

Vitamin D-3, the “Sunshine Vitamin”.

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As the season changes from the sunny, warm, longer days of summer to the cold, overcast and rainy, shorter days of fall and winter, especially in the Pacific Northwest, our need for vitamin D-3 increases. There is also the emotional sensation of the loss of natural sunlight, which in some people can cause depression and melancholy, which is a condition some refer to as Seasonal Affective Disorder (SAD). With the change of seasons upon us, I felt it timely to distribute this article once again.

One of the most useful nutritional supplements to include in your intake is Vitamin D-3 for improving overall health.

This unique supplement has a hormone-type effect and controls calcium, phosphorus, bone metabolism and neuromuscular functions. This valuable vitamin is the only one that our body can produce from sunlight.

Today, millions of people are deficient in Vitamin D-3 due to our indoor-living lifestyle and the use of sunscreens due to concerns about skin cancer, wrinkling and aging skin.

Vitamin D-3 has long been recognized in the importance of bone health and how it can reduce the risk of fractures to a significant degree. Current studies indicate that Vitamin D-3 deficiency is linked to a number of other health conditions, such as depression, back pain, cancer, insulin-resistance diabetes, pre-eclampsia in pregnancy, impaired immunity and macular degeneration.

It is clear that Vitamin D-3 plays a wide role in overall health, and it is also becoming equally clear that a large percentage of people are deficient in this important nutrient. Fear of skin cancer due to exposure to sunlight has stopped many people from getting beneficial amounts of nourishing sunlight, which the skin converts to Vitamin D-3. As we age, we are less equipped (kidney, liver problems) to produce sufficient amounts of this important supplement.

The current Recommended Daily Intake (RDI) is considered to be set so low that individuals who consume the RDI will likely be deficient. In fact, researchers have found that the RDI, which is considered adequate to prevent osteomalacia (a painful bone disease) or rickets, is nowhere near high enough to protect against the majority of diseases linked to Vitamin D-3 deficiency.

An analysis of the medical literature found that at least 1,000 to 2,000 IU of Vitamin D-3 per day is necessary to reduce the risk of colorectal cancer, and a low dose of Vitamin D-3 did not have the same protective effect.

One of the challenges is the outdated acceptable upper limit for Vitamin D-3 consumption, which was set at 2,000 IU. However, research points out that a more recent study has shown that 10,000 IU is the safe upper limit. When examining the medical literature, it is clear that Vitamin D-3 affects health in an astonishing number of ways and that not obtaining enough of this important nutrient can leave the door open to developing a number of health conditions.

Depression:

Vitamin D-3 deficiency is common in older adults and has been implicated in psychiatric and neurologic disorders. In one study of 80 older adults (40 with mild Alzheimer disease and 40 normal patients), Vitamin D-3 deficiency was associated with low mood and with impairment on two of four measures of cognitive performance.

Back Pain:

Musculoskeletal conditions have been associated to Vitamin D-3 deficiency in many studies. It has been found that females with low back pain lasting more than three months had low levels of Vitamin D-3. When supplemented with Vitamin D-3, their symptoms improved or disappeared.

Bone Health:

The benefit of Vitamin D-3 has been well known in its ability to improve bone health and the musculoskeletal system. Vitamin D-3 deficiency causes osteopenia, precipitates and exacerbates osteoporosis, causes a painful bone disease known as osteomalacia, and increases muscle weakness, which increases the risk of falling and fractures. Vitamin D-3 may alter the way it regulates the parathyroid hormone and may cause a secondary hyperparathyroidism that increases the risk of osteoporosis and fractures.

Cognitive Enhancement:

Research is demonstrating Vitamin D-3's ability to improve cognition. Vitamin D-3 deficient subjects tested in mental function scored worse as compared to individuals who had higher levels of Vitamin D-3.

Cancer:

Since the 1940's the connection between Vitamin D-3 and its protection against cancer has been understood. It was discovered that individuals living in sunny latitudes had a reduced rate of cancer. The study suggested that sunlight provided "a relative cancer-free community".

Since then, Vitamin D-3 deficiency is associated with an increased risk of developing many forms of cancer, including breast, ovarian, prostate and colon cancer.

In one of the newest clinical trials, researchers studied 1,179 healthy, post-menopausal women (all 55 years or older and free of known cancers for at least 10 years prior to entering the study) who were taking large amounts of Vitamin D-3 with calcium. The first group of subjects were assigned to take daily doses of 1,400-1,500 mg of a calcium supplement; the second group of subjects were assigned 1,400-1,500 mg of calcium plus 1,100 IU of Vitamin D-3 or placebos. Over the four year trial, women in the calcium/ Vitamin D-3 group experienced a 60 percent or greater reduced risk of cancer than their peers who were not consuming these supplements. Because there was a chance that some women may have had undiagnosed cancers at the start of the study, researchers discarded the first year study results and then analyzed the results from the last three years of the study.

These later years resulted in an even more dramatic decrease, with the calcium/ Vitamin D-3 group experiencing a 77 percent reduction in cancer risk.

One study has demonstrated that in vitro Vitamin D-3 may cause tumor cells to be more sensitive to chemotherapy drugs, increasing the efficacy of the cancer treatment.

Immunity:

Vitamin D-3 regulates T cells which are important to the functioning of a strong immune system. Vitamin D-3 acts as an immune system modulator, preventing excessive expression of inflammatory cytokines and increasing the killing efficiency of macrophages. Vitamin D-3 dramatically stimulates natural killer cells, neutrophils and cells of the respiratory track lining.

Other:

Vitamin D-3 has also linked to conditions as high blood pressure, fibromyalgia, diabetes, multiple sclerosis, rheumatoid arthritis, and an increased risk of pre-eclampsia and insulin resistance during pregnancy. Recently, low levels of Vitamin D-3 have been linked to an increase prevalence of early age-related macular degeneration.

Dosages:

In those individuals tested, even after consuming 2,000 to 4,000 IU of Vitamin D3 daily, their Vitamin D3 levels barely budged. These people needed to consume 8,000 IU of Vitamin D-3 daily to achieve proper blood levels of the vitamin. You may need to have your blood levels tested for proper levels of supplementation. Testing is important due to a small number of people whose calcium levels can sharply increase due to Vitamin D-3 supplementation; this is especially found in African Americans. Have your Vitamin D-3 and calcium blood levels tested next time you visit your Primary Care Provider (PCP), as I feel this should be part of your regular blood work.

A few more tips:

1. Try and maximize the amount of sunlight you are exposed to. Get outside as much as possible. Even though the day may be overcast, the sun's rays still penetrate the earth. Activity will help to keep the winter blues away
2. Take trips to sunny areas of your state during the winter. The further South you go (if you live in the northern hemisphere), the more sun you will find.
3. Sleep but do not over sleep. Wake up with the sun. The 8 hour sleep rule is a good one to keep all year.
4. Invest in Full Spectrum lights for your house. These lights mimic the sun's rays and color reflections.
5. Invest in a Light Box. These artificial light sources also mimic the sun's rays. I recommend you sit 30 minutes to several hours a day in front of your light box.
6. Exercise. This is a time to get your body's motor running, since most people in the winter lead more sedentary lives, this is when most weight gain occurs.