



Are You Getting Enough Vitamin D?

by Marie A. Spano, MS, RD, CSCS, CSSD

If you are affected by excess weight or obesity, you have an increased risk of developing vitamin D deficiency. A deficiency in vitamin D can lead to weak bones, while impairing other aspects of your health as well. Many people throughout the country are falling short on their vitamin D needs, so it may be time to reconsider your own intake.

In this day and age with an overabundance of food in our country and a good supply of vitamin supplements, you may be wondering how anyone could be deficient in any nutrient. And, vitamin D, in particular, is unique because our bodies can actually make it when our skin is exposed to sunshine. However, a number of factors limit our body's production of vitamin D including darker skin color, obesity, less sun exposure in Northern states and skin-protecting sunscreen. Though you could go outside without skin-protecting sunscreen, harmful UV rays damage skin and can lead to skin cancer.

The questions remain, "What's the best way to get the right amount of vitamin D and why is it important?"

Vitamin D Deficiency

Where we live, what we eat, and how we choose to protect ourselves from the sun have all contributed to a recent increase in vitamin D insufficiency and deficiency across the U.S. Insufficiency means our vitamin D levels are not in the range that is best for our health. Deficiency means our vitamin D levels are too low! It is becoming more apparent that diet and sunlight alone are not fulfilling the need for vitamin D in many population groups.

Current data shows that vitamin D insufficiency impacts millions. [The Archives of Internal Medicine](#) reported that more than 75 percent of Americans have insufficient levels of vitamin D and

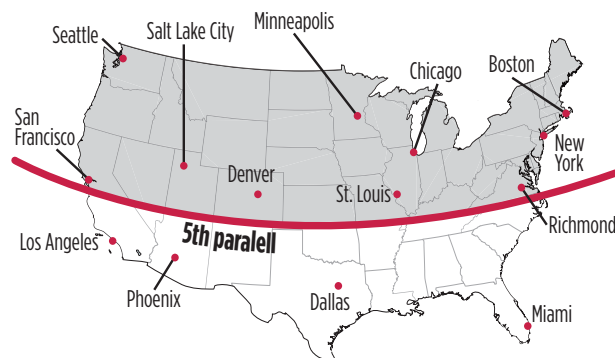


The American Public Health Association called vitamin D deficiency/insufficiency, “A major public health concern for both children and adults in the U.S.” Vitamin D levels are now checked more often as part of regular medical checkups, and medical professionals are recommending using a vitamin D supplement to ensure vitamin D levels are in a healthy range (normal vitamin D range is 30 to 74 nanograms per milliliter - ng/mL).

Geography Increases/Decreases Vitamin D Risks

If you live in the Northern portion of the United States, (*see map*) you will only get enough UV rays in the summer months to produce enough vitamin D to meet your needs. The rest of the year the sun's rays are not strong enough to help your body produce enough vitamin D. And, even if you live in a climate that is warm and sunny year-round, you may be using skin-protecting sunscreen or covering your body with clothing to protect your skin from damage and the potential development of skin cancer. While taking these precautions is wise, you may decrease your body's production of vitamin D.

At latitudes above 37 degrees north in the U.S. (*shaded region in the above map*) or below 37 degrees south of the equator, the sun is only strong enough to produce adequate UV rays in the summertime. The rest of the year your skin will not be able to produce enough vitamin D from sunlight exposure to meet your vitamin D needs. People who live in these areas have a greater risk for vitamin D deficiency.²



Obesity's Impact on Vitamin D

In addition to diet and exposure to sunlight, obesity has an effect on the body's vitamin D levels. Individuals affected by obesity have an increased risk of low vitamin D levels. As a fat soluble vitamin, vitamin D is stored in fat tissue. When a person has too much fat tissue, their vitamin D is not as available for use throughout the body.

While it may seem like bariatric surgery may improve vitamin D levels once a person loses weight, vitamin D deficiency is common after bariatric surgery as well. Low vitamin D levels are difficult to treat in bariatric surgery patients because some bariatric surgeries, such as roux-en-y gastric bypass and biliopancreatic diversion with duodenal switch (BPD/DS), decrease the absorption of some vitamins and minerals, including vitamin D. Making matters worse, many people do not get enough vitamin D from their diet. Even with a good diet, adults 19-50 years of age would need to consume 27 ounces of milk or other fortified dairy products daily to meet the recommended dietary allowance.

Why You Need to Care

Vitamin D plays an important role in many body functions and systems. The most well known reason to keep your vitamin D within a healthy range is its important role in bone health. As we age, we gradually lose bone mass, a process that speeds up for women during their post-menopausal years. Without enough Vitamin D levels in our body, calcium cannot be absorbed properly, nor can proper blood levels of calcium or phosphorus be maintained.



In the past 20 years, vitamin D receptors have been found on up to 40 different tissues, including the heart, pancreas, muscles, immune-system cells and brain.³ From its crucial role in bone health to roles in the proper functioning of nervous and immune systems, breast and colon health, it is clear that vitamin D plays a critical role in our overall health and well being.⁴

Conclusion

Limited access to sunshine and use of skin-protecting sunscreen significantly decreases our ability to make vitamin D naturally – even in summertime. Skin color (the melanin that makes skin dark also protects skin from UV light), smog, cloud cover, season and age (elderly individuals do not make vitamin D as well as younger adults do) also affect this process. In addition, many people do not want to risk skin damage and aging, as well as the potential for skin cancer from cumulative UV exposure.

The simplest and most effective path to make sure your body is getting the vitamin D it needs is to have your doctor check your vitamin D level, and if you are one of the many in need of additional vitamin D, take a supplement every day. Your doctor may tell you to take higher doses than the Recommended Daily Value (RDV) to bring your vitamin D up to a healthy level, then switch to a lower daily dose to keep your vitamin D levels healthy throughout a lifetime.

About the Author:

Marie A. Spano, MS, RD, CSCS, CSSD, is a nutrition communications expert and one of the country's leading sports nutritionists. Ms. Spano has appeared on NBC, ABC, Fox and CBS affiliates, and authored hundreds of magazine and trade publication articles, book chapters, marketing materials and web copy on a variety of nutrition topics. She is co-editor of the National Strength and Conditioning Association's Guide to Exercise and Sport Nutrition (Human Kinetics Publishers) and currently working on a second book.

References:

¹ Dusso AS, et al. Vitamin D. *Am J Physiol Renal Physiol* 2005; 2889:F8-F28.

² September 2008 issue of the *Harvard Women's Health Watch* www.health.harvard.edu/newsweek/time-for-more-vitamin-d.htm.

³ <http://fitbie.msn.com/eat-right/benefits-boosting-your-vitamin-d-intake> Anthony Norman, Ph.D., professor emeritus of Biochemistry at the University of California at Riverside.

⁴ Hayes CE, Nashold FE, Spach KM, Pedersen LB. The immunological functions of the vitamin D endocrine system. *Cell Mol Biol* 2003; 49(2):227-300.



As an example of just how important vitamin D is, the following study, presented at the 2010 American Heart Association's annual meeting, examined how low vitamin D levels affect the heart:

Researchers followed 27,686 people, aged 50 and older, with no history of cardiovascular disease. The participants were divided into three groups based on their vitamin D levels: normal, low or very low.

After one year of follow-up, those with very low levels of vitamin D were 77 percent more likely to die, 45 percent more likely to develop coronary artery disease and 78 percent more likely to have a stroke, and twice as likely to develop heart failure compared to people with normal vitamin D levels.

"We concluded that among patients 50 years of age or older, even moderate vitamin D deficiency was associated with developing coronary artery disease, heart failure, stroke and death," said study co-author Heidi May, PhD, MS, an epidemiologist with the Intermountain Medical Center in Murray, Utah.



ABOUT THE OBESITY ACTION COALITION (OAC)

The Obesity Action Coalition (OAC) is a National non-profit organization dedicated to giving a voice to individuals affected by obesity and helping them along their journey toward better health. Our core focuses are to elevate the conversation of weight and its impact on health, improve access to obesity care, provide science-based education on obesity and its treatments, and fight to eliminate weight bias and discrimination.



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The OAC knows that the journey with weight can be challenging but we also know that great things happen when we learn, connect and engage. That is why the OAC Community exists. Our Community is designed to provide quality education, ongoing support programs, an opportunity to connect, and a place to take action on important issues.

Through the OAC Community, you can get access to:

- Weight & Health Education • Community Blogs
 - Community Discussion Forum
 - Ongoing Support • Meaningful Connections
- AND MUCH MORE**



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