

Does Too Much Vitamin C Cause Side Effects?

Vitamin C is a very important nutrient that's abundant in many fruits and vegetables.

Getting enough of this vitamin is especially important for maintaining a healthy immune system. It also plays an important role in wound healing, keeping your bones strong, and enhancing brain function ([1Trusted Source](#)).

Interestingly, some claim that vitamin C supplements provide benefits beyond those that can be obtained from the vitamin C found in food.

One of the most common reasons people take vitamin C supplements is the idea that they help prevent the common cold ([2Trusted Source](#)).

However, many supplements contain extremely high amounts of the vitamin, which can cause undesirable side effects in some cases.

This article explores the overall safety of vitamin C, whether it's possible to consume too much, and the potential adverse effects of taking large doses.

Vitamin C is a water-soluble vitamin, which means it dissolves in water.

In contrast to [fat-soluble vitamins](#), water-soluble vitamins do not get stored within the body.

Instead, the vitamin C that you consume gets transported to your tissues via body fluids, and any extra gets excreted in urine ([1Trusted Source](#)).

Since your body does not store vitamin C or produce it on its own, it's important to consume [foods that are rich in vitamin C](#) daily ([1Trusted Source](#)).

However, supplementing with high amounts of vitamin C can lead to adverse effects, such as digestive distress and kidney stones.

That's because if you overload your body with larger-than-normal doses of this vitamin, it will start to accumulate, potentially leading to overdose symptoms ([3Trusted Source](#)).

It's important to note that it's unnecessary for most people to take vitamin C supplements, as you can easily get enough by eating fresh foods, especially fruits and vegetables ([1Trusted Source](#)).

Summary Vitamin C is water-soluble, so it's not stored within your body. If you consume more than your body needs, it's excreted in your urine.

The most common side effect of high vitamin C intake is digestive distress.

In general, these side effects do not occur from eating foods that contain vitamin C, but rather from taking the vitamin in supplement form.

You're most likely to experience digestive symptoms if you consume more than 2,000

mg at once. Thus, a tolerable upper limit (TUL) of 2,000 mg per day has been established ([1Trusted Source](#), [3Trusted Source](#), [4Trusted Source](#), [5Trusted Source](#)).

The most common digestive symptoms of excessive vitamin C intake are diarrhea and nausea.

Excessive intake has also been reported to lead to acid reflux, although this is not supported by evidence ([1Trusted Source](#), [3Trusted Source](#), [4Trusted Source](#), [5Trusted Source](#)).

If you're experiencing digestive problems as a result of taking too much vitamin C, simply cut back your supplement dose or avoid vitamin C supplements altogether ([3Trusted Source](#), [4Trusted Source](#), [5Trusted Source](#)).

Summary Ingesting more than 2,000 mg of vitamin C per day may lead to gastrointestinal upset, including symptoms like diarrhea and nausea.

Vitamin C is known to [enhance iron absorption](#).

It can bind to non-heme iron, which is found in plant foods. Non-heme iron is not absorbed by your body as efficiently as heme iron, the type of iron found in animal products ([6Trusted Source](#)).

Vitamin C binds with non-heme iron, making it much easier for your body to absorb. This is an important function, especially for individuals who get most of their [iron from plant-based foods](#) ([7Trusted Source](#)).

One study in adults found that iron absorption increased by 67% when they took 100 mg of vitamin C with a meal ([8Trusted Source](#)).

However, individuals with conditions that increase the risk of iron accumulation in the body, such as hemochromatosis, should be cautious with vitamin C supplements.

Under these circumstances, taking vitamin C in excess may lead to iron overload, which can cause [serious damage](#) to your heart, liver, pancreas, thyroid, and central nervous system ([9Trusted Source](#), [10Trusted Source](#), [11Trusted Source](#)).

That said, iron overload is highly unlikely if you don't have a condition that increases iron absorption. Additionally, iron overload is more likely to occur when excess iron is consumed in supplement form.

Summary Since vitamin C increases iron absorption, consuming too much of it is a concern for individuals with conditions that lead to iron accumulation in the body.

Excess vitamin C is excreted from the body as oxalate, a bodily waste product.

[Oxalate](#) typically exits the body via urine. However, under some circumstances, oxalate may bind to minerals and form crystals that can lead to the formation of kidney stones ([12Trusted Source](#)).

Consuming too much vitamin C has the potential to increase the amount of oxalate in your urine, thus increasing the risk of developing kidney stones ([13Trusted Source](#)).

In one study that had adults take a 1,000-mg vitamin C supplement twice daily for 6 days, the amount of oxalate they excreted increased by 20% ([13Trusted Source](#)).

High vitamin C intake is not only associated with greater amounts of urinary oxalate but also linked to the development of [kidney stones](#), especially if you consume amounts greater than 2,000 mg ([6Trusted Source](#), [14](#)).

Reports of kidney failure have also been reported in people who have taken more than 2,000 mg in a day. However, this is extremely rare, especially in healthy people ([15Trusted Source](#)).

Summary Consuming too much vitamin C may increase the amount of oxalate in your kidneys, which has the potential to lead to kidney stones.

Since vitamin C is water-soluble and your body excretes excess amounts of it within a few hours after you consume it, it's quite difficult to consume too much.

In fact, it is nearly impossible for you to get too much vitamin C from your diet alone. In healthy people, any extra vitamin C consumed above [the recommended daily amount](#) simply gets flushed out of the body ([16Trusted Source](#)).

To put it in perspective, you would need to consume 29 oranges or 13 bell peppers before your intake reached the tolerable upper limit ([17Trusted Source](#), [18Trusted Source](#)).

However, the risks of vitamin C overdose are higher when people take supplements, and it is possible to consume too much of the vitamin in some circumstances.

For example, those with conditions that increase the risk of iron overload or are prone to kidney stones should be cautious with their vitamin C intake ([6Trusted Source](#), [10Trusted Source](#), [19Trusted Source](#)).

All the adverse effects of vitamin C, including digestive distress and kidney stones, appear to occur when people take it in mega doses greater than 2,000 mg ([20Trusted Source](#)).

If you choose to take a [vitamin C supplement](#), it is best to choose one that contains no more than 100% of your daily needs. That's 90 mg per day for men and 75 mg per day for women ([21](#)).

Summary: It's nearly impossible to consume too much vitamin C from food. However, if you're supplementing with this vitamin, you can minimize your risk of getting too much by taking no more than 90 mg per day if you're a man, or 75 mg per day if you're a woman.

Vitamin C is generally safe for most people.

This is especially true if you get it from foods, rather than supplements.

Individuals who take vitamin C in supplement form are at greater risk of consuming too much of it and experiencing side effects, the most common of which are digestive symptoms.

However, more serious consequences, such as iron overload and kidney stones, may

also result from taking extreme amounts of vitamin C ([3Trusted Source](#)).

Fortunately, it's easy to prevent these potential side effects — simply avoid vitamin C supplements.

Unless you have a [vitamin C deficiency](#), which rarely occurs in healthy people, it is probably unnecessary for you to take large doses of this vitamin.

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