Green Apple HEALTH CARE Ltd.

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Should You be Concerned About Your Vitamin D Level?

WHAT IS VITAMIN D?

Strange to say, Vitamin D is not a vitamin. It's actually a prohormone, a substance that the body converts to a hormone. The kidneys convert this particular prohormone to a hormone called calcitriol. Calcitriol controls blood calcium concentration, among other things.

VITAMIN D AND BONE HEALTH

When it comes to keeping your bones healthy most people know that calcium is an important nutrient. What they may not realize is that Vitamin D is essential for the absorption of calcium.

Almost all calcium is stored in the bones and the teeth, where it supports hardness and structure. Calcium is needed in other parts of the body, too. The nerves need calcium to help carry messages between the brain and every other part of the body and the muscles need calcium to contract. This includes the heart, which is a muscular organ. Your heart needs calcium as well in order to pump.

Absorption of calcium is key to bone health because when calcium is not absorbed in the small intestine, the body will "steal" the calcium from the bones in order to maintain sufficient calcium levels elsewhere in the body.

Adequate levels of Vitamin D will help the body to absorb calcium so that it does not rob the bones of their calcium.

Bones that have had their calcium "stolen" are not as dense as they should be. This weakens the bones and can lead to fractures. When bones are weak, fractures in the vertebrae (spine) can occur even without a fall or trauma. Fractures in larger bones like the hip (femur bone), are less common without some sort of fall or trauma.

WHAT ELSE DOES VITAMIN D DO?

Vitamin D is key for the maintenance of healthy bones and teeth, but that's not all it does.

- New research shows that there is a possible relationship between Vitamin D levels and the severity of autoimmune diseases such as MS, arthritis, and Lupus.
- There may also be a relationship between Vitamin D levels and the risk of type 2 diabetes.
- Randomized clinical trials are examining the relationship between Vitamin D and cognitive decline (trouble with memory, difficulty concentrating) and neurodegenerative disease such as Alzheimer's disease and other forms of dementia.
- It may also help the management of skin conditions such as eczema.
- Some studies have reported a connection between low levels of Vitamin D and increased risk of colon and breast cancers. Further studies are needed to determine whether Vitamin D supplements may prevent cancer.
- There is also research suggesting that there is an increased risk (19-56% higher) of all-cause mortality (death from any cause associated with disease or harmful exposure) with low levels of Vitamin D.
- Other research shows that low Vitamin D may contribute to hypertension and cardiovascular disease.

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- Higher Vitamin D intakes and circulating blood levels are found to be associated with reduced incidence of ulcerative colitis and Chron's disease.
- Vitamin D also contributes to a properly functioning immune system, restful sleep, and hormone health.
- Vitamin D helps your muscles to absorb calcium to that they maintain their strength and work well. (Chronic muscle aches and pains, cramping, or weakness could be a sign of Vitamin D deficiency).
- Vitamin D helps to maintain a healthy mood and can decreases anxiety and depression.

There is probably a great deal more that Vitamin D does for us that we have not yet discovered.

WHERE DOES VITAMIN D COME FROM?

Vitamin D is also known as the Sunshine Vitamin. When skin is exposed to sunlight it produces Vitamin D for the body to use.

The active force in sunlight that creates Vitamin D is Ultra Violet B rays, also called "UVB". Minimal blood levels of Vitamin D can be achieved by exposure of the legs, arms, face or back without sunblock to direct sunlight for approximately 20 minutes several times a week.

However, enough direct sunlight to allow your body to produce Vitamin D can be hard to come by. This is particularly so during the winter. Even though Alberta winter days may be sunny and bright, the sun is at a less direct angle to the surface of the earth than it is in summer which means that the intensity of its rays is less. It is also the case that exposure of the legs, arms, or back in sub-zero temperatures is completely out of the question for most people.

Even in the summer, various factors such as cloud cover, the frequency of rainfalls, smog levels, the time of day, and an indoor-based lifestyle (which many working people necessarily have) can make it very difficult to get enough consistent sun exposure to make sufficient levels of Vitamin D to get through the winter.

FOOD SOURCES OF VITAMIN D

Health Canada recommends a daily intake of 4,000 IU (100 mcg) daily for adults. Even if that were a sufficient level of intake for everyone, it's very hard to reach without supplementation.

According to Health Canada, "the only natural sources of Vitamin D in the Canadian food supply are fatty fish and egg yolks". Egg yolks contain about 87 IU of Vitamin D (assuming the chickens were allowed to roam outside in the sunlight), so you'd need to eat 45 eggs a day to get the daily recommended minimum. Alternatively, you could eat about 4-1/2 pounds of tuna. There are other fish sources of Vitamin D, but the values are so low that you would have to eat an awful lot of it.

Getting enough Vitamin D daily is obviously a potential issue if you're relying on food sources and sunlight alone.

VITAMIN D SUPPLEMENTATION

Because it's very difficult to consistently get enough Vitamin D from sunlight all through the year and from food, the obvious solution is to take a Vitamin D supplement.

Vitamin D3 is the most effective form of Vitamin D supplement and is best in liquid form. Because Vitamin D is fat soluble, it is hard to digest and absorb; the liquid form makes the Vitamin D more bioavailable. The liquid is taken orally, either directly from the dropper or added to an oil such as flax seed oil, olive oil, primrose oil, coconut oil, or a vinaigrette dressing.

How and when you take Vitamin D supplements is important. Vitamin D is one of the four fat-soluble

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vitamins and must be taken with fat to be digested and absorbed. Taking Vitamin D at breakfast with grains or other non-fat foods is, well, pointless. Instead, have your Vitamin D with a meal that does have some fat in it. For most people, that meal is supper.

ARE YOU VITAMIN D DEFICIENT?

Vitamin D deficiency is common in Canada. Statistics Canada reports that almost one third of the population in Canada falls below the level of Vitamin D that is "sufficient for healthy bones for most people". That represents more than a one-in-three chance that you have a Vitamin D deficiency. (Don't you wish your chances of winning the lottery were that high!)

Knowing your Vitamin D status is particularly critical at this time of year. We are soon going into the winter season, after an atypically short, low-sunlight Alberta summer.

There are so many health conditions that Vitamin D deficiency has been linked to the development of (and more being researched every day), that even a subclinical Vitamin D deficiency ought not to be taken lightly. A subclinical deficiency is one that has not yet created immediately apparent symptoms but which, if untreated, can develop into a full-blown clinical deficiency, i.e. one that is characterized by observable symptoms.

TESTING FOR VITAMIN D

Rather than wait for a Vitamin D deficiency to manifest itself symptomatically, and given that a deficiency may not be immediately symptomatically obvious, a wise course of action is to test. The prevention or early reversal of a Vitamin D deficiency is so much easier on a patient than treating a condition that it may cause.

We recommend a baseline test at this time of year, in the fall, to get a clear picture of whether you received enough Vitamin D during the summer from sunlight and food, and then re-test in late winter after sun exposure and food sources have been harder to come by to ensure that you are maintaining an adequate Vitamin D level.

Testing is done through taking a blood sample. A simple finger poke is all it takes for the lab to determine if your blood has adequate levels of Vitamin D. We need just a few drops to have enough blood for testing.

When your results are back, one of our naturopathic doctors will review the results with you and go over the treatment options. Optimizing digestion and absorption as well as supplementation may be a part of the treatment plan.

HOW MUCH VITAMIN D IS ENOUGH?

That's a very good question and the answer is -- it depends. What are your current levels of Vitamin D? Do you have any health issues that could have arisen from a Vitamin D deficiency? Do you have health problems that could be impacting your ability to absorb Vitamin D and other nutrients? (Many people who have no obvious symptoms of digestive issues or disease are still unable to digest and absorb their Vitamin D). Are you taking any medications that can interfere with Vitamin D and lead to low levels?

Vitamin D testing is vital. It will give us a picture of your current levels and a clear indication of whether you are absorbing it properly.

The minimum daily requirement for Vitamin D can vary dramatically from person to person. The best advice is to get tested to determine what's right for you.

The doctors at Green Apple Health Care will perform a full assessment of your current health and your health goals and customize a program that addresses what you need. Call us at (780) 485-9468 and let's get you feeling well.