

## TOP 10 Research Studies of 2003



**Editor' note:** Our thanks to John Carlson, president of JR Carlson Laboratories Inc., for the following information. He is a committed student of the effects of foods, lifestyle and nutrition on health. Here are his 10 top studies published in peer-reviewed journals in 2003. We would suggest you pay particular attention to his number one pick regarding small particle LDL and even discuss this with your physician. It could turn out to be a critical factor in your overall health profile.

### #10

#### **We need to encourage older adults to keep their minds active. Use it or lose it!**

A study investigated the relationship between leisure activities of 469 people over the age of 75 and the risk of dementia during a five-year period. Researchers examined the frequency of participation in leisure activities as reading, playing board games, playing musical instruments and dancing and derived cognitive activity. They concluded that participation in types of leisure activities is associated with a reduced risk of dementia.

*N. Engl. J. Med.* ( June 19, 2003). Vol. 348 (25) pp. 2508–16.

### #9

#### **Two primary vitamins—E and C are still very important. Antioxidants and cognitive function.**

A study of 14,968 women (70–79 years of age) investigated their cognitive functions in relationship to their intake of antioxidant supplements. The women were categorized by the amounts of vitamin E and vitamin C supplements taken and the length of time on an antioxidant program. They were then given a brief telephone cognitive function test.

#### **Results:**

Long-term current users of vitamins E and C had significantly better scores than non-users.

Benefits were less consistent for women taking vitamin E alone with a still smaller relationship to those on vitamin C alone.

Researchers indicate that the greater effect of vitamin E over vitamin C may be that vitamin E is fat-soluble that is absorbed directly by tissue while vitamin C is water-soluble. They also point out that it is well established that vitamin E requires the presence of vitamin C for optimal metabolism.

*Am. J. Clin. Nutr.* (2003). Vol. 77 pp. 975–84.

## #8

### **An interesting omega-3 and omega-6 study. Fewer plaques with fish oils.**

A study conducted in England involved 162 patients who were to undergo carotid artery surgery. Split into three groups, they received either sunflower oil (omega-6), fish oil (omega-3) or a control group of neither. Duration of treatment varied between seven and 189 days with 42 as median.

Researchers found plaque from those consuming fish oil (omega-3) was more stable than the plaque from those consuming sunflower oil (omega-6). The author feels the “stability of plaque could explain reductions in non-fatal and fatal cardiovascular events associated with increased omega-3 polyunsaturated fatty acid intake.”

*Lancet* (Feb. 8, 2003). Vol. 361(9356) pp. 477–85.

## #7

### **A new concept that will spur more studies. Lycopene and heart disease.**

A study in Finland investigated the relationship between blood levels of lycopene and thickness of the carotid artery wall. A group of 1,028 men (age 46–64) who entered the study in 1987–1989 were reexamined four years later (1991–1993). Their blood levels of lycopene, beta-carotene and vitamin E were measured along with the thickness of the carotid artery wall.

In separating the men into four groups of various levels of blood lycopene they also found the group with the highest blood lycopene content also had the highest blood levels of beta-carotene, folate and vitamin E. The strongest correlation was found between low blood lycopene concentrations and higher carotid artery thickness, suggesting unique benefits of tomatoes and tomato products (food sources of lycopene).

*Am. J. Clin. Nutr.* (2003). Vol. 77 pp. 133–8.

## #6

### **This may be a link to my #1 study. Lipoprotein size and longevity.**

An unusual study involved the measurement of particle sizes of HDL and LDL particles found in the blood of people with exceptional longevity.

A group of 213 Ashkenazi Jews (mean age 98.2) and 216 of their offspring (mean age 68.3) were compared to two control groups of matched ages. Individuals with exceptional longevity (and their offspring) were found to have significantly larger HDL and LDL particle sizes in their blood, suggesting that larger lipoprotein sizes promote healthier aging.

*JAMA* (Oct 15, 2003). Vol. 290 (15) pp. 2030–40.

## #5

### **A study of this size can't be ignored. Omega-3 fatty acids vs. heart attacks.**

An interesting study investigated the effects of omega-3 fatty acids, DHA and EPA, on heart attacks of adults over the age of 65.

They recruited 5,201 men and women and excluded those who reported using fish oil supplements at the study's start. Blood samples were compared of 54 cases of non-fatal heart attack patients to an equal number of subjects who were characteristically matched.

The samples were taken at study's start and at the third year of cardiovascular event. Blood levels of DHA—EPA, linolenic acid and alphalinolenic acid from the heart attack patients were compared to their matched control subjects.

Researchers concluded:

- Higher intake of DHA and EPA is associated with a lower risk of fatal heart attacks.
- Higher intake of alpha linolenic acid appears to be associated with a lower risk of fatal heart attacks.
- Neither was associated with non-fatal heart attacks.

*Am. J. Clin. Nutr.* (2003). Vol. 77 pp. 319–25.

## #4

### **Mood disorders are an increasing problem. Depression and plasma fatty acids.**

A group of 3,884 adults (60 years and older) were assessed for depressive symptoms. This group was further broken down into 725 subjects who had their blood drawn and ratios of omega- and omega-6 polyunsaturated fatty acids (PUFA) measured.

In comparing the PUFA ratios of 264 subjects who were found to have depressive symptoms the remainder of the subjects, researchers found those with depressive disorders had a higher ratio of omega-6 to omega-3 PUFAs than the others.

Researchers state that their data suggests that relatively low concentrations of omega-3 PUFAs have a direct effect on mood disorders.

*Am. J. Clin. Nutr.* (2003). Vol. 78 pp. 40–6.

## #3

### **3 Fish Oils seem to have so many benefits. Fish consumption and women with type II diabetes.**

Researchers at the Harvard School of Public Health evaluated the health and fish consumption of 5,103 female nurses diagnosed with type II diabetes. They examined whether the intake of fish and omega-3 fatty acids was associated with a reduced risk for coronary heart disease (CHD)

and total mortality over a period of 16 years. The women who consumed fish five or more times per week had a 64 percent reduction of CHD and a 52 percent reduced rate of total mortality compared to the women who ate fish less than once per month. Overall, a higher consumption of omega-3 fatty acids was associated with a 31 percent reduced risk of CHD and a 37 percent reduced risk for total mortality.

*Circulation*. (2003). Vol. 107 pp.1852–7.

#2

### **2 47,882 men over 12 years—impressive study. Fish reduced prostate cancer risk**

A large study conducted by the Harvard Medical School followed 47,882 men over a period of 12 years. It assessed their consumption of fish and marine fatty acids to incidence of prostate cancer. In evaluating 2,482 cases of prostate cancer among the group, they found that eating fish more than three times a week was associated with a reduced risk of prostate cancer compared to infrequent fish consumption.

*Cancer Epid. Bio. Prev.* ( Jan. 12, 2003). Vol. 1 pp. 6–7.

And now, the industry study of the year is:

#1

This is a new concept on cholesterol that needs further investigation. This study indicates that the size of cholesterol particles may be more important than the amount of cholesterol.

### **Trans fats decreased LDL cholesterol particle size.**

A Canadian study investigated the effect of trans fats on the size of LDL cholesterol particles. Some 18 men and 18 women each consumed five experimental diets for 35-day periods. The amounts of trans fats varied in each diet. The LDL particle size decreased significantly with increasing amounts of trans fats consumed.

The small dense LDLs are very harmful. Researchers recommend diets low in saturated fats and minimal trans fats to reduce risk of cardiovascular disease.

*Am. J. Clin. Nutr.* (2003). Vol. 78 pp. 370–5.