



Hours:
Monday-Friday 9:00 a.m.-8:00 p.m.
Saturday 9:30 a.m.-6:00 p.m.
Sunday 11:00 a.m.-4:00 p.m.

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Our June 2007 Newsletter for Healthy Living

Less stress

The antioxidant **vitamins C and E improved circulation** in patients with high blood pressure, and **a combination of vitamins, minerals, and the herb ginseng reduced fatigue** and improved memory in night-shift nurses, in two new studies.

In the circulation study, researchers recruited 30 men who had—but were not being treated for—high blood pressure (essential hypertension). Scientists randomly gave a placebo or a combination of **1,000 mg of vitamin C plus 400 IU of vitamin E** per day for eight weeks and, at the end of the study, tested and found that **those who had taken the vitamins had more flexible arteries and increased blood flow** from the shoulder to the elbow (brachial artery). Compared to placebo, **blood-fluid (plasma) levels of antioxidants were higher in the vitamin group, and** as the

antioxidant level increased, **markers for cell damage** (oxidative stress) **decreased**.

In the night-shift study, researchers recruited 30 healthy male and female nurses, aged 20 to 45, and administered **memory, mood, and fatigue tests** immediately before and after a three-night work



shift. **Nurses scored lower on all three tests after working for three nights.** For the next 12 weeks, scientists randomly gave half the nurses a placebo while the other half took

a combination of 40 mg of Panax ginseng extract, 4.8 mg of beta carotene, 150 mcg of biotin, 200 mcg of folic acid, 18 mg of nicotinamide, 1.4 mg of vitamin B1, 1.6 mg of vitamin B2, 2 mg of vitamin B6, 1 mcg of vitamin B12, 60 mg of vitamin C, 200 IU of vitamin D3, 10 mg of vitamin E, 100 mg of calcium, 2 mg of copper, 10 mg of iron, 2.5 mg of manganese, 40 mg of magnesium, 50 mcg of selenium, and 1 mg of zinc, per day.

Doctors repeated the test-work-test cycle at six and 12 weeks and found that, compared to placebo after six weeks, **the supplement group reported being calmer.** After 12 weeks, **the ginseng-vitamin-mineral group memorized and recalled more words, and reported less fatigue** than did those in the placebo group.

Reference: *American Journal of Hypertension*; 2007, Vol. 20, No. 4, 392-7.

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News & Research This Issue

- **Supplements** improved **circulation** and cut **fatigue**.
- **Zinc** reduced depression in **pregnant and nursing women**.
- **Multivitamin-minerals** improved health of newborn babies.
- **Selenium yeast** kept **bad fats** from forming in the **blood**.
- **Quercetin** aided **physically stressed athletes**.
- **Vitamin B12** lowered the risk of **dementia**.
- **Vitamin K2** reduced risk of **heart disease**.

Happier moms

New mothers who breastfeed, and pregnant women who have adequate blood levels of zinc, have less depression, inflammation, and stress, according to two new studies.

In the zinc study, published in the journal *Pharmacological Reports*, researchers followed about 60 pregnant women, each of whom took a **daily standard-dose multivitamin, plus magnesium and zinc**, through childbirth. **One month prior to giving birth**, doctors measured blood-fluid (serum) levels of nutrients and administered a depression questionnaire and found that **women with mild symptoms of depression also had low serum levels of zinc**.

Scientists repeated the nutrition and depression tests at three days and **30 days after birth**, and found that **depression symptoms decreased 31% and serum zinc levels increased 19%** between the

third and 30th days. Doctors noted that zinc levels were equally low one month before birth and three days after birth, while magnesium levels did not change significantly at any time during the study.

Scientists are developing a **new field of study—psychoneuroimmunology**, or PNI—which examines how the brain interacts with the hormone, immune, and nervous systems to maintain health. In a new review of PNI research, doctors found a **connection between depression and inflammation**. “The old paradigm described inflammation as simply one of many **risk factors for depression**,” stated lead researcher Kathleen A. Kendall-Tackett. “These recent

studies... [indicate] **inflammation** is not simply a risk factor; it is **the risk factor that underlies all the others**,” the doctor said.

Women in the last three months (trimester) of pregnancy are particularly vulnerable to inflammation, when white blood cells—part of the immune system—produce greater amounts of an inflammatory protein called a cytokine. This is also a



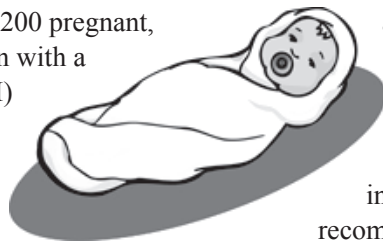
high-risk time for depression, according to Dr. Kendall-Tackett, who advises new mothers to exercise, which lowers stress; to breastfeed, which reduces cytokines; and to take

omega-3 fatty acids, which reduce inflammation.

Reference: *International Breastfeeding Journal*; 2007, Vol. 2, No.1, 6.

Protecting new moms and babies

Undernourished pregnant women who took a **multivitamin-mineral supplement (MVM) gave birth to healthier babies** compared to women who did not take a MVM, in a new study. Researchers from Delhi, India, recruited 200 pregnant, undernourished women with a body mass index (BMI) of less than 18.5 and/or a blood-iron (hemoglobin) level of 7 to 9 grams per deciliter of blood. BMI measures weight adjusted for height, with the healthy range being 18.5 to 24.9. Women normally have hemoglobin levels of 12 to 16 grams per deciliter. The women were 24



to 32 weeks pregnant at the start of the study, and **all 200 began taking a basic regimen of 60 mg of iron (ferrous sulfate) and 500 mcg of folic acid** per day. Doctors divided the women into two groups, with 99 women taking a MVM and 101 taking a calcium placebo. **The MVM contained 29 micronutrients**, including the 15 recommended by the World Health Organization and United Nations Children’s Fund.

Doctors followed 170 newborns for one week after birth and found that, compared to placebo, **infants born to mothers in the MVM**

group weighed an average of 3.5 ounces more, were nearly one-third inch longer, and measured nearly one-tenth of an inch larger around the mid-arm. Researchers recorded **low birth weight (LBW) in 16.2% of the MVM group versus 43.1% for placebo**, and recorded **disease in 14.8% of MVM babies versus 28% for placebo**.

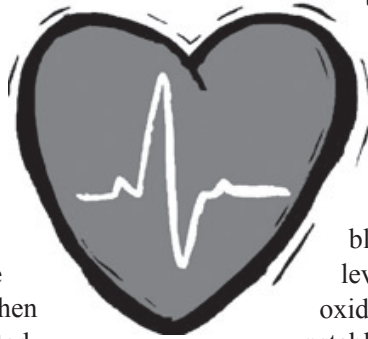
The benefits of MVMs may be understated in the study because all women—including those in the placebo group—took iron and folic acid. Doctors concluded that MVMs may reduce the number of LBW babies, and significantly reduced illness in the first week of life.

Reference: *Archives of Pediatrics & Adolescent Medicine*; 2007, Vol. 161, 58-64.

Safer fats

Selenium yeast kept bad fats from forming in the blood after a fatty meal, according to results from a new study.

Doctors from the Free Radical Research Group, National Research Institute for Food and Nutrition, Rome, Italy, reported that eight healthy men and six healthy women, aged 25 to 40, **ate a special high-fat meal before and after taking 110 mcg of selenium yeast per day for 10 days.** There was no placebo group in the study. The meals contained an **especially toxic**—but common—**fat byproduct called a lipid hydroperoxide (LH)** which forms when natural polyunsaturated



fatty acids overheat during manufacture, cooking, or frying. **LH can attach to low-density lipoprotein (LDL, the “bad” cholesterol)** in the blood, damage (oxidize) cells

from oxidized fat called **malondialdehyde, or MDA.** After the first meal, LH-LDL levels increased 2% and MDA levels increased 10%. **After taking selenium yeast for 10**

“Supplementing with selenium to adequate levels reduces risk for degenerative diseases.”

on arterial walls, and form the plaque that doctors believe leads to hardening of the arteries, a type of atherosclerosis.

Immediately before, and three hours after each meal, researchers measured blood-fluid (plasma) levels of selenium, antioxidants, LH-LDL, and an unstable compound that results

days and eating the second high-fat meal, levels of LH-LDL and MDA did not increase significantly. Researchers noted that throughout the study, plasma levels of selenium were adequate, and did not change significantly, and concluded that supplementing with selenium to adequate levels reduces risk for chronic and degenerative diseases such as atherosclerosis.

Reference: *Nutrition, Metabolism and Cardiovascular Diseases*; February, 2007.

Better sports

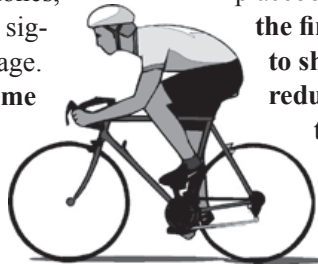
Quercetin, an antioxidant pigment in apples, onions, green and black tea, and other plants, **reduced viral illness and maintained physical and**

“The quercetin group performed measurably faster.”

mental abilities in physically stressed athletes in a new study funded by the U.S. Department of Defense. Researchers from Appalachian State University, Boone, North Carolina, recruited **40 trained cyclists** and randomly assigned 20 to take **1,000 mg of quercetin, plus niacin and vitamin C, per day for five weeks** while the remaining 20 took a placebo. Researchers included niacin and vitamin C to help absorb the quercetin.

After three weeks, the athletes rode bicycles for three hours per day, on three consecutive days, to the point of exhaustion. Researchers took blood and tissue samples and

determined that the cyclists had high levels of stress hormones, oxidative stress, and significant muscle damage. **Following the extreme exercise, 45% of the cyclists in the placebo group reported illness compared to 5% of those in the quercetin group,** with no side effects. The immune benefit did not appear until after the exercise.



Lead researcher, Dr. David Nieman, remarked, “It appears that it takes significant stress to bring out quercetin’s infection-fighting properties.”

Researchers also administered **mental alertness and reaction-time tests** at the point of exhaustion and found that **the quercetin group performed measurably faster** than placebo. Doctors noted that this is **the first controlled clinical trial to show that a plant compound reduced viral infection,** and plan to follow up with a study on psychological stress in the general public. The average diet contains 25 mg to 50 mg of quercetin per day.

Reference: Southeastern Regional Meeting of the American College of Sports Medicine; February, 2007, Charlotte, North Carolina.

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Healthy minds

Elderly people with higher levels of vitamin B12 had lower risk for dementia and mental (cognitive) impairment in a new study. Researchers from the University of Michigan, Ann Arbor, followed 1,405 Mexican-Americans, aged 60 to 101, for an average of 4.5 years and found that **those who had higher levels of vitamin B12 had lower levels of a risk factor—homocysteine—for Alzheimer’s disease, dementia, and cognitive impairment.** Those who had high homocysteine levels were 139% more likely to develop dementia and cognitive impairment, and those who had both high homocysteine levels and low vitamin B12 levels had even greater risk of cognitive decline.

Reference: *American Journal of Clinical Nutrition*; 2007, Vol. 85, 511-7.



This Month's **HEALTHY Tip**

Adults who consumed higher levels of vitamin K2 (menaquinone) were less likely to have coronary heart disease (CHD) than were those who consumed lower levels, according to a new study. Researchers from The Netherlands analyzed the diets of 4,807 men and women, aged 55 or older, without a history of heart attack (myocardial infarction) and found that, compared to those who consumed lower levels, **those whose diets contained about 45 mcg of vitamin K2 per day were 42% less likely to die from CHD, were 17.5% less likely to die from all causes, and were 40.5% less likely to have severe calcium buildup in the large artery (aortic calcification), a risk factor for CHD.**

Reference: *Journal of Nutrition*; 2004, Vol. 134, No. 11, 3100-5.