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## Lack of Vitamin D Linked to Pain

### Study Shows Limited Sun Exposure Has Health Benefits

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Dec. 10, 2003 -- There is new evidence that small amounts of unprotected sun exposure could be good for you. Earlier studies have linked vitamin D deficiency with an increased risk for several cancers. Now comes word that it may also be a major cause of unexplained muscle and bone pain.

In a study involving 150 children and adults with unexplained muscle and bone pain, almost all were found to be vitamin D deficient; many were severely deficient with extremely low levels of vitamin D in their bodies.

Humans tend to get most of their vitamin D from exposure to sunlight, so those who avoid the sun completely or who always wear sunscreen to protect themselves against skin cancers are at risk for vitamin D deficiencies, says Michael Holick, MD. Holick runs the Vitamin D Research Lab at Boston University Medical Center.

"I think the current message that all unprotected sun exposure is bad for you is too extreme," he tells WebMD. "The original message was that people should limit their sun exposure, not that they should avoid the sun entirely. I do believe that some unprotected exposure to the sun is important for health."

### **Dermatologists Disagree**

Holick claims there is now a strong epidemiological case linking vitamin D deficiency with a host of cancers including those of the prostate, colon, and breast; and he says vitamin D may also help protect against heart disease, autoimmune diseases, and even type 1 diabetes.

He will present the evidence in a book scheduled for publication next spring, but the nation's largest dermatology group remains unconvinced. In a recent press release, American Academy of Dermatology

## Patients Should Be Tested

In the latest study, Gregory A. Plotnikoff, MD, of the University of Minnesota Medical School found a much higher incidence of vitamin D deficiency in the patients with unexplained muscle and skeletal pain than expected, regardless of their ages.

All of the African Americans, East Africans, Hispanics, and Native Americans who participated in the study were vitamin D deficient, as were all of the patients under the age of 30.

The researcher says it was a big surprise that the worst vitamin D deficiencies occurred in young people -- especially women of childbearing age. The findings are reported in the December issue of the journal *Mayo Clinic Proceedings*.

"The message here is that unexplained pain may very well be linked to a vitamin D deficiency," Plotnikoff tells WebMD. "My hope is that patients with unexplained pain will be tested for vitamin D status, and treated, if necessary."

## Food and Pills

Although it is possible to get vitamin D through foods or supplements, both researchers say it is not easy. A glass of fortified milk or fortified orange juice has about 100 international units (IU) of vitamin D and a multivitamin typically has 400 IU. Holick believes most people need about 1000 IU of vitamin D each day. The recommended dietary allowance (RDA) for vitamin D varies with age, sex, and various medical conditions but in general is 200-600 IU per day.

Other sources of vitamin D include:

- **Cod Liver Oil.** 1 tablespoon=1360 IU of vitamin D
- **Salmon.** 3 ounces=425 IU of vitamin D
- **Herring.** 3 ounces=765 IU of vitamin D
- **Sardines.** Canned, 3 ounces=255 IU of vitamin D

Multivitamin supplements commonly provide 200-400 IU of vitamin D daily.

He says a light-skinned person wearing a swimsuit at the beach will have absorbed about 20,000 IU of vitamin D in the time it takes their skin to get lightly pink.

The amount of sun exposure needed to get the proper dose of vitamin D depends on a person's skin type,

"The trick is getting just enough sun to satisfy your body's vitamin D requirement, without damaging the skin," he says. "It is difficult to believe that this kind of limited exposure significantly increases a person's risk of skin cancer."

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SOURCES: Plotnikoff, G. *Mayo Clinic Proceedings*, December 2003; vol. 78: pp. 1463-1470. Gregory A. Plotnikoff, MD, MTS, departments of internal medicine and pediatrics, University of Minnesota Medical School, Minneapolis. Michael Holick, MD, department of medicine, Boston University School of Medicine, Boston. News release, American Academy of Dermatology, July 3, 2003; "Vitamin D + Sunshine + Bad Medicine."

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