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Life Extension Update Exclusive

### **Increased folic acid intake linked with lower Alzheimer's disease risk**

The January 2007 issue of American Medical Association journal *Archives of Neurology* published the finding of José A. Luchsinger, MD, of Columbia University Medical Center, and colleagues that older men and women with a higher intake of folate from diet and supplements have a reduced risk of Alzheimer's disease compared to those who consume less.

The researchers followed 965 Medicare recipients aged 65 or older for an average of 6 years. The study population was 45.3 percent Hispanic, 32.6 percent African American and 22.1 percent Caucasian. Dietary questionnaires completed at the beginning of the study were analyzed for folate, vitamin B6, and vitamin B12 from diet and supplements. Participants were without dementia upon enrollment and were evaluated for the development of Alzheimer's disease approximately every 18 months.

One hundred ninety-two participants developed Alzheimer's disease over the follow up period. Although the researchers did not find a correlation between the development of Alzheimer's disease and the intake of vitamin B6, B12, or folate from either food or supplements alone, greater intake of folate from diet and supplements combined was associated with a reduced risk of the disease. Participants in the top one-fourth of total folate intake experienced half the adjusted risk of developing Alzheimer's disease than those in the lowest quarter. A modest association between lower homocysteine levels and greater total folate intake as well as serum folate was observed, "indirectly suggesting that a lower homocysteine level is a potential mechanism for the association between higher folate intake and a lower Alzheimer's disease risk," the authors remark.

It is possible that the evident lack of benefit found in this study for vitamin B12, a nutrient that is also known to reduce homocysteine levels, is due to the animal source of the vitamin, which links a higher intake of B12 with a diet that contains more meat. Previous research has found that diets that have a lower meat and higher vegetable content are associated with a lower risk of Alzheimer's disease.

To the authors' knowledge this is the first published study to explore the relationship between vitamins related to homocysteine and Alzheimer's disease in a population that is mainly African American and Caribbean Hispanic. They introduce their article by observing that "By the year 2047, the prevalence of Alzheimer's disease is expected to quadruple." Any measure that could help delay its onset will decrease the tremendous burden that the disease is projected to inflict on Alzheimer's disease sufferers, caregivers, and the nation's healthcare system.

Health Concern

### **Alzheimer's disease**

Compelling and growing evidence links inflammation and oxidative stress to Alzheimer's disease. According to the inflammation

theory (discussed in dozens of recent clinical trials), inflammatory cytokines gather at the neurons of people who have Alzheimer's. These cytokines set off an inflammatory cascade. The inflammation generates high levels of free radicals that contribute directly to the formation of beta-amyloid plaques. The result is more inflammation, free radicals, and beta-amyloid plaques. Iron has also been linked to the generation of free radicals. Studies have shown that free iron accumulates on the surface of dying neurons, where it generates oxygen-derived free radicals that hasten the spread of the disease (Mandel S et al 2006).

Other possible causes include high levels of homocysteine in the brain and specific nutrient deficiencies. Although these ideas are still developing, they have opened up exciting new targets for therapy. In clinical studies, the most cutting-edge researchers are turning to therapies such as anti-inflammatory nutrients, antioxidants that reduce oxidative stress, and metal chelating agents (such as green tea) that reduce the levels of free iron in the brain.

Folic acid is needed for DNA synthesis and to make S-adenosylmethionine (SAME). A study of 126 patients, including 30 who had Alzheimer's disease, found that the levels of folate in cerebrospinal fluid were significantly lower in patients with late-onset Alzheimer's disease (Serot JM et al 2001). Another longitudinal analysis of people between the ages of 70 and 79 years found that people who had high levels of homocysteine or low levels of folate had impaired cognitive function. The strongest association between abnormal levels and dementia was found in people who had low folate levels, leading researchers to suggest that folate might reduce the risk of cognitive decline (Kado DM et al 2005).

[http://www.lef.org/protocols/neurological/alzheimers\\_disease\\_01.htm](http://www.lef.org/protocols/neurological/alzheimers_disease_01.htm)

## Featured Products



### Folic Acid & Vitamin B12 Capsules

Folic acid provides the following health benefits:

- Helps protect the chromosomes against genetic damage.
- Lowers damaging homocysteine levels.
- Participates in the utilization of sugar and amino acids.
- Promotes healthier skin.
- Helps maintain a healthy GI tract.



<http://www.lef.org/newshop/items/item00347.html>

### Homocysteine Resist

While many doctors and blood laboratories consider homocysteine levels of 5-15 micromoles per liter (mmol/L) blood to be "normal," epidemiologic data indicate that levels above 6.3 mmol/L sharply and progressively increase heart problems. One study found that each 3 mmol/L increase in homocysteine caused a 35 percent increase in heart problems. Because there is no "safe" level of homocysteine, Life Extension recommends keeping levels as low as possible, preferably below 7-8 mmol/L.

For those seeking to lower their homocysteine, Homocysteine Resist provides a potent dose of 750 mg vitamin B6 along with 800 micrograms folic acid and 500 micrograms vitamin B12.



<http://www.lef.org/newshop/items/item00800.html>

## Life Extension magazine

**January 2007 issue now online!**

## Reports

On the cover: Scientifically advanced skin care, by Dave Tuttle

Has your CoQ10 become obsolete? By William Faloon

Benfotiamine: European supplement protects against diabetic complications, by Dale Kiefer

Preventing sarcopenia: Maintain healthy muscle mass as you age, by Will Brink

Replenishing the aging body's antioxidant defenses, by Laurie Barclay, MD

## Departments

As we see it: Does green tea prevent cardiovascular disease? by William Faloon

In the news:

- Silymarin lowers glucose, lipid levels in diabetics
- Green tea delays memory loss in aged mice
- Grape seed blocks colon cancer cell growth
- Omega 3s slow cognitive decline in mild Alzheimer's cases
- Low selenium levels increase coronary artery disease risk
- Study says benefits of eating fish outweigh risks
- Osteoarthritis may signify accelerated biological aging
- Mediterranean diet may lower Alzheimer's risk
- Progesterone guards against disability following brain injury
- Cola intake may decrease bone density in women
- Sleep duration, quality affect blood sugar in diabetics
- *Prescription for Disaster* garners film prize
- Reviving bacteria may yield medical benefits
- PayPal founder pledges \$3.5 million to antiaging research
- Turmeric fights arthritis, bone loss
- Alcor conference charts future of medicine

Ask the doctor: Natural approaches to lowering blood pressure, by Michael Ozner, MD

All about supplements: Saw palmetto, by Armand Scipione

Wellness profile: Art Linkletter, by Donna Caruso

January, 2007 abstracts: CoQ10, benfotiamine, green tea, sarcopenia, saw palmetto

[http://www.lef.org/magazine/mag2007/mag2007\\_01.htm](http://www.lef.org/magazine/mag2007/mag2007_01.htm)

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