

# Clinical Update

## Lack of Vitamin E Linked to Physical Decline

Age, but not other vitamins, also associated with poor physical function

*(Journal of the American Medical Association, January 2008)*

If you don't get enough vitamin E in your diet, you may have a greater risk of declining physical function as you age, according to the findings of a new study. Yale researchers report that people with the lowest blood levels of vitamin E have about 60 percent greater odds of a decline in physical function when compared to people with the highest levels of vitamin E.

"Low plasma levels of vitamin E are associated with subsequent decline in physical function," said the study's lead author, Benedetta Bartali, a nutritionist and a Brown-Coxe postdoctoral fellow at Yale University's School of Medicine.

"As an antioxidant, vitamin E may prevent or reduce the propagation of free radicals in our body, and this may help to reduce muscle or DNA damage and the development, for example, of atherosclerosis and other pathologic conditions," Bartali said, although she added that this study wasn't designed to identify the reasons why vitamin E might be helpful. Results of the study are published in the Jan. 23 issue of the Journal of the American Medical Association.

In the past, it was believed that vitamin E could help prevent serious illness, such as heart disease or Alzheimer's. However, more current research found that excess levels of vitamin E, rather than being helpful, could actually be harmful. For that reason, it's recommended that people don't take more than 400 I.U.'s [International Units] of vitamin E daily. And the recommended daily dose is significantly lower than that -- 15 milligrams or 22.5 I.U.'s daily for anyone over the age of 15, according to the U.S. National Institutes of Health.

Because poor nutrition has been associated with physical decline in older people, Bartali and her colleagues randomly selected almost 700 adults over age 65 from an ongoing longitudinal study in Tuscany, Italy. They reviewed blood tests to ascertain vitamin levels and reviewed data from physical function exams completed at the start of the study and at the three-year follow-up.

After adjusting the data to account for other factors that could contribute to physical decline, such as smoking or a lack of physical activity, the researchers found two factors were significantly associated with a greater chance of experiencing physical decline -- age and low levels of vitamin E. Levels of B vitamins, vitamin D and iron didn't increase the odds of physical decline, according to the study.

Being older than 81 years increased the odds of physical decline by 84 percent, and low levels of vitamin E in people between the ages of 70 and 80 increased the odds of physical decline by 60 percent, according to the study. "Because only one person in our study used vitamin E supplements, our results suggest that an appropriate dietary intake of vitamin E may help to reduce the decline in physical function among older persons. Whether the use of vitamin E supplements would yield similar beneficial effects is unknown," Bartali said.

Dr. Kanwardeep Singh, a geriatric specialist at St. John Hospital and Medical Center in Detroit, said that while this is a very well-done study, it's difficult to "take the effect of age out of what we are trying to identify." For now, he said, "I would not recommend vitamin E supplements. My recommendations would be based on a good nutritious diet, with adequate caloric intake and adequate exercise. These will take you far beyond vitamin E supplements" in maintaining physical function.