

INFORMATION ON SUPPLEMENTS REGARDING COVID-19 (CORONAVIRUS)

This information is taken from Consumer Lab, an entity that thoroughly reviews the scientific and medical literature regarding supplements. It was updated on April 8, 2020. If you have further concerns or questions, please ask your primary care physician or your specialist.

****PLEASE NOTE: There are no supplements that will prevent or treat COVID-19.****

Supplements and products unlikely to help with coronavirus and could be dangerous

- Apple Cider Vinegar: While all varieties of vinegar, including apple cider vinegar, contain acetic acid, which has antibacterial and antiviral properties, there is no evidence that gargling with vinegar is useful for preventing or treating colds, sore throats, or COVID-19.

Vinegars may be used to clean surfaces but are not as effective a disinfectant as bleach and may take as long as 30 minutes sitting on a surface, particularly a porous one, to be effective. No research to date has shown that cleaning surfaces with vinegar can kill SARS-CoV-2.

- CBD (cannabidiol): This has been heavily promoted to prevent and even cure the coronavirus, including by some celebrities and sports figures. While CBD has been shown to inhibit certain viruses in laboratory studies, there is no evidence that it can prevent or treat COVID-19 in people.
 - Animal studies generally indicate that CBD dampens the immune system, and a study among children and young adults given large amounts of CBD to study its anti-seizure effects found that those given CBD reported more upper respiratory infections than those given placebo.
 - Although, theoretically, dampening the immune response could dampen the devastating "cytokine storm" that occurs in severe COVID-19, it is far too early to know if this would be the case or whether it might make the infection worse.
 - CBD may be helpful for anxiety and anxiety-related sleep disorders, making it useful for people struggling with anxiety due to the current pandemic. However, be aware that in a small percentage of individuals, CBD may worsen anxiety and insomnia.
- Miracle Mineral Solution: This contains 28% sodium chlorite in distilled water. Chlorine dioxide "kits" are not a solution for COVID-19 and are dangerous to drink. They can cause nausea, vomiting, diarrhea, and symptoms of severe dehydration; there has been at least one death reported.
- Colloidal silver: This is a solution with silver particles. It has antiseptic (disinfectant) activity on surfaces and has been promoted by several companies

to prevent or treat coronavirus. However ingesting colloidal silver has not been shown to prevent or treat coronavirus, and there are ***serious potential risks***.

Supplements and products ***unlikely*** to help with coronavirus

- **Coconut oil**: Two small trials in people with the human immunodeficiency virus (HIV) given coconut oil showed some improvements in immune system blood cell counts. However, there is no evidence to date that consuming coconut oil can prevent or treat coronavirus infections in people.
- **Eucalyptus oil**: This essential oil has been used for respiratory symptoms and seems to provide help during colds and sinus infections as well as for some asthmatic symptoms. It has also been shown to have some effect on herpes (HSV type I) viruses causing cold sores. However, there is no current evidence that eucalyptus can help prevent or treat COVID-19.
- **Garlic**: This has been shown in laboratory studies to inhibit certain flu and cold viruses, and one clinical trial suggests garlic supplements may help to prevent colds. However, there is no current evidence that eating garlic or taking a garlic supplement can help prevent or treat COVID-19, as noted on the World Health Organization's Coronavirus disease (COVID-19) Myth busters website.
- **Lysine**: Some studies suggest that lysine may have immune stimulating and antiviral properties. However, there is no evidence at this time to suggest taking lysine or a related lysine-containing supplement can help prevent or treat COVID-19.
- **Melatonin**: This is a hormone that helps regulate sleep and can trigger sleep in people with sleep disorders. Melatonin has also been suggested on some websites as a potential treatment in COVID-19, although there are no reports of such use or of a proven benefit.
- **NAC (N-acetyl cysteine)**: This is a synthetically modified form of the amino acid cysteine, which occurs naturally in foods. In the body, NAC is converted to the antioxidant glutathione. There is very preliminary evidence that NAC may improve certain blood markers of immune system health but there is not sufficient evidence to suggest that NAC supplementation improves the immune system to the extent that it will reduce the occurrence of illness, nor prevent coronavirus infection.
- **Olive leaf extract**: This is being promoted by some websites as a natural remedy to help fight COVID-19. Compounds in olive leaves have been shown in laboratory studies to inhibit certain disease-causing bacteria and viruses.
 - There does not appear to be much research on the effect of olive leaf extract on viral disease in people. In fact, one study among healthy high school athletes in New Zealand found that taking olive leaf extract daily did not reduce the incidence of colds or symptoms of upper respiratory infections (sore throat, cough, sneezing) compared to placebo

- Be aware that olive leaf extract may lower blood pressure and should be used with caution by people with low blood pressure or those taking blood pressure lowering medications
- It may also have a blood thinning effect, and should be used in caution in people taking blood-thinning medication.

Vitamin and minerals that *can help* with coronavirus *only if you're not getting enough*

- Potassium: This will not prevent coronavirus infection but it can play a very important role in the treatment of COVID-19 if symptoms become severe.
 - Hypokalemia (low blood potassium) can cause heart dysfunction, one of the major problems seen in COVID-19. High levels of markers of heart muscle damage were associated with more severe hypokalemia. The presence of underlying disease, particularly hypertension, was associated with the severity of hypokalemia.
 - Individuals taking potassium-sparing diuretics (such as spironolactone), ACE inhibitors (such as captopril), or trimethoprim/sulfamethoxazole should not take potassium supplements without medical supervision as dangerous levels of potassium may develop.
 - Note: There are hypothetical concerns that taking prescription ACE-inhibitors and angiotensin receptor-blockers (ARBs) may increase ACE2 on cell surfaces, potentially increasing the risk of developing severe COVID-19 **but** there are also cautions not to stop taking such medications as they not only control high blood pressure but may helpful in treating COVID-19
- Vitamin C: If you are deficient in vitamin D, taking high doses *may* help critically ill COVID-19 patients and those on ventilators for prolonged are deficient, that can interfere with iron absorption, which could potentially lead to iron-deficiency anemia, a risk factor for increased infections. It has not been shown to prevent COVID-19 infections.
- Vitamin D: Taken daily in moderate doses, it may help to reduce the risk of respiratory infections and viruses such as influenza A in children and adults who are deficient (< 20 ng/mL) or severely deficient (< 10 ng/mL) in vitamin D. It has not been shown to prevent COVID-19 infections.
- Zinc: Supplements (such as with regular tablets) would not benefit most people unless they are deficient in zinc, which is more common in elderly people due to reduced zinc absorption. In such people, supplementing with zinc (e.g. 20 mg per day) may improve the chance of avoiding respiratory tract infection.

Zinc lozenges have been touted as able to prevent COVID-19. Although there is no direct evidence at this time to suggest that using zinc lozenges can prevent or

treat COVID-19 in people, zinc does have anti-viral properties and was shown in a laboratory study to inhibit the replication of coronaviruses in cells, not people.

Zinc can impair the absorption of antibiotics, and use of zinc nasal gels or swabs has been linked to temporary or permanent loss of smell.

Supplements that *may possibly* help reduce symptoms of coronavirus

- Astragalus (or Huang qi): has been promoted on some websites to help protect against COVID-19. Astragalus is an herb that has traditionally been used in Chinese medicine to strengthen the immune system and to treat colds, among many other uses. There is no clinical evidence at this time that astragalus can prevent or treat coronavirus infections in people. This herb may also lower blood pressure, and so should be used with caution in people with low blood pressure and those taking blood pressure-lowering medications. Women who are pregnant or breastfeeding should not take astragalus.
- Echinacea: Studies in laboratories (but not in people) have shown that certain species of echinacea may inhibit coronaviruses. However, there is no evidence at this time that taking this or any other echinacea product can prevent or treat coronavirus infections in people.
- Elderberry extract: This has been shown in laboratory studies to inhibit human flu viruses, including certain strains of Influenza A and B, and H1N1. Small, preliminary trials in people with the flu suggest that, taken within the first day or so of experiencing symptoms, elderberry shortens the duration of the flu, but more studies are needed to corroborate this. There is no evidence that elderberry extract can prevent COVID-19 or reduce symptoms in people who have been infected.

Concern has been raised on some websites about the potential for elderberry extract to cause a cytokine storm in reaction to a COVID-19 infection. A cytokine storm is an "overreaction" to infection in the body, in which the immune system overproduces the cytokines and immune system cells that help to fight infection, which is very damaging, particularly to the lungs, and is suspected to play a role in some cases of severe COVID-19.

There do not appear to be studies on the effects of elderberry extract on cytokine levels in people with severe respiratory infections, and there are no published reports of elderberry extract being associated with, or suspected of causing or worsening, a cytokine storm in people.

- Probiotics

There is currently no direct evidence that a probiotic can prevent or treat COVID-19, and there do not appear to be current clinical trials of probiotics for this use.

- Quercetin: It has been found in laboratory studies to inhibit a wide variety of viruses, including SARS-CoV, which is related to COVID-19. One of these studies showed that when mice were protected from lethal doses of Ebola virus when injected with high doses of quercetin. According to preliminary research, quercetin appears to work by preventing viruses from entering cells, thereby reducing "viral load." A clinical trial that will investigate the use of oral quercetin in patients with COVID-19 has been planned, or may already be underway, in China. Until more is known, it's not clear if taking quercetin supplements can help prevent or treat COVID-19.
- Turmeric and curcumin: These are best known for their modest anti-inflammatory effects. There are no studies in people showing that turmeric or curcumin supplements can prevent or reduce the symptoms of viral infections such as colds, the flu, or COVID-19.
- Zinc lozenges have been touted as able to prevent COVID-19. Although there is no direct evidence at this time to suggest that using zinc lozenges can prevent or treat COVID-19 in people, zinc does have anti-viral properties and was shown in a laboratory study to inhibit the replication of coronaviruses in cells, not people.