP, Heaton KW, Burroughs LF. The role of dietary fiber in satiety, glucose, and insulin: studies with fruit and fruit juice. *Am J Clin Nutr*. 1981 Feb;34(2):211-7.

<sup>30</sup> Bazzano LA, Li TY, Josphura KJ, Hu FB. Intake of fruit, vegetables, and fruit juices and risk of diabetes in women. *Diabetes Care*. 2008 Jul;31(7):1311-7.

<sup>31</sup> Sullivan MJ, Scott RL. Postprandial glycemic response to orange juice and nondiet cola: is there a difference? *Diabetes Educ*. 1991 Jul-Aug;17(4):274-8.

<sup>32</sup> Sullivan MJ, Scott RL. Postprandial glycemic response to orange juice and nondiet cola: is there a difference? *Diabetes Educ*. 1991 Jul-Aug;17(4):274-8.

<sup>33</sup> Getting JE, Gregoire JR, Phul A, Kasten MJ. Oxalate nephropathy due to 'juicing': case report and review. *Am J Med*. 2013 Sep;126(9):768-72.

<sup>34</sup> Paxman PJ, Hill R. The goitrogenicity of kale and its relation to thiocyanate content. *J Sci Food Agric*. 1974 Mar;25(3):329-37.

<sup>35</sup> Haber GB, Heaton KW, Murphy D, Burroughs LF. Depletion and disruption of dietary fibre. Effects on satiety, plasma-glucose, and serum-insulin. *Lancet*. 1977 Oct 1;2(8040):679-82.

<sup>36</sup> Flood-Obayye JE, Rolls BJ. The effect of fruit in different forms on energy intake and satiety at a meal. *Appetite*. 2009 Apr;52(2):416-22.

<sup>37</sup> Mourao DM, Bressan J, Campbell WW, Mattes RD. Effects of food form on appetite and energy intake in lean and obese young adults. *Int J Obes (Lond)*. 2007 Nov;31(11):1588-95.

<sup>38</sup> Schulte WB, Manson JE, Ludwig DS, Colitz GA, Stamper MJ, Willett WC, Hu FB. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. *JAMA*. 2004 Aug 25;292(8):927-34.

<sup>39</sup> Wojcicki JM, Heyman MB. Reducing childhood obesity by eliminating 100% fruit juice. *Am J Public Health*. 2012 Sep;102(9):1630-3.

<sup>40</sup> Li J, Zhang N, Hu L, Li Z, Li R, Li C, Wang S. Improvement in chewing activity reduces energy intake in one meal and modulates plasma gut hormone concentrations in obese and lean young Chinese men. *Am J Clin Nutr*. 2011 Sep;94(3):709-16.

<sup>41</sup> Smeets AJ, Westerterp-Plantenga MS. Oral exposure and sensory-specific satiety. *Physiol Behav*. 2006 Sep 30;89(2):281-6.

<sup>42</sup> Sakata T, Yoshimatsu H, Masaki T, Tsuda K. Anti-Obesity Actions of Mastication Driven by Histamine Neurons in Rats. *Exp Biol Med*. 2008;233(10):1106-1110, 2003.

<sup>43</sup> Panahi S, Khoury DE, Luvovsky BL, Douglas Goff H, Harvey Anderson G. Caloric Beverages Consumed Freely at Meal-Time Add Calories to an Ad Libitum Meal. *Appetite*. 2013 Feb 9. (Epub ahead of print).

<sup>44</sup> Davis JD, Collins BJ. Distention of the small intestine, satiety, and the control of food intake. *Am J Clin Nutr*. 1978 Oct;31(10 Suppl):S255-S258.

<sup>45</sup> St-Pierre DH, Rabasa-Lhoret R, Lavoie ME, Karels AD, Strychar I, Doucet E, Coderre L. Fiber intake predicts ghrelin levels in overweight and obese postmenopausal women. *Eur J Endocrinol*. 2009 Jul;161(1):65-72.

<sup>46</sup> Burton-Freeman B. Dietary fiber and energy regulation. *J Nutr*. 2000 Feb;130(2S Suppl):272S-275S.

<sup>47</sup> Howarth NC, Saltzman E, Roberts SB. Dietary fiber and weight regulation. *Nutr Rev*. 2001 May;59(5):129-39.

<sup>48</sup> Levine AS, Tallman JR, Grace MK, Parker SA, Billington CJ, Levitt MD. Effect of breakfast cereals on short-term food intake. *Am J Clin Nutr*. 1989 Dec;50(6):1303-7.

<sup>49</sup> Ravn-Haren G, Dragsted LO, Buch-Andersen T, Jensen EN, Jensen R, Nørgaard M, Paulovicová B, Bergström A, Wilcks A, Licht TR, Markowski J, Bügel S. Intake of whole apples or clear apple juice has contrasting effects on plasma lipids in healthy volunteers. *Eur J Nutr*. 2012 Dec 28. (Epub ahead of print).

<sup>50</sup> Korot'ko GF, Kadrov Sh. The bilateral autonomy of enzyme secretion by human salivary glands. *Stomatologia (Mosk)*. 1994 Jan-Mar;73(1):26-8.

<sup>51</sup> Mackie DA, Pangborn RM. Mastication and its influence on human salivary flow and alpha-amylase secretion. *Physiol Behav*. 1990 Mar;47(3):593-5.

<sup>52</sup> Ellen G. White, "The Duty to Preserve Health", *The Review and Herald*, July 29, 1884.

<sup>53</sup> Karahashi M, Inomata K. Effects of dietary consistency and water content on parotid amylase secretion and gastric starch digestion in rats. *Arch Oral Biol*. 1999 Dec;44(12):1013-9.

<sup>54</sup> Morse DR, Schacterle GR, Furst L, Zaydenberg M, Pollack RL. Oral digestion of a complex-carbohydrate cereal: effects of stress and relaxation on physiological and salivary measures. *Am J Clin Nutr*. 1989 Jan;49(1):97-105.

<sup>55</sup> Hori N, Lee MC, Sasaguri K, Ishii H, Kamei M, Kimoto K, Toyoda M, Sato S. Suppression of stress-induced nNOS expression in the rat hypothalamus by biting. *J Dent Res*. 2005 Jul;84(7):624-8.

<sup>56</sup> Ellen G. White, "The Duty to Preserve Health", *The Review and Herald*, July 29, 1884.

<sup>57</sup> Limme M. The need of efficient chewing function in young children as prevention of dental malposition and malocclusion. *Arch Pediatr*. 2010 Dec;17 Suppl 5:S213-9.

<sup>58</sup> Varrel J. Occurrence of malocclusion in attritive environment: a study of a skull sample from southwest Finland. *Scand J Dent Res*. 1990 Jun;98(3):242-7.

<sup>59</sup> Blacker SM, Chadwick RG. An in vitro investigation of the erosive potential of smoothies. *Br Dent J*. 2013 Feb;214(4):E9.

<sup>60</sup> Salas MM, Nascimento GG, Vargas-Ferreira F, Tarquínio SB, Huysmans MC, Demarco FF. Diet influenced tooth erosion prevalence in children and adolescents: results of a meta-analysis and meta-regression. *J Dent*. 2015;43(8):865-75.

<sup>61</sup> White, E. G. (1923) *Fundamentals of Christian Education*. Nashville, TN: Southern Publishing Association. p. 225.

<sup>62</sup> Houghton LA, Read NW, Heddlor R, Horowitz M, Collins PJ, Chatterton B, Dent J. Relationship of the motor activity of the antrum, pylorus, and duodenum to gastric emptying of a solid-liquid mixed meal. *Gastroenterology*. 1988 Jun;94(6):1285-91.

<sup>63</sup> Horowitz M, Collins PJ, Shearman DJ. Effect of increasing the caloric/osmotic content of the liquid component of a mixed solid and liquid meal on gastric emptying in obese subjects. *Hum Nutr Clin Nutr*. 1986 Jan;40(1):51-6.

<sup>64</sup> Sun WM, Houghton LA, Read NW, Grundy DG, Johnson AG. Effect of meal temperature on gastric emptying of liquids in man. *Gut*. 1988 Mar;29(3):302-5.

<sup>65</sup> White, E. G. (1991) *Counsels for the Church*. Nampa, ID: Pacific Press Publishing Association. p. 224.

<sup>66</sup> Kusunoki H, Haruma K, Hata J, Tani H, Okamoto E, Sumii K, Kajiyama G. Real-time ultrasonographic assessment of antroduodenal motility after ingestion of solid and liquid meals by patients with functional dyspepsia. *J Gastroenterol Hepatol*. 2000 Sep;15(9):1022-7.

<sup>67</sup> Akglaeak E, Thorsen B, Christiansen T, Thommesen P. Gastroesophageal reflux during liquid and solid meals. A reevaluation of the de Carvalho test. *Rofo*. 1986 Oct;145(4):434-6.

<sup>68</sup> Haber GB, Heaton KW, Murphy D, Burroughs LF. Depletion and disruption of dietary fibre. Effects on satiety, plasma-glucose, and serum-insulin. *Lancet*. 1977 Oct 1;2(8040):679-82.

<sup>69</sup> Playford RJ, Woodman AC, Clark P, Watanapa P, Vesev D, Deprez PH, Williamson RC, Calam J. Effect of luminal growth factor preservation on intestinal growth. *Lancet*. 1993 Apr 3;341(8849):843-8.

<sup>70</sup> Hamer HM, Jonkers D, Venema K, Vanhoutvin S, Troost FJ, Brummer RJ. Review article: the role of butyrate on colonic function. *Aliment Pharmacol Ther*. 2008 Jan 15;27(2):104-19.

<sup>71</sup> Handa K, Kreiger N. Diet patterns and the risk of renal cell carcinoma. *Public Health Nutr*. 2002;5:757-67.

<sup>72</sup> Rashidkhan B, Lindblad P, Wolk A. Fruits, vegetables and risk of renal cell carcinoma: a prospective study of Swedish women. *Int J Cancer*. 2005 Jan 20;113(3):451-5.

<sup>73</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 105.

<sup>74</sup> Kelsay JL, Behall KM, Prather ES. Effect of fiber from fruits and vegetables on metabolic responses of human subjects I. Bowel transit time, number of defecations, fecal weight, urinary excretions of energy and nitrogen and apparent digestibilities of energy, nitrogen, and fat. *Am J Clin Nutr*. 1978 Jul;31(7):1149-53.

<sup>75</sup> Pase MP, Himali JJ, Jacques PF, DeCarli C, Sattizabal CL, Aparicio H, Vasan RS, Beiser AS, Seshadri S. Sugary beverage intake and prevalent Alzheimer's disease in the community. *Alzheimers Dement*. 2017 Sep;13(9):955-964.

<sup>76</sup> Chen H, Iinuma M, Onozuka M, Kubo KY. Chewing Maintains Hippocampus-Dependent Cognitive Function. *Int J Med Sci*. 2015 Jun 9;12(6):502-9.

<sup>77</sup> Galindo-Moreno P, Lopez-Chaichio L, Padial-Molina M, Avila-Ortiz G, O'Valle F, Ravidá A, Catena A. The impact of tooth loss on cognitive function. *Clin Oral Investig*. 2021 Dec 8.

<sup>78</sup> White, E. G. (1987) Manuscript Releases, vol. 2 (Nos. 97-161). Silver Spring, MD: Ellen G. White Estate. p. 217.

<sup>79</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 436.

<sup>80</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 437.

<sup>81</sup> White, E. G. (1882) *Testimonies for the Church*, vol. 5. Mountain View, CA: Pacific Press Publishing Association. p. 356.

<sup>82</sup> White, E. G. (1987) Manuscript Releases, vol. 2 (Nos. 97-161). Silver Spring, MD: Ellen G. White Estate. p. 135.

<sup>83</sup> White, E. G. (1990) Manuscript Releases, vol. 6 (Nos. 347-418). Silver Spring, MD: Ellen G. White Estate. p. 135.

<sup>84</sup> White, E. G. (1990) Manuscript Releases, vol. 11 (Nos. 851-920). Silver Spring, MD: Ellen G. White Estate. p. 122.

<sup>85</sup> White, E. G. (1990) Manuscript Releases, vol. 12 (Nos. 921-999). Silver Spring, MD: Ellen G. White Estate. p. 168.

<sup>86</sup> White, E. G. (1990) Manuscript Releases, vol. 17 (Nos. 1236-1300). Silver Spring, MD: Ellen G. White Estate. p. 61.

<sup>87</sup> White, E. G. (1938) *Counsels on Diet and Foods*. Washington, D.C.: Review and Herald Publishing Association. p. 492.

<sup>88</sup> *Counsels on Diet and Foods*. 1938. Washington, D.C.: Review and Herald Publishing Association, 1976. p. 105. <http://www.ellenwhitedefend.com/Healthmessage/CD.pdf>

<sup>89</sup> White, E. G. (1993) Manuscript Releases, vol. 21 (Nos. 1501-1598). Silver Spring, MD: Ellen G. White Estate. p. 290.

## Chapter 29 – References

<sup>1</sup> Himmelstein DU, Thorne D, Warren E, Woolhandler S. Medical bankruptcy in the United States, 2007: results of a national study. *Am J Med*. 2009 Aug;122(8):741-6.

<sup>2</sup> Gay Teofilo, History of the Valdesians (Florence, 1912 ), p. 237.

<sup>3</sup> For further study on these themes see: The influence of Christianity on Graeco-roman medicine up to the renaissance (2005). *Acta Theologica Supplementum 7*.

<sup>4</sup> Meinhardt, Ron. (2012) *Health Reform & Earth's Final Warning*. <http://www.healthislife.org>

<sup>5</sup> 1 Timothy 6:10, King James Version.

<sup>6</sup> Stuart L. Tyson, "The Caduceus", *The Scientific Monthly* 34.6 (June 1932:492-498).

<sup>7</sup> *White's* 11:24-26, King James Version.

<sup>8</sup> White, E. G. (1903). *Education*. Mountain View, CA: Pacific Press Publishing Association. p. 139.

<sup>9</sup> 1 Corinthians 6:10, King James Version.

<sup>10</sup> Leviticus 13:1-3, King James Version.

<sup>11</sup> Mica 3:11, King James Version.

# Blue Print for Health and Healing

<sup>12</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 201.1) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 201.

<sup>13</sup> White, E. G. (1903). Letters to Physicians and Ministers. {SpTB01 21.1} St. Helena, Cal., June 24, 1903. "To a Young Physician:" pp. 18-21.

<sup>14</sup> Romans 15:1, King James Version.

<sup>15</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 201.1) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 210.

<sup>16</sup> *Ibid.*, p. 203.

<sup>17</sup> Philippians 2:5-8, King James Version.

<sup>18</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 511.

<sup>19</sup> Mark 5:25-26, King James Version.

<sup>20</sup> White, E. G. (1911). The Great Controversy. Mountain View, CA: Pacific Press Publishing Association. p. 572.

<sup>21</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 80.3) Ms 34, 1904, pp. 2, 3, 5. ("Instruction Regarding the Work of Doctor Caro," March 13, 1900.), p. 80.

<sup>22</sup> Job 2:4, King James Version.

<sup>23</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 198.1) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 198.

<sup>24</sup> Jeremiah 10:2, King James Version.

<sup>25</sup> White, E. G. (1932). Medical Ministry. Mountain View, CA: Pacific Press Publishing Association. p. 122.

<sup>26</sup> *Ibid.*, p. 170.

<sup>27</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 211.1) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 211.

<sup>28</sup> Luke 6:31, King James Version.

<sup>29</sup> Luke 12:48, King James Version.

<sup>30</sup> Mark 8:36-37, King James Version.

<sup>31</sup> White, E. G. (1868). Testimonies for the Church, vol. 1. Mountain View, CA: Pacific Press Publishing Association. p. 640.

<sup>32</sup> Corinthians 8:9, King James Version.

<sup>33</sup> Matthew 7:2, King James Version.

<sup>34</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 199.3) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 199.

<sup>35</sup> Matthew 6:2,5,16, King James Version.

<sup>36</sup> Matt 20:13, King James Version.

<sup>37</sup> Luke 17:10, King James Version.

<sup>38</sup> White, E. G. (1903). Education. Mountain View, CA: Pacific Press Publishing Association, p. 57.

<sup>39</sup> Luke 9:58, King James Version.

<sup>40</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 80.3) Ms 34, 1904, pp. 2, 3, 5. ("Instruction Regarding the Work of Doctor Caro," March 13, 1900.), p. 80.

<sup>41</sup> Mark 10:21, King James Version.

<sup>42</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 80.3) Ms 34, 1904, pp. 2, 3, 5. ("Instruction Regarding the Work of Doctor Caro," March 13, 1900.), p. 208.

<sup>43</sup> White, E. G. (1981). Manuscript Releases, vol. 1 (Nos. 19-96). Silver Spring, MD: Ellen G. White Estate. (1MR 221.1) Letter 41, 1890, pp. 1-22. (To Dr. J. H. Kellogg, December 24, 1890.), p. 221.

<sup>44</sup> White, E. G. (1903). Letters to Physicians and Ministers. {SpTB01 19.1, 20.1, 20.3, 21.1} p. 19-21.

## Chapter 30 – References

<sup>1</sup> Numbers 11:4, King James Version.

<sup>2</sup> [https://en.wikipedia.org/wiki/Where%27s\\_the\\_beef%3F](https://en.wikipedia.org/wiki/Where%27s_the_beef%3F)

<sup>3</sup> Teschemacher H. Opioid receptor ligands derived from food proteins. *Curr Pharm Des.* 2003;9(16):1331-44.

<sup>4</sup> Psalms 95:7-11, see Heb 3:8,15, King James Version.

<sup>5</sup> Psalms 78:17-31, King James Version.

<sup>6</sup> White, E. G. (1884, October 21). "Remarks at Michigan Health and Temperance Association." *The Review and Herald*, par. 2.

<sup>7</sup> Granic A, Davies K, Adamson A, Kirkwood T, Hill TR, Siervo M, Mathers JC, Jagger C. Dietary Patterns High in Red Meat, Potato, Gravy, and Butter Are Associated with Poor Cognitive Functioning but Not with Rate of Cognitive Decline in Very Old Adults. *J Nutr.* 2016 Feb;146(2):265-74.

<sup>8</sup> Nyaradi A, Foster JK, Hickling S, Li J, Ambrosini GL, Jacques A, Oddy WH. Prospective associations between dietary patterns and cognitive performance during adolescence. *J Child Psychol Psychiatry.* 2014 Sep;55(9):2017-24.

<sup>9</sup> Molteni R, Barnard RJ, Ying Z, Roberts CK, Gómez-Pinilla F. A high-fat, refined sugar diet reduces hippocampal brain-derived neurotrophic factor, neuronal plasticity, and learning. *Neuroscience.* 2002;112(4):803-14.

<sup>10</sup> White, E. G. (1923). *Counsels on Health.* Mountain View, CA: Pacific Press Publishing Association. p. 150.

<sup>11</sup> Psalms 106:14-15, King James Version.

<sup>12</sup> Beezhold BL, Johnston CS, Dagle DR. Vegetarian diets are associated with healthy mood states: a cross-sectional study in Seventh-day Adventist adults. *Nutri J.* 2010 Jun 1;9:26.

<sup>13</sup> Beezhold BL, Johnston CS. Restriction of meat, fish, and poultry in omnivores improves mood: a pilot randomized controlled trial. *Nutr J.* 2012 Feb 14;11:9.

<sup>14</sup> 1 Corinthians 10:21, King James Version.

<sup>15</sup> Zechariah 11:15-17, King James Version.

<sup>16</sup> Spangler, J.R.; "Editorial: Hamburgers or Angel's Food?" *Ministry: International Journal for Pastors*; Silver Spring MD: September 1989 Archives; <https://www.ministrymagazine.org/archive/1989/09/hamburgers-or-angels-food> Quoted in Steve Wall, *BIBLICAL PRINCIPLES REGARDING DIETARY FOR HUMANTY*, Dissertation for Ph.D. in Biblical Studies.

<sup>17</sup> Solnick SJ, Hemenway D. The "Twinkie Defense": the relationship between carbonated non-diet soft drinks and violence perpetration among Boston high school students. *Inj Prev.* 2012 Aug;18(4):259-63.

<sup>18</sup> Solnick SJ, Hemenway D. Soft drinks, aggression and suicidal behaviour in US high school students. *Int J Inj Contr Saf Promot.* 2014;21(3):266-73.

<sup>19</sup> John 6:51, King James Version.

<sup>20</sup> 1 Corinthians 10:5,6,11, King James Version.

<sup>21</sup> Oddy WH, Robinson M, Ambrosini GL, O'Sullivan TA, de Klerk NH, Bellin LJ, Silburn SR, Zubrick SR, Stanley FJ. The association between dietary patterns and mental health in early adolescence. *Prev Med.* 2009 Aug;49(1):39-44.

<sup>22</sup> White, E. G. (1902). Testimonies for the Church, vol. 7. Mountain View, CA: Pacific Press Publishing Association. p. 135.

<sup>23</sup> Luke 5:33-35, King James Version.

<sup>24</sup> Josephus, *The Jewish War*, Translated by A.G. Williamson (New York: Penguin Books, 1970), 24.

<sup>25</sup> Daniel 9:27, King James Version.

<sup>26</sup> Luke 22:13-20, King James Version.

<sup>27</sup> White, E. G. (1871). Testimonies for the Church, vol. 2. Mountain View, CA: Pacific Press Publishing Association. p. 352.

<sup>28</sup> White, E. G. (1877). The Spirit of Prophecy, vol. 2. Battle Creek, MI: Seventh-day Adventist Publishing Association. p. 192.

<sup>29</sup> Luke 4:1, King James Version.

<sup>30</sup> White, E. G. (1971). Confrontation. Washington, D. C.: Review and Herald Publishing Association. p. 43.

<sup>31</sup> Matt 17:21, King James Version.

<sup>32</sup> Ezra 8:21,23, King James Version.

<sup>33</sup> Jonah 3:5, King James Version.

<sup>34</sup> Lev 23:26-32, King James Version.

<sup>35</sup> Psalms 35:13, King James Version.

<sup>36</sup> Isaiah 22:12-14, King James Version.

<sup>37</sup> Daniel 10:3, King James Version.

<sup>38</sup> Douglass JM, Rasgon IM, Fleiss PM, Schmidt RD, Peters SN, Abelmann EA. Effects of a raw food diet on hypertension and obesity. *South Med J.* 1985 Jul;78(7):841-4.

<sup>39</sup> 1 Thessalonians 5:23,24, King James Version.

## Chapter 32 – References

<sup>1</sup> White, E. G. (1898). The Desire of Ages. Mountain View, CA: Pacific Press Publishing Association. p. 21.

<sup>2</sup> Timothy 3:1-2.

<sup>3</sup> Romans 1:21.

<sup>4</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 281.

<sup>5</sup> McGuire AP, Fagan JG, Tsai J, Merians AN, Nichter B, Norman SB, Southwick SM, Pietrzak RH. Dispositional gratitude predicts the development of psychopathology and suicidal behaviors: Results from a 7-year population-based study of U.S. military veterans. *J Psychiatr Res.* 2022 May;149:168-176.

<sup>6</sup> Tomczyk J, Nezelk JB, Krejtz I. Gratitude Can Help Women At-Risk for Depression Accept Their Depressive Symptoms, Which Leads to Improved Mental Health. *Front Psychol.* 2022 Apr 7;13:878819.

<sup>7</sup> Gutierrez DM, Sousa AB, Grubits S. Suicidal ideation and attempted suicide in elderly people - subjective experiences. *Cien Saude Colet.* 2015 Jun;20(6):1731-40.

<sup>8</sup> Mills PJ, Redwine L, Wilson K, Pung MA, Chinh K, Greenberg BH, Lunde O, Maisel A, Raisinghani A, Wood A, Chopra D. The Role of Gratitude in Spiritual Well-being in Asymptomatic Heart Failure Patients. *Spiritual Clin Pract (Wash D C.)*. 2017 Mar;13(5):37.

<sup>9</sup> Lord D, Deem A, Pitchford P, Bray-Richardson E, Drennon M. A 6-Week Worksite Positivity Program Leads to Greater Life Satisfaction, Decreased Inflammation, and a Greater Number of Employees With A1C Levels in Range. *J Occup Environ Med.* 2019 May;61(5):357-372.

<sup>10</sup> Carter BJ. Long-term survivors of breast cancer. A qualitative descriptive study. *Cancer Nurs.* 1993 Oct;16(5):354-61.

<sup>11</sup> Hartanto A, Majeed NM, Lua VYQ, Wong J, Chen NRY. Dispositional gratitude, health-related factors, and lipid profiles in midlife: a biomarker study. *Sci Rep.* 2022 Apr 11;12(1):6034.

<sup>12</sup> Ronaldson A, Molloy GJ, Wikman A, Poole L, Kaski JC, Steptoe A. Optimism and recovery after acute coronary syndrome: a clinical cohort study. *Psychosom Med.* 2015 Apr;77(3):311-8.

<sup>13</sup> Emmons RA. Thanks! How Practicing Gratitude Can Make You Happier. New York, NY: Houghton Mifflin Company, 2008.

<sup>14</sup> Salzmann S, Euteneuer F, Strahler J, Laferton JAC, Nater UM, Rief W. Optimizing expectations and distraction leads to lower cortisol levels after acute stress. *Psychoneuroendocrinology.* 2018 Feb;88:144-152.

<sup>15</sup> Hazlett L, Moieni M, Irwin MR, Halton KEB, Jevtic I, Meyer ML, Green EC, Cole SW, Eisenberger N. Exploring neural mechanisms of the health benefits of gratitude in women: A randomized controlled trial. *Brain Behav Immun.* 2021 Jul;95:444-453.

<sup>16</sup> Tani Y, Koyama Y, Doi S, Sugihara G, Machida M, Amagasa S, Murayama H, Inoue S, Fujiwara T, Shobugawa Y. Association between gratitude, the brain and cognitive function in older adults: Results from the NEIGE study. *Arch Gerontol Geriatr.* 2022 May-Jun;100:104645.

<sup>17</sup> Wolfe WL, Patterson K. Comparison of a gratitude-based and cognitive restructuring intervention for body dissatisfaction and dysfunctional eating behavior in college women. *Eat Disord.* 2017 Jul-Sep;25(4):330-344.

<sup>18</sup> Alkooze A, Smith R, Kotzin MD, Waugaman DL, Kilgore WDS. The Association Between Trait Gratitude and Self-Reported Sleep Quality Is Mediated by Depressive Mood State. *Behav Sleep Med.* 2019 Jan-Feb;17(1):41-48.

<sup>19</sup> Wood AM, Joseph S, Lloyd J, Atkins S. Gratitude influences sleep through the mechanism of pre-sleep cognitions. *J Psychosom Res.* 2009 Jan;66(1):43-8.

<sup>20</sup> Newman DB, Gordon AM, Mendes WB. Comparing daily physiological and psychological benefits of gratitude and optimism using a digital platform. *Emotion.* 2021 Oct;21(7):1357-1365.

<sup>21</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 251.

<sup>22</sup> Garg N, Mahipalan M, Poulouse S, Burgess J. Does Gratitude Ensure Workplace Happiness Among University Teachers? Examining the Role of Social and Psychological Capital and Spiritual Climate. *Front Psychol.* 2022 Apr 22;13:849412.

<sup>23</sup> White, E. G. (1892). Steps to Christ. Mountain View, CA: Pacific Press Publishing Association. p. 104.

<sup>24</sup> Datu JAD, Valdez JPM, McInerney DM, Cayubit RF. The effects of gratitude and kindness on life satisfaction, positive emotions, negative emotions, and COVID-19 anxiety: An online pilot experimental study. *Appl Psychol Health Well Being.* 2022 May;14(2):347-361.

<sup>25</sup> White, E. G. (1961). Our High Calling. Washington, D.C.: Review and Herald Publishing Association. p. 10.

<sup>26</sup> Bernardo AB, Tan-Mansukhani R, Daganzo MAA. Associations Between Materialism, Gratitude, and Well-Being in Children of Overseas Filipino Workers. *Eur J Psychol.* 2018 Aug 31;14(3):581-598.

<sup>27</sup> Unanue J, Oriol X, Oyanedel JC, Rubio A, Unanue W. Gratitude at Work Prospectively Predicts Lower Workplace Materialism: A Three-Wave Longitudinal Study in Chile. *Int J Environ Res Public Health.* 2021 Apr 5;18(7):3787.

<sup>28</sup> Jiang D, Liu S, Lee JC, Li LMW. Do People Become More or Less Materialistic during Disasters? The Mediating Roles of Mortality Salience and Gratitude. *Int J Environ Res Public Health.* 2021 Aug 13;18(16):8566.

<sup>29</sup> Górnik-Durose, M.E. Materialism and Well-being Revisited: The Impact of Personality. *J Happiness Stud* 21, 305–326 (2020).

<sup>30</sup> <https://realestateinvestmentresults.medium.com/10-benefits-of-gratitude-8d8b5719dfe1>

<sup>31</sup> Karns CM, Moore WE 3rd, Mayr U. The Cultivation of Pure Altruism via Gratitude: A Functional MRI Study of Change with Gratitude Practice. *Front Hum Neurosci.* 2017 Dec 12;11:599.

<sup>32</sup> White, E. G. (1879, December 11). "Spiritual Life in the Church." *The Review and Herald*.

<sup>33</sup> White, E. G. (1898). The Desire of Ages. Mountain View, CA: Pacific Press Publishing Association. p. 661.

<sup>34</sup> Watkins, P.C., Grimm, D.L. & Kolts, R. Counting your blessings: Positive memories among grateful persons. *Curr Psychol* 23, 52–67 (2004).

<sup>35</sup> 1 Chronicles 29:14.

<sup>36</sup> Xiang Y, Chao X, Ye Y. Effect of Gratitude on Benign and Malicious Envy: The Mediating Role of Social Support. *Front Psychiatry.* 2018 May 7;9:139.

<sup>37</sup> <https://www.happierhuman.com/benefits-of-gratitude/>

<sup>38</sup> White, E. G. (1876). Testimonies for the Church, vol. 4. Mountain View, CA: Pacific Press Publishing Association. p. 610.

<sup>39</sup> Ferenczi A, Tanyi Z, Mirnicz Z, Kovács D, Mészáros V, Hübner A, Kövi Z. Gratitude, Religiousness and Well-Being. *Psychiatr Danub.* 2021 Spring-Summer;33(Suppl 4):827-832.

<sup>40</sup> Psalms 118:29.

<sup>41</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 251.

<sup>42</sup> 1 John 4:9-11.

<sup>43</sup> Emmons RA, McCullough ME. Counting blessings versus burdens: an experimental investigation of gratitude and subjective well-being in daily life. *J Pers Soc Psychol.* 2003 Feb;84(2):377-89.

<sup>44</sup> Tang PM, Illies R, Aw SSY, Lin KJ, Lee R, Trombini C. How and when service beneficiaries' gratitude enriches employees' daily lives. *J Appl Psychol.* 2022 Jun;107(6):987-1008.

<sup>45</sup> White, E. G. (1940). *Counsels on Stewardship.* Washington, D.C.: Review and Herald Publishing Association. p. 80.

<sup>46</sup> Armenta CN, Fritz MM, Walsh LC, Lyubomirsky S. Satisfied yet striving: Gratitude fosters life satisfaction and improvement motivation in youth. *Emotion.* 2020 Sep 16.

<sup>47</sup> White, E. G. (1952). The Adventist Home. Hagerstown, MD: Review and Herald Publishing Association. p. 107.

<sup>48</sup> Maheux AJ, Nesi J, Galla BM, Roberts SR, Choukas-Bradley S. #Grateful: Longitudinal Associations Between Adolescents' Social Media Use and Gratitude During the COVID-19 Pandemic. *J Res Adolesc.* 2021 Sep;31(3):734-747.

<sup>49</sup> Ma LK, Tunney RJ, Ferguson E. Does gratitude enhance prosociality?: A meta-analytic review. *Psychol Bull.* 2017 Jun;143(6):601-635.

<sup>50</sup> Park G, vanOyen-Witvliet C, Barraza JA, Marsh BU. The Benefit of Gratitude: Trait Gratitude Is Associated With Effective Economic Decision-Making in the Ultimatum Game. *Front Psychol.* 2021 Apr 20;12:590132.

<sup>51</sup> Heckendorff H, Lehr D, Ebert DD, Freund H. Efficacy of an internet and app-based gratitude intervention in reducing repetitive negative thinking and mechanisms of change in the intervention's effect on anxiety and depression: Results from a randomized controlled trial. *Behav Res Ther.* 2019 Aug;119:1030415.

<sup>52</sup> Psalms 4:8.

<sup>53</sup> Greene N, McGovern K. Gratitude, psychological well-being, and perceptions of posttraumatic growth in adults who lost a parent in childhood. *Death Stud.* 2017 Aug;41(7):436-446.

<sup>54</sup> 1 Thessalonians 5:18.

<sup>55</sup> Romans 8:28.

<sup>56</sup> Genesis 50:20.

<sup>57</sup> <https://www.happierhuman.com/losada-ratio/>

<sup>58</sup> Kathryn C. Adair, Lindsay A. Kennedy & Bryan Sexton (2020) Three Good Tools: Positively reflecting backwards and forwards is associated with robust improvements in well-being across three distinct interventions, *The Journal of Positive Psychology*, 15:5, 613-622.

<sup>59</sup> Malachi 3:16.

<sup>60</sup> Büssing A. Wondering Awe as a Perceptive Aspect of Spirituality and Its Relation to Indicators of Wellbeing: Frequency of Perception and Underlying Triggers. *Front Psychol.* 2021 Sep 30;12:738770.

<sup>61</sup> <https://www.longtonexchange.co.uk/gratitude-how-to-happify-your-mind/>

<sup>62</sup> Psalms 139:14.

<sup>63</sup> Kreitzer MJ, Telke S, Hanson L, Leininger B, Evans R. Outcomes of a Gratitude Practice in an Online Community of Caring. *J Altern Complement Med.* 2019 Apr;25(4):385-391. doi: 10.1089/acm.2018.0460.

<sup>64</sup> Genesis 9:12-16.

<sup>65</sup> White, E. G. (1898). The Desire of Ages. Mountain View, CA: Pacific Press Publishing Association. p. 476.

<sup>66</sup> White, E. G. (1987). Manuscript Releases, vol. 2 [Nos. 97-161]. Silver Spring, MD: Ellen G. White Estate. p. 306.

<sup>67</sup> Galatians 3:23.

<sup>68</sup> [https://greatergood.berkeley.edu/article/item/ten\\_ways\\_to\\_become\\_more\\_grateful1](https://greatergood.berkeley.edu/article/item/ten_ways_to_become_more_grateful1)

<sup>69</sup> White, E. G. (1883, September 27). "Walk in the Light." *The Signs of the Times.*

<sup>70</sup> [https://greatergood.berkeley.edu/article/item/ten\\_ways\\_to\\_become\\_more\\_grateful1](https://greatergood.berkeley.edu/article/item/ten_ways_to_become_more_grateful1)

<sup>71</sup> <https://www.gottman.com/blog/rituals-of-gratitude/>

<sup>72</sup> Pawlina W, Hammer RR, Strauss JD, Heath SG, Zhao KD, Sahota S, Regnier TD, Freshwater DR, Feeley MA. The hand that gives the rose. *Mayo Clin Proc.* 2011 Feb;86(2):139-44.

<sup>73</sup> White, E. G. (1885, November 17). "An Address to the Workers." *The Review and Herald*.

<sup>74</sup> Psalms 92:1.

<sup>75</sup> 1 Chronicles 16:34-36.

<sup>76</sup> White, E. G. (1979). This Day With God. Washington, D.C.: Review and Herald Publishing Association. p. 42.

<sup>77</sup> Philippians 4:6.

<sup>78</sup> White, E. G. (1884, August 7). "The Vision at Bethel." *The Signs of the Times.*

<sup>79</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. p. 253.

<sup>80</sup> Habakkuk 3:17-18.

<sup>81</sup> Ezekiel 36:31-33.

<sup>82</sup> White, E. G. (1915). Life Sketches of Ellen G. White. Mountain View, CA: Pacific Press Publishing Association. p. 67.

<sup>83</sup> 1 Chronicles 29:13-14.

## References

- <sup>84</sup> 1 Timothy 1:12-13.
- <sup>85</sup> White, E. G. (1900). Christ's Object Lessons. Review and Herald Publishing Association. P. 158.
- <sup>86</sup> White, E. G. (1900, September 25). "'Abide in Me';" The Review and Herald.
- <sup>87</sup> White, E. G. (1977). Mind, Character, and Personality, vol. 2. Nashville, TN: Southern Publishing Association. p. 391.
- <sup>88</sup> Deuteronomy 32:15.
- <sup>89</sup> Proverbs 30:8-9.
- <sup>90</sup> Peng L, Wang Y, Chen J. Consequences of Gift Giving in Online Health Communities on Physician Service Quality: Empirical Text Mining Study. J Med Internet Res. 2020 Jul 30;22(7):e18569.
- <sup>91</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>92</sup> White, E. G. (1911). The Acts of the Apostles. Mountain View, CA: Pacific Press Publishing Association. p. 75.
- <sup>93</sup> Solanes A, Albajes-Eizagirre A, Fullana MA, Fortea L, Fusar-Poli P, Torrent C, Solé B, Bonnin CM, Shin JJ, Vieta E, Radau J. Can we increase the subjective well-being of the general population? An umbrella review of the evidence. Rev Psiquiatr Salud Ment (Engl Ed). 2021 Jan-Mar;14(1):50-64.
- <sup>94</sup> Rowland, L., & Curry, O. S. (2019). A range of kindness activities boost happiness. The Journal of Social Psychology, 159(3), 340-343.
- <sup>95</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>96</sup> White, E. G. (1952). The Adventist Home. Hagerstown, MD: Review and Herald Publishing Association. p. 428.
- <sup>97</sup> White, E. G. (1940). Counsels on Stewardship. Washington, D.C.: Review and Herald Publishing Association. P. 80.
- <sup>98</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>99</sup> Hori D, Sasahara S, Doki S, Oi Y, Matsuzaki I. Prefrontal activation while listening to a letter of gratitude read aloud by a coworker face-to-face: A NIRS study. PLoS One. 2020 Sep 8;15(9):e0238715.
- <sup>100</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>101</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>102</sup> Ibid.
- <sup>103</sup> Heekeren JB, Eid M, Heinitz K, Merkle B. Cognitive-affective responses to online positive-psychological interventions: The effects of optimistic, grateful, and self-compassionate writing. Appl Psychol Health Well Being. 2022 Jan 9.
- <sup>104</sup> <https://positivepsychology.com/how-to-express-gratitude/>
- <sup>105</sup> White, E. G. (1900). Christ's Object Lessons. Review and Herald Publishing Association. p. 299.
- <sup>106</sup> White, E. G. (1904). Testimonies for the Church, vol. 8. Mountain View, CA: Pacific Press Publishing Association. p. 18.
- <sup>107</sup> White, E. G. (1894, December 13). "Words to the Young." The Youth's Instructor.
- <sup>108</sup> White, E. G. (1892, July 11). "By their Fruits Ye shall Know them." The Signs of the Times.
- <sup>109</sup> White, E. G. (1892). Steps to Christ. Mountain View, CA: Pacific Press Publishing Association. p. 116-8.
- <sup>15</sup> Psalms 95:7-11.
- <sup>16</sup> Romans 14:21-23.
- <sup>17</sup> Genesis 1:29. THE HOLY BIBLE, NEW INTERNATIONAL VERSION®, NIV® Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.® Used by Permission of Biblica, Inc.® All rights reserved worldwide.
- <sup>18</sup> Genesis 3:18 THE HOLY BIBLE, NEW INTERNATIONAL VERSION®, NIV® Copyright © 1973, 1978, 1984, 2011 by Biblica, Inc.® Used by Permission of Biblica, Inc.® All rights reserved worldwide.
- <sup>19</sup> Hebrews 11:6.
- <sup>20</sup> White, E. G. (1889, February 26). "Where Are the Nine?" The Review and Herald. (RH, February 26, 1889 par. 9).
- <sup>21</sup> John 3:14-15.
- <sup>22</sup> White, E. G. (1990). Manuscript Releases, vol. 19 (Nos. 1360-1419) Silver Spring, MD: Ellen G. White Estate. [19MR 51.2].
- <sup>23</sup> Jeremiah 6:14
- <sup>24</sup> Jeremiah 2:13.
- <sup>25</sup> Psalms 127:1.
- <sup>26</sup> Psalms 103:3.
- <sup>27</sup> White, E. G. (1849, January 31). "To those who are receiving the seal of the living God." (Broadside2, January 31, 1849 par. 13).
- <sup>28</sup> 2Chronicles 16:12.
- <sup>29</sup> White, E. G. (1889). Testimonies for the Church, vol. 5. Mountain View, CA: Pacific Press Publishing Association. [5T 196.2].
- <sup>30</sup> White, E. G. (1909). Testimonies for the Church, vol. 9. Mountain View, CA: Pacific Press Publishing Association. [9T 164.1].
- <sup>31</sup> Isaiah 38:1.
- <sup>32</sup> Isaiah 38:2,3.
- <sup>33</sup> Isaiah 38:4,5.
- <sup>34</sup> Ecclesiastes 3:2.
- <sup>35</sup> Mark 8:35.
- <sup>36</sup> Habakkuk 3:17,18.
- <sup>37</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. (MH 251.3).
- <sup>38</sup> White, E. G. (1898). The Desire of Ages. Mountain View, CA: Pacific Press Publishing Association. {DA 668.3}.
- <sup>39</sup> White, E. G. (1993). Manuscript Releases, vol. 20 (Nos. 1420-1500). Silver Spring, MD: Ellen G. White Estate. [20MR 112.3].
- <sup>40</sup> White, E. G. (1897, July 22). "Christian Temperance." The Signs of the Times. (ST, July 22, 1897 par. 11).
- <sup>41</sup> White, E. G. (1900). Christ's Object Lessons. Review and Herald Publishing Association. {COL 97.3}.
- <sup>42</sup> White, E. G. (1911). The Acts of the Apostles. Mountain View, CA: Pacific Press Publishing Association. {AA 246.1}.
- <sup>43</sup> Matthew 9:29.
- <sup>44</sup> Mark 9:21-24.
- <sup>45</sup> Matthew 13:58.
- <sup>46</sup> John 5:40.
- <sup>47</sup> 1Peter 2:24.
- <sup>48</sup> Romans 10:17.
- <sup>49</sup> Deuteronomy 11:19.
- <sup>50</sup> James 1:6,7.
- <sup>51</sup> 2Chronicles 20:20.
- <sup>52</sup> 2John 1:2.
- <sup>53</sup> JONES AT. "The Home Missionary, vol. 5", 1893, p. 25, para. 554 (November 1893 ATJ, HOMI 231.11).
- <sup>54</sup> Matthew 9:29.
- <sup>55</sup> White, E. G. (1871). Testimonies for the Church, vol. 2. Mountain View, CA: Pacific Press Publishing Association. [2T 530.1].
- <sup>56</sup> White, E. G. (1905). The Ministry of Healing. Mountain View, CA: Pacific Press Publishing Association. (MH 241.2).
- <sup>57</sup> Jones AT. "The Home Missionary, vol. 5", 1893, p. 144, para. 695 (HOMI November 1893, p. 10.6).
- <sup>58</sup> White, E. G. (1958). Selected Messages Book 1. Washington, D.C.: Review and Herald Publishing Association. [1SM 396.2].
- <sup>59</sup> White, E. G. (1892). Steps to Christ. Mountain View, CA: Pacific Press Publishing Association. [SC 50.1].
- <sup>60</sup> Jones AT. The Home Missionary, vol. 5", 1893, p. 182, para. 737 (HOMI November 1893, p. 12.18).
- <sup>61</sup> Joel 2:25.
- <sup>62</sup> Daniel 4:27.
- <sup>63</sup> Matthew 3:8.

### Chapter 33 References

- <sup>1</sup> Zechariah 4:6. King James Version of the Bible.
- <sup>2</sup> Jones AT. "The Home Missionary, vol. 5", 1893, p. 5, para. 530, (HOMI November 1893, p. 229.5).
- <sup>3</sup> White, E. G. (1932). Medical Ministry. Mountain View, CA: Pacific Press Publishing Association. [MM 223.4].
- <sup>4</sup> Acts 17:25,28.
- <sup>5</sup> Hebrews 1:3.
- <sup>6</sup> Isaiah 40:26.
- <sup>7</sup> White, E. G. (1904). Testimonies for the Church, vol. 8. Mountain View, CA: Pacific Press Publishing Association. [8T 260.2].
- <sup>8</sup> Exodus 15:26.
- <sup>9</sup> White, E. G. (1958). Selected Messages Book 2. Washington, D.C.: Review and Herald Publishing Association. [2SM 346-7].
- <sup>10</sup> White, E. G. (1990). Manuscript Releases, vol. 7 (Nos. 419-525). Silver Spring, MD: Ellen G. White Estate. [7MR 357.3].
- <sup>11</sup> White, E. G. (1876, January 6). "Christian Temperance." The Signs of the Times. (ST, January 6, 1876 par. 19).
- <sup>12</sup> Exodus 16:4.
- <sup>13</sup> Numbers 21:5.
- <sup>14</sup> Psalms 78:17,18.

# GET MORE COPIES of "Blueprint for Health and Healing".

- Schedule a seminar.
- Arrange a consultation.

## Contact Dr. John Clark:

Website:

NorthernLightsHealthEducation.com

Email:

ClarkHealthEd@aol.com

Phone Messages:

909-435-0066

"In *Blueprint For Health And Healing*, Dr. John Clark captures the remarkable information and wisdom I have long appreciated in his live health presentations and one-on-one consultations. Dr. Clark describes and explains the key principles for optimal health, with a medical doctor's knowledge and in a way readily understood by lay readers. I would be pleased if all my patients could read and apply the knowledge in his book."

— **John Kelly, MD**, MPH, LM Specialist, researcher, author, teacher, medical evangelist, Founding President, American College of Lifestyle Medicine, Adjunct Faculty, Preventive Medicine, Loma Linda University Health.

"If you want to maintain the health you have, recover the health you lost, and reduce or eliminate your medications, I recommend you read and apply the principles you find in *Blueprint for Health and Healing*. Dr. John Clark has thoroughly researched the scientific literature to accumulate the lifestyle principles that form the blueprint for health and healing. Apply these to your life and you will see the results!"

— **Mark Sandoval, MD**, President: New Paradigm Ministries, Former President & Medical Director: Uchee Pines Institute.

"A book whose time has come! At a time when sickness and feebleness are the epidemics and pandemics of the day...and at a time when many have experienced "health care", and are still in pain, hopelessness and confusion about how to regain their health comes: **Blueprint for Health and Healing, Reversing Disease From Its Foundation**. Stacked and packed with over 35 pages of references and inspired counsel, you may find the answers to your own personal health crisis, and help someone else. A must read and a must have for every medical missionary! I heartily recommend it and am honored to publish this comprehensive yet simple treatise on health and healing. Call the doctor---- He's available!! Get your copy now before he's out to lunch and start reversing your disease from it's foundation!!"

— **Gwen Shorter**, publisher, author, medical missionary, Homeward Publishing Ministries.

**About the Author:** John Clark, M.D. completed medical school training and residency at Loma Linda University School of Medicine. Originally trained as an orthopedic surgeon, Dr. Clark changed his specialty in 2006 to lifestyle medicine. His passion is to teach and help people recover health following God's blueprint.

US\$ 35.00

ISBN 978-1-948254-21-2



9 781948 254212 >