



York Downs Pharmacy

Our March 2007 Newsletter for Healthy Living

Healthy skin

The antioxidants beta carotene, lutein, lycopene, selenium, vitamin E, and

zeaxanthin improved skin health in two new studies. Researchers divided 39 volunteers with healthy, normal type 2 skin—fair skin that burns easily and tans minimally—into three groups. The first group took 4.8 mg of beta carotene, 3 mg of lutein, 3 mg of lycopene, 75 mcg of selenium, and 10 mg of vitamin E (alpha tocopherol) per day. The second group took no lutein, 6 mg of lycopene, and the same dosages of the other three supplements per day, while the third group took a placebo.

After 12 weeks, while the placebo group had not improved, **both supplement groups had higher blood-fluid (serum) levels of antioxidants; thicker, denser skin as measured by ultrasound; and less rough and scaly skin**, which

doctors measured using ultraviolet light.

The *Journal of Skin Pharmacology and Physiology* will also publish new findings later in 2007 from the University of Naples, Italy,



where researchers studied **the effects of lutein and zeaxanthin on female subjects, aged 25 to 50.**

Subjects took an oral supplement of 5 mg of lutein and 0.2 mg of zeaxanthin, twice per day, for a daily total of 10 mg of lutein and 0.4 mg of zeaxanthin. The women

also applied a **treatment to the surface of the skin** (topical) that contained 50 parts-per-million (ppm) lutein and 2 ppm zeaxanthin per day, supplying 50 mcg of lutein and 2 mcg of zeaxanthin per gram of topical treatment.

Every two weeks for 12 weeks, researchers measured **skin moisture** (hydration), **ability to maintain size and shape** (elasticity), **protective fat layer** (superficial skin lipids), and **cell membrane damage** (lipid peroxidation), and found that, compared to placebo, those who had taken lutein and zeaxanthin orally, topically, alone or together, had significantly improved in each measure. The oral-topical combination group averaged **60% greater hydration, 20% better elasticity, 50% more lipid protection, and 64% less cell damage.**

Reference: *Skin Pharmacology and Physiology*; 2006, Vol. 19, 224-31.

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News & Research This Issue

- Antioxidants improved skin health.
- Pycnogenol® improved blood circulation.
- Alpha lipoic acid helped the body absorb sugar.
- Omega-3 and omega-6 slowed mental decline.
- Calcium reduced the risk of colon cancer.
- Black cohosh strengthened bones in women.
- U.S. should raise vitamin D daily allowance.

Better blood circulation

Pycnogenol®, the antioxidant extract of French maritime pine bark, improved blood-circulation disorders in three new studies. Doctors assigned 30 diabetic patients with severe blood-vessel damage and ulcers on the lower limbs to take an oral 150 mg dose of Pycnogenol, a topical 100 mg dose of Pycnogenol powder (from the capsule) applied directly to the wound, a combination of these two treatments, or a placebo, per day for six weeks. All four groups also washed the wound with warm water and disinfected each day.

At the end of the study, the oral-topical combination group had a 74.4% decrease in the size of the ulcer, the oral group had a 41.3% decrease, the topical group had a 33% decrease, and the



placebo group had a 22% decrease in ulcer size. **Those who took oral Pycnogenol also had better blood circulation in the small blood vessels (microcirculation).**

In an eight-week study, 21 patients aged 42 to 60—11 men, 10 women—with inadequate blood flow in the veins of the limbs and ankle swelling (together, severe venous hypertension), and a history of chronic leg wounds (venous ulcerations) took 150 mg of

Pycnogenol per day, while doctors observed 18 similar patients who received no treatment (control group). At four weeks, and at the end of the study, doctors found that **those who had taken Pycnogenol had fewer symptoms of bleeding in small blood vessels (microangiopathy), less fluid leaking from the**

smallest blood vessels (capillary filtration), and less fluid accumulating in the space between cells (edema), while there were no changes in the control group.

People who take high-blood-pressure medication (anti-hypertensive) may suffer from edema. In this eight-week study, researchers gave Pycnogenol to hypertensive patients who were taking one of two types of anti-hypertensive drug: nifedipine or an angiotensin-converting enzyme inhibitor; and found that capillary filtration decreased significantly. **Doctors concluded that in hypertensive patients, Pycnogenol controls this type of edema, helps prevent damage in the microcirculation, and allows doctors to reduce the dose of anti-hypertensive drugs in most patients.**

Reference: *Journal of Clinical and Applied Thrombosis/Hemostasis*; 2006, Vol. 12, No. 3, 318-23.

Increasing energy

The antioxidant alpha lipoic acid (ALA) improved the ability of the body to absorb and convert sugar (glucose) to energy (glycemic control-insulin sensitivity) in type 2 diabetes mellitus, according to a new study. Researchers recruited 12 obese type 2 diabetics, average age 53, and gave an oral dose of 600 mg of ALA, twice per day for a daily total of 1,200 mg of ALA, for four weeks. Doctors also monitored, as a control group, 12 healthy subjects with normal glucose tolerance and insulin sensitivity who did not take ALA.

At the end of the study period, scientists found that the diabetics

were able to clear glucose from the blood nearly twice as quickly—an average 85.8% increase in clearing rate—as before taking ALA. The doctors also determined how sensitive the diabetics were to insulin—the natural hormone produced by the healthy body that regulates glucose—and found that **insulin sensitivity increased 62.3% after taking ALA.** The scientists noted that **there was no statistically significant difference in insulin sensitivity between the diabetics who had taken ALA and the healthy control**

group, leading the doctors to conclude that short-term oral ALA treatment increases insulin sensitivity in patients with type 2 diabetes mellitus.

Prior studies have shown that ALA improved insulin sensitivity when patients received an injection of the antioxidant, and doctors wanted to determine if ALA

would be as effective entering the system through the digestive tract.



Reference: *Hormones* (Athens, Greece); October-December, 2006, Vol. 5, No. 4, 251-8.

Think omega-3

Omega-3 and omega-6 polyunsaturated fatty acids and the antioxidant asthaxanthin helped improve memory and attention, and delay mental decline (cognitive impairment) in two new studies. Japanese researchers gave 21 patients with mild cognitive impairment—average age 68, 9 females, 12 males—a 240 mg combination of omega-3 (docosahexaenoic acid, or DHA) and omega-6 (arachidonic acid, or ARA) fatty acids, plus 0.96 mg of asthaxanthin, in six 40.16 mg capsules per day, or a placebo, for 90 days.

Ten of the subjects had prior brain injury—lesions due to hemorrhage or trauma—and eight had been diagnosed with early Alzheimer's disease (AD). The scientists measured mental function at the start and end of the study and

found that **brain-injury patients who had taken the supplements had significantly improved immediate and delayed memory, and significantly increased attention**, while AD patients who had taken supplements, and those in the placebo group, had not improved significantly. Doctors said the results suggest that **omega-3, omega-6, and asthaxanthin can improve cognitive function in the aged**, and in those with brain lesions.

In October, 2006, Swedish researchers reporting in the *Archives of Neurology* randomly gave 174 AD patients—with very mild, mild, or moderate cognitive impairment—1,700 mg of DHA plus 600 mg of eicosapentaenoic acid (EPA) per day, or a placebo, for six months. When researchers

measured results for the entire group, there were no significant differences between treatment and placebo.

However, **in a subset of 32 AD patients with very mild cognitive impairment, those who had taken omega-3s had significantly less mental decline** compared to those who had taken the placebo. After six months, the entire placebo group switched to the omega-3 treatment, and all participants continued for a second six-month period. Doctors found that those with very mild cognitive impairment who had switched to omega-3 from placebo had significantly less mental decline in the second six-month period compared to the first six months.

Reference: *Neuroscience Research*; 2006, Vol. 56, 159-64.



Calcium and cancer risk

A large, new Chinese study has found that **calcium protects against cancer of the colon and rectum** (colorectal). The Shanghai Women's Health Study, from 1997 through 2000, enrolled 73,314 Chinese women aged 40 to 70, average age 55.5, who were living in urban Shanghai. Researchers followed up for an average of 5.7 years and, excluding the first two years of follow up, found that **those with the highest amounts of calcium in the diet were 40% less likely to develop colorectal cancer** than were those with the lowest dietary calcium. By the end of the follow up period, there were 129 reported cases of colon cancer,

and 91 reported cases of rectal cancer.

The study is significant because of the large number of participants, and because the Chinese diet typically includes less calcium than does the Western diet. Previous large U.S. studies: the 1991 Women's Health Initiative with 161,808 women, the 1976 Nurse's Health Study I with 122,000 women, and the 1989 Nurse's Health Study II with 125,000 women, did not report any link between calcium and colorectal cancer.

As in those studies, doctors in

the Shanghai survey asked participants to fill out a food-frequency questionnaire, covering 77 foods representing 90% of the typical diet. Researchers also calculated the amounts in the diet of vitamins A, B1, B2, B3, C, and E, as well as carotene and fiber, and found no link to risk for colorectal cancer. The scientists concluded that **calcium appears to protect against colorectal cancer, even at the relatively low levels in the Chinese diet compared to the Western diet**. Colorectal cancer is one of the most curable cancer types, and doctors can diagnose the disease easily and early using a colonoscopy exam.

Reference: *International Journal of Cancer*; 2006, Vol. 119, No. 12, 2938-42.





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Postmenopausal health

The herb **black cohosh** (*Cimicifuga racemosa*) **strengthened bone and improved sexual function in postmenopausal women** in a new German study. Researchers gave 62 subjects 40 mg of black cohosh per day, 0.6 mg of a synthetic estrogen hormone drug (conjugated estrogens) per day, or a placebo, for 12 weeks. Taking blood samples, doctors found that **black cohosh stimulated the cells that help reform bone** (osteoblasts) and, taking a vaginal smear, found that **black cohosh slightly increased lubrication** of the inner lining of the vagina (mucosa), which can dry as a result of menopause. In order to maintain healthy bone, osteoblasts must stay in balance with osteoclasts; cells that break down bone. Within the black cohosh group, doctors found no blood markers for damage (coagulation and liver enzymes), and no side effects.



Reference: *Menopause*; 2006, Vol. 13, No. 2, 185-96.

This Month's HEALTHY Tip

Vitamin D3 is safe, has benefits beyond healthy bones, and the U.S. government should raise its recommendation for the tolerable upper intake level to 250 mcg (10,000 IU) per day from 50 mcg (2,000

IU) per day, according to scientists from the Council for Responsible Nutrition. In a new review, researchers examined data from 21 clinical trials with dosages of vitamin D ranging from 10 mcg per day to 2,500 mcg per day, and found no adverse effects up to 1,250 mcg per day. Doctors noted that nearly all prior negative reports for vitamin D (toxicity) involved doses above 2,500 mcg (100,000 IU) per day. The body makes vitamin D from sunlight, but most people living in less-sunny northern climates may be deficient. There are small amounts of vitamin D in milk, fish, and liver that typically account for about 2.5 mcg per day.