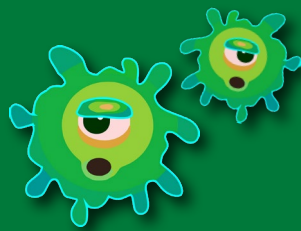


Healthy Lifestyle, Healthy Body



Get Healthy!

To have a healthy, strong immune system, we need to focus on getting healthy overall. Here are a few lifestyle factors that can impact your immune health.

■ **Exercise:** Participate in regular physical activity. Regular activity can benefit your entire body by helping you maintain a healthy body weight. Exercise also can keep you in good health, which allows your immune system to work properly. Aim to get at least 30 minutes of activity a day three to five times per week.

■ **Manage stress:** Certain types of stress can weaken our immune system and make us more susceptible to infection. Get enough sleep, manage your blood pressure and focus on leading a healthy lifestyle. Sleep deprivation can depress the immune system's disease-fighting power by reducing the production of T cells.

■ **Limit alcohol:** Alcohol is one substance that can suppress our immune system. If you do drink, drink in moderation. Moderation is defined as one drink a day for women and two drinks a day for men.

■ **Take steps to avoid infection:** Wash your hands frequently. Practice food safety when preparing food at home to reduce the spread of bacteria. Wash fruits and vegetables before eating. Thaw food in the refrigerator, in cold water or in the microwave. Cook meat and seafood thoroughly, and keep raw and cooked foods separate.

Did you know?

One drink is considered to be 5 ounces of wine, 12 ounces of beer or 1.5 ounces of 80-proof spirits.



_____ is one of the best ways to avoid infections and help keep your immune system healthy.

Answer: Handwashing

■ Foods to Limit

Not all foods are good for the immune system. Fatty foods and alcohol can suppress the immune system and make us more susceptible to infection. Also, foods eaten in excess can lead to obesity, which can cause immune system function to be reduced.

More Information:

Academy of Nutrition and Dietetics, www.eatright.org

National Institute of Allergy and Infectious Diseases, www.niaid.nih.gov

Harvard Health Publications, www.health.harvard.edu

■ Glossary

Nutrient: anything that nourishes the body; we get nutrients from the foods we eat

Antibodies: a protein made by the body that produces an immune response when it senses an invader

Antioxidant: a substance that inhibits oxidation or reactions promoted by oxygen

■ More Information

Centers for Disease Control and Prevention, www.cdc.gov

U.S. Department of Health and Human Services, www.foodsafety.gov

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Nourish Your Immune System



NDSU

EXTENSION



Our immune system functions throughout our body. It is composed of specialized cells that prevent or limit infection in our bodies. Immune cells recognize substances that enter our bodies and attempt to remove them if the substance appears to be harmful to us.

Consuming a healthful diet is one of the best strategies for having a healthy immune system. Research has shown some nutrients, including protein, and certain vitamins and minerals, have specific roles in immune health. If we lack any of these nutrients, our ability to fight infection can decrease.

Protein

Protein is found in every cell, tissue and organ in our bodies. When we do not get enough protein, our bodies may produce less of certain immune cells and increase our susceptibility to infections of the respiratory, gastrointestinal and urinary tract. Protein foods include chicken, beef, pork, fish, eggs, peanut butter, milk, seeds, beans and nuts.

TIP: Include lean protein such as chicken, beans and eggs at each meal to get enough protein for the day. Adult women age 19 and older should get about 46 grams (g) of protein per day and adult men should get about 56 g per day. Check out the table below to see how many grams of protein are found in certain foods.



Protein Content of Selected Foods

24 g	3 ounces lean beef
22 g	3 ounces salmon, tuna or halibut
16 g	3 ounces lean chicken
15 g	1 cup black beans
14 g	1 cup plain non-fat yogurt
9 g	1 ounce nonfat mozzarella cheese
8 g	1 cup milk
6 g	1 ounce almonds (about 23)
6 g	1 large egg



mg = milligrams; IU = International Units; g = grams; mcg = micrograms



Antioxidants

What are some good sources of antioxidant nutrients? Which ones do you consume regularly?

Antioxidants	Food Sources
Vitamin A keeps the skin and tissues of the mouth, stomach, intestines and respiratory system healthy. These tissues serve as our first line of defense against infection.	Carrots, apricots, sweet potatoes, kale, spinach, red bell peppers and eggs
Vitamin C helps with the formation of antibodies and the production of certain immune cells.	Oranges, grapefruit, tangerines, red bell pepper, papaya, strawberries, kiwi, tomato juice and foods fortified with vitamin C, such as some cereals
Vitamin E protects cell membranes in the body.	Sunflower seeds, almonds, and oils such as sunflower and safflower oil
Selenium deficiency has been shown to decrease immune cells' disease-fighting power.	Selenium is a mineral found in the soil. We get selenium from the animals and plants we eat.

TEST YOUR KNOWLEDGE

Which food is high in vitamin C?

- A. Beets
- B. Red bell pepper
- C. Eggs
- D. Oatmeal



Answer: B. Red bell pepper

Vitamin D

When our body is low in vitamin D, we are less able to fight off infection and disease. The best way to get vitamin D is to absorb it from the sun. Unfortunately, for the states in the northern part of the U.S., the sun is only strong enough for our bodies to absorb vitamin D from March to October.



TEST YOUR KNOWLEDGE

How much vitamin D does an adult between the ages of 19 and 70 need each day?

- A. 2,000 IU
- B. 800 IU
- C. 600 IU

Answer: C. 600 IU

Other Nutrients and Sources



What are some other immune system-friendly nutrients and their food sources?

Vitamins	Food Sources	Recommended Intake
Vitamin D	Milk, oily fish such as tuna and salmon, mushrooms, breads, yogurt and orange juice	600 IU/day adults more than 19 years old
B6, folate and vitamin B12 are important for immune cell growth.	Tuna, turkey, beef, chicken, salmon, sweet potatoes, sunflower seeds and bananas	1.3 to 1.7 mg/day adults more than 19 years old
Folate	Spinach, broccoli, beans, lentils, asparagus, avocado, orange juice and fortified cereals	400 mcg/day adults more than 19 years old
B12	Sardines, salmon, tuna, cod, lamb, scallops, shrimp and beef	2.4 mcg/day adults more than 19 years old

Minerals	Food Sources	Recommended Intake
Iron deficiency has been associated with reduced immunity in human and animal studies. Our bodies can absorb iron better when it's paired with a food high in vitamin C, such as a citrus fruit, bell pepper or broccoli.	Red meat, pork, poultry, beans, seafood, spinach, and iron-fortified breads, cereals and pastas	8 mg/day males more than 19 years old 18 mg/day females 19 to 50 years old 8 mg/day females more than 50 years old
Zinc deficiency can affect how certain immune cells function.	Lean meat, poultry, seafood, milk, whole grain products, beans and nuts	11 mg/day males more than 19 years old 8 mg/day females more than 19 years old

TEST YOUR KNOWLEDGE

Circle the nutrients that are good for immune health.

- Antioxidants Vitamin D Alcohol
Copper Iron Niacin Zinc Protein

Answer: antioxidants, vitamin D, iron, zinc, protein

