

A microscopic view of a blood vessel with several red blood cells. The cells are biconcave and have a reddish-orange hue. The vessel wall is visible as a textured, wavy surface. The overall color palette is dominated by reds and oranges.

# **IMMUNE SYSTEM**

## **THE COMPLETE GUIDE**

**8 Key Lifestyle  
Choices To Keep  
Immunity Healthy**

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# About The Immune System

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Your immune system helps prevent illness from bacteria and viruses. According to the experts at Harvard Medical School, to keep your immune system strong, you need to keep it healthy.

Many people think of their immune system as the white blood cells or the antibodies in their blood that fight disease. But when your immune system is healthy, it can help keep you from getting sick in the first place.

The immune system is affected by a large number of variables related to your body as a whole. Therefore, there are many factors that can either boost or inhibit immune function. Simply put, your immune system is a really good snapshot into your overall health in general. This will become even clearer as we discuss the ways to keep it healthy and functioning at its best.

## What Is The Immune System

*“The immune system is a complex network of cells and proteins that defends the body against infection. The immune system keeps a record of every germ (microbe) it has ever defeated so it can recognize and destroy the microbe quickly if it enters the body again.”* (

<https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/immune-system>)

The National Institute Of Health reports that the immune system is comprised of a network of cells that exist throughout your body and that work in unison to limit, prevent and fight infections that come from harmful pathogens, such as viruses and bacteria. The immune system also helps keep you safe from harm that can be caused by noninfectious elements, including chronic disease, and simpler conditions like sunburn.

**Bottom Line:** The healthier your immunity the better you are able to fight illness and the healthier you are overall.

## Immunity and The Novel Corona Virus

The immune system *“keeps a record of every germ (microbe) it has ever defeated so it can recognize and destroy the microbe quickly if it enters the body again”* but in the case of a novel (new) virus, such as Covid-19 no human has had that memory blueprint within their immune system and so immune systems had not yet developed the needed antibodies (proteins that fight specific antigens), when the outbreak happened leaving people susceptible to it. (Healthline)

According to the Cleveland Clinic, *“while the virus causes only mild symptoms in most people who are infected with it, in some it can lead to severe illness, including pneumonia and death. These serious complications of COVID-19 are most likely to develop in elderly people, as well as*

*those who have weakened immune systems, or are immunocompromised, says infectious disease specialist Alan Taege, MD.”*

**Bottom Line:** Keeping your immunity healthy plays a big role in how you will heal should you contract Covid-19. Healthy immunity mitigates much of the severity in a situation should you become ill.

## Who Is Most At-Risk For Getting Severely Sick From The Coronavirus

According to the Cleveland Clinic the following people are most susceptible to serious complications of COVID-19:

- Those over age 65
- Those who have hypertension, cancer, diabetes, lung disease and heart diseases
- Those with any condition that compromises the immune system
- Those who take medications that suppress the immune system

## 8 Immune System Facts

According to WebMD:

- **Your Immune System Looks out for You** – Works hard to keep foreign invaders out of your body.
- **Your immune system does not like stress.**
- **Your immune system has agents standing by.** Next to the nervous system,” the immune system is the most complex system in your body.”

A complex network of cells, organs, and tissues, which include:

- digestive system
  - Bone marrow
  - Tonsils
  - Skin
  - Lymph nodes
  - Spleen
  - The thin skin on the inside of your nose, throat and genitals
- **Your immune system is highly intelligent and learns from your past** – First, you are born with protection, but the immune system learns by creating antibodies and protections from invaders it encounters throughout your life.

- **Your immune system Can Change Over Time** – Aging reduces the immune system’s effectiveness. It can also weaken from lifestyle choices and health issues that compromise it.
- **Your immune system can be weakened by certain medical conditions:**
  - Chemotherapy
  - Autoimmune diseases (Type 1 diabetes, Lupus, RA)
  - Cancer
  - Steroids
  - AIDS
- **Your immune system needs you to help it stay healthy**

## **What Weakens Immunity**

According to US News. the following can weaken your immunity”

- Smoking
- Stress
- Sleep problems
- Mental health issues related to social isolation
- Poor Diet and malnutrition
- Sedentary lifestyle
- Certain medications
- Aging

# 8 Ways To Protect Your Immune System and Keep It Healthy

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It is no secret that maintaining a healthy immune system is critical to optimizing your quality of life and overall well-being. This truth becomes even more apparent during times such as the pandemic we are currently facing!

Most of the topics we discuss that result in a strengthened immune system are important for the health of the entire body. The positive correlation between general health and immune function is closely linked on both sides of the equation.

- Anything that is harmful to your health is bad for your immune system.
- Likewise, any factor that is detrimental to your immune function is directly related to other health issues!

Here are habits you can implement today that will help ramp up your immune system and fortify your natural defenses against a wide variety of illnesses.

## Get Good Sleep

We have all heard time and time again how important getting enough sleep is to our health. Besides not feeling terrible the next day, sleep is responsible for a vast array of biological processes designed to heal and restore the body. One of these processes is directly related to your immune system. Sleep is especially important for your immune system.

According to the European Journal of Physiology, sleep deprivation causes a stress response in the body that, among other issues, leads to chronic inflammation and significant immunodeficiency.

When you sleep, your body produces proteins called cytokines. Cytokines fight against infection, so getting enough sleep helps you maintain enough cytokines to fight germs.

Lack of sleep also decreases your immune system's overall function. Your body needs rest so you can use some of your energy to rebuild and strengthen the cells that fight disease. Getting enough sleep allows your body to share energy between active movement when you're awake and the rebuilding function of your cells and systems.

Outside of the research showing a direct link between lack of sleep and getting sick, you have probably experienced this situation at some point in your own life. During particularly hectic periods in which you have been stressed and tired for days on end, there is a strong likelihood

that you have come down with some illness, such as a cold or even the flu that only exacerbated your already unfortunate situation!

## **Manage Stress**

Stress is a huge culprit in compromised immunity, especially chronic stress. Choose from the stress management options below to keep your stress down.

**The options are plentiful and include:**

- Meditation
- Yoga
- Rest, relaxation and leisure time
- Progressive muscle relaxation
- Guided imagery
- Tai chi/Qigong
- Deep breathing
- Practicing stillness of mind and body
- Engaging in activities you enjoy
- Movement and exercise

## **Protecting Yourself Against Germs**

Germs can be found not only in the air but on any surface around you. When someone who is sick coughs or sneezes, germs they expel may land on their hands or the area around them. If they touch things with their hands that have germs on them, they spread the germs around farther.

Shared surfaces, like ATM keypads, gas pump handles, and door handles, can contain many germs. Germs can't live forever on surfaces, but since germs are too small to see, you will never know they are there.

- Washing your hands regularly helps prevent any germs on your hands from entering your body through your mouth, nose, or eyes.
- Covering cuts and scrapes helps keep germs from entering open wounds.
- Washing vegetables and cooking meat to the proper temperature helps prevent you from ingesting germs too.

## Exercise And Avoiding A Sedentary Lifestyle

Regular exercise helps strengthen muscles, improve lung function, and can help you lose weight. Regular exercise also helps keep your immune system healthy. Just like sleep, we all know that getting enough exercise is of the utmost importance when it comes to maintaining your health and vitality throughout your lifetime. Being sedentary on a routine basis leads to an enormous amount of problems that virtually always compound into other issues.

Once again, your immune function is directly affected by the amount of exercise you engage in on a consistent basis. The research journal, *Frontiers in Immunology*, describes an interesting research study intended to debunk a longstanding myth that exercise is actually bad for immune function.

In this study, researchers concluded that not only is exercise in no way detrimental to the immune system, on the contrary, individuals who exercise regularly actually display a stronger immune response over the course of their lifetime!

*According to AARP, “research suggests that exercise's effects may be directly relevant to virus fighting, too. According to a recent study published in the British Journal of Sports Medicine, of 1,002 people surveyed, those who exercised at least five days a week had almost half the risk of coming down with a cold as those who were more sedentary. If they did get one, they reported less severe symptoms. There also may be a protective benefit from the sweat in your sweat session: Research has shown that simply raising your body temperature may help kill germs in their tracks.”* (<https://www.aarp.org/health/healthy-living/info-2020/boosting-immune-response.html>)

Mark Moyad, M.D., M.P.H. director of preventive and alternative medicine at the University of Michigan Medical Center was referenced on the AARP website – exercise “causes your body's antibodies and white blood cells to circulate more rapidly, which means they may be able to detect and zero in on bugs more quickly.”

Moderate exercise that increases your respirations, or the rate of breaths you take, helps remove bacteria and viruses, or germs, from your respiratory system.

The air can be full of germs, especially around a sick person who coughs or sneezes. Some germs can stay suspended in the air for hours, even after an infected person has left the room. If you inhale germs, your body may push them back out when you exhale.

Your body also traps germs in mucus, so a healthy immune and respiratory system keeps germs from infecting you. Your immune system works partly by inflaming tissue to marshal extra blood supply to an infected area.

Your blood carries white blood cells that help destroy germs. If your body is in a constant state of stress and inflammation, you can wear your immune system out. There aren't enough resources to constantly fight inflammation in your body that isn't caused by infection and then fight an infection too. That's why you often get sick when you are overtired, overworked, or stressed. According to Dr. Moyad, exercise lowers inflammation by relieving stress.

Overall, exercise helps keep all your systems working well, so the body isn't always overworked and inflamed. Your overall health affects the ability of your immune system to function properly.

## **Eat The Right Foods**

Your diet is a key part of a healthy immune system. Fruits and vegetables provide Vitamins C and E, which help keep your immune system strong.

- Vitamin C is needed by white blood cells to destroy infection in your body.
- Vitamin E helps keep your blood vessels working correctly so your body can transport blood to infected areas.
- Beta-carotene and other antioxidants are also found in fruits and vegetables. When your body processes food into energy, it creates harmful byproducts called free radicals. Over time, free radicals can damage healthy cells in your body and cause disease. The antioxidants in fruits and vegetables help neutralize free radicals to keep you healthy.

Vitamin C is usually the first thing that comes to mind when discussing ways to strengthen the immune system. During flu season each year, many of us hurry to the local pharmacy to snag some form a Vitamin C supplement.

Because of this demand, these products come in many forms such as pills, powders and pre-formulated beverages. Like many other important nutrients, Vitamin C can be readily supplied through a healthy diet alone.

The idea that consuming Vitamin C to prevent illnesses is far from an old wives' tale. There is a large body of research supporting this notion. In the journal, *Nutrients*, researchers explain how Vitamin C not only prevents many illnesses and infections; it also has the ability to help resolve them once they are already present in the body.

Simply put, maintaining an adequate intake of Vitamin C is effective at staving off illness. However, when you are already sick, the body requires even more of this nutrient to mitigate some of the symptoms that are already present.

## **Vitamin C Rich Foods**

Many fruits and vegetables naturally contain high volumes of vitamin C:

- Citrus fruit – oranges, lemons, limes
- Broccoli
- Cantaloupe
- Cauliflower
- Kiwi
- Papaya
- Red, green or yellow pepper
- Sweet potatoes
- Strawberries
- Tomatoes
- Lychee
- Kakadu plums
- Acerola cherries
- Rose hips
- Chili peppers
- Guavas
- Blackcurrants
- Thyme
- Parsley
- Mustard spinach
- Kale

## **Vitamin E Rich Foods**

- Sunflower Seeds
- Peanuts
- Oils: sunflowers, wheat germ and olive oil
- Almonds
- Shrimp
- Hazelnuts
- Asparagus
- Broccoli
- Spinach
- Vegetable Oils

## **Antioxidant and Beta Carotene Rich Foods**

- Dark leafy greens, such as kale and spinach

- Romaine lettuce
- Carrots
- Sweet potatoes
- Squash
- Cantaloupe
- Red and yellow peppers
- Apricots
- Peas
- Broccoli

## **Maintaining a Healthy Weight**

Being overweight increases the amount of fat in your body. Fat cells can create inflammation that weakens your immune system. Maintaining a healthy weight puts less stress on your immune system, so it is prepared to fight germs. A healthy weight also improves your overall health, helping to support your immune and other body systems.

## **Hydration Is Key**

By now, you are probably beginning to notice the trend we discussed earlier, explaining how habits that are good for your body in general are basically always beneficial in regard to strengthening your immune system. Staying hydrated is another great example of this phenomenon.

Medical News Today explains how adequate hydration paramount to a healthy immune system is. For example, the mouth and throat are basically the first line of defense pertaining to the prevention of illnesses.

However, these body parts cannot optimally carryout their function in a state of dehydration. Furthermore, staying hydrated is important to keep another integral part of the immune system working properly: the digestive system. Consuming enough fluids daily is key to staying healthy.

## **Implications Of Social Distancing Amid Covid-19**

Social distancing rules the day as we fight the pandemic of Covid-19. This type of isolation, especially since According to Statista, In 2018, there were an estimated 34.05 million who were living alone in the US and living alone can make it challenging for mental health, and imposes higher risks of depression, stress and anxiety. This type of stress can impact immune system health.

So be sure to use all remote connection options, including video chat, the phone to stay connected to friends and family. It is also important to remember that **YOU ARE NOT ALONE**, not really, the whole world is in this together, and it will end.

# In Conclusion

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Like many other habits that should be implemented on a regular basis, sometimes it takes a drastic situation to remind us of their importance. Unfortunately, this is the case with the current coronavirus pandemic. Due to this health crisis, far more individuals are becoming mindful of the importance of a strong immune system.

**A general rule of thumb that remains true regardless of what is going on in your life is that taking care of your body should ALWAYS be a primary focus. In case you were unaware, we only get one!**

To be fair, at certain points in your life, you are inevitably going to become sick or injured in some fashion. However, your overall health and vitality going into these unfortunate situations is strongly related to how well your body is going to deal with them.

In no way is the current pandemic a positive situation. It can, however, serve as a wakeup call for many people to start taking care of themselves and treat their bodies the right way. This certainly includes the immune system.

By implementing simple daily habits, you can improve your health, immunity, overall well-being and quality of life as a whole.

Don't wait until you become ill or our society experiences yet another health crisis to start fortifying your immune system. Simple changes to your usual routine can make a world of difference.

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