

# Can I Boost My Immune System? Can I Boost My Immune System?

**Fears about coronavirus have prompted online searches and plenty of misinformation about how to strengthen the immune system. Here's what works — and what doesn't.**

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As worries grow about the new coronavirus, online searches for ways to bolster the immune system have surged. Are there foods to boost your immune system? Will vitamins help?

The immune system is a complex network of cells, organs and tissues that work in tandem to protect the body from infection. While genetics play a role, we know from [studies of twins](#) that the strength of our immune system is largely determined by nonheritable factors. The germs we are exposed to over a lifetime, as well as lifestyle factors like stress, sleep, diet and exercise all play a role in the strength of our immune response.

The bottom line is that there is no magic pill or a specific food guaranteed to bolster your immune system and protect you from the new coronavirus. But there are real ways you can take care of yourself and give your immune system the best chance to do its job against a respiratory illness.

**Lower your stress.** Worries about the coronavirus, the stock market and the general disruption of life have added to our stress levels, but we know that stress also can make you more susceptible to respiratory illness.

In a series of [remarkable studies](#) over 20 years at Carnegie Mellon University, volunteers were exposed to the cold virus (using nose drops) and then quarantined for observation. The researchers found that people who reported less stress in their lives were less likely to develop cold symptoms. [Another series of studies](#) at Ohio State University found that marital conflict is especially taxing to the immune system. In a series of studies, the researchers inflicted small wounds on the arms of volunteers, and then asked couples to discuss topics both pleasant and stressful. When couples argued, their wounds took, on average, a full day longer to heal than after the sessions in which the couples discussed something pleasant. Among couples who exhibited especially high levels of hostility, the wounds took two days longer to heal.

*The bottom line:* Your body does a better job fighting off illness and healing wounds when it's not under stress. Learning techniques for [managing stress](#), like meditation, controlled breathing or talking to a therapist are all ways to help your immune system stay strong.

**Improve your sleep habits.** A healthy immune system can fight off infection. A sleep-deprived immune system doesn't work as well. In one surprising study, researchers found 164 men and women willing to be exposed to the cold virus. Not everyone got sick. But short sleepers — those who regularly slept less than six hours a night — were 4.2 times more likely to catch the cold compared with those who got more than seven

hours of sleep, researchers found. Risk was even higher when a person slept less than five hours a night.

*The bottom line:* [Focusing on better sleep habits](#) is a good way to strengthen your immune system. The sweet spot for sleep is six to seven hours a night. Stick to a regular bedtime and wake-up schedule. Avoid screens, night-eating and exercise right before bedtime.

**Check your vitamin D level:** While more study is needed on the link between vitamin D and immune health, some promising research suggests that checking your vitamin D level — and taking a vitamin D supplement — could help your body fight off respiratory illness. In one study of 107 older patients, some patients took high doses of vitamin D while others were given standard doses. After a year, the researchers found that people in the high-dose group had 40 percent fewer respiratory infections over the course of the year compared to those on the standard dose. [A more recent analysis](#) of 25 randomized controlled trials of 11,000 patients showed an overall protective effect of vitamin D supplementation against acute respiratory tract infections. The data aren't conclusive, and some studies of vitamin D haven't shown a benefit.

Why would vitamin D lower risk for respiratory illness? Our bodies need adequate vitamin D to produce the antimicrobial proteins that kill viruses and bacteria. “If you don't have adequate vitamin D circulating, you are less effective at producing these proteins and more susceptible to infection,” says Dr. Adit Ginde, professor of emergency medicine at the University of Colorado School of Medicine and the study's lead author. “These proteins are particularly active in the respiratory tract.”

It's important to note that there are no clinical recommendations to take vitamin D for immune health, although the standard recommendation for bone health is for 600 to 800 international units per day. (That is the level found in most multivitamins.) In the study of respiratory illness and vitamin D, the dose was equivalent to about 3,330 international units daily.

Vitamin D can be found in fatty fish, such as salmon, and in milk or foods fortified with vitamin D. In general, our vitamin D levels tend to be influenced by sun exposure, skin tone and latitude — people in northern areas who get less sun exposure in the winter typically have lower vitamin D. A blood test is required to check vitamin D levels. Less than 20 nanograms per milliliter is considered deficient. Above 30 is optimal.

*The bottom line:* If you are concerned about immune health, you may consider having your vitamin D level checked and talking to your doctor about whether to take a supplement.

**Avoid excessive alcohol consumption.** [Numerous studies](#) have found a link between excessive alcohol consumption and immune function. Research shows people who drink in excess are more susceptible to respiratory illness and pneumonia and recover from infection and wounds more slowly. Alcohol alters the number of microbes in the gut microbiome, a community of microorganisms that affect the immune system. Excessive alcohol can damage the lungs, and impair the mucosal immune system, which is essential in helping the body recognize pathogens and fight infection. And it's not just chronic drinking that does damage. Binge drinking can also impair the immune system.

*The bottom line:* A cocktail or glass of wine while you are sheltering in place during coronavirus is fine. But avoid drinking to excess. The [current U.S. Dietary Guidelines for Americans](#) recommend that alcohol should be consumed only in moderation — up to one drink per day for women and two drinks per day for men.

**Eat a balanced diet, exercise and skip unproven supplements.** A healthful diet and [exercise](#) are important to maintaining a strong immune system. However, no single food or natural remedy has been proven to bolster a person’s immune system or ward off disease. But that hasn’t stopped people from making specious claims. A recipe circulating on social media claims boiled garlic water helps. Other common foods touted for their immune-boosting properties are ginger, citrus fruits, [turmeric](#), [oregano oil](#) and bone broth. There are small studies that suggest a benefit to some of these foods, but strong evidence is lacking. For instance, the bone broth claim has been fueled by [a study published in 2000](#) that showed eating chicken soup seemed to reduce symptoms of an upper respiratory tract infection. [A number of small studies](#) have suggested garlic may enhance immune system function. Claims that elderberry products can prevent viral illness also are making the rounds on social media, but [evidence is lacking](#).

Zinc supplements and lozenges are also a popular remedy for fighting off colds and respiratory illness. [Some studies](#) have found that zinc lozenges may reduce the duration of cold by about a day and, may reduce the number of upper respiratory infections in children. But the data on zinc are mixed. If you already have enough zinc from your diet, it’s not clear that taking a supplement can help. Zinc supplements also commonly cause nausea.

“There are a lot of products that tout immune boosting properties, but I don’t think any of these have been medically proven to work,” said Dr. Krystina Woods, hospital epidemiologist and medical director of infection prevention at Mount Sinai West. “There are people who anecdotally say ‘I felt great after I took’ whatever. That may be true, but there’s no science to support that.”

*The bottom line:* If you enjoy foods touted as immune boosters, there is no harm in eating them as part of a balanced diet. Just be sure that you don’t neglect proven health advice — like washing your hands and not touching your face — when it comes to protecting yourself from viral illness.