

Editorial

The Vitamin D and Sunlight Controversy— We Will Wait and See

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Consumer and medical publications recently have had a great deal of coverage on the vitamin D status of Americans.¹ A number of publications have presented data suggesting that individuals with serum vitamin D levels in the low to normal range may actually be vitamin D deficient.^{2,3} In addition, some researchers suggest that low to normal levels of vitamin D can be attributed to sunscreen use and sun avoidance.⁴

Vitamin D controls calcium absorption and metabolism. In addition to being essential for good musculoskeletal health, it also has been linked to proper immune function and may be related to the prevention of certain cancers by altering cellular growth and differentiation. Foods containing fish oils are rich in vitamin D, but they are not prominent in the diet of Americans. As a result, for decades, some milk and dairy products in the United States have been fortified with vitamin D. However, the most efficient way to obtain vitamin D is a complex set of processes that begin with the conversion of 7-dehydroxycholesterol from UV light in the skin.

Studies have shown that dark-skinned individuals, people living in northerly climates during the winter, sunscreen users, and women have low levels of vitamin D.^{4,5} However, other studies evaluating rigorous sun protection in patients with xeroderma pigmentosum have revealed that low to normal levels of serum vitamin D are not associated with alteration of parathormone levels or other indications of deficiency.^{6,7} The controversy about the impact of sun protection on vitamin D levels has grown because researchers in the field cannot agree on what constitutes “normal” for serum 25-hydroxyvitamin D and similarly cannot agree on the minimum suggested daily intake levels of vitamin D. Four hundred to 600 IU for adults is considered the minimum at this time.⁸

The tanning salon industry has “fanned the flames” by suggesting that exposure to UV light and tanning is the optimal way to ensure healthy vitamin D metabolism. This prompted the American Academy of Dermatology to sponsor a multidisciplinary conference on sunlight, tanning booths, and vitamin D in 2004.⁸ Tanning to boost vitamin D

absorption is a subject of growing concern for dermatologists. As specialists in skin health and disease, we should not deny that this controversy has no merit. We should await solid scientific evidence from our colleagues in endocrinology and bone metabolism to guide us on normal laboratory values and adequate daily intake of vitamin D. This does not mean that we should change our message about sun avoidance and sunscreen use.

Until we have more information, we should continue to preach sun-sensible behavior and suggest that our patients obtain an adequate amount of vitamin D through food sources and supplements. It has been reported that the normal intake for optimal health is approximately 1000 IU per day for adults. To ensure that toxicity does not occur, do not exceed 2000 IU per day.⁸

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