Nutrients help keep arteries supple and prevent hardening

A stress test for garlic and coenzyme Q10

Firefighters have major job stress, one of the best-known factors in hardening of the arteries, also known as atherosclerosis. Doctors said that earlier studies found aged garlic extract and coenzyme Q10 (CoQ10) improved the ability of blood vessels to dilate and contract, and that garlic may also help slow the build-up of arterial plaque in atherosclerosis.

To test their theory, doctors in this study gave 65 Los Angeles County firefighters 1,200 mg of aged garlic extract plus 30 mg of CoQ10 per day, or a placebo. After one year, while the placebo group had not improved, firefighters who took garlic plus CoQ10 had significantly more flexible arteries and blood vessels that dilated more easily. Doctors said these benefits might be due to the high antioxidant activity in garlic and CoQ10, which may increase levels of antioxidant enzymes in the body, including one of the most important, superoxide dismutase.

Folic acid may help prevent hardening of the arteries

Doctors measure hardening of the arteries by the progressive thickening of the artery walls. Researchers in this analysis reviewed 10 atherosclerosis studies involving 2,052 men and women who took folic acid supplements or a placebo over varying lengths of time. Participants were either healthy or had conditions involving hardening of the arteries.

Overall, compared to placebo, those who consistently took folic acid supplements had less thickening of the artery walls over time. In particular, people with chronic kidney disease or those who were more likely to have severe cardiovascular disease saw the greatest benefit from regularly taking folic acid supplements.

Also, people who began the studies with more-advanced artery hardening, and who took folic acid supplements, saw homocysteine levels decline the most. High homocysteine levels raise the chances of heart trouble, and these participants had the greatest heart-health benefits from taking folic acid.

Reference: Nutrition Journal; August, 2012, Electronic Prepublication

Yes, Organic is Better!

This study tested a way to measure antioxidants in tomatoes, which contain powerful plant-based antioxidants, called polyphenols. Study authors wanted to compare organically grown to conventionally grown tomatoes. Because organic farming does not use nitrogen-type fertilizer, plants must activate their own defenses, which increases antioxidant levels, researchers said, adding, “The more stress the plants suffer, the more polyphenols they produce.” The scientists found 34 different polyphenolic compounds plus lycopene, other carotenoids, and vitamin C. But compared to conventionally grown tomatoes, organically grown tomatoes had significantly higher levels of polyphenols, according to study authors.
Improving Cholesterol

Plant-based nutrients improve lipid profiles

**Plant-based supplement plus diet improves lipid profiles**

Plants contain natural cholesterol-lowering compounds called sterols and stanols which doctors in this study tested on 28 overweight men and women, average age 58, with high LDL cholesterol. After taking a five-week cholesterol education course, participants took a plant sterol/stanol supplement or a placebo for six weeks, then switched placebo and supplement for another six weeks.

The daily 1,800 mg dose contained about four parts sitosterol to one part sitostanol. While there were no improvements during the placebo phases, during the sterol/stanol phases, total cholesterol fell 7.4 percent, LDL cholesterol 9.2 percent, and triglycerides 9.1 percent.

The diet advises people to consume 25 to 35 percent of daily calories from mostly monounsaturated fats, with less than 7 percent of daily calories from saturated fat, including no more than 200 mg of cholesterol.

**Supplement combination lowers high cholesterol**

Doctors combined red yeast rice, policosanol, and artichoke leaf extract in a study of 39 people, aged 21 to 55, with moderately elevated cholesterol who were not taking drug therapy. The group took 500 mg of red yeast rice, 11.1 mg of policosanol, and 600 mg of artichoke leaf extract per day, or a placebo.

After 16 weeks, while there were no changes in the placebo group, the supplement group saw LDL cholesterol fall by 21 percent, and total cholesterol by 14 percent. Triglycerides, the most common form of fat in the body, increased for placebo and declined 12 percent in the supplement group. Doctors began seeing the supplement benefits as early as four weeks.

Reference: European Journal of Nutrition; April, 2012, Electronic Prepublication

Hope for Preventing Stroke

Nutrients may help prevent and treat stroke

**More vitamin D may help prevent stroke**

Doctors said earlier studies linked vitamin D deficiency to greater chances of stroke, but we know little about how vitamin D in the diet may affect stroke. In this study, researchers measured the diets of
7,385 Japanese-American men, aged 45 to 68, who were participating in the Honolulu Heart Program between 1965 and 1968. By 1999—more than 30 years later—about one in eight had had a stroke. Reviewing the diets of these men, doctors found those who consumed the least vitamin D were 22 percent more likely to have had a blood-clot type stroke compared to men who consumed the most vitamin D.

**Ginkgo biloba reduces oxidative stress and inflammation after stroke**

The ginkgo biloba tree, native to China, dates in the fossil record to 270 million years ago. In this study, 31 people who had suffered a blood-clot type stroke continued taking conventional stroke rehabilitation therapy, with or without 1,500 mg of ginkgo biloba per day. At the start of the study, doctors measured signs of oxidative stress, inflammation, and antioxidant levels in the blood. Researchers also compared blood samples from 30 healthy volunteers and found those with stroke had higher levels of oxidative stress, more high-sensitivity C-reactive protein—a sign of inflammation—and lower total antioxidant levels.

After 30 days, both stroke groups had less oxidative stress, inflammation, and better antioxidant levels, but the ginkgo biloba group saw a much greater decrease in C-reactive protein, and a much larger increase in total circulating antioxidants.

*Reference: American Heart Association Journals – Stroke; May, 2012, Electronic Prepublication*

**Better Behavior**

**Nutrients help improve symptoms of ADHD in kids**

**Omega-3 and omega-6 together**

This study involved 94 children, aged six to 12, with ADHD, who were taking Ritalin along with standard behavior therapy for more than six months, whose parents reported no improvements in behavior or academics. The children took 296 mg of omega-3 from fish oil plus 181 mg of omega-6 from evening primrose oil per day, or a placebo. After six months, while parents of kids in the placebo group reported no improvement, parents of children in the omega-3 group reported better attention, cooperation, and less impulsiveness. Doctors began to observe the benefits at six months, and said they believed the children would have continued to improve by taking the omega-3/omega-6 supplement for a longer period of time.

**Omega-3 improves ADHD symptoms**

This study tested the effects of fish-sourced omega-3 EPA and DHA and plant-sourced omega-6 linoleic acid, on 90 children between the ages of nine and 12 with ADHD. The children took EPA/DHA 1,109 mg/108 mg; DHA/EPA 264 mg/1,032 mg; or 1,467 mg of linoleic acid, per day. After
four months, there were no significant differences between the groups for improvements in cognition, literacy, and parent-rated behavior.

However, in the high-DHA group, children had slightly better reading scores and less oppositional behavior compared to the other two groups. Also, in a subgroup of 17 children with learning difficulties, the high-DHA group had significantly better reading and spelling scores, was better able to divide attention, and their parents reported less oppositional behavior, hyperactivity, restlessness, and overall ADHD symptoms.

Reference: Journal of Child Neurology; 2012, Vol. 27, No. 6, 747-53

Ahead of the Curve
Early-Stage Discoveries: Salt & Calcium, Onion & Stroke, Circadian Rhythm

Good results in the lab can lead to larger human studies. We report some of the most promising recent findings.

Onion reduced brain swelling after stroke
In stroke, fluid can accumulate in the brain as blood stops flowing. In the lab, onion reduced brain fluid build-up in mice with stroke. Onion also helped maintain normal blood flow through the blood-brain barrier, and reduced oxidative damage.

High-sodium diets deplete calcium
When the body tries to flush out excess sodium through the urine, calcium may go along with it, new findings show. Doctors in the lab found a molecule that must regulate levels of both calcium and sodium in the body. In mice that were missing the molecule, researchers found high levels of calcium in the urine, which would normally be reabsorbed. The mice had thinner-than-normal bones.

When we eat can change sleep/wake cycle
What and when we eat may be able to reset disturbed sleep cycles, doctors said. The body has a 24-hour circadian clock that governs our biological processes. When we don’t get enough sleep, we may be hungrier, may not digest or metabolize well, raising chances for disorders and even reducing life expectancy. We may be able to use food or feeding times as a therapy to reset or retrain the circadian clock to function better, prevent obesity, promote well-being, and extend life, doctors said. Research is under way.