HALE Vitamins

www.HaleVitaminStore.com

Phone: (717) 582-0500

P.O. Box 272 ◆ Shermans Dale, Pennsylvania ◆ 17090

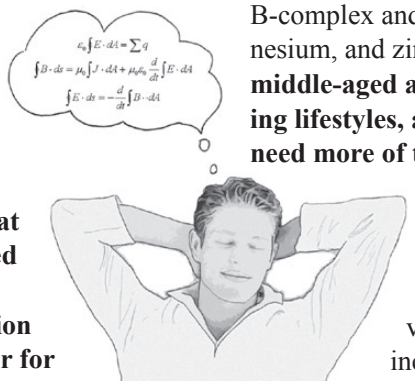
Our May 2008 Newsletter for Healthy Living

Brain food

Two main groups of vitamins and minerals are essential for the brain, and many people—including those who live in wealthy, developed countries—do not get enough of these nutrients, a new study reveals.

Researchers from the King Edward VII Hospital in London, England, examined clinical trials, research reviews, medical-journal editorials, and scientific meetings during the last 20 years to identify the nutrients that regulate brain function. **The water-soluble B-complex vitamins plus vitamin C, and the minerals calcium, magnesium, and zinc are the two most relevant nutrient groups in brain function**, according to the doctors.

The scientists suggested **four ways the nutrients affect the brain**. First, the B-complex and C vitamins—which act together in a chain of chemical reactions—help make the communication chemicals (neurotransmitters) of the central nervous system. Second, the B vitamins help nerve-cell membranes quickly send and receive neurotransmitters. Third, both nutrient groups help convert food into the unique molecule (adenosine triphosphate, or ATP) that all cells use for energy, especially fuel-hungry brain cells. And fourth, several **recent studies showed that B vitamins reduced homocysteine, a sign of inflammation that is a risk factor for blood-vessel disease**.



Researchers said that although the brain accounts for 3% of body weight, it consumes 25% of blood glucose—a main source of energy—when the body is at rest. Doctors also noted that **a byproduct of vitamin B1, thiamine triphosphate, occurs only in nerve-cell membranes**, and that brain tissue contains the highest concentrations of vitamin C in the body.

The body stores only small quantities of the water-soluble B-complex and C vitamins, magnesium, and zinc, and **young and middle-aged adults with demanding lifestyles, and the elderly, may need more of these nutrients to maintain optimum brain function**, the doctors said.

The B-complex vitamins in the studies included B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folic acid), and B12 (cobalamin).

Reference: *The Journal of International Medical Research*: 2007, Vol. 35, No. 1, 1-19.

Dear Customer: We are glad you shop with us, and hope you find this issue of our Newsletter informative. When you visit our store, please ask us for assistance with any products you would like to know more about.

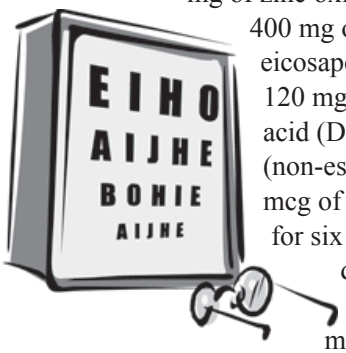
News & Research This Issue

- **Vitamins and minerals** are essential for the **brain**.
- **Antioxidants and omega-3** aided **eyesight** in **AMD**.
- **CLA** burned more **calories** from **body fat** during **sleep**.
- **Phosphatidylcholine** cut steroids in **bowel disease**.
- **DHEA** counteracts **diabetes**.
- **Probiotics** helped **premature babies** survive.
- **Arginine, vitamin C, and zinc** healed **bed sores**.

Clearer vision

Antioxidants and omega-3 fatty acids improved eyesight in age-related macular degeneration (AMD), a disease where older adults progressively lose eyesight in the center of the field of vision.

Researchers wanted to test the effects of a specially-targeted nutritional supplement that included, among other nutrients, **taurine, omega-3 fatty acids, zinc, antioxidants, and lutein**, the first letters of which spell "**TOZAL**," the name of the study. **"Nutritional supplements have become the first line of defense for clinicians in battling... AMD,"** doctors noted, adding, "Vitamin and mineral formulations are a valid therapeutic tool and are many orders of magnitude less toxic than aspirin and acetaminophen."



Researchers recruited, at five independent U.S. study sites, a total of 37 men and women, average age 76.3, with "dry" AMD, the most common form of the disease, who took 10,000 IU of vitamin A, 18,640 IU of beta carotene, 452 mg of vitamin C, 200 IU of vitamin E, 69.6 mg of zinc oxide, 1.6 mg of copper, 400 mg of taurine, 180 mg of eicosapentaenoic acid (EPA), 120 mg of docosahexaenoic acid (DHA), 8 mg of free (non-esterfied) lutein, and 400 mcg of zeaxanthin, per day for six months, in divided doses at mealtimes.

At the end of six months, **76.7% of participants had the same or clearer vision** compared to the start of the study. In AMD, because vision declines progressively, doctors wanted to compare results against a placebo group. However, **an independent ethics review board overseeing the design of the study said that because there is strong evidence that nutritional supplements improve AMD, the minimum clinical "standard of care" must include supplements** similar to those in the large U.S. Age-Related Eye Disease Study (AREDS).

To solve the problem, researchers used findings from an earlier placebo-controlled AMD study, where all participants—including the placebo group—had taken 400 mg of vitamin C, 200 IU of vitamin E, 40 mg of zinc, and 3,000 IU of beta carotene. Doctors matched the age, sex, and other factors for 37 participants from the placebo group with the 37 TOZAL participants, and found that on average over six months, **the placebo group continued to lose eyesight while the TOZAL group continued to gain clearer vision**.

Reference: *BioMed Central Ophthalmology*: 2007, Vol. 7, No. 3, 1471-2415.

Burning fat while asleep

Overweight adults who took conjugated linoleic acid (CLA) **burned more calories from body fat while sleeping**, in a new study.

Researchers from the University of Wisconsin at Madison, recruited 23 otherwise healthy, but overweight men and women—body mass index 25 to 30—aged 18 to 44, who took 3.2 grams of CLA per day at breakfast, or a placebo, for six months. To accurately measure how much and what types of energy participants burned, doctors placed each man and woman inside a special sealed monitoring room called a metabolic chamber, for 24 hours at the start and end of the study.

After six months, **those who had taken CLA burned an average of 4 grams more body fat while asleep** than they had at the start of the study, while those in the placebo group burned 7 grams less. Those in the CLA group also burned 3.3% less energy from protein while asleep compared to the start of the study, while the placebo group burned 0.3% more. Compared to the start of the study, the placebo group burned an average of 43 fewer calories while asleep, while there was no change in the CLA group.

Doctors noted that **those who took CLA also burned more body fat while awake**, but that this result was not statistically significant.

This is one of the first studies to measure, over a 24-hour period, how CLA burns fat. Earlier studies measured shorter periods of time, did not use a metabolic chamber, and did not monitor sleeping hours. Doctors said the study confirmed that **CLA burns body fat rather than fat from the diet**.

Reference: *American Journal of Clinical Nutrition*: 2007, Vol. 86, No. 3, 797-804.

B vitamin cuts drugs in bowel disease

Phosphatidylcholine, a form of the B vitamin choline, helped those with inflammatory bowel disease stop taking steroid drugs, and reduced symptoms, in a new study.

Doctors explained that those with this chronic disease—**ulcerative colitis**—often do not respond to **drugs, which may help treat acute symptoms short-term, but have serious long-term side effects**. In creating the study, scientists noted that low levels of phosphatidylcholine in colon mucus may contribute to or cause the disease.

Researchers from the University Hospital in Heidelberg, Germany—which specializes in inflammatory bowel disease—recruited 60 **participants** with ulcerative colitis **who were taking—but not responding to—steroid drugs**, and who had severe symptoms of the disease. Participants took 500 mg capsules of phosphatidylcholine, four times per day for a daily total of 2 grams, or a placebo, for 12 weeks. Because ulcerative colitis usually starts in the rectum, and is active in the colon, doctors used a capsule that released near this end of the large intestine.

At the end of the study, **50% of those who had taken phosphatidylcholine**—15 of 30 participants—**had stopped taking steroid drugs completely and saw symptoms decrease by at least 40%**. Nine more of these participants—another 30%—had stopped taking steroid drugs completely and had stable symptoms. Some participants reported mild bloating.

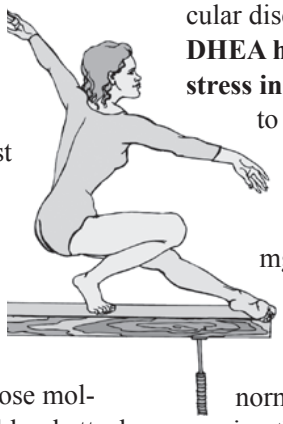
Altogether, a total of **80% of those who had taken phosphatidylcholine were able to stop taking steroids completely while maintaining or easing symptoms** of inflammatory bowel disease. Only 10% of the placebo group had similar results. Study authors concluded that phosphatidylcholine helped those with ulcerative colitis become independent of steroid drugs while stabilizing or improving the disease.

Reference: *Annals of Internal Medicine*: 2007, Vol. 147, No. 9, 603-10.

DHEA counteracts diabetes

Dehydroepiandrosterone (DHEA), a natural hormone in the body, **helped rebalance the set of chemical reactions** that falls out of balance due to chronic high blood sugar **in type 2 diabetics**, in a new study.

In explaining the reasons for the study, researchers noted that diabetics have too much sugar (glucose) in the blood, which sets off a chain reaction that damages many different types of cells in the body. The first imbalance occurs when **oxidants overwhelm antioxidants**, causing what doctors call **oxidative stress**. The second imbalance occurs when excess glucose molecules circulating in the blood attach to and scar cell proteins, which doctors call **glycation**. Both imbalances lead to the complications in advanced diabetes, including nerve damage, blindness, and cardiovascular disease. Scientists noted that **DHEA had prevented oxidative stress in other studies**, and wanted to test its effect in diabetes.



Researchers recruited 20 male and female type 2 diabetics who took 50 mg of DHEA per day, or a placebo, for 12 weeks. Doctors also recruited 20 healthy participants—with normal glucose levels—matching the age and sex of the diabetics, and compared oxidative stress and glycation levels at the start of the study, which were significantly higher in the diabetics.

"DHEA might counteract the complications in type 2 diabetes."

At the end of the study, **diabetics who had taken DHEA had 50% less oxidative stress and glycation, and significantly more antioxidants** in the blood, including **35% more glutathione, and 76% more vitamin E**. The placebo group had no significant changes. Study authors concluded that DHEA might prevent cell damage from high blood sugar and counteract the complications in type 2 diabetes.

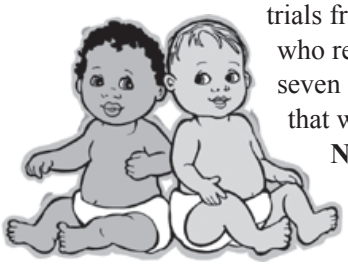
Reference: *Diabetes Care*: 2007, Vol. 30, No. 7, 2922-7.

Hale Vitamin Store
P.O. Box 272
Shermans Dale, PA 17090
Phone (717) 582-0500

Printed on Recycled Paper

Probiotics save babies' lives

Probiotics—friendly bacteria—**reduced gut disease and helped very-low-weight premature babies survive**, in a new review of studies. Doctors theorized that bad bacteria attack the gut of very-low-weight premature babies, contributing to or causing **necrotizing enterocolitis** (NEC). Researchers reviewed placebo-controlled trials from 1980 through 2006 of very-low-weight babies, born at 33 weeks or less, with NEC, who received any type of probiotic starting within the first 10 days of life, and continuing for seven days or more. Doctors qualified seven studies covering 1,393 newborns, and estimated that within these studies, **probiotics lowered risk for NEC by 64%, and risk of dying from NEC by 53%**. Study authors suggested more studies to determine the best dose and type of probiotic for NEC.



Reference: *The Lancet*: 2007, Vol. 369, No. 9573, 1614-20.

This Month's HEALTHY *Tip*

Arginine, vitamin C, and zinc healed bed sores in hospital patients, in a new study. Doctors noted that people with chronic bed sores (pressure ulcers) are often malnourished. Researchers gave 16 participants with bed sores, aged 37 to 92, a standard hospital diet alone, with a protein/energy supplement, or with the supplement plus 9 grams of arginine, 500 mg of vitamin C, and 30 mg of zinc, per day, for three weeks. At the end of the study, **those who had taken the arginine/vitamin C/zinc supplement had ulcers heal by an average of 73%**, while there were no significant changes in the other two groups.

Reference: *Annals of Internal Medicine*: 2007, Vol. 24, No. 7, 342-5.