

Endocrinology Associates of Central Virginia
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What you should know about Vitamin D

Vitamin D deficiency is very common in the US, in both children and adults. I have been very surprised at how many of my patients have very low levels in their blood. The USDA Recommended Daily Allowance (RDA) of 400 International Units is too low to maintain optimal levels of vitamin D, and many don't even get the RDA.

Vitamin D deficiency is associated with osteoporosis and bone fractures, but low levels have also been found in a surprising variety of other problems, including type 1 and type 2 diabetes, cancers (colon, breast, ovary), depression, metabolic syndrome, cardiovascular disease, decreased resistance to infections, autism, multiple sclerosis, muscle aches and pains, and Crohn's disease.

There are 2 forms of vitamin D: Vitamin D2 (ergocalciferol) is produced in plants, and vitamin D3 (cholecalciferol) is animal-derived.

Our bodies can produce vitamin D3 in the skin, triggered by sunlight exposure at a certain UV frequency. Unfortunately, sunscreen blocks this process, and in our part of the country, the sun isn't high enough in the sky for 6 months out of the year to cause vitamin D production. Dietary sources include milk, fortified orange juice, some cheeses, cod liver oil, salmon, sardines, mackerel, tuna, egg yolks, and shitake mushrooms.

Sun-tanning parlors do cause the production of vitamin D in the skin, and you can even buy a Sperti vitamin D lamp for home use if you have trouble with malabsorption of vitamin D.

How does someone know if he/she has enough Vitamin D?

Vitamin D can be measured in the blood, and the best indicator is a measure of 25-hydroxy vitamin D3. My optimal range is 50-80 ng/ml, which is different from that published by most laboratories.

Published laboratory normal ranges usually show a lower normal level of 22 or 30, and an upper level of 80, but Bruce Hollis showed that Vitamin D metabolism is not normalized until levels are above 40 or 50. (Hollis et al, J Steroid Biochem Mol Biol 2007; 103:631)

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Where can I get vitamin D?

Both D2 and D3 are available in supplement form, often in association with calcium. Typical doses range from 100 units to 2000 units. There are some studies that suggest that Vitamin D3 may be up to 30% more potent than D2, but other studies suggest similar potency.

Vitamin D2 (ergocalciferol) 50,000 units is also available by prescription, dose dependent on one's level.

Vitamin D3 (cholecalciferol) is available by mail order from BioTech Pharmacal at 1-800-345-1199. They have 1000, 5000, and 50,000 unit capsules at very reasonable prices. No prescription is required. These capsules may be opened to add the powder to a beverage or soft food to make it easier to swallow.

Liquid Vitamin D3 providing 2000 units/drop is available as Liqui-D3 from Rx Vitamins. You can buy this without a prescription through Naturamart, www.naturamart.com, 1-800-383-6008. Liquid Vitamin D2 is available by prescription but is expensive and insurance companies won't generally cover it, so I never prescribe it.

How do I know if I am getting enough vitamin D?

The best way is to follow vitamin D levels by blood tests, with a goal of 50-80 ng/nl. Insurance companies do not always cover the cost of the test. Our office charges \$60. D*Action offers a home test using filter paper for \$30, www.ordervitamindtest.org

Can you get too much Vitamin D?

Yes! Symptoms include weakness, nausea, vomiting, joint pain, loss of appetite, weight loss. High levels of vitamin D can cause high levels of calcium in the blood (hypercalcemia) and calcium may form crystals in the kidneys (kidney stones), heart, or lungs.

Where can I get more information on vitamin D?

The Vitamin D Council
9100 San Gregorio Rd
Atascadero, CA 93422
www.vitamindcouncil.org

If you have any questions, please feel free to ask me!

Patricia Powers, MD

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