

"It's more than what you eat or how often you exercise.
It's even more than just essential steps to wellness.
It's energy to fully live the game of life."
— Anthony Robbins



12 STEPS TO OPTIMAL HEALTH

DR. WEST CONNER
THE RENEGADE PHARMACIST

PHARMACIST • AUTHOR • SPEAKER

AMERICA'S HORMONE AND HEALTH AUTHORITY



12 STEPS TO HEALTH

BY: Dr. WEST CONNER

The Medicine Coach™

MedicineCoach.com

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Chapter 1. Your Introduction into Age Management Medicine

The new science of anti-aging medicine is generating a whole new model of health care. This concept is changing the way many doctors and scientists are looking at the aging process as well as the design of modern medicine. Science is giving us a whole new reality of the human race, a different look into a life absent of disease, and the conception of an existence free from "old age."

Keeping the body young is a combination of four different, yet related concepts; nutritional supplements, hormone regulation, anti-oxidants, and physical exercise. We need to change our thinking and to understand that our age is irrelevant. What the calendar says is of no bearing to your physical and mental health.

Age management medicine is a relatively new field that has recently come into vogue because of the aging baby boomer population. They are getting older, they have plenty of disposable income, and can afford to look their best and feel their best for that matter.

As this segment of the population began to age, they were asking more and more questions about wrinkles, feeling old, not having the energy that they once had, and general age related issues. They wanted some answers to questions like, "why does this happen?" So, scientists began looking into these issues and they have discovered many different aspects of aging, how it happens, how we can slow it down, how to look our best and feel much better than the previous generation did at their particular age.

Age management medicine does not treat age as a disease, it is not a disease. Age is something that cannot be stopped. It's like taxes, it is not going to stop no matter what you do. What we are trying to do is slow the process. If you put an ice cube out in the hot sun it is going to melt, there is nothing you can do about it. But there are many things you can do to slow the melting process. That is what we are trying to do here, slow the process. We do this using a combination of nutrition, exercise, stress management, and hormone optimization.

The goal of age management is to increase the quality of life. Quality does not necessarily mean longevity, but by practicing the teachings of an age management physician, your lifespan will increase. By quality, we are talking about mental focus, enough physical energy to keep up with others, a positive attitude, and your hormones are at a younger person's level so libido is still present. It is a better quality of life.

This age management medicine is different in the way that we look at the body and treat the body. Traditional medicine will see you when you are sick, hurt, not feeling well, or when there is something wrong. You go to the doctor, maybe get a diagnosis, almost always get a prescription, and you are on your way. The system is based on disease and not health, there is no money when people are healthy.

Age management is all about being proactive. Think of it as changing the oil in your car before the engine blows up. Waiting for the engine to completely break down could be compared to traditional medicine, whereas changing your oil is more the age management route. So, we take people who are generally healthy and give them the tools they need to slow the aging process and have their body work at its optimal levels.

What's the difference in medicine?

Age management differs from traditional medicine in a couple ways. First off, when you go to get a blood test for certain markers in your blood, there is a range of normal for the general population. In general, if you are within this normal range, a traditional doctor will say that you are fine, there is no problem. Age management medicine looks more at the person and less at the numbers. So, yes, you may be in the normal range, but if your blood level is on the low end of normal, how does the doctor know if you are supposed to be on the high end of normal and that is why you are not feeling well. And vice versa, you could be on the high end on a lab test but you, because you are you, are supposed to be on the lower end of the scale. And who's to say that you are normal when your levels are outside the normal range? The so-called normal range covers about 95% of the population. God only knows exactly where your individual levels are supposed to be to make you feel good.

Another fact to consider is how the normal range is determined. Who are the people who are going and getting their blood tested? It is the sick people

who do not feel well. It is these people that the normal levels are based upon. Healthy people who are in good health, feel good, and have lots of energy don't go to the doctor and have blood levels checked. There is no reason, they feel good.

Many of us in the age management field are even going away from the normal range. You can have normal lab levels but these levels may not be optimal. If you are 60 years old, your hormone levels are going to be low for you to feel optimal for your age, but they will probably be in the normal range based on your age. You're normal, but not optimal.

Ten out of ten people will leave this world

The most common reasons that people die have to do with chronic diseases like heart disease, diabetes, and cancer. All of these are directly related to lifestyle choices. If there were a way to change people's lifestyle, we can have a huge impact on health.

This is one of the factors of age management medicine. We try to educate people and tell them why they get heart disease, why they have diabetes, why their cholesterol is high and attempt to change the way they live their life. Just by changing a few things, you will dramatically increase your longevity.

There are some people that are just going to pass on early in their life. God chose these people for a reason and no matter what they do or what they did, it was bound to happen. On the other hand, you'll find a person who smokes, drinks alcohol, eats horribly, doesn't exercise and is enjoying life at 100 years old. Those two scenarios are rare and are few and far between. For the vast majority of the population, we are going to depart this life in our 70s, 80s, or 90s. What we want to do is take those people who would pass away in their 70s, and extend their life into the 80s. And not just extending life for the sake of extending life, but increasing the quality of their life as well.

Medicine can keep you alive for an awful long time but the quality of your life is going to have a lot to be desired. Who wants to live to be 100 if the last 20 years are spent in a hospital or a nursing home hooked up to machines?

Prevention just doesn't pay

The medical industry right now is a business model based on illness. You don't really think about the doctor until you get sick, then you need the service. Until you get sick, you don't spend much time at the doctor's office. When you do get an appointment, you see the doctor for maybe 10 minutes, get a prescription, and you are back out on the street.

You can't blame the doctors either. I won't get into insurance reimbursement here but if the doctor could spend more time with you, he would. The truth of the matter is, they are getting paid less and less for each patient. In order to keep making money, they have to "treat 'em and street 'em" as the saying goes.

If medicine would teach prevention, the overall cost of health care would go down. Unfortunately, insurance companies just won't pay a doctor for prevention. A doctor's time is expensive and you cannot blame the doctor for not wanting to do something for free. To educate someone on these lifestyle changes, it is going to valuable time.

Why "Age Management?"

There are two basic types of people who come to an age management doctor. One is the person who does not feel their age, they just feel "old." They may have one or two lifestyle related diseases like diabetes or high blood pressure and are not getting satisfaction from the traditional doctor they are seeing. The other is the person who is energetic and in good health, usually in their 30s, 40s or 50s, and wants more out of life. We only go around once and these people want to live longer, have more energy, and want to be sure everything is working the way it's supposed to.

The more energetic person is the one who will benefit the most from age management. Since they are starting relatively early in life, the quality, and therefore longevity, of their life will improve.

The other person who comes to see me is generally in their fifties, maybe late forties, overweight, taking a handful of medications daily, and is just tired of feeling old and wants another option. These people take a little longer to convince because the process is a little slower than just taking a

pill for something that makes you feel bad. It is a process of lifestyle changes and hormone regulation. When I say hormones, I mean the estrogens, progesterone, testosterone and occasionally growth hormone. It also involves getting the thyroid levels back to normal. This helps with the person with their energy levels, especially the afternoon energy. Lifestyle changes like diet and exercise as well as some stress management techniques are also helpful.

Everything is connected in the body. Each system is separate but the body is one. So everything you eat will affect your body, either positively or negatively. If you eat positively on a regular basis, that big plate of chicken wings at the Super Bowl party isn't going to hurt you. But if you are eating fast food every day, then those wings are going to compound the problems that you are creating for your body every day.

Exercise is very important and I know you've heard it before. God made our bodies to move. We are made to work. Exercising gets the body going, it gets the blood moving. Think of it like a body of water. If you look at a slow moving or stagnant canal, the water is dark, dirty, and barely moving. But a flowing creek has clear water moving along rapidly. That is because the fast moving water can filter itself through the rocks, the sediments is pushed downstream and out into a larger body of water. The slow canal just sits there. The debris settles to the bottom. It is muddy and just dirty.

That's how you should imagine your blood flowing. Keep it moving, get it flowing quickly on a regular basis so things don't stagnate. The mud doesn't collect, so to speak. You want your blood flowing and cleaning out the impurities and the waste products and pushing them out of you.

Another thing to keep in mind, everything you do affects you either positively or negatively. Every meal, every jog around the block, and every night in front of the TV watching nothing is affecting your body. If the act is positive then your quality of life will increase. A negative act will decrease your quality. These increases and decreases are not felt right away. These bodily effects are years, maybe even decades, down the road. The good news is, even if caught late in life, many of these negative actions that you may have done, can be corrected and the damages reversed.

Grandma, the model of age management

I've lived through something that I think really sums what we are trying to do here. My grandmother passed away several years ago and the way she lived her life is sort of the model I use. Grandma rode her bike everywhere, for as long as I can remember. She rode it to Saint Clement's Church every day, to the store, to my parent's house, everywhere she went. So she got exercise on a daily basis. She didn't need to work but was the busiest person I knew. She volunteered in just about every place that could use her. She was very active into her 80s and then had a sudden decline. She died at her home surrounded by family and friends. Her decline into death lasted about two or three weeks.

This is what we are looking to do, a long, high quality life with a sharp drop off at the end. No burden to your family, no long stays in a hospital or nursing home, a sudden, rapid decline at the end of a long and fruitful life. This is the life we are trying to secure for everyone.

Chapter 2. Achieving your optimal health

We are so engrained in the instant gratification that our society puts forth. We want instant everything; instant rice, 500 channels with nothing on the TV, a refrigerator full of food, and if there is no food, a pizza will be at the door in 30 minutes. Optimal health is like your wealth. It is not an instant process, we have to be patient.

Achieving this level of health can take some time if you are grossly out of shape, your hormones are way off balance, or you lead a sedentary lifestyle. It is possible to add good, active, and productive years to your life.

If you are just learning of this concept, get ready. Get ready to change some things around. Get ready to learn about what's going on inside your body. Get ready to live better, and live longer.

Just imagine if you can gain another 5 years of quality life. How about another 10 years? A lot happens in 10 years. You'll have grandkids that will grow and mature into adults. Don't you want to be around to see that? Do you want to be there to witness the start of the next generation? Could you help them buy that little starter house? You will be able to play with your great-grand kids. You will have energy and feel youthful for years to come.

People versus numbers

In traditional medicine, certain age markers are considered to be normal based on your age. Levels of certain biochemical markers will increase or decrease with age, which is normal for the aging process. Even though they are not optimal, they are still considered normal. Age management, on the other hand, will see these markers changing and can either supplement to raise them or provide certain therapies to lower them depending upon the situation.

Let's take the example of the thyroid tests. If you were to go to your traditional doctor complaining of tiredness, cold hands and feet, and hair loss, the doctor should, and probably will, get a thyroid stimulating hormone level. Most likely, if you fall into the normal range, the doctor will say you

are normal. He will tell you everything is fine and you don't need medication. An age management specialist will optimize this hormone even if you are within the normal range by giving you the proper amount of a thyroid medication, based on you as an individual and not numbers on a piece of paper.

Another good example is cholesterol. It seems as though the preferred cholesterol level keeps getting lower and lower. What we have to remember is that all of our sex hormones; testosterone, progesterone, and the estrogens, all originate from cholesterol. If we continue to lower cholesterol, we are depleting our bodies of these hormones. I feel, as many other age management doctors do, that optimal total cholesterol level is from 150 to 200. What is more important here is the ratio between the LDL (the bad cholesterol) and the HDL (the good cholesterol). Ideally, we want about a 2:1 ratio of LDL to HDL; so you have twice the amount of LDL as HDL. If your LDL is 100, your HDL should be about 50. Even if your total cholesterol is 215, I don't care as long as your ratio is good.

Also, your body repairs itself with cholesterol. Every day, all day, your body is getting injured in some way. When you need repair, cholesterol is the substance that comes to the rescue and does the patch-up job. It is when you have too much cholesterol from a poor diet and sedentary lifestyle that the trouble begins. If your cholesterol is too low, you probably will not produce your required hormones too feel well. Your body is going to use cholesterol to repair itself first, what is left is what is used to manufacture your hormones. If there is nothing left, you can't produce hormones.

For men, testosterone begins to fall at about age 35. We lose 1%-2% every year and with that decline comes a decrease in lean body tissue, decreased libido, an increase in prostate size, decreased strength, decreased stamina, and just feeling old and "burned out."

Going to a traditional doctor and getting a blood test most likely will not get you any testosterone supplementation. The normal blood levels for testosterone range from 200 to 1200. If you are normal for you at 900 and now you have a testosterone level of 400, the doctor is going to say, "Well, your testosterone level is normal." Your testosterone level has dropped by more than half, yet you are still considered normal?

An age management physician would look at that number and say, “You are in the normal range but you’re not optimal. We can boost you up a bit and see how you feel after a couple weeks. If you still feel sluggish, tired, and weak, we can bump it up a little more until we find what is right for you.” Are you beginning to see the difference here?

Hormonal decline

Along this same train of thought, women also begin a hormone loss around age 30. With women, it starts with a gradual decrease in progesterone and continues on with estrogen and even testosterone. For both sexes, the decline of growth hormone, DHEA, and thyroid begins in the early to mid thirties. What we will do is return these hormone levels back to optimal levels. The age range of 30 to 35 years old for hormones levels is generally considered the gold standard. This seems to be the range at which most people feel their best when given hormone supplementation. We will attempt to keep these levels throughout life and adjust them as necessary.

When I say hormone supplementation, I mean supplementing the amount of hormone that your body is producing with a bio-identical hormone, bringing the level back to optimal. This means that the chemical is the exact same structure that is found in your body. By doing this, there are absolutely no side effects. There are, however, under dosing effects and over dosing effects. When men are feeling weak, low libido, and a loss of strength, this is an under dosing effect of testosterone, for example. By supplementing with the correct amount, the proper level returns and the under dosing effects subside.

On the other hand, a woman who feels bloated, irritable, has foggy thinking, and has trouble sleeping, is suffering from an over dosing of estrogen. Having too much estrogen is not necessarily caused by getting a high dose of bio-identical estrogens either. Many women suffer from excess estrogen caused by chemicals in our environment. Lowering the estrogen level through lifestyle changes and balancing with bio-identical progesterone will quickly relieve these symptoms.

You are what you eat

Nutrition is a critical part to the anti-aging, or slowing of aging, area of medicine. A poor diet leads to what you see every day walking around the mall, or riding on a scooter around the mall because they are too overweight to even walk. Eating the typical American diet leads to excess weight gain, heart disease, Type II diabetes, high blood pressure, and high cholesterol. All of these are lifestyle related diseases.

The term de-generation is used to define the slow process that goes on inside the unhealthy person. Eating poorly causes the body to produce a low level of inflammation. This is similar to, but on a smaller scale, having something like a swollen ankle. You have twisted your ankle, injured it, and the body is sending its healing attributes to the injury. This causes swelling or inflammation. This same process, at a very low level, is going on in your blood vessels, your vital organs, and virtually every cell in your body. Over time, this causes increased aging as well as cellular damage.

A diet high in saturated fats, sugar, and trans fats will cause the highest amount of inflammation. Don't get me wrong in thinking that you have to totally eliminate saturated fats from your diet. A small amount is good for you. The problem is the person who eats sugar laden and fatty foods five or six times a week.

Sugar should be kept at a minimum. Just about every processed food in the supermarket is going to have sugar in it. Even if the box says sugar free, look for fructose, maltose, dextrose, all those other substances that are not technically sugar but taste the same and act just about the same in your body. High fructose corn syrup is an extremely prevalent substance found in the vast majority of processed food; do your best to limit or avoid high fructose corn syrup.

Hydrogenated fats are man-made fats that are not found in nature. They are used in the food industry because they taste good and have a long shelf life; these are not good for you at all. Hydrogenated fats are created by converting the liquid fat into a solid by exposing it to hydrogen. These fats like margarine and shortening raise cholesterol, deposit fat in the blood vessels, and cause inflammation in the body.

Recent research shows the quickest way to getting rid of this low level inflammation is simply diet and exercise. If people realized the power of eating a little better, making better food choices, and exercising, it would make a world a difference in their health.

The best diet is one that has a roughly equal number of calories from carbohydrates, protein, and fat calories. Carbohydrates are in the form of mostly fruits, vegetables, and grains. Protein is lean meat like poultry, fish, egg whites, or a low fat cut of red meat. The fats should be butter, olive oil, sunflower oil, or coconut oil.

I have my own eating plan that I think is the best. I call it the *511 Diet* because you eat very “clean” for 5 straight days, you fast on the sixth day until dinner, and eat whatever you want on the seventh. Following this plan gives your body a break on day 6 and satisfies all those cravings on day 7. On this plan, you can eat whatever you want, just not whenever you want. We get into more detail in the chapter titled *The 511 Diet*.

Other lifestyle conditions can lead to this type of inflammation. Studies show that people who go on yo-yo diets, repeatedly gaining and losing more than 20 pounds at a time, have a higher level of inflammation. People whose waist measures more than $\frac{1}{2}$ their height have a higher level of inflammation. If you are 5’10” tall, that is 70 inches. Your waist must be less than 35 inches around to prevent excessive damage. Those who are sedentary, people who smoke, people who tan a lot in the sun, people with bronchitis, gum disease, high blood pressure and high cholesterol all are at risk for increased inflammation.

We are made to move

For exercise, there are a couple different kinds that you can do. There is endurance, interval training, and weight or resistance training. Endurance training is the long distance type, like riding the bicycle or running. Endurance training is good for cardiovascular health. This type of exercise has you putting forth a moderate effort for long periods of time.

Interval training is when you perform very intense exercises for a short period of time, then go slow for a short period of time, then fast again, then slow. And you repeat this pattern several times. In my personal experience and the research I have read, the magic number seems to be eight. You must

do this interval training pattern at least eight times before there are chemical changes in the body. A few minutes after you end this type of training session, your growth hormone spikes, that is good. Also, your body can better use the sugar/glucose/insulin system of energy. Your body gets more efficient and better at burning fuel.

Weight training is my personal favorite. It is very important for several reasons. As we age, muscle is lost and in the space where muscle used to be, is fat. Muscle is also metabolic, meaning that it uses calories all the time. Fat uses almost zero calories to maintain itself. And, as we age, it gets more and more difficult to gain muscle because our hormone levels keep decreasing. So you have to start young to get a good foundation. Weight training also increases the strength of your bones. Along with your muscles and connective tissue, your bones have to become stronger to support that extra weight, this prevents osteoporosis.

STRESS, avoid it

Stress management is another important point in regards to achieving your optimal health. We all have stress regardless of whether or not we are a student, a single working person with no children, married, unmarried, divorced, whatever, we all have a certain level of stress in our lives. At certain times, stress is good for us and it helps us get things done and do what we have to do. Too much stress, and too much prolonged stress, can be detrimental to your health. Stress causes our body to release a chemical called cortisol and to release sugar into our blood stream to be used as a quick source of fuel.

Thousands of years ago, we needed this stress response from our body because we were being chased by predators, or in wars, or in a situation where our very lives depended on split second action and reaction. In modern times, we rarely need this type of reaction from our body. When you are under prolonged, low level stress, your body is constantly putting out a small amount of cortisol and sugar. Excess sugar causes your body to release insulin. When insulin is high, your growth hormone level decreases. Growth hormone is sort of our own “fountain of youth.” When a person has excess cortisol, they tend to store body fat around the midsection. This is not a good situation.

You can manage your stress level through lifestyle changes such as relaxation techniques, getting the proper amount of sleep, and eating a proper diet. There is more on the subject of stress in a later chapter.

The best way to move towards your own personal peak level of health is to optimize and balance your hormones, eat properly getting the appropriate amount of nutritional intake, keep stress to a minimum, and regular exercise. When all four of these conditions are being met, you will feel healthier, look younger, and just live better.

Chapter 3. Real Age

My 90-year-old grandmother told me, “You can’t get any younger, but you sure can get old in a hurry.” If you think about it, that statement is very true. Have you ever noticed how certain stressful situations “age” a person? A serious illness, like cancer, can make a person look much older, and feel much older, than they truly are.

Growing older is a fact of life, we cannot stop it. We can, however, actually reverse the aging process to add quality years to our life.

You have two ages: your chronological age and your real age.

Your chronological age is how long you have been alive. You cannot change your chronological age no matter what you do, it grows every second, every hour, every day, you cannot stop it or slow it down. This is the age you tell someone who asks, “How old are you?” Your chronological age is JUST a number.

Your real age is the age your body “thinks” it is. You can be 40 years old in chronological years but your real age could be 35, 45, or 55. The real age depends on how well, or how poorly, you take care of your body. This age can be changed. You can get much older or much younger depending on your own lifestyle choices.

Real age is an excellent indicator of your overall health. Beginning at about age 25, unless we consciously change our habits, we begin to lose about 1% of all our body functions every 2 years. So, by the time we are 45 years old, we’ve lost about 10% of the functioning ability of our heart, our liver, our kidneys, eyes, hearing, lung capacity, everything. Fortunately, we can restore these processes through lifestyle changes.

Our cardiovascular system is the greatest measure of our real age. Preventing aging of your heart and blood vessels is the single most important thing you can do to live a longer and higher quality life. Fortunately, you can slow the aging process of your circulatory system in a measurable and reliable way.

Blood pressure is the most important gauge in determining the health of your heart and blood vessels. Keeping your blood pressure below the magic numbers of 120/80 will keep this system functioning at youthful levels. When pressure is high, small tears occur in the walls of blood vessels. These tiny “cuts” are covered over by cholesterol. When the pressure increases and the tears become deep, they can go down into the middle layer of the artery wall and cause inflammation in that area. This causes swelling that further increases pressure. Also, the cholesterol covering can form sort of a scab over the injury and could possibly break off. This scab is now called a thrombus and if your body does not dissolve this before it reached the brain, it may lodge itself in the small blood vessels, becoming a clot, and causing a stroke.

When blood pressure is high, you also have what is called “end organ” damage. Your “end organs” are the organs in your body where blood flow goes to “feed” your organs. Your kidneys are an excellent example. As blood is pumped into your kidneys, the tiny, fragile, inner workings of the organ are doing their job. When the pressure is too high, the tiny vessels inside the kidneys get damaged under the intense pressure. The constant increased force damages the kidneys and they begin to malfunction. This leads to an increase in fluid and waste products in the blood that would normally be filtered out of the body. The increased fluid causes blood pressure to further increase and the waste products cause a constant, low-level inflammation.

Take care of your body and your body will take care of you.

Here are 20 quick ways to take up to 67 years off your real age:

- 1.** Getting at least 10,000 steps a day can make your body 2 years younger after just six months. Many people use the excuse, “I walk a lot at work.” If that is the case, buy yourself a pedometer and see how many steps you take during your work day. You can find a pedometer at just about any department or sports related store. Many smart phones now have an app to record your steps also. Just mark down your step number every time you get home from work over the course of a week. If you averaged 10,000 steps per day, congratulations, you get enough walking at your job. Anything below 10,000 steps per day, go get those magic 10,000 steps per day.

2. While you are outside walking, your body is absorbing sunlight and converting it into active vitamin D. Thirty minutes of winter sunlight or fifteen minutes of summer sunlight in a short sleeved shirt is all most people need to keep their vitamin D levels adequate. Darker skinned people need more sunlight while fairer skinned individuals will require less. If you do not have any underlying medical conditions, like osteoporosis, multiple sclerosis, arthritis, etc., you should keep your vitamin D level at about 60. If you do have a medical condition, depending on the severity, keeping your vitamin D levels over 100 can be very beneficial. Taking vitamin D supplements can help in this area. By keeping this level up, you will be one year younger.

3. If you are a smoker, stop. If you live with a smoker, you will have to avoid second hand smoke in order to shave 7 years off your real age. Sitting next to someone who is smoking for 15 minutes has been shown to have the same damaging effects as smoking one cigarette. Keep your distance from smokers. If your spouse smokes, give as much support as possible to get him or her to stop.

4. Your mother told you to brush and floss your teeth. If you listened to mom and continue to do that today, you will take 6 years off your real age. Researchers have concluded that the same bacteria found in the mouths of those with poor oral hygiene, causes aging of the blood vessels. By keeping these bacteria from growing in your mouth, you will keep them from growing on your blood vessels.

5. Many doctors recommend taking a daily aspirin to keep your cardiovascular system in good working order. By swallowing 162mg of aspirin a day, you can make yourself 2 years younger after three years. Swallow your aspirin whole with a full glass of water. Taking it with water prevents it from sticking to the side of your stomach or getting lodged in your esophagus (the tube leading from your mouth to your stomach) on the way down. You also should not use a chewable form of aspirin. Chewing aspirin will increase your risk of developing tooth decay.

6. Managing your finances is something that most people should do anyway but you normally wouldn't associate this with a youthful body. Financial worry is one of the most damaging forms of stress and by eliminating that excess tension; you will lower your real age roughly eight years. That's extra time to spend your children's inheritance!

7. Continuing with the subject of stress, general stress reduction will give you another six years off your real age. Even simple stress reducers like lying down and breathing deeply, scrunching your face and holding it for ten seconds, or calling friends on the phone can help lower body tension. When you go for your daily 30 minute walk, take your phone with you and call family or friends. Here's a tip for you guys out there; call your mother. If you really want to impress a loved one, go for a walk and call your spouse.

8. Now that you have impressed your wife (or husband), having sex is an excellent way to stay young. By having sex at least three times a week, you can lower your real age anywhere from two to eight years. The difference in the age reduction has to do with the quality of sex. The more satisfying sex is for both you and your partner, the greater the age reduction. It is not just the act of making love but the love in making the act that counts.

9. After all that love making, you are going to want to get a good night's sleep. Getting about seven hours of sleep every night will get you another three years.

10. Having fun makes you feel younger and playing mind games or thinking games will keep your body younger. Reading, doing crossword puzzles, word searches, or anything that exercises your mind on a regular basis will do away with two and a half years.

11. What you put in your mouth significantly contributes to your real age. Learning to read food labels and following a few simple rules can shave three and a half years off your real age. Look on the labels and avoid saturated fat, trans fat, sugar, hydrogenated oils, corn syrup, and anything that says "enriched." Corn syrup is in most canned or bottled sauces and actually fools our brain into thinking we have not eaten as much food as we have. Stay away from food that contains any of those substances listed above in the first five ingredients on the label.

12. Most people know that eating fish is good for you. Unfortunately, many people put breading on it and fry it in oil. This counteracts any benefit you will get from eating fish. Eating non-fried fish at least three times a week will take off three years from your real age. The omega-3 oils in fish help to prevent those tiny tears in our blood vessels and decrease inflammation in the body. If you cannot stomach fish, taking fish oil capsules at a dose of

two grams a day is roughly the equivalent of eating three servings of fish per week.

13. Another important part of anyone's diet should be fruits and vegetables. Research shows that eating five servings of fruit and four servings of vegetables a day will take one and a half years from your real age.

14. More and more dieticians are recommending that we add nuts to our diets. Nuts contain a great amount of healthy fats. Eating an ounce of mixed nuts (peanuts don't count in this case) every day can reduce real age by four years. Walnuts have the highest concentration of beneficial fats, just twelve walnuts a day is all you need.

15. Have a fatty appetizer. Eating a high fat food prior to your regular meal will make you feel fuller faster. Avocado is probably the best choice here since it contains many beneficial substances along with being a great source of health fats. Eating half an avocado a day or something equivalent, will take two years off your real age.

16. White food increases inflammation which means increased aging. Avoid white foods like bread, flour, sugar, white rice, or white pasta. The only acceptable white foods are fish, egg whites, cauliflower and coconut. Keeping all those processed, unhealthy, white foods from going into your body will eliminate three and a half years from your real age. Cow's milk is good for baby cows. It has some good assets and some bad characteristics when consumed by humans. Limit your cow's milk consumption.

17. Calcium and magnesium work together in your body in many different areas. By getting at least 1,200mg of calcium a day and 400mg of magnesium a day, you can do away with another one and a half years. Your body can only absorb calcium when it has the proper amount of vitamin D (go back to tip #2 if you need more vitamin D). Also, you can only absorb about 600mg of calcium every six hours. So you will have to take your calcium two or three times a day to get the proper amount. If you are a coffee or soda drinker, you will have to increase your supplemental calcium 50mg a day for every cup of coffee or can of soda you drink.

18. Any woman who has been pregnant knows the importance of folic acid. When cells divide and grow, they need folic acid to properly duplicate the DNA inside the nucleus. Not having enough folic acid increases the chances

of a mutation that can lead to diseases like cancer. A daily intake of 800mcg of folic acid lowers your real age by one year.

19. I am an advocate for strength training. Resistance exercise, weight lifting, using resistance bands, pumping iron, whatever you want to call it, keeps you healthy. This form of exercise will preserve bone strength and add muscle mass to your body. The added muscle mass burns calories 24 hours a day and keeps your metabolism high. Averaging just ten minutes a day takes off one and a half years from your real age.

20. Since I am a pharmacist, I have to mention prescription drugs. Taking your medication correctly will make you another year younger. About half of the people who are on prescription blood pressure medication do not take it correctly. In my own experience, about 80% of patients do not even know why they are taking a certain medicine or even the name of their prescriptions.

Even if you can add just ten quality years to your life, what kind of a difference would that make to your grandchildren, or great-grandchildren? You will carry decades of life experience with you to pass on to future generations. What pieces of advice can you give to a loved one? What insight can you give to a family member who is making a major decision? Think about the future. Think about your legacy. Think about the memories your family will have of you when you are gone. Think of the impact you will make in a child's life. Let's stay on God's Earth as long as we can.

Chapter 4. Getting to Know your Hormones

As women age, the consistency of menstrual cycles become erratic. Bleeding that was once regular, has become heavier, then lighter, then absent, then spotting with no rhyme or reason as to which type of month the next will be. It is these unpredictable cycles that lead to the highs and lows of estrogen and progesterone.

Natural bio-identical hormone replacement (BHRT) has only come into popularity in the last dozen or so years. Prior to that, women were told to use the synthetic hormones to relieve their menopausal symptoms. Because of the gaining popularity of BHRT, several years ago I began studying and learning about this “new” approach to therapy. Coincidentally, while investigating these hormones, the frequency of questions from patients about the therapy increased.

In these last dozen or so years; many doctors, with the help of pharmacists, have been prescribing these bio-identical hormones to tens of thousands of women, as well as men. The hormones can enter the body through the skin, injection, oral capsules, implantable pellets, or sublingual delivery systems. The dosages are individualized to meet the needs of the individual patient. Men and women all over the world have taken and continue to take these bio-identical hormones with great success and virtually no drawbacks.

What not to do

In 2002, one arm of the Woman’s Health Initiative, or WHI, study was abruptly stopped because of side effects. The study was testing the efficacy of combining synthetic estrogen and synthetic progesterone (*Prempro*®) versus nothing. The synthetic hormones increased the risk of breast cancer, heart disease, blood clots, and stroke. The study was stopped after just five years, three years early, because the risks of synthetic hormone replacement were too great.

The study looked at 16,000 women and determined that after five years of taking synthetic hormones, there was a 29% increased risk of breast cancer, 26% increased risk of heart disease, and 41% increased chance of stroke. In August 2003, the British medical journal, *The Lancet*, published a different study involving approximately one million women. The researchers

concluded that in the United Kingdom, in ten years time, synthetic hormone use has caused 20,000 extra breast cancers.

Because of this, both patients and physicians have been inundated with conflicting information regarding hormone replacement. Many physicians are avoiding hormone replacement altogether because of the new findings. These findings, after years of prescribing these medications, confused even the most experienced of doctors. Patients began looking into alternatives.

The synthetic hormones increase breast cancer risk because of “unchecked” estrogen in the breast tissue. You have to balance estrogen with progesterone. Taking oral synthetic hormones will also give you a better chance of blood clots due to metabolism in the liver. When the liver has to filter out these synthetics, it produces chemical metabolites that cause blood clots. These blood clots can increase your risk of a blood clot in the brain, also known as a stroke.

The goal of most physicians is to optimize their patients’ health while alleviating annoying symptoms that occur with hormonal changes. With the stoppage of the WHI, many physicians were left scratching their heads. They knew the hormones relieved their patients’ symptoms but, in the long term, did not optimize health. Also, there are no long term, large clinical trials to test the effectiveness of bio-identical hormones versus the synthetics.

Looking for clinical trials to show the effectiveness or ineffectiveness of bio-identical hormones proves difficult. Large, clinical studies are generally funded by big drug companies. They are trying to prove that their patented medication out performs other therapy. Since “Big Pharma” cannot profit from the sale of these bio-identical hormones, they are not going to pay for a study.

Or, as I see it, drug companies have plenty of money to study medication. If they are confident that their synthetic product is superior to the naturally occurring bio-identical hormone, why don’t they test them side-by-side in a long term study? The answer is, because they would lose. If you can’t win, don’t fight.

Some government agencies and colleges have performed studies with bio-identical hormones. While many studies are positive, other studies are

inconclusive. This is partly due to the expertise required for proper individualized dosing. Getting the proper dose for the patient is critical when balancing the delicate hormone system.

Go natural or don't go at all

These hormones are the exact chemical structure found inside our bodies. There is a constant on-going long term clinical trial called life. We, as humans, have had these hormones in our body since, well, since we were created. By simply replacing what our body can no longer produce or supplementing our lowered output is certainly a reasonable goal. Don't we have enough sense to realize that we are not drugging ourselves but simply restoring our natural hormone levels?

Bio-identical hormone replacement has been sometimes regarded as a way to slow down or stop the aging process. This is untrue as the goal of BHRT is not to bring a 60-year old woman's hormones to that of an 18-year old. The goal is to optimize the function of the body without causing harm in the form of overdosing the patient. How many 60-year old women would like to return to the menstrual cycle and fertility of an 18-year old? I think the number is very low. God does not want us having children at 60 years old.

Statistics show that nearly 50% of woman who begin synthetic hormone replacement stop within one year. They stop because of side effects like weight gain, spotting, moodiness, and breast tenderness. With the bio-identical hormones, the dose is based on the individual woman, not on a widely accepted "normal" range. The one year continuation rate with bio-identical hormones is reported to be over 90%.

This form of therapy works. It has absolutely no side effects, none, never had, never will. The only unwanted effects are from under dosing or over dosing.

Before we go any further, it is important to know the hormones that are currently flowing through your body. Both men and women should have a balanced level of the big three; progesterone, estrogen, and testosterone. These, along with dehydroepiandrosterone (DHEA) make up the majority of the hormones we'll be discussing here.

In short, progesterone regulates the other hormones and preserves pregnancy. Estrogen makes a woman a woman, giving her wider hips, softer skin, breasts, and a higher-pitched voice. Testosterone makes a man a man, giving him a larger frame, body hair, and deeper voice. DHEA can be converted into these hormones. As we age, DHEA levels drop, therefore, our other hormone levels tend to drop.

Later, we will go into further explanation of each of these essential hormones.

What are bio-identical hormones?

Bio-identical hormones have the same, exact chemical structure as those found inside the human body. Bio-identical hormones will provide for you the exact same physiological response and action as those hormones manufactured in your own body. What the practitioner is attempting to do when administering bio-identical hormones is to bring you up to normal levels. This will achieve the same physiological response that would normally happen if your own body were producing the proper amounts of estrogen, progesterone, and testosterone.

These hormones should be administered in a similar manner in which your body excretes them. This provides a more natural and balanced approach. By doing this, we are attempting to duplicate what your body has done for years by itself. You had been running along on cruise control for 30 or 35 years with your hormones directing the show. Now, your hormones have diminished and your body wants its hormones back to where they are supposed to be.

Although theoretically impossible to reproduce exactly how our bodies send out the hormones, we do our best to replicate it. Your body will release a small burst of hormones about every two hours, or 12 times a day. This gives an average level as well as high and low levels. Symptoms of hormone imbalance vary but the most common complaint from the menopausal woman is the hot flash.

The dreaded hot flash

It is reported that up to 75% of women go through the “experience” of hot flashes during menopause. A hot flash occurs when blood vessels in the upper torso area open more widely than normal. These blood vessels are generally located towards the surface of the skin and this opening brings more blood to the area. This increase in blood causes the heat and redness in the upper chest, neck, and face region.

Almost immediately the perspiration arrives and you become a soaking mess. Shortly after the hot flash is over you become a shivering wreck because of the cooling effect of the perspiration. Fortunately, this annoyance only lasts a few minutes but you know the next one is on the way.

Of course, there is never a convenient time for this phenomenon to occur. They seem to occur while sleeping, at an important meeting, during a speech, or at a job interview. It would be nice if there was a way of controlling these. Fortunately, we can relieve most of these symptoms.

Hot flashes are caused by a drop in estrogen and a rise in another hormone called follicle stimulating hormone. The time before a burst of hormones is when the hot flashes occur. The estrogen level gets to a certain critical threshold causing the unpleasant effects. As soon as the hormones are released again, the hot flash is over. Without any treatment, hot flashes will slowly decrease and eventually go away on their own. This process can take many after your last menses.

Are bio-identical hormones “natural”?

Yes, and no. To the general public, the term “natural” means coming from nature. The base chemical structures to the bio-identical hormones are found in the yam or soy plants. The base structure, called diosgenin, cannot be readily used by the body in the same form in which it is found in nature. So, yes the basic chemical structure is natural, as in found in nature. This structure must then be brought into a laboratory and altered to create the exact chemical found in our bodies. So, no the exact chemical is not natural, as in found in nature.

Well, then is the commercially available conjugated estrogen product, Premarin®, natural? Yes and no. Premarin® comes from the urine of pregnant horses. The last time I checked, urine is natural. The urine is then brought into a laboratory; the estrogens are removed and concentrated. This product is then pressed into a tablet. So, yes the basic chemical structure is natural. This estrogen from horses is natural to horses, not to humans. To the human body, they are foreign, and therefore not natural.

The term “natural” is more appropriately referred to the system that is using the natural product, not from where it came. In other words, the body “sees” these chemicals as natural because they are the exact same structure as the ones it has produced since before you were born. They are not synthetic as far as your body is concerned. The base could have originated anywhere. It could have begun in a tomato, a mouse, a tree, in ocean algae, it doesn't matter where it started, it matters where it ends up.

What are phytoestrogens?

Phytoestrogens are very weak estrogen-like compounds. In fact, they are as much as 10,000 times weaker than your own natural estrogen. They can be found in various substances, over-the-counter products, and herbal supplements. What needs to be clear is that phytoestrogens are not hormones and they are not estrogen. They mimic, and very poorly at that, what estrogen does in the body.

There are three basic types of phytoestrogens; isoflavones, lignans, and coumestans. Isoflavones are the most popular and the most potent of the three types. Isoflavones can be found in legumes such as soy, chickpeas, red clover, lentils, and beans. Lignans are found in flaxseed, lentils, whole grains, beans, fruits, and vegetables. Coumestans are found in red clover, sunflower seeds, and sprouts.

It also takes a long time for the phytoestrogens to build up in the body in order to have any effect. The exact time for this action varies from person to person and is dose dependent. There has not been much in the way of clinical research on the subject of phytoestrogens, especially when it comes to long term effects.

Some scientists are discovering that, depending on where the phytoestrogen is located within the body, it can act as either an estrogen or an anti-estrogen. Studies have shown that soy acts as either an estrogen or anti-estrogen, depending upon where it resides in the body. If you have a normal estrogen level and eat soy products, the phytoestrogens can counteract the actions of your own estrogen, causing an anti-estrogen effect. It does this by attaching to the cell and blocking the normal estrogen hormone from attaching. This causes less estrogen affects. If your estrogen level is low and you eat soy foods, the phytoestrogens act like a weak estrogen. It will bind to the cell and have a slight effect on the cell. Crazy huh?

I've been asked many times about the subject of cancer with the phytoestrogens. The thinking is that if the synthetic estrogens cause cells to grow uncontrolled, will these weak estrogens cause cancer like the synthetic estrogens are known to cause. We aren't sure.

We do know that the phytoestrogens in soy cause uncontrolled cell growth in breast tissue. This means that they can cause cancer. But the actual, real life, results show that women who eat a large amount of soy have lower amounts of breast cancer. Another study concluded that soy lowered your risk of breast cancer if you were premenopausal but not if you are postmenopausal. Other studies concerning endometrial cancer have come to similar conflicting results. While some show an increase in cancer, some show a protective effect.

Some women have begun taking the phytoestrogens before any menopausal symptoms have appeared. By doing this, they may prolong the beginning of the symptoms for a short period of time. This, so far, has not been fully proven nor is the therapy very effective. Remember, by taking these phytoestrogens, a woman may block the actions of her own hormones. This is explained by the phytoestrogens blocking the hormones at the receptor site. To put it another way, the doorway is being blocked by something you do not want to come inside.

A word of warning...

If you have a history of breast cancer, or a family history of breast cancer, I would recommend you avoid using phytoestrogens altogether. If you include some of the phytoestrogen foods in your diet occasionally, there shouldn't be a problem. But avoid the supplements containing isoflavones, lignans, or coumestans.

Is there a difference between commercially available hormones and bio-identical hormones?

Yes, a big difference. The big drug manufacturers are now using the term “natural” to describe some of their products. This is in response to the large number of patients who are asking their doctors for natural alternatives to the synthetic hormones. Remember, Premarin® could be considered natural because it is derived from natural horse urine. The chemical is natural but it is not a natural substance to the human body. The structure is different and therefore our bodies see it as a synthetic, foreign chemical.

The synthetic, commercially available, patented medicines are chemically different from those found in the human body. They are not the same chemical structure, and do not perform the same functions as the hormones produced by the human body. These drugs only mimic some the activity of our hormones. When you take them the response from the body is similar, but not exactly the same.

One of the main issues surrounding the bio-identical hormone movement is money; yes, money. The pharmaceutical drug manufacturers cannot patent a naturally occurring chemical. Therefore, they cannot make any money from the sales. The only way they can profit from hormone therapy is to alter the chemical structure and patent the new structure.

They can patent how a natural chemical is manufactured and a unique drug delivery system. In other words, a company can protect its intellectual knowledge in extracting a natural product from its source, but not the actual product. They can place this natural product in a patch or capsule, develop some unique technology for the drug to enter your body, and patent the delivery system. But they cannot make money from something that is not unique and not manufactured in a laboratory.

For example, you can get natural, bio-identical estradiol in the form of a prescription patch. The medication is not patentable, but getting the medication through your skin by way of a matrix delivery system is patentable. So the drug company took a natural product and impregnated a drug delivery system. They are protected by the patch’s drug delivery system.

Many in the medical community use the term HRT, or hormone replacement therapy, without properly defining the meaning. By using a synthetic product, like Premarin®, the patient is substituting natural, human estrogen with a synthetic, horse urine product in the form of a drug. This drug simply mimics the action of estrogen, it does not replace it. The patient is not replacing estrogen with estrogen; she is substituting estrogen with a drug. This definition of the term HRT has led to confusion amongst the medical community.

Let's use a little common sense. A hormone's job is to get to a cell and fit into its unique receptor site. This fitting is like a lock and key, or two pieces of a puzzle. The hormone molecule fits perfectly into a receptor site located on the cell wall.

By studying chemicals that are structurally similar from our own hormones, we learn that the foreign chemicals act differently at the receptor site. Sometimes they act like our own hormones, sometimes they have no effect, sometimes they have a harmful effect, and sometimes they block the receptor so no other hormone can enter. These are not natural to our body.

The pharmaceutical companies know this and try to formulate a chemical that is similar to our own. It doesn't matter how close they get, the effects at the receptor site on the cellular level are different from the exact chemical structure of our own hormones. Remember, they cannot patent a naturally occurring substance.

Chapter 5. Estrogen, Progesterone, and Testosterone

Estrogen defines women. When you hear the word estrogen, the human female comes to mind. Estrogens have been shown to be responsible for over 400 different functions in the body. Estrogens are responsible for the growth, development, maintenance, and function of the female sex organs. They protect against bone loss and heart disease. Estrogens regulate other hormone and help certain cells grow and multiply in the body.

Conventional medicine assumes that once a woman goes through menopause, she is estrogen deficient. The doctor will then prescribe a synthetic estrogen to ease the menopausal symptoms. It is absolutely untrue to assume that a post-menopausal woman is estrogen deficient. Over two-thirds of women have adequate estrogen levels after menopause. The issue is an imbalance of her hormones, not necessarily a deficiency.

There is technically no such thing as "estrogen." The word estrogen is used to describe the three main human estrogenic hormones. These are estrone (E1), estradiol (E2), and estriol (E3).

Both men and women make estrogen in our stored fat. Enzymes convert the hormone, androstenedione, into estrone. Estrone can then be converted to either estradiol or estriol, whichever we need. If you have a higher level of body fat, you are producing more estrogens than someone with a low level of body fat.

We'll begin our estrogen discussion with estrone. Estrone is the main estrogen in post-menopausal women. I refer to it as "old lady estrogen." It comprises just 5% to 10% of all estrogen when balanced. The ratio of estrone to estradiol and estriol is at its highest after a woman has gone through menopause. The body converts estradiol to estrone and also produces estrone in fat cells, in the liver, and in the skin.

Women in the United States generally have an excess of estrone because of their high fat diet and lack of exercise. Generally, only women who have had hysterectomies have a deficiency in estrone. Excess estrone will cause estrogen dominance symptoms. We will discuss estrogen dominance later. You can reduce your estrone level with the supplement DIM

(diindolylmethane), exercise, reducing saturated fats in the diet, losing weight, and lowering your alcohol consumption.

Estradiol is the most powerful estrogen hormone in the female body. It makes up about 5% to 10% of the total estrogen but is twelve times as powerful as estrone and eighty times as powerful as estriol. Estradiol is produced in the ovaries and is highest during a woman's fertile years and drops at menopause. This estrogen can be elevated for the same reasons as estrone and can be lowered using the same methods.

Estriol is a very weak estrogen. Estriol comprises 85% to 90% of human estrogen and is the safest and most beneficial of the estrogens. It is highest during pregnancy and is made from the conversion of estrone. Studies show that estriol has a breast cancer protective effect by regulating the actions of estrone and estradiol. Estriol cannot be converted into the other two, more powerful estrogens; estrone and estradiol. Therefore, if you supplement with estriol, your body cannot convert it into estradiol or estrone. Also, estriol should not be taken orally as it does not get absorbed and is broken down into harmful metabolites.

Estrogen dominance

The term "estrogen dominance" was first used by John R. Lee, M.D. in his book *Natural Progesterone-The Multiple Roles of a Remarkable Hormone*. Estrogen dominance occurs when one or more of the estrogen hormones is out of balance with the other hormones. This can occur because your body is producing too much estrogen, throwing the balance off, or your body is not producing enough progesterone and testosterone, again throwing off the balance.

It can also be caused by giving too much estrogen, being exposed to excessive xenoestrogens, a problem with your body's elimination of estrogen, or not enough progesterone to regulate and balance the estrogens. Estrogen dominant symptoms can even occur if you have low estrogen but not enough progesterone to balance its effects.

Xenoestrogens, in case you are wondering, are estrogen-like chemicals that are found virtually everywhere in our current society. They get into the body and act like estrogen, but are not estrogens. It is virtually impossible to avoid them with our current lifestyle.

Xenoestrogens are man-made products that have been introduced into our environment beginning about 70 years ago but their impact has only been studied since 1991. They act as estrogens but do not have the beneficial effects of estrogen. They also accumulate in the body and, over time, can cause symptoms of estrogen dominance.

The short list of estrogen dominance symptoms include:

Depression

A craving for sweets

Breast tenderness

Fatigue

Mood swings

Fluid retention

Headaches

Decreased libido

Weight gain

Poor sleep

Heavy menstruation

Irregular menstruation

Panic attacks

I know, I can hear your thoughts, 'I have those.' Don't be alarmed. With the fluctuation of female hormones, you can get brief episodes of estrogen dominance. This does not necessarily mean you are totally estrogen dominant. It means at certain times, you have too much estrogen and are feeling the over-dosing effects.

Estrogen is good

Let's just make this simple and say that the right amount of estrogen is good for you. But if I left it at that, you'd feel disappointed.

First and foremost, estrogen relieves the symptoms of menopause. This is why women come to me every day complaining of menopausal symptoms. The proper level of estrogens in the body lowers your risk of heart disease and improves your cholesterol. Studies show that LDL or the "bad" cholesterol is lowered 10-20% and the HDL or "good" cholesterol is increased 10-20% with a return to proper estrogen levels. It is interesting to note that the same cholesterol effects are seen with the synthetic estrogens.

Estrogens also lower blood pressure by decreasing the amount of calcium inside the cells of your blood vessels. This causes them to relax and allows blood to flow more easily.

Estrogens prevent osteoporosis by reducing the amount of bone loss. The hormone maintains or improves memory function by increasing certain brain chemicals like serotonin, norepinephrine, and dopamine and promotes the growth of nerve connections in the brain. Estrogens act as antioxidants in the central nervous system and allow the brain to use glucose for energy more easily.

Estrogen is crucial in keeping healthy looking skin, mouth, and eyes. It helps regulate the amount of water in the skin, builds collagen, increases skin thickness, and improves skin firmness and elasticity. This regulation of your skin's water content smoothes out those fine wrinkles that begin around age 40.

It also prevents vaginal atrophy by increasing the number of blood vessels. This in turn thickens the lining of the vagina, decreases vaginal discharge, and increases elasticity and moisture. The lining of the vagina has the highest number of estrogen receptors in the body.

Hormones do not belong in the stomach

When you take a pill, that medication is carried to your liver where it is broken down and metabolized. This process is known as the first-pass effect. When developing oral medications, manufacturers must consider not only what the liver does to the medication but what the medication does to the liver. Synthetic estrogens like Premarin® are swallowed in a tablet and must go through this first-pass metabolism.

The liver destroys approximately 90% of oral estrogen before it has the chance to enter the bloodstream and do its job. Many assume that since only 10% is usable, only 10% is absorbed through the stomach. This is not true. The estrogen is fully absorbed but the liver only allows about 10% to return to the bloodstream. The remaining 90% is altered into estrogen metabolites before returning to the bloodstream. The effect that these metabolites have on the body is not fully understood. When progesterone gets to the stomach, it is digested and goes to the liver where 90% to 95% is broken down into

metabolites. These metabolites are known to increase one's chances of getting blood clots.

When our bodies secrete hormones, they go directly into the blood stream. When applying a bio-identical hormone cream, the hormones are going directly into the blood stream. They then flow to the heart and are pumped throughout the entire body; just like the ones we produce naturally.

Taking a pill to supplement your hormones bombards the liver with a highly concentrated dose. On average, a 35-year old woman will produce 0.1mg to 0.2mg of estradiol per day, total. The most popular dose of the conjugated estrogen drug, Premarin® is 0.625mg in one dose. So the woman is receiving approximately three to six times the total daily production in one concentrated dose. When this dose hits the liver, it alters its production of vital substances. More clotting factors are released, C-reactive protein increases, sex-hormone binding globulin is changed, your thyroid globulin is altered, and many other adjustments in liver function are observed.

When using transdermal estrogens, there are no effects on the liver. The absence of these effects has all been proven in clinical trials.

No hormones belong in the stomach. All female hormones should be administered in a cream form, formulated specifically for her requirements. The cream penetrates the skin, pulling the hormones along and entering the bloodstream.

Progesterone

Starting around the age of 35, most women's hormone levels begin to change. Beginning at this age and continuing through age 40 is the steepest decline is in progesterone. This creates an estrogen dominant situation. When a woman is having mood swings, depression, irregular periods, hot flashes, weight gain, sleep disturbance, heavy menstrual flow, and loss of libido, it's time to balance out the progesterone. Of course a test, preferably saliva, is required to determine just how much progesterone is needed.

Most practitioners in the medical field use the terms progesterone and progestin interchangeably. Because of this, a portion of the population believes that taking hormone replacement therapy in the form of natural

progesterone will have the same negative side effects that the synthetic progestins are infamous for.

Many doctors have been taught that progesterone affects only the uterus. They are told that if a woman has had a hysterectomy, there is no need for progesterone. It's not their fault; the drug companies have been telling them that for years. I was taught this in school and believed the doctor who told me this. It was not until I educated myself on the subject that I realized how wrong this assumption is.

Progesterone is not medroxy-progesterone

Drug companies cannot patent progesterone and therefore cannot make money from it. So they changed the structure to *medroxyprogesterone*, patented it, and turned a profit. *Medroxyprogesterone*, a progestin, affects only the uterus and has a harmful affect on the body, unlike progesterone.

The synthetic *medroxyprogesterone* can actually block the action of progesterone in the body. So, if you are taking *medroxyprogesterone*, your own progesterone that your body is producing may not be working. Drugs and hormones are "captured" by cells at receptor sites. Your receptor sites for progesterone are being taken up by *medroxyprogesterone*; your own hormones cannot work. Your body will also "think" that there is plenty of progesterone in your blood and will not produce as much as is needed.

Also, by blocking these receptor sites, your risk of cancer goes up. And there are side effects with synthetic *medroxyprogesterone* like acne, fluid retention, headache, breast tenderness, depression, blood clots, insomnia, anxiety, and more. For natural progesterone, the side effects include...none. That's right, I've said it before and I'll say it again; with bio-identical hormones, there are no side effects. There are only under dosing effects and over dosing effects. Before you get supplemental bio-identical hormones, you are experiencing under dosing effects.

Real progesterone

The progesterone in a woman's body is produced by the corpus luteum of the ovary during ovulation as well as by the adrenal glands. It is also manufactured in the body from cholesterol. Cholesterol is converted to

pregnenolone, which is then converted to progesterone. Progesterone can then be made into the other hormones our bodies use like estrogen and testosterone.

Progesterone affects the entire body. There are receptor sites all throughout your body waiting for progesterone to come floating by. Your body also uses progesterone to make other hormones. For example, your adrenal glands take progesterone and change it to adrenaline and noradrenalin. These give us our “flight or fight” reactions. Thousands of years ago when we were chased by a tiger, adrenalin kicked in and gave us that short, tremendous boost of energy to get away. This is explained later in the section concerning stress.

From progesterone, your body also forms hormones that regulate blood pressure, inflammation, and glucose metabolism. In the synthetic, *medroxyprogesterone*, there is no such conversion. The chemistry cannot and does not happen.

One thing that has to be considered when discussing these conversions; some people do not convert at a proper rate. In other words, some people’s bodies can make plenty of estrogen from progesterone, while others cannot. So a woman who is experiencing estrogen deficiency symptoms may get no relief at all from supplemental progesterone. Her body may lack the required amount of specific enzymes needed to convert the progesterone over.

Some doctors simply give their patients a prescription for bio-identical progesterone with the understanding that her body will produce the required sex hormones when needed. That is not the answer. The answer is to balance the progesterone with the estrogen and testosterone. What if you are enzyme deficient? You then return to the doctor with the same symptoms and are given a higher dose with the same result. After a couple months, the patient gives up now believing that this bio-identical stuff doesn’t work.

So what does progesterone actually do?

Estrogens in the body cause the uterus and breast tissue to grow. Progesterone counteracts this growth, “telling” the cells what to do. Without it, you have an overgrowth of cells, possibly leading to cancer. It also works on the nucleus, or “brain,” of the cell. Progesterone maintains the proper

balance of estrogen receptors on the nucleus of the cell and moderates the metabolism of estrogen. When the female egg is fertilized, progesterone prepares the uterus for the implantation of this new life and prepares the breasts for lactation.

Progesterone is a natural diuretic that maintains the proper amount of water in the body. Without the proper amount of progesterone, a woman will not urinate enough water and feel bloated. It acts as a mild antidepressant by regulating certain chemicals in the brain. Progesterone boosts the cells that produce new bone, therefore increasing bone density. The hormone signals to breast cells to grow, reproduce, and die at the proper speed. This regulation protects the breasts against cancer. It is also vital in signaling your body to use fat as an energy source.

Your circulatory system relies heavily of progesterone for proper function. We already know the estrogens protect the heart and blood vessels. Progesterone increases this effect. When there is an injury with bleeding, progesterone allows for normal blood clotting. It also lowers LDL cholesterol and increases HDL cholesterol. Progesterone regulates the thyroid, decreases uterine cramping, and increases libido.

I call progesterone the regulator. Envision this hormone sitting in the background, telling everyone else what to do. She's kind of like the boss. If one of the other hormones cannot do what they are supposed to do, she can change herself into that hormone and perform many functions. She also helps and guides the other hormones, moderating the entire system and making sure you are functioning properly. Like a business without a boss, without progesterone, there is chaos.

Another way to envision progesterone is to think of an old balance scale. On one side, you have estrogen, on the other, testosterone. Progesterone is the balance in the middle that can move right or left to keep that balance. If there is too much estrogen at a certain time of the feminine cycle, progesterone can adjust the balance. Too much testosterone results in the same balancing act. Without the appropriate amount of progesterone in the body, this balancing act cannot occur properly.

The estrogen-progesterone combo

These two go hand in hand. By giving estrogen without progesterone, you will most likely lead to estrogen dominant symptoms. By giving only progesterone when estrogen is low, you could end up with continued symptoms of low estrogen, symptoms of high estrogen, or a combination of the two. The different effects depend on the individual woman and how her body is uniquely made. It's the story of the conversion of progesterone into different hormones. If your body is lacking in certain enzymes, all the progesterone in the world is not going to help.

You shouldn't use estrogen without progesterone. These two need each other to balance your body. At the cellular level, these two actually counteract each other. Believe it or not, this is what we want. Progesterone "tells" the cell to grab some estrogen. But estrogen "tells" the cell to block excess estrogen. So, too much progesterone causes your cells to grab too much estrogen. There is not enough estrogen to stop this uptake and you get estrogen dominant symptoms. It seems illogical to give estrogen to counteract estrogen dominant symptoms but this is what needs to be done in this scenario. It has to do with balance, not your body's level of hormones.

Once the supplemental estrogen counteracts the high progesterone, all is normal again. But what if there is too much estrogen? Too much and your cells grow too rapidly. There is not enough progesterone to slow the process down. This can lead to cancer if unchecked by progesterone. You may also get, of course, estrogen dominance.

When the female body is given natural progesterone, she will convert a small portion to estradiol, an estrogen. Therefore, using progesterone along with estrogen in a cream, allows for a lower dose of estrogen.

As a point of interest, breast cancer cells hoard large amount of estrone inside the tumor cells. The estrone is then converted into estradiol and used to further grow more unregulated cancer cells. Progesterone blocks this conversion of estrone to estradiol inside tumor cells limiting their growth rate.

PROGESTERONE

limits endometrial growth
matures breast cells
normalizes blood pressure
removes excess fluid
normalizes blood clotting
resists cancer
strengthens immunity
decreases inflammation
decreases PMS symptoms
slows aging
protects the prostate

VS

ESTROGEN

stimulated endometrial growth
stimulates breast cell growth
increases blood pressure
retains fluid
increases blood clotting
promotes cancer
weakens immunity
increases inflammation
increases PMS symptoms
quickens aging
stimulates prostate cell growth

As you can see, progesterone is very beneficial to our body. Too much estrogen has some pretty serious effects on the body when not balanced by progesterone.

Testosterone

Testosterone is a significant hormone for both men and women but conventional doctors overlook the importance of keeping testosterone levels up. Low testosterone causes issues like a decreased libido, loss of sexual satisfaction, infertility, poor concentration, lowered sense of well being, less stamina, decrease in muscle mass, increase in fat percentage, and diabetes.

Men generate 6 to 8 milligrams of testosterone daily while women produce about 0.3 milligrams. Testosterone is produced in the testicles of men, in the ovaries of women, and in the adrenals of both sexes. Yes ladies, you have testosterone. When a woman gets in her middle thirties, the testosterone level begins to drop. It is a slow decline but a decline none the less. The decline in levels is gradual but the symptoms begin abruptly. This is because the lowering of the testosterone throws off the balance of hormones.

The decline in male testosterone begins around age 35 and is slow and gradual. Women can have either a decrease or increase in testosterone at any age past puberty. An abundance of testosterone in females can lead to conditions such as polycystic ovaries and excessive hair growth.

Getting supplemental testosterone

When supplemental testosterone is given to women who are low, the first noticeable effects are libido and sleep quality. The improvement of these two features usually occurs after just one day of testosterone supplementation.

The benefits of testosterone to women are varied. This hormone increases muscle tone and strength, increases lean body weight percentage, increases bone density, improves memory, and gives an overall sense of well-being. Along with improving the quality of life, testosterone also protects the heart by relaxing blood vessels. It increases the body's response to insulin and maintains the healthy glow in the skin and hair.

Testosterone, like the other hormones, should not be taken orally. It can be given sublingually, injected, in a cream, a female suppository, or in an implantable pellet.

Hormones are very powerful and only a skilled medical practitioner should be involved in the balancing of hormones. Many patients want extra testosterone to enhance libido, increase well being, increase lean muscle tissue, etc. This practice should be avoided. In women, the extra testosterone can eventually lead to enhanced male characteristics like hair growth, a deepening of the voice, and shrinking breast tissue among other issues.

In men, bringing testosterone back to optimal levels will change a man's life. The best way for a man to regain his vitality is through testosterone injections. The difference is dramatic. An increase in muscle mass, a decrease in body fat, increased energy, increased competitive drive, and a remarkable raise in libido are just a few of the benefits a man will experience. Be advised though, excessive long term testosterone can increase the estrogen levels due to aromatization leading to breast enlargement, prostate enlargement, and an increase in cancer risk.

Balancing of all hormones to the levels of a 30-35 year old is what we are after here. This can only be done correctly through a little trial and error based upon each individual patient. Everyone is different; everyone's body reacts differently to the same dose of hormones. It takes time and

cooperation between patient and practitioner to get the levels properly balanced.

Why saliva for hormones?

Testing hormones in the blood is virtually useless, saliva must be used. A blood test will measure your total hormone level. While this sounds correct, 90% to 95% of our hormones are bound to proteins in our blood. This means that they cannot pass through the blood vessels, get into the tissue, and perform their duties. The protein bound hormones eventually make their way to the liver where they are destroyed.

The five to ten percent that are active make their way into tissues and cause the body to react to their signals. One of the tissues that the hormones enter is the saliva. By testing saliva at the correct, specific time, the laboratory can get an accurate measure of your overall hormones. Getting blood drawn at a doctor's office will give you varying hormone levels based on your female cycle as well as the time of day.

Saliva testing is done in the morning, shortly after arising. This gives the lab an accurate level because the time that the specimen is taken is uniform. When giving blood at a doctor's office, the appointment could be at any time during the day. Hormones fluctuate throughout the day and these results are not as accurate as a morning saliva sample.

Testosterone and prostate health

Many men and doctors are conditioned to think that a higher testosterone level can lead to an enlarged prostate and possibly prostate cancer. This is absolutely, 100% untrue. In fact, the opposite is true. As men age, testosterone declines and the ratio of testosterone to estrogen now favors estrogen. This "changing of the guard" corresponds almost exactly to the rise in prostate disease. Younger men with a higher testosterone level do not have prostate issues.

Two factors are in play here with regard to prostate health. When the body was just a group of stem cells, the same cell either becomes the prostate for men or the uterus for women. Therefore, the prostate has a large percentage of estrogen receptors located on it. As estrogen rises, the amount of estrogen

entering the prostate increase causing cells to grow. As the cells grow more and more, faster and faster, the prostate grows causing an enlarged prostate. Also, a metabolite of testosterone, dihydrotestosterone (DHT) binds strongly to the prostate. As men age, their body gets more and more proficient at converting testosterone to DHT. DHT also causes an enlarged prostate.

There has yet to be a conclusive study showing that testosterone has any significant impact on the prostate.

Excessive testosterone

The term "roid rage" has been used to describe the irrational aggressive behavior demonstrated by men taking excessive amounts of synthetic testosterone. This is a controversial subject as natural testosterone given in the correct doses has never been shown to cause aggression, or any other side effects for that matter. Even when men were given large doses of natural testosterone in a controlled laboratory study, their level of aggressiveness did not increase. Increases in aggression are occasionally seen when large doses of synthetic testosterone are given. This is why it is important to use only natural testosterone in the right doses.

Balancing your hormones with the help of a trained professional is vital to age management. Hormone fluctuations not only make you feel bad, but wreak havoc on your body. The process of aging causes these hormone fluctuations. By balancing the big three; estrogen, progesterone, and testosterone, you will hold on to your youth much longer. The quality of your life will greatly improve once these levels have returned to the youthful levels.

Chapter 6. Growth Hormone, DHEA, Melatonin, Thyroid Hormone

Growth Hormone

Human growth hormone (HGH) can be called the “master hormone.” It helps to control just about everything in your body and is involved in cell generation, immunity, cholesterol profile, sense of well-being, muscle mass and bone mass, sexual function, and hundreds of other functions inside the body.

Recently, growth hormone has had a lot of both positive and negative publicity. The anti-aging movement has proven the beneficial aspects of the hormone. Conversely, professional athletes who have abused the drug have shown an unfavorable light on the potential abuses of growth hormone.

As we age, our level decreases at the rate of 1-3% per year beginning about age 30. Those who are not in good health or do not take care of their body will see a faster decline than those who are healthy.

Those with low growth hormone tend to have a large amount of fat around the midsection of their body, a high fat to muscle ratio, loss of interest in sex, difficulty sleeping, suffer from more colds and sicknesses, and low energy levels.

HGH also revitalizes the immune system. Supplementation with human growth hormone increases the production of new red blood cells, stimulates the bacteria-fighting cells, greater production and activity of white blood cells, production of new antibodies, and a greater activity of anti-cancer cells.

HGH supplementation improves the functioning of the heart, reduces body fat percentage, raises HDL cholesterol, lowers LDL cholesterol, and lowers blood pressure about 10%. It also increases the maximum oxygen uptake of the lungs, enhances the quantity of blood the heart can pump, and boosts bone density.

Those who receive growth hormone supplementation see an improvement in energy levels, enhanced REM sleep, reduced stress, improved concentration, increased self-confidence, and an elevated mood. These may come about though the increase in B-endorphin and decrease in dopamine levels that are the result of HGH.

The hormone also improves libido and sexual function. The skin looks better due to an increase in collagen content. This causes a more youthful look with a "bouncier" and less saggy appearance.

Have you noticed that most teenagers can eat whatever they want and don't seem to get fat? This is because growth hormone is at it highest during the teenage years. HGH could very well be the most effective fat-loss regimens yet. In several studies, those given HGH decreased their body fat about 13% while increasing lean body mass about 7%. This is a 20% transformation without a change in lifestyle!

Growth hormone is made in the pituitary gland of the brain. It is secreted in quick, brief bursts which take place during the early hours of deep sleep. HGH is only active for a few minutes, just long enough to be taken in by the liver and converted into insulin-like growth factor 1 (IGF-1) and other growth factors. IGF-1 is mainly responsible for the benefits seen with HGH.

Supplementation of human growth hormone is in the form of a subcutaneous injection (under the skin). The hormone is produced in a laboratory and has the exact same chemical structure as the hormone made naturally in the human body. Therefore, allergic reactions are extremely rare.

The injectable form of growth hormone is very expensive; expect to spend upwards of \$1000 a month. If your levels are exceptionally low and need to increase a considerable amount, the injectable form is the only proven way to bring those levels back to normal.

With new laws, the Food and Drug Administration has limited the manufacture of growth hormone to just a few companies in the United States. It is now illegal to import the hormone from outside the country and those caught are subject to very harsh penalties. Some people, including physicians, are continuing to import growth hormone from other parts of the world into the United States. There is no guarantee that these substances are pure, or even contain any growth hormone at all.

For males, the combination of growth hormone and testosterone has a synergistic effect. When this duo is given in the proper doses, men experience a significant amount of body fat loss and muscle gain. The overall health is greatly improved with noticeable energy increases, younger looking skin, and a returned libido not seen since teenage years. In women, the combination is not as great but they certainly feel a major improvement in all areas, just not to the degree of the opposite sex.

We can increase our own production of HGH naturally. Exercise is, by far, the best way to increase your own growth hormone production. Strength training, or resistance exercise, three to four times a week seems to have the highest benefit. Lifting heavy weights at a load where you can only do six to eight repetitions releases the most HGH from the body. The one single exercise that releases HGH the most is called the "high rep squat." Twenty repetitions with two minutes rest between sets for a total of 6 sets is an incredible booster of growth hormone and one heck of a workout.

Second to strength training is interval training. Interval training consists of short bursts of intense exercise followed by a brief rest period. Wind sprints, shuttle runs, racquetball, basketball, or anything that has short bursts of intensity will increase your production. Aerobic exercise like bicycling or long distance running does not have an effect on growth hormone.

An alternative to HGH?

Certain over the counter substances can increase the body's production of growth hormone. These include the amino acids L-arginine, L-glutamine, L-ornithine, and glycine. Other products such as ornithine alpha-ketoglutarate, macuna pruriens, and tribulus terrestris have also shown promise. When given in high doses, these substances will sometimes produce an increase in growth hormone secretion. The response from the body is not dependable since studies cannot replicate results. It appears that the substances produce a similar effect on the brain that exercise does. Exercise almost always induces growth hormone release while supplements rarely produce such results.

Studies prove that the cells of the pituitary are fully able to produce HGH if properly stimulated. Researchers speculate that a hormone known as growth hormone stimulating hormone (GHRH) decreases in the aging process.

GHRH is the signal for the pituitary to release growth hormone. GHRH is available by prescription and can be obtained through certain compounding pharmacies. The trade name, sermorelin, is showing promise in ongoing studies with increases in HGH secretion by the pituitary.

Sermorelin has to be dosed daily with a subcutaneous injection given at bedtime. These nightly injections stimulate the pituitary to secrete growth hormone. Unlike giving growth hormone directly, the body will not "overproduce" and cause an overdosing effect. The secretion of growth hormone is regulated by a feedback mechanism. It also costs about 90% less than growth hormone.

DHEA

Which came first, the chicken or the egg?

Does the fall in hormones cause aging or does aging cause the fall in hormones?

Scientists and researchers have learned that by restoring hormone levels back to youthful levels, the aging process seems to not only stop, but reverse in some body systems. DHEA is the most abundant hormone in our body and its decline corresponds with the decline of HGH. In fact, when scientists gave laboratory animals DHEA, they lived 50% longer than those who were not given the hormone.

DHEA is produced by the adrenal glands and the falling level of this hormone is associated with a number of diseases and disabilities. As we get older, our adrenal glands shrink, decreasing the amount of DHEA that is excreted.

DHEA is a potent stimulator of the immune system. When the levels are low, the immune system cannot act quickly to ward off bacteria, viruses, and disease. This is especially problematic for the elderly because by the time their body realizes there is an invading pathogen, it may be too late for the body to defend itself.

Men with a low DHEA level are more apt to get heart disease. Women with low DHEA have a higher chance of developing breast and ovarian cancer. Those with diabetes have a lower than normal DHEA level. In laboratory

rats bred specifically to develop diabetes, the rats given DHEA did not develop the disease. Insulin lowers DHEA, hampers the adrenal gland's production, and stimulates the enzyme that breaks down DHEA. A proper diet that keeps insulin low will help keep your DHEA level high.

The lower a woman's DHEA, the lower her bone density scores.

DHEA blocks the enzyme, glucose-6-phosphate-dehydrogenase (G6PD). G6PD plays a role in the body's fat storage mechanism. Keeping DHEA at youthful levels can help to prevent fat storage. Studies prove that increasing DHEA levels in obese patients raises metabolism, decreases appetite, and reduces fat storage. The scientists believe that since the body cannot store the dietary fat, it must be burned off by increasing metabolism. It also stimulates the hormone cholecystokinin that signals the brain to feel "full" while eating.

The human brain contains five times the DHEA as the rest of the body. Those with Alzheimer's disease have 48% less DHEA than those without the disease, replacing what has been lost could help in prevention. One theory suggests that the neurotransmitter, GABA, increases as we age. GABA has the effect of slowing brain activity and also breaks down brain tissue. DHEA blocks the action of GABA and since the DHEA levels decrease as we age, GABA takes over, causing Alzheimer's disease, dementia, and other central nervous system diseases.

DHEA has been used and is being used by millions of people without significant side effects. The supplement is readily available and is relatively inexpensive.

For women, the recommended dose is 10mg to 12.5mg a day. Females will get an increase in testosterone when given supplemental DHEA. After a couple weeks, if you notice an increase in acne or oily skin, cut the dose in half to 5mg or 6.25mg a day.

This increase in testosterone is not normally seen in men. The dosage for men begins at 25mg a day and can be increased until levels are in a youthful range.

Melatonin

The pineal gland, located behind and between the eyes, secretes melatonin in response to darkness. When light is detected, the gland stops production. This is our natural circadian rhythm that tells us when to go to sleep and when to wake up. Prior to the invention of the electric light, our melatonin system worked to wake us at daylight.

Our body makes melatonin from tryptophan, an essential amino acid. We must obtain tryptophan from our diet as our body cannot manufacture it from other substances.

Melatonin is highest in children and begins to wane in our early forties. The decrease in melatonin level signals the body to begin its breakdown associated with aging. By keeping melatonin levels raised, or bringing them back up to youthful levels, can we stop the aging process?

Like DHEA, melatonin stimulates the immune system. White blood cells that fight infection are released from the thymus gland in response to melatonin. While you are sleeping, the body is fighting all the outside "invaders" that came into your body and could cause sickness or disease. This is the best time for your body's defenses to go to work since you are resting and using much less energy than during waking hours. Much more energy can be used to fight pathogens during sleep.

As the amount of melatonin in the body decreases, the thymus gland shrinks and can no longer hold as many white blood cells. Eventually, the thymus gland practically vanishes from the shrinkage and severely limits the immune response.

Much of the effects of aging are due to the abundance of free radicals. Melatonin is a powerful antioxidant and can enter every cell of the body to scavenge for free radicals.

High levels of melatonin have been shown to be cancer preventative, retain proper sex hormone levels, and, of course, aids in sleep. The time it takes to get to sleep is reduced, the duration, quality, and efficiency of sleep is increased, and the number of waking moments are decreased when test subjects were given melatonin.

Melatonin is now being used extensively for jet lag. Taking melatonin at the appropriate times can reduce jet lag. According to the National Institute of Health, "Several human trials suggest that melatonin taken by mouth, started on the day of travel (close to the target bedtime at the destination) and continued for several days, reduces the number of days required to establish a normal sleep pattern, diminishes the time it takes to fall asleep ("sleep latency"), improves alertness, and reduces daytime fatigue."

Several manufacturers produce melatonin in doses from 0.3mg to 10mg with 3mg being the most popular. If you are going to take melatonin on a regular basis, it is recommended that you take it on an every other day schedule. It is not yet known whether or not supplementation shuts off your body's natural production. Dosing is very individualized; start with a 0.3mg dose at bedtime. If you are still having difficulty getting to sleep, increase the dose by about 0.5mg until you find the correct dose for you. You should also take melatonin on an empty stomach 30 minutes before bed.

Thyroid Hormone

Many factors may be robbing your thyroid of its production of hormone. Environmental pollutants, medications, synthetic estrogens, and cigarette smoke are just a few examples of substances proven to decrease thyroid hormone production.

The thyroid is a small gland located in the neck. It releases hormones that regulate your body's temperature, metabolism, and heart rate. When the amount of thyroid hormone is low or the body cannot use the hormone available, the condition is known as hypothyroidism. The condition is far more common in women than in men.

Symptoms include: intolerance of cold, fatigue, coarse hair, brittle nails, weight gain, sluggish or foggy thinking, and a loss of interest in sex.

Without enough thyroid hormone, the heart beats sluggishly, meaning less blood is flowing throughout the body. Low thyroid hormone may attribute to adult onset (type II) diabetes.

To make thyroid hormone, your body goes through a fairly complicated process of checks and balances. When the hypothalamus detects a low hormone level, it secretes thyroid releasing hormone. Thyroid releasing

hormone tells the pituitary to secrete thyroid stimulating hormone (TSH). TSH tells the thyroid to release thyroid hormone. When the levels decrease, the hypothalamus kicks into gear again. If there is a defect anywhere along this chain or if the body cannot use the hormone that is available, hypothyroidism results.

Studies show that 15% of women in the United States over the age of sixty have hypothyroidism, although many do not realize it. They suffer through daily symptoms and attribute the feelings to "old age."

Restoring the thyroid hormone to proper levels brings back the sexual feelings, increases energy, improves the hair and nails, restores body heat, and increases overall vitality.

The thyroid requires iodine to function properly. Without iodine, the thyroid enlarges causing a condition called a goiter. Two common chemicals in our environment, chlorine and fluoride, compete with iodine for receptor sites on the thyroid. Supplementing with as little as 100mcg of iodine a day will usually reverse this condition.

Along with iodine, the thyroid needs other vitamins in order to function properly. Low vitamin A stops the body from producing thyroid stimulating hormone and also blocks the thyroid from absorbing iodine. With low thyroid hormone, the body cannot convert vitamin A into its active form. Be sure you are getting at least 10,000IU a day of vitamin A to avoid this vicious cycle.

The B vitamins are very important to thyroid function as well. Vitamins B-2 (riboflavin) and B-3 (niacin) allow the thyroid to secrete thyroid hormone, you need to supplement with 100mg of a B-complex vitamin and add 50mg of vitamin B-2 twice a day if you have thyroid issues. Thyroid hormone is required for your body to absorb and use vitamin B-12, without adequate B-12 levels, anemia develops.

The pituitary tells the thyroid how much hormone to release. Without proper amounts of vitamin C, the pituitary cannot perform this task properly. Since our body uses vitamin C for many functions and is not efficient at storing it, 250mg taken four times a day is needed to keep the pituitary functioning.

Along with these vitamins, adding 400IU of vitamin E a day, the amino acid tyrosine at 500mg twice a day, and an iron supplement can help to restore the thyroid to normal function.

If, after supplementation with vitamins, your thyroid is still not functioning properly, it may be time to introduce a natural thyroid product. The prescription drug, Armour Thyroid, is a tremendous medication for those with a sluggish thyroid. It must be obtained from a pharmacy with a prescription from your doctor.

The dosing on Armour Thyroid is a little different than other medications. I recommend 30mg every morning for one week. If you still feel sluggish, increase to 30mg twice a day for one week. Keep increasing by 30mg a day until you feel anxious and jittery. Then back off 30mg and that should be the dose that has you feeling good all the time.

Chapter 7. The Crazy 8 Workout

Until just about a hundred years ago, physical exercise was part of our daily lives. We chopped wood, hunted for food, worked in the fields, built structures, etc. Now, in our modern society, our activity is pretty much limited to walking to and from the car.

Approximately 50 million adults in the United States are considered sedentary. This inactivity increases the risk of heart disease, cancer, diabetes, and many other lifestyle related illnesses. Scientists are finding that combining a healthy, sensible eating plan with proper exercise can slow and even reverse many of the changes associated with aging.

Exercising is excellent for your overall health. When you exercise properly, eighty percent of the calories you are burning come from fatty acids. It increases your growth hormone, increases muscle size, improves oxygen utilization, increases bone density, and will boost your overall energy level. Even just a thirty minute walk three times a week can improve your health. Exercise lowers blood pressure, lowers blood sugar, reduces triglycerides, lowers the risk of stroke, lowers LDL cholesterol while raising HDL cholesterol, improves sleep, improves sense of well-being, and preserves muscle strength and flexibility.

In fact, the *New England Journal of Medicine* found that physical fitness is a more important factor for longevity than lowering high blood pressure, reducing total cholesterol, and even quitting smoking. Men who did not exercise had a 400% higher chance of dying during the study.

***I don't need to tell you how important exercise is.
You should already know.***

Before you begin any exercise program, you should have your doctor give you a physical to be sure you are physically able to perform these movements.

In my over 30 years of weight training, I've tried just about every routine out there. Some work well, some work so-so, and some don't work at all. Many of the magazines you see on the shelves use "touched-up" photographs and

"performance enhanced" athletes. In reality, people do not look like they do in magazines. In reality, you cannot go to the gym and weight train six or seven days a week for an extended period of time. Your body needs time to recover.

As touched on in a previous chapter, there are three basic types of exercises; weight training, interval training, and endurance exercise. Endurance training is the long distance type, like riding the bicycle or running. Interval training is when you perform very intense exercises for a short period of time, then go slow for a short period of time, then fast again, then slow, and you repeat this pattern several times.

Weight training, my personal favorite, is very important for several reasons. As we get older, muscle is lost and the space where muscle used to be is replaced with fat. Muscle burns calories 24 hours a day. By increasing the amount of muscle in your body, you can eat more food and keep the fat from accumulating. Weight training increases the strength of your bones, muscles, and connective tissue.

Believe it or not, one of the biggest issues facing those who weight train is overtraining. This is going to the gym or lifting weights too often and not allowing your body time to recover. Often times, those new to this type of exercise are so excited and anxious to see results, they overtrain. Overtraining causes the body to actually become weaker and the muscles to become smaller. You have to give your body adequate rest.

The Crazy 8 defined

Over the years, I have tested and refined a system of weight training I call the *Crazy 8*. The *Crazy 8* got its name from performing eight sets of eight repetitions using the same weight. A repetition is the act of performing an exercise one time. A set is a single group of repetitions. For example, if you were to do one push-up, that is one repetition. Doing eight push-ups in a row gives you one set of eight repetitions. After a rest period, you would do another set of eight repetitions for your second set. And so on.

If you have never weight trained before or have been away from the gym for a long period of time, jumping right into the *Crazy 8* will most likely cause you to become overtrained. You have to work your way up to that level gradually.

In weight training, rest is actually more important than the amount of weight you are lifting. The amount of rest between sets and the amount of rest between workouts are vital to your success. Resting between sets for the proper amount of time is crucial to combining weight training with a cardiovascular workout. Rest too long and your heart rate slows. If you don't rest long enough you will not recover your strength for the next set. You must have adequate rest between workouts in order for your whole body to recover enough to get through the next workout. Rest too long and your progress slows, don't rest long enough and you will soon be over trained.

Before we get into the nuts and bolts of the Crazy 8 workout, you will need some basic equipment. The best place to weight train is obviously in a gym. As attractive as all those shiny machines are, you want to avoid the machines and stick with the free weights and cables. Free weights are the barbells, dumbbells, benches and the other not-so-glamorous pieces of equipment. Cables are machines that have a handle attached to a cable connected to the weights. As you pull on the cable, the weight is lifted. If you prefer a home gym, you will still need a workout bench to keep you off the floor and some dumbbells of various weights are bare minimums.

For the person new to weight training, you should start with a five sets of five repetitions (5x5) routine until you've worked your entire body twice. Then go to a six sets of six repetitions (6x6) routine until you've worked the body twice, then 7x7 until you've worked the body twice, and finally the Crazy 8. It will take you about two weeks to work your entire body twice. I'll explain how to divide up your body into sections shortly.

Here's where we start to get serious

You will begin with five sets of five repetitions. You want to use the SAME weight for each of the five sets so that the last set, you have to put forth 100% effort to get the last repetition. In other words, if you are using twenty pounds, you use twenty pounds for every set. The first set should be relatively easy, the second a little more difficult, and so on until the fifth and final set is very difficult and you can barely do the last repetition. In between sets, you are to rest about 90 seconds.

Once you've worked your entire body out twice, move to a 6x6 routine, again resting about 90 seconds, and using the same weight so the last repetition is very difficult. Once you've trained the body twice, go to 7x7, then finally to the Crazy 8 doing eight sets of eight repetitions.

Once you have worked yourself up to doing 8x8, or you are an experience weight trainer and want to jump right in, you are ready to start getting serious.

With the Crazy 8, you are splitting your body into three sections. One workout consists of chest, shoulders, and triceps; one workout consists of back, biceps, and abdominals, and one workout consists of legs. Each workout contains a major muscle and two minor muscles. The major muscles are the chest, back, and quadriceps (front thigh). The minor muscles are the shoulders, triceps, biceps, abdominals, hamstring, and calves.

For your major muscles, you will perform two different exercises of 8x8. For your minor muscles, you will perform one set of exercises for 8x8. Your rest time in the Crazy 8 is 45 to 60 seconds between sets.

Instead of having illustrations of the exercises, a much better explanation would be for you to simply search google.com or youtube.com for the exercises. A video demonstration is much better than a static drawing in a book.

Let's go over a workout here...

It just happens to be chest, shoulder, and triceps day. We will start this workout with a basic bench press. The weight chosen allows you to do the first set easy. You rest for about 45 seconds, and do the second set, rest about 45 seconds, and do the third set, and so on until eight sets are completed. You want the weight to be the same throughout the entire eight sets and the very last repetition of the very last set to be an all out effort, giving 100% in order to finish the repetition.

Writing down your weight is crucial. How do you know what weight to use for the next workout? If you were not able to complete the entire eight sets without decreasing the weight, mark it down so the next time you do that

exercise, you know to lower the weight slightly. If you completed the eight sets completely, you know to increase the weight for the next workout.

Once the bench press is completed, you move to another chest exercise. The rest between sets can be about two minutes to give you time to set up the next exercise or move to another part of the gym. For chest exercise number two, we'll choose cable flyes. Again, do eight sets of eight repetitions with about 45 to 60 seconds rest between sets using the same weight.

After a two minute rest, it is now on to shoulders. Seated laterals is the exercise chosen for this particular workout. Again, 8x8 with about 45 to 60 seconds rest and it is on to triceps. Triceps pushdown is the exercise, 8x8, 45 to 60 seconds rest, and we are done.

Your workout time should not exceed 60 minutes for any weight training session. After about 60 minutes, your body goes into a "stress" mode and the level of cortisol increases. Cortisol will dramatically slow your process and a high level of cortisol is something that needs to be avoided.

Work quickly and get it done

A forty-five to sixty minute workout is an easy time limit as long as you are working quickly and skipping all the social interaction at the gym. A set of headphones playing your favorite music to block out all the side chatter is something to be considered.

For each muscle group; chest, back, shoulders, etc, you should pick three to five exercises that you enjoy doing (not that are easy) and rotate them in your workout. For instance, you would pick flat bench press, incline bench press, cable crossovers, flat dumbbell press, and incline flyes for chest. Your first workout could have you doing bench press and incline flyes for chest. The next workout, you could do incline bench press and cable crossovers. You want to avoid doing the same exercises over and over because your body will soon adapt to doing the same thing over and over and your progress will stop, just like a traditional diet.

Make sure all your weights and exercises are marked down so the next time you do that exercise, you know how much weight to use.

Exercises

Again, instead of a static drawing, your best explanation of the exercises listed is a google search (www.google.com) or a search on YouTube (www.youtube.com).

CHEST

flat bench press
incline bench press
flat dumbbell press
incline dumbbell
press
cable crossover
decline bench press
wide grip dips
dumbbells flyes

SHOULDERS

upright pull
front press
dumbbell press

Arnold press
side laterals
bent laterals
front raise

TRICEPS

lying triceps
extension
pushdown
close grip bench

rope pull
one arm pushdown

BACK

wide grip pulldown
pulldown
close grip pulldown
reverse grip pulldown
seated row
bent row
one arm row
hyperextension

BICEPS

preacher curl
dumbbell curl
bent over barbell curl

ABDOMINALS

abdominal vacuum
concentric crunch
crunch
stiff-leg raise
hip roll
hanging leg raise

THIGHS

squat
hack squat
leg extension

HAMSTRINGS

leg curls
still legged deadlift

CALVES

donkey calf raises
standing calf raises
seated calf raises

Now we need to determine how long to rest between workouts. I have found, in general, working out with weights three or four days a week is ideal. This usually allows a day off between workouts for your body to recover. Sometimes there is a need to train two days in a row. It is not

detrimental to lift weights two days in a row, just be sure it doesn't happen more than once a week.

The ideal situation is to weight train every other day giving your body a full day of rest between workouts.

Yes, it is really that simple. Weight training is very important and there is no need to make it complicated. Just keep everything simple. Write down your progress so you can see how well you are doing and how much stronger your muscles soon become. In no time at all, you will notice that your clothes begin to fit a little differently.

Chapter 8. The 511 Diet

So what makes a pharmacist qualified to talk about diet? Nothing really. But I'm not your typical pharmacist.

Growing up, I was always a very skinny kid. Starting around twelve years old, I began lifting weights. I saw the movie *Pumping Iron* with Arnold Schwarzenegger and wanted to look like those guys in the movie. So I began to follow the workout routines of these advanced bodybuilders. These routines in the bodybuilding magazines and books are for men who have been in a gym for five or ten years and who are using, well, let's call them "performance enhancing substances."

For a skinny kid who didn't know anything about eating properly, this type of plan got me nowhere fast. Hitting the gym regularly for years barely produced any results at all. I graduated high school a skinny bean pole at just over 150 pounds with five years of gym experience under my belt. Needless to say, what I was doing wasn't working.

In the early 1990's I attended the University of Florida. I began going to the gym in Gainesville with a friend from my home town gym, Heath Allison. Heath was always one of the big guys and is now a professional strongman. I learned so much about the proper way to eat that in six month of training with Heath, I gained 60 pounds of body weight. Not all this weight was muscle but a significant amount of it was. In the following six months, I proceeded to lose 50 pounds of mostly fat and changed my physique forever. In one year's time, I went from a skinny 160 pounds, up to a hefty 220 pounds, and back down to a very lean, very muscular 170 pounds, all by learning the proper way to eat and train.

I've experimented with just about every diet and exercise plan out there and have learned a tremendous amount based on my own personal experience and the experience of those who have followed this plan. Being the self proclaimed nerd that I am, I've written everything down, what I ate, how I worked out; everything going back about twenty years.

Going through pharmacy school and learning about the different systems of the body, I wanted to develop a system of eating that is socially acceptable. A plan that will allow you to eat junk food on occasion. A sensible plan that

is easy to follow. A plan that forced the body to use fat for energy. A plan that allowed your mind to relax so that you are not constantly thinking about eating.

The 511 Diet was developed

On many of the popular diets today, you are told what foods to eat every day. You are allowed to eat this, but not that. After a period of time, you mentally break down and cheat. When food was scarce, God made it so our bodies want to consume all the food in front of us. Now, when food is always a few feet away or at the closest drive through, we have to resist that temptation.

We will create our new body over five days, admire what we've accomplished on the sixth day, and rest on the seventh day. It comes down to eating good, wholesome foods for five straight days, fasting until dinner the sixth day, and eating whatever you like on the seventh day.

Personally, my five days cover Monday through Friday, my work week. My sixth day is Saturday, and my free day, the day I can eat whatever I want, is Sunday.

Portion distortion

Many people have what can be described as "portion distortion." They think a portion size is much larger than it really is. Look at the size of your fist; this is about the size of your stomach when there is no food in it. Adding food to your stomach causes it stretch. Simply put, when your stomach is stretched to a certain point, your brain gets a signal to stop eating because you are now feeling full.

Like a balloon, when you continue to eat too much and continue to overstretch your stomach, it doesn't quite return to normal size. After a short period of time, the signal to stop eating gets more and more delayed because your stomach can stretch more and more. Consequently, you have to eat more and more food to feel full. As you reduce the amount of food you eat, your stomach will return to normal size.

Protein, carbohydrates, and fats, oh my

Protein consists of poultry, fish, lean cuts of red meat, and eggs. A trick to tell which cuts of red meat are the leanest is the price. Fat gives red meat moisture, tenderness, and flavor. In general, the less expensive the meat is, the lower the fat content.

A portion size for your protein is going to be the size of the palm of your hand, or about the size of a deck of cards. I prefer using the palm of my hand because I may not have a deck of cards handy. Remember, your palm does not include your fingers or your thumb.

The portion size for carbohydrates is your fist. The types of carbohydrates you want to eat are sweet potatoes, oats, rice, and fibrous vegetables. If you like fruits, limit those to one small piece of fruit at breakfast. Although nutritious, fruits contain a high amount of sugar.

When you are deciding on the amount of carbohydrates to put on your plate, simply make a fist, and put about that much on your plate.

The hormone insulin plays a major role in fat storage. When you eat simple carbohydrates like sugar, white bread, and ice cream, your blood sugar goes up quickly. In response, your body releases insulin to carry that sugar into cells to be burned as energy. If that sugar, now in the form of glucose, is not used for energy, it gets stored as fat for later use.

The glycemic index is a carbohydrate ranking system listed according to how they affect our blood sugar level. You can find this information by simply searching for glycemic index on any internet search engine. Carbohydrates that break down quickly during digestion release glucose rapidly into the bloodstream. These have a high number on the glycemic index. Carbohydrates that break down slowly release glucose gradually into the bloodstream. These have a low glycemic index. It is best to eat foods with a low glycemic index because these keep your insulin levels from spiking up.

Foods to choose

When choosing your food, the best type is the organic, pesticide free for your vegetables and organic, free range for your meats. These will give you the best overall health benefits but they also come with a higher price tag. It is your decision if you feel the extra price is worth it.

The next best food choice is the non-organic fresh meats and vegetable found in the supermarket. These are found on the outside perimeter of your grocery store. These are the foods I eat. You can eat healthy by eating foods in the way God made them. God made avocados, not guacamole. God made broccoli, not broccoli casserole with cheese, butter, and bread crumbs. If you buy it in a cardboard box or plastic bag, don't eat it until day seven.

After fresh foods, the next best quality of food is frozen foods. This is a good choice because most of us cannot get to the grocery store several times a week to pick out fresh meats and produce. Buying a bag of frozen broccoli or frozen green beans is perfectly acceptable on the *511 Diet*.

Finally, canned vegetables and canned meats are our final choice for quality foods. The best example here would be canned tuna. While it is possible to get fresh tuna, it is much more convenient to keep a few cans of tuna around the house for a quick protein portion.

Fat will make you thin

The third macronutrient we need in our diet is fat. Yes, we need fat. You have to eat fat. Fat is good for you. Eat fat for your health and well being. Was that clear?

Fat gives your food flavor. Fat, along with protein, slows down digestion so you feel full longer. The portion size for fat at every meal is the size of your thumb. Remember, there is an amount of fat in the protein you are eating with your meal. You can add a little butter to your vegetables or use oil and vinegar dressing on a salad, but you need fat with every meal.

The two best fats are coconut oil and olive oil. I would rank coconut oil as number one simply because you can cook with it up to about 350 degrees

and it has a long shelf life before turning rancid. Coconut oil is also expensive when compared to olive oil. Olive oil should not be used for cooking as it begins to smoke and break down at a relatively low temperature. Use olive oil to flavor vegetables or as a salad dressing, it is very healthy, just don't cook with it.

The third and most versatile choice for fat is good, old fashioned butter. In butter, I mean butter, not margarine, not yellow spread in the gallon tub, not spray "butter," I mean butter. Margarine is a man-made chemical substance not recognizable to the body, don't eat it.

Here is why this eating plan works...

If you were to go on a traditional diet and eat roughly the same amount of calories every day, your body will adapt, your metabolism will slow, and your weight loss will stop. Frustrated, the dieter eats even fewer calories, the body adjusts itself again, and the weight loss stops.

Finally, the person gives up, begins to eat unhealthy again, and gains back all the weight she lost, plus a few pounds. This is the common scenario of the "yo-yo" diets.

The body has a set metabolism level and that is where it wants to be. When you overeat over long periods of time, your body continues to store that energy in the form of fat with greater efficiency. This is how you are training your body to be, a fat storing machine. When you suddenly drop the calories, the body says, "Wait, I'm supposed to be storing this energy, slow down."

Your metabolism slows to accommodate the decrease in calories. You initially lose weight but you get to a plateau and the weight loss stops. On the *511 Diet*, we are keeping your body off balance. It won't have time to adjust itself.

During the five days of clean eating, you are giving yourself good, wholesome foods that your body craves. Notice you read "your body craves" and not "your mouth craves." After a couple of days, your body will begin to adjust. Just as it starts getting used to that amount of calories, we switch it up.

Suddenly, day six comes along, and there is no food. Your body is waiting to be fed and nothing is there, so it must adapt. You are not eating for about twenty hours. This does a couple things for you.

Mentally, you must conquer food. Don't allow food to control you, you are better than that. By not eating, you are telling your subconscious that you control your body, not the food. In reality, all you are doing is skipping breakfast and lunch. When you feel the need to eat on a fasting day, visualize all the people in the world who also will not be eating that day, not by choice. You are so fortunate to have the resources to walk a couple feet and eat. Millions of others do not have that luxury. I think not eating for a day toughens the mind; it's good for the soul.

Not eating and conquering food one day a week will make you stronger physically, mentally, and spiritually. Fasting will help you be healthier, bolster your immunity, detoxify your body, resist disease, lose weight, save money, feel better, and best of all, live longer.

Remember, fasting is not starvation. You can easily go for two weeks without eating food and be perfectly fine. You should stop taking your supplements but continue your hormones while you fast. You can, however, take probiotics, FOS (fructooligosaccharides), and L-glutamine to condition your digestive system while it is empty and not "occupied" digesting food.

You are giving your body a rest 52 days a year by fasting once a week. The cumulative effect here is amazing.

Once dinner arrives on day six, it is a free for all. Go ahead, eat, and enjoy life. The evening meal on day six is wonderful. It is your best meal of the week and your reward for six days of being healthy and eating correctly.

Day seven is your "cheat" day, the day you can eat whatever you like. You will soon discover that you can't eat like you used to. The portions that you were accustomed to consuming are suddenly smaller. You learn that you cannot physically eat very much food before feeling full. Your body has adapted to surviving on less food by "shrinking" your stomach. Often times, you will notice that after breakfast on day seven, you won't feel hungry again until dinner time.

This "cheat" day is also mentally revitalizing because the cravings that have

built up over the last six days, are gone. You can eat the food you want to eat, the ones you have been thinking about all week long. You will notice towards the end of day seven, that you'll actually begin to crave the wholesome foods you eat during days one through five.

Once again, your body cannot adapt to neither the fasting nor the poor eating because they are too short in duration.

If you fail to prepare, prepare to fail

The key factor in the *511 Diet* is preparation. You must prepare your food for days one through five in advance. This process begins during the late afternoon or early evening of day seven.

During your five days of clean eating, if your food is not ready for you to eat, it will be easy for you to cheat. It is much easier to go to a drive through or grab a candy bar than it is to prepare a healthy meal from scratch. It is crucial that all your food is ready for you. You don't want to be in a situation on day three or four where there is no food for you to eat.

During your first five days, here is the plan for how to eat. You are going to eat three meals a day with two or three snacks in between those meals. Each meal is going to contain a serving of protein, a serving of carbohydrates, and a serving of fat. You can measure your portions by simply "eyeballing" the right size based on your palm for protein, fist for carbohydrates, and thumb for fats.

The proper amount of fat is going to be the most difficult to measure because there will already be some fat in the protein and carbohydrate. As a rule of thumb, pun intended, add some coconut oil, olive oil, or butter to your food for flavor. If you keep the amount low, the portion size will usually be pretty close.

The snacks that you will be eating are going to be half the size of your meals. Your snacks are quick mini-meals that keep your blood sugar stable throughout the day.

You can use a meal replacement bar or drink for this purpose but you must be cautious not to eat one with too many carbohydrates and too much sugar. Look at the nutritional information on the packaging to see this information.

Ideally you want an equal number of protein and carbohydrate grams and half that number of fat grams.

This section reserved for nerds only (like me)

By using the portion sizes we've already discussed, your portion sizes and ratios will generally be pretty close to what is needed. This next section is for people like me who have to figure out how much protein, carbohydrates, and fats they should eat down to the exact number. You can use this section as a guideline to see how well you are doing with your portions.

The approximate breakdown of nutrients is as follows:

- 30-35% of calories from protein
- 30-35% of calories from carbohydrates
- 30-35% of calories from fats

The amount of protein someone should get in their diet has been the subject of controversy. In my own experience and in the experience of many people I have assisted in their weight loss, the amount of protein you need if you are exercising regularly, is 1.15 grams per pound of lean body weight.

In order to determine your lean body weight, you must check your body fat percentage. Here is a simple formula for determining your lean weight:

Body fat percentage X 0.01 X body weight = weight of body fat

Body weight – body fat weight = lean weight

Lean weight X 1.15 = amount of protein

Let's use the example of a 200 pound person with 30% body fat.

30 (*body fat*) X **0.01** X **200** (*pounds of body weight*) = **60** (*pounds of body fat*)

200 (*pounds of body weight*) – **60** (*pounds of body fat*) = **140** (*pounds of lean weight*)

140 (*pounds of lean weight*) X **1.15** = **161** (*grams of protein*)

Once you determine the amount of protein, you should determine the amount of carbohydrates you require. To do this, simply multiply your protein requirements by 0.8.

Grams of protein X 0.8 = grams of carbohydrates

In our example, we need 161 grams of protein.

161 (*grams of protein*) X **0.8** = **129** (*grams of carbohydrates*)

For the amount of fat, use half the amount of protein.

161 (*grams of protein*) ÷ **2** = **81** (*grams of fat*)

So, our example person should be eating 161 grams of protein, 129 grams of carbohydrates, and 81 grams of fat a day. This works out to be about 1880 calories a day for those five days.

Divide the total calories for the day by four.

1880 (*total daily calories*) ÷ **4** = **470**

This is how many calories each meal should contain.

Divide this number by two to get the calories per snack.

470 ÷ **2** = **235** (*calories per snack*)

Phew. After all that math, our example of a 200 pound person with 30% body fat looks like this:

Three meals a day, each meal about 470 calories.

Two snacks a day, each snack about 235 calories.

A gram of protein has 4 calories. A gram of carbohydrates has 4 calories. A gram of fat has 9 calories.

Therefore, each meal should have about 40 grams of protein, 32 grams of carbohydrates, and 20 grams of fat. Each snack should have about 20 grams of protein, 16 grams of carbohydrates, and 10 grams of fat.

That doesn't sound like much food, but here is the good news; as you increase muscle mass with exercise, you can eat more food. The more lean muscle weight you carry, the more food you can eat. Losing fat does not require you eat less food.

Water, water everywhere

Another controversial subject when it comes to health is water. How much water should someone drink? What is the best kind of water to drink? You'll hear health nuts saying to drink eight glasses of water a day, or half your weight in pounds in ounces of water, or divide your shoe size by how many siblings you have and multiply that by three times your kilogram weight, or whatever.

Here's what I think; God put this incredible thing in our head called a brain. Inside this brain, we have something called a thirst mechanism. God made it so that when our body needs water, our brain tells us that we are thirsty, go get a drink. If you feel better drinking a gallon of water a day, go ahead. If you just want to have a drink when you are thirsty, wonderful. I don't put too much effort into how much fluid I drink because God put a brain in our head that will tell us when we need water.

Lose fat, not weight

Losing weight is not the key to weight loss. Losing fat is the key to weight loss. You do not just want to lose weight for the sake of losing weight. With any diet that has you eating healthy foods, you will lose the most weight in the beginning. This is simply water that your body is forced to hold because of a high carbohydrate diet. When you bring the macronutrients into balance, the excess water is removed, causing a loss of weight, but not a loss of fat.

Fat as a substance does not use any appreciable amount of energy to sustain itself. Muscle, on the other hand, burns calories at rest. Your muscles are living off the food you eat, fat does not. As you decrease calories, your body will naturally want to sacrifice muscle and maintain fat. God knew when he made us that we were going to go through periods where there was not going to be food available. By maintaining the fat, it gives the body a higher percentage of stored energy and a "blanket" to keep warm in colder climates.

How can we be sure we are losing fat and not muscle? The best way is to check your body fat percentage with a simple, electronic body fat analyzer. You can purchase these at most department stores or online. The body fat analyzer will send a harmless, weak electrical current through your body and measure the resistance.

Checking your body fat percentage on a weekly basis is the best way to check your progress. The best time to check your level is the morning of day six. This is after the last day of your clean eating and any excess water that your body stored from day seven's "free for all" will be gone. You don't want to check on a daily basis because your percentage will fluctuate with the changes in fluid retention. Check consistently at the same time every week and monitor your progress.

So, let's review everything we've learned so you can get started on a fat loss eating plan that you can live with. The *5/1/1 Diet* involves you eating good, clean, wholesome foods for five days in a row. On day six, you are not to eat any food what-so-ever until dinner that evening. If you just cannot stand the hunger pangs, try sipping on some clear soup broth, this will help hold you over until dinner. Dinner begins your free day, which is day seven of the plan. On this day you may eat whatever you want in any amount you want. Just remember to begin planning for the five days of clean eating so you are not caught without prepared food.

Chapter 9. Stress and Sleep

You've learned several different techniques to stop or reverse the aging process, to live better, and to have a better life. But your mind is possibly the most powerful tool you possess in your healthy efforts. Your overall health is greatly determined by how you react to stressful situations in your life. Just learning to remain positive and having a cheerful attitude does wonders for your health.

The mess of stress

Under stressful situations, our bodies produce the hormone cortisol. Cortisol is there to act as an alarm system, it wakes up the body. When humans were out hunting for food thousands of years ago, we encountered situations that caused a "fight or flight" situation. We needed a minute or so of quick energy to get us through an intense physical situation. Our body immediately prepared to either battle for life or run for life. That is the way we survived during hand to hand combat in wars.

There are four stages of a stressful situation; alarm, action, recover, and lastly rest. Alarm notices the stressor, action is the "fight or flight," recover is your body recuperating from the chemical onslaught, and rest is when you calm down from the ordeal. Centuries ago, we see a lion, run for our life, and then rest in the cave. Now-a-days, a car cuts us off, we slam on the brakes, and pull over to calm down. You can see the distinct stages.

Unfortunately, traffic is not our only stressor in life. Most of the modern-day stress factors are mental and not physical in nature. Stress in today's world is of a constant, low-level type. Our body is perpetually in the action phase, not getting to the recover phase. The action phase is where the hormone cortisol is released. The recover phase is when our body can reverse the damage done by the cortisol. We do not get to recover properly and rarely get enough rest.

This is not to say that stress is a bad thing. Our body needs to respond to such stressors as sudden temperature change, standing up, or even planning a wedding. It is when we do not respond properly to the stressors that the damage begins. If planning that wedding causes a tremendous amount of anxiety, your body can respond with ulcers or headaches. Your immune

system suffers and you are more prone to catching a cold or getting an infection when your body would normally fight off these invaders.

Because of the increase in cortisol, stress is known to contribute to heart disease, atherosclerosis, increase chance of death, rheumatoid arthritis, stomach ulcers, hypertension, diabetes, psoriasis, Parkinson's disease, multiple sclerosis, and a host of other diseases.

There are many different ways to combat stress. Diet and exercise play a huge role in stress reduction. Eating properly and physical exercise both allow us to face life's challenges with a healthy attitude. Even little things can reduce your overall stress level.

Here are twelve sure-fire ways to cut out stress:

- 1. Get married** - studies show married people are happier and healthier
- 2. Get a checkup** - take comfort in knowing you are healthy, prevents minor problems from turning into major problems
- 3. Hang out with friends** - social relationships are vital for mental health
- 4. Nap time** - taking a mid-day nap is both refreshing and stress relieving
- 5. Smile/Laugh** - it's almost impossible to be laughing and under stress at the same time
- 6. Go to God** - attend Church service regularly, go to Bible study, or join a life group
- 7. Get a pet** - a pet will give you unconditional love, devotion, and companionship
- 8. Take up a hobby** - find an enjoyable activity that you can do to get your mind focused on something you take pleasure in
- 9. Get out of debt** - getting your finances under control will relieve much of the stress in your life

10. Reduce alcohol - having more than the equivalent of one beer a day will induce bodily stress factors

11. Decaf - more than one cup of coffee a day ups the stress level, cut back

12. Time Management - using a "to-do" list or daily planner will remind you of what has to be done and when to do it

The best overall stress reducer is exercise. Exercising moves the blood and lymph system along and helps to remove waste products. It increases mood by making you feel good about yourself, improves appearance, and gives you a sense of accomplishment.

Count those sheep

Along with stress reduction, adequate sleep is necessary for mental and physical well being. For many people, getting to sleep, staying asleep, and waking up refreshed is difficult. In 2002, the National Sleep Foundation reported that 63 percent of American adults get less than eight hours of sleep a night, 50 percent of Americans have had insomnia, 37 percent say they get daytime drowsiness that interferes with daytime activities, and 33 percent get less sleep than they did five years ago.

A Japanese study reported that men who got less than five hours of sleep a night were two to three times more likely to have a heart attack. Another 2001 study found that those who slept less than six hours a night are more likely to gain weight and therefore develop type II diabetes. Adequate sleep restores memory function and revitalizes the immune system.

Just because the body is sleeping, does not mean the brain is inactive. The brain still must continue to instruct the body to breathe, the heart to beat, and regulate body temperature.

How much sleep do we need a day? Six hours? Eight hours? Ten hours? In reading several different studies, the optimum amount of sleep per day is between six and seven hours. Too much sleep (more than eight hours) increased one study participant's chance of death by 12 percent over six years. In another study, more than eight hours of sleep showed a 14 percent increased chance of stroke. Too little sleep (less than six hours) increases the chances of many lifestyle related illnesses.

Researchers have shown that the amount of sleep a person needs does not change during their lifetime. They did find, however, that the quality of sleep declines with age. As people age, the amount of time spent in deep sleep is reduced. The decrease in deep sleep can be caused by decreased melatonin, changes in diet, hormonal changes associated with menopause, frequently waking to use the bathroom, stress, body pain, or depression.

In today's fast paced world of 24 hour a day access by your cell phone, stressful job situations, and constant financial worries, proper sleep is crucial to your well being. Before heading to your doctor for the latest prescription sleep aid, try following the concept known as sleep hygiene.

Sleep hygiene is the list of tips and techniques to help you fall asleep, stay asleep, and increase the quality of your sleep. Set a sleep and wake time because the body prefers to be on a schedule when it comes to sleep. If you nap during the day, limit the nap time to no more than 45 minutes. Avoid alcohol, caffeine, and spicy foods for at least five hours before bed time. Exercise regularly but not within two hours of bedtime. Keep your bed and the temperature of your bedroom comfortable. Do not use the bed for working or playing, only for sleep. Practice relaxation techniques before bed and don't take your worries to bed with you. Follow the same ritual every night for going to bed so your body will subconsciously know it is time to sleep. Lastly, if you do not fall asleep within 30 minutes, get up, go to another room, and read a calming book until you feel sleepy.

Sometimes sleep hygiene is not enough. Drinking a glass of milk or eating a banana gives your body the amino acid tryptophan that has been shown to induce sleep. Review your medications with your pharmacist or doctor to be sure none of your night time medication is stimulating. Don't forget over the counter medications like some cough and cold preparations can cause you to remain awake. Taking a warm bath or shower before bed can help your body lower its temperature to promote sleep.

Several supplements and herbal products have been known to induce sleep. The most popular is magnesium. Taking 400mg of magnesium at bedtime has a mild muscle relaxing characteristic and may also help with restless leg syndrome. It causes your whole body to calm down, your muscles to relax, and allows you to slowly drift off to sleep.

As you read earlier, melatonin is also a popular sleep aid but most people take a far higher dose than needed. Different people require a different dose in order to fall asleep. Begin with 0.3mg a night for one week. If you do not notice results, increase to 0.5mg a night. Continue to increase your dose by 0.5mg once a week until you notice you are falling asleep easier. Melatonin should be taken 1/2 hour before going to bed on an empty stomach. Then cut back to an every other night dosing. Do not suddenly stop melatonin or you may get what is called rebound insomnia. Gradually taper your dose over a couple of weeks until you stop.

Other sleep inducing supplements are usually combined in a single pill. These include valerian root, passion flower, hops, L-theanine, lemon balm, and chamomile. You can try any product that contains one or more of these ingredients. If one product does not work for you, just try another. Eventually, you will find a supplement that works best for you and will give you a quality sleep.

Chapter 10. Useful Supplementation

The vast majority of people get their health information from the television. I can all but guarantee you that the newscaster reading off the teleprompter has zero medical training. Magazines, the newspaper, and the radio all advertise the latest and greatest supplement to come down the line.

Not too many natural health practitioners will give you the truth about supplementation, especially when they are selling them. A few dietary supplements are beneficial, but most are not.

Being healthy is not just taking a handful of pills every day. Your health depends almost entirely on the foods you eat and the amount of exercise you get. No amount of supplementation can make up for a poor diet and lack of exercise.

Required Supplements

This short list of supplements should be on everyone's list. These are what I take every day.

Quality Multi-Vitamin

Notice this title is QUALITY multi-vitamin. This is not something you can find at your local grocery store. A quality multi-vitamin is your foundation for covering the gaps that will develop in your nutrition. If you were to write down everything you eat over the course of a month, you'll notice that the same 15-20 foods make up all of your diet. Without a multiple vitamin, you will eventually become deficient in several vitamins and/or minerals. You are just not getting what you need from food. In fact, the fruits and vegetables today have about 1/3 the amount of nutrients from 50 years ago. The soil is depleted and the farming methods today reward quick growing produce.

Many prescription medications also decrease certain vitamin levels. Many diseases today can be directly linked to vitamin deficiencies. When the vitamin is returned to the diet, the patient's symptoms diminish.

Think of your multi-vitamin as insurance. You don't want to have to use it, but you know it's there if you need it. Realistically, you will not fulfill your body's nutritional requirements with your diet, therefore, take a multi-vitamin.

Omega-3 Oil

The *Mediterranean Diet* has recently become popular in longevity circles. One of the main focuses of the diet is the emphasis on getting a high amount of omega-3 fats. The main benefit of omega-3 oil is cardiovascular health but it is also useful for many other conditions. Just 400mg a day improved behavior in children with ADHD and low omega-3 levels are associated with depression. Omega-3 oil has been used successfully to treat diabetic neuropathy, dry eye syndrome, high cholesterol, painful periods, high blood pressure, weight loss, osteoporosis, psoriasis, and rheumatoid arthritis.

An excellent way to get your omega-3 oil is through flax seed. Most people will not take the time to grind fresh flax seed onto their food prior to eating and the oil has an unpleasant taste. Most people will take their flax oil in a capsule form. An alternate to flax oil is fish oil. Both are good and should be kept refrigerated as they tend to oxidize and break down.

Four grams a day of fish omega-3 fish oil is sufficient to maintain cardiovascular health.

Vitamin D

Vitamin D is not really a vitamin but a hormone. Humans do not get any significant amount in our diet but our bodies make vitamin D in our skin when it is exposed to sunlight. Unfortunately, the majority of us avoid the sun and must therefore supplement with oral vitamin D.

Vitamin D deficiency is linked to dozens of diseases including arthritis, diabetes, cancers, gingivitis, high blood pressure, multiple sclerosis, osteoporosis, and skin disorders. Keeping vitamin levels high is very important to overall health.

In order for your body to effectively absorb and use calcium, it must have adequate levels of vitamin D. Without it, calcium cannot be absorbed from

neither your food nor your supplements. Women aged 65 or older who took vitamin D and calcium had a 46% lower risk of falling in one study.

If you take an antacid for your stomach, you will deplete your body of vitamin D. Contrary to that, thiazide diuretics like hydrochlorothiazide (HCTZ) will actually increase the activity of vitamin D.

If you have no health issues and do not go out into the sunlight often, take 5000 IU a day. Those with any of the health conditions listed above will benefit from 10,000 IU a day. Everyone should have a blood level of at least 60 nmol/L. and if you have a health condition, get that level above 100 nmol/L. Be sure you are taking the vitamin in the D3 form.

You don't necessarily have to supplement with vitamin D if you receive enough unfiltered sunlight on your skin. Your body will produce a maximum of 10,000 IU of vitamin D per day when exposed to sunlight. The general rule of thumb is to be outside, in full sun, for 15 minutes in the summertime and 30 minutes in the wintertime. This should provide you with enough sunlight.

DHEA

We've already discussed the importance of DHEA in chapter 6. This is why it is a definite in your supplement regimen.

For women, the recommended dose is 10mg to 12.5mg a day. Females will get an increase in testosterone when given supplemental DHEA. After a couple weeks, if you notice an increase in acne or oily skin, cut the dose in half to 5mg or 6.25mg a day.

This increase in testosterone is not normally seen in men. The dosage for men begins at 25mg a day and can be increased until levels are in a youthful range.

Probiotics

Probiotics is the name for the beneficial bacteria that live inside our digestive system. These bacteria "kill off" harmful bacteria, lower pH by producing lactic acid, and even produce a small amount of hydrogen

peroxide that can kill the yeast, *Candida*. In our society, much of our beneficial bacteria are destroyed by chlorine in the drinking water, artificial sweeteners, and antibiotics.

In order to digest food properly, our intestines need an adequate amount of probiotics. Without them, digestion may not be complete and gas and bloating can occur. When everything is there in balance and the population of beneficial bacteria has been restored, you will get enhanced food absorption, improved gut tone, improved gut motility, decrease in gas and bloating, and a decrease in percentage of harmful bacteria.

Probiotics are a mixture of three main organisms; *Lactobacillus acidophilus*, *Bifidobacterium bifidum*, and *Bifidobacterium longum*. Follow the directions on the package to get the benefit and try to take 10 billion daily.

If you really want to kick-start your digestive system, add FOS (fructooligosaccharides) to the probiotics. FOS is the food for the *Bifidobacterium* species. FOS is also not absorbed by the digestive system so there is no risk of side effect or over dose.

Optional Supplements

This is a list of supplements that are proven effective and can benefit a number of people. I personally do not take these on a regular basis. I just don't feel it is necessary to take a whole handful of pills to be healthy.

Beta Sitosterol

Beta-Sitosterol is a plant sterol that is chemically related to cholesterol. It has been proven to lower cholesterol and is now being added to certain food such as margarines to promote "heart health." These plant sterols will decrease cholesterol absorption by almost 50%. Clinical studies have shown it to significantly lower total cholesterol and low density lipoprotein (LDL) cholesterol but it has little effect on high density lipoprotein (HDL) cholesterol. To effectively lower cholesterol, take 300mg to 500mg before meals.

Beta-Sitosterol is also useful for an enlarged prostate. Scientific studies show that taking beta-sitosterol orally significantly improves urine flow,

urinary symptoms, and decreases post-void urine volume. It works here by blocking the action of the enzyme 5-alpha-reductase. This enzyme converts testosterone to dihydrotestosterone (DHT). DHT attacks the prostate causing it to enlarge. An effective dose for prostate health is 40mg to 60mg of beta-sitosterol twice a day.

Coenzyme Q-10

Coenzyme Q-10 is present in virtually every cell in the body with an especially high concentration in the heart, liver, kidney, and pancreas with the majority located in the mitochondria. The mitochondria produce the energy for the cell.

Coenzyme Q-10's main function is to act as an antioxidant, to stabilize cell membranes, and to be involved in the energy production inside the cell. The body produces some coenzyme Q-10 and a small amount is consumed in foods like meat and seafood. Levels are highest during the first 20 years of life then decline to below birth levels by age 80. Restoring a youthful level of coenzyme Q-10 has proven beneficial to many health conditions.

When people begin supplementing with coenzyme Q-10, HDL increases while total cholesterol and LDL decreases. The supplement is being studied and is showing great promise in the treatment of Parkinson's disease. People who suffer with migraine headaches are low in coenzyme Q-10. When given the supplement, they had 30% less headaches.

Coenzyme Q-10 has also been proven to be effective in congestive heart failure, HIV/AIDS, Huntington's disease, high blood pressure, muscular dystrophy, and heart attack prevention. It is currently being studied for angina, breast cancer, diabetes, enlarged heart, male infertility, and hair loss.

It is well known that anyone taking a statin drug will have reduced levels of coenzyme Q-10 by as much as 52%. The statins block the body's manufacturing of coenzyme Q-10. Supplementation in this instance is a certainty.

Those in good health will benefit from taking 100mg a day. If you are in poor health or have a health condition, 200mg a day for one year only, and then decrease to 100mg a day is the proper dosing. It is rather expensive and

is manufactured by fermenting beets and cane sugar with a special form of yeast.

Taking it with the supplement L-carnitine seems to have an additive effect. Also, coenzyme Q-10 does not dissolve in water and can be taken with flax oil or fish oil to increase absorption.

Lipoic Acid

The number of people with diabetes or insulin resistance is increasing at an alarming rate. Lipoic acid is an important supplement for those with any type of blood sugar issues. It improves the body's sensitivity to insulin and helps remove glucose from the blood. This is an important supplement to take on a regular basis to help normalize blood sugar levels.

The condition known as peripheral neuropathy is a complication of uncontrolled diabetes. Lipoic acid reduces symptoms such as burning, pain, numbness, and tingling of the feet. The effect takes about two weeks to occur. In fact, alpha-lipoic acid is an approved treatment for diabetic neuropathy in Germany.

If you are a diabetic, 1000mg a day will improve your condition.

N-Acetyl Cysteine

When someone takes N-Acetyl Cysteine (NAC), it enters the cell and is changed into cysteine. Cysteine is then converted into glutathione. It is the glutathione that is the beneficial substance here and the one we are trying to increase. Glutathione is not effective when taken orally and is one of the body's most powerful antioxidant enzymes.

The lungs benefit the most from NAC as it is proven beneficial in asthma, bronchitis, COPD, influenza, emphysema, pneumonia, and tuberculosis. The glutathione reduces the amount of mucus formed and assists the body in breaking down thick mucus. NAC is also promising in studies involving kidney disease as it reduces stroke and heart attacks by 40% in these patients. It is helpful in treating epilepsy and decreases trichotillomania (hair pulling) by 40%.

Scientists are currently studying NAC for prevention and treatment of noise-induced hearing loss. Early results show that intravenous NAC is preventing or reducing hearing loss associated with certain medications as well as repeated exposure to loud noises.

N-Acetyl Cysteine has a significant drug interaction with nitroglycerine. Taken together, they can cause a severe drop in blood pressure.

The normal effective dose for NAC is 200mg three times a day to treat bronchitis, 600mg once a day for six months for COPD, 5 grams a day for epilepsy, 600mg twice a day for influenza and for cardiovascular event prevention in kidney disease, and 2 grams a day for trichotillomania.

Vitamin E

Nearly everyone in the United States is deficient in vitamin E. This is due to our diet lacking those foods which are high in vitamin E; liver, nuts, and whole grains. When grain is refined to make white flour, the vitamin E is removed in the process. Unless you take supplements, you are surely lacking in vitamin E.

When looking for a quality vitamin E supplement, find a brand that contains four natural mixed tocopherols. Taking just the inexpensive alpha-tocopherol will not get you near the same benefits as the mixed.

Vitamin E, taken with other nutrients, has been shown effective in reducing the risk of macular degeneration by 27%. Studies show elderly men taking vitamin E had a decreased risk of dementia. Taking 200IU twice a day starting two days before menstruation and continuing for the first three days of bleeding can significantly reduce menstrual pain. Men taking vitamin E showed a 21% greater chance of conceiving than those taking a placebo in one study.

Vitamin E has also been effective in treating Alzheimer's disease, anemia, bladder cancer, Huntington's disease, intracranial hemorrhage, Parkinson's disease, Pre-eclampsia, PMS, physical performance, rheumatoid arthritis, sunburn, and a host of other conditions.

Taking 200IU a day should be plenty for most people but, if you feel inclined, you may take 400IU a day. High doses can thin the blood and reduce your blood's clotting ability.

Diindolylmethane (DIM)

DIM is a natural substance found in cruciferous vegetables such as broccoli, Brussels sprouts, cauliflower, and cabbage. The typical diet only gives a person about 5mg of DIM a day.

Artificial estrogens are all around us. These estrogen-like compounds enter our body and remain in us for long periods of time. When estrogen levels are too high and are unopposed by progesterone, cells grow uncontrollably. This uncontrolled growth often leads to cancer. DIM's main benefit is the enhanced metabolism of estrogens in men and women. The supplement greatly increases the body's ability to remove excess estrogens from the body.

Taking 200mg twice a day is beneficial for both men and women to regulate and normalize estrogen levels. DIM does not dissolve in water so it is best taken with food to increase absorption.

Zinc

Zinc is the second most abundant trace element in our body with each of us having about two grams in us. Zinc is found in over 300 enzymes and about 100 enzymes require zinc to be active. It is involved in hundreds of vital reactions that occur inside the body.

One of the most common conditions treated with zinc is wound healing. Doctors routinely prescribe a regimen of zinc to accelerate healing. Diarrhea, acne, macular degeneration, anorexia, ADHD, burns, the common cold, gingivitis, leprosy, muscle cramps, osteoporosis, ulcers, pneumonia, and vitamin A deficiency have all been treated successfully with supplemental zinc. Men with prostate issues or infertility will benefit from taking 15mg a day of elemental zinc. Zinc also has the tendency to deplete the body of copper, be sure to add 2mg of copper when taking zinc.

Chapter 11. Trust your Gut

When you remove obstacles to optimal health, you attain optimal health. What many people do not realize is that many of these obstacles are in your digestive system. These issues will greatly slow your progress towards health.

The issues surrounding the gastro-intestinal system are not new, and they certainly are not exciting. The pharmaceutical industry cannot make a lot of money manufacturing drugs that can solve the problems this chapter will outline. Therefore, most people do not realize the importance of keeping their gut in good health.

There are many nerve pathways leading from the gut to the brain. These pathways send messages back and forth that create the feelings of hunger, fullness, nausea, discomfort, and pain. Some researchers have concluded that the gut can even signal emotions of joy and sadness.

Women are two to three times more prone to gastro-intestinal distress than men. The latest research is indicating that the female hormones estrogen and progesterone are partially responsible. Many women will complain of constipation, diarrhea, or bloating towards the ends of their menstrual cycle.

So just how big is this problem?

- 65 million Americans have digestive disorders
- 45 million hospital visits for gastro-intestinal complaints
- 14 million hospital stays related to gut conditions
- over 235,000 people die each year from gut related illness
- stomach disorders are second only to the common cold for work absenteeism
- some physicians state that 70% of chronic disease begins with gut issues

When you eat your meal, what happens to the food? It enters your mouth and is chewed for a few seconds. After you swallow, it takes between three and 12 seconds for the food to travel down the esophagus and into the stomach. The food remains in the stomach for 2 to 4 hours before moving to the small intestine. It takes 5 to 6 hours for the food to travel the 20 to 23 feet of small intestine until it reaches the large intestine. In the large

intestine, your body re-absorbs much of the fluid back. This process can take anywhere from 12 to 24 hours.

If the digestive tract moves too quickly, the body cannot absorb adequate nutrients from the food you eat. It doesn't matter how well you eat if your body cannot absorb the nutrition. If the digestive tract moves too slowly, the waste products can begin to build up and fermentation occurs in the large intestine. This fermentation creates a "polluted" environment in the digestive system causing damage.

Your body has an incredible defense system. The largest and most active opening in your body is your mouth. It leads to the digestive system. You must keep this area healthy in order to ward off "invaders" that can easily enter your body through your mouth. One of the first steps in getting healthy is getting the digestive system working optimally. Researchers have stated that 80% of the body's immune system is in the gut. There are 2000 different species and over 100 trillion organisms in your digestive system. These organisms account for three to five pounds of your total body weight.

What makes an unhealthy gut?

The main reason someone would have an unhealthy digestive system is their diet. Because of our eating habits and lifestyle choices, the young people of today are the most unhealthy generation ever. We are eating too many high glycemic carbohydrates, too much sugar, and too much hydrogenated oils. To add to the problem, people drink alcohol in excess, smoke cigarettes or use other tobacco products, drink too much coffee, and overload the system with artificial sweeteners.

This type of behavior causes a constant low-level inflammation in the digestive system. This inflammation leads to the intestines having permeability; in other words, things can move through the membranes easier. This permeability can then exacerbate an immune response to certain bacterial or yeast infections that are bound to develop.

This cascade of events eventually leads to a decrease in stomach acid, an imbalance in the gut bacteria, and Leaky Gut Syndrome (LGS).

The cells of the intestines are close together with a tight seam between cells. When the distance between the cells of the gut become too great, large

molecules can exit. These molecules can be undigested food, waste products, or any particle that should stay in the gut and not enter the body. Substances that should not be entering the body are "leaking" through the intestinal wall, hence the name, "Leaky Gut Syndrome." Other causes of leaky gut include a premature birth, chemotherapy, antibiotics, infection, and immune response to the environment.

When you eat food and your body does not produce enough acid, the condition is known as hypochlorhydria. The most common cause of hypochlorhydria is aging. As we age, the parietal cells of the stomach produce less acid. Half of the people over 60 years of age have chronic low stomach acid. When harmful bacteria enter the body through the mouth, the stomach acid will kill the invader. Without adequate acid, the bacteria continue past the stomach and move to the small intestine. This leads to an overgrowth of harmful bacteria that destroys our beneficial bacteria.

An imbalance of the beneficial bacteria in the intestinal tract is medically known as dysbiosis. If the bacteria in the digestive system are compromised, the disease-causing bacteria can destroy the beneficial bacteria in the intestines. Imagine the front lawn of a house. The home owner wants lush, green grass and must therefore care for the lawn. If the homeowner does not mind his yard, weeds soon emerge. Without proper fertilization and watering, the weeds take over the lawn and choke out the lush, green grass. This is similar to your digestive system. The green grass is your beneficial bacteria, namely lactobacillus and bifidobacterium.

With dysbiosis, the body produces excess mucus in the small intestine as a defense mechanism. This thick layer of mucus makes it difficult for the body to absorb nutrients. It doesn't matter how well you eat if you are not absorbing the nutrients.

Taking care of your gut

As you read earlier, one of the most beneficial supplements you can take is probiotics. This helps balance the beneficial bacteria. Digestive enzymes taken with meals are beneficial to those who currently have dysbiosis. These will help the body to digest foods properly. Increasing your dietary fiber is important. Try to get at least 25 grams of fiber in your diet. Omega-3 oils are also important in maintaining a healthy intestinal system.

If you think you have irritation or inflammation in your gut, you can remedy this with a couple supplements. For an active ulcer, an old remedy of cabbage juice is extremely effective. A recent study showed that drinking four glasses of cabbage juice a day cured 81% of ulcer patients after just one week. The active ingredient in cabbage juice is the amino acid L-glutamine. Taking three grams of L-glutamine three times a day for two weeks will greatly help with this problem.

For those who have low stomach acid, or hypochlorhydria, this protocol has been used successfully for years:

- take two digestive enzyme tablets with each meal
- take hydrochloric acid (betaine) at each meal with food - Start with about 500mg at your next full meal and increase by 500mg at each meal until a total of 2,500mg or until heartburn develops. If heartburn develops, decrease by 500mg and this is how much you take at every meal.
- 10 billion probiotics units daily

A leaky gut can be diagnosed by a doctor but most doctors are trained to treat the symptoms that arise from leaky gut rather than fixing the problem. A diagnosis can be obtained through a test called an intestinal permeability assessment which measures levels of two sugars, mannitol and lactulose. Your doctor may also want to do allergy testing and check for an overgrowth of a certain yeast called Candida.

Treating a leaky gut can be accomplished starting with correcting the diet. Adding probiotics and digestive enzymes are the foundation to treatment. Helpful supplements include:

- L-glutamine, 3 grams, three times a day
- borage seed oil, 1 gram a day
- gamma-oryzanol, 400mg a day
- NAG (N-Acetyl-D-Glucosamine), 1500mg a day
- Phosphatidylcholine, 340mg a day

The case for Probiotics

Probiotics are amazing. As more and more research is being done, new benefits are being discovered. Back in 1990, it was found that taking the probiotic lactobacillus lowered cholesterol, protected against tumor growth, and was effective in treating salmonella and diarrhea. In 1996, probiotics were proven to strengthen the barrier effect in the gut resulting in a strengthened immunity and reducing allergies. When patients with ulcerative colitis were given probiotics, 53% had remission of symptoms and 24% had some measure of improvement.

The journal *Environmental Health* reported that 11% of workers who took probiotics were absent from work in an 80 day period compared to 26% of workers who did not take probiotics. When comparing those who work at night, none of the 26 study participants who took probiotics called in sick compared with 33% in the placebo group. The researchers concluded that probiotics boost the immune system and prevent gastrointestinal illness.

It is not only the gut that benefits from probiotics. Taking the probiotic lactobacillus has been shown to restore and maintain the proper bacteria levels in the vagina. This lowers the cases of vaginal yeast infections. A Swiss study reported a 20% reduction in harmful nasal bacteria in a study group taking probiotics.

Eat These Foods...

Eating well is not only the key to overall health, but key to gut health as well. The foods below are a general guideline for eating well. This list is not all-inclusive nor must you eat only the foods on this list.

Protein: Chicken, Cod, Eggs, Halibut, Lamb, Mackerel, Salmon, Trout, Tuna, Turkey

Grains: Amaranth, Millet, Quinoa, Rice, Tapioca, Teff

Vegetables: Alfalfa Sprouts, Artichokes, Asparagus, Beets, Bok Choy, Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Celery, Cucumber, Endive, Escarole, Kale, Leeks, Lettuce, Okra, Onions, Parsnips,

Radishes, Rutabaga, Sea Weed, Snow Peas, Spinach, Summer Squash, Sweet Potato, Taro, Turnips, Water Chestnuts, Yams, Zucchini

Fruit: Apple, Apricot, Avocado, Banana, Blueberries, Cherries, Kiwi, Mango, Melons, Nectarine, Papaya, Pear, Peach, Pineapple, Plum, Prune, Raspberries, Strawberries

Nuts: Almonds, Cashews, Hazelnuts, Pecans, Walnuts

Seeds: Pumpkin Seeds, Sunflower Seeds,

Oils: Almond Oil, Coconut Oil, Flax Oil, Olive Oil, Pumpkin Oil, Safflower Oil, Sesame Oil, Sunflower Oil, Walnut Oil

Sweeteners: Brown Rice Syrup, Molasses, Stevia

...Instead of Those Foods

Below are foods you typically want to avoid eating on a regular basis. Don't mistake this list as a list of forbidden food. Just make it a point to limit your consumption of these inflammatory foods.

Citrus: Grapes, Grapefruits, Lemons, Limes, Oranges

Grains: Barley, Corn, Rye, Soy, Wheat

Meats: Canned Meats, Cold Cuts, Frankfurters, Sausage

Nuts: Peanuts, Pistachio

Dairy: Cow's Milk, Cheese, Ice Cream, Yogurt

Fats: Hydrogenated Oils, Margarine, Shortening

Beverages: Alcohol, Caffeinated Beverages, Mountain Dew, Soda/Cola

Sweeteners: Artificial Sweeteners, High Fructose Corn Syrup, Sugar

Chapter 12. Putting it All Together

Much of the information you have read and learned in the book will allow you to become healthier and to live a longer, more fulfilling life. Some of the hormones, like estrogen, testosterone, and growth hormone must be obtained through your doctor. For the most part, these therapies are safe and effective when used properly. They are not, however, completely without risk. You, and your doctor, must use hormones carefully and appropriately. I strongly urge you to work with a qualified medical professional who is interested in learning the latest in anti-aging and health techniques. Much can be done on your own with proper diet and supplementation. The final touches require a medical professional's fine tuning and evaluation of specific laboratory tests.

Step 1

The foundational basis for being healthy is what you put in your mouth. Without a proper and healthy diet, all the exercise and supplementation in the world will go to waste. This is where you must begin, with your eating habits. Start now.

Go through your pantry, your refrigerator, and your freezer and throw away unhealthy foods. If they are not in your house, you are much less likely to snack on junk foods. Once the house is cleaned of unhealthy foods, go to the store and stock up on the foods listed in the *511 Diet* chapter; chicken breast, fish, lean red meat, eggs, sweet potatoes, various vegetables, berries, olive oil, coconut oil, and butter.

I developed the *511 Diet* because it can fit in with your lifestyle and you are still able to eat your favorite "junk" foods on occasion. Also, unless you are accustomed to eating well, you are going to want to ease into eating this way. If you don't think you can just into the *511 Diet* right away, ease into it over the course of a week. For example, on Monday and Tuesday, concentrate on eating a healthy breakfast only. The rest of the day can be spent as usual. On Wednesday and Thursday, add a healthy lunch to the breakfast with dinner being something you would normally eat. On Friday, eat well the entire day. This will mentally ease you into the *511 Diet*.

Step 2

Once your eating is under control, taking to right supplements for you in the right doses is the next step. Below is the list of supplements, in order of importance, that are beneficial:

1. Quality Multivitamin with minerals - this is the foundational supplement
2. Vitamin D - take a minimum of 5,000IU a day
3. Probiotics - 10 billion units daily, may take FOS (fructooligosaccharides) for added benefit
4. Omega-3 Oil - 4 grams of fish oil a day
5. DHEA – 10mg-12.5mg for women, 25mg for men
6. Vitamin E - 400IU a day
7. Coenzyme Q-10 - 100mg if you are taking a statin drug or have any underlying medical conditions
8. Zinc - 15mg a day with 2mg of copper
9. Beta glucans - 200mg twice a day if you have any underlying medical conditions
10. Beta sitosterol - take 300mg-500mg before meals to lower cholesterol, 40mg-60mg twice a day for prostate issues
11. Lipoid Acid - 1000mg a day if you have diabetes or any blood sugar issues
12. Diindolylmethane (DIM) - 200mg twice a day with food to help metabolize estrogens
13. N-Acetyl Cysteine - 200mg three times a day up to 600mg twice a day for various lung issues

It is not necessary to take every supplement on this list. These are just the most beneficial for the majority of the population.

Step 3

Now that you are eating and supplementing, you have to get your digestive system working optimally. Simply by eating properly and supplementing with probiotics, your gut is well on its way to working efficiently. Adding digestive enzymes with meals can help your body breakdown your food into nutrients for your body to use.

If you have an active ulcer, drinking four glasses of cabbage juice a day for a week will most likely take care of the problem. Supplementing with 3 grams of L-glutamine three times a day can accomplish the same thing.

You may not have enough acid to properly break down your food to begin with. In that case, try digestive enzymes, hydrochloric acid, and probiotics.

Step 4

As a minimum exercise, you should get 10,000 steps a day, or about two miles. This is an easy calculation with a pedometer. Doing resistance exercise like weight training is excellent for your overall health. *The Crazy 8 Workout*, as detailed in chapter 7, is the best exercise routine I've ever used to both build muscle and lose body fat.

If you haven't weight trained before, be sure to ease into it and ask your doctor if you are healthy enough to work out. With stronger muscles, doing anything physical is easier. You will not "run out of gas" when playing with your children, or grandchildren.

After getting your eating plan in order, your supplementation down, and your digestion working properly, exercise ranks next on the list. God made us to move and work. Sitting on the couch watching TV every night is going to get you fat, unhealthy, and in the grave sooner than later.

Step 5

Getting your basic hormones balanced goes a long way in your overall health. If you are over the age of 35, get a saliva hormone test and have yourself tested every year. It's a simple process that will cost you less than \$100.

For most of us, the hormonal change is slow and gradual. We don't really notice the small daily changes until you return your hormones back to optimal levels. It is then that you remember how you felt all those years ago.

Get your estrogen, progesterone, and testosterone tested and balanced. This can be done through a knowledgeable and competent doctor's office.

Step 6

Your other, less significant but still important, hormones can have an impact on your health. Growth hormone can be increased by exercise. DHEA should be kept at optimal levels and melatonin is an excellent antioxidant and sleep inducer. If you feel sluggish, have foggy thinking, an intolerance to cold, or other symptoms listed in chapter 6, your thyroid may need a boost. The suggestions in chapter 6 should help you feel like your old self again.

Step 7

We all have stress in our lives, you have to learn how control it. Keeping the hormone cortisol in check is an important step in your overall health. Check back to chapter 9 for a list of twelve ways to lower your stress level.

Step 8

We should spend about 1/3 of our day sleeping. Studies are putting the optimum sleep time between six and seven hours a night. Follow the sleep hygiene steps outlined in chapter 9. You can try a glass of milk or eating a banana before bed. The two most popular natural sleep aids are 400mg of magnesium and 0.5mg of melatonin.

Step 9

Change your habits. If you smoke, do whatever you have to do to quit. Excessive alcohol or being a "couch potato" is going to significantly shorten your life. As silly as it seems, good oral hygiene maintains a healthy circulatory system. Keep stress down by keeping your finances in check. Don't get bogged down with debt.

Step 10

Lower your "Real Age" by using some of the techniques laid out in chapter 3. These are simple, daily habits that can extend your life for many years.

Step 11

If you take medication, take it properly. This is near and dear to me simply because I am a pharmacist. Medication has been studied to find the most effective dosing schedule. If you are not taking it according to the directions on the bottle, you could be doing more harm than good.

Step 12

Pray.

Proverbs 4:10 (NKJV)

Hear, my son, and receive my sayings,
And the years of your life will be many.

Proverbs 9:10-12 (NKJV)

The fear of the LORD *is* the beginning of wisdom,
And the knowledge of the Holy One *is* understanding.
For by me your days will be multiplied,
And years of life will be added to you.
If you are wise, you are wise for yourself,
And *if* you scoff, you will bear *it* alone.