

# Preserving Youth

## Telomeres may be a key to younger biological age

People with higher levels of omega-3s and men who drank the most green tea had longer telomeres, a sign of younger, healthier cells, new studies reveal.

Telomeres—the protective caps at the ends of chromosome DNA strands that contain our genetic code—are like the tip of a shoelace that keeps it from unraveling. When a cell divides, the new cell must take with it a complete copy of the DNA strand to function properly. Long, healthy telomeres on the ends of each chromosome allow the new cell to get a complete DNA copy. Age, stress, and poor nutrition can erode telomeres, eventually damaging chromosomes and any new cells. Doctors are beginning to gauge biological age by telomere length.

Doctors in a telomere study measured blood levels of omega-3s and the length of white-blood-cell telomeres in 608 outpatients with stable coronary artery disease and followed up for five years. Those who started the study with the lowest levels of docosahexaenoic and eicosapentaenoic acids (DHA and EPA) had the most rapid telomere shortening, and those with the highest DHA and EPA levels had the slowest telomere shortening. Researchers found a direct link: the higher the level of DHA and EPA, the less likely telomeres were to shorten. Doctors concluded that omega-3s may protect against cellular aging in those with coronary artery disease.

In another telomere study, researchers measured the diets and telomere length in 2006 Chinese men and women, aged at least 65. After adjusting for environmental and demographic factors, women who consumed more fats and oils had shorter telomeres compared to women who ate fewer fats and oils. Men who drank the most green tea, about 25 ounces per day, had much longer telomeres compared to men who drank the least. Doctors said the average difference in telomere length in the men equaled about five years of life.

**Reference:** Journal of the American Medical Association; 2010, Vol. 303, No. 3, 250-7

## Healthy Insight

### Orange Juice Cuts Inflammation

Doctors in a food study said that high-fat and high-carbohydrate foods cause inflammation that can lead to cardiovascular problems. After an overnight fast, 30 healthy, normal weight men and women, aged 20 to 40, ate a 900 calorie, high-fat breakfast along with a glass of water, a sugar (glucose) drink, or orange juice not from concentrate. Inflammatory free-radical levels increased much more in the water and glucose groups than in the orange juice group. Doctors believe flavonoids in orange juice help reduce inflammation but also said that drinking orange juice won't make up for regularly eating high-fat, high-carbohydrate meals.

**Reference:** American Journal of Nutrition; 2010, Vol. 91, No. 4, 940-9

## Healthier Hearts, Longer Lives

Women with better nutrient levels had less heart trouble and greater lifespan

Those with higher levels of vitamin B6 had fewer heart attacks, and women with higher vitamin D levels lived longer and had less inflammation, in several new studies.

A study from the American Heart Association compared 144 women who had had a heart attack to 288 women of similar age and lifestyle who had not. Doctors measured levels of pyridoxal 5' phosphate, the active form of vitamin B6, and homocysteine, an amino acid, high levels of which raise chances of cardiovascular disease. Women with higher vitamin B6 levels consumed more B6, had lower body mass index, and lower homocysteine levels compared to those with lower B6 levels. Women with the highest B6 levels were 78 percent less likely to have had a heart attack than those with the least.

In a survival study, researchers measured vitamin D levels in 714 women, aged 70 to 79, and followed up for six years. Women with the highest vitamin D levels, more than 27 nanograms per milliliter of blood, were 60 percent less likely to have died from any cause compared to women with the lowest levels. Doctors believe vitamin D may help control inflammation, immunity, blood pressure, and hardening of the arteries.

In an inflammation study, researchers measured the diets and vitamin D levels in 69 healthy women aged 25 to 82, who

had either high or low sun exposure. Vitamin D levels in the high sun-exposure group were 52 ng/mL compared to 30 ng/mL for low exposure. In the low-vitamin D group, one sign of inflammation was higher than in the high-vitamin D group, leading doctors to conclude that, “Low vitamin D levels negatively impact inflammation and immune response, even in healthy women.”

**Reference:** *Circulation*; 2009, Vol. 120, 649-55

## Clear Vision, Healthy Eyes

### Nutrients slowed visual decline and preserved sight in older adults

Lutein and vitamin A slowed vision loss, and omega-3s, nuts, and olive oil protected against eye disease in adults, several new studies reveal.

In a lutein study, 225 non-smokers with a progressive blindness disease (retinitis pigmentosa), aged 18 to 60, took 12 mg of lutein per day, or a placebo, along with 15,000 IU of vitamin A palmitate. After four years, those in the lutein group had less loss of mid-peripheral vision compared to placebo. Lutein, a natural plant-based yellow carotenoid, increased pigment levels in the macula of the eye. Those with the greatest increase in pigment had the slowest decline in vision.

In an eye disease study, researchers measured fats in the diets of 6,734 older adults. Those who consumed the most trans-fats (hydrogenated oils) were 76 percent more likely to develop age-related macular degeneration (AMD) than those who consumed the least. For omega-3s, chances were 15 percent lower, and for olive oil, 52 percent lower.

In another AMD study, doctors measured the diets and signs of early-stage AMD in 2,454 older adults, and followed up for 10 years. Those who ate one serving of fish per week, took omega-3 fatty acid supplements, or ate one to two servings of nuts per week were up to 35 percent less likely to develop early AMD compared to those who did not. In general, those who consumed lower than average levels of the omega-6 linoleic acid, were non-smokers, had a higher ratio of HDL (the “good” cholesterol) to total cholesterol, or who consumed more beta carotene than average, were least likely to develop early AMD. Doctors said that balancing nutrients helps maximize health benefit.

**Reference:** *Archives of Ophthalmology*; 2010, Vol. 128, No. 4, 403-11

## Calming Irritable Bowel Syndrome

### Everyday nutrients relieve pain and symptoms of irritable bowel syndrome (IBS) as well as newer, more expensive drugs

Probiotics, psyllium, and peppermint eased symptoms of IBS in several new studies.

In a probiotics study, 70 men and women with IBS, aged 19 to 75, took the probiotics *Bifidobacterium bifidum* and *lactis* and *Lactobacillus acidophilus* and *casei* twice per day, or a placebo. After four weeks, compared to placebo, the probiotics group reported half as much discomfort, and at eight weeks, 80 percent greater pain relief.

In a fiber study, 275 people with IBS, aged 18 to 65, took 10 grams of the soluble fiber psyllium, 10 grams of the insoluble fiber bran, or a placebo. Soluble fiber, found in fruits and vegetables, dissolves in water. Insoluble fiber, found in grains, does not. A majority in each group reported at least one moderate side effect during the study, and doctors noted many did not tolerate bran well, and that there was no particular clinical benefit with bran. After three months, symptom scores decreased 49 points for placebo, 58 for bran, and 90 for psyllium.

In a review of IBS studies, researchers analyzed 38 placebo controlled clinical trials covering 2,761 participants who took fiber, prescription antispasmodics, or peppermint oil. In all cases, the treatments were more effective than placebo. Peppermint oil was the most effective treatment of all, with one out of every 2.5 participants experiencing relief from IBS symptoms compared to one out of five for antispasmodics, and one out of 11 for fiber. Doctors said that many of these products are available over the counter, and are just as effective as newer, more expensive drugs.

**Reference:** *Gut and Liver*; 2009, Vol. 3, No. 2, 101-197

# Flu, Virus, and Immunity

## Nutrients reduce seasonal infection and boost immunity

Kids who took vitamin D warded off flu, adults with higher vitamin D levels avoided respiratory tract infections, and probiotics and zinc increased immune response, in several new studies.

In a children's flu study, researchers said Danish scientists recently discovered vitamin D triggers immune-system killer T-cells—white blood cells which attack viruses—but remain inactive when vitamin D is low. In this study, 334 kids took 1,200 IU of vitamin D per day, or a placebo, from December through March. Over this time, 19 percent in the placebo group got influenza A compared to 11 percent for vitamin D. In those with asthma, 12 in the placebo group had an asthma attack compared to two in the vitamin D group. The researchers believe vitamin D could have been even more effective in preventing flu because it takes about three months to build up a base level in the blood, and the study began after flu season had started.

In a related study, researchers measured vitamin D levels during the fall and winter in 195 men and women aged 20 to 88. Over four months, 84 participants got viral infections. In those whose vitamin D levels were lower than 38 nanograms per milliliter of blood, 55 percent had no respiratory tract infection. In those whose vitamin D levels were higher, 83 percent had no infection.

In two lab studies, researchers exposed white-blood killer T-cells to influenza A and other viruses before and after healthy donors had taken the probiotic *Bacillus coagulans* or 15 mg of zinc per day for the previous month. In both studies, killer T-cell activity significantly increased after taking probiotics or zinc.

**Reference:** American Journal of Clinical Nutrition; 2010, Vol. 91, No. 5, 1255-60