



NUTRITION AND IMMUNE HEALTH

No single food or supplement completely prevents COVID-19. However, incorporating nutrient-dense foods can support immune health.

- **Nutrient-dense foods** are foods that contain plenty of minerals and vitamins per serving. Unlike desserts or fried foods, these nutrient-dense foods do not contain lots of added sugar or salt.¹
- **All nutrients are important.** Some play special roles with immune health.² The following includes a list of these nutrients and some food sources. Including a variety of these foods with your meals and snacks can promote health.

VITAMINS



VITAMIN A

Vitamin A helps activate special cells called macrophages.^{2,3,4} These cells help fight bacteria.

Vitamin A is found in several foods, including ⁵:

- Green leafy vegetables
- Red, orange, and yellow fruits and vegetables
- Salmon and tuna
- Fortified breakfast cereals

Vitamin C is an antioxidant. It protects the outer part of cells from toxins. It also helps maintain the function and multiplication of immune cells.^{2,3}

Food sources include ⁵:

- Fruits: Sweet peppers, oranges, grapefruit
- Kiwifruit, strawberries, cantaloupe
- Vegetables: Broccoli, cauliflower, spinach



VITAMIN C



VITAMIN D

Vitamin D helps with bone and immune health. It helps by reducing inflammation.^{2,3}

Vitamin D can be found in ⁵:

- Salmon, mackerel, and tuna
- Egg yolks and cheese
- Fortified breakfast cereal, juice, milk, and yogurt
- Fortified plant-based milks

Vitamin E is also an antioxidant. It plays a role in helping cells communicate during immune responses.^{2,3}

Foods containing vitamin E include ⁵:

- Nuts and seeds
- Nut spreads
- Vegetables oils



VITAMIN E

MINERALS



ZINC

Zinc helps fight inflammation. It also helps increase the number of immune cells.^{2,3}

Food sources include ⁵:

- Beans, nuts, whole grains
- Seafood and poultry

IRON

Iron helps immune cells kill bacteria.^{2,3}

It is found in several foods, including ⁵:

- Beans, nuts, tofu, spinach
- Lean meats, seafood, poultry
- Fortified cereals

Interested in learning more? Check out ***Immunity in Depth*** from the Micronutrient Information Center ⁴



WHAT ABOUT SUPPLEMENTS?⁶

The National Institute of Health (NIH) recommends getting nutrients through food instead of depending on supplements.

Why should we not depend on supplements?

- Many supplements contain large doses that can cause harm.
- Supplements are ***not*** regulated before entering the market. This means supplements cannot guarantee effectiveness.

Who *may* need supplements?

- Pregnant or breastfeeding women, growing children, strict vegetarians, elders, or persons with illness.

Reminders:

- Talk to your doctor before starting supplements.
- Remember, **there is no current supplement that cures, treats, or prevents COVID-19.**⁷

References:

¹ Selecting Nutrient-Dense Foods for Good Health, Journal of the Academy of Nutrition and Dietetics, 2016 <https://www.eatrightpro.org/practice/position-and-practice-papers/practice-papers/practice-paper-nutrient-density>

² Gombart, A. F., Pierre, A., & Maggini, S. (2020). A Review of Micronutrients and the Immune System-Working in Harmony to Reduce the Risk of Infection. Nutrients, 12(1), 236. <https://www.mdpi.com/2072-6643/12/1/236/htm>

³ Maggini S, Pierre A, Calder P. Immune Function and Micronutrient Requirements Change over the Life Course. Nutrients. 2018;10(10):1531. doi:10.3390/nu10101531

⁴ Oregon State University Micronutrient Information Center, pi.oregonstate.edu/mic/micronutrients-health/immunity

⁵ NHS Health Scotland. Vitamins and minerals. Food and nutrition | NHS inform. <https://www.nhsinform.scot/healthy-living/food-and-nutrition/eating-well/vitamins-and-minerals#overview>. Accessed July 25, 2020.

⁶ National Institute of Health Office of Dietary Supplements. Dietary Supplements: What You Need to Know. NIH Office of Dietary Supplements. https://ods.od.nih.gov/HealthInformation/DS_WhatYouNeedToKnow.aspx. Accessed July 25, 2020.

⁷ Office of the Commissioner. Coronavirus Update: FDA and FTC Warn Seven Companies Selling Fraudulent Products that Claim to Treat or Prevent COVID-19. U.S. Food and Drug Administration. <https://www.fda.gov/news-events/press-announcements/coronavirus-update-fda-and-ftc-warn-seven-companies-selling-fraudulent-products-claim-treat-or>. Published March 9, 2020. Accessed July 25, 2020.