

VITAMIN D: An Absolute Requirement for Healthy Living

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Everyone should have their vitamin D level checked at least once a year, from infants to the elderly.

Natural Production of Vitamin D

Your skin makes vitamin D when it is exposed to a pinkening dose of sunlight. How much vitamin D you make depends on your age, how much skin is uncovered, and your skin tone. Without sunblock and with arms and legs exposed, your skin will make 10,000 to 15,000 units of vitamin D in one pinkening sun exposure, on average. (Sunblock with an SPF of more than 15 blocks 100% of vitamin D production in the skin.)

Depending on where you live (latitude), you may only get enough radiation from the sun for vitamin D production between May and October. Also, the darker your skin, the more sun you need to make enough vitamin D.

Vitamin D Supplementation Doses

Normal dosing of vitamin D depends on your blood levels. Treatment doses for blood level ranges are:

<10 ng/mL	–	10,000 units per day
10–20 ng/mL	–	10,000 units per day
20–30 ng/mL	–	8,000 units per day
30–40 ng/mL	–	5,000 units per day
40–50 ng/mL	–	2,000 units per day

If you are taking a vitamin D supplement, adequate calcium and magnesium intake are also required.

It is very difficult to get too much vitamin D. People can take up to 10,000 units per day for 6 months and not have adverse effects. However, people with sarcoid, tuberculosis, Lyme disease, lymphoma, and kidney disease have to be supplemented carefully because of an increased risk of their blood calcium level becoming too high.

Rechecking Your Vitamin D Level

It is recommended that you recheck your vitamin D level within 2 weeks to 2 months after starting supplementation, depending on your medical and health condition. Other lab tests for calcium, ionized calcium, magnesium, and parathyroid hormone level (PTH) may be done during the recheck.

Below are conditions that have been associated with vitamin D levels:

< 10 ng/mL Severely deficient

- < 15 ng/mL Risk of ricketsi[i]
- < 20 ng/mL 75% greater risk of colon cancerii[ii]

< 30 ng/mL Deficient

- Increased calcium loss from bones, osteoporosisiii[iii]
- Poor wound healingiv[iv]
- Increased muscle painv[v]
- Increased joint and back painvi[vi]
- Greater risk of depressionvii[vii]
- Increased diabetesviii[viii]
- Increased schizophreniaix[ix]
- Increased migraines x[x]
- Increased autoimmune disease (lupus, scleroderma)xi[xi]
- Increased allergies
- Increased preeclampsiaxii[xii]
- Increased inflammation

30–50 ng/mL Suboptimal levels

- < 34 ng/mL Twice the risk of heart attackxiii[xiii]
- < 36 ng/mL Increased high blood pressurexiv[xiv]
- < 40 ng/mL Three times the risk of multiple sclerosisxv[xv]

50–80 ng/mL Optimal levels

- > 50 ng/mL 50% reduction in breast cancer, decreased risk of all solid cancersxvi[xvi]
- 80–100 ng/mL Slowing of cancer growth in patients with cancerxvii[xvii]
- > 100 ng/mL **Increased risk of toxic symptoms (hypercalcemia)xviii[xviii]**

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