



## Vitamin D - A Short Course

Today we are going to cover the subject of vitamin D in a very short course. However we may be telling you more than you wish to know, but certainly not more than you need to know about this vitamin.

There will be a short quiz at the end of the course to see how well you paid attention (just kidding!).

This is one fact that you will definitely remember. Tiny Tim Charles Dickens' child character in "A Christmas Carol" had vitamin D deficiency.

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Deficiency of vitamin D has been linked in some studies to cancer, hypertension, diabetes and osteoporosis.

Unfortunately vitamin D is not plentiful in the foods that we eat aside from fortified milk and certain types of fish.

Everyone knows that we get most of our vitamin D in our body from the ultraviolet rays in sunlight, which affect a hormone in the skin. This hormone then passes through the liver and kidneys where the so called "previtamin D" is transformed into a hormone called Calcitriol. Perhaps other tissue in the body also can convert previtamin D to Calcitriol.

Exposure to the sun even for a few minutes at a time allows your body to make plenty of vitamin D. It sounds simple but people avoiding the sun for fear of skin cancer, our indoor life style and northern climates significantly reduces production of vitamin D in many of us.

Reserves of vitamin D are depleted in a few weeks without any sunlight exposure and it is not difficult therefor to imagine that many people living in northern climates, especially the elderly are at much higher risk for vitamin D deficiency.

Black people are at elevated risk since darker skin makes absorbing ultraviolet



rays much harder

Children who are breast fed and not exposed to the sun can be very low on vitamin D without supplements being given.

Researchers have found a possible link to colon cancer in vitamin D deficient patients and it is felt that there may be links also to prostate, breast and ovarian cancer due to vitamin D deficiency.

Research has also indicated that vitamin D deficiency might be connected with type 1 diabetes and hypertension.

It is beyond the scope of this brief presentation to go into all of the research that has shown these links between vitamin D deficiency and cancer, diabetes and hypertension.

When vitamin D is missing Calcium regulation continues because parathyroid hormone levels increase removing Calcium from the skeleton.

This leads to osteoporosis. The elderly are particularly affected by osteoporosis as everyone knows. Some of the reasons are that older persons often do not drink milk and spend little time outside and when they are exposed to the sun they often wear sun screen to reduce the possibility of skin cancer.

It is possible to do a blood test to check vitamin D level. People are completely preoccupied with their levels of cholesterol and lipids, but are clueless about the fact that their level of vitamin D may be dangerously low.

We are coming to the end of the course so please pay attention.

### **Daily recommendation for vitamin D**

- Under age 50 - at least 200 IUs per day.
- 51 to 69 - 400 IUs.
- 70 plus - 600 IUs.

That may be enough to keep bones healthy, but more vitamin D is required, it is suspected, to avoid the other diseases mentioned.

A dose of 800 IUs to 1000 IUs per day is safe.

More than 2000 IUs can be harmful and produce a toxic buildup of Calcium in the blood stream.



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## Sources

- 8 oz cup of fortified milk contains 100 IUs.
- There are vitamin D fortified juices, particularly orange juice.
- Vitamin supplements containing vitamin D are easy to find.
- Exposure to sun 10 to 20 minutes a day without sun screen.

You're safe, there isn't enough time left to give the quiz. Class dismissed.  
**Go get some vitamin D!**



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