

## ARE YOU GETTING ENOUGH VITAMIN D?

*By Dr. Ruth Martens*

Most of us know that vitamin D is an essential part of our diet that is manufactured in the skin when exposed to sunlight. Standard textbooks state that the principal function of vitamin D is to promote calcium absorption in the gut and calcium transfer across cell membranes thus contributing to strong bones and teeth. This is old news.

**The new headlines read:** Vitamin D may help prevent as many as 16 different types of cancer and decrease risk of heart disease, diabetes, age related memory impairment, and autoimmune diseases such as multiple sclerosis and rheumatoid arthritis.

Optimum levels of vitamin D can improve hypertension, osteoporosis, depression (including Seasonal Affective Disorder), chronic pain, chronic fatigue, Parkinson's disease, and inflammatory bowel disease (Crohn's). Adults and children with higher vitamin D levels have fewer colds, flu or other viral infections. Many doctors now add vitamin D to vitamins A, C and E in their recommendations for acute upper respiratory infections.

**How much vitamin D do you need?** The National Institute of Health (NIH) established Adequate Intakes (AIs) for vitamin D to be 200 IU for children and adults to age 50 years, 400 IU for adults 51-70 years and 600 IU for adults over 70 years. Because of the burst of new research that has been published in the last 10 years, the American Academy of Pediatrics has increased its recommendations for children to 400 IU/day and the Institute of Medicine has announced a report updating recommendations for vitamin D and calcium will be issued by May 2010.

Dr. Reinhold Vieth, a Canadian researcher, argues that the minimal daily requirement of vitamin D should be 4000 IU from all sources. He believes vitamin D deficiency exists when blood 25(OH)D levels are less than 50 ng/ml. It is a simple blood test but most laboratories use a normal range that is below optimum.

**Can you get vitamin D from your food?** Vitamin D is found in fatty fish (herring, salmon, mackerel, tuna, sardines), cod liver oil, eggs, beef liver and vitamin D fortified milk, orange juice and cereal. Several steps then occur to convert it to its active form through exposure to UVB rays (sunlight) in the skin and through liver and renal metabolism. The level of vitamin D absorbed varies greatly from person to person based on skin color (more melanin in the skin decreases absorption), duration of sun exposure, angle of the sun's rays (geographic location and season of the year), use of sunblock and interference from certain medications.

**Can I just sit in the sun?** Since I live closer to Chicago than to Cancun, the answer is no. Even the NIH admits that it is impossible to obtain enough sun exposure during the months from November to February if you live north of Los Angeles. So what can you do?

**Fortunately, vitamin D is easily obtainable in supplement form.** In fact, in a strange twist, the over the counter form (vitamin D<sub>3</sub>) is more effective than the prescription form and is the only form you should take. Vitamin D<sub>2</sub> is no longer recommended.

**Is too much vitamin D a bad thing?** Overdosing on vitamin D in your diet is unlikely unless you take large amounts of cod liver oil. Your body has countermeasures to keep absorption in balance. There are no such balances for taking too many supplements however. Since vitamin D is stored, it is possible over time to accumulate toxic levels (a blood level >200 ng/ml).

Since there are so many things that affect vitamin D levels, the only way to determine if you are deficient or at an optimum level is through a blood test. If you are deficient, your vitamin D level should be monitored until you regain the optimum level and you can maintain it. We are not all the same. Individualized care and maintenance are key. This is one test you will want to take.

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