VITAMIN D DEFICIENT

OVER 1-BILLION PEOPLE ARE SUFFERING FROM VITAMIN D DEFICIENCY WITHOUT KNOWING. ARE YOU?

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Introduction

Did you know that an estimated 1 billion people worldwide have low levels of Vitamin D in their blood?

And did you know that Vitamin D isn't really a Vitamin at all?

It's a **prohormone**—and prohormones are substances that your body will convert into a hormone. And because of that, unlike vitamins, every cell in your body has a receptor for it.

This also means that it must be broken down from the initial form into a form your body can use. Vitamin D is then circulated throughout the body and in turn, it serves many important functions.

This so-called "vitamin" is essential in many of your body's functions, especially your skeletal system because it supports bone growth and promotes muscle health.

In this special report, we'll take a close look at why Vitamin D is essential, the causes of Vitamin D deficiency—as well as symptoms you should look out for—and what you can do to make sure you are getting enough.

Let's begin!

Why You Need Vitamin D

Vitamin D is essential for strong bones, especially as we grow older. It helps your body take calcium from the blood and use it to produce and repair bone and muscle tissue.

It also helps your body regulate calcium levels in the blood.

The most common type of Vitamin D deficiency, of course, is rickets. This is a childhood condition in which bone tissue never mineralizes properly, and the bones become soft and deformed.

However, modern research has been revealing many other health problems that proper Vitamin D levels can help protect against. We'll talk about those later in this report.

Vitamin D also helps with the immune system. Immune cells have a receptor for Vitamin D and can synthesize the active Vitamin D

metabolite or hormone, so there's a definite connection between them.

A deficiency in Vitamin D is often associated with increased autoimmune disorders like multiple sclerosis or rheumatoid arthritis. If you have enough Vitamin D in your blood, your immune system will work as designed to keep you from coming down with infections or autoimmune disorders.

Finally, Vitamin D helps the parathyroid gland, which is the one that regulates the amount of calcium in the blood.

Vitamin D helps communication between the intestines, kidneys, and skeleton so that your calcium levels are appropriate. If you have enough calcium in your blood, Vitamin D will help your body use that to form and strengthen your bones.

However, if you don't have enough calcium, or if the Vitamin D levels are low, the parathyroid gland "borrows" it from the skeleton, weakening your bones.

Causes of Vitamin D Deficiency

There are several reasons why you may be struggling with a Vitamin D deficiency. In fact, as mentioned in that the start of this report, over 1-billion people are Vitamin D deficient.

Unfortunately, it isn't always easy to detect, especially if you aren't familiar with the symptoms. Let's take a quick look at some of the reasons why this can happen:

You don't eat the kind of foods that support the development of Vitamin D.

Most of these foods are animal-based, like fish and fish oils, beef liver, egg yolks, and fortified milk products.

If you're vegan, of course you don't eat these foods, so you're likely to suffer from a Vitamin D deficiency unless you consume supplements to make up for it.

Your skin color is very dark.

The pigment (melanin) that makes your skin tan or dark reduces your skin's ability to form Vitamin D when exposed to sunlight. So, the darker your skin, the less likely it is to make Vitamin D even if you sunbathe.

Your sunlight exposure is limited.

Since your skin only makes Vitamin D when exposed to sunlight, you may be likely to have a deficiency if you don't frequently go outside.

If you're homebound, for example, or work in a job that prevents sun exposure, you are at greater risk.

Living in northern latitudes can also do it, as can wearing long robes and head coverings for religious reasons.

Smog or pollution can prevent you from getting enough sunlight. Even the season and time of day matters. Sunlight is strongest between 10:00 am and 3:00 pm. And if you like somewhere like Cleveland, Ohio, you're not getting UV-B light for six months out of the year due to the ozone layer and position of the sun.

Your digestive tract is unable to absorb Vitamin D or dietary fat. Some medical conditions, like Crohn's disease, celiac disease, and cystic fibrosis, can limit your intestine's ability to actually absorb the Vitamin D you've consumed. Since it's a fat-soluble vitamin, this holds true for absorbing dietary fat as well.

Your kidneys cannot convert Vitamin D to its active form. As we age, our kidneys slow down, reducing your ability to convert Vitamin D into the active form your body needs. Kidney

disease or damage can do the same thing, leading to Vitamin D deficiency.

You are obese.

Fat cells extract Vitamin D from the blood, changing its release into circulation. If your body mass index is 30 or greater, you may be at serious risk for Vitamin D deficiency.

You've had weight loss surgery.

Surgeries that reduce the size of the stomach or bypass sections of the digestive system can make it very hard to consume adequate amounts of Vitamin D, along with other vitamins and minerals.

You'll need to be carefully monitored by your doctor and will probably need to take Vitamin supplements for the rest of your life.

You take certain medications.

There are several medications that can cause Vitamin D deficiency.

These include laxatives, which (obviously) result in Vitamin D and other nutrients being flushed out of the digestive system before they are absorbed and steroids, which reduce calcium absorption and impair Vitamin D metabolism.

Cholesterol-lowering drugs like statins and colestipol (and oral cholesterol-lowering drug) can reduce Vitamin D synthesis because Vitamin D is derived from cholesterol.

Seizure control drugs like phenytoin and phenobarbital and rifampin (a tuberculosis drug) have also been known to affect Vitamin D levels. And orlistat (a weight-loss drug), can reduce Vitamin D absorption.

Additionally, thiazide diuretics like hydrochlorothiazide (HCTZ) and indapamide decrease urinary calcium excretion, so combining

these drugs with Vitamin D supplements might cause hypercalcemia.

You're an older adult.

As we age, our skin's ability to make Vitamin D from sunlight is lessened. Our kidneys also slow down, so you may have enough Vitamin D in your blood, but your kidneys just can't change it into an active form your body can use.

Symptoms of Vitamin D Deficiency

There aren't a whole lot of reliable symptoms of this deficiency, which is why you should have your doctor do a blood test yearly as you age, or if you fit into one of the above categories.

Here are some things you can look for:

Fatigue.

Chronic exhaustion, especially if you fit into one of the above categories, is one of the first symptoms of vitamin D deficiency.

If you're tired all day, have your doctor check your blood levels (there are also other conditions that cause fatigue, though).

Muscle aches, weakness, or cramps.