

Simple **3 step** action plan for treating and preventing vitamin D deficiency

Vitamin D deficiency is an important health issue that affects the vast majority of people. So how do you know if you are deficient and what can you do about it?

The reason vitamin D deficiency is so common is because you need sunshine to make it and modern living means few people are getting enough. You can get vitamin D from food but unless, like a grizzly bear, you only eat wild salmon all day (a rich source of vitamin D) you will never get enough from your diet.

It is in your interest to know if you are deficient because low levels of vitamin D appear to be as important as smoking, not exercising and living on junk food when it comes to your risk of a whole host of serious illnesses (1).

Step 1: Do you have vitamin D deficiency?

The problem with vitamin D deficiency is that you are unlikely to know you have it. Symptoms may include fatigue and muscle pain but often there are no signs at all. The best way to find out is to take a test.

Depending on which country you live in you can get a simple home test kit for a very small fee:

- [Vitamin D test in the United Kingdom and Europe](#)

Home kits are very accurate do-it-yourself finger prick tests, so there is no painful blood draw or visit to a pathology lab or doctor required. A test is not only essential to work out if you are deficient but also great for monitoring your supplemented levels over time.

Once you have your results check them against the current guidelines below (2,3):

Serum 25(OH)D Reference Ranges and Lab Equivalents		
Range	SI Units	Conventional
Deficiency	<50 nmol/liter	<20 ng/ml
Insufficiency	52–72 nmol/liter	21–29 ng/ml
Sufficient	>75-150 nmol/liter	>30-60 ng/ml
Toxicity	>374 nmol/liter	>150 ng/ml

Watch this video:

Watch this free video with Dr Michael Holick, one of the worlds foremost authorities on vitamin D. This is a remarkably informative, alarming and often very funny presentation:

http://www.youtube.com/watch?feature=player_embedded&v=2lRtx-4_FOY#!

Step 2: What do you do if you are deficient?

For the treatment of deficiency (<50 nmol/liter) 50,000 IU of vitamin D once a week is recommended for 8 weeks (4). See table below:

Dosage schedule for vitamin D deficiency		
Product	Dose	Duration
D3 5000	10 tablets, once a week	8 weeks

Once you have finished the 8 weeks, take another test and see what your levels are, if you were very low to begin with and you are still not in the sufficient range (>75-150 nmol/liter) you may need to repeat another 8 weeks.

Step 3: How much vitamin D do you need each day?

The most current guidelines for supplemental vitamin D needed to prevent and treat deficiency are as follows (2):

Recommended daily vitamin D requirements				
Group	Daily requirement*	Daily optimum**	Upper tolerable limit***	Treatment****
0 to 6 months	400 IU	1000 IU	1000 IU	2000 IU
6 to 12 months	400 IU	1000 IU	1500 IU	2000 IU
1-3 years	600 IU	1000 IU	3000 IU	4000 IU
4-18 years	600 IU	1000 IU	4000 IU	4000 IU
19-70 years	600 IU	1500-2000 IU	4000 IU	10,000 IU
> 70 years	800 IU	1500-2000 IU	4000 IU	10,000 IU
Pregnancy	600 IU	1500 IU	4000 IU	10,000 IU
Lactation	600 IU	1500 IU	4000 IU	10,000 IU

*Minimum daily requirement. **Amount of oral vitamin D that may be needed to raise the blood level of 25(OH)D consistently above 30 ng/mL. *** Maintenance tolerable upper limits (UL) of vitamin D not to be exceeded without medical supervision. **** Levels of daily supplemental vitamin D that may be needed to correct vitamin D deficiency.

Obese children and adults may need at least 2 to 3 times more vitamin D for their age group to satisfy their body's vitamin D requirement.



Sunlight and Diet

There are several factors that reduce your ability to produce vitamin D from sunlight including living in far northern and southern latitudes, dark skin, increasing age, indoor and city living, air pollution and sun protection such as sunscreen. So even in countries with very high amounts of sunlight and close proximity to the equator vitamin D deficiency prevalence is still very high.

Few foods are sources of vitamin D and food sources alone are inadequate for your daily vitamin D requirements. Even the richest sources of vitamin D such as salmon, mackerel, sardines, herring, trout, and fresh tuna only provide 500–1000 IU vitamin D per 100 g. Farmed salmon, which most people eat nowadays, provides a measly 100–250 IU per 100g serving. To put this in perspective, an adult would need to eat 2-4 servings of wild salmon a day to maintain daily vitamin D requirements (5).

Safety

Historically there have been concerns about vitamin D toxicity however it is now well established that toxicity is extremely rare and associated with very high and inadvertent supplemental doses. Doses of 10,000 IU daily have been used for up to 5 months with no adverse effects and studies suggest that only when more than 10,000 IU of vitamin D is ingested daily for several months to several years will vitamin D intoxication occur (4). So there is little reason for concern, and plenty of reasons to benefit.

Which Supplements to take?

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