

# Nutrition 2.0

Eating and Living to Achieve a Higher Quality of Life Now and into Your Golden Years



By John A. Pitts, MD



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## Contents

|   |    |
|---|----|
| Introduction .....  | 3  |
| Chapter 1: General Principles of Diet: Carbohydrates, Protein, and Fats ..... | 5  |
| Chapter 2: Specific Nutrition Topics Often Misunderstood .....                | 16 |
| Chapter 3: Bringing the Nutrition Information Together .....                  | 28 |
| Chapter 4: Supplements .....  | 38 |
| Chapter 5: Specifics for Weight Loss .....                                    | 43 |
| Chapter 6: Exercise Advice .....  | 48 |
| Chapter 7: Mental and Spiritual Health .....                                  | 51 |
| Chapter 8: Health Maintenance .....   | 56 |
| Chapter 9: Putting It All Together and Summary .....                          | 59 |
| Sources and Highly Recommended Resources .....                                | 63 |
| Appendix: Brief Suggestions for Some Common Diseases .....                    | 64 |

## Introduction

With a **healthy lifestyle**, there is substantial medical research that shows you can prevent many chronic diseases, such as heart disease, diabetes, obesity, stroke, high blood pressure, autoimmune diseases, Alzheimer's, impotence, blindness, kidney stones, gout, and more. You can also reverse some of these diseases, reduce your risk of many cancers, alleviate many debilitating conditions, lose weight, have more energy, and reduce your need for drugs and surgery. As a physical medicine and rehabilitation physician (physiatrist) with a specific interest in regenerative therapies to treat musculoskeletal diseases, I believe that overall health and nutrition plays a huge role in injuries and healing. As a Regenexx™ physician, I use stem cell and platelet therapies to treat musculoskeletal, nerve, and orthopedic conditions, and we have a holistic approach to health and restoring function. We have learned by our experience with regenerative therapies that diet, exercise, stress, etc. will have a direct effect on the stem cells, platelets, and repair mechanisms of the musculoskeletal system in addition to your overall health.

The information provided will be applicable to everyone. This is my guide to give you a basic foundation of information on mostly diet but also supplements, physical activity, and stress-relief to improve your life. This is not meant as a guide to treat specific diseases without medical care, nor is it a source of specific research data. The following information is my opinion based on cumulative medical data and research I have studied for years from numerous sources and personal experiences. I hope to motivate you to take more control over your well-being by providing practical advice on how to execute these lifestyle habits and to inspire you to adopt many of these behaviors. There is no magic formula or pill or quick program that will suddenly cure all your ailments. However, there are simple measures you can implement into your daily life that require some adjustment, commitment, and dedication but will provide lasting results.

Let's first define **healthy lifestyle**. I believe we were meant to be in a state of well-being with our predominate feelings being that of joy and vitality. There is a balance that must be maintained between spiritual, mental, and physical well-being, and lack in one area usually adversely affects the other. A healthy lifestyle is a life in which the daily thoughts and actions lead to **feelings** of well-being, joy, and happiness.

### **Specific goals of this document to help foster a healthy lifestyle follow:**

1. Provide some very basic science background for the effect of key nutrients on the body
2. Clear some common misconceptions and misunderstandings around major nutritional topics
3. Give clear and practical guidelines to help you eat healthier
4. Provide information and recommendations on some common supplements
5. Discuss tips on how to lose weight healthily and sustain it
6. Give practical and simple exercise and physical activity recommendations
7. Stress the importance of mental and spiritual health (based on science) on your overall well-being

## Nutrition—Introductory Key Points

- Most of us take for granted the extreme role food has in our health. All the research shows us that typical western diets are killing us and severely reducing our quality of life.
- The fact is; our diet, inactivity, and stress are the main causes of chronic illnesses.
- From a diet perspective, the main chemical processes that poor diet affects to cause disease are chronic inflammation, oxidation, and glycation. There are many mechanisms and hormone imbalances that can lead to these processes also, but they will not be addressed in detail in this document.
- Most chronic diseases, such as heart disease, diabetes, and obesity, are preventable and in early stages reversible with the appropriate lifestyle changes.
- The media, government, and large corporations have sent so many mixed messages regarding diet and nutrition; most Americans and even many doctors are confused about the truth. Be skeptical of all health information in the media.
- Believe no claims of one food, vitamin, supplement, or product being a cure or secret remedy to cure disease or lose weight.
- There are no “good” and “bad” foods. These terms suggest judgment. I hope to convince you to eat more nutrient-dense, health-promoting foods and less other foods. Life is all about balance.



## Chapter 1

### General Principles of Diet: Carbohydrates, Protein, and Fats

Carbohydrates, proteins, and fats are the three macronutrients and main energy components of food. You have probably heard a lot about different combinations of these that are supposed to be best for weight control and health. However, dividing foods into these categories and basing your food choice on this is a gross oversimplification. The sources of these nutrients are far more important than the type of energy source. **You need all three macronutrients for a healthy diet, and it is far more important what the sources of these nutrients are than what their specific percentages are in your diet.** For educational purposes we do need to know some basics about these three macronutrients, and I will try to point out key things you need to understand to make better food choices. These explanations will be oversimplified because I want to be concise and make this readable for most everyone. In-depth explanations, biochemistry, and research are widely available if you want more detailed knowledge.

#### Carbohydrates

Carbohydrates have recently had very bad press, but carbohydrates are essential for the body. The most important reason is because the simple sugar glucose is the preferred food source for the brain! It is the main nutrient it loves to eat. Yes, the brain does have some backups and can eat some fat-derived products called ketone bodies if sugar is not available, but this is not preferred. Also, glucose is the only food source for our red blood cells that carry vital oxygen to all our tissues. Additionally, carbohydrates are the main source of energy for our muscles when doing strenuous exercise. So, yes, carbohydrates are essential and good but can also be bad. It is true that excessive carbohydrates, especially “bad” carbohydrates, do have severely negative effects on your health. Let’s talk about what factors are most important with regard to selecting “good” carbohydrates. As with everything, it’s about balance.

The two most important determinants of “good” carbohydrates are a low **glycemic index (GI)** and low **glycemic load (GL)**. GI is a measure of how fast the carbohydrate is broken down into a simple sugar (glucose) and gets into your blood. The GI is scored on a 1–100 scale as follows: <55 is low (good), 55–70 moderate, and >70 is high. Glycemic load is the measure of how much sugar from a given food source is absorbed in the blood. GL corrects for foods that have a high GI but the overall sugar content is low because the portion size is small or the overall carbohydrate content is low. GL is scored as follows: <10 is low (good), 10–20 is moderate, and > 20 is high.

So why is this important? High sugar levels in the blood are bad, which is what I will explain next. First, we need a brief introduction to a hormone—insulin. Insulin is made in the pancreas and is secreted when we eat carbohydrates. Its job, to put it simply, is to put us in storage mode. It helps your body’s cells absorb sugar or store it for future energy in the liver and fat cells. Life is about balance, so the hormone glucagon, made in the pancreas, is secreted when sugars in the blood are too low. It causes the release of stored sugar from the liver or the breakdown of fat. When these hormones are in balance, the body is happy.

When you eat meals or snacks that increase your blood sugar significantly and rapidly, your body responds by secreting a lot of insulin. Your body tries to force that sugar into the cells, mostly muscles and fat, leading to more fat production and weight gain. In addition, because sugar was unloaded into the blood so fast, too much insulin usually is produced, overpowering glucagon and causing an imbalance of hormones. Your sugars usually get low (hypoglycemic) within a couple of hours after eating, and the brain senses its food supply running short, producing the sensation of hunger or cravings for carbohydrates. You feel really lethargic until you eat more carbohydrates. You may be wondering why glucagon doesn't respond to the hypoglycemia. The answer is that insulin suppresses glucagon release. Since too much insulin was secreted, the hormone is at higher levels in the blood than was required for the amount of carbohydrates you ate, so glucagon is not allowed to counteract the transient hypoglycemia. Again, the hormones are out of balance. Additionally, even though you have plenty of fat to use for energy, when insulin is too high, you cannot break down fat for energy because glucagon is suppressed. Thus, this leads to overeating and more weight gain.

Over time your body's cells may stop responding to insulin because they are overwhelmed (insulin resistance). So now, even though you have a lot of insulin, you still have high levels of sugar in the blood with no cells wanting it, and you can't break down fat for energy because the insulin is overpowering the glucagon. The excess sugar directly interacts with blood vessels, nerve cells, and other tissues, causing injury. It also starts to bind abnormally with proteins, causing glycation and creating advanced glycation end-products (AGEs). These are nasty compounds that are large and sticky, and they get stuck in very bad places, such as small blood vessels, that may block blood supply to the eyes, kidneys, or toes for example. That is why so many people with diabetes develop blindness, kidney failure, and amputations. AGEs cause many cellular mechanisms to function abnormally and have been linked to accelerating aging. To make things worse, the body is unable to break down or remove AGEs, so once they form, they stick around for a while. Increased sugar intake also increases triglycerides, which are independently associated with heart disease. Lastly, high levels of insulin cause an increase in "bad" cholesterol and directly contribute to chronic inflammation.

We can go further in depth, and there are other hormones that play just as large a role as insulin, such as leptin and eicosanoids, but that is beyond the scope of this document. To summarize, **high sugar levels and high insulin levels both directly cause heart disease, diabetes, obesity, nerve injury, chronic inflammation, and overall reduced health. Abnormal sugar and insulin levels from too many "bad" carbohydrates have a worse effect on cardiovascular disease than "bad" fat and cholesterol. You get these large spikes in sugar and insulin by eating foods with a high glycemic index (GI) and glycemic load (GL).**

So the next questions should be, What carbohydrate sources have low GI and GL so I can eat more of those and less of those with the high GI and GL? On the Internet, you can look up the GI and GL for every food you are considering eating—[www.glycemicindex.com](http://www.glycemicindex.com) is a good site. However, here is a rough outline so you do not have to memorize charts and numbers for many foods.

All leafy vegetables and most other vegetables have a low GI or no GI because their carbohydrate level is so low; you can eat these freely. Some vegetables, such as carrots, have a higher GI but are fine to eat in small portions because they have a low carbohydrate content and a low glycemic load. Most fruits have a low GI and GL except tropical fruits like pineapple, papaya, and melons that have a higher GI but still have a low GL. Sweet potatoes, quinoa, legumes, true whole grains, and nuts have a low GI and GL. Legumes are peas, lentils, beans, soy, and peanuts. True whole grains are grains that when consumed contain the bran, germ, and endosperm of the grass. These are rarely what you find in stores and restaurants. Examples are amaranth, barley, buckwheat, millet, steel cut oats (not instant oatmeal), quinoa, brown and colored rice, rye, sorghum, teff, triticale, and ancient wheat (spelt, emmer, faro, einkorn, Kamut, and bulgur). Wheat breads are not whole grains. You will find mixed opinions about other health benefits or detriments of eating whole grains and legumes, but more on that later. These are still low-GI foods. Meat and eggs, of course, have no or a low GI because they are mostly protein and fat and will be discussed later.

Foods that have a high glycemic index include all refined sugars, high-fructose corn syrup, flours, breads (even whole wheat), potato chips, sodas, cereals, processed candies, sweets, donuts, most packaged snack foods, instant rice, white potatoes, and pastas. Basically, most processed foods or foods you get in a box, can, or package. All grains that are not whole grains have a high GI also.

I know this list contains most of the food you see in grocery stores and used in most restaurants. It's because of people that most of our carbohydrates now are in the high GI range due to changes in agriculture and food processing. In nature's original state, it is actually very difficult to obtain high-GI foods. But these are the choices we are given today, so it is up to consumers to make the difficult choice to avoid most of our favorite products and replace them with healthy alternatives. The supply of these processed foods will not change unless demand makes a significant shift and it becomes more cost effective to produce more healthy food closer to its natural state (literally and figuratively).

Now that we have discussed the importance of glycemic index, there is another topic we must cover regarding carbohydrates. We need to discuss further a particular sugar called fructose that is especially harmful to humans. Unlike glucose, which every cell in your body can use for energy and is essential for life (in moderate amounts), fructose is not used as a direct energy source for our cells. In fact, fructose is only metabolized in the liver (the organ that tries to neutralize toxins). Let's very briefly discuss how glucose is metabolized in the body. Glucose is absorbed in the blood stream and is picked up by many cells of the body—brain cells, blood cells, muscle cells, etc. The remaining glucose goes to the liver to be stored as glycogen. A small amount gets converted to fat and to cholesterol. In moderate amounts, only a tiny bit is converted to a “bad” type of cholesterol and excess fat. The moderate rise in glucose in the blood also stimulates insulin appropriately. Of course, the more glucose you consume, the more this negatively affects your cholesterol, fat, and insulin levels as discussed above.



Fructose, on the other hand, is not picked up by the body's cells so most of it goes to the liver. Once it gets to the liver, complex biochemistry (which I will spare you the details) breaks it down in several ways, leading to a host of health problems. Good news first: some of the fructose can be converted to glycogen or stored fuel the liver can use to get your blood sugars up when you fast. That process gets maxed out fairly quickly, and that is where the good news ends.

Most of the fructose gets converted directly into fat. This leads to obesity and high triglycerides, which we will learn are bad for cardiovascular health. With this increase in fat, the muscles try to take up more fat until they become full and begin to reject taking up glucose, even if the hormone insulin is trying to tell them to take it—thus insulin resistance. Additionally, this fat contributes to making more of the “bad” cholesterol molecules, increasing cardiovascular risks. Some of this fat gets stuck in the liver, leading to steatosis or “fatty liver” that causes liver failure over time. The breakdown of fructose creates excess uric acid, which we know leads to gout. We also now know it contributes to high blood pressure by inhibiting nitrous oxide (a blood vessel dilator). To make this worse, fructose does not activate insulin or other hormones to tell your brain that you have enough calories and to stop eating. Thus, consuming high levels of fructose does not make you full and will make you eat more than necessary. Lastly, fructose at the same consumption level as glucose is seven times more likely to cause glycation and creation of advanced glycation end-products (AGEs). How nasty AGEs are was discussed above. Another interesting fact is that fructose is metabolized just like another carbohydrate, alcohol. The two big differences is that alcohol cannot be stored as liver glycogen, and it is metabolized in the brain, also causing the well-known acute neurological affects. Most people can at least admit that alcohol is toxic, especially in more than just moderation, but fructose minus the acute neurologic affects is just as toxic with regard to chronic diseases, and most people are consuming this toxin in high doses daily!

To summarize, consuming more than just a very modest amount of fructose directly leads to obesity, insulin resistance (diabetes), hypertension, increased triglycerides, bad cholesterol, and liver damage! So where do we get all this fructose? Fructose is in almost every processed food, all sweetened beverages (including juice and sports drinks), and the table sugar we consume. I'm sure most of us have at least heard how bad high-fructose corn syrup is. This was invented in the 1970s and became widespread in the food supply in the 1980s. Interesting how rates of high blood pressure, obesity, cardiovascular disease, and diabetes have continued to rise despite all of our medical advances and diet advice. High-fructose corn syrup actually contains 55 percent fructose and 45 percent glucose. Table sugar (sucrose) is an even 50-50 split. Not much of a difference, so both are equally as bad. Fruit also contains fructose, but the difference is fruit is packed with nutrients and fiber to minimize the rate at which it is absorbed, so you only can consume a small amount. When you make fruit juice though, you are basically removing the fiber and concentrating the sugar content from many whole fruits, so a cup of apple juice is far worse than an apple.

Honey and agave are other sources of high fructose. Honey and maple syrup do have good nutrients in them, so use in small amounts is OK, but not in excess. Raw sugar, such as turbinado, is less refined than table sugar, but still you need to limit it to small amounts. If you have a sweet tooth that has to be quenched, the key is to keep the portions very small. The degree of toxicity of fructose and sugar is dose dependent, and it takes far less fructose than glucose to be detrimental.

## The Bottom Line

- Foods that spike your blood sugar level rapidly create a cascade of events that leads to chronic inflammation and numerous deleterious health effects, increasing your risks for chronic diseases. These foods are described as having a high glycemic index (GI) or high glycemic load (GL).
- Fructose is a toxin not much different from alcohol and directly leads to obesity, hypertension, cardiovascular disease, diabetes, and liver damage.
- Get the majority of your carbohydrates from vegetables (especially dark leafy) and fruits.
- True whole grains and legumes are another source of low-GI/GL foods and can be eaten in moderation.
- Minimize processed foods and refined sugars. Minimize grains that aren't whole grains and starchy vegetables. Try to avoid anything with high-fructose corn syrup or added sugar.
- If you do eat high-GI foods, eat them in small portions. They are best eaten with a soluble fiber source (mostly vegetables) and/or healthy fats and plant proteins. This can help balance the rate of absorption of the carbohydrates. Starchy vegetable such as potatoes can be problematic in large portions but they are at least better than sweets and processed foods because they do not have fructose.
- Very high-carbohydrate diets may not be the way to go, but very low-carbohydrate diets, with little vegetables, have numerous long-term deleterious effects on health. Balance!
- If you need a sweet fix, try natural sugars, such as pure maple syrup and honey, in moderation. These sweets still have a high GI, but at least they have some nutrients, and you tend to use a smaller amount of them.
- If you love chocolate, make it dark chocolate (70 percent or greater cocoa). Have two small pieces a day. The flavonoids or antioxidants in dark chocolate are great for improving cardiovascular health. Start with 50 percent cocoa, and every week or two, try a higher percentage until your taste buds and body adjust so that 78 percent or greater dark chocolate still tastes sweet.

## Protein

Protein is a macronutrient that really confuses most people. High protein versus vegan—which way to go? It's a tad complicated, but I'll try to simplify things the best I can. First, protein is definitely an essential building block of life. I'm sure you know it is needed for muscles but also for every cell in the body, the immune system, hormones, etc. Back to biology 101, protein is made of smaller molecules called amino acids, and there are 20 of them. Depending on how you think about it, 10 or 12 your body can make on its own, but the other 8 to 10 you need to obtain from the diet. There is no doubt you need to eat some amount of protein, but, once again, too much or too little can be bad, and what's more important is the source of the protein. Research is showing that obtaining just enough protein required for basic functions is most optimal. Protein excess, even from good sources, can promote excess growth when it's not wanted, such as in tumors! When you meet just your basic protein requirements, the body focuses more on rejuvenation and repair than excess growth of new cells. Keeping this fine balance of just enough protein has been shown to increase life spans!

You need roughly about 0.8 to 1.2 grams of protein per kilogram of weight per day. Requirements are closer to 0.8 for most people and closer to 1.2 for elite athletes and body builders. If you hate math, just say 1 gram per kilogram per day. If you hate the metric system, you can divide your weight in pounds by 2.2 to obtain your mass in kilograms. Or if that's still too much math, you can say a half a gram of protein per pound of weight. Just know that is a little bit of an overestimate. So if you weigh 200 pounds, you need a little less than 100 grams of protein per day (actual calculation would be 91). It would be extremely difficult for anyone in the Western world to truly be protein deficient, so unless you are a strict vegan, I wouldn't worry about trying to calculate or count your protein. Protein can be obtained from plant sources and, of course, meat or animal sources. In general, most individual plant sources of protein don't provide enough of all the essential amino acids but in combination do quite well at providing all the essential amino acids. Animal sources are much more complete, but there are great differences in the quality of the proteins across various animals, how the animals are raised, and how the meat is processed.

Let's discuss specific meat sources. For now let's focus only on conventional meat products, not grass-fed, free-range animals because there is a huge difference. Conventional meat is produced from animals that are fed unnatural diets, do not obtain sufficient exercise, and are stressed and treated inhumanely. They are packed in very close quarters allowing for more spread of infectious diseases then given high doses of toxic antibiotics to counteract this. In short, this is not the type of animal our hunter ancestors would have dined on, and it has severe consequences for the quality of the food and on the environment. Conventional **red meat** (mostly from cows) is the densest of proteins, and only a small amount is required to create protein overload for our system. Conventional red meat and milk all have protein compositions that tend to push the body toward a more anabolic (growth) state but not in a good way; it promotes obesity and tumor growth! Because of the unnatural diets these animals have, they have a high "bad" fat content as well. We will discuss the fat component later. Additionally, these animals are at the top of the food chain and concentrate more environmental toxins.

**Veal and pork** are very similar in quality to red meat. Conventional **poultry** contains a slightly better protein profile, and it is easier to remove the "bad" fat by simply removing the skin. However, the methods in which poultry is raised are even worse than those of cows. As for eggs, I would place them in about the same category as poultry. The eggs are only as good as their mother.

Most studies of the deleterious effects of meat were done with conventional meat and pasteurized dairy. That research shows diets high in conventional animal protein increase your risk for autoimmune diseases, many cancers, osteoporosis, diabetes, cardiovascular diseases, liver disease, and kidney disease. **Casein**, the protein in pasteurized **cow milk**, has especially been shown to increase cancer promotion. Milk and cheese lovers, I'm sorry! Casein has been linked to a host of diseases such as autoimmune diseases, cancer, heart disease, diabetes, asthma, and allergies and is the worse form of protein ingested by humans. What about yogurt? It is still dairy, but it's probably the least offensive since it has some beneficial probiotics, but I would still limit. What about 1 percent milk, or skim milk? It doesn't matter that it has less fat—it's the abnormal protein in milk that is more of a problem than the fat. Also, removing the fat increases its glycemic index. Lactulose, the sugar in milk, is poorly digested by most and

causes gas, bloating, and diarrhea ranging from mild to severe. Most of the research on the ill effects of casein has been done with pasteurized milk. I can't say, with good confidence, if unpasteurized milk is better or worse. It probably is OK, but you would need to obtain fresh milk from a local farm that raises free-range, grass-fed cows. You would still need to avoid raw milk if you have any milk or casein allergies and if you are lactose intolerant. You can look up online sources of raw milk and dairy products.

**Fish** is an even better source of protein than poultry, but with the increased pollution of our waters, mercury and other toxins are the big problems with consuming lots of fish. Smaller fish with scales that feed mostly on vegetation tend to have fewer toxins versus larger fish and shellfish. In general, ocean fish are better than freshwater fish. Farm raised fish have the potential to have less toxins; however, most farm raised fish are fed unnatural diets, and the farming conditions are not ideal. Wild fish, such as wild Alaskan salmon, are preferred. I would avoid large fish, such as swordfish and marlin as they concentrate a large amount of toxins. Try to eat only fresh fish (in areas close to water), and be careful of raw fish that is not fresh.

The above information explains why many people suggest a vegan diet or very low meat intake. You should not eat more than two ounces of conventional animal products daily or obtain more than 10 percent of your calories from conventional animal foods. If you love meat and do not want to give it up, do not fret! You just need to eat high-quality meat. Free-range, grass-fed animals not given added chemicals or antibiotics are a whole different product. This protein composition is much better, and the meat tastes noticeably higher in quality. The fat is of better quality also, but more on that later. It is best to obtain locally produced meat from farmers' markets. Another choice is meat in the supermarket labeled organic, free range, and grass fed. Same holds true for eggs. Another reason to ditch conventional meat is conventional farming comes at a high monetary cost as well as environmental. It creates a ton of waste and carbon dioxide (CO<sub>2</sub>) emissions, contributing to global warming. Did you know livestock production creates more CO<sub>2</sub> emissions than transportation (cars, planes, trains, etc.)?

Plants have protein, too! Great plant sources of protein are spinach, broccoli, sprouts, and nuts. Hemp and quinoa are also great sources of protein. Legumes and soy have a good amount of protein as well. Most plant sources of protein do not contain all the essential amino acids, but in combination they do provide the complete lists. Did you know that dark green vegetables such as spinach and broccoli have more protein per gram than meat? Of course, it would be much harder to eat an equal amount of weight of spinach versus a steak.

Let's briefly discuss protein supplements. The most common are whey, milk, soy, and hemp. Milk consists of two proteins, casein (80 percent) and whey (20 percent). Milk protein supplements are a mix of both, but we already discussed how harmful casein is. Whey, however, is not linked to the diseases that casein is. And it is easily digested and rapidly absorbed. Soy is a good plant-based complete protein supplement; however, it may contain some estrogen precursors, which may not be desirable for men since that's a predominant female hormone. Many people have allergies or stomach intolerances to soy. Also, soy has some negative health consequences discussed later. Hemp is another complete and great plant-based protein source. It is tolerated well, but some supplements may have a strong

taste. Spirulina and other mixed plant-based protein supplements are a good choice as well. For protein supplements do not take more than 25 grams in a serving. After that it is poorly absorbed and stresses the kidneys. **I recommend whey protein if you are OK with an animal source, but avoid whole milk or casein protein supplements. Hemp, spirulina, or a mixed plant-based protein supplement is a good choice as well. Women can take some soy protein in moderation, but I would not recommend soy protein for men. Use only 10–25 grams of protein per serving.**

### The Bottom Line

- Aim to only meet your basic protein requirements, no more and no less. No more than 1 gram per kilogram of weight or half a gram per pound of weight for most people.
- Excess conventional animal protein increases your risk of cardiovascular disease, diabetes, cancer, kidney stones, gout, obesity, autoimmune diseases, and more.
- I am not trying to convince you to become a vegetarian or vegan, though I do support these diets as healthy for those who choose them and can obtain their required protein.
- The best plant sources of protein are spinach, sprouts, and other leafy vegetables and nuts.
- Organic, free-range, grass-fed meat in moderation is perfectly fine and is probably your best protein source.
- In conventional forms, poultry is a little better than red meat.
- If you cannot obtain grass-fed, free-range meat, then reduce your intake of conventional meat to one serving a day (2 ounces) or less. Grilled or baked poultry without the skin is better than red meat, but a small amount of lean red meat is OK.
- Eliminate dairy, especially pasteurized dairy, or reduce consumption to no more than 3 servings per week.
- Less than 10 percent of your daily calories should come from conventional animal sources.
- Eat small wild fish 2–4 times weekly but not more due to concern of mercury and other toxins.
- It is also better to eat meat with vegetables instead of high-starch/high-GI foods, like bread and potatoes, because this may increase your risk for forming those bad AGEs.

### Fats

Fat had a rough public relations period for quite some time, but now it may be making a comeback. Fat is also an essential part of our diet. It makes up the membrane of every single cell in the body and is a key component to the myelin that surrounds our nerves, allowing proper nerve conduction and brain function. Fat also plays a huge role in hormone production and hormone balance, which is an essential component to health. It is necessary for good inflammation required in healing, for the immune system, and for energy use. Fat is the most efficient energy source for you to use when you are at rest or at low levels of activity. Once again, though, it is about balance of what type of fat and the sources of fat.

Let's discuss the main different types of fat.

## **Polyunsaturated Fats (mostly omega-6 fatty acids)**

Polyunsaturated fats have the health benefits of reducing bad cholesterol, but they also reduce good cholesterol. These fats are essential but in excess create increased inflammation in the body, leading to chronic disease. The other problem with these fats is that they become rancid quickly if left exposed to air and become very dangerous when heated because they turn into trans-fatty acids. Use these in moderation, and do not heat or use for cooking. Safflower, sunflower, corn, and soy oils should not be used at all because of their excess polyunsaturated fat content. Most fats have omega-6 fatty acid but the key is optimal ratio of omega-6 fats to omega-3 fats, discussed below. Most fatty plants, such as nuts, have a good amount of polyunsaturated fats and are good in moderation. Walnuts have a better ratio of omega-3 to omega-6 fatty acids so can be eaten a little more liberally.

## **Monounsaturated Fats (omega-3 fatty acids)**

Monounsaturated fats have the greatest health benefits. Higher ratios of mono- to polyunsaturated fats reduce inflammation in the body. They, too, have the downside that they become rancid quickly if left exposed to air and become very dangerous when heated because they turn into trans-fatty acids. These are fats that have been widely studied for their cardiovascular benefit and anti-inflammatory effects. Two particular types of omegas-3 fatty acids are eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), which are most desirable and mostly found in oily fish. The other omega-3s, alpha-linolenic acid (ALA), found in plants and land animal sources, are good but not as powerful as EPA and DHA.

The major food sources of omega-3s are fish oils, ground flax seeds, chia seeds, and olives. Flax seeds should be stored in the refrigerator, and then you can grind them with an electric coffee grinder and sprinkle over salad or other dishes. Flax seeds have to be ground because all the fiber and omega-3s are inside the seeds, but your GI tract cannot break down the whole seed. Chia seeds are another great source of omega-3s, and they have to be ground as well to release them. They can be added to salads and smoothies or put into water to make a gel used for hydration during endurance exercise.

You can obtain the potent EPA and DHA omega-3s from small fatty fish, but due to mercury toxicity, I would limit fish intake to 2–4 times per week. Fish with the lowest mercury toxicity are wild salmon, flounder, tilapia, sole, herring, mussels, and trout. Tilefish, swordfish, shark, white snapper, and tuna have higher concentrations and should be eaten less often. In general, bottom feeders and shellfish are less nutritious.

Olive oil is another great source of omega-3s. Cold-pressed extra virgin is the best and purest form. Other olive oil is highly processed, and it loses most of its health benefits. Besides its omega-3 content, another reason olive oil is good for us is because of a photochemical in it called hydroxytyrosol. This photochemical has direct anti-inflammatory properties but is only present in significant quantity in cold-pressed extra virgin olive oil. Use extra virgin olive oil for salads or cold dishes or for low-temperature cooking. Do not cook olive oil to high temperatures or fry with it, as it will be converted into trans fats! If cooking to high temperatures, it is best

to use oils or fats with more saturated fat as they are more stable at higher temperatures. Examples are organic butter, ghee, lard, coconut oil, and palm oil. You can use organic expeller-pressed canola oil or sesame seed oil for cooking at medium temperatures.

Organic, grass-fed meats also have a good amount of omega-3s. Conventional meat has very little and is mostly omega-6 and saturated fat. The optimal ratio of omega-6 to omega-3 fats is 2:1. The typical American diet is closer to 15–20:1! Ratios higher than 3:1 begin to increase chronic inflammation and disease. Ratios lower than 1:1 will have a deleterious effect on the immune system and healing. With omega-6 fatty acids being so ubiquitous in fatty foods, it will be difficult to get more omega-3s than omega-6s, so it is OK to focus just on reducing omega-6s and increasing omega-3s.

Nuts such as walnuts, almonds, cashews, etc are a good source of monounsaturated fats as well as polyunsaturated and saturated fats. Nuts have for the most part have good, healthy fats and have the additional benefit that though high in calories only about 75% of the calories are absorbed. Also, eating almonds have been shown to reduce calorie absorption throughout the day.

## **Saturated Fats**

Saturated fats are the fats that are solid at room temperature. Examples are butterfat, lard, margarine, vegetable shortening (Crisco), coconut oil, and all animal fats. Saturated fats get very bad press but actually they are really not as bad as previous thought. They do not have many direct great health benefits or direct deleterious effects. They are fine in moderation. Too much will make you gain weight, but they are not as health detrimental as trans fats or an excess omega-6 to omega-3 fatty acid ratio. Some butter, lard, coconut, nuts, and grass-fed-animal fats are OK in moderation. However, try to completely avoid Crisco and margarine because they contain mostly trans fats. Saturated fats are the best to use for cooking at high temperatures or if you fry (on occasion only). Only cook at high temperatures with coconut oil, palm oil, organic butter, ghee, or lard.

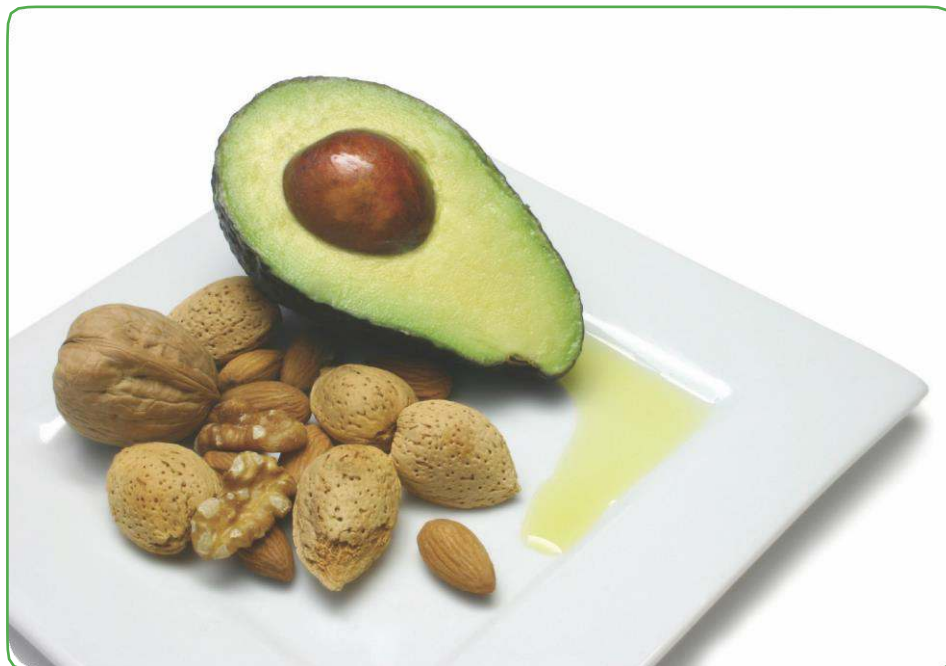
## **Trans Fats (trans-fatty acids)**

Trans fats are bad, bad, bad! Avoid any products made with hydrogenated vegetable oil as this creates trans-fatty acids. These chemically produced fats are unnatural, and the body has no idea how to handle them. They have the most deleterious effect on your body. Examples are Crisco, margarine, and any processed food that has partially hydrogenated oils as an ingredient. Commercial canola oil, soybean oils, salad dressings, and microwave popcorn all have trans-fatty acids also. Most processed and fast foods also contain these fats. The last point is that due to labeling laws, foods can have up to .5 grams of trans fat per serving but still be labeled as 0 trans fats! There is no safe amount of trans-fatty acids.

Avoid any oils that smell rotten, that have been used for cooking previously, or that have been exposed to air for long periods of time because they are converted to trans fat and other dangerous chemicals. Always refrigerate oils after opening. Never eat foods that are deep fried, especially at fast-food restaurants. Never heat oils to the point of smoking as the fumes are very dangerous. Avoid Crisco and margarine!

## The Bottom Line

- An optimal ratio of unsaturated fats is 2:1 omega-6 to omega-3 fatty acids. Since omega-6 is abundant, food choices should be made to reduce omega-6 and increase omega-3.
- Obtain a healthy ratio of omega-3 to omega-6 fats from nuts, seeds, avocados, coconuts, flax, chia, and grass-fed meats and eggs.
- The best way to avoid excess omega-6 is to avoid vegetable oils and limit conventional processed animal fats.
- Eat small fatty fish 2–4 times weekly to obtain healthy DHA and EPA omega-3 fatty acids.
- The best fish to consume with omega-3 and low mercury content are salmon, flounder, tilapia, sole, and trout.
- Use cold-pressed extra virgin olive oils for salads, cold dishes, and low-temperature cooking.
- Sesame seed oil and organic expeller-pressed canola oil is OK in moderation for cooking at medium temperatures.
- Only use coconut oil, palm oil, organic lard, butter or ghee for cooking at high temperatures.
- Never leave oils open to air, never reuse heated oils, always smell oil for rancidness, and never overheat oils or cook to the point of smoking.
- Never eat any foods made with trans-fatty acids, hydrogenated oils, margarine, or Crisco. Trans fats have no health benefits and are unnatural products for the body.
- Avoid most fast foods and processed foods as labeling laws can allow for some trans fats but still be labeled as zero.





## Chapter 2

### Specific Nutrition Topics Often Misunderstood

#### Cholesterol

Cholesterol is found in the membranes of every single cell in the body and is an essential component of nerve cells and hormones. You definitely could not function or live without cholesterol. The reason I did not mention it as an essential macronutrient is because the body does an excellent job of making this molecule on its own, and you do not need to eat cholesterol for health. Dietary cholesterol, for the most part, has little impact on total cholesterol, thus continue to eat your eggs (especially free range) with the yolk. Though, diets very high in cholesterol from poor sources can adversely increase cholesterol levels.

Cholesterol is another molecule that gets a lot of negative press. However, the blood cholesterol levels that we might think of are poorly understood by most people as well as physicians. “Good” HDL cholesterol and “bad” LDL cholesterol is not an accurate assessment. Cholesterol in itself is typically not a problem; it’s what can happen to cholesterol as a result of mostly diet and activity levels that can make cholesterol dangerous. However, usually the things that lead to excess levels of cholesterol lead to making cholesterol hazardous. This is far too complicated a subject to go into detail in this text, but let’s briefly discuss some biochemistry.

Cholesterol is mostly made in the liver but can be made by most every cell. Once made, it gets combined with different proteins and fats and becomes a lipoprotein. They are generically named high-density lipoproteins (HDL) or low-density lipoproteins (LDL). However, there are different types of LDL and HDL, which can **both** be bad and good. How you eat affects what happens to cholesterol. The increased intake of fructose and high-glycemic index foods that cause high sugar levels are major contributors to the creation of bad cholesterol. These are small, dense LDL and small, dense HDL particles. These products are more easily oxidized and contribute to inflammation—two of our key words that are bad. These particles also tend to get stuck in injured areas of blood vessels, causing plaques and blockages (i.e., heart attacks and strokes).

Routine cholesterol blood tests do not differentiate these subtypes of HDL and LDL. Now this doesn’t mean we can’t get some information from routine cholesterol labs, but it’s not as simple as you might think. Cholesterol labs are a good reflection of how healthy we eat and our activity level. One thing that is checked with routine labs is triglyceride levels. High triglycerides are definitely bad and are independently associated with cardiovascular disease. If you divide your triglyceride level by the HDL level, you can get a rough estimate of how much chronic inflammation you have. A number of 2 or less is good. Greater than 3 is really bad. Of note, a large cause of elevated triglycerides is excess consumption of sugar and high-glycemic index foods, not fat.

You may ask why there is such an emphasis on lowering cholesterol and why there is so much research saying lower cholesterol reduces cardiovascular disease. Well, if cholesterol, good or bad, can potentially become dangerous, then the less cholesterol you have in total, the less of that substrate you have to potentially turn dangerous. So, yes, lowering cholesterol can work to

reduce heart attacks and strokes, but some people, even with low levels of total cholesterol, still have cardiovascular events. The reason is due to not making the lifestyle changes that prevent the formation of the dangerous cholesterol molecules discussed above. In the end, to prevent cardiovascular disease, you need to lower the “bad” cholesterol levels. I argue that lowering the bad alone with diet and exercise, and not just lowering the good with the bad by medication, is a healthier and more effective approach.

Now you can lower cholesterol and triglycerides with medication. Statins are the most popular drugs used to lower cholesterol. They have many effects that can provide some benefit in preventing cardiovascular disease, but they also have a lot of potential side effects, such as muscle injury, lack of energy, neuropathy, and pancreatic and liver dysfunction. Also, cholesterol levels that are too low can be dangerous and have been linked to problems such as memory loss and dementia. The brain needs cholesterol to function, remember. Also, normal cholesterol production in and of itself isn't the main problem; it's what leads to cholesterol turning bad (becoming oxidized or being involved with inflammation). In my opinion, statins do have a role in protecting some people from cardiovascular disease but are overprescribed. For most people, the best way to keep cholesterol in a healthy range with a high amount of good cholesterol, a low amount of bad cholesterol, and low triglycerides is with the lifestyle changes recommended in this guide. However, if you are taking cholesterol medications, do not stop without consulting your physician first.

### **The Bottom Line**

- Cholesterol is important, but not in the way most people think it is at increasing your risk for cardiovascular disease.
- Cholesterol levels can reflect increased inflammation and poor health.
- Cholesterol molecules become problematic with chronically abnormal sugar levels, increased inflammation, and oxidation. Looking at your routine cholesterol labs, calculate the ratio of triglycerides to HDL; less than 2 is good, and greater than 3 is bad.
- Cholesterol levels that are too low from chronic cholesterol-reducing medications can be potentially detrimental to brain and muscle function.
- Control cholesterol better by decreasing the consumption of sugar and high-glycemic index foods, exercising, and obtaining plenty of antioxidants from vegetables and fruits.

## Canola Oil—Good or Bad?

Canola oil actually comes from genetically modified rapeseed. Natural rapeseed is poisonous! The genetic modification supposedly makes it less toxic to humans. To remove the oil from the plant, dangerous chemical solvents, such as hexane, are used. Commercial canola oil is often contaminated with trans fats as well, so, yes, conventional canola oil is bad. When the oil is removed mechanically instead of chemically, cold expeller-pressed canola oil is produced. This doesn't have the dangerous chemicals added to it, but we are still unsure of how much of the natural rapeseed qualities remain that can be harmful. Additionally, canola oil has a good amount of omega-3 and omega-6 fatty acids that can easily be converted to trans fats at high-temperature cooking. That is why cold expeller-pressed oil should be used to avoid having the oil heat up excessively during the mechanical separation. Expeller-pressed canola oil also does go rancid more quickly and must be used for low- to medium-temperature cooking only.

### The Bottom Line

- Conventional canola oil should be avoided.
- You can use expeller-pressed canola oil in moderation for medium temperature cooking.
- Be sure to store it in a cool, dry place, and do not use if it is rancid.
- Never cook canola to the point of smoking, which applies to all oils.

### High Protein Diets

This is not a healthy diet, especially if vegetable and fruits are eliminated. Evidence does show that high protein, high fat, low carb diets can substantially reduce weight for six months, however, after that, things turn sour. First, most of the weight loss is due to water loss and the body being in starvation mode; after stopping this diet, the weight will quickly come back. Additionally, this diet has side effects: bad breath, increased stress on the liver, increased risk of kidney stones, osteoporosis, hypercholesterolemia, vitamin deficiencies, increased calcium loss, loss of menstrual cycles, and even a few reports of death from a sustained long-term restriction of carbohydrates. This diet has too much protein, and is vegetable and fruit poor. This diet does not encourage any carbohydrate intake, omitting the health effects of whole plant sources of low-glycemic index carbohydrates. High-protein diets have definitely been shown to be deleterious to health, and the optimal protein level is just enough to meet basic requirements (see section on proteins in Chapter 1). A high-fat diet is OK if it's good fat and you are doing low carb, otherwise, a balance of moderate high-quality fat and good low-GI carbs is best.

## The Bottom Line

- A high-protein, high-fat diet is not healthy and will not provide long-term weight loss.
- Low to moderate proteins, moderate fats, and low to moderate carbohydrates in generic terms are better. In percentages of daily calories, anywhere from 15-20% protein, 20-70% fat, and 15-70% carbohydrates can be healthy depending on the sources of those macronutrients.

## Milk

“Milk does a body good,” or “I need to drink milk for strong bones.” These statements are false unless you mean breast milk from your mom when you were a baby. What about reduced-fat milk? Though reduced-fat milk has less fat, I’ve discussed how milk protein can increase your cancer risks. Also, less fat means more sugars and a higher glycemic index. Often sugar is added to low-fat milk, especially chocolate milk that many children drink! We have already discussed the ill effects of excess sugar. Furthermore, it is advertised that you need milk for strong bones and to prevent osteoporosis, which is also false. Osteoporosis is rarely caused by lack of calcium ingestion; it is caused by increased calcium excretion.

To briefly explain, you have to know a little about pH and your body’s acid-base balance. When you eat foods, they are broken down so that they make acidic products or basic products. Your body likes to be at a constant pH balance, so when you eat foods that want to make your blood more acidic, the body quickly counteracts that effect by mostly using a buffer called calcium bicarbonate. Once it has done its job, it gets excreted by the kidneys. When you have to keep using “calcium” to regulate your pH, you have to obtain that calcium from the bones, thus weaker bones. Vegetables and most fruits tend to send you toward a more basic (alkaline) pH while most other foods, especially animal products (milk) and grains, send you toward the acidic range. Excess salt, refined sugar, alcohol, nicotine, and caffeine increase calcium excretion as well. That is why it is important to balance the foods you eat with vegetables and fruits, not milk, for bone health. Additionally, the mixture of ingredients in milk does not allow much calcium absorption; it dampens your response to vitamin D and promotes calcium excretion. Research has shown that people who drink more milk actually have a higher incidence of osteoporosis and related fractures.

To prevent osteoporosis, it is best to obtain calcium from green leafy vegetables; avoid the above triggers of calcium excretion; take a vitamin D supplement (the hormone that regulates calcium in the body); and get plenty of weight-bearing exercise, such as walking or weight lifting. Sorry, cheese lovers, but you should keep cheese consumption to a minimum. Furthermore, the proteins in milk, especially casein, can be very allergenic and have been linked to reactive diseases such as asthma, eczema, and possibly some autoimmune diseases. Also, the fat in conventional milk is difficult to digest and low in unsaturated fat. Lastly, the sugar in milk, lactose, is poorly digested by most people after early childhood and can be a cause of flatulence, bloating, and diarrhea, which can reduce your absorption of nutrients from food as well.

Raw milk from a nutrient composition is better than pasteurized milk. The big risk with raw milk is infection. This risk is lowered if the milk is taken from the same cow that has been pasture-raised and grass-fed and has not been given hormones and antibiotics, but the risk is still there. It is also difficult to obtain raw milk and cheese made from raw milk products. Products can be found at [www.organicpastures.com](http://www.organicpastures.com) or [www.eatwild.com](http://www.eatwild.com) if you are interested. Even with raw milk, you can have allergies to casein and lactose intolerance. Goat milk is also an alternative that you can use in moderation. Goat milk has much less casein, less allergenic proteins, and less lactulose. The fat in goat's milk is better digested and has more essential fatty acids.

### **The Bottom Line**

- Cow's milk is perfect for baby cows, but not so much for humans, so reduce your intake of pasteurized dairy.
- Consider using raw milk products if you have no milk allergies or are not lactose intolerant.
- You can consume goat's milk as a better alternative if you cannot give up milk.

### **Whole Grains**

I need to eat 5–6 servings a day of heart-healthy whole grains like the food pyramid recommends. Well, the truth is, they are not as great for you as previously thought. When most people think of “healthy grains” they think wheat bread and whole wheat products, but these are not whole grains. Whole grains are as I defined and named under “Carbohydrates” in Chapter 1 and again in “The Bottom Line” below. Compared to white bread, whole wheat has some more fiber and nutrients, but there is no difference in the glycemic index. The fiber in whole wheat products is more insoluble fiber, which does not affect the rate of absorption of sugar. Insoluble fiber can provide some gastrointestinal (GI) health benefits, but vegetables and fruits are much better sources of soluble and insoluble fiber.

What about other vitamins and minerals or enriched breads/grains? Grains in general are a poor source of micronutrients compared to vegetables and fruits, so that benefit doesn't outweigh the negative. Anything labeled enriched has been stripped of all its good nutrients, and then a few are added back—not very helpful either. The true whole grains are better and are OK in moderation, but there is a caveat. See the “Wheat” section below.

Furthermore, grains can, in fact, be harmful to you as well. Lectin, a protein in grains, and phytic acids can cause serious problems for people. Lectins and phytic acids are in most plant foods, but there are a higher number in grains, soy, and legumes. Much of the reason why is the genetic modification of foods. Lectins and phytic acids help protect plants, and genetically modified plants have more of it for protection against predators. Unfortunately, that means us also. Lectins can cause intestinal damage leading to decreased defenses against harmful substances entering the blood. Once lectins and other toxins are absorbed in the body, they can wreak havoc on different systems; cause insulin resistance; or trigger the immune system, increasing the risk of autoimmune diseases. Additionally, phytic acids can bind minerals, causing deficiencies.

Let's briefly discuss corn. The subsidy of corn, causing a gross overproduction of corn and high-fructose corn syrup, was one of the most detrimental things that happened to the US food supply! By the way, corn is a grain not a vegetable. Many people are unaware of this. Corn is great for raising sugar levels and making cheap sweets via high-fructose corn syrup, which is found in most processed foods. I hope we know by now all of that is bad! Corn has very little nutritional value. Eat an occasional fresh corn on the cob if you love corn, but, otherwise minimize corn consumption, especially from processed foods.

### **The Bottom Line**

- Grains are not all they are cracked up to be and are not required for a healthy diet. Most grains have a high glycemic index and are not as nutrient dense as we once believed.
- Corn is a grain, not a vegetable, and highly over consumed. Limit or avoid all products with high-fructose corn syrup, which are most processed and fast foods.
- In addition to the high glycemic index of corn and other grains, they can, in fact, be directly detrimental to your health due to the plant's defense proteins called lectins, phytic acid, and other abnormal proteins. This is especially true of genetically modified grains.
- If you do eat grains, eat the whole grain varieties, such as amaranth, buckwheat, millet, steel cut oats (not instant oatmeal), brown and colored rice, quinoa, sorghum, teff, and ancient wheat (spelt, emmer, faro, einkorn, Kamut, and bulgur).
- Avoid wheat, barley, rye, bulgur, couscous, graham, kamut, matzo, farina, and semolina if you have any gluten or wheat sensitivities.

### **Wheat**

Wheat today is much different than it was 50 years ago. Wheat, along with soy and corn, has undergone extreme genetic modification by scientists over the last half century. The result is more product, but a very different product than people were once used to consuming. The new genetically modified wheat, which is more than 90 percent of the world's wheat now, contains high-glycemic index carbohydrates and different proteins that cause varying degrees of insensitivities.

Most people have heard of celiac disease, in which people have an extreme allergic reaction to a protein in wheat called gluten. This is very rare, but there are several lesser degrees of celiac, as well as many other manifestations of sensitivities to proteins in wheat. The proteins in wheat cause an increase in intestinal permeability (bad) in everyone but to varying degrees. This can lead to more unwanted substances being absorbed by the body which can cause disease or over stimulate the immune system. Reactions to different proteins in wheat, including gluten, gliadin, and lectins (discussed above), cause chronic gastrointestinal inflammation leading to malabsorption of nutrients, or leaky gut syndrome. Leaky gut is when the intestines have a decreased ability to block out toxins, and this leads to chronic inflammation and overexposure of the body to abnormal proteins. These proteins are attacked by the immune system, but if they look like normal cells, the body also attacks its own normal cells. This is one pathway to autoimmune diseases. The abnormal proteins in genetically modified wheat can cause problems for many other body systems from your joints to the brain!

There are more specialized tests your doctor can perform to check for wheat insensitivities if you feel you may have a problem with them, but they are still not 100 percent accurate. An easy and cheap test is to eliminate wheat from your diet for one month and see if you notice any changes to your overall well-being. Things to look for would be better sleep, increased energy, loss of excess weight, fewer food cravings, improved skin conditions, or improvements in any ailments you may suffer with. If you would like to have lab testing for food sensitivities, try Enterolab [www.enterolab.com](http://www.enterolab.com) or Cyrex Laboratories [www.cyrexlabs.com](http://www.cyrexlabs.com). You can request Enterolab without a physician, but you need a physician's order for Cyrex Laboratories. If you do have a gluten or wheat sensitivity, look at [www.gfcfdiet.com](http://www.gfcfdiet.com) and [www.celiac.com](http://www.celiac.com) for a list of foods and nonfood products, such as many personal-care products, that have gluten and can be affecting you as well. Gluten can be found in cosmetics, lip balm, shampoos/conditioners, medications, supplements, Play-Doh, and non self adhesive envelopes and stamps. Also, be careful of corn, buckwheat, and oats because though they are not wheat products, they are often contaminated with wheat. Make sure it says wheat free on the label.

### **The Bottom Line**

- Wheat has been genetically modified now to the point where it is detrimental to health for many people.
- It can cause GI disturbances, which will affect your absorption of nutrients from other foods.
- Gluten and the abnormal proteins in genetically modified wheat can cause problems for numerous organ systems and also may contribute to some autoimmune diseases. Gluten is found in wheat barley, rye, bulgur, couscous, graham, kamut, matzo, farina, and semolina.
- If you want nongenetically modified wheat, you have to look for einkorn, emmer, or triticum. These wheats may be safe if you have celiac disease, but it is still recommended to avoid them.
- I recommend doing a trial of one month off all wheat products to see if you feel any different with regard to sleep, energy, rashes, stomach upset, or any ailments. If you notice improvements, then stay off the wheat. If you feel about the same, you can eat whole grain wheat rarely.

### **Legumes (Beans, Lentils, Peas, Peanuts, and Soy)**

Legumes, despite being good sources of protein, low in glycemic index, and generally a good source of nutrients, do have a downside. Similar to grains, genetic modification, especially of soy, has caused an increase in those nasty lectin proteins and even higher levels of phytic acids as discussed above. Lots of people have allergies to peanuts and soy, likely due to these abnormal proteins. Furthermore, most soy, corn, and rapeseed (used for canola oil) is genetically modified (GMO), meaning their genes have been altered so they make their own pesticides. The effect this may have on human health is unknown at this time since we have never ingested these substances, nor has there been sufficient time to study their effects on human health.

If you do not want to eliminate legumes from your diet, then you must soak beans, peas, soy, peanuts, and lentils in water then boil or cook them thoroughly. This process can at least reduce the lectins and phytic acids you ingest. As an aside, peanuts are a legume; they are not in the nut family, and nuts are far better for you than peanuts. I would minimize peanut consumption compared to other nuts.

Soy is a big problem now due to its genetic modification. In addition to the problems listed above, soy has higher levels of phytic acid that is not reduced as much with boiling. Soy has been linked to multiple endocrine (hormonal) problems due to its phytoestrogens, and the processing of most soy adds carcinogenic compounds. Men should definitely limit soy intake as well because of phytoestrogens (female hormone precursors), which can decrease testosterone. Phytoestrogens affect women also as they can increase the risk of estrogen-dependent cancers, and they can increase thyroid disorders in both sexes. Babies and young children should definitely avoid soy as it has been linked to stunted growth, thyroid dysfunction, early puberty, and immune dysfunction. For teens and adults, fermented soy is better if you want to consume soy. Miso, natto, and tempeh are fine in moderation. They still have some risk of inhibiting thyroid function, and men should only eat rarely, but the other deleterious risks are much more reduced.

### **The Bottom Line**

- Legumes have undergone significant genetic modification that has created proteins that, when ingested, may be harmful, but the research on the long-term effects of these substances on human health is yet unclear.
- Reduce your intake of legumes to a minimal or moderate level. Lentils and peas are probably the best in this group.
- Avoid most soy and never give soy to babies and young children.
- If you want soy, eat the fermented kind: miso, natto, and tempeh.

### **Fiber**

Fiber is a carbohydrate that is not broken down and used for energy, but it is a necessary nutrient. Fiber helps regulate the digestion of nutrients, provides fullness and bulk to food to curb appetite, and helps regulate bowel movements. Fiber has been shown to reduce the risk of constipation, large-bowel cancer, diverticulitis, and other bowel problems when derived from fiber-rich plant foods, not a supplement. Fiber is derived from many plant-based sources, such as leafy vegetables, whole grains, soy, and beans. Most Americans get less than half of the recommended amount of fiber, mostly because of poor vegetable intake. Fiber supplements sometimes help with bowel problems, but they do not offer the same health benefits as receiving fiber straight from the food sources. Aim for 40–60 grams of fiber daily. This is more than the current FDA recommendation of 25–30 grams.



## The Bottom Line

- If you eat plenty of whole fresh fruits and vegetables, there is no need for supplementation.
- If you do not, then a fiber supplement with both soluble and insoluble fiber is fine to take daily with a full glass of water.

## Salt

Salt, or sodium chloride, is an essential component of diet. You use sodium and chloride in every cell in your body, especially nerve cells. Once again, balance, balance, balance is key. Excess dietary salt is probably bad for some people and not so bad for others based on genetic factors and acquired diseases. The American diet is oversaturated with salt regardless. I recommend being especially careful of salt intake if you have a family history of high blood pressure, kidney or heart problems, and stroke. Everyone should only use salt in moderation. Decrease salt intake by not eating a lot of processed, canned, and smoked foods, such as salty snacks, cheese, lunch meats, pickles, and salted nuts. If you cook, then do not add salt while cooking as most of it will become absorbed, and you will not taste it as much. Use plenty of herbs and salt-free seasonings, which will likely offer plenty of taste without the need for salt. If, once the meal is cooked, you need salt, then you can add a small amount of table salt. Preferred would be Celtic or Himalayan sea salt if you need salt as they may have some beneficial trace minerals. Sea salt is a little better, but it's still salt, so only in moderation.

## Artificial Sweeteners

Artificial sweeteners are created chemicals that the body is not used to seeing and are potentially dangerous. Many studies suggest that artificial sweetener consumption actually is associated with increased weight gain and increased risk for metabolic syndrome, diabetes, and cardiovascular disease. There is evidence that artificial sweeteners, such as aspartame (NutraSweet and Equal), can be linked to neurological disorders as well. There is not much information about Splenda yet, but it may cause a disruption of your normal gastrointestinal flora. Here is some food for thought: Splenda was initially created to be a pesticide, but I guess someone in the lab tasted it and thought it was sweet, thus now it is an artificial sweetener! Natural sweeteners, such as Stevia, are a better alternative. The verdict is still out on Splenda, but I also would limit the use of it, and definitely avoid all other artificial sweeteners and diet drinks.

## Acid-Base Balance

If my body is alkaline, I can't get a disease, but if it's acidic, it causes problems. This is a gross oversimplification and misleading. Basic biology—the blood in the body likes to be at a pH level of 7.4. This is alkaline, as anything over 7 is alkaline, and anything under 7.0 is acidic. But in relation to the body, even small changes in the pH, more acidic or more basic than 7.4, can have catastrophic effects on metabolic processes. The body tightly regulates its pH and doesn't waver unless you are very sick. Now, aside from diseases and renal failure causing severe changes in your blood pH, food does have effects on your pH and the pH of small microenvironments in the body.

Fruits, vegetables, and whole plant-based foods, for the most part, tend to make your body head toward a more alkaline state, while processed foods, meats, and high-glycemic index foods tend to trend your body toward a more acidic state. These effects are not related to the actual acidity or alkalinity of the food you consume. It depends on what happens to the food as its byproducts head toward the kidneys to get eliminated. Now, your overall pH will not change much, but the body has to work harder to keep its pH balance when you eat foods that send your body toward a more acidic state. Chronically, this can lead to many diseases, such as osteoporosis discussed above, and you can have microenvironments that are acidic, which can cause problems. Follow the recommendations in this document, especially regarding the high intake of vegetables and fruits, and you won't have to worry about your pH balance.

## **Vitamins, Minerals, and Phytonutrients**

Once again I'm sure you have heard much information on what vitamins and minerals you need to take to prevent or treat certain diseases and on the health benefits of each nutrient. The fact is, yes, of course vitamins and minerals play a huge role in disease prevention and treatment, but once again it is the source of these micronutrients that matters most.

These micronutrients come in a variety of combinations in nature along with other substances being newly discovered. Studies show that vitamin supplements do not provide the same disease protection as a diet high in the unprocessed plant foods that contain those nutrients. Increasing supplementation of specific vitamins to treat disease is not superior to eating foods rich in those vitamins. Though vitamin supplements are largely safe, taking single vitamins in high doses can be toxic, can act similar to other drugs with side effects, and should be used only under medical direction.

I would avoid isolated vitamin A and isolated beta-carotene supplements because they are toxic in high doses and have even been shown to increase cancer risk in smokers. However, the class of carotenoids, of which vitamin A is a member of, taken together or in whole foods reduces cancer risk. Now there are dried mixed-fruit and mixed-vegetable supplements that provide vitamins, minerals, and phytonutrients. These supplements may be better since they come from whole foods and have a mix of micronutrients that's closer to how they are found in foods. There is some research that shows these mixed-fruit and mixed-vegetable supplements are absorbed in the blood, but it is still unclear what effect they provide on health.

**Phytonutrients** are a more recently discovered class of chemicals, found only in plants that offer a wide range of health benefits. These chemicals, mostly found in the skins of plants, contribute to the different colors of the plant foods we eat and are great at detoxifying harmful substances. These compounds, however, are destroyed or altered in the conventional means of processing and cooking foods. Phytonutrients are best acquired through fresh plants—raw, steamed, or lightly cooked.

Scientists now are trying to isolate phytonutrients as a specific treatment for diseases, but as with vitamins, isolating these chemicals does not show the same health benefits as it does when consumed in whole food. However, when vitamins, antioxidants, phytonutrients, etc. are derived directly from plant-based foods, the benefits are extensive in protecting us from harmful chemicals and carcinogens (cancer-causing agents). They help us fight off the natural and man-made environment pollutants in our foods, and offer a substantial reduction in the risk of numerous acquired diseases. Phytonutrients are becoming available in supplement form as well. The research on them as supplements is lacking, but I'm sure that will change in the future. Currently, these supplements are a little more expensive than vitamins, and as with all supplements, you have to be careful of who is manufacturing them. I would recommend taking a mixed antioxidant formula that has the precursors to vitamins and phytonutrients or a mixed-fruit and mixed-vegetable supplement. You should take any vitamin supplement with a meal to help with absorption.

### **The Bottom Line**

- Eat plenty of whole fresh fruits and vegetables, including the skin—a mixture of raw, steamed, or lightly cooked.
- I do recommend a daily multivitamin or mixed-fruit and mixed-vegetable supplement for everyone as the micronutrients in plants have decreased over the years due to conventional farming methods and soil depletion. Take with a meal to help absorption.
- Do not take single antioxidants, such as vitamin A or vitamin E, as supplements; rather take complete isomers or mixed tocopherols of vitamin E, or you can take a mixed beta-carotene vitamin. However, if you would like to supplement, it is best to take a mixed complete antioxidant formula containing many different vitamin precursors and phytonutrients.
- See Chapter 4 “Supplements” for more information.

### **Natural Declining Health as We Age**

My health is supposed to decline as I age. This is false. Yes, there are natural changes that take place as we age. Your appearance will change, you will lose some athletic ability, and you have to do things a little slower, but you should still have good mental function, be able to stay active, and remain disease free. There are plenty of people in their 90s and even 100s that still exercise, travel, have good mental function, and are free of common chronic diseases. There is no magic fountain of youth or formula leading to immortality. Actually, the only thing that has been shown to increase the life-span of humans and other animals is a lifelong low-calorie diet (which if you follow this guideline, you should achieve). This goes in line with only having a protein intake sufficient enough to meet basic needs and no more. If you look at the most long-lived people, they have some very interesting things in common. The biggest commonalities they have are low fasting insulin and glucose levels, optimally low leptin (very important hormone we have not talked about) levels, low triglycerides, and low visceral body fat (fat around organs, usually higher in people with a “beer belly”). Hopefully you see that this document is trying to guide you toward those goals. Physicians can ward off some premature deaths due to disease with drugs and surgery, but with the lifestyle changes outlined here, you can greatly improve your quality of life, which I feel is much more important. Genetics also play a large role, but since we are unable to change that for now, no need to dwell on it.

## The Bottom Line

You cannot reverse the aging process or prevent death, but you can prevent premature death and maintain a high quality of life and health well into the twilight years by adhering to the advice in this document.

## Genetics

Our genes are the basic blueprint of our physical body, and they lay the framework for our physical potential. In relation to nutrition and disease, genes predispose us, at varying degrees, to any disease we acquire. However, in the vast majority of circumstances, our environment and how we take care of ourselves determine if we will ever experience the diseases we have a higher baseline risk for. Our diets can actually alter how our genes are expressed. We all know some people who can eat whatever they want and never gain weight or acquire diabetes, while others are very sensitive to small changes in their diet. As of yet, we do not have a consistently reliable way to test our genes for every predisposition we have, nor do we have the means to “fix” those genes. This is currently a large area of research, and the future of medicine may change drastically in the upcoming decades as new information is discovered. For now, I would contend that we have no control over our genetic predispositions, thus lifestyle is our number one determinant to avoiding disease and living healthily. Also, since everyone is different, listen to your own body. Be conscious of what foods you can tolerate, what makes you feel good, what gives you energy, and do those things.

## The Bottom Line

- Genes lay down the foundation of our bodies, but our destiny to experience disease is not predetermined. Our health is strongly within our own power to control.
- Let's focus on the environmental factors that are within our control: what we eat, the amount of physical activity we partake in, and the ability to manage stress to prevent the vast majority of diseases that we may or may not have a higher threshold for.
- Listen to your body, and do what makes you feel good.

## Chapter 3

### Bringing the Nutrition Information Together

#### So What Do I Eat and Drink?

First, disregard the food pyramid, and take no health advice from the media. The current food pyramid is outdated, and research shows it offers no protection against chronic diseases. In a nutshell, you should eat whole foods (closest to their natural state) and less of everything else. You can have a moderate amount of organic, grass-fed, free-range meat products if you choose. Minimize highly processed, refined sugars, hydrogenated oils, vegetable oils, conventionally raised beef and pork, and grains. This is not a restrictive diet plan. These recommendations propose that you expand your diet and replace less nutritious food with more nutritious food. If you eat more nutritiously overall, you can eat anything in moderation. See my Inverted Pyramid below. Eat liberally the foods in the top 2 sections of the pyramid, eat in moderation the foods in the middle four sections, and limit or eat sparingly the foods in the bottom two sections.

#### Dr. Pitt's Inverted Pyramid



For those of you that are young and/or do not have any chronic diseases, it would still benefit you to follow these recommendations as preventative measures. Prevention is far easier than reversing disease, so you probably can have great benefits with modest changes. However, if you suffer with one or more chronic diseases, you will likely need to embrace more changes to see more benefits. I suggest that everyone adopt these habits until the point that it makes you personally feel content and happy with your health.

All the advice I offer in this guide applies to children as well. We all see the rise in childhood obesity, type 2 diabetes, attention disorders, etc. These are directly related to poor nutrition and poor lifestyle choices. The effect of diet on children even starts when you are pregnant. Eating poorly during pregnancy can negatively affect the fetus. It has been shown that high sugar intake during pregnancy can prime the child toward craving sweets. Once the child is born, breast-feeding from a healthy mother is the best source of nutrition. If you have to use formula or a combination, then you have to be sure to avoid soy formulas and those with added high-fructose corn syrup and sugar. Lastly, start teaching children about healthy eating and lifestyle as early as possible. Explain to them the benefits, and guide them to make more healthy choices. This will take some creativity and experimenting with what healthy foods your child will enjoy. Lead by example.

Cook more if you have time, and buy organic if your budget allows. Nonorganic whole plant-based foods are still a healthy option and better than processed foods and conventional animal products. Be careful of “low fat,” “all natural,” “diet,” and “organic” snacks as they may still have very poor nutrition content due to processing, the addition of extra sugar, chemical additives, and the removal of most of the natural components. Removing chemicals from an already unhealthy food does not make it much better for you, nor does the substitution of sugar for fat. Fat at least has the benefit of making you feel full so you may not eat as much, and it does not spike your blood sugars. Foods stripped of their natural nutrients and then fortified with vitamins are not healthy.

If you cook, be generous with spices and herbs, and incorporate ginger and garlic often. Eat plenty of berries, which you can store in the freezer and defrost or use in smoothies. Spinach, kale, and broccoli are three of the most nutritious plants you can eat. Raw vegetables have the most nutrients and health benefits, so eat plenty of raw vegetables, salads, and fresh fruit. Otherwise, vegetables should be steamed or lightly cooked to obtain good nutritional benefit. Lightly cooking can bring about more nutrients or make some vitamins more absorbable. Frozen vegetables are good also. I would limit or eliminate canned vegetables. Dried fruits are less nutritious than fresh and have more sugar, so I would limit them. Fresh and dried seasonings are great for cooking and are nutritious (fresh is better than dried). You do not have to be a vegetarian or vegan (does not eat any animal products). Though many vegetarian and vegan diets can be healthy if they follow the guidelines above.

**Organic vs. nonorganic:** It is true that organically grown foods are better in that they can reduce our exposures to chemical toxins in food and do have slightly higher concentrations of nutrients. Many organic products are more expensive than conventional products, though many are comparable in price as well. If you want to ration what produce you buy organic, then the following foods are best to buy organic because pesticides are most concentrated in their conventional counterparts: peaches, apples, sweet bell peppers, celery, nectarines, strawberries, cherries, carrots, pears, winter squash, lettuce, kale, potatoes, and grapes. Be aware that conventional meat, milk, and coffee have more concentrated pesticides than all of these produce items. The following produce has very little pesticides, so there is no need to spend extra for organic: avocado, pineapple, mango, asparagus, sweet peas, cabbage, broccoli, eggplant, papaya, watermelon, tomatoes, and sweet potatoes. Fresh fruit and vegetables are still healthy choices even if not organic. Be sure to wash all produce thoroughly with water to remove dirt, germs, and some toxins. Eating healthy can seem expensive at times but it saves you money on health care in the long term. Know that there are far more naturally occurring toxins than man-made and our bodies are equipped to handle that load when healthy.

**Portions:** Keep them small! Avoid big meals and try to eat slowly, thoroughly chewing. No super sizing or large drinks. If at a restaurant, eat partial portions and take leftovers home, eat a salad before your entrée, or eat appetizers instead of entrées. A tip is to drink a cup of water before meals, and eat vegetables first; it will help fill you up. It is also better to eat in a quiet environment away from TV and other distractions. Try not to drink much with meals—wait until 30 minutes after you eat. If you are the type that likes to eat just two big meals a day or don't have time to snack, this is OK as long as you are getting adequate healthy fat, some protein, and eating low GI carbs mostly.

**Frequency:** Eat often! Keep metabolism up by eating five times daily. That doesn't mean 5 large meals! Eat one or two large meals and a few snacks in between. Have the largest meals be breakfast and lunch, and eat a small to moderate size dinner. Have a healthy nonsugary snack between breakfast and lunch and between lunch and dinner. Do not go long periods of time without food and then binge eat. Always eat something for breakfast, and try to avoid eating two hours before going to sleep. Do not perform any "miracle" diets or starve yourself. If you eat a lot of carbohydrates, especially high GI ones, then you will crave food every few hours and feel like you have to eat. When you get that hunger headache, or feel like you have to eat right away or else you cannot function, that is a good sign you are eating too many high GI foods and your blood sugars are heading toward being poorly regulated. You should be able to go more than five hours without feeling like you are starving, even if you get a little hungry. If you are more of a higher fat, low to moderate protein, and low GI type of eater, you generally should be able to go longer periods without eating and may only need to eat two to three times daily depending on your metabolism and activity level.

## Is There a Commercial Diet Plan I Recommend?

These guidelines correlate well with the Paleo Diet. The Paleo Diet is a little more restrictive than what I recommend, and also it does not allow for a vegetarian or vegan lifestyle, but it is a great diet. A concise summary of the Paleo Diet is to eat foods closest to their state found in nature. Eat grass-fed meats, fish/seafood, vegetables and fruits, eggs, and healthy oils (olive oils, walnuts, flaxseeds, macadamias, avocado, and coconut). You should not eat any cereal grains, legumes, dairy, refined sugar, potatoes, processed foods, salt, and refined vegetable oils. If you follow the Paleo Diet, I would be sure if you are eating a lot of meat, it is grass-fed and organic. Also, do not overdo the meat as you may obtain too much protein. Keep fish to no more than three times weekly. I would agree with the do-not-eat list, but some other foods in moderation are OK. Small servings of potatoes with the skin are fine. True whole grains (amaranth, barley, buckwheat, millet, steel cut oats (not instant oatmeal), brown and colored rice, quinoa, rye, sorghum, teff, triticale) are OK in moderation. Some legumes in moderation are OK, but I would avoid conventional soy for sure. Miso, natto, and tempeh are OK in moderation. Additionally, you can still eat healthily as a vegetarian. If you eat grass-fed eggs and raw dairy, you get adequate animal protein and nutrients. As a vegan it's a little difficult but you can replace the animal products with hemp protein shakes, mixed plant-based proteins, whey protein if you are OK with dairy protein, and more good fats (avocado, coconut, olive oil, walnuts, etc.). You may have to slightly increase the true whole grains, quinoa, and legumes.

### The Bottom Line

- Eat more whole unprocessed foods.
- Be friends with all fresh vegetables, whole fruits, and spices—especially ginger, turmeric, garlic, berries, kale, spinach, and broccoli. Eat a mix of raw, steamed, and lightly cooked vegetables.
- If you cook with oil, use extra virgin olive oil for low- to medium-temperature cooking, use organic expeller-pressed canola or sesame seed oil for medium-temperature cooking, and coconut or palm or organic lard, butter, or ghee for medium- to high-temperature cooking. Never overcook oil to the point of smoking, and never reuse oil.
- Consider a juicer if it will help increase your vegetable intake, or make homemade smoothies with fresh and frozen fruit. Try to use water, almond milk, fresh juice, or watered-down juice as the liquid in smoothies instead of juice bought in the store.
- Eat nuts in moderation: walnuts, almonds, cashews, macadamias, etc. (not peanuts).
- Eat small wild fish 2–4 times weekly.
- If you like meat, eat organic, grass-fed, free-range poultry and beef. Grass-fed, free-range eggs are fine also.
- If you like legumes, eat peas, beans, lentils, peanuts if no allergies, and fermented soy only (tempeh, miso, natto). I recommend eating them only in moderation. Men should limit soy.
- If you eat grains, limit it to only whole grains. Quinoa is best because it is not a grain, though it often gets placed in this family. Buckwheat, brown and wild rice, millet, sorghum, teff, amaranth, and steel cut oats are all good nonwheat options.
- Limit wheat: breads, wheat pasta, noodles, cookies, cakes, pies, cereals, pancakes, waffles, pita, couscous, rye, bulgur, triticale, Kamut, and barley.



- Ancient wheats, such as spelt, emmer, faro, einkorn, Kamut, and bulgur, are fine to eat in moderation if you do not have gluten intolerance.
- Keep salt intake to a minimum, and limit canned and processed foods.
- Limit conventional meat products to 2 ounces or less per day.
- If your budget and availability permits, buy organic produce. If not, don't worry about it; if you follow the recommended diet, it will reduce the harmful-effects chemicals in conventional produce, and you can still live healthy. Wash all fresh produce thoroughly with water before consuming.
- Go to local farmers' markets for produce as you can get a large variety of fresh inexpensive fruits and vegetables with less chemical contamination.
- When shopping, look at labels to be mindful of calories, sugar, fat, salt, and ingredients. Usually products with fewer ingredients with easy to pronounce names are better.
- Avoid anything with partially hydrogenated oils and monosodium glutamate (MSG)
- Minimize high-fructose corn syrup and sugar
- When preparing meals, balancing high-glycemic index foods with low-glycemic index foods is critical to prevent spikes in sugar and excessive insulin response. If you are eating grains, processed foods, or sweets, balance that by keeping it to one-third or less of the amount of your total meal with the other two-thirds being high-fiber vegetables, good protein, and healthy fats. Regulating sugar is all about balance!
- Learn to cook more. Quick and simple is fine; you do not have to be a chef.
- If you go out, try more ethnic foods. They tend to have more vegetables and different seasonings to add to your variety.
- Eat 2–3 small- to moderate-sized meals and 2–3 low-glycemic index snacks throughout the day. Do not binge eat or skip several meals.
- When you are hungry between meals, try drinking water instead of snacking. Sometimes the body gets thirst and hunger confused.
- Treat yourself to 2 small pieces of dark chocolate (>70 percent cocoa) a day. If you can tolerate the whole cocoa bean (100 percent chocolate), then snack on those throughout the day.

### **Eat in Moderation or Avoid**

- Chips, candy, fried foods, fries, nonorganic meats, sweetened beverages, fast foods, greasy foods, processed foods, grains, milk, cheese, butter, coffee drinks, foods with high-fructose corn syrup, and alcohol. Avoid all foods made with partially hydrogenated oils and MSG. MSG is a food additive that may be linked to some diseases.
- One small dessert several times a week will not kill you if most of your diet is healthy. Try to find healthier sweets, such as fruits, dark chocolate, and homemade dessert recipes with less refined sugars and saturated fats.
- Alcohol should only be consumed sparingly. See “Fluids” section below.
- Avoid smoking, as this is the number one preventable cause of premature death.
- Avoid all illegal drugs.

I know it is impossible for many to completely cut out all these foods. Do the best you can. Have a cheat day every week, or reward yourself with an occasional unhealthy treat if you have been eating healthy in every other aspect. Find healthy foods that you can actually enjoy or tolerate; do not force yourself to eat things you hate.

## Fluids

**Water:** Drink plenty of it (unless contraindicated for a medical problem such as heart failure). Roughly a half ounce for each pound of body weight (e.g., if your weight is 160 pounds, drink 80 ounces of water per day). If you eat more vegetables and fruit, they have more water, so you may need less. If you exercise a lot, are at high altitude or in dry climates, you may need more. A good rule of thumb is to drink enough water so you are urinating at least every four hours while awake, and urine is light yellow to clear in color.

Studies have shown a few major qualities in water that make it healthier. The water you drink should be high in minerals and low in microorganisms and carcinogenic compounds (pollution). Ideal water should be hard (has lots of minerals, measured by calcium carbonate content, around 170 ng/L), have a total dissolved solid content of greater than 300 ppm (parts per million), and have an alkaline pH >7.0. These three qualities are generally related in that if you have a high mineral content, you will have a high ppm and alkaline pH. Mountain or spring water from a reputable source fits these criteria because it is high in minerals. Good spring water should be natural, unprocessed, bottled at the source, and undergo regular quality and safety checks. Purified water by distillation and reverse osmosis is good, as well, if minerals are added back to it. Purified tap water is fine to drink, but I would avoid drinking regular tap water if you can. It is usually treated with chemicals to combat pollution/industrial contaminants. Tap water can come from lakes, rivers, reservoirs, or wells. Quality varies across region, but all tap water has to meet minimum safety standards. Do not think that all bottled water is better than tap. Bottled water is less regulated than tap, and one-third of bottled water is worse or equal to tap water! Look on the bottle or go to the manufacturer's website to see if it meets the above criteria. Also check if it has been tested by an independent company.

Chlorine, added to many pools, and fluoride, added to tap water, are bad. Chlorine has been linked to heart disease and creates carcinogens. Fluoride does not have great evidence to say that it provides any dental protection, but it has been linked to cancer. What about swimming or bathing? Did you know you can actually absorb more contaminants in water through the skin than with drinking? If you have a pool, then you should not use chlorine to treat it. Also, you may consider investing in a home filtration system that removes chlorine, fluoride, and carcinogens because you can absorb these compounds through your bath water and via inhalation in the shower. You just have to do your homework regarding home water purification systems to see what standards they use and how long their filters last. For any water filter, be sure to not use past the recommended time or gallon limit because after the filter is saturated, you will begin to concentrate more of the filter's products back into your water, which is worse than drinking unfiltered tap.

**Soda:** Drink sparingly, or cut out completely. Soda has a high fructose sugar content, which we know is bad, and damages your teeth enamel. Some are also a source of caffeine and dehydrate you. Additionally, sodas have a high salt content, so more sugar is added to mask the salty taste. Thus, soda dehydrates you (caffeine), then makes you thirsty (salt), so you will drink more soda with a high fructose content, leading to the many deleterious health consequences discussed in Chapter 1. If you drink one 12-ounce soda a day, that leads to fifteen pounds of excess fat per year! If you can't get rid of soda, it still may be better to drink regular soda instead of diet. There is no evidence to suggest diet soda ever helps people lose weight, and it may actually lead to you eat more, causing you to gain weight. Also see the section "Artificial Sweeteners" in Chapter 2. Sports drinks are pretty much in the same class as soda.

**Juices/fruit smoothies:** Store bought 100 percent juice has a high sugar and fructose content, so you should avoid it or only drink it sparingly. Drink no more than one 4- to 8-ounce cup a day. Only drink 100 percent juice not juice cocktails. Eating fruit is better than drinking juice. Real fruit smoothies are great once a day. I recommend making your own or only obtaining it from somewhere that uses whole fruits not syrups or concentrates. Use diluted 100 percent juices, almond milk, water, or fresh-squeezed juice as a liquid base. Juicing vegetables or fruits is a good way to get a high amount of nutrients in a single serving. If you use a high-speed blender, then you need to drink the juice right away (within 30 minutes) because it will oxidize or lose its nutritional value if allowed to sit. If you use a masticating low-speed juicer, then you can store juice in a tightly sealed container in the refrigerator for 1–3 days.

There have been amazing health claims of goji, noni, mangosteen, wheatgrass, and some other juices. These are all healthy fruits with many antioxidants and vitamins that I would recommend. As a drink I would still treat them as any other 100 percent juice and limit them to a small 4- to 8-ounce serving daily or less. Wheat grass is more of a vegetable and does not have a high sugar content, but your stomach cannot tolerate more than about 2 ounces per serving. All of these have some healthy nutrients, but these are not magical cures alone, so there is no need to go out of your way to buy these if they are too expensive. It is great to have a variety of fruits and vegetables for varying health benefits.

Note: Wheatgrass provides the most benefit if freshly juiced immediately before drinking.

**Tea:** Teas are great for health, and I encourage you to drink plenty. Herbal teas, unsweetened or with a little honey, are great choices. Teas with the most antioxidants in order are white, green, oolong, black, and pu-erh. That is also the order of increasing caffeine content.

**Coffee:** Caffeine is a drug and is very addictive. Regular caffeine can increase risks of high cholesterol, heart disease, high blood pressure, reflux disease, and urinary tract infections. Usually, the equivalent of greater than three 8-ounce cups of coffee a day is bad and can increase your all-cause mortality risks. It also can cause diarrhea, tremors, anxiety, migraines, and stomach upset. Try not to drink coffee while pregnant! Sodas and some teas have a lot of caffeine as well. I recommend staying away from coffee and caffeinated beverages as much as possible, but if that is too hard, limit it to one to two 8-ounce drinks per day, and drink it prior to noon. If you attempt to cut out caffeine, be prepared for three bad days of withdrawal, so do so when you have few responsibilities or before the weekend. After that brief period, you should feel better. Caffeinated teas such as pu-erh tea and black tea can be a good alternative.

**Alcohol:** The most deadly drug of our time. It is a leading cause of accidental death and car accidents, not to mention the damage it does to the liver and detrimental effects on the cardiovascular system. Red wine (no more than one 4-ounce drink daily for women, no more than two glasses daily for men) does reduce the risk of heart disease. More than this, and the excess alcohol leads to the same damaging effects on the liver and cardiovascular system, leading to metabolic syndrome as discussed in Chapter 1. The benefit of red wine is due to the increased release of phytonutrients in the skins of grapes during the fermenting process. White wine does not offer these benefits because it is processed differently. Alcohol itself has no known health benefits, and if you remove alcohol from red wine, you get the same health benefits as regular red wine. If you already drink wine, then have a glass of red wine daily, but I do not recommend starting to drink wine if you do not already drink alcohol. The same substances in red wine that provide health benefits are found in a variety of fruits and vegetables. The most acceptable limit for any alcoholic drinks (including red wine) is on average no more than 2 drinks daily for men and no more than 1 drink daily for women. If you do drink alcohol socially, follow these guidelines: Drink no more than 1–2 times a week and no more than 3–4 drinks in a day spread out over at least a three-hour span. Drinking 4 or more drinks over a 1–2 hour span is binge drinking and is seriously detrimental to your health.

### **The Bottom Line**

- Drink plenty of spring or filtered, high-mineral content water.
- Research if the water you buy has these 3 properties: calcium carbonate content around 170 ng/L, a total dissolved solid content of greater than 300 ppm (part per million), and an alkaline pH >7.0.
- Herbal teas, unsweetened or with honey, are great for more antioxidants.
- Drink fresh-squeezed juice, preferentially, or 100 percent juices only in moderation.
- Smoothies made with whole fruit and juiced vegetables are a great way to obtain fruits and vegetables.
- Eliminate all sweetened drinks, including sodas (regular or diet), sports drinks, and juice concentrates.
- Limit coffee (decaffeinated included).
- Avoid alcohol, or limit it to no more than two glasses of red wine daily for men, one for women. For social drinking limit to 1–2 times weekly and no more than 3-4 drinks in a day spread out over at least a three-hour span.

## Healthier Alternatives for Common Foods/Habits

| Common food or snacks  | Healthier Substitute  |
|--|---|
| Cow's milk<br>Regular peanut butter (has hydrogenated oils)  | Almond, coconut, rice, or goat milk<br>Almond butter, natural peanut butter with no hydrogenated oil  |
| White flour, bread, pasta<br>Jelly, jam<br>Regular syrup<br>Dairy ice cream<br>Candy, crackers, chips, snacks, cookies | Brown rice, quinoa, amaranth, buckwheat<br>Real fruit preserves<br>Maple syrup, honey<br>Coconut ice cream, almond ice cream<br>Trail mix, fruits, dark chocolate, low-GI health bars, walnuts, seeds   |
| Conventional baked goods/desserts<br>Conventional meat, poultry, and fish  | Carrot, banana, zucchini bread from the pulp<br>Meat substitutes; organic, free-range meats; wild fresh fish, veggie burgers  |
| Mayonnaise-based dressings and dips<br>Appetizers<br>Fried meats<br>Bacon/sausage<br>French fries                      | Humus, olive oil, unsweetened vinaigrettes<br>Salad, fruit<br>Baked or grilled meat, veggie patties<br>Organic turkey bacon, veggie sausage<br>Homemade, lightly pan-fried in palm, coconut, or expeller-pressed canola oil: potato fries with skin or sweet potato fries |
| White rice<br>Sugar  | Brown rice<br>Stevia, sugar cane, turbinado, maple syrup, honey   |
| Sodas, sweet tea, sugary drinks  | Water, flavored water, tea, 100 percent juice, flavored drinks sweetened with Stevia  |
| Tortilla chips<br>Milk chocolate<br>Canned vegetables<br>Deep frying, cooking with vegetable oil                       | Baked chips, veggie or flax chips<br>Dark chocolate (>70 percent cocoa)<br>Fresh vegetables or frozen vegetables<br>Stir fry/pan fry in organic animal fats, coconut or palm oil. Bake or grill   |

## Common food or snacks

## Healthier Substitute

|   |  |
|---|--|
| Salt<br>Ordering appetizers at a restaurant<br>Ordering main courses at restaurants | Pepper, Mrs. Dash, any herbal seasonings<br>Eat a salad before meals<br>Order appetizers as a main dish or eat half the meal and save the rest for leftovers   |
| Fast foods  | Prepared food from health stores, whole foods,<br>Some fast-food restaurants offer healthier options, like fruit, salad, and low-calorie options. Bring lunch to work/school.                                      |
| Traditional American breakfast (eggs, bacon, potatoes, pancakes, pop tarts, etc.)   | Grass-fed eggs, vegetable omelet, smoothie made with frozen fruit, juiced veggies, chia or buckwheat waffles or pancakes with maple syrup, fresh fruit, and steel cut oatmeal.                                     |
| Buying snacks or lunch at work or school  | Bring some fruit (apple, banana, grapes, berries, peach, pear, plum, nectarine), nuts, trail mix, almond butter, and fruit spread. Nut and dried fruit-based snack bars instead of grain- or oat-based snack bars. |
| Typical dinners of meat and starch  | Use grass-fed meat or cut meat servings in half, cut starch by half, and make sure half the plate is steamed/lightly cooked fresh or frozen vegetables. Eat a large salad before eating dinner.                    |



## Chapter 4

### Supplements

If you follow the diet above, there will be little need for supplementation. Please be aware that supplements are not meant to replace eating whole foods. Also, know that there is no magical vitamin, herb, tincture, etc. that will cure all disease or increase your life, so disregard all these claims you see advertised. Here is some advice on supplements that may be a good addition to good nutrition. The two supplements I recommend to most everyone are vitamin D and omega-3. Maybe add in a multivitamin and/or a mixed-antioxidant supplement.

#### Vitamin D

Vitamin D deficiency is common in most of us. Vitamin D is important for calcium regulation and bone health, and it protects against cancer, prevents some chronic pain syndromes, and can help prevent some autoimmune diseases. Every doctor now should be doing routine screening for vitamin D deficiency, and if yours is not, ask him or her to. Your body makes vitamin D from exposing your skin to sunlight. Exposing 15–30 minutes a day three to four times a week would be sufficient in the spring and summer. In winter everyone requires more sunlight. In addition, sunscreen greatly reduces vitamin D production, so try to get 15–20 minutes of sunlight without sunscreen a few times weekly. Note that darker skinned people need more exposure to sunlight than fair skinned for adequate vitamin D production and are at a higher risk for deficiency. Also, there are a few food sources of vitamin D, such as salmon, sardines, mackerel, tuna, and shiitake mushrooms. Some foods have vitamin D added to them, such as some juice and dairy products. Over 50 percent of people are vitamin D deficient, so a daily 1,000–2,000 IU vitamin D3 supplement can be beneficial, especially in the winter months. You must take it with a fat-containing meal because you need fat to absorb vitamin D. Vitamin D is also found in our Regenexx™ Advanced Stem Cell Support Formula.

#### Fish Oil (omega-3 fatty acids)

Omega-3s (DHA and EPA) are healthy fats that are anti-inflammatory, good for brain function and improving cholesterol, and well-studied for reducing the risk of cardiovascular disease. DHA has been more related to improved brain health and EPA more related to improve heart health and reduce inflammation. Omega-3s reduce the incidence of sudden cardiac death and arrhythmias. They are safe, but if you have severe congestive heart failure or severe angina, they can be dangerous. If you have heart failure or angina, consult with your doctor or a cardiologist before starting an omega-3 supplement. I would take a daily omega-3 supplement (1–2 grams daily) if you feel you are at an increased risk for heart disease, have mild heart disease or diabetes, or eat no fish or flax seeds. Be aware that typical fish oil supplements have 300–400 mg of omega-3 per gram, so you need 3–4 times more fish oil to reach the recommended intake of omega-3. Look at the label to see how much EPA and DHA total there is in each serving. Also, the source of fish oil supplements is very important for the quality of the omega-3s. Usually, cheaper supplements are of poorer quality whereas the expensive ones take the extra steps to make sure the fish oil is concentrated and in the most optimal form to be absorbed and effective.

Additionally, if you take it for high triglycerides you need 4 grams of omega-3 daily. Most over-the-counter brands are safe to use if from a reputable source, but talk with your doctor if you are taking any anticoagulation medicine, such as aspirin, heparin, or Coumadin because omega-3 may increase bleeding risks. One negative of omega-3s is that they are more susceptible to oxidation. You can avoid this by always storing them in a cool, dark place. Take it with a mixed vitamin E supplement, or look for an omega-3 supplement with mixed vitamin E already combined with it.

If you are pregnant, avoid eating a lot of fish to get omega-3s because of the mercury content. Eat only 2 servings of fish a week and supplement. Omega-3s do have positive benefits on the developing fetus such as helping to ensure normal brain development.

## Multivitamin

I do recommend a daily multivitamin because I realize that it is difficult to obtain the amount and variety of plants foods to meet all vitamin requirements. Also, soil is depleted in most areas, and the overall vitamin and mineral content of plant food has decreased over the years due to conventional farming methods. Children should take a daily chewable multivitamin with iron and folic acid. Men should take a daily multivitamin with no iron unless a doctor has told them that they are iron deficient. Men store iron, and supplementation can cause iron overload. Menstruating women should take a daily vitamin with iron since monthly bleeding causes iron loss. Postmenopausal women do not need iron with their multivitamin but should have extra calcium.

Pregnant women or those expecting to become pregnant should take a prenatal vitamin and extra **folic acid**. Folic acid deficiency before pregnancy is related to neurological deformities in babies, and folic acid is most important to store before becoming pregnant, so I recommend all women of childbearing age with a uterus take at least 0.4 mg of folic acid daily (in a multivitamin or additional supplement).

Remember that a multivitamin does not replace the need for eating plants, and much of the contents are not absorbed as well from a vitamin.

## Fruit and Vegetable Supplements

Fruit and vegetable supplements are dehydrated and ground fruits and vegetables. These supplements may be a little better absorbed than a regular multivitamin and may have a broader variety of antioxidants and phytonutrients. I do recommend these supplements to take instead of a multivitamin, or you can take both; however, as above, they are just a supplement and do not replace the benefits of eating fruits and vegetables.



## Antioxidants

Antioxidants are compounds that prevent damage from oxidative stress in the body and also serve in immune function, cancer prevention, and detoxification. Antioxidants can be made by the body and are some vitamins, such as A, C, E, and their precursors, as well as phytonutrients. There is good evidence of the vast health-promoting effects of these micronutrients received from whole foods but not supplements. In fact, isolated antioxidants as supplements can be dangerous. Never take isolated vitamin A or synthetic vitamin E (d-alpha-tocopherol), and I do not recommend the common use of isolated other vitamins as well. If you are interested in taking an antioxidant supplement, I recommend a mixed-antioxidant formula that has the precursors to vitamins A, C, and E as well as a mixture of phytonutrients, or just take a mixed fruit and vegetable supplement daily. In addition, DHA, turmeric, green tea extract, milk thistle, Ashwandha, and broccoli can all increase your body's natural production of antioxidants.

## Vitamin B12

If you are a true vegan, you are at risk for B12 deficiency. B12 is made by bacteria in the soil that plants absorb and is made by bacteria in the guts of people and animals. Now our soil is deficient in B12 due to new farming techniques and the use of chemicals, and the bacteria in our gut do not produce an adequate amount, so a daily B12 supplement (250 mcg) would suffice if you are not deficient. You may also consider taking a mixed B vitamin supplement as long as it has 250mcg of B12.

## Calcium

Calcium is another mineral that gets a lot of press for osteoporosis, but if you eat plenty of dark green vegetables, it is not a problem. New evidence has shown that taking calcium supplements may increase the risk for heart disease and all-cause mortality. I would only take calcium after talking with your doctor, and I do not broadly recommend it for the general public. If you are a postmenopausal woman, are on chronic steroids, or have diagnosed low calcium levels, then a calcium supplement daily with magnesium may be helpful. Take 1,200 mg of calcium carbonate, 600 mg of magnesium citrate, and 2,000 IU of vitamin D (if older than 55, take calcium citrate because it is absorbed better). These are best taken in conjunction as they all work together. A great way to obtain calcium is through high-quality mineral water or spring water. You will better absorb the calcium and will obtain other essential minerals as well.

Daily supplementation of calcium may be good for postmenopausal women because they are at a higher risk for calcium and bone loss due to less estrogen production. Men become at higher risk for osteoporosis at a much later age, usually associated with less activity or low testosterone. There is no need to buy coral calcium supplements as there is no additional benefit of these "natural" calcium supplements. Buying coral calcium promotes the destruction of the natural sea corals and is environmentally unfriendly to aquatic life. Again, only take calcium under physician supervision.

## Coenzyme Q (CoQ10)

Coenzyme Q10 is another antioxidant that is a natural substance in most plant foods that helps us use oxygen efficiently. Some studies show that it helps increase aerobic exercise endurance and may help fight some cancers. Statin drugs lower your body's production of CoQ10. I haven't seen enough evidence to recommend this as a universal supplement, but it is fairly safe, and I recommend it if you are trying to increase your endurance. You must take it as a supplement (at least 60 mg daily) if you take statins for cholesterol. It is better absorbed if taken with fat. It may be included in a mixed-antioxidant supplement.

## Resveratrol

Resveratrol is one of the main antioxidants responsible for the health benefits of red wine. It is a powerful antioxidant and has been shown to reduce the risk of cardiovascular disease, slow aging, increase blood flow, and help arthritis. It is mostly found in the skin of grapes, but the reason wine gets all the credit is because of the process of making wine from red grapes. Many grapes are used and the way in which red wine is made causes much higher concentrations of resveratrol in red wine. White wine can be made from red grapes, too, but its processing is different, so the resveratrol is not concentrated in white wine. You would have to eat way too many grapes to get equal concentrations of resveratrol as in a glass of wine. Of course, now we can just take a supplement. It may offer similar health benefits as the red wine, and it has much higher amounts of resveratrol and is fairly safe to take if you choose. Be sure to take the trans-resveratrol. Trans-resveratrol is also found in our Regenexx™ Advanced Stem Cell Support Formula.

## Turmeric

Turmeric is a spice in the ginger root family. Curcumin found in turmeric has been shown to be a powerful anti-inflammatory, antioxidant, antimicrobial and can also improve glucose metabolism. It can be as effective as ibuprofen for pain relief as well without the nasty side effects. Add this spice to your cooking or you can take 500mg of turmeric daily for general supplementation or 500mg twice daily for pain relief from arthritis and musculoskeletal pain. Turmeric is also found in our Regenexx™ Advanced Stem Cell Support Formula.

## Probiotics

Probiotics are friendly gut bacteria that help with the digestion and production of some nutrients, support immune function, and help maintain a healthy gut. Probiotics are a must-supplement for anyone taking antibiotics, as antibiotics kill both bad bacteria and good bacteria and can lead to diarrhea. They are also used to treat some other GI diseases, so speak with your doctor about that. There is no evidence to advocate general daily supplementation, though in most instances they are fairly safe if you do not have any immune system problems. Avoid probiotics if you have any immune system dysfunction or are pregnant. You can obtain probiotics from low-fat yogurt as well. I would only eat yogurt in moderation as it is dairy. To supplement, take one with ten different active strains including live acidophilus (at least 1 billion organisms) daily. The good probiotic products have to be stored in the refrigerator, as dead bacteria are pointless. I recommend taking probiotics for one month after taking antibiotics.

## Recommended Supplement Provider

Dr. Andrew Weil has a good high-quality mixture of supplements I recommend. I recommend taking his Women's or Men's Omega-3. It comes with a multivitamin that has mixed antioxidants, and a nice probiotic supplement. The Premium Fish Oil contains 1500 mg of omega-3s (1,000 of EPA and 500 of DHA with vitamin E to prevent oxidation), the multivitamin has 1,000 IU of vitamin D, the appropriate forms of vitamin A and E as well as CoQ10. It covers all your essentials with one purchase and four pills a day. You can find it and other supplements at <http://www.weilvitaminadvisor.com/products>. Even if you do not purchase this supplement, look at the ingredients and use that as a guide for the multivitamin, mixed antioxidant, or omega-3 products you may purchase. I have no affiliation with Dr. Weil or his supplements. There are many other high quality supplement providers you can research independently.

The Regenexx™ Advanced Stem Cell Support Formula is a great high quality supplement with 8 different ingredients that have been shown in the lab to improve stem cell function and help with arthritis. Most of the ingredients are good for overall health as well and has some popular and well studied supplements such as Vitamin D, Turmeric, and Resveratrol. I am affiliated with Regenexx but I receive no compensation on supplements purchased. It can be purchased at <http://www.regenexx.com/regenexx-advanced-stem-cell-support-formula/>.

There are many supplements out there, and I just wanted to touch on some of the most popular. Nothing is a magical bullet, but many are at least safe, and even if they don't help, they usually don't hurt. However, there are some that are indeed dangerous, so just taking a supplement for no sound reason isn't a good idea. Supplements, at best, can help somewhat with some chronic ailments, aid a healthy diet, and complement overall lifestyle changes and disease treatments. Supplements should not be taken as an excuse to eat unhealthy foods because you think they may counteract poor eating habits.

Use drugs, herbs, disease-specific supplements, and other "natural" remedies only under direction of a qualified medical professional. There are thousands of different herbal remedies with a variety of specific health claims. Some have good evidence behind them, others do not. I do not recommend taking any specific herbal product for everyone. Though many herbs are safe in a low quantity, these supplements are not regulated, so they may or may not have the ingredients that are listed. Also, some taken in higher doses are no different than taking drugs with potential risks and side effects. Be sure to discuss all supplements with your doctor as they may interact with medications. If you are interested in herbs, then I advise consulting a health practitioner well trained in herbal medicine, such as a naturopathic doctor, traditional Chinese medicine doctor, or any physician trained in herbal medicine. They will be able to guide you with proper indications and may direct you to reputable sources.



## Chapter 5

### Specifics for Weight Loss

#### How to Lose Weight Healthily Without Gaining it back

Obesity is a huge issue in our society and continues to grow with an alarming number of children becoming overweight also. Obesity leads to a multitude of health problems, such as heart disease, stroke, diabetes, cancers, osteoporosis, self-esteem issues, and more. Losing weight is a big topic, and there is a ton of misinformation in the public.

Let's discuss the truth about weight loss. Losing weight is always about burning more calories than you take in (of course, it's very complex as to how you go about that, but let's keep it simple). Thus you can lose weight by taking in fewer calories and/or burning more calories. Any diet you see advertised in which you have a calorie restriction will make you lose weight in the short term. However, you will never be able to sustain those diets, so the weight always comes back after your diet ends, often to a higher weight than before. You also are not being very healthy when you perform these diets, and some are just outright dangerous. Avoid diet drugs because they are all dangerous!

The reason most short-term diets usually fail is because when you lose a lot of weight, your body goes into starvation mode. This means your metabolism slows down, and your body wants to do all it can to gain weight. So as soon as your restriction ends, any excess food you eat will make you gain weight. The body doesn't care if you are obese or thin at that point. Additionally, people, based on genetics, have a set weight range of 10–15 pounds of where they would like to stay. It is difficult to get far above or below this range. However, if you have gained weight over the years, your body will adjust the set point to a higher level. Unfortunately, the converse isn't true, so when you lose a lot of weight, it's harder to reset your set point lower. This is why some people no matter what they do; seem unable to lose a great deal of weight. Even if you are in this category, following these recommendations will help you lose as much weight as your body will allow and make you healthier. Also, the good news is, even if you are overweight but you avoid smoking and begin to practice better eating and exercise habits, you can significantly improve the quantity and quality of your life. However, if you are overweight and obese and have unhealthy habits, you significantly increase your mortality.

## To Obtain Healthy and Sustained Weight Loss

- Follow the guidelines above, and be sure to use starchy vegetables and grains rarely and saturated fats only in moderation. Be a little stricter with following the guidelines.
- Get rid of fructose, sugar, sweets, processed foods, and fast foods!
- Eliminate all sweetened beverages, including diet sodas.
- If you eat a diet rich in whole plant-based foods with little processed meat and low-glycemic index foods, you do not have to count calories, starve yourself, perform any miracle diets, or take diet drugs and supplements.
- Exercise consistently (20–30 minutes a day 4–6 times per week).
- Eat 2–3 small meals, and 2–3 small snacks throughout the day until you are satisfied (not stuffed). Eating frequently keeps your metabolism high (burns more calories), as eating only one meal a day will cause you to hold on to the calories you do eat.
- Stop eating when you are seven-tenths full to allow your hunger hormones to shut off, and you will feel satisfied 15–20 minutes after eating.
- Instead of snacking when hungry, try drinking water. Often the body does not differentiate thirst from hunger so always try drinking before eating.
- Eat only when hungry! Try not to eat for other reasons (social, boredom, oral fixations, etc.).
- Refrain from eating two hours before bed. Not eating close to bedtime ensures that the calories you eat don't immediately go to storage while you sleep.
- Your largest meal should be at breakfast or in the middle of the day instead of at dinner.
- Always eat your vegetables and high-nutrient, low-calorie foods before the meat and starches. This ensures that you eat your healthy food and fill your stomach so you have less room for more fattening foods.
- You can have more omega-3 fats and saturated fat if you eat low-sugar and low-glycemic index foods. Fat can help you feel fuller quicker so you eat less—not fried fat or hydrogenated oils.
- Reward yourself with a dessert or treat if you have been meeting your goals. Just keep it to 2–3 bites instead of a full serving. If there is a special occasion or you fall off the wagon, don't feel guilty, just be more diligent afterward. Try dark chocolate (>70 percent cocoa) as a treat.
- Schedule a cheat day every week to keep you motivated. Eat whatever you want, but try not to pig out excessively, and only take your cheat day if you have met your goals the rest of the week.

With this plan you will gradually lose fat weight until you reach a healthy goal, and you will keep the weight off while feeling livelier and reducing your risk of disease. This is all that is needed to maintain a healthy weight. Even if your diet has more processed or unhealthy foods than recommended, if you still eat frequently but decrease your portion sizes while exercising, then you may still have substantial weight loss.

## Regarding Exercise

- Exercise boosts your metabolism for 24–48 hours after a workout. For this reason consistency is far more important than scattered, very intense workouts. Doing a little bit each day will provide more health benefit and weight loss than 1–2 days a week of more exercise.
- Though, incorporating 1–2 days of intense workouts a week will dramatically improve your conditioning, healthy weight loss, and lean body mass.
- Do interval workouts in which you mix high-intensity with low-intensity exercise. Switching every few minutes keeps your body guessing and will help burn more calories.
- Incorporate resistance exercises and/or weight lifting to further increase metabolism and improve your lean body mass ratio and gain more muscle, which will help you burn more fat at rest and with activity.
- Vary your routines every few months to increase your metabolism. If you continue the same exercises for long periods, your body gets more efficient at doing them, so you will burn fewer calories.
- Note that there is no way to determine where you will lose body fat. Weight lifting and toning exercises that target specific regions of the body or specific muscles do not guarantee fat loss in those areas. That will build muscle in that area, and increased muscle mass will increase your resting metabolic rate (burn more calories when you are not active). Doing sit-ups help build strong abdominal muscles but do not target stomach fat, and performing triceps exercises will help tone arms but not target arm fat. Your body will decide based on genetics where the fat you burn will fall off from first. Anyone that tells you otherwise is simply wrong.

Also, be aware that everyone's genetics are different. For some it is easier to lose weight or have ripped muscles—for others it is harder. Some people are genetically predisposed to be overweight, but in the overwhelming majority, that does not mean that they cannot achieve a desirable and healthy weight with proper lifestyle changes. With regards to health, the outward appearance is far less important than how you feel. The outward changes that occur with a healthy lifestyle are a great side effect, and it should not deter you from those choices if you don't achieve your supermodel body.

I will add that those that tend to gain weight in the belly first are at a higher risk of heart disease and diabetes. If you are prone to belly fat, I recommend trying your best to maintain a lower weight and lose that stomach. Alcohol, sugar, high-glycemic index foods, and foods with trans-fatty acids promote more belly fat also. For those who usually develop fat in the hips and buttocks, that extra weight is not as detrimental to health.

## A Quick Weight-Loss Plan: Getting Started

- 1) Follow one of the fasts listed below (during the fast, do not perform any strenuous activity).
- 2) Once the fast is over, only eat fresh fruits, leafy vegetables, and a few whole grains (quinoa, brown rice, buckwheat) for one week. Minimize starchy vegetables. Avoid all animal products, and junk foods. Begin a daily physical activity routine. If you eat starchy vegetables, eat them a few hours before a workout or as your first post-workout meal only.
- 3) For one month eat a close to a vegetarian diet—no meat, poultry, or dairy. You may eat fish two times a week and 1–3 eggs daily. Try to minimize processed sweets, canned foods, and starchy vegetables. Keep fat intake moderate, but be sure it is healthy fat such as virgin olive oil, nuts, avocados, eggs, and coconut.
- 4) If you drink alcohol, one glass of wine per day is OK, but no more.
- 5) Once your month is over, slowly add back grass-fed meats if you choose.
- 6) If you want to continue to lose weight, follow the weight-loss advice above as normal.
- 7) If you still have problems losing weight (one of these is usually the culprit, just depending on the person and your genetics),
  - a. eliminate sweets and sugar, including soda and juice
  - b. try to completely eliminate wheat,
  - c. try higher fat, lower carb
  - d. cut out all dairy, or
  - e. eliminate all animal products (usually grass-fed eggs and fish are OK).

### Other Helpful Tips

- Keep a record of your food intake if it will help you stay on track.
- Brush your teeth frequently to help curb your appetite.
- Pack your lunch and healthy snacks: fruits, nuts, salad, etc.
- Sleep! Try to get at least 7.5 hrs every night. Most people need somewhere between 6–9 hrs a night. Sleep deprivation leads to weight gain.
- Cook once at the beginning of the week with enough for leftovers. You can always easily and quickly make a salad if you have little time or skill to cook.
- Look up healthy and quick recipes online. Consult a nutritionist.
- Find ways to manage stress. Stress leads to weight gain as well as other health problems.

## Fasting

Fasting is a great way to detoxify and promote health if done correctly. There are many different fasting plans that can be done 1–12 times yearly. Always consult your physician before fasting if you have any medical conditions. Fasting should not be done as a primary weight-loss solution. A few fasting examples follow:

- No-calorie fast: A 24–72 hour fast with only water or unsweetened herbal tea. After the fast reintroduce fruits and vegetables only the first day.
- Juice fast: Drink only fresh-squeezed orange juice, grapefruit juice, lemon juice, and bottled or filtered water for two days. Day 3–5 add fresh fruits and vegetables and tea with honey. Day 6–7 reintroduce nuts, eggs, and other foods, but not meat or dairy. Day 8 reintroduce fish if you choose. Day 14 and beyond, you can slowly reintroduce anything else.
- Alternate juice fast: Using a juicer, only drink fresh fruit and vegetable juices 3–5 times daily for 3–10 days.
- Lemon drink and saltwater fast: In the morning when you wake up, drink 2 teaspoons of salt in warm water. The rest of the day make a lemon drink: 4–5 fresh-squeezed lemons with  $\frac{3}{4}$  cup of grade-B maple syrup in 64 ounces of water. You may add in a tablespoon of cayenne to the drink if you can tolerate it. Drink it throughout the day along with water. At night drink a laxative tea. Follow for 3–7 days. After the fast reintroduce only fruits and vegetables the first day.

After any fast, slowly reintroduce regular foods, starting with light foods first. Do not immediately binge after a fast. Be sure you do not do any strenuous activity or have many responsibilities during a fast as your energy level may be low or you may feel groggy as you detoxify and have a reduced calorie intake.





## Chapter 6

### Exercise Advice

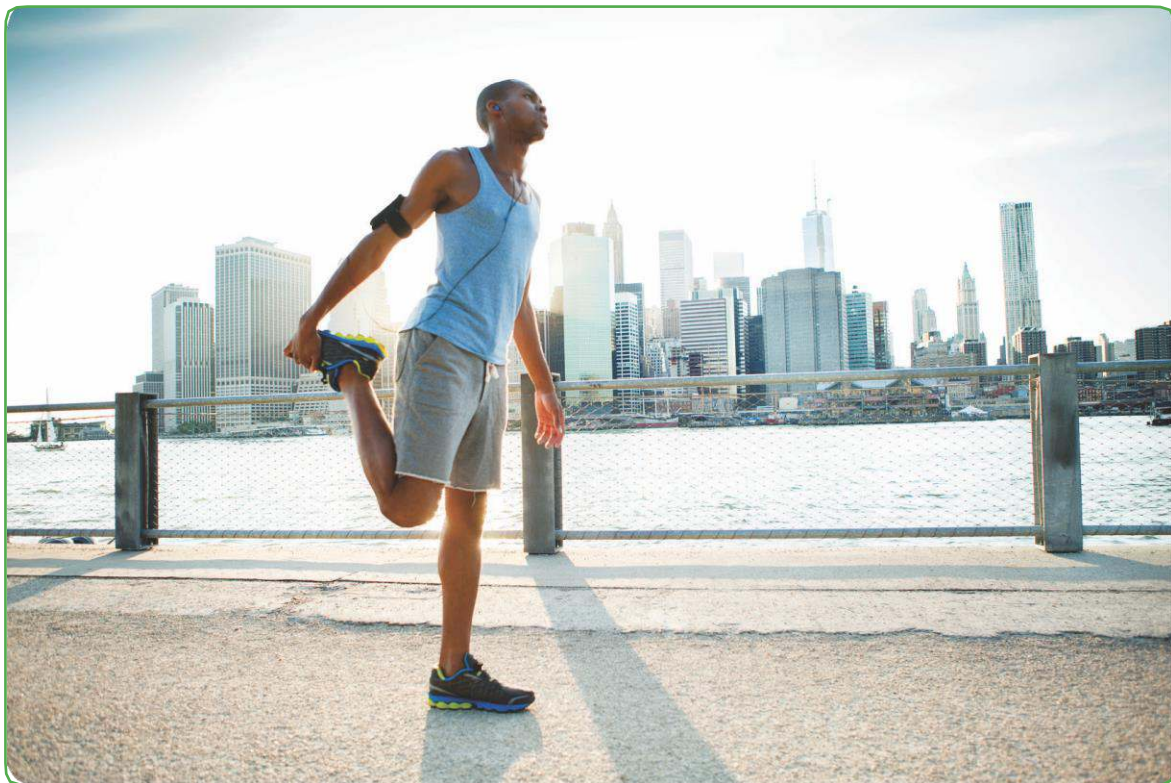
#### Physical Activity

- Routine physical activity or exercise should be a part of any healthy lifestyle, especially if you want to lose weight. Exercise has also been shown to increase brain function.
- The key words are routine and consistency. Physical activity for 20–30 minutes daily would suffice.
- You do not need to do structured exercise to be healthy. Any consistent physical activity daily will be beneficial. You just need your heart and respiratory rate elevated to a point where it would be slightly difficult to hold a sustained conversation.
- Going prolonged periods being inactive and then trying to compensate with an intense workout puts you at more risk for injury and does not offer the same health benefits.
- Being an extreme athlete or being really fit is great, but for those who do not compete that intensely, increased “fitness” does not correlate with increased health. Any regular physical activity will improve health equally.
- High-intensity exercise a few times a week can be very beneficial. High-intensity training means working out to the point where you are unable to hold a conversation and you are tired afterward. Examples include sprinting (running, biking, etc.), some CrossFit workouts, and interval training. This type of training can improve lung capacity and peak oxygen uptake. Also, this will increase metabolism and promote more weight loss. It is a great way to get in a quick workout that can provide equal or superior results to longer, less intense aerobic workouts.
- These should be short bouts of intense exercise. An example would be sprinting for 10 seconds then resting 1 minute and repeating for 10 rounds. Or doing 4 minutes on the stationary bike where you pedal fast 20 seconds then rest 10 seconds, repeating until the 4 minutes are up.
- For some people maybe just walking as fast as you can will be very intense, so you can mix that with slower paced walking. The point is to push yourself to the max or near max for brief periods of time.
- You should only do this if you are healthy enough for this type of intensity, and be sure to warm up thoroughly before hand.
- Resistance exercise or weight lifting has been shown to be very beneficial for overall health. It can help bone health, weight loss, improve stem cell function, give you a younger muscular appearance, and prevent injuries.
- For best results incorporate some heavy lifting in which you are only able to perform 5–8 reps of a given exercise before your muscles fail. Be sure you have been cleared by your physician for resistance training if you have any medical conditions. Also, be sure you have been trained properly on correct techniques prior to doing heavy lifting and have a spotter for free weights.
- An alternative to heavy lifting is lifting moderate weights in a 10–15 repetition range until near failure.

- Many people may not be healthy enough or capable of much physical activity. In that case you need to be extra diligent with your diet, and you may eventually become healthy enough for some physical activity.
- Discuss with your doctor before starting any new physical activity
- When starting any new lifestyle change, set one to three well-defined, achievable goals at a time.
- When beginning to work out, don't overdo it; take it slow, and look for progress.
- When first starting, work with a trainer to teach you proper form and technique to prevent injury.
- Consider working with a postural therapist to get your joints and muscles aligned properly again to help reduce the risk of injury.
- If you do have an injury, do not try to push through it. Have it evaluated early by a trained musculoskeletal physician so you can have it addressed before it worsens.
- Be sure to do a light warm-up before a workout, and stretch thoroughly afterward. This will help thwart injury, improve flexibility, and lessen soreness/stiffness.
- You do not need a gym to get a good workout. You can walk/jog outside or perform a host of exercises at home with and without equipment. Ask your doctor or trainer for advice.
- Get a mini trampoline. It's a great exercise and easy on joints, and you can do it in your home.
- Join a gym with a variety of exercise classes that will be fun and keep you motivated.
- Buy a few workout videos that you can use at home to give you more variety as well. Tae Bo, Pilates, tai chi, yoga, and aerobic fitness videos may be a beneficial supplement.
- Incorporate music to keep you interested. Work out to headphones or the stereo.
- Stretch, and do push-ups and/or crunches while watching TV during commercial breaks.
- Do any fun activity that makes you move, such as sports, bowling, playing arcade games, walking around the mall, swimming in the pool, playing with kids, dancing, sex (protected and consensual), etc.
- Work out right after work to avoid going home and finding excuses.
- If you are a morning person, exercise first thing in the morning to get it out of the way. You will always start the day off with a goal accomplished, and you will probably feel more energized and refreshed throughout the day.
- Get a work-out partner or trainer. It keeps you motivated and can be more fun and social.
- Attempt to lose only 1–2 pounds a week initially, then 2–3 pounds a month after the first few months. You always lose weight faster initially, but after 6–8 weeks, it slows down.
- Vary your workouts regularly (every couple months) and incorporate interval training. This will help you lose weight after the initial months and reduce boredom.
- Take the stairs instead of the elevator. Walk up the steps of an escalator.
- Park farther from the entrance to walk more. Walk or bike to work/school if able.
- Carry groceries to the car instead of using a cart unless you have too much to carry.

## Mental

- Set goals. Make sure they are realistic, meaning that you believe they can happen. It doesn't matter about anyone else, so set them as high or modest as you believe.
- Visualize your goals, and get excited about them as if you have already achieved them.
- Focus only on your task while working out.
- The hardest thing is making it to the gym, so set a schedule, go with a friend, set up a reward system, do whatever it takes to get your foot in that door.
- Look at working out as a fun activity that will bring you the health/looks you want and not as a chore you must do. Be creative with your workouts, and vary the locations where you perform them.
- Don't beat yourself up if you have missed your goals or gotten off track. Forget the past, and regroup for the future, adjusting as you progress.



## Chapter 7

### Mental and Spiritual Health

This is the most important aspect of health. The mind, body, and soul are all connected, and it is difficult to separate these aspects. There is no point in being physically healthy if you are not happy. There is growing evidence that people who don't necessarily practice good nutrition and exercise habits have much less physical disease if they are in a warm, interactive community with much love, great social support, have low stress, and if they are overwhelmingly happy. What I will focus on is specific stress relievers, advice on maintaining mental health, and a few techniques at engaging the spirit. This is not just a "touchy-feely" discussion; this is scientifically based advice on how mental and emotional factors play a role in your overall health and ways to improve them.

#### Brain Health

The mind needs to be exercised just as muscles do to stay strong. Continuing to learn and challenge the mind can help prevent or defer dementia and cognitive decline as we age. As you grow older, continue to read, stay involved in hobbies, learn new things, return to school if you desire, learn a new language, play cognitive games, write, teach, and continue to be creative. Watching TV does not count as actively stimulating the brain. TV is passive stimulation that does not create active connections in the brain that promote mental growth. TV also is often filled with violent and stressful images that cause stressful responses in the body. I recommend decreasing the amount of TV you watch, and, especially, watch less news. Most news is negative and promotes more fear than information. Take a news holiday at least three times weekly. Try to read instead because reading stimulates the brain to think, be imaginative, and create more connections. Also, as stated above, regular physical activity improves brain function.

#### Stress

Stress is unavoidable, though it can be reduced. I would like to argue that stress in life is not always a bad thing; however, it is our reaction to stressors that determines the effect of stress on us. It is clear that mental and emotional stresses have been shown to alter biochemical processes that promote disease, such as depression, anxiety, cardiovascular disease, obesity, metabolic disorders, GI illness, immune disorders, and sleep disturbances to name a few.

## Ways to Reduce Stress

### Focused Breathing Exercises

Practiced regularly these have been shown to decrease chemical stress, lower blood pressure, improve circulation, improve digestion, and control cravings. Controlling breath should be a primary stress reliever because it is easy to do. You can do it anywhere, at any time, and no outside equipment or circumstances are needed.



#### Try the following breathing technique:

1. When you feel stressed, stop what you are doing and thinking, and take a slow, deep breath in.
  2. Focus on the air filling your lungs, then pause for a few seconds at the deepest point.
  3. Then gently breathe out, slowing completely, emptying your lungs.
  4. Repeat for a total of at least 4 breaths, more if you are comfortable with it.
- If you are able, sit with your back straight, or lie down. Become accustomed to doing some sort of breathing exercise daily, whenever you think about it, even when you are not stressed.
  - Commit to make this a daily habit—30 seconds several times daily goes a long way to reducing stress and promoting health.
  - Focused breathing is great to perform before any anxiety-promoting event, such as presentations, meeting someone important, competitive events, etc.
  - Try to focus on your breath as you drive as it is great at reducing road rage, calming you after a long day, and reducing anxiety as you head to work/school.
  - Try focused breathing when you first wake up and before bed. Also, practice while waiting in lines, during commercials, or other times when you are idle or bored.
  - There are many different breathing exercises you can look up in books or online, or you can even create your own.

## Stress-Reducing Activities

- Find activities that help you personally relieve stress. They are different for everyone.
- Examples of negative behaviors often used to relieve stress are cigarettes, alcohol, and drugs. These are detrimental to health, are addictive, and will not offer true stress relief.
- Healthier alternatives are exercise, listening to calming music, burning lightly scented candles, watching comedy or laughing for no reason at all, calling a friend, watching a favorite movie, going for a walk in the park, writing, knitting, dancing, working on a favorite hobby, receiving a massage, taking a hot bath or shower, making a list of things that are good in your life, etc. Find what works for you.
- As often as your time and money allow, receive professional massages. They are very relaxing, help with musculoskeletal ailments, and contribute to overall well-being.
- Even if you cannot receive professional massages, have a friend or loved one give you frequent massages, offering to return the favor of course!
- I still think breathing should be your first go-to stress reliever because you can perform mindful breathing anywhere and at any time, whereas you will not always be able to do the activities listed above.
- Also, consider yoga, tai chi, or other classes that offer stress relief along with physical activity.

## Thoughts and Attitude

It is becoming clearer that your thoughts affect your physical health. For example, constantly thinking that you are sick or chronic worrying will manifest as disease in the body eventually over time. There is also evidence that optimistic people live longer and healthier than those that worry excessively or that are pessimistic.

Often we are unable to change outside circumstances, but we can choose how we think about them or what they mean to us. What I offer to you is that you stop and become aware of how you feel. If you feel any negative feelings, then notice what your thoughts are on the subject at hand. I know you cannot control how you feel, but try focusing your thoughts and attention to something opposite or positive, and see if your feelings change as well. More often than not, think about things that are going well in your life, things that make you feel good (past, present, or future). Since you cannot think both good thoughts and bad at the same time, focus only on good ones, and you will feel better. You do not have to monitor your thoughts—just be mindful of your feelings, and focus only on things, experiences, and feelings that you desire. Seek joy in all you think, say, and do.

You can do anything you put your mind to, so make a mental commitment to follow as much advice given in this guide as possible. Take time to research and learn more about health and well-being on your own, starting with the recommended sources listed at the end of this guide if you choose.

## **Spiritual Connection**

By spirit I simply mean any nonphysical aspect of yourself, someone or something else, any larger being you acknowledge, or life itself. No matter your religious beliefs, or even if you believe in God or not, connecting with deeper aspects of yourself and with others can benefit your health.

## **Meditation**

Meditation is the act of quieting your mind and focusing on nothing or just one simple thought, such as breathing. I believe meditation is one of the best ways to become in tune with the spirit. If you can, practice this art for ten minutes daily. Pick a quiet spot, and get into a comfortable position. Close your eyes, or focus on a simple object, such as a candle. Take slow deep breaths at whatever pace you are comfortable. Focus only on breathing, and as thoughts come into your head, do not dwell on them, do not resist them—simply notice them and let them pass. With practice you will get better at letting your mind go. There is no right or wrong way to meditate, and simply the act of focused breathing should relieve stress and promote healthy biochemical processes in the body. Other forms of meditation are prayer, hymns, religious rituals, or whatever gets you into a peaceful, quiet state of being.

## **Connection with Others**

There is a basic human need to bond with other beings. It has been shown that babies that are given all the required nutritional support but no other human interaction, touch, and communication do not develop normally. We all need human interaction, touch, and relationships to grow healthily. Be sure to foster healthy relationships with friends, family, and associates. Treat all people with respect, be quick to lend a helping hand, offer advice, apologize, forgive, hug often, smile at everyone, and share joy and laughter. Do not underestimate the importance of physical touch in your life. This can be as simple as a handshake, pat on the back, hug, or more intimate touch with a loved one. Connecting with other people, animals, and nature provide great meaning and joy in life and promote health and well-being. Also, take care of your planet by practicing and promoting sustainable energy sources and recycling. If we all do our small part, we can reduce the amount of harmful toxins we are exposed to and ensure a healthy world for our offspring to enjoy.

## The Bottom Line

- For good mental health as you age, continue to read, learn, and stay mentally active.
- Replace some TV time with reading or other mentally challenging games/activities.
- Learn how to manage stress by whatever means or activities work for you.
- Practice focused breathing several times daily, and use it as your first line of stress relief because it is quick, easy, and can be performed anywhere at any time.
- Obtain massages frequently.
- Consider yoga, tai chi, group meditations, or other stress-relieving classes.
- Be mindful of your feelings, and try to focus on the positive aspects of your life.
- Maintain some connection with the spirit through whatever practice puts you in a quiet state of peace.
- Maintain meaningful relationships with people from close family to a brief interaction with a stranger.
- Take care of your environment.
- Laugh often, touch daily, and smile for no reason.
- In all you think, say, and do, seek joy!





## Chapter 8

### Health Maintenance

#### Medical Tips

- Go to your physician regularly, even if you have no medical problems, for general health-screening tests and preventive medicine. Keep vaccinations up to date.
- If you have medical issues, then it is especially important to do your best to keep scheduled appointments.
- If you have any medical problems or concerns, get them checked out early because it is much easier to treat problems before they become severe.
- If you see a physician regularly now and you start to adopt the lifestyle changes outlined here, follow closely with your physician as you will likely need to adjust or reduce your medications as you take a more active role in health.
- Be aware of the medicines you take and the potential side effects to watch for.
- When at the doctor's office ask questions about anything you do not understand. Know your cholesterol (lipid panel), vitamin D, and other lab values.
- If you really want to track your lifestyle changes, in addition to your lipid panel and vitamin D, obtain the following lab tests: Fasting blood glucose, fasting insulin, hemoglobin A1C, homocysteine, and C-reactive protein.
- Also check a comprehensive gluten and gliadin sensitivity test
- Seek prevention advice and therapies of a holistic nature that promote natural healing with less emphasis on drugs and surgery unless absolutely needed.
- Be proactive in your medical care!

#### Dental Tips

- **Floss 1–2 times daily!** We all hate it, but it will save your teeth and can even improve mortality.
- Brush your teeth with a pea sized amount of any toothpaste at least two times daily. It is best to brush at least every night before bed. I'm not convinced that fluoride is important for dental health, and it is dangerous in high amounts. Use whatever toothpaste you are comfortable with.
- I advise that you not brush your teeth less than one hour after eating, because some foods can weaken your enamel, and brushing too soon after eating may remove enamel as you brush. Instead, use mouthwash, floss, or chew sugar-free gum immediately after eating.
- For healthy teeth and gums, reduce your intake of sugary foods, sodas, coffee, and gum with sugar, and avoid cigarettes, chewing tobacco or snuff, and crack/cocaine.
- Go to the dentist 1–2 times yearly for cleanings and checkups.
- Good dental hygiene can lower your cardiovascular risks and improve mortality.
- Avoid silver and metallic fillings. If you already have them, it may not be worth the effort to have them removed unless you have an allergy to the metal. But do not obtain any new metallic fillings.

## Self-Evaluation

It is always a good idea to assess and evaluate areas of your life you are looking to improve. This can give you a baseline of where you are and help to set achievable and measurable goals. Take this brief 12-question quiz to assess some of your nutrition and lifestyle habits. This is by no means a complete and comprehensive health screen but this can address some of the basic and most important healthy habits and can be a good measure as to how healthy your habits are. Answer the questions honestly focusing on what you have done the immediate 7 days prior to taking the quiz. It is best to take this quiz after a typical week, versus a week you may be on vacation, or around the holidays, etc. After taking the quiz, score your responses to see where you are today. Then, based on your overall score, work on trying to improve your responses to the questions and improve your overall score. If your total score is in the B, C, D, or E categories, then the next time you take the quiz, aim for increasing your score the letter just above where you started. This allows you to focus on incremental changes until you reach an A grade. Repeat the quiz every month until you reach your goals, and then reassess every few months.

### Scoring

For each question: a= 5 points, b= 4 points, c= 3 points, d= 2 points, e=1 point  
Score ranges from 12 – 60.

Calculate your score: \_\_\_\_

What does your score suggest?

- A. 51-60= Excellent Habits, recommend continue to optimize healthy habits
- B. 41-50= Good habits, recommend making mild changes to improve
- C. 31-40= Fair habits, recommend making modest changes to improve
- D. 21-30= poor habits, recommend making significant changes to improve
- E. 12-20= Very poor habits, recommend making drastic changes to improve

## Healthy Nutrition and Lifestyle Habits Quiz

- Over the past week, on average how many servings of fresh or frozen vegetables (not canned) have you consumed per day?  
a) 5 or more b) 3-4 c) 2 d) 1 e) 0
- Over the past week, on average how many servings of fresh or frozen whole fruits (not juice) have you consumed per day?  
a) 4 b) 3 c) 2 d) 1 e) 0
- Over the past week how many times have you eaten fast food?  
a) 0-1 b) 2-3 c) 4-5 d) 6-7 e) 8 or greater
- Over the past week, how many sweetened beverages (soda, sweetened teas, juice, etc), even if “diet,” have you consumed?  
a) 0-1 b) 2-3 c) 4-5 d) 6-7 e) 8 or greater
- Over the past week, how many servings of wheat, barely or rye bread products have you eaten?  
a) 0-1 b) 2-3 c) 4-5 d) 6-7 e) 8 or greater
- Over the past week, how many servings of pasteurized dairy products have you consumed?  
a) 0-1 b) 2-3 c) 4-5 d) 6-7 e) 8 or greater
- Over the past week, how many servings of conventional meat products have you consumed (this excludes grass fed, organic meats)?  
a) 0-1 b) 2-3 c) 4-5 d) 6-7 e) 8 or greater
- Over the past week, how many servings of wild caught, cold water fish have you consumed?  
a) 2-3 b) 0-1, but I take an omega 3 supplement c) 0-1 d) 4 or more e) 0
- Over the past week, on average how many times a day do you floss?  
a) 3x or greater b) 2 c) 1 d) 0-1 e) 0
- Over the past week, how many times have you participated in any sustained physical activity that elevates the heart rate for at least 20 minutes in a day?  
a) 6-7 b) 4-5 c) 2-3 d) 1 e) 0
- Over the past week, how many servings of alcoholic beverages have you consumed?  
Male a) 0-2 b) 3-6 c) 7-10 d) 11-14 e) 15 or more  
Female a) 0-1 b) 2-4 c) 5-7 d) 8-10 e) 11 or more
- Over the past week, how many times have you practiced some type of focused breathing or meditation type activity for at least 2minutes?  
a) 7 or greater b) 5-6 c) 3-4 d) 1-2 e) 0

## Chapter 9

### Putting It All Together and Summary

#### The Plan for Getting Started

- Make a mental commitment to yourself to change your lifestyle and health. Forget about making excuses. Make up solutions instead.
- Make three clear goals you believe you can achieve at the end of a 1–2 month period.
- Go to the store and get some fresh lettuce, other salad ingredients you like, vinegar, and oil-based or low-sugar dressing. Starting today, commit to eating at least one large salad every day. Eat at lunch and/or before dinner, and add ground flax or chia seeds. You can add grilled chicken or fish if needed.
- Start experimenting with different vegetables you can cook with or add to meals. Frozen vegetables are acceptable. Commit to having vegetables with every lunch and dinner. Look up recipes and ways to cook them to optimize taste. Start slow with simple vegetables and simple recipes.
- Throw away any Crisco, vegetable oils, and margarine in the house.
- Get rid of processed foods, sweets, junk foods, and snack foods in the house.
- For snacks get nuts, trail mix, berries, fruits, grass-fed boiled eggs, and dark chocolate.
- Eat some kind of fruit at every breakfast, and snack on enjoyable fruits you like at least 1–2 other times through the day.
- Instead of snacking, drink water. It will keep you better hydrated, reduce false hunger, and reduce your caloric intake.
- Eat as slow as time will allow. Stop eating once you are seven-tenths full. You should feel satisfied but have room for more and not feel stuffed.
- If you eat a lot of conventional meat or dairy, start by decreasing your portion sizes by half. Eventually, aim to only have 1–2 small servings of meat/dairy daily. Grill or bake meat, and remove the skin if it's not grass fed. If it is a grass-fed animal, eating the skin and fat is fine. Find an almond milk brand you like. Try different veggie burgers.
- If you eat a lot of fast food, start by cutting the frequency down by half. Also, choose healthier options there. Set a goal to eat fast foods only 1–2 times per week or less.
- If you eat a lot of grains, sweets, or other high-glycemic index foods, start by cutting the portions in half. If at a meal, make sure high-glycemic index foods only make up one-third of the total meal, and aim to get that down to one-fourth.
- Stop drinking calories. If you like soda, limit it to 1–2 per week or less. Even 100 percent juice—limit it to less than one small cup daily. Drink a cup of unsweetened tea in the morning or early afternoon. Try making fruit smoothies for breakfast or after workouts.
- Try not to skip meals then binge eat. Have snacks available (nuts, trail mix, fruits, granola) so you can eat smaller meals.

- Start reading food labels at the store, and be aware of what you are eating. Look for a small amount of simple ingredients, avoiding hydrogenated or partially hydrogenated oil, high-fructose corn syrup, vegetable oil, MSG, and aspartame. You don't have to count calories, but be aware of calorie count, sodium, and what a portion size is.
- Every week try a new vegetable or healthy food choice you never tried before. The goal is to find good tasting healthy substitutes for foods you used to eat. Also, your taste buds are recycled every three weeks, so give yourself a month to adjust to new tastes.
- You don't have to give up every food you love. If you have a dessert or favorite dish that is not so healthy, have it 1–2 times a week only if the rest of your diet is improved. Have a once a week cheat day in which you go out to eat or have some indiscretions without feeling guilty. If your diet is mostly as described above, you can eat anything sparingly.
- If you are concerned about foods allergies or intolerances, eliminate a food for at least one month. See how you feel after that time. Try to incorporate the food back and see if it makes you feel worse. If so, you know to eliminate that food. Another alternative is to eliminate all foods you suspect cause you problems for at least one month. Then after that period, add one food item back at a time to see if it causes you any problems.
- Physical activity: With no excuses commit to 20 minutes five days a week of doing something that elevates your heart rate. It is better to do 20 minutes straight, but if you have to break it up to two 10-minute sessions, that is fine. If you feel pressed for time, you can do this first thing in the morning or during a break at work. If the weather is bad, you can get moving inside at home—walking the stairs, doing 20 minutes of an exercise video, or dancing to music. Find a way to get moving!
- Stress relief: Pick at least one calming exercise, such as focused breathing or meditation, and do it for five minutes daily.
- Recruit a partner: Invite a friend, lover, or family member to participate in this lifestyle change. It is always easier and more beneficial to have a partner and someone to support you. However, you cannot force anyone to do something they are not ready for, so be prepared to have to go at it alone if you must. Maybe after getting started and others around you notice your health improvement, it may inspire them to join you later. Continue to invite but not forcefully.
- Know initially starting these lifestyle changes may be difficult for many different reasons. You may even physically be sore or feel worse at first. You have to push through for the first 2–4 weeks, and I know you will feel better, and things will become easier. Every month incorporate more of the information provided in this document. Be creative. Remember, the changes you are starting are not short-term programs but the beginning of lifelong habits.

## Most Important Changes to Make for Your Health

If the information above is too much, or you just want to cut straight to the chase, you can start off with the top 10 changes you can make to improve your health.

### Top 5 Diet Changes You Can Make to Be Healthy

1. Eat more fresh or frozen vegetables, fruits, herbs, and spices. Drink mostly water and teas.
2. Eliminate or reduce processed foods, refined sugars, fast foods, and sodas. This matches up closely with reducing high-glycemic index foods, fructose, and trans fats.
3. Eliminate or reduce pasteurized dairy.
4. Reduce or eliminate conventional meats, especially pork and red meat. Organic grass-fed meats are good in moderation, and wild fish 2–3 times weekly is good.
5. Eliminate or reduce highly genetically modified foods: wheat, soy, corn, and peanuts.



### Top 5 Lifestyle Changes You Can Make to Be Healthy

1. Love: Love life, love people, and make positive connections with family, friends, and strangers.
2. Improve mental health: Think positive, reduce stress, and stay mentally active.
3. Eliminate bad habits: Don't smoke! No illicit drugs and no more than moderate alcohol.
4. Stay physically active: Spend 20–30 minutes a day doing anything that increases the heart rate or causes a little sweat. If you are able, do short (5–15 min) bouts of high-intensity exercise 2–3 times per week.
5. Floss 1–2 times daily: This will save your teeth and your life. Good dental hygiene can lower your cardiovascular risks and improve mortality.

## Final Thoughts

Notice that I rarely use the words always or never. Life is about balance and moderation. The stricter you adhere to these guidelines, the more benefit you will gain, but do not worry about being extreme. Do the best you can, and allow for occasional indiscretions. Remember to pay attention to what makes you feel good overall, and focus on doing those things and avoiding things that make you feel otherwise. Experiment with different foods, eliminating different foods and trying new things of all natures, to see via experience what works for you. Base the extent of your lifestyle changes on your current health and personal goals. Do as much as it takes for you to feel content and happy with your health. Remember, when implementing these changes, initially it will be difficult; you may even feel worse in the beginning as your body adapts. Hang in there for the first month, and I guarantee you will begin to notice a great difference in how you feel and look, the lifestyle changes will become easier, and you will be addicted to a healthy lifestyle because you will feel so much better.

Additionally, continue to read and learn about health and nutrition from reputable sources. The recommended resources are a great start, and much of the information in this guide can be found in them in more detail. In summary, eat more unprocessed plant foods and less of everything else, stay physically and mentally active, reduce your stress, and seek joy. I am confident that by following the above advice you will be enjoying a healthier life!

## Sources and Highly Recommended Resources

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## Appendix

### Brief Suggestions for Some Common Diseases

The above guidelines are safe to follow in almost all disease states. Below are some modifications, specific things to emphasize on, and supplements to inquire about for a few selected conditions. Remember, these are changes you should consider making in addition to your doctor's recommendations and medications, not as a replacement. These suggestions are not intended to treat or cure your disease. You should discuss any supplements or diet changes first with your health care provider(s). This is not intended to be a substitute for going to see your doctor.

#### Arthritis

- Take 1,500 mg of glucosamine with chondroitin daily for minor arthritis pain.
- Increase your intake of ginger, turmeric, cherries, and berries.
- Take vitamin D, 2,000 IU daily.
- If you are seeking treatment at Regenexx™, take the Regenexx™ supplement. It contains the above mentioned glucosamine, chondroitin, and turmeric plus others that have been studied and shown to improve arthritis and stem cell function in the lab. (As a disclaimer I do work for Regenexx™, but I receive no compensation on supplements purchased.)
- Take 2 grams of an omega-3 supplement.
- Do water exercises (walking or jogging in water) and swim if you have access to a pool.
- Continue to be as active as you can without increasing your pain.

#### Autoimmune Diseases (e.g., multiple sclerosis, lupus, rheumatoid arthritis, asthma, eczema)

- Be more diligent about following the above guidelines, increasing fresh vegetables and fruits, and reducing processed animal foods.
- Avoid all potentially immune system stimulating foods: dairy, wheat, soy, corn, peanuts, eggs, and shellfish. Eliminate personal care products that contain gluten.
- Use an omega-3 supplement, 2–4 grams daily.
- Practice fasting several times (4–12) yearly.
- Take daily vitamin D, 4,000 IU, and ask your doctor to check your levels.
- Avoid artificial sweeteners.

## **Cancer**

- Be very diligent about following the above guidelines and increasing raw vegetables and fruits.
- Consider a raw-foods diet for a few months.
- Try to buy organic foods if you can.
- If you are on chemotherapy, and you must avoid fresh and frozen produce because of increased risk of infection, then eat more cooked vegetables.
- Try to cut out all dairy and animal products.
- Be diligent about stress reduction and consistent physical activity.
- Avoid smoking and alcohol.
- Take an omega-3 supplement, 1 gram daily.
- Take fruit and vegetable supplements and/or a mixed antioxidant.
- Take a vitamin D supplement, 4,000 IU daily.
- Try drinking fresh wheatgrass daily.

## **Cardiovascular Disease (including heart attack and stroke)**

- Be more diligent about following the above guidelines; increasing fresh vegetables and fruits; and reducing high-glycemic index foods, sugar, and conventional red meats.
- Use an omega-3 supplement, 2 grams daily, unless you have angina. Consult with your doctor first.
- Consult with your doctor about how much physical activity you can do.
- Be more diligent about practicing stress-relieving activities.
- Stop smoking and decrease caffeine.

## **Chronic Pain**

- Take 4,000 IU of vitamin D, and have your doctor check your vitamin D to see if you need larger replacement doses.
- Take an omega-3 supplement, 3–4 grams daily.
- Be diligent about weight loss.
- Stay as active as you can and stretch daily.
- Try yoga, tai chi, and massage.
- Be diligent about stress reduction.
- Try guided imagery or meditation.

## **Common Cold/Infections and Sore Throat**

- Drink plenty of fluids, water, and herbal tea.
- Make my cold/flu busting tea: Put ½ inch of fresh, peeled ginger into 8–10 ounces of boiling water. Add in a fresh squeezed lemon and a teaspoon of honey. Begin to drink 2–3 times daily as soon as you feel the onset of illness.
- Increase garlic and ginger. If you can tolerate it, place a small piece of fresh peeled ginger under your tongue. To go further, slowly chew it over 15–30 minutes. It will help clear your sinuses and throat as well as fight infection.
- Avoid dairy, processed animal foods, and sweets.
- Consider Echinacea and Astragalus supplements.
- Consider vitamin C, 1,000 mg, and zinc, 200 mg, twice daily at the early stages of a cold.

## **Congestive Heart Failure**

- You will need to restrict fluid and salt per your doctor's advice. Avoid canned and processed foods.
- Ask your doctor if it is safe to use omega-3 supplementation.
- Same addendum as cardiovascular disease.

## **Diabetes**

- Avoid fasting if you take any medications for diabetes.
- Minimize high-sugar fruits: grapes, watermelon, mangos, pineapple, and other tropical fruits. Eat 1 small serving or less daily.
- Avoid all sweetened drinks: no sodas, sweet tea, sweetened sports drinks, etc. Only have 1 small glass or less of 100 percent juice a day. Have juice available though for periods of low sugar if you take glucose-lowering drugs or insulin.
- Minimize starchy vegetables, like potatoes.
- Minimize grains, such as wheat, rice, potatoes, corn, and tortillas.
- Replace high GI carbohydrates with healthy fats grass fed meats in moderation but try to avoid conventional meat especially pork and red meat.
- Consider eating more cinnamon or taking a cinnamon supplement.
- Be more diligent about small frequent meals.
- Be more diligent about weight loss if overweight.
- Be more diligent about regular physical activity. Always have some juice or sugar pills with you when you work out in case your sugar gets low.

### **Dyslipidemia (abnormal cholesterol)**

- Take an omega-3 supplement, 1–3 grams daily or 4 grams daily if elevated triglycerides.
- Be diligent about decreasing high-glycemic index foods, and processed foods.
- Decrease simple sugar intake and avoid fructose.
- Be diligent about losing weight.
- Be diligent about consistent physical activity.
- If you take a statin to lower cholesterol, take CoQ10 (60 mg daily).

### **Enlarged Prostate (BPH) or Prostate Cancer**

- Eat more tomatoes.
- Eat pomegranate and/or drink pomegranate juice.
- Decrease animal foods.
- Decrease caffeine.
- Drink plenty of water.
- Try a zinc supplement, 30 mg daily.
- Look into trying saw palmetto or beta-sitosterol and lycopene.

### **Erectile Dysfunction**

- Follow all high blood pressure and diabetes recommendations.
- Be diligent about stress reduction.
- Look into Yohimbe supplements.

### **Gout**

- Be diligent about minimizing animal products and increasing plants.
- Avoid alcohol, high-fructose corn syrup, and sweets.
- Avoid purine-rich foods, like red meat and seafood (complete list can be found online).

### **Hypertension (high blood pressure)**

- Follow low salt guidelines, and avoid canned foods, processed meats, etc.
- Stop smoking.
- Lose weight per above guidelines if overweight.
- Be diligent about increasing fruits and vegetables and eliminating sweets.
- Decrease alcohol and caffeine.
- Increase garlic intake (only take a garlic supplement under direction of doctor because it can increase bleeding risk if you are taking blood thinners).
- Be very diligent about stress reduction techniques.

## **Insomnia**

- Increase daily physical activity.
- Be diligent about stress reduction.
- Increase daily sunlight.
- Do not eat three hours before going to bed.
- Avoid caffeine after lunch.
- Avoid alcohol and smoking, especially at night.
- Try to go to bed in a dark, quiet place with no TVs and distractions.
- Try to go to bed at the same time every night.
- Do not do other activities in bed, such as reading, watching TV, and doing work. Only use bed for sleeping and intimate activities.
- If you cannot fall asleep after 15–20 minutes, leave the bed and do something else until you get tired.
- Consider taking a shower before going to bed.
- Look into melatonin or a valerian supplement.

## **Kidney Disease**

- Be diligent about minimizing animal protein and especially conventionally produced meat products.
- Ask your doctor if you need to avoid high-potassium or high-phosphate foods.
- Control diabetes and hypertension as these are the two leading causes of chronic kidney disease.

## **Liver Disease**

- Be diligent about minimizing conventional animal protein and products.
- Avoid smoking, alcohol, and all illegal drugs.
- Avoid fructose.
- Look into milk thistle.
- Take coenzyme Q10

## **Lung and Sinus Problems**

- Avoid milk and dairy.
- Do not smoke.
- Avoid allergens: dust, pollen, mold, chemicals, etc.

## **Migraines**

- Avoid common triggers such as coffee, caffeine, dairy, cured meat, gluten, processed foods, and artificial sweeteners.
- Be diligent about stress reduction.

### **Reflux Disease (GERD)**

- Avoid coffee, alcohol, tobacco, milk, and spicy foods.
- Minimize tomatoes and chocolate.
- Eat slowly, and avoid talking while chewing.
- Trial different food eliminations, especially wheat to see if symptoms improve.
- Sit upright for at least one hour after meals.
- Do not eat three hours before bedtime.
- Elevate the head of the bed with bed raisers.
- Some people have reflux from too little acid. In this case warm apple cider vinegar may help. You may also try hydrochloric acid supplementation for several weeks until your symptoms improve.
- Consider digestive enzymes

### **Urinary Tract Infections (frequent)**

- Avoid caffeine.
- Drink plenty of water.
- Drink 100 percent cranberry juice, 1 glass daily.
- Consider a vitamin C supplement, 1000 mg daily.
- Practice good hygiene (wipe front to back).
- Urinate after sexual intercourse and clean afterward.