Optimal Health University™

Presented by Dr. Smith

Eat Right to Fight Inflammation

Inflammation is your immune system's response to injury or infection. The inflammation process cleans out damaged tissue and sets the stage for healing to begin. But, if something interferes with the complex chemical balances of the immune system, the body fails to produce anti-inflammatory responses. In this case, inflammation becomes chronic.

Dr. Smith is concerned about the negative effects of chronic inflammation, which range from allergies to life-threatening diseases. Headaches, back pain and neck pain may also be a sign of chronic inflammation.

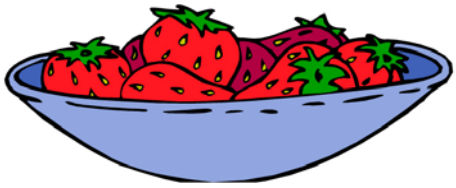
Chronic inflammation also often manifests as an autoimmune condition, such as fibromyalgia, lupus and rheumatoid arthritis. The body reacts to a non-existent threat and attacks its own tissues.

In other cases, chronic inflammation can be mild enough to go unnoticed yet cause significant cumulative damage over time to one or more organs or systems. The possible results can include cancer, heart disease, diabetes or osteoporosis.

The Food Factor

Fortunately, along with regular chiropractic care, you can reduce or prevent out-of-control inflammation with smart food choices.

Research tells us that what we eat is directly associated with blood levels of C-reactive protein (CRP). This protein is a key marker for measuring inflammation. A typical modern diet — heavy in refined grains, sweets and other processed foods — correlates with high CRP levels. Obesity, also rampant today, leads to higher levels of chronic inflammation (*Arch Intern Med* 2007;167:31-9).



Eating to prevent chronic inflammation is not complicated — an anti-inflammatory diet is in line with the smart food choices Dr. Smith already recommends for patients to maintain optimal wellness.

Beneficial Antioxidants

Fruits and vegetables are rich in antioxidants, such as vitamins A, C and E, and selenium. These nutrients protect cells from damaging chemicals called free radicals. In fact, antioxidant therapy shows great promise as a treatment for immunodeficiency conditions that arise from chronic inflammation. Intake of the antioxidants vitamins C and E, and selenium is associated with lower blood levels of CRP (*Eur J Clin Nutr* 2008;62:127-37).

Flavonoids are an array of chemicals found in foods, which also offer powerful antioxidant activity. Berries and cherries, for example, are a rich source of a flavonoid called anthocyanin. An investigation at the Harvard School of Public Health showed lower blood levels of CRP in women who regularly consume strawberries (*J Am Coll Nutr* 2007;26:303-10).

Carotenoids — responsible for the striking orange color of winter squashes, carrots and sweet potatoes — also have strong anti-inflammatory properties. Other foods reputed to be rich in inflammation-fighting antioxidants include asparagus, broccoli, peppers, tomatoes, spinach, red wine and dark chocolate.

Vitamin D also regulates inflammation. Vitamin D is synthesized by the skin in response to sunlight and also occurs naturally in liver and fatty fish.

Vitamin K is anti-inflammatory as well, suppressing key chemicals in the inflammation process (*Med Hypotheses* 2010; Epub). Get vitamin K from dark leafy greens, eggs, meat and dairy products.

Whenever possible choose organic, locally produced foods. Pesticide residue may trigger inflammation.

Dairy, Eggs and Meat

Several animal products contain anti-inflammatory compounds. One that is receiving a lot of attention lately is conjugated linoleic acid (CLA), a fatty acid abundant in meat and milk from grass-fed animals (*J Dairy Sci* 2000;83:1016-27).

CLA is also found in eggs, particularly those from free range birds. Research shows that CLA is a potent antioxidant with anti-cancer traits. In addition, CLA appears to combat inflammation and heart disease (*Nutr Metab* 2010;7:5).

Dr. Smith, Smith Chiropractic Clinic
123 Third Avenue, City, State 12345 (123) 456-7890
www.YourWebsite.com - info@your-e-mail.com

An additional weapon against inflammation — a sugar molecule called oligosaccharide — is plentiful in goat's milk. Oligosaccharides may also be responsible for goat milk's superior digestibility over cow's milk (*Clin Nutr* 2006;25:477-88).

Other anti-inflammatory dairy foods include lacto-fermented foods such as yogurt and kefir. Numerous scientific studies show that regular yogurt consumption reduces intestinal inflammation. Kefir, a yogurt-like beverage, also appears to decrease inflammation in people with asthma and tissue swelling (*Immunobiology* 2007;212:647-54).

In contrast, a diet high in red meat may instigate inflammation.

The Facts on Essential Fatty Acids

The essential fatty acids — omega-3 and omega-6 — are so named because they cannot be manufactured by the body. They must be obtained from food sources. Omega-6 functions to activate the immune system and trigger inflammation. On the other hand, omega-3 converts into powerful compounds that counteract the inflammatory response. Many modern health problems are blamed on a disproportionately high ratio of omega-6 to omega-3 fatty acids in today's Western diet.

The omega-3 known as docosahexaenoic acid (DHA) is an important building block of the brain. DHA consumption is critical to prevent inflammation of the brain, a precursor to many diseases of the central nervous system (*J Neurochem* 2007;101:577).

Fish is the most prominent source of omega-3, particularly DHA. Choose wild fish over farmed fish to maximize the anti-inflammatory effects since the DHA comes from algae and plankton in their natural diet. For instance, research indicates that farmed tilapia and catfish have a high ratio of omega-6 to omega-3, compared with naturally raised varieties (*J Am Diet Assoc* 2008;108:1178-85).

When shopping for seafood, it is essential to steer clear of varieties with high levels of mercury or other contaminates, which may lead to heavy metal poisoning. Swordfish, bluefish and some varieties of tuna are among the most highly contaminated. For a quick and easy way to search if your favorite seafood is safe, visit http://seafood.edf.org/guide/best .

Besides fish, some nuts and seeds are excellent sources of omega-3 fatty acid. They are particularly rich in a specific omega-3 called alpha-linolenic acid (ALA). Flaxseeds, flaxseed oil and chia seeds are among the most potent sources of ALA, while walnuts contain a modest amount as well.

In contrast, many common vegetable oils are high in pro-inflammatory omega-6, which most of us need to reduce in our diets. These include palm, soybean, canola, and sunflower oils.

Spicy Solutions

Certain spices are revered around the world for their medicinal qualities. Two of these are proven effective against inflammation: turmeric and ginger.

Turmeric — responsible for curry powder's yellow color — has been used in traditional Indian medicine for centuries to counteract inflammation. Modern research confirms that turmeric is particularly beneficial against rheumatoid arthritis (*Arthritis Rheum* 2006;54:3452-64).

Ginger is as effective at reducing swelling as non-steroidal anti-inflammatory drugs. Research shows that it suppresses certain biochemical processes of chronic inflammation. Unlike conventional drugs, however, ginger has minimal side effects (*J Med Food* 2005;8:125-32).

Ongoing research indicates that a myriad of other herbs and spices may ward off inflammation. So it's a good idea to cook with as many of these natural flavor boosters as possible.

Trans Fats & Sugar: Two to Avoid

When it comes to preventing chronic inflammation, two foods are best avoided altogether: Trans fats and sugar.

Trans fats are already an infamous nutritional villain. They are synthetically produced by adding hydrogen atoms to certain unsaturated fat molecules — hence they are also known as hydrogenated oils. A revealing study demonstrated up to 73 percent higher levels of the inflammation marker CRP in individuals in the top 25 percentile of trans fat consumption (*J Nutr* 2005;135:562-6). Common sources of trans fat to avoid include margarine, vegetable shortening and many processed foods.

Refined sugar and high fructose corn syrup found in many processed foods and drinks triggers spikes in blood sugar. These spikes lead to subsequently high insulin levels in the bloodstream. This causes hormonal changes that throw the immune systems out of balance and encourage inflammation. Research confirms that heavy consumption of sugar increases inflammation while a low-sugar diet can dramatically lower it (*Physiol Behav* 2010;100:47-54; *Am J Clin Nutr* 2005;82:421-7).

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