VITAMINS AND MINERALS

An Excerpt from
Hormones, Health and Happiness

by Steven. F. Hotze, M.D.

HOTZE
HEALTH & WELLNESS CENTER

INTRODUCTION

Dr. Hotze is founder of Hotze Health & Wellness Center and author of the book Hormones, Health, and Happiness. He has enabled thousands of women and men to achieve optimal health using his customized 8-Point Treatment Regimen. If you would like a free evaluation regarding your health, you can contact his office by calling 877-698-8698.

Notice: This book is intended as a reference guide, not as a medical manual. The information given here is designed to help you make informed decisions about your health. It is not intended as a substitute for any treatment that may have been prescribed to you by your doctor or therapist. If you suspect that you have a medical or emotional problem, we urge you to seek competent medical or psychiatric help.

The names of those whose cases are presented in this book have been changed to preserve their privacy.

CONTENTS

VITAMINS AND MINERALS

In this e-book, I will discuss the basic actions of key vitamins and minerals and explain their benefits.

SLOW THE AGING PROCESS WITH ANTIOXIDANTS

The free-radical theory is widely accepted as one explanation of the causes of the degenerative diseases associated with aging. Free radicals are negatively charged molecules that circulate throughout the body, causing damage to the DNA in your cells, leading to cancer and degenerative disease, such as hardening of the arteries, heart disease, Alzheimer's, arthritis, and inflammatory diseases. These free radicals are unstable, highly reactive molecules and are a byproduct of normal cellular activity. Free radicals cause oxidation in our tissues. Oxidation is the same process that causes iron to rust and oil to become rancid in the presence of oxygen. In the same way, our bodies' tissues and organs corrode over time due to the oxidizing effects of free radicals.

Exposure to cigarette smoke, chemicals, radiation, pesticides, and other toxic substances such as drugs are major sources of free radicals that accelerate the aging process. It's important to do all you can to minimize your exposure to them. However, even elements that we think of as benign or beneficial, such as the air we breathe and

the food that nourishes us, subject our cells to free radicals. In fact, the majority of free radicals in the body are actually produced within the body during respiration and the breakdown of food into energy.

Fortunately, nature has provided a way to slow the free radical, or oxidative process: antioxidants. Antioxidants are substances such as certain vitamins, minerals, herbs, amino acids, and enzymes that neutralize free radicals in our bodies. Your body produces numerous antioxidants, including the enzymes superoxide dismutase and glutathione peroxidase. However, as we get older, production of these enzymes slows down and our bodies become less effective at neutralizing free radicals. In order to protect yourself from the adverse effect of free radicals and tip the scales in favor of the antioxidants, it is important for you to eat foods rich in antioxidants, such as carrots, broccoli, tomatoes, and green vegetables. It is equally important to bolster your diet with copious amounts of antioxidant supplements, especially vitamin C, vitamin E, Coenzyme Q10, selenium, and zinc. However, the foundation to any vitamin regimen is a quality multivitamin and fish oil supplement.

A NOTE ABOUT PURCHASING MULTIVITAMINS

Many leading multivitamin brands are minimally absorbed, so that most of what you purchase and consume is eliminated from your body. It is also worth mentioning

that many leading brands also contain popular product-cheapening fillers. Although this reduces the price of the product, the quality and amount of vitamin you get is drastically reduced as well. With this in mind, you must look for a quality multivitamin with minimal fillers and maximum absorption such as my specially formulated multivitamin, Energy Formula. The vitamins and minerals contained in this formula are essential nutrients that are required for the metabolic reactions occurring in the over 70 trillion cells in your body. These nutrients are also essential for the biochemical processes which detoxify chemicals that enter your body through the air you breathe and the food or water you consume. The Energy Formula is free of popular fillers such as wheat, corn, egg, milk, yeast, and chemicals commonly found in other vitamins. Whichever multivitamin you choose to incorporate into your regimen, be sure to do adequate research on the product in respect to its absorption and the number of fillers that have been added. All multivitamins are not created equal.

FISH OIL

Fish Oil is an extremely important foundational supplement to incorporate into your vitamin regimen. Omega-3 and Omega-6 fatty acids constitute the two families of essential fatty acids (EFA's). EFA's are considered "essential" because they are needed by every cell in the body but cannot be manufactured in the body, and therefore they must

be obtained through our diet. The body must receive a constant and balanced supply of EFA's to ensure proper prostaglandin production. Prostaglandins are beneficial hormone-like compounds that regulate pain and swelling, help maintain proper blood pressure and cholesterol levels, and promote fluidity in nerve transmission.

Omega-3 fatty acids EPA and DHA are found in cold water fish such as sardines, mackerel, anchovies, and cod liver. Even though fish is one of the most abundant sources of EFAs, we simply do not consume enough on a regular basis. Even those who eat fish several times a week aren't getting enough EFA because much of the fish consumed today are farm raised (fed a diet of grains instead of fish meal) and lack significant amounts of EPA and DHA. I recommended a minimum of 1000mg of fish oil daily.

VITAMIN C BOOSTS IMMUNE FUNCTION

Vitamin C is the premier antioxidant in the water portion of your body. Because your body is 60 percent water, that covers a lot of territory.

Vitamin C's antioxidant powers are important to building a strong immune system. Vitamin C shields DNA from damage that can lead to cancer, increases levels of the anticancer and antiviral chemical interferon, and raises tissue levels of

glutathione, one of your body's most important naturally occurring antioxidants. Vitamin C is abundant in the white blood cells that engulf and destroy bacteria and protects these cells from being damaged during this process.

Vitamin C is also the predominant antioxidant in the airways, which is why I insist that my patients with allergies and asthma take high-dose vitamin C. Not only does this vitamin help protect the lungs from the massive onslaught of free radicals that occurs during the allergic response but it also acts as a natural antihistamine.

The only mammals that do not make their own vitamin C are humans, monkeys, and guinea pigs. All other mammals make 6,000 mg of vitamin C per 150 pounds of body weight. Humans must obtain vitamin C from food or supplements. Because the therapeutic benefits of vitamin C are so well documented, I recommend that my adult patients supplement with 6,000 mg of vitamin C per day and that they double this amount if they are sick. Large amounts of vitamin C may lead to loose stools which can be easily corrected by reducing daily intake by one fourth.

VITAMIN E PROTECTS YOUR HEART

The star antioxidant in the lipid, or fat, portion of your tissues, is vitamin E. Did you know that cardiologists are five times more likely than their patients to take vitamin

E? That's probably because cardiologists are aware that vitamin E works on many fronts to stave off heart disease. For starters, it protects LDL cholesterol from oxidation. This is crucial, since only oxidized LDL cholesterol, which has taken a "hit" from a free radical, poses a threat to the health of arteries. In its oxidized form, LDL cholesterol readily adheres to artery walls, contributing to the formation of plaques that eventually stiffen and narrow the arteries and increase the risk of heart attack and stroke.

Vitamin E also enhances blood flow, helps prevent blood clots, counters inflammation, and protects the endothelium, the inner lining of the artery, which is especially vulnerable to free-radical damage. All of these benefits add up to a significant reduction in heart disease risk with supplemental vitamin E. In the Cambridge Heart Antioxidant Study (CHAOS), a double-blind, placebo-controlled study of over two thousand adults, those who took 400–800 IU of vitamin E per day had 77-percent fewer heart attacks than the placebo group over a sixteen-month period.

But vitamin E has more wide-ranging benefits. It is the most prevalent antioxidant in the fatty tissues of your body, including the membranes that surround each and every one of your cells. Just as the walls of a fortress are the first-line defense against invasion by the enemy, cell membranes are the primary barrier keeping toxins and other harmful chemicals from entering the cell and damaging DNA. Vitamin E is actually incorporated into cell membranes, where it protects against damage from lead

and other heavy metals, pesticides and other poisons, and free radicals generated within your own body.

The RDA for vitamin E is a mere 15 mg, approximately 22 IU per day. But because the research on high-dose vitamin E is so compelling, I recommend taking 200-400 IU per day of mixed tocopherols. You simply cannot get this amount of vitamin E from food, unless you want to eat over a thousand almonds at one sitting. The simplest, healthiest way to get a therapeutic dose of vitamin E is to take a high-potency nutritional supplement.

SUPPORT YOUR HEART WITH COENZYME Q10

Coenzyme Q10 (CoQ10) is an integral part of the mitochondria, the engine of your cells where the energy is generated to run your body. Organs such as the heart, liver, kidneys, spleen, and pancreas, which require large amounts of energy, need high levels of CoQ10. As you age, your CoQ10 levels fall. Studies indicate that when levels of CoQ10 decline by 25 percent, your organs cannot meet their energy requirements and major health problems can result. The statin cholesterol lowering drugs such as Zocor, Lipitor, Pravachol, and Crestor, deplete CoQ10 levels and are associated with numerous side effects. Ubiquinone is the oxidized form of CoQ10 which must be converted to ubiquinol, the reduced form, in order to generate cellular energy. After the age of about 20, the concentration of

ubiquinone in the body begins to decline. In addition, studies indicate that those over the age of 40 began to decline in their ability to convert these declining levels of ubiquinone into ubiquinol. Therefore those over the age of 40 or those taking cholesterol lowering drugs should consider using the pre-converted, active form of CoQ10. I recommend my patients take 100-300mg daily.

CUT CANCER RISK WITH SELENIUM

Selenium is considered a trace mineral because it is present in the body in a nearly infinitesimal amount—a mere two-hundredths of a gram, compared to the 1,150 grams of calcium that are found in the body. But don't be fooled by this statistic into thinking that selenium isn't important. This mighty mineral is a powerful antioxidant and a valuable weapon in the fight against cancer. Selenium enables your cells to convert the inactive thyroid hormone T4 to the active thyroid hormone T3.

Selenium protects against cancer in four ways. First, it directly repairs the free-radical damage to DNA that initiates and promotes cancer. Second, when cells do mutate, selenium triggers apoptosis, or programmed cell death, preventing out-of-control growth of malignant cells. Third, selenium functions as part of the antioxidant and detoxifying agent glutathione. Fourth, selenium enhances your cells' ability to utilize thyroid hormone.

A number of studies show that low selenium levels carry with them an increased risk of cancer. The reverse is also true: taking a selenium supplement can be highly protective against cancer. In a study of patients with a history of skin cancer, those who were given 200 mcg of selenium per day—almost four times the RDA—had a 37-percent reduced risk of cancer compared to those who received a placebo. Their risk of lung cancer was reduced by 45 percent, colorectal cancer risk was cut by 58 percent, and prostate cancer risk was reduced by 63 percent. In fact, the supplement takers showed such a dramatic decrease in cancer incidence that the researchers halted the study two years early because they felt it was unethical to deprive the placebo group of the benefits of this mineral.

To get the maximum protection from this cancer-fighting antioxidant, I recommend taking 200 mcg of selenium per day.

ZINC ADDS ZIP TO IMMUNE FUNCTION

Zinc participates in more enzymatic reactions than any other mineral, including chemical reactions needed to make DNA and RNA and to synthesize proteins. Zinc is necessary for the proper action of the sex hormones, thyroid hormones, and growth hormone and for the conversion of vitamin A to its active form.

Optimal immune function requires zinc, which has direct antiviral effects and supports the activity of white blood cells. Zinc deficiency makes infections more likely, including infections of the digestive tract that can cause further nutritional deficiencies. Because zinc is essential to the formation of proteins, low zinc levels can impair wound healing.

Zinc deficiency is quite common, since average intakes of zinc are half to two-thirds of the recommended amount. I recommend supplementing with 30 mg per day of zinc chelate.

Besides the key antioxidants that I have just described, allow me to recommend some additional vitamins and minerals which can be beneficial to your health.

VITAMIN D: ARE YOU DEFICIENT?

Even in Texas, where I live, there is significantly less sunlight in the winter months. For some, the decline in sunlight brings on seasonal affective disorder, or "the winter blues." But for all of us, it brings the risk of low vitamin D levels because our primary source of vitamin D is exposure to sunlight.

Vitamin D's most important role is to facilitate calcium absorption from the intestines into the bones. Not surprisingly, the classic vitamin D deficiency disease is a bone-softening disease of childhood called rickets. Before the fortification of milk and other dairy products with

vitamin D, rickets was quite prevalent, especially in the northern latitudes. Today, it is a relatively rare disease in this country.

However, at the other end of the age spectrum, vitamin D deficiency remains a serious problem, especially among nursing home residents and the housebound elderly. Adults who avoid dairy products due to lactose intolerance and those with kidney disease or intestinal problems that impair absorption are also at greater risk. But even those without obvious risk factors who consume the RDA for vitamin D may be deficient. In a study of adults admitted to a medical ward at Massachusetts General Hospital, 57 percent were deficient in vitamin D—including 43 percent of those whose intake of vitamin D was above the RDA. These were not elderly individuals, but adults of all ages.

The most dramatic effect of vitamin D deficiency in adults is osteomalacia, the adult version of rickets. But vitamin D deficiency is also linked to impaired immunity, mood disorders, hypertension, and an increased risk of cancer of the breast, ovary, prostate, and colon. It can hasten the progression of arthritis, reduce resistance to infection, and worsen insulin resistance.

I recommend getting a minimum of fifteen minutes of sunscreen-free exposure to the sun at least three times a week. Darker-skinned individuals will need at least twice this amount. In addition, I recommend supplementing with 1000-2000 IU of vitamin D daily.

BONE UP ON CALCIUM

Everyone knows that calcium helps build strong bones. But did you know that calcium helps regulate your heartbeat? Calcium is also required for normal blood clotting, contraction of your muscles, transmission of nerve impulses, and secretion of some hormones.

Many Americans fail to get enough calcium from their diet. In a recent national survey, researchers found that men over age sixty who did not take calcium supplements consumed only 61 percent of the recommended amount of calcium per day. Women over age sixty - the population at greatest risk of osteoporosis - fared even worse, consuming just 48 percent of the recommended amount from food and dairy products.

But inadequate consumption of calcium is only half of the problem. The other half is excessive consumption of foods and beverages that actually promote calcium loss. A high-protein diet is one factor that contributes to calcium excretion, as is excessive sodium intake. However, the greatest contributor to calcium loss in this country is likely to be our addiction to coffee and other caffeinated beverages. Colas are especially harmful because they contain not just one but two calcium-depleting chemicals: caffeine and phosphoric acid.

Taking supplemental calcium is a simple way to ensure you're getting enough of this important mineral. Research

shows that supplemental calcium not only reduces the risk of bone fracture, but also protects against some types of cancer. In a five-year study of over 125,000 men and women, those who took at least 500 mg of supplemental calcium had a 31-percent lower risk of colorectal cancer than those who took no calcium supplements.

I recommend supplementing with a minimum of 600mg per day of calcium. For maximum absorption, choose calcium citrate or calcium chelate rather than calcium carbonate. Calcium and magnesium should always be taken together in a two-to-one ratio of calcium to magnesium. In other words, for every 300 mg of calcium you take, you should take 150 mg of magnesium. Women with osteopenia or osteoporosis should take upwards of 1200-2,000 mg of calcium per day, again balanced with magnesium in a two-to-one ratio.

MAGNESIUM IS A MUST

Though magnesium is not as popular a supplement as calcium, it deserves to be. A full 40 percent of your bone mass is accounted for by magnesium, and it is as important as calcium for preventing osteoporosis.

But magnesium's benefits extend beyond your bones. This mineral supports healthy respiratory function by helping to relax the bronchial smooth muscles. Asthma sufferers

are commonly deficient in magnesium, and this alone can trigger an asthma attack. The reverse is also true. Studies have shown that intravenous magnesium can halt an acute asthma attack, while smaller doses taken orally can lessen the likelihood of future attacks.

Magnesium is also good preventive medicine for any type of heart condition. It helps correct irregular heart rhythms, lowers blood pressure, reduces the frequency of angina, and even protects the heart from damage following a heart attack. I wish I had known about the incredible therapeutic benefits of magnesium when my father's heart was damaged on the operating table in 1988. I would have insisted he receive intravenous magnesium to help his heart recover from the devastating effects of that surgical catastrophe.

Deficiencies of magnesium are quite common, especially among the elderly and in women during the premenstrual period. Many drugs reduce magnesium levels, including diuretics and oral contraceptives. I recommend that everyone supplement with 400-800 mg of magnesium per day.

As a medical doctor, I am convinced about the absolute need for and benefits of vitamin and mineral supplementation. The vitamins and minerals that I have discussed above are the basics and should be included in your daily health regimen. They have been in mine since 1989. There are many other supplements that I personally use and

recommend to my patients. For additional information about vitamins and minerals, I recommend that you call my vitamin store, Hotze Vitamins™, to talk to a qualified vitamin consultant or go to the website listed below.

Hotze Vitamins™

www.hotzevitamins.com
800-579-6545
281-646-1659