

Vitamin D Deficiency—a growing national pandemic...

Vitamin D is a nutrient both necessary and beneficial for optimum health. Many people today do not have adequate levels of this nutrient in their bodies. In fact, vitamin D deficiency is now recognized as a pandemic with more than half the world's population at risk. Vitamin D is made naturally by your skin after exposure to sunlight (specifically UV-B light). Although our body is capable of making enough vitamin D for health maintenance, many people, due to lack or avoidance of sun exposure, use of sunscreens for skin cancer prevention, or other reasons may not make enough and are deficient in this important nutrient. The amount of vitamin D your body makes from exposure to the sun is quite variable among individuals and geographical location does play a role. If your vitamin D levels are low, you may be at increased risk for osteoporosis, osteoporosis-related fracture, degenerative muscle loss, and muscle weakness and pain. Vitamin D deficiency is easily corrected through oral supplementation.

There are certain patient populations that are at a higher risk for vitamin D deficiency. Since Vitamin D is stored in adipose (fat) tissue, those patients with more adipose (fat) tissue, may have a greater requirement for Vitamin D to maintain adequate levels of vitamin D in their blood. Those people with higher amounts of skin pigment (melanin) which acts as a natural sunscreen may have a decreased ability to make vitamin D, and may be more likely to be deficient in the vitamin. Pregnancy also creates an increased requirement for vitamin D due to increased demand created by fetal development and growth.

Benefits of Vitamin D:

Vitamin D is important in calcium homeostasis (regulation) and musculoskeletal health. Vitamin D increases our body's ability to absorb calcium from the foods we eat. Together with Calcium, Vitamin D helps to build strong bones. As we age our risk for developing weak bones increases. As a result, our risk of fractures from falls also increases. Hence, vitamin D levels can be used as a predictor for risk of such fractures. Studies have shown that achieving adequate levels of vitamin D in our blood could reduce osteoporotic fractures by 50 to 60%

Our muscles need vitamin D to function at their highest levels. Without enough vitamin D, we may be at increased risk for developing sarcopenia (the degenerative muscle loss that occurs with aging). Maintaining muscle strength and function as we age is important not only for our ability to remain active but also in preventing injury, such as falls. Vitamin D supplementation has been shown to directly improve the function of our muscles and nerves and thus a decline in the number of fractures related to falls in the elderly.

Vitamin D may be beneficial for those people who suffer from musculoskeletal pain. When Vitamin D deficiency is severe (levels below 12 ng/ml) it may lead to severe muscle weakness

and pain. This usually resolves quickly after Vitamin D levels are normalized. Low levels of vitamin D in your body may also be associated with chronic muscle pain. In Type 2 Diabetics who are deficient in vitamin D, treatment and normalization of Vitamin D levels may help to alleviate neuropathic pain.

Maintaining blood levels of vitamin D in the range of 30 to 60 ng/ml, has been shown to play a role in decreasing risk of developing some cancers (colorectal and leukemia for example), as well as may play a role in preventing heart attacks in men. Some studies have also shown that supplementation with vitamin D may improve depression and mood disorders. The many benefits of maintaining adequate levels of vitamin D in the blood are still being studied, in fact the optimum blood level of vitamin D for optimum health is still being established. Levels under 30 ng/ml are considered low. A therapeutic goal 40 ng/ml has been suggested to ensure sufficient vitamin D status and optimal health benefits.

Sources of Vitamin D:

Vitamin D comes in two main forms: Vitamin D3 (cholecalciferol) and Vitamin D2 (ergocalciferol). Vitamin D3 is the form made by our own bodies through our skin's exposure to sunlight; it is also available from animal sources (cod liver oil, salmon, mackerel and herring). We obtain Vitamin D2 from plants we eat in our diet. Many foods in the U.S. are fortified with vitamin D such as milk, yogurt, cheese, breads, cereals, and some juice products just to name a few. The American Academy of Dermatology recommends that adequate amounts of Vitamin D be obtained from a healthy diet rather than unprotected exposure to sunlight (UV radiation). Despite its availability in our diet through these fortified foods, most people still do not ingest enough Vitamin D to meet the daily requirements.

The problem with relying on sun exposure to make our own vitamin D is that there are many factors involved in the process that we cannot control. Vitamin D made by our bodies relies on exposure to UV-B light found in sunlight. UVB light can be blocked by the glass in windows, air pollution, clothing and sunblock lotions. For those with fair skin, the risks of developing skin cancer with increased sun exposure outweighs the benefits. Vitamin D production by our body depends on geographical location (latitude), weather (cloud cover), season of the year (less sunlight during the fall/winter), time of the day, use of sunblock, amount of melanin (skin pigment) in our skin, age, weight and the amount of clothing covering the body.

Oral supplementation is an easy way to normalize and maintain adequate vitamin D level, unless gastrointestinal malabsorption is the cause. Supplementation with Vitamin D3 has been found to be a better way to increase your blood levels of vitamin D, as opposed to vitamin D2.

Supplements such as vitamins and fish oil are not regulated by the FDA, so what an over-the-counter supplement bottle states on the label may not be what you actually are taking.

For this reason, it is important to buy supplements from reputable and reliable companies that guarantee the composition and concentration of their supplements. If your vitamin D levels are low, your doctor may recommend a replacement regimen that begins with higher doses before lowering to a maintenance dose.

The growing evidence for the importance of vitamin D to your musculoskeletal and overall health is overwhelming. The doctors at the Orthohealing Center encourage you to get your vitamin D levels checked. If you are interested in purchasing vitamin D3 supplements that have passed rigorous scrutiny, they are available for purchase at The Orthohealing Center.