Health & Medicine

The Single Best Way to Ease Inflammation and Boost Your Immune Health

Columbia gastroenterologist Shilpa Ravella on the foods everyone should be eating — and the ones to avoid.

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Chronic inflammation, often subtle and undetected, has been shown to contribute to a staggering array of health conditions, including heart disease, stroke, various cancers, diabetes, hypertension, Alzheimer's disease, schizophrenia, depression, and bipolar disorder.

Fortunately, scientists have made progress in understanding how to prevent runaway inflammation, which occurs when the immune system becomes hyperactive and attacks healthy tissues. Studies suggest that avoiding exposure to tobacco smoke, air pollution, and other environmental irritants can help, as can limiting one's alcohol use and reducing stress. But some of the biggest scientific breakthroughs have come in understanding the massive role food plays in boosting — or busting — the immune system.

"We now know that our dietary choices have an outsized impact on our inflammation levels, because the food we eat influences it via the gut microbiome," says Shilpa Ravella, a Columbia gastroenterologist who specializes in treating rare inflammatory disorders. "The microbiome is essentially an organ in its own right and is tightly integrated with the immune system."

Trillions of benevolent bacteria in our large intestines work closely alongside our immune cells, helping them to detect the presence of dangerous germs that enter the gut and to switch on and off inflammatory pathways throughout the body as needed to fight infection or clear out damaged tissue. "If those microbes don't get the nourishment they need, then they can't do their jobs and the immune system starts to function poorly," says Ravella, who explores this topic in her recent book *A Silent Fire: The Story of Inflammation, Diet, and Disease*.

Our inflammation levels can be assessed with a simple blood test that detects the inflammatory biomarker C-reactive protein, or CRP, but determining which foods are best at fighting inflammation and which may spark it can be a little more complex. Many popular diets that are marketed as "anti-inflammatory" offer conflicting advice. Yet Ravella says that a scientific consensus has begun to emerge around what a truly anti-inflammatory diet looks like. The bottom line: Eat mostly plants. " Meta-analyses that have looked at the results of several large nutrition studies have concluded that the foods with the highest anti-inflammatory scores are leafy greens, fruits, vegetables, spices, herbs, tea, soy, whole grains, legumes, seeds, and nuts," she says. "These foods contain a wealth of substances that are essential for regulating the immune system, including polyphenols, carotenoids, and other

phytochemicals, as well as unsaturated fats like omega-3s, which are critical for switching off inflammatory activities when it’s time.”

Eating more plant-based food is also important because our gut bacteria feast on plant fiber and need a lot of it — ideally more than the US government’s daily recommended twenty to twenty-five grams for women and thirty to thirty-eight grams for men, according to Ravella. “Those guidelines should be considered a bare minimum, yet 95 percent of Americans don’t even get that much,” she says, noting that members of many traditional agricultural communities around the world consume vast quantities of fiber — around a hundred grams per day or more — and tend to have low rates of chronic disease. “A bowl of oatmeal contains about four grams of fiber, as does an apple or a serving of broccoli, and a cup of cooked beans contains about fifteen grams,” she says. “So you can see that it takes a sustained effort to get the fiber your body needs.”

And the greater the variety of plants in your diet, the better. “Different plants sustain different bacteria in your gut,” she says. “And your microbiome is healthiest when it’s biologically diverse, just like other ecosystems on earth.” Fermented foods like kimchi, kombucha, sauerkraut, yogurt, and sourdough bread will introduce new bacteria into your body; “probiotic” supplements sold as pills and powers also contain live bacteria but are generally helpful only for people with certain health conditions, such as gastrointestinal disorders, Ravella says. “Whereas supplements contain high concentrations of just a few types of bacteria, fermented foods provide more species.”

Nightshade vegetables like tomatoes, eggplants, potatoes, and peppers are good for your immune system, Ravella says, despite some health practitioners’ claims to the contrary. “Although they contain alkaloids, which are chemicals that have some inflammatory properties, these vegetables are on balance anti-inflammatory, when you consider all of the nutrients they possess,” she says. “It’s a matter of seeing the forest from the trees.”

But meat and dairy products should be consumed very sparingly, according to Ravella. “Saturated fats from animal products, in addition to clogging your arteries, tend to damage your gut microbiome and overstimulate immune cells, fueling inflammation,” she says. “Eating significant amounts of animal protein has similar effects.” What’s an appropriate amount of animal protein? Ravella recommends that people aiming to prevent inflammation limit themselves to two to three servings of

fish or poultry, a couple of eggs, and a few servings of plain yogurt each week.

Obesity also fuels chronic inflammation, researchers have discovered, as the immune system perceives excess fat as a foreign substance and tries in vain to remove it. “This is one reason why obesity is a risk factor for heart disease, cancer, autoimmune diseases, and many other ailments that tend to start in inflamed tissue, ” says Ravella. But no matter our size and shape, we all need to pay closer attention to our eating habits and eschew many of the highly processed foods found in supermarket aisles, including breakfast cereals, crackers, pastries, pretzels, and white bread. “Not only do these products lack the fiber that your gut bacteria need, but they tend to contain refined sugars and excessive amounts of salt, along with artificial sweeteners, emulsifiers, and other additives, all of which can be inflammatory,” Ravella says. “Human beings evolved to digest whole foods close to their natural state. When we eat ultra-processed foods, our bodies recoil and set off alarm bells.”

Of course, anyone who is considering making major changes to their diet should talk to a physician or licensed nutritionist, since each person’s body is unique, and those with medical conditions may have special nutritional needs. But for most people, Ravella says, a whole-food, plant-based diet is ideal for regulating the immune system as well as for overall health. She points to the Mediterranean diet and its Japanese equivalent, the Okinawan diet, as just two examples of centuries-old plant-based eating traditions that have been shown to prevent chronic inflammation along with cardiovascular disease, cancer, neurodegenerative diseases, and many other modern health threats.

“In fact, the more we’ve learned about chronic inflammation, the more apparent it has become that these diets’ health benefits derive in no small part from their anti-inflammatory power,” Ravella says. “For so many diseases today, it seems, inflammation is the common denominator.”

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