

Immunity Boosters and Busters



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Optimum Immune Function Tips

from the Harvard School of Public Health

1. Don't smoke.
2. Eat a diet high in fruits, vegetables, and whole grains, and low in saturated fat.
3. Exercise regularly.
4. Maintain a healthy weight.
5. Control your blood pressure.
6. If you drink alcohol, drink only in moderation.
7. Get adequate sleep.
8. Take steps to avoid infection, such as washing your hands frequently and cooking meats thoroughly.
9. Get regular medical screening tests for people in your age group and risk category.

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More Optimal Immune Function Tips

From Cultures Of Longevity

1. Manage your stress
2. Have a positive outlook
3. Stay connected to friends and family

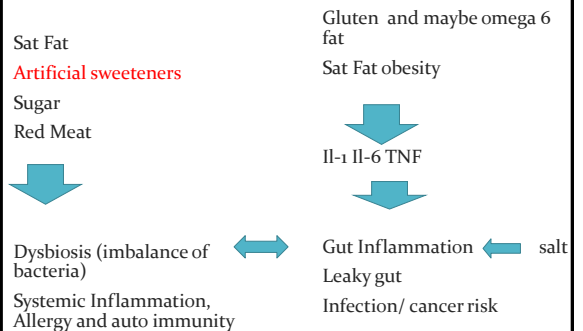


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How an Unhealthy Diet Can Lead to Inflammation and Impact Your Immune System



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Immunity Busters



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Sugar



Dietary sugars inhibit biologic functions of the pattern recognition molecule, mannose binding lectin

ABSTRACT
Mannose-binding lectin (MBL), a conserved protein that is essential for innate immunity, is a pattern recognition molecule that binds to mannose residues on the surface of pathogens and to specific carbohydrates on the surface of cells. MBL is a member of the C-type lectin family and is encoded by a highly polymorphic gene. MBL is expressed by a variety of cells, including macrophages, dendritic cells, and natural killer cells. MBL is involved in the recognition and binding of pathogens and in the activation of the complement system. MBL is also involved in the regulation of the immune response. MBL is a key component of the innate immune system and is essential for the recognition and binding of pathogens. MBL is a highly polymorphic protein and is encoded by a highly polymorphic gene. MBL is expressed by a variety of cells, including macrophages, dendritic cells, and natural killer cells. MBL is involved in the recognition and binding of pathogens and in the activation of the complement system. MBL is also involved in the regulation of the immune response. MBL is a key component of the innate immune system and is essential for the recognition and binding of pathogens.

“...our studies show that dietary sugars, in particular fructose, negatively regulate the innate immunity against viral and bacterial pathogens.”

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Soda and Sugary Drinks



- Direct link to diabetes
- Increase blood pressure and triglycerides
- Increase risk for metabolic syndrome
- Associated with gout

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Fried Food

Acrylamide, a human carcinogen, forms when certain foods are cooked to a high temperature:

Top foods to avoid are French fries, potato chips, roasted coffee beans. Cookies, crackers, and bread also pose a risk.



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Too Much Food



Obesity can impair immunity

- Over-eating may generate free radicals that can damage cells
- Excess bodyfat, particularly in the abdomen can generate inflammatory processes
- Obesity is a risk factor in COVID-19 hospital admissions for people under 60
- the virus attaches to receptors on lungs and in fat cells

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Red Meat



- Associated with cancer, heart disease, earlier mortality
- Replace with fish, beans, poultry

“One daily serving of unprocessed red meat (about the size of a deck of cards) was associated with a 13% increased risk of mortality, and one daily serving of processed red meat (one hot dog or two slices of bacon) was associated with a 20% increased risk.” - 2012 study, Harvard School of Public Health

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Alcohol and Caffeine

Alcohol

- Too much alcohol can suppress the immune system
- Can interfere with the restorative function of sleep
- Moderation is key

Caffeine

- Can interfere with sleep



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Processed Food

Avoid the following:

- Artificial Colors, Flavors, Sugars
- Additives and Preservatives
- Pesticides
- GMOs



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Gluten, Dairy, and other Allergens

Wheat may be inflammatory for some people
 -Leads to intestinal permeability and inflammation



Dairy: Some may over time develop antibodies to a compound in milk, leading to inflammation

Other common allergens:

**Peanut, Tree nuts, Egg, Soy, Fish
 Shellfish**

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A Colorful Diet

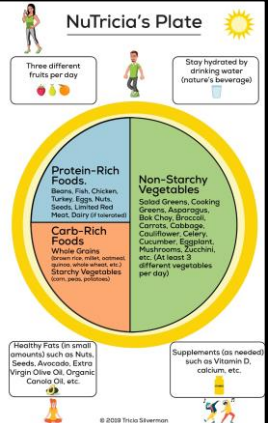


Shop for a rainbow!

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Eat a variety of healthy foods



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Micronutrient Malnutrition

As we age we need less calories, but the quality of these calories matters more



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Consume a variety of foods to get your micronutrients!

"Deficiencies of zinc, selenium, iron, copper, folic acid, and vitamins A, B6, C, and E — alter immune responses in animals" - Harvard School of Public Health

Zinc: spelt, scallops, sesame seeds, pumpkin seeds, oats, yogurt

Selenium: Brazil Nuts, halibut, sardines, turkey, chicken, cottage cheese, brown rice, egg, oatmeal, spinach

Iron: beans, sunflower seeds, tofu, whole grains, oysters, light tuna, chicken, turkey, raisins

Copper: sesame seeds, cashews, crimini mushrooms, soy products, barley, sunflower seeds, garbanzo beans

Folic acid: dark leafy greens like spinach and romaine, whole grains, avocado, broccoli, beans, peas, bananas

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Vitamin A: Orange/yellow vegetables and fruit, sweet potato, spinach, carrots, cantaloupe, peppers, mangos, black-eyed peas, apricots, broccoli

Vitamin B6: Chickpeas, salmon, chicken, potato, turkey, banana, winter squash

Vitamin C: Red/green bell peppers, orange, grapefruit, kiwi, broccoli, strawberries Brussel's sprouts, tomato, cantaloupe, cabbage cauliflower, spinach, green peas, potato

Vitamin E: Nuts and seeds and their oils, green vegetables such as spinach and broccoli, extra virgin olive oil

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Additional Immune Boosting Gems

Mushrooms: May boost immunity and decrease inflammatory molecules

Chicken soup/bone broth/pho: may help thin the mucous in the respiratory tract helping you to get better faster when you have a cold

Oats/barley: contain beta glucan fiber with anti-inflammatory, antimicrobial properties

Black and Green Tea: contains L-theanine, an amino acid that may play a role in fighting bacteria, viral, fungal and parasitic infections

Probiotics



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Anti-inflammatory Foods

Fruits: Strawberries, Blueberries, Oranges, Cherries, Tomatoes, Avocados, and More

Vegetables: Leafy greens: Spinach, Kale, and more
Nuts and Seeds

Extra Virgin Olive Oil

Fatty Fish



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Omega 3 Fats

Eat more fish!

Salmon, halibut, herring, trout, anchovies

Vegetable Sources:

Flaxseed and oil, walnuts, pumpkin seeds, soy, chia seed, hemp seed



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Vitamin D

Deficiency may play a role in MS and Type 1 Diabetes

Small study suggests may protect against flu



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Probiotics

-Decrease inflammation in the intestines

-Decrease diarrhea

-May reduce intestinal permeability



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Honey



- May heal wounds
- May suppress cough
- May help fight infection, but more evidence needed
- It is still a simple sugar, so limit your intake.

Try Manuka and Local Honey!

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Anti-viral Spices



Rosemary

Ginger

Turmeric

Oregano

Basil

Garlic

Peppermint

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Questions ?

Don't forget to eat the rainbow...



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