

FOOD AND IMMUNE FUNCTION

Fueled By FLIK



What's In An Immune System

The immune system is the body's defense against infectious organisms and other invaders. It's comprised of a network of cells, tissues, and organs that work together to protect the body.

Nutrition is one of the most powerful therapies to support a healthy immune response. Nutrient deficiencies result in immunosuppression and dysregulation of immune responses.

Whole Foods First

Think fruits, vegetables, whole grains, lean meats, eggs, fish, dairy, beans, nuts and seeds. Remember that vitamin/mineral and herbal supplements should be used to supplement an already well-balanced diet. A daily multivitamin is a safe foundation, but check with a licensed healthcare provider for personal supplementation needs.

The Role of Macronutrients

CARBOHYDRATES

Inadequate daily energy intake is a detriment to immune strength. The majority of daily calories (45-65%) in a traditional diet come from carb-based foods (fruits, vegetables, grains, dairy). Choose unprocessed sources to fuel your body's defense activities!

PROTEIN

Protein forms the elemental structure of every cell, tissue, and organ working to keep you well. In addition, it assists immune cells (i.e. white blood cells, antibodies) to carry out important functions, like helping mount an immune response to illness or infection. Insufficient protein impairs immunity. Daily requirements fall between 0.8-1.5 g/gk body weight (or more based on need). Opt for lean and unprocessed varieties like skinless poultry, lean beef, fish, low-fat dairy, eggs, and plant sources including tofu, tempeh, beans/legumes and nuts.

FAT

Polyunsaturated fats (PUFAs) moderate immune function and the inflammatory process. Two major types of PUFAs (omega-3 and omega-6) are incorporated into cell membranes and also regulate gene expression and production of immune and inflammatory molecules. Omega-3 fat rich foods are known for their anti-inflammatory properties. To keep inflammation in check when you're not ill, reach for 1.1-1.3 g of omega-3s daily. Sources include fatty fish (salmon, tuna, cod, sardines, herring, trout, etc.), walnuts, dark leafy greens, spirulina, flax and chia seeds.



EAT THE RAINBOW

Micronutrients (vitamins and minerals) and phytonutrients (the protective compounds found in plants) are essential to immune function and overall health. Some of these nutrients help regulate immune defense by keeping tissue barriers intact and healthy, assisting in the formation and function of immune cells or molecules, and helping suppress the damaging effects of inflammation or oxidative stress. Eating a variety of colors from fruits, vegetables, herbs and spices is critical to meeting daily micronutrient needs. Aim for 2 different colors at each major meal, and 5-8 servings of plant foods daily.

MAJOR MICRONUTRIENTS

- Vitamin A
- Vitamin C
- B Complex Vitamins (B6, B12, Folate)
- Vitamin D
- Vitamin E
- Iron
- Zinc
- Selenium

MAJOR PHYTONUTRIENTS

- Polyphenols
- Flavonoids, Isoflavonoids
- Carotenoids
- Glucosinolates
- Anthocyanins

HYDRATE

The mouth is a first-line immunological barrier and saliva is essential. A dry mouth decreases natural saliva barrier function, leading to higher susceptibility to pathogen entry into the body. Dehydration also increases production of the stress hormone, cortisol, which is linked to immunosuppression. Aim for 8-12 cups of water per day.

NOURISH THE GUT

70% of immune defense lives begin in the gut. This is a point of direct entry from outside to inside world. A healthy digestive system not only helps break down and absorb nutrients but also supports immune response to foreign invaders. A healthy digestive system = right balance of bacteria. Consuming foods with certain strains of "good" bacteria, i.e. probiotics, may enrich intestinal flora to improve immune function. But including probiotics is only part of the puzzle- healthy bacteria can't flourish without food! Eat plenty of colorful, fiber-rich fruits, vegetables, grains, and seeds to feed the tiny organism helping to keep us all well.

