



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.

www.FountainofVitality.net

Our August 2007 Newsletter for Healthy Living

Joints

Chondroitin, glucosamine, methylsulfonylmethane (MSM), and S-adenosyl-L-methionine (SAME) reduced pain and other symptoms of degenerative joint disease (osteoarthritis, or OA) in several new studies.

In an analysis of placebo-controlled studies published or performed between 1980 and 2002, the *Archives of Internal Medicine* reported that **those who took oral chondroitin or glucosamine had significantly less knee pain, more range-of-motion, increased walking distance, and improved activities of daily life, without side effects.** Those who took oral glucosamine had less narrowing of the space between the joints, suggesting that glucosamine protects the cartilage which cushions joints. Two reviewers analyzed the data independently of one another, using a conservative approach to deter-

mine benefit, and did not know the sources or authors of the studies.

In a study of oral glucosamine and MSM in the *Journal of Clinical Drug Investigation*, researchers recruited 118 men and women with mild to moderate OA. For 12 weeks, participants took 500 mg of glucosamine three times per day, 500 mg of MSM three times per day, combined these two treatments, or took a placebo. Scientists measured participants at the start of the study and every two weeks and found that glucosamine and MSM, separately and combined, significantly reduced inflammation and pain compared to placebo. **Those who took glucosamine and MSM together reported the greatest decrease**

in pain, had the most rapid relief from inflammation, and the quickest improvement in movement.

In a study of 50 men and women, aged 40 to 76, with OA of the knee, participants took a placebo or 3 grams of MSM twice per day. After 12 weeks, **the MSM group reported significant decreases in pain, and improvements in performing daily functions** compared to placebo.

In a 16-week study of 61 adults with OA of the knee in *Musculoskeletal Disorders*, participants took 1,200 mg of SAME per day, 200 mg of the prescription drug celecoxib (Celebrex®) per day, or a placebo and reported that, after two months, **SAME reduced pain as effectively as Celebrex.**

Reference: *Osteoarthritis Cartilage*; 2006; Vol. 14, No. 2, 286-94.



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

- **Supplements** reduced pain of **joint disease.**
- **Selenium** helped people **live longer, healthier lives.**
- **Vitamin D** improved **physical performance.**
- **Calcium and vitamin D** strengthened **bones** in women.
- **Biotin and chromium picolinate** aided diabetics.
- **Zinc** cut down on **infections.**
- **Supplements** improved **cystic fibrosis.**

Longer lives, better minds

People with adequate levels of the essential trace mineral selenium live longer, healthier lives, and have better mental function compared to those with lower levels, according to three new findings from the Study of Aging

The researchers took into account diet, health, and lifestyle, and found that **those with the lowest selenium levels were most likely to have died, and that cancer was more likely to be the cause of death than other causes.**

and other blood fats, diabetes, and high blood pressure—did not appear to decrease selenium levels, and suggested that nutrition and metabolism may affect selenium levels.

In the third finding, **among those whose selenium levels decreased** over the nine-year period, **those with the largest decrease had more mental decline than those with the smallest decrease.**

Among those whose selenium levels *increased* during the study, those with the smallest increase had more mental decline than those with the largest increase.

The EVA scientists concluded that selenium levels decline with age, low selenium levels make it difficult to maintain optimum health, and selenium may protect against cardiovascular diseases and mental decline.

Reference: *Epidemiology*: 2007; Vol. 18, No. 1, 52-8.

“Nutrition and metabolism may affect selenium levels.”

Anatomy (*Etude du Vieillissement Artériel*, or EVA). French researchers recruited 1,389 men and women, aged 59 to 71, from 1991 to 1993, and followed up for nine years, during which time 109 participants died.

In the first finding from the study, published in *Clinical Chemistry*, researchers measured selenium levels and found that those who survived the nine-year follow-up period had started the study with higher blood-fluid (plasma) levels of selenium than those who died.

In the second finding, published in the *Journal of Nutritional Biochemistry*, compared to all other participants, those who were oldest, those who were obese, and **those who had heart or blood-vessel disease during the nine-year follow-up period had lost the most selenium by the end of the study.** Doctors found that other risk factors—such as gender, education, smoking, drinking alcohol, high cholesterol



Those with higher levels of vitamin D had better physical performance and muscle strength than those with lower levels, according to results from a new study.

Researchers from Wake Forest University School of Medicine, Winston-Salem, North Carolina, recruited 976 people, aged 65 or older, average age 74.8, from two towns in the Chianti area of Italy. Scientists measured physical performance including walking speed, ability to stand up from a seated position, maintain balance in several increasingly difficult postures, and hand grip strength. **Those**



who had low levels of vitamin D scored 5% to 10% lower in physical performance tests and hand grip strength than those with higher levels. Research does not show that low vitamin D levels cause poor physical performance, but doctors noted that muscles need vitamin D to function properly.

Separately, medical experts from Harvard Medical School, Boston, have recently concluded that the optimal level for vitamin D begins at 75 nanomoles per liter of blood (nmol/L). In the Chianti study, nearly 75% of women and 51% of men had insufficient levels of vitamin D, meaning 50 nmol/L or less. Approximately 29% of women and 14% of

men were deficient in vitamin D, which doctors classified as 25 nmol/L or less. Harvard researchers stated that the average adult would require 560 IU of vitamin D per day to raise the level by 10 nmol/L.

The U.S. Department of Agriculture currently recommends 200 IU of vitamin D per day for those under 50, 400 IU per day for those 50 to 70, and 600 IU per day for those over 70. **There is a growing consensus in the medical community that vitamin D is safe at higher levels**, that many people are deficient or insufficient in vitamin D, and that the government should raise its recommendations.

Reference: *Journal of Gerontology*: 2007; Vol. 62, 440-6.

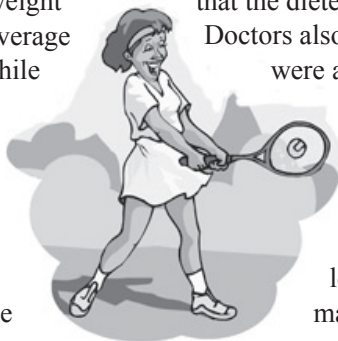
Losing weight, protecting bone

Calcium and vitamin D maintained and strengthened bones in women in two new studies.

Researchers from Rutgers University, New Brunswick, New Jersey, recruited 44 overweight premenopausal women, average age 38, to take calcium while dieting or while maintaining weight, for six months. The dieters took a normal amount of calcium—1,000 mg per day—or a high dose of 1,800 mg per day, while non-dieters took 1,000 mg of calcium per day. Scientists noted that people typically lose bone when losing weight, but that no bone studies exist on overweight premenopausal women who diet.

Women in the normal and

high calcium diet groups lost an average of 7.2% of body weight with no significant decrease in bone mineral density (BMD, a measure of bone strength), and researchers found no signs in the blood that the dieters were losing bone.



Doctors also found that the dieters were able to absorb an adequate total amount of calcium from diet and supplements, and concluded that taking calcium while losing weight helps maintain healthy bones.

In research funded by the U.S. Department of Defense, doctors studied bone stress-fractures in 5,201 female Navy recruits, aged 17 to 35, from 2002 through 2006. Recruits took 2,000 mg of calcium plus 800 IU

of vitamin D per day, or a placebo, during the eight-week basic training period. Over the study period, 170 recruits in the placebo group suffered stress fractures compared to 136 recruits in the calcium/vitamin D group, meaning that **calcium and vitamin D reduced risk for stress fractures by 20%**.

Researchers noted that **recruits who had a history of regular exercise had lower risk for fractures** than did those who had not exercised regularly, and that those who smoked had higher fracture risk than non-smokers. Doctors were not expecting to find such a significant bone benefit in such a short period of time and concluded that calcium and vitamin D reduced risk for stress fractures.

Reference: *American Journal of Clinical Nutrition*: 2007; Vol. 85, No. 4, 972-80.

Better blood sugar

Diabetics who took the B-vitamin biotin and the essential trace mineral

four weeks. Researchers tested blood sugar control at the start and end of the study and found that **those who**

biotin/chromium picolinate group while increasing 59.75 mg/dL in the placebo group.

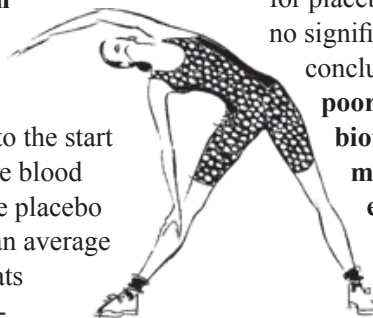
Researchers also measured blood-fluid (serum) levels of fructosamine, a sign of poor blood sugar control, and found that levels decreased 1.3 millimoles per liter of serum (mm/L) in the biotin/chromium group while increasing 0.7 mm/L for placebo. Participants reported no significant side effects. Doctors concluded that, **for people with poorly controlled diabetes, biotin combined with chromium picolinate may be an effective complementary therapy that may also help lower blood-fat levels.**

“Blood fats decreased 9.25 mg per deciliter of blood in the biotin/chromium picolinate group.”

chromium picolinate had better blood sugar control and reduced blood fats, according to a new study.

Researchers from Yale University School of Medicine, New Haven, Connecticut, recruited 43 overweight or obese type 2 diabetics with poorly controlled blood sugar who were taking—but not responding well to—oral anti-hyperglycemic drugs. Participants took 2 mg of biotin plus 600 mcg of chromium picolinate per day, or a placebo, for

had taken biotin and chromium picolinate had an average 9.7% decrease in blood sugar levels compared to the start of the study, while blood sugar levels in the placebo group increased an average of 5.1%. Blood fats (triglycerides) decreased 9.25 mg per deciliter of blood (mg/dL) in the



Reference: *Diabetes, Technology & Therapeutics*: December, 2006; Vol. 8, No. 6, 636-43.

Four Locations to Serve You:

368-B Springfield Avenue
Berkeley Heights, New Jersey 07922
(908) 464-3370

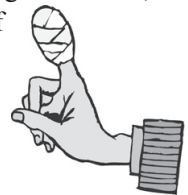
601 Route 206 Unit 32
Hillsborough, New Jersey 08844
(908) 874-3866

650 Shunpike Road
Chatham, New Jersey 07928
(973) 377-8663

100 Mountain Blvd, Extension
Warren, New Jersey 07059
(732) 469-0088

Fewer infections

Healthy mature adults who took zinc had fewer infections than those who took a placebo in a new study. Researchers recruited 50 healthy men and women of all ethnic backgrounds from a senior center, aged 55 to 87, who took 45 mg of elemental zinc per day, or a placebo, for 12 months. Compared to a group of younger adults at the start of the study, participants had significantly lower blood-fluid (plasma) levels of zinc, and higher levels of inflammation and cell damage (oxidative stress). By the end of the study, compared to placebo, **the zinc group had had fewer infections, reduced levels of inflammation, and less oxidative stress.**



Reference: *American Journal of Clinical Nutrition*: 2007; Vol. 85, No. 3, 837-44.

This Month's **HEALTHY Tip**

Children with cystic fibrosis (CF) who took betaine, choline, or lecithin had improved metabolism in a new study. Researchers recruited 35 children with CF who took 3 grams of betaine, 2 grams of choline, or 2 grams of lecithin per day for 14 days. In CF, thick mucus clogs the respiratory tract, making the lung susceptible to infection, and the body is missing fat-digesting enzymes, leading to deficiencies in fat-soluble vitamins and nutrients. Researchers measured an increase in several signs of healthy cell activity, leading the doctors to conclude that **betaine, choline, and lecithin helped rebalance essential metabolic functions in children with CF.**



Reference: *American Journal of Clinical Nutrition*: 2007; Vol. 85, No. 3, 702-8.

© 2007 RI

All articles in this newsletter are for the purpose of nutritional information only and should not be considered a substitute for professional medical advice.
