

All Things Supplement

What is a supplement? Are all supplements natural? Why are supplements so expensive? Can you take too many supplements?

PLEASE CONSULT YOUR PHYSICIAN PRIOR TO TAKING SUPPLEMENTS!

Overview

With the number of diseases and ailments plaguing us now, and continuing to grow, there is almost nothing you cannot find a supplement for!

Supplements are a dietary manufactured product intended to enhance or complete a person's diet by taking a pill, capsule, tablet, powder, or liquid. Supplements can be natural or synthetic and are commonly classified as vitamins, minerals, fiber, fatty acids, and amino acids. Many supplements can also contain fillers or sugars so make sure to read the labels very thoroughly. They tend to be marketed as having beneficial health or beauty effects with over 50,000 dietary supplements marketed in the United States alone, and in 2021 it was a \$151.9 billion industry. Multivitamins are the most common supplement. The United States National Institutes of Health states that supplements "may be of value" for those who are nutrient deficient from their diet and receive approval from their medical provider.

A 2020 analysis projected that the global market for vitamins and dietary supplement products would reach \$196.6 billion by 2028, where the growth in market size is largely attributed to recent technological advancements in product manufacturing, increased demand for products advertised as healthy, increased product availability, and population aging.

In the United States, it is against federal regulations for supplement manufacturers to claim that these products prevent or treat any disease. Companies are allowed to use what is referred to as "Structure/Function" wording if there is substantiation of scientific evidence for a supplement providing a potential health effect. An example would be "_____ helps maintain healthy joints", but the label must bear a disclaimer that the Food and Drug Administration (FDA) "has not evaluated the claim" and that the dietary supplement product is not intended to "diagnose, treat, cure or prevent any disease", because only a drug can legally make such a claim. Check the fine print on a bottle of supplements and you might be surprised at what you find.

Like foods and unlike drugs, no government approval is required to make or sell dietary supplements; the manufacturer confirms the safety of dietary supplements but the government does not; and rather than requiring risk-benefit analysis to prove that the product can be sold like a drug, such assessment is only used by the FDA to decide that a dietary supplement is unsafe and should be removed from market.

Ingredients

With over 50,000 supplements in the US alone, and so much fine print on the labels, it can be challenging to know exactly what you are getting. Read the list of ingredients carefully to check for fillers, sweeteners, preservatives, and additives, all of which will be listed on the label. Manufacturers often use them to add substance or help cut costs. Some additives will increase the shelf life of supplements, bind ingredients together, or improve the texture, color, taste, or consistency of products. Here are just a few common ingredients in supplements:

- Cellulose
- Soybean oil
- Maltodextrin
- Sorbitol
- Stearic acid
- Potassium sorbate
- Silicon dioxide

Side effects of too many supplements

- Nausea
- Diarrhea
- Stomach cramps
- Hair loss
- Gastrointestinal upset
- Fatigue
- Mild nerve damage
- Bone, joint or muscle pain
- Medication interference
- Headache, dizziness
- Tremors

Vitamin toxicity occurs when you take an excessive amount of a vitamin that is otherwise an essential nutrient needed to keep the body healthy. Sometimes called hypervitaminosis, it can be caused by misuse of vitamin supplements, certain medications and drug interactions, or diet.

Vitamin toxicity diagnosis and treatment will depend on the specific type. In general, it's important to stop taking vitamins that play a role in your symptoms but do so while working with a healthcare provider. They may need to change your medications or take other measures, too.

Many vitamins pose no threat to your health, even at very high doses. But fat-soluble vitamins, including vitamins A, D, E, and K, can build up to levels that cause symptoms when taken at high doses over long periods of time, or if an underlying health condition or a drug interaction affects how your body is using them. In rare cases, the toxicity may be life-threatening.

Vitamins also can cause toxicity with an excessive single dose. If you are concerned about vitamin toxicity, speak with your healthcare provider about your use of vitamin supplements. They can identify associated symptoms, provide appropriate blood testing, and offer treatment if needed.

We've established that taking too much of certain vitamins and minerals can be toxic and come with side effects. And much of this depends on whether you take water-soluble or fat-soluble vitamins. If you take water-soluble vitamins such as vitamins C, B1 and B2, your body will remove any extra amount through your urine. But if you take fat-soluble vitamins, like vitamins A, D and E, your body absorbs and stores the full amount, which can lead to the problems outlined above.

Why You Need to Talk to Your Doctor Before You Start Taking Supplements

The pandemic exacerbated an already fluid and overpriced market of supplements, with many touting false claims and promising 'immunity boosting' safeguards. With access to healthcare limited during this time so many people were self diagnosing and literally ordering supplements straight from Amazon to be delivered at their doors. There are contraindications between supplements and certain medications so it is imperative that your doctor and pharmacist be aware of any supplements you are already taking or considering taking.

Pieter Cohen, MD, an internist at Cambridge Health Alliance and associate professor of medicine at Harvard Medical School explained: "While supplements are not permitted to be sold as if they prevent or treat disease, with a tweak of the language these companies can easily make claims like 'immune booster' or 'maintain a healthy immune system.' Those claims are 100% legal and can imply to consumers that the supplement can protect them from COVID-19, but that is not the case."

"One perception that I had, because I also didn't learn about supplements when I was in medical school, was that these must be expensive placebos," he said. And "that if a patient's taking it, fine, I don't need to worry about it because it's not going to affect their health, it's not going to affect their medications. "What we've come to realize is that because the supplements are so often formulated much closer to drugs, that it's incredibly important for us to pay attention to what our patients are taking and to recognize that they might be causing direct, immediate effects," Dr. Cohen added.

LINKS:

Sources to look up supplements and vitamins: <https://www.usp.org/> www.nsf.org www.pdr.net

What doctors wish patients knew about vitamins and supplements [What doctors wish patients knew about vitamins and supplements | American Medical Association \(ama-assn.org\)](https://www.ama-assn.org/press-releases/2020/04/01/ama-wishes-doctors-wish-patients-knew-about-vitamins-supplements)

The Truth About Supplements: 5 Things You Should Know [The Truth About Supplements: 5 Things You Should Know \(penntmedicine.org\)](https://www.pennmedicine.org/newsroom/2020/04/01/the-truth-about-supplements-5-things-you-should-know)

Taking Dietary Supplements Safely [Taking Dietary Supplements Safely | NIH News in Health](https://www.nih.gov/news-events/health-topics/2020/04/01/taking-dietary-supplements-safely)

Harmful effects of supplements can send you to the emergency department [Harmful effects of supplements can send you to the emergency department - Harvard Health](#)

FDA 101: Dietary Supplements [FDA 101: Dietary Supplements | FDA](#)

Yes, You Can Take Too Many Vitamins [Headline Yes, You Can Take Too Many Vitamins \(clevelandclinic.org\)](#)

Supplements: They're Not As Safe As You Might Think [Supplements: They're Not As Safe As You Might Think \(clevelandclinic.org\)](#)

The Safety of Weight-Loss Supplements [The Safety of Weight-Loss Supplements \(nutritionfacts.org\)](#)

How to Read Supplement Labels Like a Pro [How to Read Supplement Labels Like a Pro \(healthline.com\)](#)

Your Supplements are a Lie https://youtu.be/WIT5_SMIaHE?si=CINTeApfi9TXSGMu

Dietary Supplements Claims, Labels and Regulations [Dietary Supplements Claims, Labels and Regulations | NSF](#)

Reading List:

Encyclopedia of Nutritional Supplements: The Essential Guide for Improving Your Health Naturally

by Michael T. Murray <https://a.co/d/i1UNhOn>

The Truth About Dietary Supplements: An Evidence-Based Guide to a Safe Medicine Cabinet by

Mahtab Jafari <https://a.co/d/iQMQ50l>