

How to Boost Your Immune System — Top 19 Boosters

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We are continually exposed to organisms that are inhaled, swallowed or inhabit our skin and mucous membranes. Whether or not these organisms lead to disease is decided by the integrity of our body's defense mechanisms, or immune system. When our immune system is working properly, we don't even notice it. But when we have an under- or over-active immune system, we are at a greater risk of developing infections and other health conditions. If you are wondering how to boost your immune system, be advised that it doesn't necessarily happen over night. It's a matter of strengthening your immune response with lifestyle changes and the use of immune-boosting antimicrobial and antiviral herbs. But hopefully you find comfort in knowing that your body is made to combat germs and protect your body from harm.

What Is the Immune System?

The immune system is an interactive network of organs, white blood cells and proteins that protect the body from viruses and bacteria or any foreign substances. The immune system works to neutralize and remove pathogens like bacteria, viruses, parasites or fungi that enter the body, recognize and neutralize harmful substances from the environment, and fight against the body's own cells that have changes due to an illness.

Our immune system works to protect us every day, and we don't even notice it. But when the performance of our immune system is compromised, that's when we face illness. Research indicates that under activity of the immune system can result in severe infections and tumors of immunodeficiency, while over activity results in allergic and autoimmune diseases. For our body's natural defenses to run smoothly, the immune system must be able to differentiate between "self" and "non-self" cells, organisms and substances. Here's a breakdown of the differences:

"Non-self" substances are called antigens, which includes the proteins on the surfaces of bacteria, fungi and viruses. Cells of the immune system detect the presence of antigens and work to defend them.

"Self" substances are proteins on the surface of our own cells. Normally, the immune system has already learned at an earlier stage to identify these cells proteins as "self," but when it identifies its own body as "non-self," and fights it, this is called an autoimmune reaction.

The amazing thing about the immune system is that it's constantly adapting and learning so that the body can fight against bacteria or viruses that change over time. There are two parts of the immune system:

- Our innate immune system works as a general defense against pathogens.
- Our adaptive immune system targets very specific pathogens that the body has already has contact with.

These two immune systems complement each other in any reaction to a pathogen or harmful substance.

Immune System Diseases

Before learning exactly how to boost your immune system, first understand that most immune disorders result from either an excessive immune response or an autoimmune attack. Disorders of the immune system include:

Allergies and Asthma: Allergies are an immune-mediated inflammatory response to normally harmless environmental substances known as allergens. The body overreacts to an allergen, causing an immune reaction and allergy symptoms. This can result in one or more allergic diseases such as asthma, allergic rhinitis, atopic dermatitis and food allergies.

Immune Deficiency Diseases: An immune deficiency disease is when the immune system is missing one or more of its parts, and it reacts too slowly to a threat. Immune deficiency conditions, like HIV/AIDS and drug-induced immune deficiency, are due to a severe impairment of the immune system, which leads to infections that are sometimes life threatening.

Autoimmune Diseases: Autoimmune diseases cause your immune system to attack your own body's cells and tissues in response to an unknown trigger. Examples of autoimmune diseases include rheumatoid arthritis, lupus, inflammatory bowel disease, multiple sclerosis and type 1 diabetes.

Immune System Boosters

1. Echinacea

Many of echinacea's chemical constituents are powerful immune system stimulants that can provide significant therapeutic value. Research shows that one of the most significant echinacea benefits is its effect when used on recurring infections. A 2012 study published in Evidence-Based Complementary and Alternative Medicine found that echinacea showed maximal effects on recurrent infections, and preventive effects increased when participants used echinacea to prevent the common cold. A 2003 study conducted at the University of Wisconsin Medical School found that echinacea demonstrates significant immunomodulatory activities. After reviewing several dozen human experiments, including a number of blind randomized trials, researchers indicate that echinacea has several benefits, including immunostimulation, especially in the treatment of acute upper respiratory infection.

2. Elderberry

The berries and flowers of the elder plant have been used as medicine for thousands of years. Even Hippocrates, the "father of medicine," understood that this plant was key for how to boost your immune system. He used elderberry because of its wide array of health benefits, including its ability to fight colds, the flu, allergies and inflammation. Several studies indicate that elderberry has the power to boost the immune system, especially because it has proven to help treat the symptoms of the common cold and flu. A study published in the Journal of International Medical Research shows that when elderberry was used within the first 48 hours of onset of symptoms, the extract reduced the duration of the flu, with symptoms being relieved on an average of four days earlier. Plus, the use of rescue medication was significantly less in those receiving elderberry extract compared with placebo.

3. Astragalus Root

Astragalus is a plant within the bean and legumes family that has a very long history as an immune system booster and disease fighter. Its root has been used as an adaptogen in Traditional Chinese Medicine for thousands of years. Although astragalus is one of the least studied immune-boosting herbs, there are some preclinical trials that show intriguing immune activity. A recent review published in the American Journal of Chinese Medicine found that astragalus-based treatments have demonstrated significant improvement of the toxicity induced by drugs such as immunosuppressants and cancer chemotherapeutics. Researchers concluded that astragalus extract has a beneficial effect on the immune system, and it protects the body from gastrointestinal inflammation and cancers.

4. Ginseng

The ginseng plant, belonging to the Panax genus, can help you to boost your immune system and fight infections. The roots, stems and leaves of ginseng have been used for maintaining immune homeostasis and enhancing resistance to illness or infection. Ginseng improves the performance of your immune system by regulating each type of immune cell, including macrophages, natural killer cells, dendritic cells, T cells and B cells. It has also proven to possess antimicrobial compounds that work as a defense mechanism against bacterial and viral infections. A study published in the American Journal of Chinese Medicine suggests that ginseng extract successfully induces antigen-specific antibody responses when it's administered orally. Antibodies bind to antigens, such as toxins or viruses, and keep them from contacting and harming normal cells of the body. Because of ginseng's ability to play a role in antibody production, it helps the body to fight invading microorganisms or pathogenic antigens.

5. Bone Broth

Bone broth supports immune function by promoting the health of your gut and reducing inflammation caused by leaky gut syndrome. The collagen and amino acids (proline, glutamine and arginine) found in bone broth help to seal openings in the gut lining and support its integrity. We know that gut health plays a major role in immune function, so consuming bone broth works as an excellent immune system booster food.

6. Ginger

Ayurvedic medicine has relied on ginger's ability for how to boost your immune system before recorded history. It's believed that ginger helps to break down the accumulation of toxins in our organs due to its warming effects. It's also known to cleanse the lymphatic system, our network of tissues and organs that help rid the body of toxins, waste and other unwanted materials. Ginger root and ginger essential oil can treat a wide range of diseases with its immunonutrition and anti-inflammatory responses. Research shows that ginger has antimicrobial potential, which helps in treating infectious diseases. It's also known for its ability to treat inflammatory disorders that are caused by infectious agents such as viruses, bacteria and parasites, as well as physical and chemical agents like heat, acid and cigarette smoke.

7. Green Tea

Studies evaluating the efficacy of green tea show that it contains antioxidant and immunomodulatory properties. It works as an antifungal and antiviral agent, and may be helpful for immuno-compromised patients. Strengthen your immune system by drinking a good-quality green tea daily. The antioxidants and amino acids present in this tea will help your body to fight germs and get well.

8. Vitamin C Foods

Vitamin C foods, like citrus fruits and red bell peppers, improve the health of your immune system by providing anti-inflammatory and antioxidant properties. Studies display that getting enough vitamin C (along with zinc) in your diet may help to reduce the symptoms of respiratory infections and shorten the duration of illnesses like the common cold and bronchitis. The best vitamin C foods to add for a strong immune system include:

- citrus fruits, including orange, lemon and grapefruit
- black currant
- guava
- green and red bell pepper
- pineapple
- mango
- honeydew
- parsley

9. Beta-Carotene Foods

Beta-carotene has powerful antioxidant activity, allowing it to help reduce inflammation and fight oxidative stress. Instead of taking beta-carotene supplements, researchers propose that beta-carotene can promote health when taken at dietary levels, by eating foods rich in the carotenoid. The richest sources of beta-carotene are yellow, orange and red fruits and veggies, and leafy greens. Adding the following foods to your diet can help promote a strong immune system:

- carrot juice
- pumpkin
- sweet potato
- red bell peppers
- apricot
- kale
- spinach
- collard greens

10. Probiotics

Because leaky gut is a major cause of food sensitivities, autoimmune disease and immune imbalance or a weakened immune system, it's important to consume probiotic foods and supplements. Probiotics are good bacteria that help you digest nutrients that boost the detoxification of your colon and support your immune system. Research published in *Critical Reviews in Food Science and Nutrition* suggests that probiotic organisms may induce different cytokine responses. Supplementation of probiotics in infancy could help prevent immune-mediated diseases in childhood by improving the gut mucosal immune system and increasing the number of immunoglobulin cells and cytokine-producing cells in the intestines.

11. Vitamin D

Vitamin D can modulate the innate and adaptive immune responses and a vitamin D deficiency is associated with increased autoimmunity as well as an increased susceptibility to infection. Research proves that vitamin D works to maintain tolerance and promote protective immunity. There have been multiple cross-sectional studies that associate lower levels of vitamin D with increased infection. One study conducted at Massachusetts General Hospital included 19,000 participants, and it showed that individuals with lower vitamin D levels were more likely to report a recent upper respiratory tract infection than those with sufficient levels, even after adjusting for variables such as season, age, gender, body mass and race. Sometimes addressing a nutritional deficiency is how to boost your immune system.

12. Zinc

Zinc supplements are often used as an over-the-counter remedy for fighting colds and other illnesses. It may help to reduce cold-related symptoms and shorten the duration of the common cold. Research evaluating the efficacy of zinc shows that it can interfere with a molecular process that causes bacteria buildup in the nasal passages.

13. Myrrh

Myrrh is a resin, or sap-like substance that is one of the most widely used essential oils in the world. Historically, myrrh was used to treat hay fever, clean and heal wounds and stop bleeding. Studies conclude that myrrh strengthens the immune system with its antiseptic, antibacterial and antifungal properties. A 2012 study validated myrrh's enhanced antimicrobial efficacy when used in combination with frankincense oil against a selection of pathogens. Researchers expressed that myrrh oil has anti-infective properties and can help to boost your immune system.

14. Oregano

Oregano essential oil is known for its healing and immune-boosting properties. It fights infections naturally due to its antifungal, antibacterial, antiviral and anti-parasite compounds. A 2016 study published in *Critical Reviews in Food Science and Nutrition* found that the main compounds in oregano that are responsible for its antimicrobial activity include carvacrol and thymol. Several scientific studies show that oregano oil exhibited antibacterial activity against a number of bacterial isolates and species, including *B. laterosporus* and *S. saprophyticus*.

15. Exercise

Incorporating physical activity into your daily and weekly regimen is extremely important to strengthen your immune system. A 2018 human study published in *Aging Cell* revealed that high levels of physical activity and exercise improve the immunosenescence (gradual deterioration of the immune system) in older adults aged 55 through 79, compared to those in the same age group who were physically inactive. The study also highlights that physical activity doesn't protect against all of the immunosenescence that occurs. However, the decrease in a person's immune system function and activity can be influenced by decreased physical activity in addition to age.

16. Reduce Stress

Studies prove that chronic stress can suppress protective immune responses and exacerbate pathological immune responses. In order to promote health and healing, you need to minimize your stress levels. This can be difficult today, especially when people are concerned about becoming ill, but it's important.

17. Improve Sleep

When you aren't getting enough sleep, your immune system won't be able to function properly. In fact, research analyzing the vulnerability of sleep-deprived adults found that those who slept less than six hours a night were more than four times likely to get a cold than adults who slept more than seven hours. To reduce your chances of catching colds and the flu, make sure you're getting at least seven hours of sleep every night.

18. Limit Alcohol Consumption

Consuming too much alcohol can certainly impact immune function, which is why you'll need to cut back on alcohol to fight infections and promote immune system health. Alcohol negatively impact gut health, decreasing immune function and making you more susceptible to harmful pathogens. Stick to one or 2 alcohol drinks a week, or less, to boost your immune system.

19. Take Protective Measures

When there are germs and bugs going around, it's important to protect yourself and those around you. This means:

- frequent hand washing, for at least 20 seconds
- minimize touching your face
- staying home when sick
- coughing or sneezing into your elbow
- seeking medical attention and treatment when needed

Risk and Side Effects

In the quest for how to boost your immune system, proceed with some caution. If you are using these immune-boosting herbs, supplements and essential oils, remember that the products are extremely potent and should not be taken for more than two weeks at a time. Giving your body a break in between long doses is important. Also, if you are pregnant, be cautious when using essential oils and reach out to your health care provider before doing so. Any time you are using natural remedies like plant supplements, it's a good idea to do it under the care of your doctor or nutritionist.

Final Thoughts

The immune system is an interactive network of organs, cells and proteins that protect the body from viruses and bacteria or any foreign substances. When the immune system is working properly, you don't even notice it. It's when the performance of the immune system is compromised that you face illness. Plants, herbs, minerals, foods and lifestyle changes can be used to prevent and fight infections due to their antimicrobial and immune-boosting properties.