



How can I keep my immune system strong to fight off viruses and flu?

By: Samara Felesky-Hunt, BSc., RD, Registered Dietitian – Advanced Primary Care

What makes up the immune system?

The immune system is a complex system made up of bone marrow, thymus, spleen and lymph nodes. The immune system produces and sends white blood cells throughout the body to fight off infectious agents. It is designed to defend our bodies from the bacteria, microbes, viruses and toxins that we encounter daily.

Your skin is your first defense against bacteria that is trying to weaken your immune system. Skin forms a wall against bacteria and alerts your white blood cells that an infection is coming. Most infectious agents get inside the body when they are inhaled or swallowed.

What are some Factors That Can Weaken Your Immune System?



There are many factors that can weaken your immune system such as aging, poor nutrition, and an unhealthy lifestyle. Natural aging causes a variety of changes in our bodies including a slowing down of the immune system. As well, as we get older our body's ability to absorb nutrients may be affected. The vitamins and minerals our bodies need to keep the immune system strong may not be absorbed as quickly or can even be depleted.

The immune system needs a variety of vitamins and minerals to stay strong. Poor nutrition can weaken the ability of the immune system to fight off infectious agents and enable the production of free radicals, which can lead to serious illness such as heart disease. Not getting enough vitamin C for instance can weaken the body's ability to fight off infection. Eating too much sugar can compromise the ability of white blood cells to kill germs.

Stress, lack of sleep, rest or physical activity can take its toll on the immune system. When our bodies are stressed, they release a substance called *cortisol*. The release of *cortisol* slows the immune system and weakens its ability to fight off infectious agents. Lack of physical activity can also weaken the immune system which is why staying active is so important.

What are some nutrients that can contribute to a Healthy Immune System?



Eating a well-balanced diet ensures that your body gets everything it needs to maintain a healthy immune system. The nutrient chart below highlights 10 nutrients your body's needs and how they benefit your immune health.

Nutrient	Dietary Source	Benefit
Vitamin C	Citrus fruits, leafy vegetables, melons, potatoes, red peppers, broccoli	Powerful antioxidant, protects against damage from free radicals and helps the body resist infection.
B-Vitamins	Meat, fish, poultry, eggs, dairy products, legumes, whole grains	Helps to maintain a healthy nervous system. Stimulates antibody response.
Vitamin D	Sunlight, fortified milk, eggs, fish liver oils, meat	Helps in the absorption of calcium and phosphorus, plus the normal development and maintenance of bones and teeth. Supports immune function.
Vitamin E	Wheat germ, peanuts, almonds, sunflower seeds, vegetable oils	An antioxidant, destroyer of free radicals. It can also improve immune function in the elderly. It may fight toxins from cigarette smoke and other pollutants.
Vitamin A & Beta-Carotene	Yellow, red and orange fruits and vegetables or dark green vegetables	Helps prevent night blindness and other eye problems, skin disorders, colds, flu, and infections



Zinc	Red meats, whole grains, oysters, shellfish, dairy products	Essential for growth and development. Increases the production of white blood cells that fight infection and heals wounds.
Selenium	Tuna, red snapper, shrimp, seafood, poultry & meat, Brazil nuts	A powerful antioxidant that helps reduce the risk of certain cancers and heart disease
Copper	Mushrooms, breads, cereals, beans, peas, lentils, potatoes, sunflower seeds, nuts	Maintains energy levels by promoting iron absorption Helps to protect against heart disease & strokes Good for healthy bones
Iron	Meat, fish, poultry, whole grains, enriched breads, breakfast cereals	Prevents iron-deficiency anemia, maintains energy levels Promotes resistance to infection and disease Promotes growth Stimulates the appetite
Folic Acid	Green leafy vegetables, nuts, asparagus, bananas	Lowers the risk of heart disease and stroke Generates red blood cells Helps wounds heal Builds muscle



Eating 5 to 10 servings of fruit and vegetables can help you meet your daily requirements of vitamin C, vitamin A, beta-carotene and folic acid. Moving over to whole grains versus refined grains will pump your diet with more B-vitamins, iron and zinc. Consuming lean protein choices such as egg whites, lean cuts of red meats, poultry, fish, nuts, seeds and legumes will add selenium, copper, iron and zinc without adding saturated fats. Consuming 2 to 4 servings of milk products will help you meet your daily requirement of vitamin D. You can get all the vitamin E you need by eating more nuts, seeds and leafy greens.

5 Lifestyle Tips That Can Help Strengthen the Immune System:

1. Eat a balanced diet and do not skip meals. Eat vegetables and fruits between meals.
2. Include immune-boosting nutrients each day. Incorporate them into your daily meals.
3. Stay active – An active lifestyle can help keep your body strong so you can fight off infectious agents is easier.
4. Get plenty of sleep and rest. Your body rejuvenates when it is at rest.
5. Drink plenty of water. Fluids help flush out bacteria and viruses from your body.

