

# The Nutrition Reporter™

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## Omega-3 Fish Oils: The Research on Their Benefits Keeps Getting Better

Two new studies show that taking supplements of omega-3 fish oils leads to a significant reduction in deaths and hospitalizations for cardiac problems.

In the first study, published in the *British Medical Journal* in late December 2008, researchers analyzed data from 12 earlier studies involving 32,779 patients.

Ross T. Tsuyuki, MD, and his colleagues reported that the use of fish oil supplements lowered the risk of sudden cardiac death by 19 percent and deaths from all causes by 8 percent. Most striking was a 20 percent – one-fifth – lower risk of dying specifically from heart disease.

The amounts of fish oils in the studies ranged from about 500 mg to 2 grams, though the most common dose was about 1 gram daily. The researchers were not able to determine how different doses influenced the risk of death.

In contrast, three of the studies found a “neutral” effect from implantable cardiac defibrillators (ICDs), a particular type of pacemaker designed to prevent arrhythmias and sudden cardiac death. In other words, fish oils yielded far greater benefits compared with ICDs.

In a separate study, part of the ongoing Gruppo Italiano per lo Studio della Sopravvivenza nell’Infarto miocardico (GISSI) prevention trial, researchers reported similar benefits from taking fish oil supplements.

Luigi Tavazzi, MD, of the ANMCO Research Center in Florence, Italy, and his colleagues tracked the health of 6,975 patients who were asked to take either 1 gram of fish oils or placebos daily for about four years. All of the patients had been previously diagnosed with chronic heart failure.

People taking fish oils had a 9 percent lower risk of dying from any cause, and an 8 percent lower risk of being hospitalized for cardiovascular disease.

“Our study shows that the long-term administration of 1 gram per day of omega-3 polyunsaturated

fatty acids was effective in reducing both all-cause mortality and admissions to hospital for cardiovascular reasons,” Tavazzi and the other researchers wrote.

Meanwhile, Tsuyuki noted that the first report on the health benefits of omega-3 fish oils was reported by Danish researchers in 1976. In that study, Inuit living in Greenland had a relatively low risk of heart disease if they consumed large amounts of fish oils.

References: Leon H, Shibata MC, Sivakumaran S, et al. Effect of fish oil on arrhythmias and mortality: systematic review. *BMJ*, 2008;338:a2831. GISSI-HF Investigators. Effect of n-3 polyunsaturated fatty acids in patients with chronic heart failure (the GISSI-HR trial): a randomised double-blind, placebo-controlled study. *Lancet*, 2008;372(9645):1223-1230. □

### Perspectives

#### Early Diagnosis Is Not Prevention

Several years ago I wrote about a disturbing example of what George Orwell called “double-think” – holding simultaneous contradictory views. At the time I focused on mammography, which has often been promoted for “preventing” breast cancer.

Mammography, however, has nothing to do with preventing breast cancer. It’s a diagnostic tool. You can have a hundred mammograms performed, but they won’t prevent breast cancer. (In fact, a recent study suggested that they might even increase the risk.) Once diagnosed, a patient will usually and quickly face a medical “full-court press” with surgery, chemotherapy, and radiation.

The idea that early diagnosis equals prevention is returning. Recently, a story in the *New York Times* kept referring to colonoscopies as a way of “preventing” colon cancer. When I emailed the editor that colonoscopies don’t prevent colon cancer, she steadfastly defended her writer’s choice of the word. But again, early diagnosis is not the same as prevention. Confusing the two is double-think.

Meanwhile, a supermarket ran an ad in my local

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newspaper encouraging people to get various medical tests from a portable testing lab. People could pay for a “heart disease prevention package” or a “stroke and aneurysm prevention package” of tests.

The tests are fine if you want them and if you want to pay for them. But they do not prevent cancer or cardiovascular diseases. They too are a form of early diagnosis.

If such tests do reveal serious health problems, then you have a choice: you can enter the medical maze and subject yourself to drugs and surgery, or you can improve your eating habits and lifestyle. But once in the medical maze – the same one that confuses early diagnosis with prevention – odds are that you’ll be pushed toward the more aggressive and more expensive therapies. After all, the point of early diagnosis is only partly to help patients. The other part is to make money off you. –*JC*

## **Particular Type of Fiber Yields Numerous Health Benefits**

Dietary fiber is good for health, but many people may be overlooking the most important type.

People generally think of fiber as roughage, or insoluble fiber, the indigestible parts of vegetables and fruits and sweep through the gut like a broom. But growing research points to the health benefits of soluble fiber, which forms a gel-like substance when it reacts with water in the gut.

Craig I. Coleman, PhD, of the University of Connecticut School of Pharmacy, Hartford, and his colleagues analyzed 14 studies that used glucomannan, a particular type of soluble fiber, to treat a total of 531 people. Glucomannan comes from the plant *Amorphophallus konjac*, and it’s sold at most health food stores.

Coleman’s review found that daily glucomannan supplements lowered the fasting blood sugar of subjects by an average of 7.4 mg/dl in five weeks. The supplements also led to a 19 mg/dl drop in total cholesterol, a 16 mg/dl decrease in low-density lipoprotein cholesterol, and an 11 mg/dl reduction in triglyceride levels.

Soluble fibers also tend to blunt appetite, and Coleman reported that glucomannan supplements led an average 1.7 pound loss of weight over five weeks.

Still other research has found that glucomannan can lower blood pressure and ease constipation.

Reference: Sood N, Baker WL, Coleman CI. Effect of glucomannan on plasma lipid and glucose concentrations, body weight, and blood pressure: systematic review and meta-analysis. *American Journal of Clinical Nutrition*, 2008;88:1167-1175. □

## **Healthy Fats Enable People with Asthma to Breathe Easier**

The omega-3 fish oils get most of the attention when it comes to natural anti-inflammatory fats, but gamma-linolenic acid (GLA), an omega-6 oil from plants, also has potent anti-inflammatory properties.

In two related studies, Marc E. Surette, PhD, of the University of Moncton, Canada, and colleagues tested a combination of GLA and eicosapentaenoic acid (EPA), one of the key omega-3s.

In the first of the studies, Surette gave two different doses of GLA and EPA, or placebos, daily to 35 people with mild-to-moderate asthma. The GLA and EPA doses were either 750 mg of GLA and 500 mg of EPA or 1,130 mg of GLA and 750 mg of EPA.

After four weeks, people taking the GLA and EPA supplements reported a 54 percent improvement in asthma symptoms and a 54 percent reduced use of inhalant medications. The subjects’ also had lower blood levels of leukotrienes, a marker of pro-inflammatory activity.

In the second study, Surette gave the GLA and EPA supplements to 65 people without a placebo control for 28 days. He determined that the subjects’ asthma symptoms decreased by an average of 31 percent and their overall quality of life improved by 41 percent.

Reference: Surette ME, Stull D, Lindemann J. The impact of a medical food containing gammalinolenic and eicosapentaenoic acids on asthma management and the quality of life of adult asthma patients. *Current Medical Research and Opinions*, 2008; 24:559-567. □

## **Glyconutrients May Help People With Myasthenia Gravis**

A family of plant nutrients called glyconutrients may help patients with myasthenia gravis (MG), an autoimmune disease that affects the control of muscles, according to a study conducted at the University of North Texas Health Science Center, Fort Worth.

The disease typically affects muscles under voluntary control, including those involved in eye movement, chewing, and facial expressions. Weakness and fatigue are also usually associated with MG.

David J. Randell, DO, and his colleagues treated seven men and 12 women diagnosed with MG, using glyconutrients in combination with a low-potency multivitamin/multimineral, phytonutrient supplements, and phytosterols. The patients took the supplements daily for one year, although some of

them served as a control group for six months of the study.

Glyconutrients are monosaccharides, a family of simple sugars, of which eight (including xylose, galactose, glucose, and mannose) play essential roles in human biochemistry. The glyconutrient supplements used in this study consisted of a proprietary blend, including gum ghatti (from *Anogeissus latifolia*) and manapol (from *Aloe vera*).

The results after six and 12 months of supplementation were striking, with the patients having an average 75 percent decrease in symptom scores.

Reference: Randell DJ, Byars A, Williams, F, et al. Glyconutrient supplementation in patients with myasthenia gravis. *Journal of Alternative and Complementary Medicine*, 2008;9: doi 10.1089/acm.2007.0734 (epub ahead of print). □

## Antioxidants Reduce Pain in People with Chronic Pancreatitis

Chronic pancreatitis is a progressive and painful disease that affects an estimated 46,000 Americans. It is most often caused by alcohol abuse and gallstones. But taking a cocktail of antioxidants can significantly reduce the pain associated with pancreatitis.

Pramod K. Garg, MD, and his colleagues at the All India Institute of Medical Sciences, New Delhi, used antioxidant supplements or placebos to treat 127 patients who had developed pancreatitis from either alcoholism or unknown causes.

The supplements, which were taken daily for six months, consisted of 600 mcg of organic selenium, 540 mg of vitamin C, 9,000 IU of beta-carotene, 270 IU of natural vitamin E, and 2 grams of methionine.

By the end of the study, patients taking the antioxidants had an average of seven and one-half fewer days with pain every month, compared with a reduction of only three days among people in the placebo group. People taking the antioxidants also took about 10 fewer analgesic pills per month, whereas those in the placebo group only took about four fewer pills.

In addition, one-third of the patients taking antioxidants became completely pain free during the study; only about 13 percent of those in the placebo group did.

Finally, and not unexpectedly, the researchers reported that blood levels of free radicals decreased significantly among people taking antioxidants.

Reference: Chardwaj P, Garg PK, Maulik SK, et al. A randomized controlled trial of antioxidant supplementation for pain relief in patients with chronic pancreatitis. *Gastroenterology*, 2009;136:149-159. □

## N-Acetylcysteine May Protect Against Pesticide Poisoning

N-acetylcysteine, a potent antioxidant and a common treatment for Tylenol overdose, may also be useful in helping people recover from toxic exposures to pesticides, according to a case history reported by physicians in Turkey.

Murat Özsaraç, MD, and his colleagues at Gazi University in Ankara treated an 18-year-old man who was admitted to a hospital emergency room after he consumed three teaspoons of endosulfan in an attempted suicide attempt. Endosulfan is a pesticide used on farms in the United States and in other countries. It is highly toxic and can cause convulsions, headache, dizziness, and loss of balance and muscle control.

The patient was admitted with convulsions and elevated liver enzymes – his AST topped out at 700 and his ALT reached 178. Normal AST is usually under 42, and normal ALT is usually under 48.

Because NAC is used to treat liver toxicity from Tylenol, Özsaraç decided to administer it intravenously in this case. He began with a loading dose of almost 10,000 mg NAC over 15 minutes, followed by 3,500 mg over four hours, and finally with 7,000 mg over 16 hours.

Within the five days, the patient's liver enzymes returned to normal and he was discharged in good health from the hospital.

Reference: Demircan A, Çalidag E, Özsaraç M, et al. Acute intoxication by endosulfan: any role of n-acetylcysteine therapy? *Turkish Journal of Medical Sciences*, 2008;38:365-367. □

## Cranberry May Be Better than Drugs in Urinary Tract Infections

The use of cranberry extract is almost as good as a prescription medication for the treatment of recurrent urinary tract infections (UTIs), and in some respects it's even better, according to a study by Scottish researchers.

Marion E.T. McMurdo, MD, and her colleagues studied 137 women who had experienced at least two antibiotic-treated UTIs during the previous year. The subjects were asked to take either 500 mg of cranberry extract or 100 mg of the drug trimethoprim for six months.

Although more of the women taking cranberry went on to develop a UTI, the average time for a recurrence of the infection was almost the same: 84.5 days for women taking cranberry versus 91 days for those taking the drug.

McMurdo wrote that the drug "had a very limited

Continues on next page

## Quick Reviews of Recent Research

### • Low vitamin D common in type 1 diabetes

Researchers from the Joslin Diabetes Center in Boston analyzed blood levels of vitamin D in 128 boys and girls with type 1 diabetes. The subjects ranged in age from about 10 to 13 years old. Only one of every four subjects had adequate levels of vitamin D. Three-fourths had low levels, and 15 percent had outright deficiencies. The researchers noted that a combination of low vitamin D and type 1 diabetes significantly increases the risk of bone fractures.

Svoren BM. *Journal of Pediatrics*, 2009;154:132-134.

### • Skin tags linked to poor glucose tolerance

Large numbers of tiny benign growths called skin tags are strongly associated with elevated blood sugar and insulin, both signs of prediabetes, according to a study by researchers at the University of Andrés Bello in Chile. In general, having eight or more skin tags were related to poor glucose tolerance, and 77 percent of the subjects with large numbers of skin tags had signs of glucose intolerance.

Sudy E. *Journal der Deutschen Dermatologischen Gesellschaft*, 2008;6:852-855.

### • Vitamin E linked to lower lung cancer risk

Several fractions of vitamin E were associated with a substantially lower risk of lung cancer, according to researchers at the M.D. Anderson Cancer Center in Texas. High intake of alpha tocopherol, beta tocopherol, and gamma tocopherol were all related to lower cancer risk, but only the alpha tocopherol form was significantly related to a 34 to 53 percent lower risk of lung cancer.

Mahabir S. *International Journal of Cancer*, 2008;123:1173-1180.

## Cranberry Extract in UTIs...

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advantage over cranberry extract in the prevention of recurrent UTIs in older women." The drug also led to a greater number of side effects.

"Our findings will allow older women with recurrent UTIs to weigh up with their clinicians the inherent attractions of a cheap, natural product like cranberry extract whose use does not carry the risk of antimicrobial resistance or super-infection with *Clostridium difficile* or fungi," wrote McMurdo and her colleagues.

Reference: McMurdo MET, Argo I, Phillips G, et al.

Cranberry or trimethoprim for the prevention of recurrent urinary tract infections? A randomized controlled trial in older women. *Journal of Antimicrobial Chemotherapy*, 2008; doi 10.1093/jac/dkn489. □

### • Raspberries may prevent esophageal cancer

Black raspberries may help prevent esophageal cancers, according to a study with laboratory rats. Researchers at Ohio State University fed rats different types of extracts from black raspberries. Fractions rich in anthocyanidins, a family of antioxidants that give black raspberries their dark color, reduced the risk of cancer. However, other constituents of black raspberries were also protective, leading the researchers to write that "components other than berry anthocyanidins may be chemopreventive."

Wang LS. *Cancer Prevention Research*, 2009;2:84-93.

### • L-arginine is good for blood vessels

The amino acid L-arginine is the precursor to nitric oxide, a compound needed for normal endothelial function, blood vessel tone, and blood pressure. Chinese researchers analyzed the findings of 13 clinical trials using L-arginine supplements. They found that the supplements improved blood vessel flexibility in people who has poor flexibility, but had no effect on those who already had good blood vessel tone. Doses of L-arginine in the studies ranged from 3 to 21 grams daily.

Bai Y. *American Journal of Clinical Nutrition*, 2009; 89:77-84.

### • Folic acid lowers risk of breast cancer

High intake of the B-vitamin folic acid from diet and supplements was associated with a 22 percent decrease in the risk of breast cancer over 10 years, in a study of 35,000 postmenopausal women. Researchers at the Fred Hutchinson Cancer Research Center in Seattle, found that high folic acid intake was even more protective in estrogen-negative breast cancer, reducing its risk by 62 percent.

Maruti SS. *American Journal of Clinical Nutrition*, 2009; 89:624-633.

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