

NUTRITION FOR

IMMUNITY SUPPORT

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part of our daily routines, there are several key nutrients we can focus on, which support a strong and healthy immune system. **Protein**

Amino acids (the building block of protein), play an important role in

immune response by activating the "killer" cells that destroy bacteria and

Immunity Functions:

- harmful cells Amino acids regulate the production of antibodies, which are proteins in the blood that bind to specific invaders, such as germs, viruses, or tumor cells.
- Without antibodies, bacteria and viruses would be free to multiply in the body Recommended Daily Amount (RDA): Adults 18+ years: 0.8 grams/kg body weight
- More is needed during pregnancy, lactation, illness, sports, and advanced age Dietary Sources of Protein:

quinoa, amaranth, buckwheat, hemp seeds

- Plant-based (missing 1 or more essential amino acid): Nuts, seeds, whole
 - Protein supplements are generally not needed because most Americans

- Vitamin C
- **Immunity Functions:** Our bodies cannot make the vitamin; therefore, we must obtain it from food

microbial killing

- Stimulates white blood cells at the site of infection and enhances
- Vitamin C intake cannot prevent a common cold; however, some evidence
- symptoms by >1 day. Taking Vitamin C after symptoms begin does not appear to be beneficial Recommended Daily Allowance (RDA):
- Men 19+ years of age: 90 milligrams Women 19+ years of age: 75 milligrams

peppers, papaya, strawberries, berries, cantaloupe, tomatoes, broccoli,

- cherries, guavas, spinach, kale, kiwis
- Make sure to look at the labels of Vitamin C boosting products such as: Emergen-C, Ester-C, and Airborne. They often contain syrups, added sugar, dyes, and other additives

the body will just excrete any excess via the urine Always ensure you obtain Vitamin C through food sources first, before resorting to a supplement

Immunity Functions: Live microorganisms or "good" bacteria that support a healthy microbiome

A 2015 evaluation of 12 studies with 3,720 total participants found that people

Probiotics

- taking probiotics may have fewer and shorter upper respiratory infections. However, the quality of evidence was low. Lactobacillus and Bifidobacterium
- Recommended Daily Allowance (RDA): More research is needed on the recommended dosage, however 1 - 10 billion colony-forming units (CFU)— the amount contained in a capsule

work together against an infection)

- resorting to a supplement Supplements can be found in different forms. Ensure the supplement has a variety of bacterial strains and does not include any additives
- Beta-carotene is an antioxidant which protects cells from free radical damage Involved in the production and function of white blood cells, which help

Recommended Daily Amount (RDA):

Vitamin A

Immunity Functions:

- Men 18+ years of age: 900 micrograms Women 18+ years of age: 700 micrograms Dietary Sources of Vitamin A:
- Dairy/meat: beef liver, eggs, salmon, tuna, fortified milks, yogurt, cheese Supplemental Facts: Always ensure you obtain Vitamin A through food sources first, before

Sweet potatoes, carrots, broccoli, spinach, red bell peppers, squash,

Vitamin E **Immunity Functions:**

A fat-soluble vitamin that increase the body's immune response and

resorting to a supplement Vitamin D

Immunity Functions: A fat-soluble vitamin naturally produced in the body via sun exposure

10am - 3pm

little exposure to sunlight Immune cells (B and T cells) from multiple autoimmune diseases appear to respond well to Vitamin D

so it is important to incorporate them as frequently as possible

exposed to UV light for at least 10 minutes, and fortified non-dairy milks and 100% orange juice Vitamin D is made from cholesterol when your skin is exposed to the sun's

UVB rays. Spend 10-30 minutes in the sun daily without sunscreen, then immediately apply sunscreen. The best time of day to get sun is midday

At nutritional doses Vitamins D2 and D3 are equivalent, but at higher doses

Dietary Sources of Vitamin D: There are very limited food sources of Vitamin D,

Fatty fish such as: salmon, tuna, mackerel, swordfish, cod liver oil, dairy (choose non-fat options): milk, yogurt, cheese, beef liver, mushrooms

- Vitamin D2 is less potent. If you need purchase a supplement, choose Always ensure you obtain Vitamin D through food sources first, before resorting to a supplement
- Women 19+ years of age: 8 mg Dietary Sources of Zinc: Oysters, beef, crab, lobster, beans, chicken, pumpkin seeds, cashews, chickpeas, whole-grains Zinc is best absorbed from animal sources. Foods such as whole-grains and
- to a supplement Other nutrients that support a healthy immune response include: Vitamin B6,

in copper deficiency

zinc in their diet

Men 19+ years of age: 11 mg

- infection and foreign invaders.
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- Animal (contain all 9 essential amino acids): meat, chicken, fish, eggs, milk Plant-based (contain all 9 essential amino acids): tofu, tempeh, edamame,
- grains, beans, lentils
- Supplemental Facts:
 - consume more than the RDA Ensure you eat a variety of protein sources from the options listed above
- Serves as an antioxidant that fights against free radicals in the body

- Helps prevent or delay certain cancers and heart disease, promote healthy aging, and prevent and treat respiratory and full-body infections
- shows that doses of >200 mg/day may decrease the length or severity of
- Dietary Sources of Vitamin C: Citrus fruits such as oranges, grapefruit and tangerines, red/yellow bell
- Supplemental Facts:
- This is particularly important for those who overload on supplements, for

Vitamin C is a water-soluble vitamin, meaning the body does not store it.

- Inhibit the growth of harmful microorganisms in the GI tract, neutralize toxins, produce cytokines (messenger molecules that help immune cells
 - have the strongest antiviral activity against respiratory viruses, particularly influenza virus type A
- **Dietary Sources of Probiotics:** Cultured dairy products such as yogurt and fermented foods such as: kimchi, kombucha (a fermented tea), sauerkraut (fermented cabbage), miso

or two — can be safely taken several days per week

- (a fermented soybean-based paste), and raw unfiltered apple cider vinegar Supplemental Facts: Always ensure you obtain probiotics through food sources first, before
 - system healthy capture and clear bacteria and other pathogens from your bloodstream

A fat-soluble vitamin that helps protect against infections by keeping skin and tissues in the mouth, stomach, intestines, and respiratory

resorting to a supplement

Dietary Sources of Vitamin E:

function by acting as a powerful antioxidant against free radicals Recommended Daily Amount (RDA):

Men and women 14+ years of age: 15 milligrams

pumpkin, cantaloupe, apricots, mangoes

(such as sunflower or safflower oil), hazelnuts, peanut butter, peanuts, broccoli, spinach Supplemental Facts:

Always ensure you obtain Vitamin E through food sources first, before

Fortified cereals, wheat germ, sunflower seeds, almonds, vegetable oils

Can help reduce the risk of acute respiratory infections, including the cold and flu, particularly among people who are severely deficient or those with

Recommended Daily Amount (RDA):

- Adults 19-70 years of age: 600 IU Adults 71+ years of age: 800 IU Upper limit: 4,000 IU/day
- Supplemental Facts:
- Zinc **Immunity Functions:** A mineral that helps the immune system fight off invading bacteria and viruses There is no evidence that zinc doses >100 mg/day leads to better treatment of the cold. However, taking zinc at the beginning of a cold may shorten its duration
- Supplements may interfere with certain medications and could cause side effects such as loss of taste Long-term zinc consumption over 40 mg/day for adults can result

Always ensure you obtain zinc through food sources first, before resorting

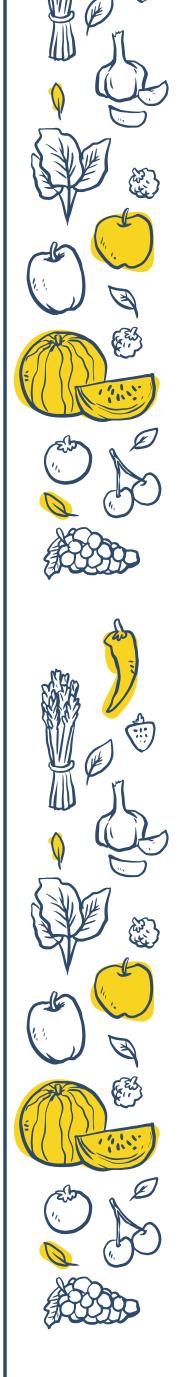
legumes have phytates, which bind to zinc and inhibit its absorption

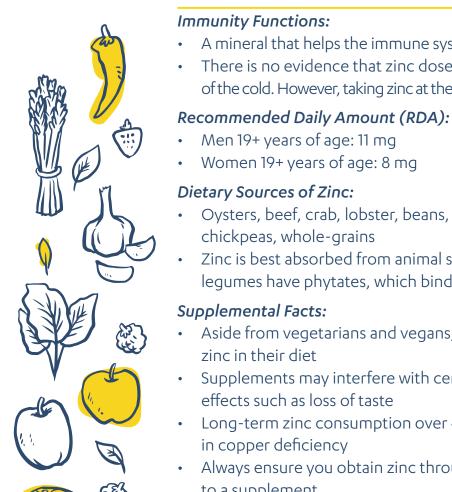
Aside from vegetarians and vegans, most Americans get enough

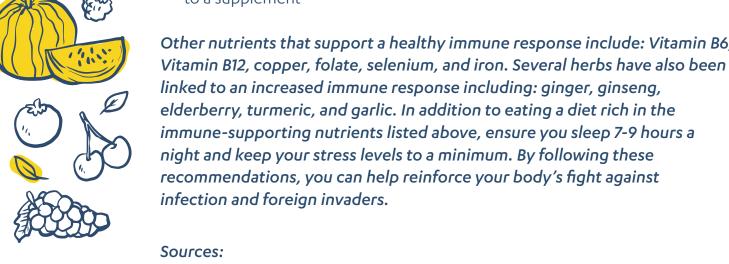
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