



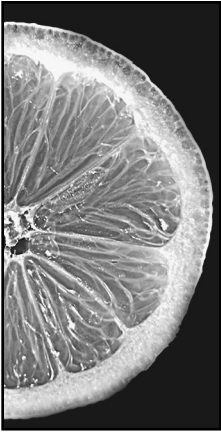
Throughout my early emergency room nursing days, I simply didn't question how little emphasis was placed on the dietary habits of ill people. In fact, the exhilaration of a fast-paced Emergency Department attracted me to this kind of specialized nursing. It focused on exciting technological treatments rather than basic nutritional routines. Emergent and urgent cases were quickly and accurately diagnosed and dealt with. The patient was either admitted for further care or went home after appropriate treatment—often with a prescription in hand, but no advice about foods or food supplements that might be helpful.

Even patients with gastrointestinal problems such as stomach-aches, acid reflux, and irritable bowel syndrome were rarely asked about or given advice on their dietary habits. In the high-tech, high-drama world of pharmaceutical and surgical remedies, my colleagues and I pretty much ignored even the most fundamental aspects of human nutrition and their link to human health.

The irony is that, as a child, I was frequently exposed to nutritional concepts and practices. I grew up in rural Saskatchewan where my father raised many animals on our farm. He was always very particular about the food he fed his livestock, and when something was wrong with them, he or the veterinarian almost always related it directly back to their food. As an adult, however, I had lost sight of the link between the diets of human animals and their health.

It wasn't until several years into my career that I realized we were treating the symptoms of disease without considering the causes. I started searching for answers to our patients' most persistent problems. Eventually, I came to understand that a person is a whole being—and that there is a correlation between the foods eaten or not eaten, the nutrients assimilated or not assimilated, and the genetic factors that may create nutritional needs unique to every person. In short, I came to understand that the nutrients you put in your mouth or don't put in your mouth—either as foods or food supplements—really do matter. I determined to learn more about them.

- Gloria



CHAPTER 1

THE FOOD-HEALTH CONNECTION

Decades ago, physicians began warning diabetics away from sugar and sugary foods. More recently, they have raised the alarm about the dangers of eating trans-fats, and they have begun advising people to restrict their intake of certain fish due to the risk of heavy metals contamination. That is, mainstream medicine has made the connection between food and disease—but it has yet to focus on the connection between food and health.

In contrast, sailors and explorers of the “new world” made the food-health connection five hundred years ago. They learned to avoid the horrors of scurvy by eating fresh whole foods. You have likely heard the classic accounts of Christopher Columbus unloading desperately ill sailors to die on a tropical island only to return a few months later to find them not only alive, but thriving. Similarly, when scurvy devastated the crew of French explorer Jacques Cartier in the winter of 1535 – 1536, First Nations peoples taught the sailors to treat the disease with a tea infused with evergreen needles.

These sailors were lucky because illness and death from scurvy is not pretty. Early symptoms include bleeding under the skin and in deep tissue, receding gums and loose teeth, anemia, fatigue, joint pain, and difficulty walking—a condition the *British Royal Navy* viewed as mere laziness and treated with flogging.

The problem, however, was not laziness, but low production of collagen related to low intake of Vitamin C. As the disease progressed, bones began to rub painfully together, making it impossible to walk. Sailors

eventually died of cerebral hemorrhage, blood loss, or convulsions.

Most physicians of the day scoffed at the idea that something in food could offer a treatment, maintaining it was the sea air that made the sailors ill. Nevertheless, Dr. John Woodall began treating scurvy with lemon juice and ultimately convinced the East India Company to provide it to their sailors when they were at sea.

In the mid-1700s, James Lind, a surgeon's mate with the *British Royal Navy*, offered different remedies to six pairs of sailors afflicted with scurvy. To Lind's delight and surprise, the pair given a remedy that included a daily ration of two oranges and one lemon recovered. Eventually, the *British Royal Navy* was persuaded to use lime juice to prevent scurvy, but it took over 40 years of coaxing and cost an estimated 100,000 seamen their lives before the change was implemented.

Today, healthcare providers acknowledge that the Vitamin C contained in citrus fruits and other foods offers a treatment for scurvy. Nevertheless, somewhat like its 18th century predecessors, modern mainstream medicine remains slow to make similar connections between dietary nutrients and health. Yes, physicians have made the connection between some nutrients and certain health conditions: iron and anemia, calcium and osteoporosis, and folic acid and neural tube defects, to name just a few. But are other nutritional deficiencies causing, or at least contributing to, a whole range of unexplained maladies in North America today? It may be possible.

According to nutrition researchers at *Arizona State University* (ASU), Vitamin C deficiency is more pronounced in America than iron deficiency—which is reportedly the most prevalent nutrient deficiency. One study at ASU showed that 6% of subjects were deficient in Vitamin C and another 30% were depleted of it; that is, these subjects did not meet the Recommended Daily Allowance (RDA) for Vitamin C. In a paper entitled “A Case for C”, researcher Carol Johnson at ASU argues that scurvy is misdiagnosed today as polio or vasculitis simply because no one, physician or patient, is on the lookout for scurvy (Johnson).

What's particularly interesting here is that physicians may be diagnosing

polio (a viral cause) or vasculitis (an inflammation) rather than scurvy (a nutrient deficiency). Perhaps this is to be expected for a couple of reasons: First, of course, scurvy is perceived to be a disease of a bygone era, not of our modern age. Second, medical doctors and registered nurses get very little (if any) formal education in nutritional science; their training and profession tend to focus on pharmaceutical and surgical remedies. As a result, it may simply be unreasonable to expect a doctor or nurse trained in Western mainstream medicine to recognize a nutritional deficiency or to offer a nutritional remedy. And even if a doctor undertook extra study in the science of nutrition, medical licensing regulations under which medical doctors work typically discourage them from recommending nutritional remedies.

This focus on pharmaceutical and surgical remedies may not be surprising. After all, a great deal has been achieved in public health in the past hundred years. At the beginning of the 20th century, infections were the leading causes of death. Mainstream medicine used pharmaceutical remedies to win that fight, and it used them again in the fight against pneumonia, diarrhea, and diphtheria. The result was a dramatic reduction in rates of illness and death from these potentially lethal diseases.

As pharmaceutical remedies were proving their worth, nutritional remedies appeared to be losing their value. Soils across the globe were degrading, but in varying degrees. Plants grown in different parts of the world or in different parts of the country, for that matter, did not contain consistent levels of nutrients—at least in part because the quality of the soils varied from place to place and farmer to farmer. How could a physician rely on a nutritional remedy if it could not be measured or controlled? As the use of pharmaceuticals became more successful and more widespread, and as plants (and the soils they grew in) became an increasingly complex issue, nutritional remedies were slowly overshadowed.

Today, the issue of nutrition and its connection to health is hotly debated in medical circles. Medical schools, researchers, physicians, and governing bodies engaged in modern mainstream medicine generally allow little room for nutritional remedies. Healthcare providers in complementary

healthcare argue that natural remedies, including food supplements, have a more viable place in healthcare than drugs. Others see the issue in neither black nor white, but in varying shades of gray—where there is room for integrative treatments that combine both mainstream and complementary practices.

Exploring this lively and sometimes intense debate is beyond the scope of this book. The intention, here, is to draw from solid scientific research to teach you about your own biology, to let you decide whether food supplements may play a role in your overall nutritional status, and to help you make informed decisions about which food supplements to buy. First, though, let's examine a few reasons to consider supplements at all.

SOME FREAKY FACTS

When you experience a nutrient deficiency, your body will try to alert you. It may send a message via any combination of seemingly inconsequential symptoms: aches and pains, circulatory problems, cognitive impairment (such as brain fog, poor concentration, or memory loss), dandruff, depression, fatigue, infections, insomnia, irritability, or low energy levels. As Dr. Timothy Smith indicates, these situations tend to “drive doctors up a diagnostic tree” (1999). This frustration occurs because the underlying cause is difficult to pinpoint—especially for those who have not been trained in the science of nutrition and nutritional deficiencies.

In these situations, standard medical tests seldom show anything is abnormal, leaving both physician and patient at a loss. This is the point at which you or your physician or perhaps family, friends, or employers may misinterpret the symptoms as laziness, a bad temper, hypochondria, some kind of mental or character weakness, or simply as normal aging (an old standby that patients seem to accept all-too-readily). Your body's message has been sent and received, but grossly misunderstood.

So you force yourself to go to work, to pull up your socks, to get on with it. It's the modern-day equivalent of flogging a sailor in the early stages of scurvy. Like those sailors, you want to regain your health—but how? As Dr. Smith points out:

If doctors do prescribe treatment, they usually bypass nutritional

supplements in favor of drugs such as anti-inflammatories, antidepressants, tranquilizers, and the like. These not only mask symptoms but also deplete nutrient stores even further. This accelerates the degenerative process, which is the forerunner of disease and aging (1999).

If a physician cannot diagnose or treat your symptoms or if you simply choose to ignore them, you may succumb to a more serious illness (an *event*, as it's known in medical terminology). It's important to realize, however, that ill health is seldom an event—it's a process. You become ill one mouthful at a time, one sedentary day at a time, one nutrient-deficient, inactive week at a time.

Despite the best that medical technology can offer, a heart attack or stroke can kill you or permanently debilitate you or, at the very least, leave you unable to play a game of baseball with your children. If you have a leg amputated due to diabetes (which is the leading cause of amputations), you may never again hike a favorite trail or dance a much-loved tango. In fact, once you become ill, you may end up in treatment for the rest of your life.

As these examples illustrate, disease can severely affect your life. Unfortunately, many people do not realize just how severe the changes may be, nor do they realize how great the risks of developing a serious illness may be—but the evidence is all around them:

First, according to the *American and Canadian Diabetes Associations*, 22.8 million North Americans (about 7% of the population) have diabetes; of these, nearly one-third do not know they have it. To make matters worse, a recent Canadian study by Lipscombe and Hux published in the prestigious medical journal *The Lancet* reported the prevalence of diabetes in Canada

A SUPPLEMENTS SECRET

When combined with proper diet and exercise, some food supplements (such as those containing chromium, magnesium, manganese and certain B vitamins) may help patients control blood glucose levels.

increased by 69% between 1995 and 2005. The greatest increase was found among younger people aged 20 to 49 years.

It's a frightening situation because diabetes greatly increases your risks of cardiovascular disease and stroke. Diabetes often brings with it other complications that occur with far greater frequency than many people think: erectile dysfunction, blindness, nerve damage often leading to amputation, and kidney disease (with its own set of complications). In the middle-aged and elderly, high blood sugar often results in poor memory, as well.

A diagnosis of diabetes is life-altering and potentially life-threatening. Necessary lifestyle changes and monitoring practices may be portrayed as "simple" in everything from medical literature to television advertising, but diabetes is not necessarily easy to manage.

Second, the *U.S. Department of Health and Human Services, Centers for Disease Control and Prevention* reports that, as of February 2007, more than 25.6 million American adults (12% of the population) have been diagnosed with heart disease. It's the leading cause of death in the United States. In the United Kingdom, the BBC reports that one British adult dies every three minutes from heart disease.

Third, in recent years, medical practitioners have seen the prevalence of inflammatory response disorders take off like a rocket. For example, the *National Center for Chronic Disease Prevention and Health Promotion* (CDC) reports that, in a classroom of 30 students, an average of three will have asthma. In fact, in 2002, 14.7 million school

A SUPPLEMENTS SECRET

Genetic testing now can reveal certain gene patterns that place certain individuals at risk for heart disease. Specialized supplements have been developed to address the nutrient needs of these people—especially as these needs relate to plant nutrients. Essential Fatty Acids and B vitamins also help support heart health, and recent clinical trials have confirmed something that thousands of years of traditional medicine have shown all along: Garlic helps maintain cardiovascular health.

days were missed because of it. In addition, Alzheimer's disease, allergies, and many other life-altering illnesses all have been linked to inflammation.

Heart disease, the leading killer of North Americans, also has been closely linked to the inflammatory process. An increased inflammatory response also has been implicated in certain aggressive forms of cancer. Cancer is the second-leading cause of death in the United States, and the CDC reports one million Americans are diagnosed with cancer every year.

The CDC also reports that 20% of American adults have arthritis and that the disease limits the activity of about 19 million people. It's important to understand that arthritis is not part of a natural aging process (as arthritis patients often are told). It's also important to understand that if you're dealing with arthritis, or any other inflammatory

response disorder, the inflammatory response is your immune system's first response to injury. The redness, swelling, and pain typical of any inflammation constitute a warning that problems exist at the cellular level and that your body is attempting to repair itself. When inflammation becomes chronic, however, it can damage healthy tissues.

A SUPPLEMENTS SECRET

Evidence is mounting that a totally terrific multi-supplement combined with nutrients such as calcium, magnesium, essential fatty acids, and mixed fatty acid esters (celadrin) may help douse the fires of inflammation. Informed supplementation may help support the body so it can heal—without the potentially dangerous side effects of popular pharmaceutical remedies.

In medicine, the suffix “itis” at the end of a medical term indicates the condition is an inflammatory response. Arthritis, bursitis, colitis, gastro enteritis, gingivitis, and any other conditions ending with “itis” are all inflammatory responses. It's crucial to address the source of an inflammatory response and not to simply mask the symptoms with anti-inflammatory drugs. Masking symptoms without adequately addressing the underlying cause can create a chronic condition. Failure to find the cause of the inflammatory response is a little like switching off the fire alarm in a burning building: You turn off that annoying warning bell, but

it does nothing to put out the fire.

Fourth, thirty years ago, ADD and ADHD were not a diagnostic category. Today, depending on which report you read, statistics show ADD/ADHD wreaks havoc in the lives of as many as 25% of North American school children (Whiting, 2006). Common treatment tends to focus on drugs or psychiatric counseling or both.

In the schools, curriculum development for students with ADD/ADHD seldom does little more than mention nutrition or supplementation, almost as an after-thought. Before exposing these children to drugs and their side effects (and all drugs have side effects), maybe it's worth saying "Okay, let's look at the nutritional status of these children. Let's see if something is missing from their diets or if some nutrient or combination of nutrients might help alleviate this condition, somewhat like citrus fruits alleviated scurvy." With any change like this, get the advice of your health practitioner.

A SUPPLEMENTS SECRET

Dr. Steven E. Whiting of the *Institute of Nutritional Science* in San Diego strongly advocates nutritional options for ADD/ADHD in his booklet "Trace Minerals and Learning Disabilities—A Third Opinion" (2006).

Fifth, fifty years ago, osteoporosis was considered a disease that afflicted elderly people, mainly women. Today, this killer disease costs the American healthcare system \$14 billion per year and poses a major health threat for 44 million Americans. Of these, an estimated 10 million already have the disease and another 34 million have low bone mass. Most surprising, perhaps, is that those at risk now include young men (yes, men) and young women in their early thirties.

The *National Institutes of Health* define bone as "living, growing tissue. It's made mostly of collagen, a protein that provides a soft framework, and calcium phosphate, a mineral that adds strength and hardens the framework." As you already have read, inadequate intake of Vitamin C can lead to inadequate production of collagen, and fairly widespread Vitamin C deficiency is suspected in North America. Further, many

published studies show that inadequate intake of calcium and its complementary nutrients throughout a person's lifetime (not just in the elder years) increases the risk of osteoporosis. Calcium deficiencies left unattended will lead to serious bone mass issues—especially in children and seniors.

Osteoporosis is caused by certain lifestyle factors and dietary choices. Lifestyle factors include smoking and sedentary habits; dietary choices include excessive protein intake, high phosphate intake (meat and soft drinks), high sugar intake

A SUPPLEMENTS SECRET

Many people know calcium is needed for strong bones, but they may not know that, if the body is to lay down bone properly, calcium also requires magnesium, Vitamin D, and Vitamin C with bioflavonoids.

(especially through processed foods), and low nutrient intake. When you add up all these factors, you may not be surprised to learn that the *National Institutes of Health* warn that one in two American women

and one in four American men will suffer an osteoporosis-related fracture.

It's important to realize these fractures can be deadly, especially when they occur in the hip or spine. It's important to realize, too, that this life-threatening disease is both preventable and treatable. If you're willing to modify your lifestyle and food choices, informed supplementation can go a long way to help prevent and treat osteoporosis.

Sixth, viruses such as SARS, Avian bird flu, and new strains of influenza (including the much-anticipated flu pandemic) threaten to overwhelm the healthcare system. These diseases have no cure. Influenza vaccines may improve immunity, but only for about two months and only for certain individuals.

According to the *Canadian Association of Naturopathic Doctors*, a flu vaccine is effective only about 75% of the time for healthy individuals under the age of 65. The success rate drops to less than 30% for those over the age of 65 years. Every year, medical science develops a new influenza vaccine—only to have the virus mutate into an even more powerful strain

the following year. Each mutation demands another new vaccine.

Many people think there is a medication (a magic bullet) for whatever may ail them, but the cure for these diseases, and many others, still frequently eludes North America's over-burdened healthcare system and leaves patients with severely altered lives.

A SUPPLEMENTS SECRET

At the first tell-tale tickle of a cold or flu, many people find that taking a combination of Echinacea, Garlic, and Vitamin C with bioflavonoids, can help support the immune system so it can successfully fight a virus. The trick is to take three or four doses through the day as soon as the first symptoms appear.

**YOUR
INTERNAL
PHYSICIAN**

The hunt for new medicines is not only frustrating and costly, it may cause you to lose sight of the incredible healing power of your own body and the need to maintain its natural, healthy state. As Drs. Lopez, Williams, and Miehle have stated:

...it's not medicine which 'cures', not the drug. No doctor can heal a wound. He or she can contribute toward its healing, can relieve the strain on the body in many ways, support it, but healing and maintenance of health is the responsibility of the body's own defenses (Lopez, p. 145).

One of your body's main defenses is your immune system. It's your internal physician, on call 24 hours per day. Its job is to protect you against pathogenic organisms and some toxins. In the face of new viral and bacterial threats, medical professionals now are advising people to do all they can to enhance their immune function as a first line of defense.

Unfortunately, many people have weakened immune systems that may not be fully up to the task of defending against disease. Not all that long ago, a cold or sore throat was something the immune system could handle fairly readily. Today, it seems more and more people are suffering through multiple bouts of flu and colds each year, and it's not uncommon for children or adults to have a cough or sore throat for several weeks. If this

is you, your body is not in its optimal state of well being and it's time to make some changes.

You may say, "But I don't need to change. I'm really pretty healthy." The question, however, is whether you are truly healthy or if you have learned to merely cope. If you have allergies or arthritis or asthma or brain fog or cholesterol problems or constipation or cravings or fatigue or frequent colds (more than one or two per year) or gingivitis or high blood pressure or infections or insomnia or irritable bowel syndrome or mood swings or chronic muscle pain or rashes or sinusitis or stomach pain or tonsillitis or weight problems or zits or any other symptom from a to z—whew! what a list—then you are not healthy: you are coping. These symptoms are signs of disease, not a healthy state of being. They have to be addressed, at least in part, by improving your nutritional status.

As you finish this chapter, you may feel as if you're operating in a huge void—a void in your understanding of nutritional matters, a void in your understanding of the role supplements may play in supporting your body's natural defenses, and void in your understanding of which supplements may be right for you.

Sadly, it's quite possible you're right. This book is designed to help you fill that void. It's also designed to help you scrutinize the various brands of supplements on store shelves so you can recognize the good, the bad, and the totally terrific.

BOTTOM LINE SECRETS

THE FOOD-HEALTH CONNECTION remains of secondary interest in most research that favors drugs to combat disease. This situation leaves a serious imbalance in the way North Americans approach health issues. It appears many people are fighting disease rather than preventing it, and prefer pharmaceutical drugs to natural remedies. It's a situation repeated throughout history.

INCREASES IN CHRONIC CONDITIONS and life-threatening diseases create a swelling burden on healthcare systems, in spite of impressive gains made in understanding and curing disease. Unfortunately,

many people have forgotten the human body can be incredibly effective at healing itself—if it's given the proper support.

YOUR IMMUNE SYSTEM is one of your body's main defenses against disease. It's your internal physician, on call 24 hours per day. Unfortunately, however, many people have weakened immune systems which cannot adequately protect against disease. Informed supplementation may be able to help.

THE SECRET TO USING SUPPLEMENTS effectively is, first, to acknowledge they may play a proactive role in supporting the body's natural defenses. Second, you must learn to tell the difference among the good, the bad, and the totally terrific on the supplements shelves; that is, you must fill any void in your knowledge of nutrition and supplementation so you can make informed choices that are right for you.