

Food Rx: Give Your Immune System the Love it Needs

Moira Lawler, 3/4/21

To give your immune system the love it needs, reach for whole, nutrient-rich foods.

In the current COVID-19 era, all eyes are on what we can do to stay healthy. And while the Centers for Disease Control and Prevention (CDC) has recommended many measures to that end — including wearing masks, washing hands, and physically distancing — there's another, often overlooked way to better your immune system: focusing on your diet.

"Nutrition and how it impacts your immune system is all the rage these days because of COVID-19," says Megan Meyer, PhD, the Durham, North Carolina-based director of science communication at the International Food Information Council (IFIC). Dr. Meyer earned her PhD in microbiology and immunology with a focus on nutritional immunology from the University of North Carolina in Chapel Hill in 2015. She now lives with her husband and 1-year-old daughter and spends her workdays translating scientific nutrition language into information that the rest of us can understand.

Meyer has always been into food — she grew up in a family that loves to cook. "My grandparents immigrated from the Philippines in the '50s, and a lot of our family recipes are Filipino food," she says. As an undergraduate studying biology, she became interested in the interplay between what we eat and how it impacts our immune system.

Turns out, the link is strong, but when it comes to bolstering immunity with food, there's no magic bullet.

Diet and Disease Prevention

The foods that fuel your body can make a difference in how your immune system performs. According to an article published in August 2019 in *Nutrients*, proper nutrition is necessary for all cells to function as they should — including immune cells. By eating well, the body is equipped to fight back against pathogens and avoid dangerous inflammation.

Inflammation normally helps the body fight infections and can become a problem if it's chronic, which means the immune system stays turned on, according to Harvard Health Publishing. Chronic inflammation is

associated with many dangerous health conditions, including heart disease, cancer, diabetes, arthritis, and bowel diseases.

Foods that help fight inflammation include berries, red grapes, onions, and green leafy vegetables. On the other hand, foods that may contribute to inflammation include white bread and pasta, processed meat, and foods with added sugar, according to Harvard Health Publishing.

A balanced, nutrient-rich diet high in anti-inflammatory foods can help you steer clear of dangerous health conditions. According to the CDC, sticking to a healthy diet encourages proper growth and lowers your risk of chronic health conditions, such as obesity, heart disease, type 2 diabetes, and some cancers.

As for the role of nutrition in preventing COVID-19, an article published May 2020 in the *Pakistan Journal of Medical Sciences* noted that following a healthy diet puts the body in the best position to ward off illness, though there hasn't been research yet linking specific nutrients to reducing the risk of contracting the virus.

A poor diet can have the opposite effect, however. Eating saturated fats, sugars, and refined carbohydrates can promote inflammation and impair immunity, which could increase the risk of having a severe case of COVID-19 if you get it, according to a July 2020 article published in *Brain, Behavior, and Immunity*.

Diet and Disease Treatment

As with preventing disease, the food you eat can influence the immune system, increasing the body's response to inflammation and reducing the risk of infection, according to a review published January 2017 in *Journal of Traditional and Complementary Medicine*.

The antioxidant and anti-inflammatory properties present in some foods contribute to the fact that proper nutrition may play a role in treating health conditions and helping certain groups of people, too. Antioxidants are substances that can prevent or slow down cellular damage, according to the National Center for Complementary and Integrative Health.

The antioxidant vitamin C, for instance, can help you recover from a cold more quickly, according to a previous review.

And zinc, another antioxidant, helped people who had a cold recover three times faster than those who didn't take zinc, according to a study published in April 2017 in *Open Forum Infectious Disease*.

A review published March 2018 in *Journal of Translational Medicine* noted that what you eat and the supplements you take, such as omega-3 and polyphenols compounds, may enhance the immune system's battle against cancer and potentially lower the risk of premature death.

And the aforementioned *Journal of Traditional and Complementary Medicine* review concluded that foods have the power to influence immunity, prevent disease, and treat health conditions, such as in neck and esophageal cancer patients who were being treated with radiochemotherapy.

For example, foods high in omega-3 fatty acids and the amino acid arginine (found in fish, meat, and whole grains) enhanced the immune response in surgical cancer patients, reducing the risk of complications and premature death, according to a previous study.

The association is so strong that the U.S. Department of Agriculture (USDA) offers information for how healthy eating can keep various health issues under control, such as cancer, diabetes, and osteoporosis.

Popular Diets and the Immune System: What Might They Do to Help?

How should someone eat if they're trying to boost their immune system? "As boring as it sounds, it's just a healthy diet," Meyer says.

Unfortunately, there's no one food to eat or to avoid in order to reap the benefits. Same goes with macronutrients (protein, fat, and carbohydrates) and micronutrients, such as vitamins and minerals. "It would be hard to say that one macronutrient or micronutrient is a thing you want to double down on," Meyer says. "There's so much interplay happening."

Instead, an all-around healthy diet filled with all three macronutrients and plenty of micronutrients delivers the best results, she says. All of these components play a role in building a healthy immune system.

"Making sure you're getting those big macronutrients from a variety of sources is really important," Meyer adds. Certain vitamins and minerals

have also been shown to have a particularly positive effect. Meyer points out that vitamin D (found in fish and eggs), and more present in sunlight and supplements, along with zinc (found in shellfish, poultry, and beans) are two well-studied nutrients that support the immune system.

The University of Cincinnati Medical Center adds these to the list:

- Vitamin C, found in citrus fruits
- Beta-carotene, found in greens and root veggies, including sweet potatoes and carrots
- Vitamin E, found in nuts, seeds, and greens
- Antioxidants, found in plant-based foods and drinks such as green tea
- Probiotics, which are beneficial bacteria that help maintain a healthy balance in the body, found in yogurt and kimchi, per the Cleveland Clinic
- Garlic
- Vitamin B6, found in poultry, fish, chickpeas, bananas, and some breakfast cereals
- Water

As you can see, there's a wide range of healthy foods that make up an immune-boosting diet. "A few diets are built around these fundamentals, such as the Mediterranean diet and the DASH diet, because they incorporate lean protein, unsaturated fat, fiber, whole grains, fruits, and veggies — the basics," Meyer says.

And, alternatively, a traditional Western diet, which is generally high in added sugar and saturated fats, and low in healthy complex carbohydrates, fiber, micronutrients, omega-3 fatty acids, and other bioactive molecules such as polyphenols, has been shown to promote inflammation, which can contribute to health conditions including obesity, cardiovascular disease, and insulin resistance, according to the article published August 2019 in *Nutrients*.