

Vitamin C

Vitamin C is an essential vitamin, meaning, your body can't produce it. There are very few animals which can't make vitamin C, but humans are among them. Others include some primates, guinea pigs, bats, and reptiles. Yet, it has many roles and has been linked to impressive health benefits.

It's a water-soluble antioxidant found in many foods. Although most people think of oranges as a good source, it is found in many other fruits and vegetables as well including strawberries, kiwi fruit, bell peppers, broccoli, kale, and spinach.

About 45% of Americans are deficient in vitamin C. How do you know if you're deficient? Usually, there are no obvious associated symptoms until late. A simple blood test, measuring ascorbic acid, is available. There are numerous risk factors for low vitamin C levels in the body. Here are the most common:

- Inadequate consumption of foods containing vitamin C. Simple. Eat more plants.
- Being male. Men in general have more inflammation which sucks up antioxidants in general, including vitamin C.
- Smoking. Again, the inflammation it generates sucks up the antioxidants.
- Being overweight.
- Having darker skin.
- Lower income. This is most likely related to a poorer diet.

The recommended daily intake for vitamin C is 75 mg for women and 90 mg for men. But, as with many nutrients, what is the minimum and what is optimum are 2 different things. It's better to shoot for 1000mg a day. While it's commonly advised to get your nutrients from whole foods, many people turn to supplements to meet their needs.

Here are 7 scientifically proven benefits of taking a vitamin C supplement.

1. Reduces your risk of various chronic diseases. Vitamin C is a powerful antioxidant that can strengthen your body's natural defenses, the immune system. They do so by protecting cells from harmful molecules called free radicals which promote a state known as oxidative stress, which has been linked to inflammation and many chronic diseases. Consuming more vitamin C can increase your blood antioxidant levels by up to 30% helping the body's natural defenses fight inflammation.
2. Helps control high blood pressure. 40% of Americans are on blood pressure medications, and many more are not even aware they have it. High blood pressure puts you at risk of heart disease, the leading cause of death globally. Vitamin C helps lower blood pressure in both those with and without high blood pressure. In addition to lowering inflammation, it relaxes arterial walls, both helping to lower blood pressure.
3. Heart disease risks are reduced. Heart disease is the leading cause of death worldwide. Many factors increase the risk of heart disease, including high blood pressure, high triglycerides, high LDL (bad) cholesterol levels, and low levels of HDL (good) cholesterol. Vitamin C helps to reduce these risk factors. For example, an analysis of 9 studies with a combined 293,172 participants found that after 10 years, people who took at least 700 mg of vitamin C daily had a 25% lower risk of heart disease than those who did not take a vitamin C supplement.
4. Uric Acid levels are reduced. Although known to cause the painful joint condition gout, uric acid also causes generalized inflammation and contributes to heart disease.
5. Helps to prevent iron deficiency. Iron is an important nutrient that has a variety of functions in the body. It's essential for making red blood cells and transporting oxygen throughout the body. Vitamin C helps to improve the absorption of iron from the diet. Vitamin C assists in converting iron that is poorly absorbed, such as plant-based sources of iron, into a form that is easier to absorb. In fact, simply consuming 100 mg of vitamin C may improve iron absorption by 67%. As a result, vitamin C may help reduce the risk of anemia among people prone to iron deficiency.

6. Boosts immunity. Vitamin C is involved in many parts of the immune system. First, vitamin C helps encourage the production of white blood cells known as lymphocytes and phagocytes, which help protect the body against infection. Second, vitamin C helps these white blood cells function more effectively while protecting them from damage by potentially harmful molecules, such as free radicals. Third, vitamin C is an essential part of the skin's defense system. It's actively transported to the skin, where it can act as an antioxidant and help strengthen the skin's barriers. Studies have shown that taking vitamin C shortens wound healing time. People who have pneumonia tend to have lower vitamin C levels, and vitamin C supplements have been shown to shorten the recovery time.
7. It protects your memory and cognitive function as you age. Studies show that oxidative stress and inflammation near the brain, spine, and nerves (altogether known as the central nervous system) can increase the risk of dementia. As a strong antioxidant, Vitamin C helps lower this inflammation and low levels of this vitamin have been linked to an impaired ability to think and remember. Moreover, several studies have shown that people with dementia may have lower blood levels of vitamin C. Furthermore, high vitamin C intake from food or supplements has been shown to have a protective effect on thinking and memory as you age.
8. It supports healthy collagen. The most abundant compound in the body, collagen is the support tissue of skin, ligaments, tendons as well as blood vessels. Vitamin c is not only imperative to healthy collagen formation, but its maintenance as well.

While vitamin C has many scientifically proven benefits, it also has many unfounded claims supported by either weak or no evidence. Here are some unproven claims about vitamin C:

- Prevents the common cold. While vitamin C appears to reduce the severity of colds and recovery time by 8% in adults and 14% in children, it does not prevent them.
- Reduces cancer risk. A handful of studies have linked vitamin C intake to a lower risk of several cancers. However, most studies have found that vitamin C does not affect the risk of developing cancer.
- Protects against eye disease. Vitamin C has been linked to reduced risks of eye diseases like cataracts and age-related macular degeneration. Such protection has not been proven.
- May treat lead toxicity. Although people with lead toxicity appear to have low vitamin C levels, there is no strong evidence from human studies that show vitamin C can treat lead toxicity.

Although getting nutrients from whole foods is always best, getting enough vitamin C is challenging unless you are eating a lot of fruits and vegetables and have minimal risk factors. For example, to get 1000 mg of vitamin C from citrus fruit alone, you'd have to consume 15 oranges or 75 limes! As an aside, British sailors were called "Limey's" because when they figured out that, on long ocean voyages, if they brought along limes, the sailors did not develop rickets, a bone condition caused in part by low vitamin C levels.

Vitamin C is much better absorbed when consumed, or taken as a supplement, along with some fats.