

Vitamin D What you need to know

WHAT IS VITAMIN D?

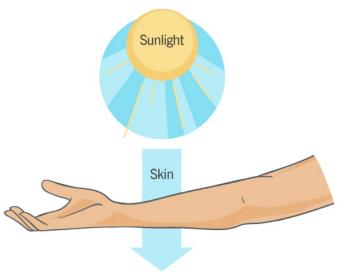
Vitamin D is a group of fat-soluble vitamins, which help support your:

- immune system
- cell function
- blood sugar regulation
- bone health
- calcium absorption and circulation
- normal blood pressure

Vitamin D comes from three sources: sunlight, specific foods, and supplements.

HOW MUCH SUNLIGHT SHOULD I GET?

Vitamin D Synthesis from Sun Exposure



Get about 10-20 minutes a day of midday sun, with face, arms, hands, and legs uncovered (and no sunscreen).

Note: Some people may need more sun than the above recommendation, and at certain times of year (winter) the sun may not even be strong to provide the required vitamin D.

For others, sun exposure may not be appropriate, such as burn or skin cancer survivors.

So use the above as a general guideline, not an absolute rule.

Cholecalciferol (Vitamin D3) Liver Calcifediol (25-hydroxyvitamin D) Kidneys Calcitriol (1,25 dihydroxyvitamin D)

Dietary intake:

D2 (plants, yeasts)
D3 (animal sources)

Most active form of vitamin D

HOW MUCH VITAMIN D DO I NEED FROM OTHER SOURCES?

In the table below, find your age group. The intake range beside it shows your recommended daily vitamin D intake, from both food and supplement sources.

| AGE | RECOMMENDED DAILY VITAMIN D INTAKE (normal BMI) |
|--------------------------------------|---|
| 0–12 months | 400–1000 IU/d |
| 1–18 years | 600–1000 IU/d |
| 18–70+ years | 800–2000 IU/d |
| Pregnant / breastfeeding (>18 years) | 800–2000 IU/d |

In cases of more severe deficiency, some people may need to take more vitamin D than we've listed above. Work with your medical doctor to figure out the right dose for you, and how long to take it for.

WHAT ARE THE BEST FOOD SOURCES OF VITAMIN D?

Here are some of the richest foods sources of vitamin D:



• 3 oz. cooked rainbow trout

VITAMIN D CONTENT

645 IU / 16.2 mcg

3 oz. cooked sockeye salmon

570 IU / 14.2 mcg



1 cup vitamin D fortified 2% milk

120 IU / 2.9 mcg



 1 cup vitamin D fortified soy, almond or oat milk

100-144 IU / 2.5-3.6 mcg



• 2 sardines canned in oil (drained)

46 IU / 1.2 mcg



• 1 large cooked egg with yolk

44 IU / 1.1 mcg



• 3 oz. braised beef liver

42 IU / 1 mcg



3 oz. canned light tuna (drained)

40 IU / 1 mcg



1 oz. cheddar cheese

12 IU / 0.3 mcg

Source: https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/#en25

WHAT KIND OF VITAMIN D SUPPLEMENT SHOULD I TAKE?

The delivery method of the supplement—whether liquid, spray, or pill—isn't so important.¹ But the form of the vitamin D in it is.

Look for supplements that contain:

• **Vitamin D3**, which is superior at optimizing and maintaining vitamin D levels long-term²³

Or, if you prefer a plant-based option:

• Vitamin D2, which is derived from yeast or mushrooms

For best absorption, take vitamin D with a meal, especially one that contains healthy fats.

Note: Taking vitamin D when you're *not* deficient will have little to no benefit—and may even cause harm.⁴ Make sure you confirm a suspected vitamin D deficiency with a blood test, obtained through your doctor.

¹ https://pubmed.ncbi.nlm.nih.gov/32143526/

² https://pubmed.ncbi.nlm.nih.gov/22552031/

³ https://pubmed.ncbi.nlm.nih.gov/23168298/

⁴ https://www.acpjournals.org/doi/abs/10.7326/M19-0341

HOW DO I KNOW IF I'M DEFICIENT?

Here's a quick quiz.

Do you:

- Live far from the equator, and/or experience winter?
- Have darker skin?
- Fall into the "50+" age category?
- Have a chronic illness or malabsorption issues?

- Have a BMI that categorizes you as "obese"?
- Tend to cover up when you go outside (either with clothing or sunscreen)?
- Do shift work?
- Just don't go outside much during daylight hours?

If you've answered "Yes" to any of the above questions, you have a higher likelihood of being vitamin D deficient.

However, the only way to know for sure if you have a vitamin D deficiency is to get a blood test, which you can get through your family doctor.

Most experts agree that having a blood level of:

- is insufficient for optimal health
- 30-50 nmol/L (12-20 ng/mL) of 25-hydroxyvitamin D3, or 25(OH)D <30 nmol/L (12 ng/mL) of 25(OH)D is considered a **severe deficiency**

Ideally, in order to optimize bone health and minimize the risk of disease, you want to achieve a blood level of vitamin D of 50-100 nmol/L (20-40 ng/mL).⁵

Work with your doctor to figure out if you need to supplement, and if so, what dose to take, and for how long.

(For more on vitamin D, read the full article: **Should I take Vitamin D?**)

⁵ https://www.nature.com/articles/s41430-020-00706-3



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