

Supplementation, do we need it?

I was reading some new research that suggested that large levels of vitamin A in fact contribute to osteoporosis and demineralization of bone. Even in the same article however, it was also stated that the levels of vitamin A needed in order for this to occur were not fully understood. This was an observational study and had yet to be reproduced by other research.

My point is that for every negative study, there are numerous positive nutritional studies that report great benefit in health maintenance and treatment of disease.

As a result, confusion often reigns in the eyes of the public.

I would like to dispel some of the myths and shine the light of common sense into some of the darkness that surrounds this issue.

The real problem is our environment and the increased need for nutrition to help us to deal with the toxicity that surrounds us on every side.

Did you know that the U.S. Congress in 1937 created a special hearing to access and attempt to address the demineralization of the topsoils of the Great Plains. I have a simple question for you. Do you think that this issue has improved in the last 66 years? Remember, that this was before the advent of pesticides, herbicides and the chemical cocktail that is presently needed to grow a crop, not to mention that the population of the U.S. was not quite 128.9 million, less than half the current number. Add into the mix the fact that the vast majority of farms in 1937 were family owned, not extensions of international corporations who have no idea of why the land needs to rest, lying fallow. The bottom line is profit, nothing else. I could go on but you get the drift of what I am saying I'm sure. Food that is grown in nutrient poor soil is nutrient poor as well. Add to this the manufacturing, harvesting methods and storage conditions and times and you must come to the realization that supplementation is no longer an option. The question is no longer " I wonder if I need to take vitamins?" It is now " I wonder how much and how often do I need to supplement my diet?" No vitamin can give us everything we need to keep us healthy. After all, a tomato has 10,000 compounds in it. Research has just scratched the surface of nutritional science and the list of beneficial nutrients grows every year. Remember that vitamin C was only isolated in 1927. Imagine how much more we need to learn about the nutritional needs of the body?

Attempting to make any definitive assumptions now about nutritional needs

would be presumptuous. Common sense tells us that anything that can increase the levels of nutrients we would normally find in foods cannot help but be a good thing.

We all know that we regenerate cells every day and that we need enough nutrients to make that process happen.

We also realize that we could attempt to get every thing we need from foods. After all, they contain the same vitamins, minerals, proteins and carbohydrates we use and need. What most people don't know is what constituents are changed or destroyed during the food processing stage of harvesting, storage and cooking of foods. Foods are often picked before they are ripe and allowed to ripen in transit, at the market or during home storage. They do not acquire their full complement of minerals and vitamins, which frequently increase greatly during the later stages of growth. Whether it is in the market or at home, transportation and storage of foods increases the opportunity for nutrients to deteriorate. Fruits and vegetables can lose significant amounts of vitamin C after 3 days in cold storage, and even more at room temperature. Dried fruits can also lose vitamins A, C and E if exposed to oxygen and light. Many experts feel that the soil condition, due to trends in farming today cannot be reversed. The poor condition of soils, erosion, dependence on fertilizers, and genetically altered crops that will grow in such poor conditions are but a few of the factors that effect food quality. The growing fear of possible bad effects in the human population from DNA modified crops has led to many countries around the world banning the import of these crops. Meanwhile in other countries such as Canada, the public doesn't even have the right to know what products contain genetically modified foods. The health protection branch has ruled that packaging does not need to contain warnings of any kind.

Despite access to foods from else where in the country, people in nutrient low areas still have increased incidence of nutritionally generated illness. For example, in northeastern United States (and elsewhere) the soil has very low selenium content. Selenium is important for protection from heart disease and cancer. In spite of a diet that includes foods from many geographic areas, research has shown that people living in regions with low soil selenium have a higher risk of cancer. Although selenium, as well as chromium and iodine, are essential for human nutrition, they are not required for growing apparently healthy plants. As such, they are rarely added to the soil for agricultural purposes.

We know that cooking, freezing, radiating or processing kills food, stopping its cellular activity, and that once we have taken the life from food, there is nothing we can do to restore that life. This irreversible change alters amino acids (protein) and minerals, and destroys all enzymes and most vitamins. One thing to

remember is that we need minerals to use vitamins effectively. The opposite is not true though. As a result, vitamins and minerals are both important to maintain good health.

One aspect of minerals most people don't know about or don't understand is the concept of organic vs. inorganic. Inorganic simply means that the mineral is still in its non absorbable form whereas organic minerals have already been gone through a living system such as a plant or bacterium and have been broken down to its ionic form and are able to be used by plants or other organisms. An example of this would be if a person wanted to increase the levels of iron in an acre of soil. Many people feel that just by burying a few pounds of iron nails, this would accomplish the end result of increased iron content. In fact, the iron nails would have to be broken down into its component parts called ions, which would then be assimilated by the plants grown in that soil. This would be accomplished by oxidation of the iron by the environment and by bacteria creating a chemical called fulvic acid, which helps break down minerals into a form that plants can use. The end result would be an organic form of iron as opposed to the inorganic form found in the original iron nails. As a result of the use of pesticides, there are no bacteria left in the soils.

Amino acids and enzymes also have a vital working relationship. While amino acids (which make up protein) provide building material for our cells, enzymes are the life forces that do the building. Promoters of synthetic vitamins and processed foods don't talk much about enzymes, because they are found only in living organisms (including raw food). Enzymes are a vital element of nutrition. They are the catalyst for all chemical changes in our body, such as digestion of food, sending oxygen from the lungs to our blood and cells, body movement, synthesizing proteins from amino acids to make muscle, and even thinking. Vitamins and minerals work together to help these enzymes function, and are sometimes referred to as "co-enzymes." Those who depend solely on cooked food and synthetic vitamins for nutrition will be deficient in enzymes.

Dr. Roger Williams has shown in experiments with rats that after five generations of inbreeding, litter mates, which are very close genetically, can vary in nutrient needs up to 40 times for particular nutrients. In other words, one rat may need 2.5 mg. of pantothenic acid (vitamin B5) and another may need 100 mg. for the same level of vitality, physical endurance and life span. There is an even greater variation in human beings, as we have a greater genetic diversity than other species.

In the natural course of events, species develop (or evolve) when those animals

with greater nutritional needs fail to survive or to reproduce as well as those with lesser needs. Except in a few known genetic disorders, we cannot determine subtle variations in nutritional needs for human beings. It is therefore wise to make sure that our internal environment (including all cells, tissues and organs) is abundantly supplied with all the nutrients.

It is important to realize that in the past, our ancestors had comparatively few stressors versus the environmental and psychological stressors that modern populations have. Whether it is toxins in food, water and air or other exposures such as mercury in dental fillings or aluminum in cookware and antiperspirants, our bodies have an excessive burden to overcome, one that increases with every year and one that was not present to any great degree even 60 years ago.

You already know that the air is polluted. Everybody is subjected to toxic exposure from a wide variety of pollutants in the air they breathe. Among the many toxins in the air are:

- o Carbon monoxide and lead from fuel exhaust (most of the lead has been reduced in the United States, but it is still found elsewhere).

- o Hydrocarbon pollutants from industrial waste.

- o By-products from the burning of fossil fuels.

- o Cigarette smoke.

- o Radiation leakage from nuclear power plants and radon in the home.

Radiation, like radon gas, is a contaminant that cannot be seen, smelled, or tasted and is therefore more insidious than some of the more familiar pollutants. This environmental burden taxes our detoxification capacity and may lead to many health problems. Another important aspect to remember is that our grandparents and great grandparents all ate organic food. They had no choice as it was before the invention and application of pesticides, insecticides and fertilizers.

Supplements enhance a healthy diet; they are not a substitute for it. Some antagonists to the use of dietary supplements have said that people will get a

false sense of security if they use supplements, and as a result they will not seek out the healthiest foods.

It is my experience on the contrary, that the people who elect to use supplements are usually the ones who also eat a healthier diet. They are more concerned about their health than the majority and are willing to make an investment to maintain and take responsibility for their health. As well, they often can feel the effects of a week of poor dietary choices when most of us would feel no different because we always eat that way or feel less energetic than our more health conscious neighbors. After all, what is "normal" is what you are used to.

Water consumption

In order to maintain good health we need to drink enough water. The AMA has reported that one of the major health issues of the elderly is dehydration. Tap water, unfortunately, contains more than water. It is often contaminated with toxic heavy metals such as lead or cadmium or with fluoride (associated with an increased risk of cancer, digestive disorders and kidney disease). Often, industrial chemicals and wastes, pesticides and other farm chemicals have seeped through the soil to contaminate the water table. Volatile chemicals (those hydrocarbons that readily vaporize) can combine with chlorine to form even more toxic products.

At one water-testing lab, the joke about their municipal water was that it was "safe" to drink, but for goodness sake don't smoke in the shower!

Nutrition and free radicals

Free radicals are found everywhere in today's world. Even our own bodies create them.

In the normal course of metabolism, our body produces small, high-energy particles that have a single electron in their outer shell (such molecules are unstable because electrons prefer to be paired). These are called free radicals, and they can be very damaging in their search for another electron so they can become stable. Free radicals derived from oxygen are the most abundant and damaging of all.

These free radicals are normally channeled into energy production. In some cells they may be used as the weapons to kill viruses and bacteria. Unfortunately, if too many of them are produced, their extremely high energy can also be damaging to normal tissues. Free radicals disrupt the normal production of

DNA, the genetic material, and alter the lipids (fats) in cell membranes. They also affect the blood vessels and the production of prostaglandins. Prostaglandins are hormone-like substances that regulate many physiological functions, and their production is very sensitive to many metabolic influences.

We are also exposed to free radicals that are found in the environment or generated by exposure to environmental chemicals. There are many sources of excess free-radical exposure, including cigarette smoke; air pollution; some highly processed foods and food additives; ultraviolet sunlight and radiation; processed oils such as commercial vegetable oils, margarines and shortenings; charcoal-broiled foods and any charred or burned foods; heavy metals (lead, cadmium, aluminum, and mercury) found in processed foods; excessive iron; pesticides; and some prescription medications. Many of the chemicals found in municipal water supplies are toxic because they generate free radicals. It is good to drink a lot of water but for this reason, avoid tap water as much as possible.

Recently, it has been confirmed that excessive accumulation of iron, common in red meat-eating populations, may be a highly significant risk factor in the development of heart disease and cancer, although not as important as smoking. This is probably due to this transition metal being a generator of free radicals. By careful lifestyle choices some of these free-radical sources can be avoided and others can be counteracted through the regular use of antioxidants. By making these choices for yourself you can slow down the aging process, decrease the risk of cancer and heart disease and promote high energy and a vital, healthy feeling of well-being, prevent cancer, heart disease, premature aging and tissue degeneration.

This is not to say that stored foods are of no value, but the lower nutrient content increases the importance of taking supplements.

You can overcome some of these problems if you grow your own food or buy organically grown fruits and vegetables (which are generally fresher because they cannot be stored as long). Commercial fruits and vegetables are frequently sprayed with toxic chemicals. Many of these substances are harmful as they accumulate in body fat, with deleterious health effects over the years. A good example is DDT, which is still present in human fat tissue although its use was banned years ago. Eskimos still using a traditional diet have large levels of DDT in their systems from eating whale blubber, even when the whale has never left the Arctic. This gives us all some idea of how widespread this issue is.

Many of the pesticides prohibited in the United States and Canada have been freely sold to third world countries, which then export foods to North America.

The United States Food and Nutrition Board instituted RDAs (Required Daily

Allowance she hops in your kolkhoz but anti) over forty-five years ago. It was considered as a standard for the amount of vitamins and minerals needed by a healthy person. We know now that RDAs only provide the bare minimum required to stop the signs of clinical malnutrition, such as scurvy, beriberi and pellagra. New studies have shown since that substantially larger amounts help our bodies to work more efficiently. Data compiled by the USDA shows that at least forty percent of people consume a diet that contains only sixty percent of the RDA (recommended daily allowance) of ten selected nutrients. This means that half or more of the population is clinically deficient in at least one important nutrient.

Remember this is using RDAs, which are extremely low estimates of need to begin with. Imagine what the deficiency percentage would be using a higher dose level, one that promotes optimum physical function?

Many researchers question the value of the RDAs. They make the highly processed North American food supply look more nutritious than it is, and they appear to be influenced by the food industry. The RDAs are not useful in establishing optimal health. Our modern problems are not deficiency diseases but degenerative diseases created by poor nutrition. Nutrients play an important role in preventing these conditions. The RDAs cannot be used in evaluating the therapeutic and preventive value of large doses of dietary supplements.

The sad truth is, if you look around, you will see many people who do manage to get the RDA levels of most nutrients, but they still go on to develop early heart disease, cancer, arthritis, and diabetes. They have frequent viral infections (colds, the flu, herpes), they are overweight, and they lose their teeth to decay and gum disease. In terms of life expectancy, infant mortality and health care costs, North Americans are not in the most favorable position in world statistics. Average North Americans have a lower life expectancy than citizens of some third world countries. This is happening in spite of the huge money invested in health care throughout North America.

In this regard, it is not good to be average - the average American will die early of heart disease, stroke, diabetes or cancer. You can do many things to improve your health and reduce your risk of developing the health problems of the rest of the population. Taking dietary supplements is one of them.

Good nutrition is the foundation of good health. The human body is a complex organism, and it has the ability to heal itself if you listen to what it has to say, and if you give it what it needs to function on all levels.

We need the four basics: water, carbohydrates, proteins and fats to exist. These are the basics from which a dietary foundation is built. In addition, vitamins, minerals, and many other macro and micronutrients are needed to ensure proper growth, vitality and energy. If we do not give the body the nutrients it needs, we impair our ability to function. Most functions of nutrients occur on a microscopic level. Even if we have no overt signs of illness, we may not be as healthy as we assume we are on a cellular level, and it is on this level that all disease begins.

A poll of 37,000 Americans by Food Technology found that half were deficient in vitamin B6, 42% were low in calcium, 39% had low iron and 25 to 39% of people polled had low vitamin C levels. Once again, this is still using RDAs as the norm. If we instead used the optimum daily allowance, the level of nutrition required for vibrant health, I am sure that this study would have found that almost all the people polled would have been deficient in several of the ten selected nutrients. No wonder, North American society is sicker now than at any other time in history, and this is in spite of modern medicine and substantial money being invested into health care. There is a phrase being coined now. We eat a SAD diet, or Sorry American Diet. This is SAD but true. The tax system even conspires against the person who decides to treat their ailments with vitamins and herbs or uses them in a preventative manner. While prescription drugs are not only covered by insurance, they can be written off on your tax form, vitamins are not. Even if your Naturopath prescribes your supplements, unless you buy them in a drug store and keep the receipts, you can't write them off. As I tell people though, how much is your health worth. You only miss it when it's gone, and most of us take it for granted instead of as the gift it is. Good health is not a right; it is something most of us have work at to maintain. As we age, our health or lack of it becomes a major focus of many of our lives. How many conversations of the elderly focus on the ailments they suffer from rather than the vibrant lives they are living. Past the age of 40 years, more cells are dying than are being generated every day. In simple terms, after 40 it's all downhill. How fast we slide down this slippery slope depends largely on what we do daily to put the brakes on aging. As I mentioned before, free radicals are a major cause of not just aging but also a host of diseases that are the biggest killers in our society. Regular use of supplements can make the difference between not just life and death but the quality of life as well. Remember what Mae West said about that subject? "It's not the men in my life, it's the life in my men that counts." You reap what you sow, so it only makes sense to prepare for old age by building a strong and healthy body while we make the journey towards that inevitable destination.

A balanced program of mineral and vitamin supplementation will help to correct

the deficiencies we all have. A diet rich in foods containing vitamins, minerals and cofactors that our bodies need should not be a hard regime to follow if the foods were available, however so many of us have such busy lifestyles that we feel cooking a healthy meal is too time consuming, assuming we can find foods capable of giving us all the nutrients we need. Everywhere we turn, we are bombarded with advertisements about snacks and fast, easy meals we can prepare. In fact, I feel this is a dangerous trend in advertising. Speed of preparation is now a major selling point for many advertised foods. Now everything is fortified because if it weren't there would be absolutely nothing in the "food". Even medical science has come around to recognizing the importance of good nutrition in the maintenance of overall human health. The American Medical Association, as little as ten years ago, refused to acknowledge any connection between malnutrition and poor health. As far as they were concerned, it only caused specific deficiency conditions, not an overall lowering of function, which could result in illness.

Even now, most mainstream physicians still do not recommend supplementation of vitamins and minerals to their patients. They still consider nutritional supplements as unproven therapies, despite the hundreds of studies dating from the 1950s to the present time that prove categorically the effectiveness of nutritional supplements in increasing overall health of people who use them regularly. The key is REGULAR USE. Just as infrequent exercise does little good, so does infrequent use of supplements. In order to gain the best effect, you need to use them every day. Health is much more than an absence of disease. Sadly many of us don't know what we can or should feel like, as we are only used to our everyday experience, no matter how tired, achy, moody or weak we constantly feel. Many of us have no concept that our lives can be so much more as we have nothing to draw a comparison to. What we feel like and how we live daily is normal, and we never dream that so much more is there for the taking.

Explaining what energy and health feels like to an unhealthy person is like describing the color red to a blind person or what music is to the hearing impaired. It has to be experienced to understand it.

It is becoming clearer that we need to take whatever precautions we can to increase and protect our health, for if we don't, who else will?

Nothing can ever replace food due to the hundreds of beneficial compounds inherent in many foods, but due to poor soil conditions, it is imperative we supplement a good diet with optimum amounts of vitamins and minerals.