

Are You Suffering from Inflammaging?

How this little-known phenomenon can speed up the aging process

by Holly Lucille, ND, RN



omega-3 cousins, omega-6 fatty acids spark low-level inflammation with every bite. While our grandparents typically ate a 2:1 ratio of omega-6s to omega-3s, today's ratio is about 20:1 thanks to the overwhelming number of ultra-processed foods in the typical American diet. And more omega-6s mean more inflammation.

Sugar and refined grains also increase inflammation because they cause a spike in blood sugar. This, in turn, causes an increase in the fatty acids that trigger an inflammatory response. Insulin also promotes the production of interleukin-6, an inflammatory immune system chemical. If that wasn't bad enough, the excess sugar in our blood crosslinks with protein to form advanced glycation end products (AGEs), which provoke even more inflammation.

Another way we're stoking low-grade inflammation is by eating foods that contain pesticide and herbicide residues. Studies show that these agricultural chemicals affect pro-inflammatory cytokines, which are a type of signaling protein secreted by immune cells—and one of the biggest culprits is glyphosate (a.k.a. Roundup). According to recent reports, glyphosate is found in a large amount of conventionally grown produce and nearly all ultra-processed foods.

But it's not just what we're eating. An uptick in the time spent in front of screens promotes inactivity, which also contributes to excess inflammation and hence, inflammaging. Here's why: A lack of physical activity leads to the accumulation of visceral fat—the fat that's found in the abdomen. Unlike the fat in the arms and legs, visceral fat is active and can induce inflammation.

Other factors can also foster chronic inflammation, including exposure to the chemicals found in everyday items like cosmetics and cleaning products, smoking or exposure to second-hand smoke, overindulging in alcohol, and frequent infections. Fortunately, many of these factors are within our control.

Ah, the signs of aging—wrinkles, vision changes, and those frequent aches and pains. But there's another sign you're getting older—chronic inflammation. And, although you can't see or feel it, this low-grade inflammation speeds the aging process. And it's a phenomenon that occurs in most people as they grow older.

Researchers are finding that this type of chronic inflammation—known as inflammaging—isn't caused by an infection or illness. And yet, it can shorten our lifespans and the quality of our lives. It's also been linked to a litany of the diseases that most of us associate with growing older. These include age-related macular degeneration, Alzheimer's disease, atherosclerosis, cancer, heart disease, osteoporosis, and type 2 diabetes. Let's take a deeper dive into what causes inflammaging and how we can minimize its impact.

What Causes Inflammaging?

Healthy inflammation is a balancing act. When we are young, the immune system launches an inflammatory response to help heal an injury or fight

off viruses or bacteria that can make us sick. Once the threat is gone, the inflammation typically subsides until it's needed again. But with age, the immune system's ability to balance this inflammatory response lessens. Instead of becoming activated only when needed, an aging immune system triggers an inflammatory response on an ongoing basis. As a result, the immune system becomes less effective at fighting off disease and less responsive to vaccines.

Inflammaging Triggers

Making matters worse, many common lifestyle habits are pro-inflammatory, starting with what many of us are eating. Much of the food lining our grocery store shelves is not only short on nutrients, but also packed with additives and pesticides, as well as pro-inflammatory oils and sugars.

Ultra-processed foods (think chips, cookies, frozen dinners, and pastries) typically contain unhealthy—sometimes rancid—oils like corn, safflower, sunflower, soy, and vegetable. Unlike their anti-inflammatory

TOP 10

Anti-Inflammaging Foods

Making healthy changes can reduce chronic low-grade inflammation and may even help slow the aging process.

Living an Anti-Inflammatory Life

While it's essentially impossible to eradicate all unhealthy inflammation in the body, here are six effective ways to minimize its impact:

➔ **1. Adopt an anti-inflammatory diet.** Trade in ultra-processed foods and foods filled with refined sugar for a low-carb diet (less than 100 g of carbohydrates daily) rich in whole foods. Opting for antioxidant-rich fruits and vegetables, and fish, nuts, and seeds high in omega-3s can significantly turn down the volume on inflammaging (see the sidebar for our top picks). It's also smart to keep alcohol intake at a low-to-moderate level.

➔ **2. Choose organic or wild-caught.** Reduce the exposure to agricultural chemicals in food by opting for organic dairy, produce, meat, and poultry. It's also smart to choose wild-caught seafood.

➔ **3. Eat less and eat less often.** Recent research in the journal *Nutrients* reports that calorie restriction and intermittent fasting support a healthy immune response, lower inflammatory marker levels, and autophagy—the body's way of cleaning out damaged cells in order to regenerate newer, healthier cells.

➔ **4. Get moving!** Studies show that regular exercise lowers chronic inflammation and boosts immunity. Weightlifting, in particular, also helps maintain muscle mass and bone strength, even in the elderly. Strive to get at least 30 minutes of physical activity most days of the week.

➔ **5. Clean up your cosmetics and cleaning products.** Many of the ingredients in cosmetics, personal care products, and household cleaners stoke the fires of inflammation and contribute

to inflammaging. Choose chemical-free when possible, but check labels to ensure the product is truly nontoxic.

➔ **6. Avoid cigarette smoke and other environmental toxins.**

Tobacco smoke, whether directly or indirectly, negatively impacts the immune system and contributes to inflammaging. Ditto for exposure to the particulate matter in air pollution.

Supplement This!

Cleaning up your lifestyle can go a long way towards preventing or possibly even reducing inflammaging. But adding the following nutrients to your anti-inflammaging arsenal can provide even more protection.

Curcumin. Derived from the root of the *Curcuma longa* plant, curcumin is a powerful anti-inflammatory and antioxidant that's been used for centuries in Ayurvedic and Traditional Chinese Medicine. Studies suggest that, because of its ability to suppress inflammation and decrease oxidative stress, it can be a powerful ally against inflammaging. In one review of preclinical findings which was done at the University of North Texas Health Science Center, researchers noted that curcumin effectively reduces inflammation in the brain and, as a result, slows age-related cognitive decline. Other studies report that, because of its anti-inflammatory and antioxidant properties, curcumin can help protect against diabetes, cardiovascular disease, and other age-related conditions while also fortifying the body's immune response.

There's only one glitch. Standard curcumin supplements aren't readily absorbed by the body. Fortunately, one proprietary form of the compound—listed on supplement labels as BCM-95—provides significantly better absorption. By grinding curcumin into very fine particles and blending it with tumerones, this specific form of curcumin yields a more potent and effective supplement.



Avocados



Berries (blackberries, blueberries, raspberries, strawberries)



Broccoli



Cherries



Dark chocolate



Extra virgin olive oil



Fatty fish (anchovies, halibut, mackerel, salmon, tuna)



Mushrooms



Tomatoes



Turmeric (Curcumin)

Omega-3s. Found in cold-water fish, omega-3 fatty acids are beneficial fats with anti-inflammatory properties thanks to two different types of fatty acids—DHA and EPA. While numerous studies have confirmed omega-3 fatty acid's ability to reduce chronic inflammation, a recent study conducted by the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University found that DHA and EPA work in different ways to fight inflammaging. It turns out that DHA is better than EPA at reducing pro-inflammatory proteins in the body. However, EPA improves the balance between pro- and anti-inflammatory proteins and helps to regulate immune function. Together, these two omega-3s may protect against inflammaging. But, just like curcumin, the form you

take matters. Many omega-3 supplements on the market use less-than-optimal sources of fish oil to provide DHA and EPA, and these oils may be rancid. To get the most from your omega-3 supplement, look for one that contains oil from North Atlantic salmon bound to phospholipids for better absorption and peptides to support healthy cell membranes.

OPCs. Technically known as oligomeric proanthocyanidins, these polyphenols can be found in grape seeds. Primarily known for their antioxidant powers, recent studies have found that OPCs also boast potent anti-inflammatory

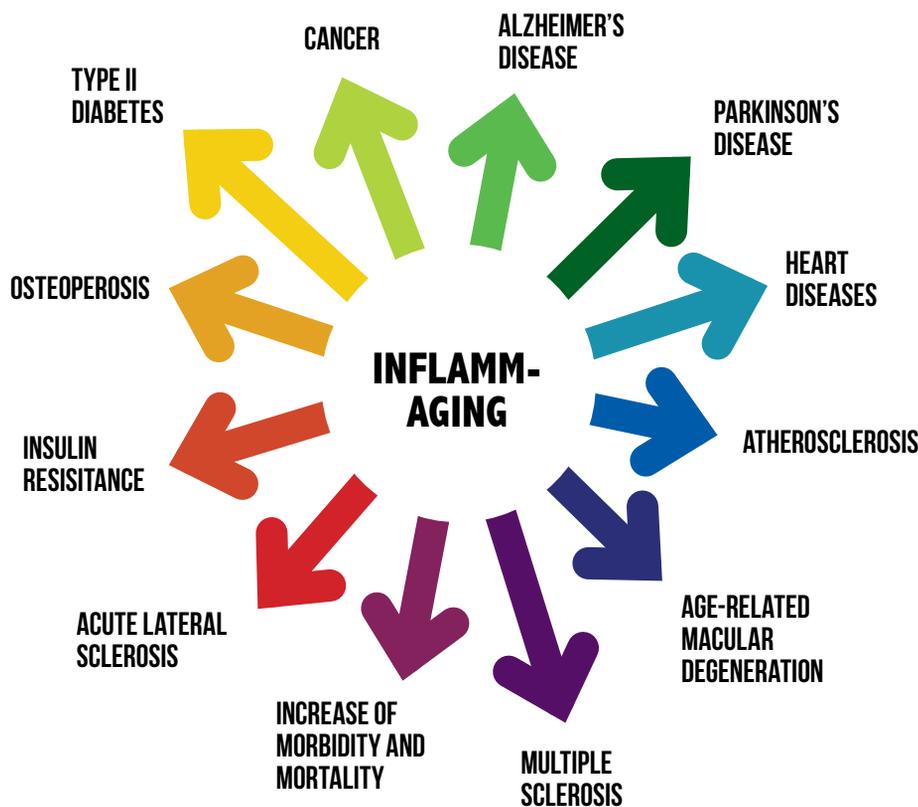


properties. This is likely why research in the journal *In Vivo* suggests that OPCs can improve several age-related conditions including arthritis, COPD, and some cardiovascular issues. Yet many supplements include

OPCs containing tannins with a high molecular weight. This makes them difficult for the body to absorb. To get the most bang for your buck, search out a supplement that is tannin-free and contains only low molecular weight OPCs.

Probiotics. The trillions of bacteria in the gut are known to play a role in inflammation, especially in the elderly. When the microbiome lacks diversity—which occurs with aging—it becomes imbalanced and increases the risk of inflammaging. The good news is that supplemental probiotics may help restore a balanced microbiome. In one small study of older adults, age 65 to 80, researchers found that one particular species of bacteria called *Lactobacillus rhamnosus* increased butyrate, a short-chain fatty acid that provides fuel for the cells in the gut lining, supports immunity, and acts as an anti-inflammatory. But it's not the only type of beneficial bacteria with anti-inflammatory chops. *Lactobacillus plantarum* and *Bifidobacterium bifidum* also possess powerful inflammation-fighting properties. Look for a probiotic supplement that contains at least 20 billion live, active CFUs of these three strains to support a balanced microbiome and a healthy inflammatory response. ■

How Inflammaging Impacts Health



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