



Vitamin D

Special Feature

The Role of Vitamin D

Vitamin D is widely known to be an essential component of calcium homeostasis. By enhancing calcium absorption and reducing urinary calcium loss, vitamin D helps to sustain optimal bone composition.*

Vitamin D may also support heart health in some individuals via its effect on calcium metabolism and/or healthy plasma renin function.*

This fat-soluble vitamin also plays a role in maintaining healthy cellular function of the colon and promotes breast and prostate health, in part by supporting angiogenesis balance.*

It has been suggested that vitamin D supports the immune response by maintaining healthy cytokine and other immune cell activities.*

Furthermore, preliminary evidence has indicated that vitamin D may play a role in supporting healthy glucose metabolism through pancreatic cell receptor mediated actions.*

It is recommended that individuals using more than 2,000 i.u. vitamin D per day have their blood levels monitored.



Vitamin D: An Interview with Mark Swanson, N.D.

Q: Thank you for sharing with us your experience and thoughts on vitamin D supplementation. Can you tell us a little bit about yourself and your practice?

A: I received my naturopathic degree from Bastyr University in 1984, which was the third graduating class. I have been in a nutritionally oriented private practice in Washington State for almost 20 years. I am also a former Acquisitions Editor for the AANP Journal of Naturopathic Medicine. I have been a customer of Pure Encapsulations for almost 15 years.

Q: You use 1,000 i.u. and 5,000 i.u. vitamin D extensively in your practice. Why have you found this to be so important?

A: I think a lot of people might be unaware of the widespread vitamin D deficiency crisis in our country. I believe every physician should consider testing for vitamin D status to help maintain healthy levels, especially if dietary intake of vitamin D is low, sun exposure is limited, or sunscreen is used regularly whenever the person is outside.

For people with very low vitamin D levels (< 20 ng/ml), 35,000-50,000 i.u. per week is often recommended for 6-8 weeks. This is a difficult amount to achieve with vitamin D supplements below 5,000 i.u. per capsule. Once a desirable serum vitamin D level has been achieved, supplementation can be maintained at 1,000 i.u. per day.

Let me give you an example. I was helping to provide a woman with comprehensive immune support related to breast health, which included vitamin D supplementation. She lives near the Olympic National Rainforest, which is one of the cloudiest and rainiest areas on the west coast. Supporting muscle comfort and emotional health were also important, things that vitamin D can

continued on reverse

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also help promote. When I tested her vitamin D levels, the result came back 16 ng/ml, which is far less than the 30 ng/ml I think of as minimally adequate. I decided it would be best to recommend 50,000 i.u. of vitamin D₃ per week for 8 weeks. After 2 months, she began supplementing with this amount per month for the next 3 months, then 1,000 i.u. per day thereafter. She is now being maintained in her target range of 50-60 ng/ml.

Q: *Why would you describe supplementation levels as 50,000 i.u. "per week" or "per month" as opposed to the amount per day?*

A: Simply because 50,000 i.u. per week can be achieved through a number of ways. Individuals might supplement 5 days a week with 10,000 i.u. per day in single or divided doses. Or they may take 5,000 i.u. per day on some days and 10,000 i.u. on other days, as examples. The same is true with achieving a certain level per month.

Q: *Who should supplement with vitamin D?*

A: Almost everyone! That's the real message here. If the summer sun is blocked or avoided, generating enough vitamin D to support healthy levels isn't likely. Winter sun doesn't generate enough UVB to make vitamin D in the skin because of its steep angle. Therefore, people must store enough in the summer months to get them through the winter. Wearing sunscreen, covering up, staying indoors, even driving a car will completely block vitamin D formation. People living north of Los Angeles and Atlanta are the most prone to inadequate vitamin D. And it's not uncommon to see this problem occurring in Florida and throughout the southern United States.

Q: *What types of serum levels should health professionals be looking for?*

A: Typical reference ranges are 20–100 ng/ml but this may differ slightly between labs. I believe that 30 ng/ml is the minimum adequate level. A value of 40 ng/ml is better. Optimal is likely to be between 50-60 ng/ml prior to the winter months. In my practice in Washington State, this is what I like to see. Serum vitamin D can peak at upwards of 80 ng/ml or more during the summer months with enough non-burning sun exposure without sunscreen. 25(OH) vitamin D, or 25 hydroxyvitamin D, is the best indicator of vitamin D in the body. Testing for 1-25 (OH), or dihydroxy vitamin D, is not recommended because when vitamin D levels in the body start to fall, the kidneys increase the 1-25 (OH) vitamin D level and it can even become elevated.

Q: *What amount do you typically recommend?*

A: New evidence suggests that increasing vitamin D₃ intake to 1,000 i.u. per day provides better support for healthy vitamin D levels in many people compared to lower doses like 400 i.u. This amount can increase significantly for patients with serum vitamin D levels below 30 ng/ml.

Q: *When would you recommend taking higher amounts of vitamin D, like 5,000 i.u. or more per day?*

A: This is probably most important for individuals who test below 20 ng/ml, but it is generally a good fit for anyone below 30 ng/ml. Once the goal is reached, many individuals can be maintained at a lower dose, such as 1,000 i.u. per day. Daily supplementation of 5,000 i.u. (or more) is usually short term (6-8 weeks). I find it helpful to monitor 25 (OH) vitamin D levels every 6 weeks until the desired level is reached.

Some helpful guidelines might be:

- If vitamin D levels are <20 ng/ml, 35,000-50,000 i.u. per week in divided doses for 8 weeks. Then 50,000 i.u. per month for 2-3 months, followed by 1,000 i.u. daily.
- If vitamin D levels are between 20-30 ng/ml, 25,000 i.u. per week in divided doses for 8 weeks. Then 15,000 i.u. per week for 2 months, followed by 1,000 i.u. daily.
- If vitamin D levels are between 30-40 ng/ml, 10,000-15,000 i.u. per week in divided doses for 2 months. Then 1,000 i.u. daily.

Q: *What do you say to people who are concerned about vitamin D toxicity?*

A: It is rare in the medical literature to find vitamin D toxicity even at 10,000 i.u. daily for extended periods. Healthy adults can benefit more by taking 1,000 i.u. daily vs. the 400 i.u. currently recommended. This is a very safe level and is more appropriate for maintaining healthy muscle comfort and bone strength. For comparison, 20 minutes of UVB exposure from the summer sun can generate the equivalent of about 20,000 i.u. of vitamin D. People should also keep in mind that vitamin D from fortified milk and other fortified foods contribute to the total daily intake and can be in addition to the 1,000 i.u. from supplements.

Q: *Who should avoid vitamin D supplements?*

A: Mainly, people with hyperparathyroidism should not take vitamin D without consulting a physician as it may result in excessive calcium levels. Signs of hypercalcemia include headache, weakness, nausea, vomiting, and constipation.

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