



## ■ Study finds vitamin D may lower MS risk

Got vitamin D? Unless you're taking supplements, drinking fortified milk, or eating a lot of fish, you're probably not getting enough. Ultraviolet rays from the sun trigger vitamin D synthesis, but at higher latitudes, away from the equator, vitamin D production is often insufficient, especially in winter months.

Growing evidence linking higher vitamin D levels and a lowered risk of MS may explain why people who live further away from the equator are more likely to get the disease.

### The new study

Researchers from Harvard School of Public Health, led by Alberto Ascherio, MD, DrPH, focused on 257 people who'd had at least two blood samples drawn

before they were diagnosed with MS. In these stored samples, levels of 25-hydroxyvitamin D, a form of the vitamin that reflects recent exposure to sunlight, were compared to samples from people who did not develop the disease. In the white population in this study, the average level of this form of vitamin D was 75.2 nmol/L (nanomoles per liter). In blacks it averaged 45.5 nmol/L, and in Hispanics it was 66.6 nmol/L. These averages reflect levels found by race in the general population—darker

skin produces less vitamin D when exposed to sunlight than lighter skin.

In the white population in this study, there was a 41% decrease in MS risk for every 50-nmol/L increase in vitamin D levels. MS risk was lowest among those with the highest levels of vitamin D and highest among those with the lowest levels of vitamin D. There were not enough black or Hispanic people with MS in the study group to determine what effect vitamin D had on their risk. Dr. Ascherio's study was published in the December

20, 2006, issue of the **Journal of the American Medical Association**.

Further studies are needed to confirm these findings and then to determine whether this vitamin could reduce the MS risk. This study did not ask if vitamin D can affect the course of MS once it has begun.

It is known that too much vitamin D can have toxic effects on the body, including excessive calcium levels in the blood, high blood pressure, nausea, poor appetite, weakness, constipation, impaired kidney function, and kidney damage. The Institute of Medicine recommends 200 International Units (IUs) daily for children and 200–600 IUs for adults, with older adults needing more. Talk with your health-care provider before taking this or any other supplement.

## ■ **New clue to MS relapses**

In the healthy human body, immune cells enlisted to fight an infection will “self-destruct” once the bacteria or viruses

have been eliminated. But a new study has shown that a protein found in abundance in people with MS may help destructive immune cells survive to continue or repeat their attack against brain and spinal cord tissues.



The study, conducted by Dr. Lawrence Steinman and researchers at Stanford University, was funded by the National MS Society, the National Institutes of Health, and others. **Nature Immunology** published the results in an early, online edition.

Previous studies had shown that the protein—called osteopontin—was elevated in damaged areas of the nervous system in

people with MS and that there were increased levels of it in blood plasma just before a person experienced an MS relapse. Osteopontin has been linked to other immune diseases, including rheumatoid arthritis and lupus.

The Stanford researchers carried out the study on mice with different MS-like diseases. Some of the mice had been engineered to lack osteopontin. In a series of experiments, the investigators found that the mice with osteopontin had repeated relapses, they were less likely to recover from symptoms, and their disease progressed more severely.

“These findings may lead to new therapeutic approaches that target osteopontin,” John Richert, MD, the National MS Society’s executive vice president of Research and Clinical Programs, told **InsideMS**. “But osteopontin has many functions, including the maintenance of bones. We need more research in order to find ways to stop its influence on immune attacks without keeping it from doing its other jobs.” ■