

## Vitamin D

### More than just bones ?

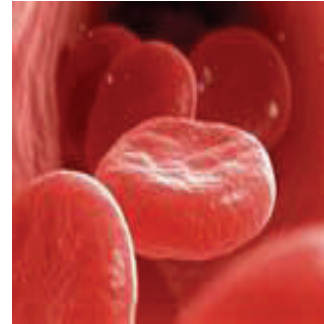
Most of us are familiar with vitamin D in calcium absorption and bone metabolism. Recent research is showing that Vitamin D is needed for many more therapeutic applications, many of which patients and doctors are not yet aware.

Cells in the body have receptors for things they need. This is often depicted as a lock and key. When the cell receives the correct product, it is then taken into the cell for usage.

Receptors for vitamin D have been discovered in the brain, breast, prostate, gut and lymphocytes, recent research suggests that higher vitamin D levels provide protection from diabetes mellitus, osteoporosis, osteoarthritis, hypertension, cardiovascular disease, metabolic syndrome, depression, several autoimmune diseases, and cancers of the breast, prostate, and colon. This means that there is a need for vitamin D in all those areas

Clinical research (doctors seeing patients) supports the use of vitamin D in the management of type 2 diabetes, osteoporosis, osteoarthritis, hypertension, cardiovascular disease, metabolic syndrome, multiple sclerosis, polycystic ovary syndrome, musculoskeletal pain, depression, epilepsy, and prevention of cancer.

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**70% or more of the population is deficient in vitamin D.**

### How do you get vitamin D ?

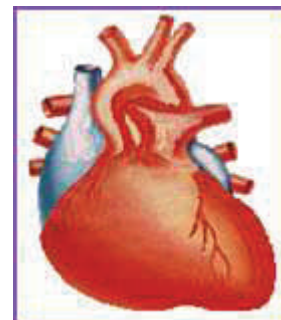
From sunlight and eating. Ideally we can obtain all the vitamin D we need from sunlight. Because of our location in Florida I initially agreed with this assumption. However most of the patients I order blood work on, test deficient for vitamin D. I expected this from the patients that are above the Mason Dixon line, but it was a surprise for those that live in the south, most of the time. Current research is suggesting that 70% or more of the population is deficient in vitamin D.

### Applications and Benefits of Vitamin D Supplementation.

The broad range of clinical usages for vitamin D supplementation is coming from laboratory experiments, clinical trials and surveys. I will describe some of the benefits of vitamin D supplementation below.

### Cardiovascular

Deaths from cardiovascular disease are more common when vitamin D is less available. There is an increase in the winter, and further north where there is less sun than the south. Recently patients with congestive heart failure, were found to have considerably lower levels of vitamin D. Heart attack risk is twice as high when the 25(OH)D levels were less than 34 ng/mL.



## Hypertension

Patients with hypertension that were treated with ultraviolet light three times a week for six weeks showed an increase of 162 % in vitamin D levels and their blood pressure fell significantly. In fact even small amount of oral supplementation for eight weeks lowered both blood pressure and heart rate.



## Diabetes

Decreased vitamin D in the body has been associated with insulin resistance of diabetics and healthy young adults. Studies have shown that healthy adults with serum (blood) levels of vitamin D above 40 ng/mL had a lot better insulin sensitivity. Authors of this study have concluded that 60% improvement in insulin sensitivity from vitamin D appears to be “more potent than either troglitazone or metformin”. Two drugs frequently prescribed to treat diabetes.

In a study with more than 10,000 participants, Hypponen et al, showed supplementation in infants and children with 2,000 IU of vitamin D per day reduced the incidence of type 1 diabetes by around 80%.

## Osteoarthritis

Most practitioners know that vitamin D helps prevent osteoporosis. However few know that the most common arthritis, osteoarthritis is lessened by adequate blood levels of vitamin D. Recently a study of osteoarthritis of the hip, showed a more rapid progression when the blood level of vitamin D was less than 30 ng/mL. Framingham data showed osteoarthritis of the knee progressed faster when the 25(OH)D levels were lower than 36 ng/mL.



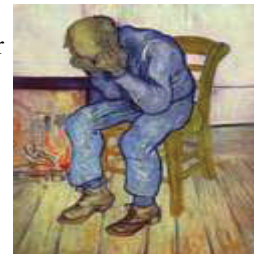
## Multiple Sclerosis

We have known for years that this disease is more rare in sunny equatorial areas and becomes more prevalent in people who live further from the equator or who do not get enough sun exposure. Vitamin D deficiency is common in patients with multiple sclerosis. Goldberg, Fleming, and Picard prescribed daily supplementation with approximately 1,000 mg of calcium, 600 mg magnesium and 5,000 IU of vitamin D for up to two years and found a decrease in the number of exacerbations and no adverse effects.



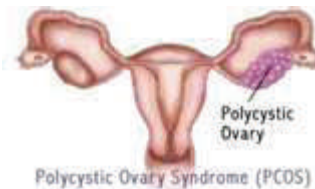
## Depression

Recent supplementation with 100,000 IU of vitamin D was found superior to light therapy in the treatment of seasonal affective disorder (SAD). SAD is a depression characterized by the onset of melancholia during winter months without bright light sun exposure. A study involving 44 subjects, significantly improved mood within five days of supplementation with vitamin D.



## Polycystic Ovary Syndrome

I have seen quite a few patients with this problem. The patients have amenorrhea, abnormal hair growth, obesity and polycystic ovaries. Vitamin D deficiency was highly prevalent in a study in women with PCOS.



## Migraine Headache

Calcium plays a role in maintenance of vascular tone and coagulation, both are altered in migraine patients. Reduction of in frequency, duration and severity of menstrual migraines have been shown with calcium and vitamin D supplementation.



## Muscle Pain

Non-traumatic muscle pain that is persistent has shown a high prevalence of overt vitamin D deficiency. Recently in a study by Plotnikoff and Quigley of 150 of their patients, 93% with persistent, nonspecific musculoskeletal pain were overtly deficient in vitamin D. There is a high prevalence of vitamin D deficiency in children with limb pain.



## Cancer Prevention and Treatment

Studies have shown an increased risk of cancer mortality with decreased amounts of vitamin D. Specifically those of the breast, colon, ovary, prostate, bladder, esophagus, kidney, lung, pancreas, rectum, stomach, uterus, and non-Hodgkin lymphoma. Grant found this in his study and also proposed that supplementation with vitamin D could save more than 23,000 American lives per year from a reduction in cancer mortality



## How do you know if you are getting enough vitamin D ??????????????????

We can order a simple blood test through the office. This will be to check serum 25(OH)D levels. Ideally blood calcium should be checked also. Then we will apply a functional range to the values. The current laboratory reference ranges, simply report the average levels for a population (like most blood values), and most of the population (perhaps 70% or more) is deficient in vitamin D. With too much vitamin D you can also develop vitamin D toxicity. It is rare to develop hypercalcemia with vitamin D supplementation by direct toxicity and is more common to be associated with vitamin D hypersensitivity syndrome. Research is showing the Food and Nutrition Board's previously defined Upper Limit safe intake at 2,000 IU/day was set way too low.

The best approach is to test calcium and vitamin D in your blood. As I mentioned above the vitamin D test is a simple lab draw. We use Lab Corp to draw the blood for the Vitamin D, 25-Hydroxy test.

**Through us the price is only \$45.75.**

This is a very inexpensive test to determine inadequacy and monitor supplementation. Remember if you are one of our patients from out of state we can give you the same price at any Lab Corp office. Simply email or call us with your request. If you are one of our patients from Europe or an area that has no Lab Corp we can write a scrip for the blood draw. I have seen the cost for this blood at \$250.00. \$68.50 is a great deal.

If you want to check out cancer rates in the US, go to our web page. [www.drhorn.org](http://www.drhorn.org) and go to the links section. Then click on Sunlight Nutrition and Research Center. To learn more about vitamin D go to our website [www.drhorn.org](http://www.drhorn.org) go to the links section and click on Vitamin D Council. To order a vitamin D blood test, email us at [office@drhorn.org](mailto:office@drhorn.org) or call 352-563-2597.

This article should not replace consultation with your attending physician, whether it be myself or another doctor. Do not consider it as medical advice but simply as information. The government is continuously trying to label the treatment of any disease with ANY product as the usage of a drug. This is simply nuts. Vitamins in all forms have been used by mankind way before the US government existed. Vitamin D is not a drug, but an essential nutrient required by our body's. Current increased levels of toxicity and other factors are partially responsible for the increased need.

Dr. Roy A. Horn

*DC, FIAMA*

Advanced Health & Chiropractic  
9030 W. Fort Island Trail, Suite 10A  
Crystal River, FL 34429

[www.DrHorn.org](http://www.DrHorn.org) 352-563-2597

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Information from this article was obtained in part, from The Original Internist, [The Clinical Importance of Vitamin D \(Cholecalciferol\): A Paradigm Shift with Implications for All Healthcare Providers](#). Alex Vasquez, DC ND, Gilbert Manso MD, John Cannell MD.