

Nutrition and the Immune System

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OVERVIEW



- ❖ The Immune System
 - ❖ What is the immune system?
 - ❖ What does the immune system do?
- ❖ Nutrition and the Immune System
- ❖ Top Nutrients for Immune Support
- ❖ Shopping Tips
- ❖ Review

The Immune System

The background of the slide features a light blue gradient with several stylized, semi-transparent illustrations of viruses and bacteria. These include spherical particles with spikes (resembling coronaviruses or influenza), rod-shaped structures, and other complex biological forms scattered across the page.

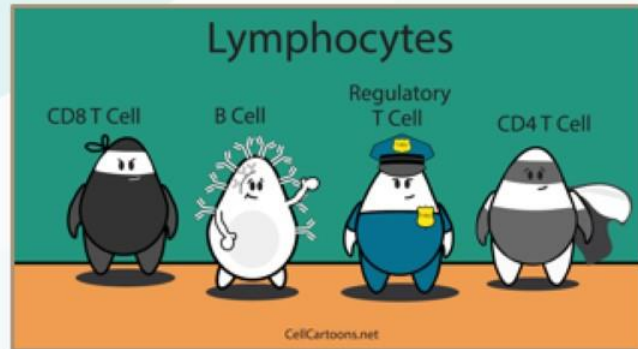
- ❖ The body's main defense against infections.
- ❖ The immune system attacks germs and helps to keep our bodies healthy.
- ❖ When the body senses foreign substances (antigens), the immune system fights back and works to recognize the antigens to get rid of them.

Parts of the Immune System

❖ The Lymphatic System

- ❖ A network of tubes that run throughout the body.
- ❖ Made up of lymph nodes (which trap microbes), lymph vessels (that carry lymph), and white blood cells (also called lymphocytes).
- ❖ Works to:
 - ❖ Manage the fluid levels in the body
 - ❖ Deal with cell products that otherwise would result in disease or disorders

- White blood cells are made in the bone marrow. They identify foreign invaders (“microbes”) such as bacteria, viruses, parasites and fungi.
- Once invaders are found, WBCs launch an immune attack against them.



Parts of the Immune System

❖ Antibodies

- ❖ Help the body fight off microbes
- ❖ How they work
 - ❖ Recognize certain substances called antigens that are on the surface of microbes, which are then marked off as being foreign.
 - ❖ Antibodies then mark these antigens for destruction.



Nutrition and the Immune System

❖ DIET!

- ❖ Food connects to health.
- ❖ We are what we eat!
- ❖ Food gives your body the nutrients it needs to stay alive and be healthy!
- ❖ Eating a balanced diet is important for immune health.
 - ❖ Different foods give our bodies the vitamins, minerals, and nutrients it needs to fight off infection and keep us from getting sick.



Nutrients for Immune Support

PROTEIN

- ❖ Protein is an important part of the body's defense mechanism.
- ❖ It helps form the different cells and antibodies that make up and operate the immune system.

Sources

- ❖ Meat
- ❖ Fish
- ❖ Eggs
- ❖ Cottage cheese
- ❖ Greek yogurt
- ❖ Tofu
- ❖ Beans
- ❖ Peas
- ❖ Lentils
- ❖ Nuts and Seeds



Nutrients for Immune Support

VITAMIN A

- ❖ Helps the body make immune cells
- ❖ Protects the body from infections by keeping your skin and tissues healthy
- ❖ Vitamin A sources: Beef liver, sweet potato, cooked spinach, carrots.



Nutrients for Immune Support

VITAMIN C

- ❖ Helps protect from infections by stimulating the body to make antibodies.
- ❖ Eat this vitamin before you feel symptoms to decrease the severity or length of a cold.
- ❖ Vitamin C sources: Bell peppers, oranges, grapefruit juice, kiwi, broccoli, strawberries, Brussels sprouts.



Nutrients for Immune Support

VITAMIN D

- ❖ Helps regulate immune cell function.
- ❖ Getting enough vitamin D is associated with decreased risk for acute respiratory distress syndrome.
- ❖ Vitamin D sources: sunlight, fish like salmon, tuna, trout, mackerel, and sardines, mushrooms, egg yolk, fortified milks or juices.



Nutrients for Immune Support

VITAMIN E

- ❖ An antioxidant that provides immunoenhancement.
- ❖ We usually get enough vitamin E from foods, normally do not need supplements
- ❖ Vitamin E sources: Wheat germ oil, sunflower seeds, almonds, sunflower oil, safflower oil, hazelnuts, peanuts, spinach.



Nutrients for Immune Support

ZINC

- ❖ A nutrient that is required for the body to activate immune cells.
- ❖ Zinc also helps in wound healing processes.
- ❖ Low zinc intake has been associated with lung-related illness.
- ❖ Zinc sources: Oysters, beef, crab, lobster, pork, baked beans, fortified cereal, dark-meat chicken.



Shopping Tips

❖ **Manna Food Center**

- ❖ Check out what Manna has to offer - a lot of these foods can be found at Manna!
- ❖ Take a look at Manna's YouTube and Instagram to get creative with your food while boosting your immunity!

❖ **Grocery Stores**

- ❖ Often times, grocery stores have daily or weekly specials for popular in-store items.
- ❖ Check the store for additional coupons before going to the store.
- ❖ Shop the perimeter of the store.

❖ **Farmer's Market**

- ❖ Check what is in season! Seasonal produce tends to be cheaper and more nutritious than produce that is bought out of season.
- ❖ Farmer's Markets often have specials or items not commonly found in grocery stores.

Review

- ❖ The immune system is the body's main defense against infections.
- ❖ The immune system works to attack germs and keep our bodies healthy.
- ❖ We reviewed six top nutrients to help boost your immune system.
 - ❖ Protein, vitamin A, vitamin C, vitamin D, vitamin E, and zinc.
- ❖ You can get each nutrient from a variety of food sources.
- ❖ Remember those shopping tips!
 - ❖ Grocery stores have specials and coupons that can help you save money on immunity-boosting ingredients.
 - ❖ Farmer's Markets are a great place to find produce and other food items that can strengthen your immune system, and many times they are at a discounted price.

Any Questions?

