

Vitamin D: Why all the Hype?

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Athletes often come to the USOC sport nutrition department to learn about what food (a.k.a. fuel) they should be putting into their bodies to improve performance. A dietary recall is often incorporated into the initial assessment, and often a dietitian can quickly identify the key nutrients that may be lacking based on their current food choices. However, there is a sneaky essential fat soluble vitamin, Vitamin D, that is not readily available in a lot of foods, making it common for the athlete to have insufficient or deficient intake. And in the elite athlete population, research suggests a performance link to this mysterious nutrient. Is there more to Vitamin D than a relationship to bone health?

Due to its relatively low availability in food, humans rely largely on the endogenous (within the body) production of Vitamin D. This is a natural process, that is initiated at the skin level through exposure to UVB rays. Some individuals require as little as 15 minutes, while others need up to 60 minutes of exposure to synthesize adequate levels of Vitamin D, depending upon pigment of the skin. Darker skinned individuals have more melanin that blocks UVB absorption, and therefore synthesis of Vitamin D. With the increased awareness of skin health and the rise in prevalence of skin cancer, managing this sunlight exposure can be a difficult balance. In addition, sunscreen blocks 98% of UVB rays required to synthesize Vitamin D.

For the elite athlete population, lifestyle factors associated with training can influence Vitamin D levels. Athletes training outdoors are often covered in clothing or sun screen or train during early hours of the day. On the other hand, athletes training indoors spend very few hours exposed to sunlight during the middle of the day. Both of these scenarios increase the risk of having insufficient or deficient Vitamin D levels. For this reason, the USOC Sport Medicine and Nutrition departments have made it a policy to screen and monitor blood values of Vitamin D3 in athletes. Signs and Symptoms of low Vitamin D levels include: low bone mineral density, stress fractures, fatigue, unexplained muscle and joint pain, and frequent illness. All of these symptoms can have a negative impact on athlete performance.

It is recommended that all elite athletes get screened for Vitamin D3 levels, especially if they have one or more of the symptoms listed above. If visiting your own doctor for this blood (serum) test, ask them for information about the “25 hydroxy vitamin D3” test. Because fluctuations in this blood marker are seasonal, it is also recommended to recheck levels at the end of the summer and during the winter months. Depending on the results of these tests, additional sunlight exposure may be recommended or a supplemental form of Vitamin D3 may be suggested. All athletes/patients should work with a licensed medical provider or dietitian before beginning Vitamin D3 supplementation, as toxicities (too much of a nutrient) are possible and can easily occur with mega-doses of this nutrient if not monitored appropriately. When in doubt, enjoy the sun in the summer and speak with a medical provider to learn more about your Vitamin D status.

