



Health Matters

Great Smokies Medical Center of Asheville

A small, occasional publication

Volume 6, Issue 4

The Ultimate Food Fight: Food vs. Supplements

(The following article by Dr. Pam Shuler, F.N.P.-B.C., was first published in New Life Journal (www.newlifejournal.com). It is reprinted here with permission to enable our readers to access it. —Ed.)

Court of Public Opinion

Surprisingly strong feelings can override facts in the court of public opinion of whether diet alone is capable of providing all the nutrients needed for optimal health or if nutritional supplements are also needed.

Pro-Diet

In support of the pro-diet side, there isn't a nutritional supplement made that can surpass nature's complex synergistic designs for whole, living foods. Early childhood experiences link food to nurturing, forming associations that can persist throughout life. Later in life, sharing or a meal or "breaking bread," still has a unique ability to foster emotional bonds among those who partake.

Pro-Nutritional Supplements

In support of the pro-supplement side, there is no faster, more convenient, or more effective way to address a nutritional deficit than by taking the lacking nutrient as a dietary supplement. There isn't a food that can even come close to supplying the high doses of nutrients possible through nutritional supplementation. For example, it takes about 14 oranges to equal the vitamin C in a single 1,000 mg capsule of vitamin C.

A Changing Debate

The diet vs. nutritional supplements debate is markedly different today from a debate that might have taken place just eighty years ago on the same topic. Several events in the 20th century have taken a toll on both environmental and human ecology, including:

- Our nation's nearly exclusive use of non-organic agricultural practices that require synthetic fertilizer, pesticides, and herbicides, has stripped nutrients from soil.



- Nutrients in several conventionally-grown vegetables tested in 2000 had a 30 percent to 70 percent loss of nutrient content when compared to levels established in 1963.

The levels of nutrients listed in most nutritional tables no longer represent the nutritional content currently provided by foods.

- Increased sugar consumption undermines health by depleting B vitamins and by allowing harmful bacteria to overpopulate in the gastrointestinal tract, thereby decreasing immunity and decreasing absorption of nutrients.

Addicted to Dieting

Judging by the number of diet books sold each year, Americans love to diet. Long-term adherence to restrictive diets, including vegetarianism too often practiced without awareness (putting people at risk for insufficient iron, vitamins D and B12, selenium, and zinc), caloric restriction, and many faddish dietary weight loss plans can cause nutritional deficiencies. Americans' default diet, the Standard American Diet (SAD), is lacking in fresh fruits and vegetables, healthy fats, and nutrients, while it is excessive in calories, sugar, and unhealthy fats. The SAD promotes chronic degenerative disease, including obesity, diabetes, and heart disease.

Modern Day Obstacles

The obstacles to eating a good diet in our land of plenty are not insignificant and can overpower an individual's resolve to "eat better," as they give way to fast food,

Nutrients currently used to treat a variety of health problems by mainstream practitioners speak to the enduring nutritional roots of modern medicine. They include:

- Folic acid to prevent neural tube birth defects during pregnancy and aid red blood cell development during pregnancy
- Vitamin B6 to treat nausea and vomiting of pregnancy
- Vitamin K shots to prevent a bleeding disorder that afflicts some newborns
- Magnesium to prevent or treat eclampsia of pregnancy, acute onset heart attacks and cardiac arrhythmias, and acute asthma attacks
- Vitamin B1 (thiamin) to treat or prevent symptoms of chronic alcoholism
- Vitamin B12 shots to treat pernicious anemia
- Vitamin A to prevent childhood blindness, as supported by the World Health Organization
- Vitamin B3 (niacin) to lower cholesterol levels
- Vitamin D and calcium to treat osteoporosis

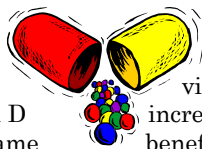
- Overly liberal use of antibiotics has changed the ecology of the bowel that, in turn, impairs the absorption of nutrients. The adage, "You are what you eat," has given way to the more relevant, "You are what you assimilate."

busy lives, convenience, and the frailties of human nature. Expecting supplements to atone for such habitual dietary habits as having a glazed donut and a Coke for breakfast and a malted milk and French fries for lunch and dinner is not a reasonable expectation. (cont. p.2)

The Ultimate Food Fight, cont.

Nutrient Deficiencies

Individual foods have long been known for their unique contributions to health. These include citrus fruits used to prevent or treat scurvy (vitamin C deficiency) that threatened the lives of sailors on long voyages years ago, and cod liver oil used to treat rickets (vitamin D deficiency), a condition that became apparent during the Industrial Revolution.



Fortification of Foods

Purists in the pro-diet camp may not be able to entirely avoid getting some supplemental nutrients in their diet. Experts in nutrition and public health determined that the general population was not likely to get nutrients needed through diet alone in amounts needed to prevent disease, and the concern resulted in fortification of foods with nutrients. These include:

- iodine (first added to salt in 1924 to prevent goiter)
- vitamin D (first added to milk in 1933 to prevent rickets)
- B vitamins and folic acid (first added to flour in 1941)

Nutrients Synthesized in Laboratory

In 1913, however, the door to targeted nutritional supplementation was opened when the first vitamin, thiamin (vitamin B1) was isolated in the laboratory. Now, the National Institutes of Health (NIH) estimates that more than half of American adults spend a total of \$23 million dollars taking nutritional supplements, including multivitamin/mineral formulations. The likelihood of getting nutrients that significantly impact health from a one-a-day formulation is low. A high quality multivitamin/mineral often requires 4 to 6 capsules a day.

Two Commonly Deficient Nutrients

Some nutrients deserve special consideration for supplementation, including vitamins C and D. Due to the lack of a single enzyme that nearly all other mammals have, humans have lost the ability to synthesize vitamin C. Very little vitamin D comes from diet, but is synthesized in the body only when bare skin is exposed to sunlight. Many Americans are sun deprived from living and working indoors and are thus, vitamin D-deprived.

Diseases Can Create Nutrient Needs

Nutritional supplements can be used to address effects of medical conditions for which diet falls short, such as the chronic decreased intestinal absorption seen in Crohn's or celiac diseases, depletion of B vitamins and vitamin C during periods of increased stress, and depletion of beneficial intestinal bacteria and electrolytes from acute viral gastroenteritis.

Antioxidants for Athletes

Even highly trained, conditioned athletes (in particular extreme runners) have experienced sudden death during or just after stopping extreme exertion. The additional oxygen consumed during strenuous aerobic exercise can damage body tissues (including the heart) through *oxidation*. The flood of oxidants from strenuous exercise rapidly consumes and depletes the body's stores of *anti-oxidant* nutrients. Ken Cooper, M.D., author of *Antioxidant Revolution*, advises extreme athletes to not only eat antioxidant-rich vegetables, but also to take supplemental antioxidants. Laboratory testing of blood markers measuring oxidation before, during, and after exercise has shown that taking supplemental antioxidant nutrients can be life-saving for extreme athletes.

NIH Findings

Thirteen nutritional and health experts convened under the auspices of the NIH to review randomized controlled trials of nutrients used for disease prevention. (<http://consensus.nih.gov/2006/MVMFINAL080106.pdf>) Their findings, considered to be a small drop in a large pond of the potential use of nutritional supplementation by those trained and experienced in nutritional medicine, were released in 2006. They include:

Calcium and Vitamin D—benefit bone mineral density and prevent fracture risk in post-menopausal women

Selenium—may cut risk of prostate, lung and colorectal cancers

Vitamin E—may decrease deaths from heart disease in women; it may also lower the risk for prostate cancer in male smokers

Antioxidants and Zinc—an antioxidant combination of vitamin C, vitamin E, beta-carotene and zinc may benefit intermediate age-related macular degeneration, a degenerative eye disease

Deficiency State/Optimal Nutrition

When reading supplement labels, remember that a nutrient's Recommended Daily Allowance (RDA) is the minimum amount required to avoid a deficiency state. The amount of the same nutrient needed to support optimal health, on the other hand, is always higher, and often significantly so. Supplemental iron should be avoided unless a person has a medical reason to take it. While iron is essential to health, excess iron can harm health.

Individuality

Central in this ongoing food fight is the fact that all people are not created equal when it comes to body chemistry and genetics. Those who did a good job of picking their parents are more likely able to maintain their health with little attention to what they eat. Less fortunate individuals have genetic glitches that don't allow them the same casual attitude toward their diet and lifestyle.

In my experience, people who eat nutrient-dense, organic diets may or may not fare better on laboratory testing of nutrient levels than a person who eats a SAD. This seeming injustice points to the silent undermining of health by decreased nutrient content, genetics, and environmental stressors.

A Balancing Act

What is the best strategy to protect health? If your ancestors died after a long healthy life and if you haven't acquired chronic health problems along the way, and if you eat organic food, eat 6 to 9 servings of fresh highly colored vegetables a day, eat additional servings of fresh fruits daily, don't live or work in a polluted environment, get regular moderate exercise, and avoid excessive junk food, you may be able to rely on your genes and lifestyle.



As for the rest of us, partnering informed dietary choices most of the time with the use of nutritional supplements to help cover the numerous influences of the 21st century that undermine health and nutrition may be

the best tactic.

All content in this newsletter is intended to be informational and is not to be taken as medical advice or to replace medical care.