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### **Reduced selenium status linked with cognitive decline**

The January, 2007 issue of the journal *Epidemiology* reported the finding of researchers in France that decreased plasma selenium over time is associated with a decline in cognitive function.

The study included 1,389 participants in the longitudinal EVA (Etude du Vieillessement Arteriel) study, conducted among men and women born between 1922 and 1932 residing in Western France. Clinical examinations were conducted and cognitive function evaluated upon enrollment between 1991 and 1993, and periodically during the nine year study period. Plasma selenium levels were measured at the beginning of the study, between 1993 and 1995, and at the final follow-up.

After controlling for time and other factors, the researchers found that among participants who experienced a decrease in selenium levels over the course of the study, there was an increase in the risk of cognitive decline that corresponded to the degree of selenium reduction. For participants whose selenium levels increased, the risk of cognitive decline was greater among those with the least increase.

The authors observe that the role played by selenium in redox reactions and the synthesis of thyroid hormones may help explain its effect on cognitive impairment, and add that the brain contains a large amount of the mineral.

"We found an association between plasma selenium change and 9-year cognitive decline only with 9-year selenium change, not 2-year change," the authors note. "These results are in agreement with the effect of antioxidant supplementation observed in some long-term studies and the lack of effect after a 6-month period in patients with mild Alzheimer's disease."

"Our results, together with information on involvement of selenoproteins in brain functions, support possible relationships between selenium status and neuropsychological functions in aging people," the authors conclude. They add that "The preventive effect of selenium supplementation at a nutritional level needs to be evaluated with large scale-studies."

Health Concern

### **Mild cognitive impairment**

It is estimated that up to one third of adults will experience a gradual decline in cognitive function known as mild cognitive impairment as they age (Low LF et al 2004; Busse A et al 2003). Less severe than dementia, mild cognitive impairment is defined as cognitive defects that do not interfere with daily living. It may include slower thinking, a reduced ability to learn, and impaired memory.

Free radicals are highly unstable molecules that react with other molecules in a damaging process known as oxidation. Areas of the body with high energy output, such as the brain, are particularly vulnerable to damage from free radicals. The body normally defends itself against the harmful effects of free radicals with antioxidants, including superoxide dismutase and glutathione peroxidase, as well as vitamins C and E. Animal studies have suggested that diets high in antioxidants can delay age-related memory loss (Joseph JA et al 1998; Perrig WJ et al 1997).

Hypothyroidism is a well-known and relatively common cause of reversible dementia and the most treatable cause of cognitive decline in the older population. A recent study indicates that even subclinical hypothyroidism may be a predisposing factor for depression, cognitive impairment, and dementia (Davis JD et al 2003).

Thyroid hormone blood tests can help detect suboptimal hormone levels and confirm the diagnosis of hypothyroidism.

[http://www.lef.org/protocols/neurological/mild\\_cognitive\\_impairment\\_01.htm](http://www.lef.org/protocols/neurological/mild_cognitive_impairment_01.htm)

## Featured Products



### Super Selenium

As an essential cofactor of glutathione peroxidase<sup>73</sup>, selenium is an important antioxidant. It is also involved with iodine metabolism, DNA repair, immune function, and the detoxification of heavy metals.

<http://www.lef.org/newshop/items/item00578.html>



### Super Booster Softgels with Advanced K2 Complex

The FDA states that some scientific evidence suggests consumption of selenium may reduce the risk of certain forms of cancer. However, the FDA has determined this evidence is limited and not conclusive. The ability of selenium to boost glutathione is well established, but most people don't know that there are several different forms of selenium that provide diverse biological benefits.

<http://www.lef.org/newshop/items/item00980.html>



## Events



The world's major congress about medical Global Aging Management, presenting the latest news and perspectives for antiaging internal treatments and aesthetic medical procedures. Over 250 International experts, simultaneous translation in 5 languages, 200 companies, and more than 3000 attending physicians.

<http://www.lef.org/event.html>

If you have questions or comments concerning this issue or past issues of Life Extension Update, send them to [ddye@lifeextension.com](mailto:ddye@lifeextension.com) or call 954 202 7716.

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