

HUB CITY

Family Practice

LLC

Optimal levels of vitamin D would be 50 – 80 ng/mL. Levels closer to 80ng/mL have been shown to be heart protective and cancer preventative.

It is recommended that you begin over the counter vitamin D3 supplementation of the following dosage:

- _____ Vitamin D3 5,000 IU daily x _____ months. Recheck level by lab draw in _____ months.
- _____ Vitamin D3 10,000 IU daily x _____ months. Recheck level by lab draw in _____ months.
- _____ Vitamin D3 _____ IU daily x _____ months. Recheck level by lab draw in _____ months.

Vitamin D3 can be purchased at most stores over the counter. Be sure to look at different strengths of the bottles. Be sure to purchase vitamin D3 and not vitamin D2.

Seven Signs of Vitamin D Deficiency

- 1. You Have Darker Skin** - African Americans are at *greater* risk of vitamin D deficiency, because if you have dark skin, you may need as much as **10 times more** sun exposure to produce the same amount of vitamin D as a person with pale skin! Your skin pigment acts as a natural sunscreen, so the more pigment you have, the more time you'll need to spend in the sun to make adequate amounts of vitamin D.
- 2. You Feel "Blue"** - Serotonin, the brain hormone associated with mood elevation, rises with exposure to bright light and falls with decreased sun exposure. In 2006, scientists evaluated the effects of vitamin D on the mental health of 80 elderly patients and found those with the lowest levels of vitamin D were 11 times more prone to be depressed than those who received healthy doses.³
- 3. You're 50 or Older** - As mentioned, as you get older your skin doesn't make as much vitamin D in response to sun exposure. At the same time, your kidneys become less efficient at converting vitamin D into the form used by your body *and* older adults tend to spend more time indoors (i.e. getting even less sun exposure and therefore vitamin D).
- 4. You're Overweight or Obese (or Have a Higher Muscle Mass)** - Vitamin D is a fat-soluble, hormone-like vitamin, which means body fat acts as a "sink" by collecting it. If you're overweight or obese, you're therefore likely going to need *more* vitamin D than a slimmer person -- and the same holds true for people with higher body weights due to muscle mass.
- 5. Your Bones Ache** - Many who see their doctor for aches and pains, especially in combination with fatigue, may be vitamin D deficient.

6. Head Sweating - According to Dr. Holick, one of the first, classic signs of vitamin D deficiency is a sweaty head. In fact, physicians used to ask new mothers about head sweating in their newborns for this very reason. Excessive sweating in newborns due to neuromuscular irritability is still described as a common, early symptom of vitamin D deficiency.⁴

7. You Have Gut Trouble - Remember, vitamin D is a fat-soluble vitamin, which means if you have a gastrointestinal condition that affects your ability to absorb fat, you may have lower absorption of fat-soluble vitamins like vitamin D as well. This includes gut conditions like Crohn's, celiac and non-celiac gluten sensitivity, and inflammatory bowel disease.

Health Benefits of Optimal Vitamin D Levels

Cardiovascular disease. Vitamin D is very important for reducing hypertension, atherosclerotic heart disease, heart attack, and stroke. One study showed that vitamin D deficiency increased the risk of heart attack by 50 percent. What's worse, if you have a heart attack and you're vitamin D deficient, your risk of dying from that heart attack creeps up to nearly 100 percent!

Autoimmune diseases. Vitamin D is a potent immune modulator, making it very important for the prevention of autoimmune diseases, like multiple sclerosis and inflammatory bowel disease.

Infections, including influenza. Vitamin D helps you fight infections of all kinds. A study done in Japan, for example, showed that school children taking 1,200 units of vitamin D per day during winter reduced their risk of getting influenza A infection by about 40 percent.

DNA repair and metabolic processes. Studies have shown that healthy volunteers taking 2,000 IUs of vitamin D per day for a few months up-regulated 291 different genes that control up to 80 different metabolic processes, from improving DNA repair to having effect on autooxidation (oxidation that occurs in the presence of oxygen and/or UV radiation, which has implications for aging and cancer, for example), boosting your immune system and many other biological processes.