



## THE VITAMIN DEFICIENCY-DISEASE LINK

Every study of the American diet reveals a sub-optimal intake of many micronutrients. As a result, degenerative diseases related to diet and nutrient deficiencies are a major killer worldwide.

A recent article out of the Illinois State University—"Experts say vitamin deficiency often leads to health complications"—states "many nutrition experts believe a deficiency of certain vitamins and minerals is to blame for some cases of cancer and obesity." The article goes on to say that regular nutraceutical supplementation may prevent "disorders associated with aging," according to Bruce N. Ames, professor of Graduate School Division of Biochemistry and Molecular Biology at the University of California/Berkeley and senior scientist at Children's Hospital Oakland Research Institute (CHORI).

Ames is a noted biochemist/researcher—considered a pioneer in his field—whose team investigates the effects of insufficient vitamin/mineral intake on cellular function and the oxidative damage done to mitochondria with aging.

He advocates that oxidative damage to DNA, proteins and lipids results in aging and age-related disease, from cancer and heart disease to cataracts, obesity, Alzheimer's and other neurodegenerative diseases. His research indicates "deficiency of vitamins C, E, B<sub>12</sub>, B<sub>6</sub>, niacin, folic acid, iron or zinc breaks DNA strands and may cause oxidative lesion. The damages closely resemble those caused by cell exposure to radiation and toxic chemicals."

According to the National Foundation for Cancer Research, it's suggested that "inadequate intake of essential micronutrients can increase the risk for cancer" and "scientific data indicates that nutritional factors may contribute to up to 60% of all cancer cases in the world, and are related to almost one third of all cancer deaths in the U.S. each year."

Per Ames, "an optimum intake of micronutrients and metabolites, which varies with age and genetics, should tune up metabolism and markedly increase health at little cost, particularly for the poor, obese, and elderly."

### Managing your aging process:

**What you need to know.** Per the Center for Education and Research on Aging at Berkeley, the Ames "blueprint" is pretty straightforward: Take your vitamins. The key nutrients are B<sub>12</sub>, B<sub>6</sub>, B<sub>3</sub>/niacin, C, E, folic acid, iron and zinc. Ames says that half of Americans "fail to consume the RDA for at least one of these nutrients"—and admits that many one-a-days lack "enough calcium and magnesium" as well as "omega-3 fatty acids."

•**B<sub>12</sub>**—for red/white blood cell production, cell functioning, nutrient metabolism; works with folic acid and B<sub>6</sub>, to lower homocysteine levels, linked to heart disease, stroke, Alzheimer's, Parkinson's and osteoporosis

- **B<sub>6</sub>**—vital for protein-fat-carbohydrate metabolism, healthy nervous system, adrenal/insulin formation, lowering homocysteine levels, regulating body fluids, RNA/DNA synthesis and antibody formation to fight infection
- **B<sub>3</sub>/niacin**—helpful for a healthy nervous system, digestive system, skin, lowered cholesterol/triglyceride levels, bile salts production, sex hormone synthesis
- **C & E**—all powerhouse antioxidants for managing your aging process, reducing free radicals and strengthening immunity as well as helping prevent cancer and heart disease
- **Folic acid**—increases antibody production/activity, may lower homocysteine levels (2002 research found 21% less likelihood of stroke and 40% less likelihood of cancer in people with highest intakes of dietary folic acid)
- **Iron**—an essential needed for a healthy immune system, energy production; however, iron is stored in the body, so excess amounts create related health problems
- **Zinc**—an essential mineral vital in prostate gland function, collagen formation, bone formation, protein synthesis, healthy immune system, healing wounds, protecting liver from chemical damage and over 600 functions in the body; a zinc deficiency can lower testosterone levels

**The Cenegenics answer for healthy aging.**

Supplements don't make up for a poor diet and vice versa. Yet, our nutrient-depleted soil—compounded by toxins in our food supply, refined sugar, processed fast foods and trans fats—has made nutraceutical supplementation an imperative, not an indulgence. Even the healthiest diet demands supplementing with vitamins, minerals, essential fatty acids and antioxidants.

For years, Cenegenics—the global leader in age management medicine—has stated there are no magic-bullet solutions. Promoting better health and youthful aging takes a synergistic approach, based on extensive evaluation and solid science. We partner with our patients to design individualized programs centered on low-glycemic nutrition, quality nutraceutical supplementation, exercise and hormonal optimization, when clinically indicated.

We also offer patients our own nutraceutical formulations—the highest quality available on the market—including a multivitamin, liver support, joint formula, antioxidant formula, prostate formula and brain enhancer.

**Regain your health now.** Learn more about personalized Cenegenics programs and the science behind age management medicine.

**Call Cenegenics Medical Institute today.  
1.866.953.1510.**

**Discussions are always confidential and without obligation.**

