

What Is Vitamin D? (Why We Need It)

Vitamin D is a fat-soluble vitamin that's stored in the liver and fatty tissues. It's somewhat different than other vitamins because the body makes most of it on its own (with the help of sunlight), rather than solely relying on food sources to get enough.

Why Do We Need Vitamin D?

Here are some of the benefits associated with this vitamin:

- **Contributes to bone health by aiding in calcium absorption into the bones**, as well as other vitamins and minerals that [contribute to skeletal health](#), including magnesium, [vitamin K](#) and phosphorus.
- **Supports the immune system and may help prevent prolonged or excessive inflammatory responses.** Adequate levels seem to help protect against some infections and viruses by regulating the role of white blood cells, decreasing viruses' ability to reproduce and activating enzymes that prevent tissue damage.
- **Can help support healthy cell replication and may play a role in protecting against the development of autoimmune conditions.**
- [Promotes cardiovascular health](#) and helps regulate blood pressure, cholesterol levels and inflammation.
- Helps manage blood sugar levels and works with calcium to regulate insulin secretion.
- May help prevent depression and mood disorders. It helps keep your mood positive, energy levels up and can help treat seasonal affective disorder (a type of "winter depression").
- **Seems to play a role in preventing obesity.** Studies show deficiency is [tied to greater volumes of fat](#), serum, liver and muscle mass, although the relationship is still being researched.

How can you raise your vitamin D level quickly? For people who have low levels, vitamin D supplements are available, **which come in two forms: D2 and D3.**

D3 from animal products (specifically from the cholesterol within these products) is closest to the type humans produce. [Vitamin D3](#) is therefore the more active form and believed to convert much faster than D2.

Vitamin D From the Sun:

Many people assume that the best way to maintain normal vitamin D status is through drinking milk, eating fish or even taking supplements like [cod liver oil](#). While these do serve as food sources, direct exposure to the sun is actually the best way to absorb this important vitamin.

It's believed that up to 90 percent to 95 percent of most people's vitamin D [comes from](#) casual sunlight exposure.

When you sit in the sun exposed, without sunscreen, for roughly 10 minutes, you likely absorb about 10,000 units of natural vitamin D. However, keep in mind that this amount differs from person to person, depending on skin tone.

Melanin is a substance that affects how light or dark your skin color is, and the more melanin you have in your body, the darker your skin color will be. Melanin gets released when we are exposed to the ultraviolet rays.

The more UV rays we receive, the more melanin is released in our skin. The amount of melanin you have in your skin affects the amount of D vitamin you can produce, so the fairer your skin, the more easily you can make it.

Vitamin D Deficiency Symptoms

What happens when your vitamin D is low? [According](#) to scientific studies and reviews, the most common vitamin D deficiency symptoms include:

- fatigue
- osteoporosis
- heart disease and high blood pressure
- cancer
- autoimmune diseases
- depression and mood disturbances
- poor skin health, including redness, inflammation and dryness
- insomnia
- arthritis and joint pain
- diabetes
- trouble concentrating
- asthma
- hair loss
- multiple sclerosis
- chronic muscle or bone pain
- psoriasis
- fibromyalgia
- autism

Researchers suggest that anyone with these health conditions, or the following symptoms, should be tested for a deficiency:

- weakness
- chronic fatigue
- depression
- trouble sleeping
- anxiety
- weak or broken bones
- weakened immune system
- inflammation and swelling

Related: [What You Need to Know About the Most Common Nutrient Deficiencies in Women](#)

Health Risks

Is vitamin D deficiency serious? Public health experts tell us that it can be, and it's now linked with a growing number of health conditions, such as heart disease, cancer, diabetes and mood-related problems.

Here are some of the potential health risks that may be associated with vitamin D deficiency:

- **Weakened bones** — A deficiency in vitamin D can result in the softening of your bones, which is called osteomalacia, or a bone abnormality called rickets. Additionally, a deficiency increases your risk for developing osteoporosis and experiencing fractures or broken bones. This is an especially big risk among older adults.
- **Susceptibility to infections and viruses** — Low levels have been linked with higher incidence of some serious infections, including those that affect the lungs and respiratory system.

- **Mood disorders** — Because it acts like a hormone within our bodies and affects brain function, vitamin D deficiency has been [linked](#) to an increased risk for mood disorders, including depression, seasonal affective disorder, and severe mood problems experienced during PMS, insomnia and anxiety.
- **Hormone imbalances** — Low levels can interfere with proper testosterone and estrogen production, leading to imbalances that can result in many unwanted symptoms. Can lack of vitamin D cause weight gain? It's possible. Some studies show that lower levels may be linked to weight gain in older adults, but the weight gain is usually relatively small. There's more to learn about this connection, but it's speculated that this vitamin may affect where fat cells shrink or get bigger.
- **Cognitive/mental health problems** — Researchers indicate that deficient adults may perform poorer on standardized exams, may have poorer decision-making skills, and may have difficulty with tasks that require focus and attention. Some research has [demonstrated](#) a correlation between low levels of vitamin D and an increased risk for developing schizophrenia and multiple sclerosis.
- **Susceptibility to some cancers** — Vitamin D deficiency symptoms have been correlated with increased risks for cancer development, especially breast, colon and prostate cancers. According to research published in *Frontiers in Endocrinology*, D vitamin [plays a role](#) in factors that influence tumor growth, cell differentiation and apoptosis. Research shows that it can [affect the risk](#) of breast, colon and ovarian cancers, possibly due to its role in the cell life cycle or its ability to block excess estrogen.

Causes/Risk Factors

Why do some people develop a deficiency in this vitamin? It's believed that one of the biggest reasons that vitamin D deficiency is now a public health problem is because of our modern, primarily indoors lifestyle.

Below is more about the common causes of vitamin D deficiency:

1. Lack of Sun

Most children today spend unprecedented hours inside — watching television, playing video games and surfing the internet. Similarly, most adults work indoors, exercise inside gyms and spend their free time inside their homes where they are sheltered from the sun.

With all this time indoors, it's no wonder we don't get enough of the "sunshine vitamin" and that vitamin D deficiency [affects over a billion people](#) worldwide.

2. Frequent Use of Sunscreens

As the risk for developing skin cancer has also risen in recent years, doctors strongly encourage the use of [sunscreen](#) for children and adults, even through the winter months and when sun exposure is generally limited.

Alarmingly, some research shows that when you wear sunblock SPF 8, you reduce your body's ability to make vitamin D by 90 percent.

If you choose a sunblock with a higher SPF of 30 (which is the number normally recommended by doctors), you reduce your body's ability by up to 99 percent. This [results in further deficiencies](#) because even though we spend time outdoors, the sunscreen doesn't allow our bodies to convert vitamin D from the sun.

Other vitamin D deficiency causes and risk factors include:

- Underlying health conditions — Research shows that certain health conditions, such as abdominal obesity, type 2 diabetes, insulin resistance and hypertension, also increases a person's risk of vitamin D deficiency.
- Having darker skin — According to the National Health and Nutrition Examination Survey, the newest statistics [demonstrate](#) that more than 90 percent of people with darker skin pigments (including African-Americans, Hispanics and Asians) living in the United States now suffer from vitamin D insufficiency, while 75 percent of the white population is deficient.

- Certain occupations — A 2017 study recently [revealed](#) that occupation can also play a big role in levels of this vitamin. Researchers found that shift workers, health care workers and indoor workers are at a high risk of developing a deficiency due to reduced outdoor time.
- Being overweight — As the population of overweight and obese adults and children has risen steadily over the past several decades, so has the incidence of vitamin D deficiency symptoms. Sadly, [research shows](#) that vitamin D deficiency is correlated with increased risks of developing common cancers, autoimmune diseases, hypertension and various infectious diseases, too.

Treatment/Prevention

How can you increase your vitamin D level? While some foods provide vitamin D, exposure to sunlight is still the best way to get the amount you need in order to prevent vitamin D deficiency symptoms.

However, research suggests that eating foods that are rich in [vitamin D and calcium](#) also helps you [acquire](#) more, so try adding these high-quality, natural sources into your diet regularly.

Importance of Sunlight Exposure:

Most experts recommend getting about 10 to 15 minutes of direct sunlight daily, without wearing sunscreen, if you are fair- to medium-toned. If you have dark skin, you likely need more time outdoors to make enough vitamin D because you naturally have more protection against effects of UV rays.

Some experts recommend that darker-toned people spend about 40 minutes to one hour in the sun daily if possible. If you live farther from the equator (in the U.S. this would be the middle states or farther north), then you need more time (closer to one hour a day).

If it's the winter, you need to double the recommended time to allow enough vitamin D production to occur.

Here is a good rule of thumb to know that your body is making vitamin D:

- You want to look at your shadow and see that it's shorter than you are. This tells you that the UV index is high enough.
- Between the hours of 10 a.m. to 3 p.m. is usually when the UV index is highest.

If you are worried about not wearing sunscreen and worried about skin cancer, try applying sunscreen to your face and hands but not on your limbs right away (assuming your limbs are exposed). This leaves enough unexposed skin to properly create the vitamin D you need.

Overall, increase your levels naturally through the following practices and foods:

1. Sunlight exposure: Aim to spend 10–20 minutes in the sun daily (to get between 1,000 and 10,000 international units). The range is so wide as it depends on the time of year, how far from the equator you live and how much skin is exposed. If you have lighter skin, less time is needed. If you have darker skin or live farther north (in the Northern Hemisphere, like Boston), you need about an hour of sun in the summer to get about 1,000 IUs of vitamin D.
2. Cod liver oil (take about one tablespoon daily)
3. [Halibut](#)
4. Carp fish
5. Mackerel
6. Eel
7. [Wild-caught salmon](#)
8. Whitefish
9. Swordfish
10. Rainbow trout
11. Sardines
12. Tuna

13. Pastured eggs
14. Beef liver
15. Raw milk
16. Caviar
17. Fortified milk and dairy products
18. Fortified milk alternatives, such as nut-based milks
19. [Maitake](#) and portobello mushrooms (when exposed to UV light)

Vitamin D in Mushrooms:

Mushrooms are a very interesting and rare food when it comes to vitamin D. In some mushrooms that are now available in certain health food stores, the vitamin D content is boosted by exposing these mushrooms to ultraviolet light.

[Mushrooms nutrition](#) contains plant sterols that are able to convert UV light to vitamin D. Exposing mushrooms to as little as five minutes of UV light is believed to produce a substantial amount of vitamin D.

While mushrooms are typically grown indoors, many growers are beginning to grow them outdoors to take advantage of this — or they place the growing mushrooms under special lamps.

Rare and sometimes difficult-to-find maitake mushrooms, for example, contain a huge amount of vitamin D. [Portobello mushrooms](#) and other mushroom varieties also make good sources, but they are not nearly as high.

You can ask the workers at your health food store or the farmers at your local market if their mushrooms were grown indoors or outdoors in order to know if the mushrooms you are purchasing contain higher amounts of vitamin D.

Vitamin D in Dairy Products:

Interestingly, and despite what many people think, regular, [pasteurized milk](#) and dairy products do not naturally contain much vitamin D at all. Synthetic vitamin D is added to pasteurized cow's milk, soy milk and rice milk.

Almost all of the U.S. milk supply is fortified with 400 IU of vitamin D per quart, according to the U.S. Department of Agriculture, but foods made from milk, like cheese and ice cream, are usually not fortified. Synthetic vitamin D added to foods is [believed to be much less effective](#) than naturally occurring vitamin D and can also potentially block natural vitamin D's effects.

[Raw milk](#), on the other hand, is believed to contain a small amount of vitamin D naturally, which is found in its fat and not destroyed during pasteurization. Some sources show that raw milk has about 38 IUs of vitamin D per quart (four cups).

However, it's hard to know for sure how much is in raw milk because it differs greatly depending on the specific milk tested and correlates with the health of the animal that it came from.

On top of this, the USDA does not list the official vitamin D content of raw milk, and many sources claim different amounts to be present within raw milk. Keep this in mind if you consume raw milk to increase your vitamin D levels.

Vitamin D Supplementation and Dosage:

Vitamin D deficiency treatment usually involves supplementing with this vitamin.

You may wonder: [How much vitamin D should I take?](#) Because vitamin D deficiency symptoms are a growing concern worldwide, especially in Western developed nations, authorities recently increased the recommended daily intake of vitamin D to double the previous amount for newborns, children and adolescents.

Certain supplements provide the preferred type of vitamin D3. To get the best vitamin D3 supplement, look for a fermented, food-based source of D3 (preferably fermented with a healthy bacteria such as *L. bulgaricus*) paired with fermented botanicals and [supplementary probiotics](#) for maximum absorption and effectiveness.

How Much You Need

The recommended daily allowance for vitamin D, according to the USDA, [is 600 IU per day for adults](#). However, getting significantly more, [around 5,000 IU per day, may be more effective](#) — especially since there is little risk in over-supplementing in most cases.

Keep in mind that this is a general recommendation, and there is no way to know the exact amount that's best for you without a blood test. You may need a higher or lower amount and should speak to your doctor.

The only way to know if you are deficient is to have your doctor perform a test, called a 25-hydroxy vitamin D test. This will tell you if, and how severely, you are deficient.

When your doctor performs a blood test and gives you the results for your vitamin D levels, keep these numbers in mind:

- 50+ equals a good level. A 25(OH)D level of >50 nmol/L is [now considered the "primary goal."](#)
- 30–50 means you want to supplement with vitamin D, work on spending more time in the sun and/or add vitamin D foods into your diet.
- Less than 30 means you are very deficient and definitely want to take immediate action to bring those levels up.

How long does it take to recover from vitamin D deficiency? It depends on how deficient you are.

Some studies have shown that in patients with documented vitamin D deficiency, a very high level of vitamin D supplementation may be best. Your provider might recommend a cumulative dose of at least 600,000 IU administered over several weeks, which appears to be necessary to replenish stores within the body.

This goes to show that having a blood test to detect your exact vitamin D levels can be beneficial in telling you exactly how to replenish your body levels properly. Ideally, you want to supplement with a high-quality, whole food-based [multivitamin](#) or [vitamin D supplement](#) until your blood level of vitamin D is between 50–60 nanograms per milliliter.

Here are more recommendations:

Dosage Recommendation for Children:

- 1–3 years: 600 IU (15 mcg/day)
- 4–8 years: 600 IU (15 mcg/day)

For Older Children and Adults:

- 9–70 years: at least 600 IU (15 mcg/day)
- [Older adults over 70 years: 800 IU \(20 mcg/day\)](#)
- Pregnant and breastfeeding: 600 IU (15 mcg/day)

How Much Vitamin D Is Too Much?

Luckily for most people their skin is able to regulate vitamin D conversion according to heat and other factors. It can store previtamin D for future use and destroy amounts above and beyond what is safe.

Therefore deficiency is usually a much bigger concern than consuming [too much vitamin D](#).

Vitamin D toxicity is believed to be very rare. It usually consists of a buildup of calcium in the blood, called hypercalcemia.

That said, a 2019 study found that higher doses of vitamin D supplements [did not improve](#) bone health but actually lowered bone mineral density among healthy adults.

In this three-year study involving over 300 participants, vitamin D supplement doses of 400 IU, 4,000 IU and 10,000 IU were taken per day. Results showed that compared to the 400 IU group, high doses vitamin D supplementation resulted in statistically significant lower radial bone mineral density but did not change bone strength.

Further research is needed to determine whether or not higher doses of vitamin D daily impact bone health negatively.

Also, keep in mind that because vitamin D is a fat-soluble vitamin, it ideally needs to be consumed with fat in order to have optimal absorption. If you are going to eat a food source of vitamin D, it's best to combine it with some more of essential fat source too, like ghee, coconut oil, nuts, seeds or fish.

[Vitamin A](#) and vitamin D have an important relationship as well. Some studies have suggested that there is a possibility for vitamin D deficiencies to become worse when a person takes a high supplemental intake of vitamin A.

These studies [reveal](#) that when blood levels of vitamin D fall below 50 on a vitamin D blood test (which means the person is nearing deficiency), higher supplemental intake of vitamin A can worsen the problem. The good news is that when vitamin A and D levels are both sufficient, research has shown that they work together to help your body metabolize the vitamins and use them to their best ability.

Supplementing with very high doses of vitamin A is not recommended, so if you have a known vitamin D deficiency or experience vitamin D deficiency symptoms, it can lead to certain problems.

Related: [How to Prevent Negative Vitamin D Side Effects](#)

Final Thoughts

- Between 75 percent and 90 percent of adults in the U.S. may suffer from vitamin D deficiency symptoms, which can lead to major health issues, such as cardiovascular disease, diabetes, autoimmune disease and cancer.
- Two major causes of vitamin D deficiency symptoms are a lack of sun exposure and the use of sunscreen.
- Sunlight exposure, without sunscreen, for roughly 10 minutes per day helps your body make about 10,000 units of natural vitamin D.
- There are also food sources, including fish, mushrooms exposed to UV rays, eggs and dairy products.
- What are the symptoms of vitamin d deficiency in adults? The most common include weakness, chronic fatigue, depression, anxiety, trouble sleeping, weak bones and weak immune system.
- Meanwhile, vitamin D fights against bone loss, cancer, heart disease, poor immunity, trouble focusing and more.
- Vitamin D deficiency treatment usually involves vitamin D supplementation, ideally D3 (the more active form). Most adults should take between 600 and 5,000 IU daily.

<https://draxe.com/nutrition/vitamin-d-deficiency-symptoms/>

Vitamin D3 is one of the most buzzed-about supplements in the health industry. It's estimated that over [40 percent](#) of the population is [deficient in vitamin D](#), which plays a central role in everything from regulating mood to modulating immune cells in the body and beyond. Not only that, but it's one of the few nutrients that's difficult to get from food sources alone, making supplementation absolutely necessary in many cases.

So what's the difference between vitamin D vs. D3? And what is vitamin D3 good for? Keep reading for everything you need to know about this important micronutrient and how it can impact your health.

What Is Vitamin D3?

So what is vitamin D3, and what does vitamin D3 do? Vitamin D3, also known as cholecalciferol, is a fat-soluble vitamin that is [involved](#) in bone health, immune function, cell growth and more. It's one of the few nutrients that your body is able to produce on its own through the skin cells in response to sun exposure. It can also be obtained through several [vitamin D food sources](#) and supplements as well.

Unfortunately, vitamin D deficiency is a common issue, and certain groups are at a higher risk of deficiency. In particular, older adults, those who get limited sun exposure, and people who are overweight/obese or have darker skin are at an increased risk.

Vitamin D3 vs. Vitamin D2

So what is the difference between vitamin D and vitamin D3? Vitamin D is available in two forms: vitamin D2 (ergocalciferol) and vitamin D3 (cholecalciferol). Vitamin D3 is primarily found in animal foods, such as fish, liver, eggs and cod liver oil. Meanwhile, vitamin D2 is mostly in [mushrooms](#) and fortified foods, such as cereal.

Both are also available in supplement form as well. The biggest difference between vitamin D2 vs. D3 actually lies in the way that they are metabolized in the body. In fact, one study [published](#) in the *Journal of Endocrinology and Metabolism* found that vitamin D3 was nearly twice as effective at increasing vitamin D levels in the blood compared to vitamin D2.

For this reason, it's generally recommended to select a vitamin D3 supplement whenever possible to optimize absorption and get the most bang for your buck. Taking a vitamin D3 supplement is an effective way to boost calcium absorption, promote bone health, support weight management and more.

Benefits

1. Promotes Weight Loss
2. Boosts Bone Strength
3. Improves Immune Function
4. Enhances Mental Health
5. May Help Fight Cancer Cells

1. Promotes Weight Loss

Weight management is one of the most popular uses of vitamin D3. Interestingly enough, studies actually [show](#) that vitamin D levels tend to be lower in people with higher amounts of body fat. Some research also suggests that supplementing with vitamin D could enhance weight loss and bump up [fat-burning](#). For example, a study [conducted](#) by the Department of Social and Preventive Medicine at Laval University in Canada demonstrated that supplementing with calcium and vitamin D increased weight loss and fat loss compared to a control group.

2. Boosts Bone Strength

[Vitamin D](#) is absolutely essential when it comes to bone health. In fact, one of the most serious vitamin D3 deficiency symptoms in children is [rickets](#), a condition characterized by a softening and weakening of the bones. One of the main ways that vitamin D boosts bone strength is by [promoting](#) the absorption of calcium, which is essential to maintaining skeletal integrity. Plus, it's also involved in the [metabolism](#) of phosphorus, another key mineral that is important to bone health.

3. Improves Immune Function

One of the most impressive benefits of vitamin D3 is its ability to enhance immunity and protect against infection. Not only can a deficiency in this important micronutrient slow wound healing and increase the risk of infection, but vitamin D3 is also [integral](#) to the function of immune cells in the body. According to one study by Dr. Ginde and colleagues, lower levels of serum vitamin D are actually [associated](#) with the a higher risk of recent respiratory tract infections, demonstrating just how crucial this vitamin is for immunity.

4. Enhances Mental Health

Some research shows that vitamin D could be beneficial for boosting mental health and brain power. Studies have found that vitamin D status could potentially be linked to issues like [depression](#), [anxiety](#), [Alzheimer's disease](#), [bipolar disorder](#) and [schizophrenia](#). What's more, one study conducted by the Washington University School of Medicine even showed that low levels of vitamin D were [tied](#) to low mood and impaired cognitive performance in older adults.

5. May Help Fight Cancer Cells

Although research is still limited on exactly how vitamin D3 can impact cancer growth in humans, in vitro research suggests that it may [affect](#) several aspects of cancer development, including tumor growth and cell death. Other studies have found that vitamin D deficiency may be linked to a higher risk of certain types of cancer, including breast, prostate, colorectal, ovarian, kidney and stomach cancers. However, further research is still needed to determine whether other factors may also be involved besides vitamin D3 levels.

Foods

Adding a few vitamin D3 foods to your diet is a simple way to bump up your intake of this important fat-soluble vitamin. Here are a few of the top food sources of vitamin D3:

1. Cod Liver Oil — 1 tablespoon: 1,360 international units (over 100 percent DV)
2. [Wild-Caught Salmon](#) — 3 ounces: 447 IU (over 100 percent DV)
3. Mackerel — 3 ounces: 306 IU (76 percent DV)
4. [Tuna Fish](#) — 3 ounces: 154 IU (39 percent DV)
5. Sardines — 2 sardines: 47 IU (12 percent DV)
6. [Beef Liver](#) — 3 ounces: 42 IU (11 percent DV)
7. Eggs — 1 egg: 41 IU (10 percent DV)
8. Caviar — 1 tablespoon: 37 IU (9 percent DV)

TOP 8 VITAMIN D3 FOODS

#1 COD LIVER OIL



#2 WILD-CAUGHT
SALMON

#3 MACKEREL



#4 TUNA

#5 SARDINES



#6 BEEF LIVER

#7 EGGS



#8 CAVIAR

Dr. Axe

How to Get More in Your Diet

Sun exposure is one of the easiest and most effective ways to meet your vitamin D needs. For most, five to 30 minutes of sun exposure twice a week is enough to meet your daily needs. However, for others it can be difficult to

get enough vitamin D from sunlight alone, especially during the winter or if you live in certain geographic areas. Older adults and those with dark skin also don't synthesize vitamin D in the skin as efficiently and may need to include other sources of vitamin D in the diet to meet their requirements.

In addition to including a variety of vitamin D3 foods in your diet, taking a [vitamin D supplement](#) can also be incredibly useful. Taking vitamin D3, in particular, can help increase vitamin D levels in the blood to protect against deficiency.

Vitamin D3 Supplements

Vitamin D supplements can be a quick and convenient way to meet your needs for this important fat-soluble vitamin, especially if you're at an increased risk of deficiency. If you do opt to take one, be sure to select vitamin D3 instead of vitamin D2 to maximize absorption and get the most value for your money. You should also take vitamin D with meals, as it requires a good source of fat to be absorbed in the body.

You may be wondering: [How much vitamin D3 should I take daily?](#) Currently, the recommended dietary allowance (RDA) for vitamin D is as follows:

- **400 IU:** infants 0–12 months
- **600 IU:** children and adults 1-70 years
- **800 IU:** adults over 70 years

However, many believe that the recommended vitamin D3 dosage should be even higher, and supplements often contain doses of up to 5,000 IU per day. Therefore, it's best to work with your doctor to determine the right dosage for you to prevent symptoms of deficiency.

Risks and Side Effects

So can you overdose on vitamin D3? And what happens if you take [too much vitamin D3](#)? Although the upper limit for vitamin D is currently set at 4,000 IU per day, researchers believe that doses of up to 10,000 IU per day can be taken without symptoms of toxicity.

However, it's important to use supplements only as directed and avoid taking large amounts of vitamin D. Some of the potential [vitamin D3 side effects](#) may include abdominal pain, vomiting, nausea and confusion. If you notice any negative side effects after starting vitamin D3 supplementation, discontinue use and consult with your doctor.

Finally, be sure to consult with a trusted health care professional before starting supplementation if you have any underlying health conditions. In particular, vitamin D may worsen symptoms caused by issues like kidney disease and [hyperparathyroidism](#), as it increases calcium absorption in the body. If you're taking medications like diuretics, heart medications or antacids, you may also want to discuss with your doctor prior to starting supplementation to avoid adverse side effects.

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