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Don't Be Deficient: Getting a Dose of Vitamin D

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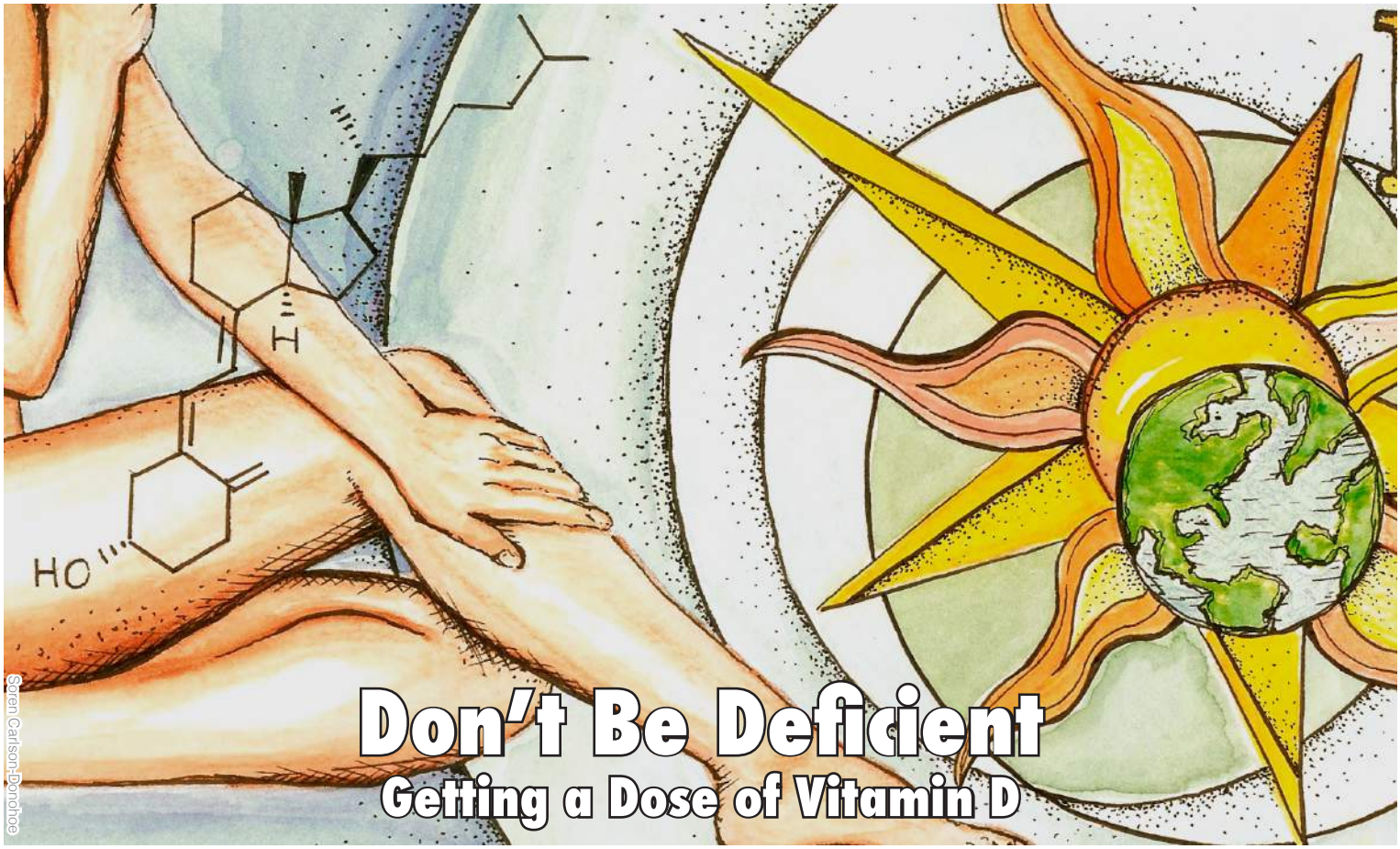

Soren Carlson-Donohoe

Don't Be Deficient

Getting a Dose of Vitamin D

By Sesha Nandyal

In the dark winter of 1791, after partially composing his Requiem Mass in D minor, Wolfgang Amadeus Mozart drew his last breath. Mozart's daily routine of practice, performance, and composition took place almost entirely indoors. Six months of each of his thirty-five years were spent in the dark Austrian winter, rendering his body completely unable to synthesize vitamin D from the sun's interaction with his skin. Many scientists speculate that his chronic deficiency in the vitamin caused his unidentified terminal illness.

Vitamin D is a critical nutrient for the healthy functioning of our bodies. It is a modulator of cell growth and immune function, an anti-inflammatory agent, and a part-time regulator of apoptosis. Deficiency has been linked to breast cancer, prostate cancer, diabetes, rheumatoid arthritis, multiple sclerosis, and rickets. Our bodies, through a stroke of evolutionary genius, produce vitamin D when exposed to sunlight. Several recent studies, however, have brought to light a severe and pervasive worldwide deficiency in the crucial nutrient.

Many populations are vitamin D deficient because they live in high latitude regions, putting them farther from the equator and subjecting them to lower intensities of sunshine. In a recent Chicago-based study of 492 men, ages 40 to 79, 93% of African-American men and 70% of white males had vitamin D levels below the minimum concentration that meets basic health standards (30 nanograms per milliliter of blood). However, even in countries like Jordan that receive a lot of sun, 73% of young men and women in a 316 person survey were found to have less than 15 ng/mL of Vitamin D present in their blood. What could be preventing them from absorbing enough of that plentiful sunshine?

The answer may lie in the skin. The biological compound melanin is found in the skin and is responsible for pigmentation. Not only does it increase in concentration as skin color gets darker, it also inhibits our skin's ability to absorb sunlight. The more melanin present in one's skin, the less sun can be absorbed and the less the body is able to produce vitamin D. Evidence in the aforementioned studies supports this hypothesis; the African-American men in the Chicago study had Vitamin D levels significantly lower than those of the white males. In Boston, MA, another high latitude city, researchers found 73% of elderly black subjects to have insufficient vitamin D, while only 35% of comparable elderly white subjects were deficient. Elderly Hispanic subjects fell somewhere between the two.

Since it can be difficult to produce enough vitamin D through purely biological means, the IOM and the FDA make the general recommendation that all North Americans take in 400 International Units (IU) of Vitamin D supplements daily. The majority of Americans, however, are still Vitamin D deficient. This disparity may be partially attributed to the fact that people of different skin colors need to be taking different doses of supplementary vitamin D. The IOM is responsible for providing reputable health advice to a geographically and racially diverse society. Although race has no biological basis, melanin does; it cannot be ignored in addressing the health of people of color.

How can you make sure you're getting an appropriate daily dosage? Fortified milk contains only 100 IU of Vitamin D per cup, but a teaspoon of Cod liver oil, a piece of salmon, a gallon of orange juice, or one supplementary pill of 1,000-5,000 IU should help do the trick. When the sun comes out, put on a low strength sunscreen and catch some rays (those who are pale-skinned need not subject themselves to periods of exposure longer than an hour). Vitamin D deficiency is something that goes unnoticed in many parts of the US and the world, but it is crucial that people take it to be a serious component of their health and that the IOM guidelines treat a diverse patient base. Otherwise, we may end up composing our own funeral mass in D deficiency.