~Outline for Life~
Your Life—God's Design
Part 1—Your Body

May your whole spirit, soul and ***body*** *be kept blameless at the coming of our Lord Jesus Christ.* 1 Thessalonians 5:23 NIV

The Essential Core Principles for Physical Well-Being

Do you not know that your bodies are temples of the Holy Spirit, who is in you, whom you have received from God? You are not your own; 1 Corinthians 6:19 NIV

1. **You must evaluate each prescription and non-prescription pharmaceutical that you are taking.**
    - **Drugs with *black box warnings*—including benzodiazepines, opioid analgesics, and fluoroquinolone antibiotics**

2. **Eliminate the use of all tobacco products (smoking, chewing, vaping), recreational drugs, and minimize the consumption of alcohol.**

3. **Minimize your exposure to toxic substances in the environment.**
    - **Heavy metals and aluminum**
    - **Plastics**

4. **Fully understand and realize that *any* foreign substance or component within you has the potential to induce chronic inflammatory conditions.**
    - **Breast implants**
    - **Silver amalgam dental fillings**

5. **Minimize or eliminate completely from your diet refined carbohydrates (table sugar), added sugars, soft drinks, highly processed foods, fast foods, junk foods, fried foods, margarine, and all highly processed vegetable oils.**

6. **A consistent, balanced, nutrient-dense diet is your key to wellness and is not difficult to attain and maintain.**
    - **The 5 Basic Food Groups**
    - **Standard serving equivalents**
    - **Understanding nutrients**

7. **Identify potential allergies, intolerances, and sensitivities to food and other substances and minimize your exposure.**

- **Allergy/intolerance/sensitivity**
- **Food Allergy Self-Test**
- **Food Elimination Test**
- **The concerns with soy—phytoestrogens, goitrogens, phytates, and enzyme inhibitors**
- **Concerns with phytates and oxalates**

8. **Maintaining your body's natural weight setpoint is essential to weight management and physical well-being.**
    - **Average weight and body fat determination for men and women**
    - **Body Mass Index (BMI)**
    - **Basal Metabolic Rate (BMR)**
    - **Macronutrient composition of the Standard Diet**
    - **Calorie production per macronutrient and alcohol**
    - **Weight Management Formula**
    - **Essential principles for losing weight—Active Weight Loss Phase/Weight Maintenance Phase**
    - **Weight-reduction tips**

9. **Consistent and frequent exercise and healthy activity levels are critical for physical, mental, and emotional wholeness and wellness.**
    - **Exercise to get fit; Decrease calorie intake to lose weight**
    - **Activity levels and calories burned per day**
    - **Hydration and electrolytes**

10. **Adequate sleep should be a daily priority to promote healing, repair, and memory consolidation.**
    - **Adequate sleep, sleep cycle, and circadian rhythm**
    - **Caffeine**
    - **Natural sleep aids: melatonin, 5-HTP, theanine, GABA, hops, and valerian**
    - **Caution with all insomnia drugs**

11. **Address your special dietary concerns to insure adequate intake of all the essential nutrients your body needs to function well.**
    - **Probiotics, fiber, vitamin B-12, iron, and calcium**

12. **Regular medical, eye, and dental exams are important to monitor and maintain your physical wellness throughout life.**

Continue reading for the full discussion of each of these outline points. Also remember to access the referenced resources on the Resources Page of my website, JeffHoracek.com.

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1. **You must evaluate each prescription and non-prescription pharmaceutical that you are taking.** You must identify each drug's intended use, dosage, and duration for use; the potential side effects it may be inducing; its interactions with other medicines; and its overall necessity and benefit-to-risk ratio. The fewer medicines that you must take, the healthier you will be. With medical supervision, slowly taper off as many drugs as you are able. There are always options and often natural alternatives. Finding an appropriate and knowledgeable health-care professional to assist you is key. You may, in fact, need to do your own online research and seek the assistance of support groups. Physicians are extremely reluctant to take patients off their prescribed medications—they are trained to prescribe them for every symptom that ails you and frequently those adverse symptoms are caused by other medications. Rarely do doctors seek to address the underlying problem and typically they will simply prescribe another medication to your ever-growing list. Tapering patients off unnecessary medications is both difficult and time consuming and most physicians have no training in how to do this nor the time to help you. You must be proactive and take full control and responsibility for your personal health and wellness.

   Many drugs have ***black box warnings***, which means that they are potentially dangerous, have possibly severe side effects, have the potential to cause permanent damage, or could be addictive with severe withdrawal in susceptible individuals. Education and extreme caution should be used in taking these. A couple noteworthy examples include the ***benzodiazepines***, commonly used for insomnia and anxiety disorders, including Ativan (lorazepam), Halcion (triazolam), Klonopin (clonazepam), Librium (chlordiazepoxide), Restoril (temazepam), Valium (diazepam), and Xanax (alprazolam), just to name a few. Debilitating physical, mental, and emotional side effects are rampant with this class of drug, including continual suicidal thoughts. The ***opioid analgesics*** for pain management, utilizing oxycodone as the active drug such as OxyContin, Percodan, Percocet, and many others are extremely addictive with a plethora of adverse effects, with death by overdose being exceedingly high. A prominent pharmaceutical company has recently

been sued for falsifying information to doctors and hospitals as to the benefits of this drug, while knowingly downplaying the serious addictive nature and overdose potential of the drug. And the ***fluoroquinolone antibiotics***, Cipro (ciprofloxacin), Levaquin (levofloxacin), and Avelox (moxifloxacin) have been known to cause neurological disorders, sometimes permanent.

That is just a couple. FDA approved does *not* mean safe. Hundreds upon hundreds of thousands of people die in the United States alone every year from prescription pharmaceuticals.

For more information to help you evaluate your prescription medication, please see my article, "**Evaluating Rx Drugs**," on the Resources Page of my website, JeffHoracek.com. This is a must read!

2. **Eliminate the use of all tobacco products (smoking, chewing, vaping), recreational drugs, and minimize the consumption of alcohol.** All these substances are toxic and have cumulative toxic effects on the body. Not only does smoking cause lung cancer, but it is a strong risk factor for developing macular degeneration and permanent vision loss.

   An occasional glass of wine, especially red, does contain antioxidants from the grapes and can be beneficial. Moderate alcohol consumption is defined as one drink per day for women and two drinks per day for men. That is probably significantly more than you should drink and any more than that is excessive and puts you at high risk for permanent liver damage and failure. Alcohol is the one substance absorbed directly from the stomach so it gets into the bloodstream fast and can rapidly cause mental impairment. It typically takes one hour (slightly more for women) for the liver to metabolize one ounce of alcohol, which equates to one standard drink—one 12 oz beer, one 5 oz glass of wine, or 1.5 oz of 80-proof liquor.

3. **Minimize your exposure to toxic substances in the environment.** Minimize exposure to air pollution, water pollution, ground contamination, radiation and x-ray exposure, unprotected excess sunlight and ultraviolet light exposure, pesticides, herbicides, and heavy-metal contaminants such as lead and mercury. These are all potentially carcinogenic and often have neurologic side effects as well.

   Avoid the use of **aluminum** (including aluminum foil) and plastics for food preparation or food storage. Use only stainless-steel, cast-iron, or glass cookware, glass for all food storage, and only glass or cardboard products for microwaving. Aluminum is found throughout nature, but it can be toxic and has been strongly implicated in Alzheimer's disease. Aluminum is unfortunately found in a plethora of everyday-use items, including cosmetics; pharmaceuticals and OTC medications; soda cans; table salt, spices, baking products and processed foods as an anticaking compound; most food dyes; antiperspirants (not usually found in deodorants); water-softener systems; vaccines as an adjuvant (alum or aluminum hydroxide combined with the attenuated virus to increase contact time with your immune system); and the list goes on and on.

   Many of the myriad types of **plastics** contain BPA (bisphenol A), a known carcinogenic and teratogenic (causing birth defects) compound. Unfortunately, newer BPA-free plastics have not shown to be better as chemical toxicity still has been shown to exist. Furthermore, all plastics break down into microplastic particles,

which are microscopic plastic particles that never biodegrade. There is no biological organism that can break down plastic into other chemical components—it remains as microplastic particles forever. Urine tests have shown that virtually the entire population have these plastic particles within themselves, and high concentrations have been noted in the brain tissue of Alzheimer's patients. Drink out of glass or stainless-steel containers.

4. **Fully understand and realize that *any* foreign substance or component within you has the potential to induce chronic inflammatory conditions.** Every cell in your body is marked with biological surface markers which identify those cells as *self*. Everything that is not *you* is marked with different biological surface markers or no markers at all as in the case of inorganic components (plastics and metals). Your body must decide how to best deal with each foreign item that it encounters—it can digest them and incorporate those components into your own cells (food), it can neutralize and metabolize those items and prepare them for either storage somewhere within the body or elimination (heavy metals, drugs), it can isolate those items which are fixed in place and attempt to sequester them, often by tissue capsules or scar tissue (metal or plastic implanted devices of any type), or the body will attempt to eliminate the foreign substances as waste products through the digestive tract, urinary tract, respiratory tract, and perspiration.

   The point is that any foreign item has the potential to create an adverse physiological reaction and chronic inflammatory condition, often manifested as chronic fatigue syndrome, fibromyalgia, or other inflammatory or auto-immune disorders. Titanium joints and pins appear to be mild in their physiological response, but **breast implants** of all types (saline or silicone gel), because of plastic chemicals leaching out of the encasing silicone bag are notoriously associated with severe long-term problems for a multitude (despite what the doctors tell you). Remember, FDA approved does not equate to safe or trouble-free. Any foreign substance your body encounters, whether inserted, injected, implanted, or attached is always foreign to your body and your body will respond.

   Also be aware of **silver amalgam dental fillings**, which contain mercury, silver, tin, zinc, and typically copper, and although deemed safe, certainly have been shown to leach out mercury with time. Better and safer options are ceramic or porcelain or composite-type (ceramic resin and plastic) dental fillings.

5. **Minimize or eliminate completely from your diet refined carbohydrates (table sugar), added sugars, soft drinks, highly processed foods, fast foods, junk foods, fried foods, margarine, and all highly processed vegetable oils.** Study after study have shown these to be underlying causes of many of the chronic illnesses that plague the industrialized world, including cardiovascular disease, type 2 diabetes, many forms of cancer, and obesity, just to name a few. Minimizing your intake of these foods is the first step toward establishing a healthy, wholesome, nutrient-rich diet instead of one filled with empty calories, nutrient deficiencies, preservatives and additives, and food group imbalances.

   Butter has always been nutritionally superior to margarine and still is and safer too. The *only* oil you should ever heat and cook with is pure virgin olive oil. Flax seed, palm, and coconut oils are also fine for ingestion and coconut oil is

excellent also for many topical uses. Cold pressed is always best. Despite the claims and touting of polyunsaturated vegetable oils as being healthier, they in fact, are not. They are heat extracted, heat processed (multiple times), chemically treated, laden with additives and preservatives (BHA and BHT), and often bleached. Because of this, they have a high propensity to become oxidized and rancid—and unknowingly so because the additives mask the rancid smell and taste. Unfortunately, these oils are in every processed food and include corn, canola, cottonseed, safflower, soybean, and sunflower oils. These oils in their natural, unprocessed form are fine for consumption. Vitamin E is the natural antioxidant and preservative for all oils. And just so you know, when grilling meat, charring and dripping fat with smoke can create carcinogenic compounds. Furthermore, whereas dietary cholesterol and saturated fats should be consumed in moderation, they have not been definitively directly linked as primary causes of cardiovascular disease.

Pure white sugar and heat-processed vegetable oils are your enemy, not something to be savored. And finally, limit your intake of added table salt to any food (sea salt included). Processed foods are laden with added salt and salt induces fluid retention in the body, which creates a strain on the cardiovascular system and also creates puffiness around the eyes and edema elsewhere as well. However, for athletes, or those sweating significantly in the heat, electrolyte replacement (sodium, potassium, and smaller amount of calcium and magnesium) is essential for maintaining proper hydration and critical electrolyte balance.

6. **A consistent, balanced, nutrient-dense diet is your key to wellness and is not difficult to attain and maintain.** A healthy diet balances the three macronutrients—carbohydrates, proteins, and fats—in their most beneficial proportions and includes the micronutrients—vitamins, minerals, and phytochemicals—to provide all the nutrients necessary for wellness. There is no special diet required for good health, just make sure you adhere to **point 5** above and follow these foundational guidelines for your ***daily diet*** consisting of:

The 5 Basic Food Groups

- **Fruits: 20%** of your daily diet/eaten fresh or dried or juice/**2 cups** per day/variety is key, include lots of berries
- **Vegetables: 30%** of your daily diet/fresh (or frozen), raw as much as possible, or steamed/**2 ½ cups** or more per day/variety and colorful are key
- **Grains: 25%** of your daily diet/whole wheat, brown rice, oats, barley—as cereals, breads, and pastas/**7 ounces** or **1 cup** per day/whole grain and variety are key, minimize high calorie baked goods, cakes, cookies
- **Proteins: 20%** of your daily diet/this group includes lean beef and pork, poultry, fish, eggs, legumes (peas and beans), nuts and nut butters, and seeds/**6–7 ounces** or about **1 cup** or about the size of **two** hamburger patties per day/lean cuts of meat and variety are key
- **Dairy/Calcium: 5%** of your daily diet/this group includes milk or milk alternatives, cottage cheese, small amounts of hard cheeses, and yogurts including non-dairy yogurts/**2 cups** per day/low-fat milks and plain yogurts without added sugar are key

Oils such as olive oil and **Omega–3 Fatty Acids (**EPA and DHA fish oils, salmon and tuna) or flax seed oil should also be a part of your regular diet. **Clean drinking water** is essential and the standard 8 x 8 rule (eight, 8-oz glasses or ½ gallon) is probably the bare minimum. Studies indicate that the total daily fluid intake from all food and drink sources combined should be approximately 15 cups for men and 11 cups for women. Exercise and perspiration will greatly increase your fluid need. Soft drinks and sodas should be avoided.

Obviously, the larger you are and the more active you are the more calories you'll need per day to maintain. It should also be apparent that the vast majority of American diets far exceed the protein and grain category consumption recommendations and are severely lacking in the vegetable and fruit categories. For most of us, healthy eating means reducing meat and grain categories and dramatically increasing our consumption of fresh vegetables and fruit. Organic produce is surely less likely to be contaminated with pesticides and herbicides and may be more nutritious, but not necessarily so. Remember that the above recommended quantities are for the entire day and should be reasonably divided into three meals or so, and each food group need not be present at every meal. You certainly must enjoy your food and foods you like—just limit frequency and portion size of the less-desirable, less-nutritious, calorie-laden food options.

For comparison, here are some approximate equivalents when determining serving or portion sizes.
A standard 100-gram serving is approximately equal to: 3.5 oz (by weight) ~ ½ cup (by volume) ~ 1 hamburger patty ~ the size of a deck of cards ~ 1 medium banana ~ 2 fried eggs ~ 4 slices of white bread (by weight) ~ ½ medium apple ~ ½ medium baked potato ~ 1 medium tomato.

Understanding nutrients and how your body digests and assimilates them is important in maintaining all the essential resources your body needs to manufacture every component of every cell for its proper functioning. Your body is not a warehouse, and it does not store nutrients (except for fat for emergency energy use) to use later to make cellular components. That is why we must continually eat and drink to supply those raw materials consistently. As you take in food, each of the macronutrients is digested into its component parts, which are now able to be absorbed and assimilated, and then reassembled by your body in each cell to make your unique proteins, enzymes, DNA, and every cellular component. If any single component or building block is not present in sufficient quantity, then those proteins, enzymes, or structures simply won't get made—that's a deficiency.

Carbohydrates are digested and broken down into their simple sugar components, fats are broken down into their individual fatty acids, and proteins are broken down into their individual amino acids. Your body makes and repairs all the cellular components that it is able to at the time, and any excess simple sugars, fatty acids, or amino acids are either burned as fuel or stored as fat for later emergency use. Your body does store the simple sugar glucose, the body's primary energy fuel, in the form of glycogen in the liver and muscles for rapid energy availability, but only about one day's worth can be stored.

There are many different amino acids, but your body uses just 20 to make every protein and enzyme. Of these 20 amino acids, your body can actually synthesize 11 on its own if the appropriate raw materials are available (these are called non-essential amino acids), but 9 amino acids cannot be made by your body and must be supplied from the diet (these are the essential amino acids). Dietary protein is classified as either *complete* (if it contains all the essential amino acids) or *incomplete* (if one or more essential amino acid is lacking). All animal products (meat, eggs, dairy) are complete proteins, but most plant proteins are incomplete. Legumes (beans and peas) are typically lacking in the essential amino acid methionine, whereas grains are typically lacking in the essential amino acid lysine. That is why both grains and legumes must be consumed together to provide all the essential amino acids if you do not eat animal products.

Your body can also manufacture some fatty acids and cholesterol, but some fatty acids needed by the body (linoleic acid and linolenic acid) are essential and must be obtained from the diet and additional dietary cholesterol is typically needed as well.

As to the micronutrients—vitamins, minerals, and phytochemicals—these are essential and must be obtained from the diet as your body cannot synthesize them, and they are required for cellular and metabolic function. The vitamins are separated into the *water-soluble vitamins* (the B-complex vitamins and vitamin C) and the *fat-soluble vitamins* (vitamins A, D, E, and K). The water-soluble vitamins are not stored, except for small amounts of vitamin B-12 in the liver, and any excess not used by the body at the time is excreted in urine. As to the fat-soluble vitamins, your liver can store certain amounts of vitamin A, which in high doses can become toxic. This is rarely seen unless you typically consume large quantities of liver. The pro-vitamin form of vitamin A, beta carotene, is safe as the body converts it into vitamin A as it needs it.

The minerals are divided into the *major minerals* needed in relatively large quantity—calcium, phosphorus, magnesium, sodium and potassium with chloride, and sulfur—and the *trace minerals* needed in smaller quantities—iron, zinc, and copper—and *ultratrace minerals* needed in minute quantities—selenium, chromium, iodine, manganese, molybdenum, boron, silicon, vanadium, fluoride, nickel, cobalt (in B-12), germanium, tin, and a few others with unknown functions. Minerals may either be in their inorganic, mineral form or organic, chelated form, in which they are typically bound to an amino acid. The chelated, organic form is typically more easily absorbed by the digestive tract. Bones, teeth, nails, hair, and skin are primary places where minerals are deposited, and bones can be a resource of needed minerals, especially calcium, if dietary consumption is inadequate. Iron bound to ferritin is retained primarily in the liver, spleen, and bone marrow.

Finally, the phytonutrients are a multitude of plant compounds which have numerous beneficial effects, most notably as antioxidants, which help to neutralize toxic chemical compounds made within the body during normal metabolic processes and also toxic chemicals from environmental exposure.

The major point to understand is that all these macronutrients and micronutrients must be taken in *daily* to maintain every cellular and bodily function for maximum physical health and wellness.

7. **Identify potential allergies, intolerances, and sensitivities to food and other substances and minimize your exposure.** An ***allergy*** is a response to normally harmless foreign materials that you are exposed to mediated through your immune system to attempt to neutralize and eliminate them from your body. This may entail the release of antibodies, white blood cells, and histamine creating an inflammatory reaction. Allergic reactions may be serious and even life-threatening, but typically symptoms are just extremely bothersome and include nasal congestion, watery eyes, puffy eyes, dark rings around eyes, runny nose, coughing, wheezing, sneezing, itching, hives, shortness of breath, headache, or fatigue. However, allergies can also create long-term problems such as depression, fatigue, insomnia, and behavioral problems especially in children. It is possible to be allergic to virtually anything, but some common culprits are pollen, dust, nickel metal, cosmetic components, animal hair and dander, molds, insect bites, a long list of drugs, many chemical additives (citrus and dyes), and various foods. A true allergy rarely goes away because your immune system remembers it indefinitely, but symptoms can be controlled with drugs (antihistamines), but your best choice is avoidance if possible.

   A food ***intolerance*** or ***sensitivity*** is the inability to properly digest, process, or assimilate certain compounds in food, usually due to a lack of proper enzymes. This usually results in typical gastrointestinal upset but can induce many symptoms similar to allergic reactions as well. In the case of intolerance, your body is not attacking the offending agent, it just doesn't know what to do with it and finds it very disagreeable. It may be difficult to distinguish between the two, but avoidance is key for both. Intolerances need not be permanent, however, and can be overcome oftentimes by taking appropriate digestive enzymes with the food. Many food intolerances have enzymes commercially available for that purpose, like lactase—to help you digest the milk sugar lactose if you are lactose-intolerant. There are enzymes to aid in general digestion, gluten, lactose, the milk proteins casein and whey, fats, bean carbohydrates (alpha-galactosidase is required to digest the difficult bean carbohydrates raffinose and stachyose), and more.

   Foods commonly causing either allergies or intolerances are the protein *gluten* (found in wheat, rye, barley, but not in oats, unless contaminated by processing), *dairy* (milk proteins casein and whey, and carbohydrate lactose), *soy*, *eggs*, *shellfish*, *nuts* (especially peanuts), and *citrus*. Also realize that if you are allergic or sensitive to one type of food or compound, you may have a cross-sensitivity to other similar foods or compounds. Notable in this regard are sensitivities to the nightshade family of plants which includes white potatoes; tomatoes; eggplant; chili, sweet, and cayenne peppers; tobacco; paprika; and pimento. The ragweed family is also commonly a problem and includes some melons, cucumbers, bananas, sunflower seeds, and the herbs chamomile and echinacea.

   To help you determine if you have a true food allergy, you can try the following test. **Food Allergy Self-Test**: Before eating the suspected food culprit, take your pulse rate at the wrist for one minute while quietly seated. (Resting pulse rate varies widely between people, but for adults the average is about 76 beats per minute with a typical range between 60–100). Wait about 20 minutes after eating the suspected food in isolation with no other food and recheck your pulse again in the same

manner. If your pulse rate increases by over 10 beats, then you very well may be allergic to that food item. Repeat again on another day for confirmation.

To help determine a general food sensitivity, you can do a simple **Food Elimination Test**, by completely removing the suspected food culprit for at least two weeks from your diet and then reintroduce it once again after that time. If the symptoms went away for that time frame and the same difficulties and symptoms reoccur when you reintroduce the food, then you are sensitive, intolerant, or possibly allergic to it. Sometimes you may need to eliminate all the typical suspected food culprits, as you may have multiple sensitivities, and then slowly reintroduce one at a time and note your body's reaction. After about six months of eliminating a particular food item from your diet, you may try again to reintroduce it to your system. It is possible for sensitivities to decrease and that food item may become tolerable to you again. That is the basis of rotational food diets that rotate foods so that you are not consuming the same foods each day, but only consuming the same foods every four days or more.

As a final note, although very popular, I do not recommend **soy** products except for minimal consumption. Soy is a plant providing a complete protein profile, but it is also highly processed and found in many processed foods. It contains high levels of *phytoestrogens* (isoflavones and coumestans) that mimic and bind loosely to normal estrogen receptors in both men and women, which may be helpful for women after menopause, but this has not been definitively shown. Phytoestrogens may create an increased risk for reproductive problems, cancer, and even obesity. Soy also contains *goitrogens*, which inhibit thyroid function and should be avoided by anyone with thyroid disorders. Soy also contains very high concentrations of *phytic acid* or *phytates*, which bind to calcium, magnesium, copper, iron, and zinc in your digestive tract and make them more difficult to absorb, possibly causing mineral deficiencies. And finally, soy also contains numerous *enzyme inhibitors*, which decrease the ability of your body to properly break down and digest the food present with them. Different phytoestrogens are present in other plant foods also but in lower concentrations and do not seem to pose the same risks as soy.

Phytic acid is also high in many other plants including grains, beans, and nuts. Similar to phytates are *oxalic acid* or *oxalates*, which also bind to minerals and decrease their assimilation and absorption. Oxalates are the main cause of kidney stones (primarily composed of calcium oxalate crystals) and can be especially troublesome for sensitive individuals due to their ability to bind to and chelate out important minerals needed by the body, thus rendering them inaccessible for use and forming harmful crystals. Foods high in oxalates are varied and numerous and include spinach and chard, almonds and most nuts, potatoes and sweet potatoes, beets, chocolate and cocoa, soy, beans, blackberries and raspberries, and numerous others. To be sure, many plants and foods contain various phytoestrogens, various goitrogens, phytates, oxalates, and enzyme inhibitors. The main trouble with soy, however, although it is a complete protein, is that it contains all these compounds in relatively high amounts. Soy is found in a multitude of food products including tofu, miso, tempeh, and edamame.

This discussion is not meant to deter you from eating all these foods but simply to make you aware of individual sensitivities. For the majority of us, unless we have a sensitivity, the benefits of these foods far outweigh the potential

detrimental effects. This is why consumption of a variety of foods is so critical—to increase exposure to all the beneficial micronutrients, while at the same time minimizing your exposure to potentially damaging compounds.

8. **Maintaining your body's natural weight setpoint is essential to weight management and physical well-being.** Everyone has a normal and natural body weight setpoint that is determined by their genetics, body skeletal frame type (light, medium, stocky), and natural body proportions. Although this may change with time or circumstances (chronic illnesses), generally there is a normal and healthy body weight that you feel most comfortable at and is best for you. This is your unique weight setpoint that you should strive to maintain and should be intuitively aware of. You should not try to conform to some perfect ideal that is unattainable or unnatural for you. Your body will not let you do this—it will consistently desire to hover around your natural setpoint, but you may need to rediscover what your healthy setpoint is.

   Here are some averages that you can use as basic guidelines to evaluate your current weight and strive to return to or maintain your unique weight setpoint. These are just averages, so everyone will need to take into consideration their own genetics, frame, and build to help determine the weight setpoint that is uniquely yours. For body-fat percentage determination, a simple body-fat caliper can be purchased inexpensively online to help you measure this.

   Average Weight for Men: 106 lbs for the first 5' of height; add 6 lbs per inch of height thereafter; plus or minus ~15 lbs (less for light frame, more for stocky frame)
   Average Weight for Women: 100 lbs for the first 5' of height; add 5 lbs per inch of height thereafter; plus or minus ~13 lbs (less for light frame, more for stocky frame)

   Body Fat Healthy Average for Men: 15–20%; minimum essential 6%
   Body Fat Healthy Average for Women: 24–30%; minimum essential 13%

   Ladies, I am sorry, but God has designed you to maintain a higher percentage of body fat because you have been chosen to be the child-bearer. It is unhealthily impossible to maintain a body-fat percentage less than about 15%. And as we know, the primary location of the body's adipose storage for women is in the thighs, hips, buttocks, and breasts; whereas for men it is primarily in the waist. This cannot be easily changed—this is our God design.

   Body Mass Index (BMI) Imperial (English) formula is:
   Weight in Pounds divided by Height in Inches squared; multiplied by 703.

   This is really a measure of your body mass, not so accurate as a true measure of body fat. The ideal range is ~ 18.5 to 24.9 and there are easy online calculators and smartphone apps that you can use. Most apps use the metric system, so make sure to find one that uses the Imperial or English system for easier use (*BMI Calculator* by AsherMobile). Please note that all these numbers and calculators are based on numerous assumptions and will never give an exact assessment for each of us—none of us are truly "normal" or "average." Additionally, take note that muscle and bone mass are denser and thus heavier than fatty tissue mass, and muscle mass burns

many more calories even at total rest. BMI does not take age or gender into consideration either, so its usefulness can be limited.

Basal Metabolic Rate (BMR) is a very important number to know and it is calculated differently for men and women (and there are various formulas). It is the bare minimum calories that your body would burn in one day when at complete and total rest—this is just what's needed to keep you alive without moving. The BMR is significant because it accounts for virtually 60–75% of your daily calorie expenditure, much more than your calorie expenditure from exercise and activity. A typical BMR may be anywhere around 1400–1600 calories per day, whereas brisk walking for 1 hour burns only 300 calories, running for 1 hour burns 600 calories, and a very active individual may burn about 800 calories per day above their BMR. That is why the standard caloric intake per day is set at 2000 calories per day for women or light-active individuals and 2500 calories per day for men or very-active individuals. Those are maximum caloric intakes set to maintain and not gain or lose weight.

Your BMR is calculated from your weight, height, and age. The larger you are (weight and height) the higher your BMR, but increasing age has the opposite effect of decreasing your BMR. Your BMR decreases about 2% for every 10 years of age over the age of 20, which is why we tend to gain weight as we get older—BMR goes down and so too activity level, but our caloric intake remains the same or even increases. The formulas for calculating BMR are quite cumbersome so again, it is easiest to use online calculators or apps. Take note that you may get an online answer for your BMR in Kilocalories (Kcal) per day. This is precisely correct. What we loosely call "calories" are actually kilocalories or Calories (with a capital C). For your information, here are the Imperial formulas for BMR for men and women:

BMR (Men): *66.47 + (6.24 x Weight in Pounds) + (12.7 x Height in Inches) – (6.75 x Age in Years) = Calories per day*

BMR (Women): *655.1 + (4.35 x Weight in Pounds) + (4.7 x Height in Inches) – (4.67 x Age in Years) = Calories per day*

[Remember in mathematical equations, perform the functions in parentheses first, and then do the addition and subtraction.]

A **Standard Diet Composition** consists approximately of the following amounts of the three essential macronutrients per day: (excluding fiber, water, etc.)

Carbs: 45–65% (we'll set this @ 60%) *or* 2.5 g per pound of body weight per day
Protein: 10–35% (we'll set this @ 15%) *or* 0.6 g per pound of body weight per day
Fats: 20–35% (we'll set this @ 25%) *or* 0.45 g per pound of body weight per day

Calorie Production from each macronutrient (and alcohol):

Carbs: 4 calories per gram Proteins: 4 calories per gram Fats: 9 calories per gram
Alcohol: 7 calories per gram

It is easy to see why drinking alcohol can make you gain weight. It has almost double the calorie production of both carbohydrate and protein. And fat produces more than double the calories, which is why excess fat consumption can easily increase your weight gain quickly.

Carbohydrates are the primary energy producer for your body, which is why they represent the highest intake percentage. Excess carbohydrate intake is first

converted into glycogen for storage in your liver and muscles for later use, but only about one day's reserve can be stored. The rest is converted into fat and placed in your adipose tissue for storage. So excess carb intake will increase your body fat.

Protein intake is primarily used for all building and repair of body tissue, but excess is then converted into energy production. For the average person, about 60 grams of protein per day is adequate, and intake amounts above that will then be used for energy production or stored as fat. Too much protein intake can be hard on your liver and kidneys due to the nitrogen content, which is more difficult to metabolize and must be excreted in urine as urea. Protein also has the tendency to acidify your body, and yes, just like carbs, excess protein intake will ultimately be converted into and stored as body fat.

Fats are essential to every cell in your body and they are the form in which your body stores energy for later use during periods of extended hunger or starvation—so you need them—just not in excess. And yes, just like carbs and protein, excess intake of fats will be stored as body fat.

The take home message of all this should be clear. *Special Diets to lose weight don't matter. Excess consumption of carbohydrates, proteins, or fats will all contribute to weight gain and increased body fat. At the end of the day, any excess calories that you consumed over and above what you burned will increase your weight and body fat composition.* It's all about appropriate portion size.

Here is an example of appropriate dietary consumption:

Women/Light Activity—**2000 cal/day**			Men/Heavy Activity—**2500 cal/day**		
60% Carbs	300 g	1200 cal	60% Carbs	375 g	1500 cal
15% Protein	75 g	300 cal	15% Protein	94 g	375 cal
25% Fat	55 g	500 cal	25% Fat	69 g	625 cal

The only **Weight Management Formula** that you need to know to lose weight, gain weight, or maintain weight is the following:

3,500 Calories = 1 Pound

To lose one pound of weight, you must decrease consumption of calories by 3,500 over a set period of time. To gain one pound of weight, you must increase consumption of calories by 3,500 over a set period of time. To maintain your body weight precisely where it is, you must make sure that calorie intake each day equals calorie expenditure each day. It's that simple. Weight management does not require any special diet! It's simply mathematical. It does not matter where the calories come from—carbohydrates, proteins, or fats—it is simply *calorie intake vs calorie expenditure*. Period. It's eating healthy and eating less (and exercising more).

Therefore, to lose one pound of weight in one week, you must decrease caloric consumption by 500 calories each of seven days for a total caloric deficit at the end of the week of 3,500 calories and you have lost one pound of body weight (not necessarily body fat). You must have a consistent calorie deficit at the end of the day. To spread this out over two weeks, reduce caloric intake by 250 calories each day and at the end of two weeks you will have lost one pound. To gain weight, you just reverse this procedure by increasing the appropriate caloric intake each day. It is a little more complex than this as your body's current setpoint will resist your efforts to change it and realize that your body will preferentially break down your own

muscle mass to make up that caloric deficit before it burns up excess fat. Adipose tissue is your body's emergency "stash" and it doesn't like to access that account frequently. That is why exercise is also extremely important to maintain strength and muscle mass, while training your body to burn more fat. Also realize that the closer you get to your body's ideal and normal weight setpoint, the more difficult it will become for additional change.

Here are some **essential principles for losing weight** and maintaining that weight loss. Special diets are not required and usually fail because you attempt to lose too much weight too fast and your body is unable to maintain that. Secondly, they are often significantly food-restrictive, making them unenjoyable and likely to fail. Weight management is a lifestyle change, but you can eat many of the foods you like, just eliminate the high-calorie, low-nutrient choices, make healthy choices, and eat smaller portions. Resolve to lose no more than 10% of your body weight or no more than one pound per week over a period of 3–4 months (this is your **Active Weight-Loss Phase**). Then for the next 6 months do nothing but maintain that weight (this is your **Weight-Maintenance Phase**). If your maintenance has been successful, then you can attempt another 10% reduction phase. You will need to determine your caloric intake and adjustments to be made by using the information above and by the assistance of online calorie calculators or apps. The general equation to lose one pound per week is this:

Your BMR + Calories burned by exercise and activity – 500 calories to lose 1 pound = Net calorie daily intake

Some apps that may help you ascertain these numbers and count the calories of the food you eat are: *BMI calculator* by AsherMobile (for BMI, BMR, body fat estimation); *Lose It!* by FitNow (to calculate calorie intakes); *Nutrition Facts* by Alexey Korobov (lists foods in 100 g portions with calorie, carb, protein, and fat content), and multiple other apps and websites online.
Finally, here are a few **weight-reduction tips**:

- Make breakfast and lunch your primary meals with most the calories required to get you through an active day and end the day with a smaller dinner to better keep your calorie deficit. This is exactly opposite what most of us do in America and is a primary reason why so many of us are overweight. Creating a calorie deficit at the end of the day is critical to losing weight.
- Eat slowly and enjoy your food. It takes almost 20 minutes for the feeling of fullness to reach the brain when eating, so the faster you eat the more you will certainly overconsume.
- You can continue to eat healthy foods you like and even a few exceptions but decrease the frequency and keep the portion size smaller and savor it longer. Do not feel guilty about what you eat, just be smart about it.
- Make sure your diet includes plenty of vegetables and fiber that fills you up and drink extra water throughout the day.

9. **Consistent and frequent exercise and healthy activity levels are critical for physical, mental, and emotional wholeness and wellness.** Just keep

moving! It really doesn't matter what you do—just keep moving as much as you can. Movement burns calories and stimulates every bodily function to keep things in proper working order. Getting outside in fresh air and sunshine does wonders for mental and emotional cleansing and focus.

Exercise is typically separated into aerobic activity or "cardio" (increased oxygen required) and anaerobic or non-aerobic activity (strength and resistance training). You need to do both of these in some measure to stay healthy, strong, and fit. That is the purpose of exercise—to build, strengthen, and tone muscle, to strengthen cardiovascular and respiratory systems, and to help cleanse the body of impurities. Exercise burns calories, but you must not choose to exercise simply to lose weight. *You exercise to get healthy and fit; you decrease caloric intake to lose weight*. Exercise without a caloric deficit at the end of the day will not allow you to lose weight. Exercise, in fact, will make you hungrier and you may intake even more calories. That's why heavy activity and athletes require more calories to meet the basic need and maintain. Remember, the bottom line is still the same—caloric intake vs caloric expenditure. Just as eating should be pleasurable, exercise should be too, so do the things you enjoy or you will soon stop doing them, just like we quit diets.

Typical aerobic activities are brisk walking, jogging, running, cycling, swimming, gardening activities and working outside and most sports activities—anything that can increase your heart rate and respiratory rate. Strength and resistance activity is necessary to build and strengthen muscle and bone and is typically weight lifting, but also lifting other objects, sit-ups, push-ups, pull-ups and the like. Try to incorporate as many of these activities as you can each day. A home gym setup or exercise equipment would be ideal but not absolutely necessary, and sports watches and the like are great for tabulating calories burned throughout the day.

The standard dietary daily caloric intake of 2000 or 2500 calories as we've looked at *assumes* **one full hour of light to moderate activity every day**, which approximately burns about 300 calories or so. You can look up activity level charts online to get an idea of potential calories burned per *hour* for various activities. Here is a general guideline of standard activity levels and approximate calories burned per *day*. Realize that these are just approximations and calories burned and activity levels will be unique for each of us.

Activity Level	**Calories Burned**	**Activity Example**
Resting/Sedentary	100–200 cal/day	Sleeping, resting, reclining
Very Light Active	200–300 cal/day	Sitting, standing, driving, cooking
Light Active	300–450 cal/day	Walking, housecleaning, golfing
Moderate Active	450–650 cal/day	Brisk walking, gardening, cycling
Heavy/Very Active	650–800 cal/day	Running, heavy labor, sports
Extra Active	800–1250 cal/day	Athletes

Remember, you add the total calories burned throughout the total day from all exercise and activities and add that to your BMR to determine your total caloric needs for the day to maintain your current weight. To lose or gain weight you would need to adjust those calories appropriately.

Hydration is especially important for those who exercise heavily, are out in the heat, and sweat heavily. Fluid loss through perspiration is deceiving and we typically lose much more than we realize and faster than we realize. There is a lag time for the thirst mechanism, so by the time you feel thirsty you have already lost much fluid. It is not unusual to lose one quart or more of fluid per hour from heavy sweating.

Along with the loss of fluid will also be the loss of much of the **electrolytes**—mostly sodium, potassium, and smaller amounts of calcium and magnesium. To properly prevent dehydration and subsequent heat exhaustion, you must replace the primary electrolytes (sodium and potassium) along with your drinking water. Water replacement alone without the electrolytes will further dilute the existing level of electrolytes in your system and compound the problem. One quart of perspiration will also contain the loss of 1000–2000 mg of sodium, 200 mg of potassium, with lesser amounts of calcium (20 mg) and magnesium (10 mg). Excessive loss of these electrolytes will greatly increase the likelihood of muscle cramping.

Sodium replacement is your biggest immediate concern and replacement can be accomplished by eating a handful of pretzels or soda crackers. Better still in this regard are the sports drinks (not caffeinated energy drinks), such as Gatorade–2, or Gatorade–Zero or similar, which will replace your fluid loss and the primary electrolytes sodium and potassium in proper proportions (choose the lower sugar or zero sugar versions). Therefore, to stay hydrated appropriately and to help avoid heat exhaustion, drink plenty of fluids before, during, and after all activity and especially in the heat, and pay close attention to supplementing your electrolytes. Heat exhaustion is serious and will manifest as increased internal body temperature with an inability to cool down, headache, fatigue, rapid heartbeat, nausea, light-headedness and brain fog. Stop, rest, cool down in a cooler place, and hydrate with electrolytes.

10. **Adequate sleep should be a daily priority to promote healing, repair, and memory consolidation. Adequate sleep** each night is an essential part of your body's healing and repair process and is necessary for the consolidation and retainment of memories and learned information. Without sufficient sleep, your physical and mental performance will be below their peak potentials. Teens need at least 8–10 hours of sleep per night and most adults need at least 7–9 hours of sleep. When you are ill, mentally stressed, or recovering from injury you will require more sleep to enable the greater requirement for healing and repair. A consistent routine works best for most people and occasional naps may be revitalizing but can disrupt some individuals' sleep patterns. Short naps of 30 minutes or so are usually fine. Your body will tell you how much sleep you need. When you are tired, rest and sleep.

    The **sleep cycle** consists of 5 stages but only the last 4 keep repeating after the initial starting phase. The cycle goes from light to medium to deep sleep, then into REM (rapid eye movement—dreaming stage) sleep and repeats this about every 90–110 minutes. All these stages are necessary for a complete and restful night's sleep. Your natural **circadian rhythm** is greatly dictated by light transmitted through the visual system with some nerve fibers synapsing in the pineal gland where melatonin, your body's natural sleep hormone is made and released in the absence of light. That is why darkness is important to aid in falling asleep—light inhibits the release of melatonin. Watching television and computer and phone screens at

bedtime will inhibit melatonin release as well. To complete the circadian rhythm, cortisol is released by your adrenal glands in the morning and activates the release of glucose and stimulates awakening.

Small amounts of **caffeine** are fine in the morning and midday but the stimulant effect may be too great later in the day and tends to keep you awake. Excess caffeine can actually have a temporary depleting effect on brain neurotransmitters and cause an opposite fatiguing effect. Excess caffeine consumption also tends to build tolerance creating the need for consistently more for the same effect. Some people are very sensitive to the effects of caffeine and should avoid it. It is found in coffee, tea, colas, chocolate, energy drinks, and many OTC pain medications and since the amount is not required in most cases to be listed on labels, the actual amount is rarely known. The typical recommended *upper limit* of caffeine per day is about 400 mg, the equivalent of about 4 cups of coffee, 10 colas, or 2.5 energy drinks, but amounts will vary widely. Caffeine has a diuretic effect, so it has a tendency to deplete you of B-vitamins and minerals and it can irritate the stomach and make you jittery.

Natural sleep aids are significantly safer and healthier for you than prescription or OTC sleep aids. I firmly believe that no one should be on any prescription insomnia medication for more than two weeks and then only in extreme circumstances and only after all other natural supplement options have been attempted. The typical **insomnia drugs**—benzodiazepines (which we discussed in **point 1** above), Ambien, Sonata, Lunesta, and others—all are dangerous and have potential permanently damaging side effects. There is no reason to be on these drugs when there are excellent and safe and effective alternatives. Here they are:

- **Melatonin**. This is your *natural sleep hormone*! Start with the smallest dose, 1 mg, taken 1 hour before bedtime. If this does not help after 5 days, increase the dose to 3 mg, and up to 5 mg. If 5 mg does not help, there is little use in going higher as the effect will rarely increase. (Many of the dosages on the store shelves are way too high and you don't want that.) Sometimes melatonin can make you feel groggy with brain fog the next day. If this happens, decrease the dose one step or discontinue. This is a hormone and hormones can have powerful effects.
- **5-HTP** (5-Hydroxytryptophan). This is an amino acid naturally made in your body from the amino acid tryptophan, which is further converted into the neurotransmitter serotonin, which is a primary calming and emotion-stabilizing neurotransmitter. Serotonin can also be further metabolized in your body to form melatonin. Turkey is high in tryptophan which is precisely why eating it makes you sleepy. 5-HTP is typically available in 100 and 200 mg dosages. Either is fine, taken 1 hour before bedtime.
- **L-Theanine**. This is another amino acid and it is found only in certain teas. It can have a substantial calming and stabilizing effect on your brain neurotransmitters to balance them out and help you wind down. It is typically available in a 200 mg dosage, take 1 hour before bedtime.
- **GABA Calm**. Gamma amino butyric acid (GABA) is also an amino acid and the brain's natural inhibitory neurotransmitter. GABA calms and quiets activity in the brain to promote peacefulness. The GABA receptors in the brain are where alcohol

and the benzodiazepines also bind, but they are **not** the natural or correctly fitting molecule. It is precisely for that reason that benzodiazepines distort and traumatize the brain's GABA receptors and impair their functionality with time. Take one tablet or lozenge of GABA Calm before bedtime.

- **Hops**. Hops is the herbal plant used in making beer and the reason beer makes you sleepy. Hops are safe to use even for children. The best is the liquid extract form that you can just add half an eye dropper full to water or juice before bedtime or you can take capsules as well. (Hops are gluten-free.)
- **Valerian**. Valerian is a very pungent herb used for quieting and calming the body. It is also available in liquid extract or capsule form. Some people can have strange dreams and groggy effects, so this herb doesn't work well for everyone. Take as usual before bedtime. (Gluten-free)

These supplements can be taken singly or in combination with each other as you try them for effectiveness. I would start at the top and work down till you find the combination that works for you. This is certainly your best and safest choice and can be utilized indefinitely. Calcium supplements or the glass of milk at bedtime may also be of some help. The old standby is the OTC antihistamine Benadryl, due to its sedative effect, but it may also make you groggy the next day with other side effects and is therefore not recommended for continual daily use. Nutrients are not drugs so it may take a few weeks to notice significant improvement in your sleep.

11. **Address your special dietary concerns to insure adequate intake of all the essential nutrients your body needs to function well.** If you follow the basic guidelines of the standard diet and considerations above, then you should be obtaining most the nutrients your body needs to be healthy and well. However, many of us require gluten-free or dairy-free diets or are on strict vegetarian or vegan diets, which may present a risk for various nutrient deficiencies. Furthermore, consuming all the right food does not guarantee that you are absorbing all these nutrients appropriately and in the quantities required. Assimilation becomes more difficult as we age and some of these essential nutrients may pass right through unabsorbed. In addition, the nutrient content of the food we eat depends solely on the nutrient content of the soil in which it is grown. If the soil is poor or depleted in essential trace minerals, then the plants and produce we eat will be deficient as well. Studies have shown that over the last 50 years, there has been a minimal, yet measurable decline in many nutrients in American soils.

    When addressing any special diet, here are some essential components to consider.

    - **Probiotics**. These are the beneficial bacteria that live in your colon and assist in the final stages of digestion, help prevent colonization of harmful bacteria, and they can help supply some necessary nutrients on their own, such as Vitamin K and the B vitamins. There are roughly 30–40 primary species that colonize your colon, but they have found upwards of 400–500 different species that can live in the unique ecosystem of your colon. Many of these bacteria are lost through stool excretion so they need to be replaced frequently, and antibiotics will destroy these bacteria just like the pathogenic bacteria.

Yogurt with live yogurt cultures will help to keep your natural bacterial flora intact. Most non-dairy yogurts (coconut, almond, and soy based) also have live bacterial cultures, so even if you are dairy intolerant you should still consume yogurt frequently if not daily. Choose yogurts without added sugar. Most yogurts are also a good source of calcium, another nutrient that is typically lacking. If you don't consume yogurt, then it is essential that you take probiotics in capsule form. Capsules typically provide more beneficial bacteria and a much wider variety, which is a definite advantage but also more expensive.

- **Fiber**, also called **prebiotics**, should not be an issue if you are consuming appropriate amounts of fresh fruits and vegetables. Fiber is essential for proper gastrointestinal motility and function and is only found in plant material. There is insoluble fiber (dietary fiber), which adds bulk and speeds the elimination process along smoothly, and soluble fiber, which helps to stabilize water and stool consistency and binds to and helps eliminate toxins and excess cholesterol. Fiber is the substrate food for all the beneficial bacteria as well.

  If you frequently battle constipation or hard and difficult to pass stools, then you certainly need more fiber in your diet. If your diet does not contain enough fiber, you can easily add fiber with capsule supplements or chewable fiber tablets, which are very easy to use. This is much better and safer for you than the frequent use of laxatives. Keeping the digestive tract healthy and functioning smoothly is a balancing act and every food will react differently in each of us.
- **Vitamin B-12**. Vitamin B-12 (cobalamin) is only found in meat, eggs, and dairy products—it is not present in plant foods. Therefore, if you are on a vegan diet, you will need to supplement your intake. The new recommendation for B-12 is 2.4 *micrograms* (mcg or µg) per day, so you don't need much. This can easily be obtained through a multivitamin or B-complex supplement or even sublingual liquid drops. Vitamin B-12 is required for DNA function, healthy nerves, and healthy red blood cells. Absorption of B-12 can be difficult as it requires the acidity of the stomach and a protein called *intrinsic factor,* secreted by the stomach, to bind it and carry it to the lower part of the small intestine, the ileum, where it is finally absorbed. The liver can store about three months' worth of B-12 and some beneficial bacteria produce small quantities of it, but this is not to be relied upon.
- **Iron**. Iron is the essential mineral component of hemoglobin, the oxygen carrying protein of red blood cells, and myoglobin, the oxygen transport protein found in muscle. It is also found in all the cytochrome enzymes in mitochondria, the energy producers of your cells. Iron is very tightly controlled as to its absorption and use in your body due to its critical nature in every life function. Absorption requires the high acidity environment of the stomach and the proteins *transferrin* and *ferritin* to bind it, and absorption occurs in the most upper part of the small intestine, the duodenum. Iron can be difficult to absorb and is most easily absorbed from heme, the iron-containing component of hemoglobin from meat sources. All plant, grain, and other sources of iron are in the non-heme or inorganic form. The more iron your body needs, the more actively it will absorb it.

  The recommended daily intake for men and postmenopausal women is 8 mg per day, and for all women during their child-bearing years it's 18 mg (due to

loss from menstruation), and for pregnant women, 27 mg per day. These are significant amounts, especially for women, and it has been estimated that about 20% of women in America have below normal levels of iron. Low iron levels will typically manifest as fatigue and shortness of breath during mild exertion (very low levels will result in anemia). The reason for this mild iron deficiency is dietary and the difficulty in absorbing iron.

Even in the heme form from meat, only about 40% of the available iron may be absorbed. A 4 oz beef hamburger contains 4 mg of iron and the same size portion of poultry contains just 2 mg, so less than half that iron (only 2 mg or 1 mg) can be absorbed and utilized. Worse still, are all inorganic sources and plant sources where only 10% may be absorbed. Spinach, beans, broccoli, and fortified grains are good sources of iron, and 1 cup of beans or ½ cup of spinach both contain 4 mg of iron like the serving of beef. But only 10% of this iron, or 0.4 mg may be absorbed and utilized. That's a huge difference and why vegans or those who eat very little meat need to pay special attention to their iron intake.

The safe upper limit of iron intake has been set at 45 mg per day for both men and women and this would be difficult to reach under normal dietary conditions. The liver and bone marrow do store iron, and iron overload is possible but rare, and usually only seen in genetic disorders such as hemochromatosis and a few others. Excessively high intake of iron supplements could also pose a risk.

If you are concerned about iron levels in your body, a number of blood tests can provide good information; including hemoglobin levels and RBC (red blood cell) counts, and more direct iron level measures such as serum iron, transferrin, ferritin, and total iron binding capacity (TIBC). Your doctor can help you decide what tests are needed and if iron supplements are then necessary. I strongly recommend that everyone take a good multivitamin/multimineral supplement *with iron*. Many formulas take the iron out so you must check the label. If an iron supplement is needed for more iron, the best is a heme form of iron, Feosol Bifera. The next best inorganic iron supplement is a slow-release carbonyl iron with Vitamin C, which enhances absorption. Iron supplements can be irritating to the stomach and can cause constipation or even occasionally looser stools.

- **Calcium**. Calcium is an essential major mineral (needed in high quantity) and the most common mineral in the body and is necessary for all bone structure, teeth, and nerve transmission. Calcium is very tightly regulated in the body and blood levels are kept within strict ranges by the action of the parathyroid hormone and the hormone calcitonin. **Vitamin D** is essential for the proper absorption and use of calcium as well. A balance with phosphorous and **magnesium** is also critical. Magnesium intake is insufficient in many, if not most individuals.

  The initial phase of bone growth is generally complete by about the age of 20, but bone solidification and strengthening continues till about the age of 30. Even after that, and throughout life, bones continue to rework and remodel their crystalline structure. If you do not take in enough dietary calcium, your body will rob calcium from your bones to keep the blood levels of calcium consistent. Eventually bones may become brittle and fracture or break, and this is what happens in osteoporosis. Bone density tests are required to check for osteoporosis since calcium blood levels are almost always normal. It has been estimated that 50% of women over the age of 50 have low bone mass, putting those bones at high

risk for fracture. Men can develop osteoporosis too, but women are at greater risk due to declining estrogen levels with age and lower bone density to begin with.

The recommended daily intake for calcium is 1200 mg, and dairy (milk and yogurt and non-dairy yogurt products) have the highest concentrations of calcium at about 300 mg per cup, and calcium is absorbed easiest from these sources. Calcium fortified orange juice and cereal and grain products are good sources and the best plant sources are spinach and broccoli, providing about 200 mg per cup, but again, as in the case of iron, calcium is not as easily absorbed from plant products. Also remember, many of these plant sources are also high in oxalates, which tend to make these minerals less available still.

If you need supplemental calcium, calcium bisglycinate or calcium citrate with Vitamin D are good choices. Calcium carbonate is an inexpensive option but is less absorbable, requires high stomach acid to dissolve it, and tends to cause hard stools. Magnesium supplements should also be considered; excess may cause loose stools.

For more information and helpful websites on probiotics, fiber, digestive enzymes, and stomach acid, please see my article, "**OTC Stomach Acid Reducers**," pages 3–4, on the Resources Page of my website, JeffHoracek.com.

12. **Regular medical, eye, and dental exams are important to monitor and maintain your physical wellness throughout life.** Regular examinations with pertinent lab tests are helpful as checkpoints along your life's journey to wellness and wholeness. Being proactive and taking control of your health is paramount to a healthy and joyful life. The last place you want to spend your time is in the hospital.

These Essential Core Principles for Physical Well-Being are the foundation for your physical wellness and wholeness, but they are just the springboard to your complete and total well-being. Your mental and emotional, and spiritual wellness must also be addressed for God's plan of wholeness for you. It's Your Life, Your Body—by God's Design. I'm praying for you.