Reducing Chronic Inflammation

By Elaine Moore

What is Inflammation

Inflammation, which is also known as an inflammatory response, is a process initiated by the immune system as it reacts to injury or infection. In recent years, inflammation has been found to be the root cause of most chronic diseases, including autoimmune disorders and coronary heart disease. With advanced diagnostic tests for measuring markers of inflammation, such as C-reactive protein, the relationship between chronic inflammation and chronic disease has led to a better understanding of the autoimmune disease process.

Current theories suggest that chronic low-grade inflammation is the root source of most chronic disease. Dietary measures can be used to reduce and control inflammation.

Aging and Autoimmunity

The process of aging itself is caused by a number of different factors including inflammation; glycation, which involves the binding of protein and sugar molecules; methylation deficits, which is characterized by elevated homocysteine levels; mitochondrial energy depletion; non-digestive enzyme imbalance; calcification; fatty acid imbalance; immune dysfunction; digestive enzyme deficiency; excitotoxicity; and oxidative stress. The risk for autoimmune disease increases with age and is directly related to mechanisms involved in the aging process, with inflammation reported to be the most significant factor.

The Immune System and Inflammation

During the immune response that leads to inflammation, the immune system's white blood cells secrete various chemicals that promote inflammation. Normally, inflammation promotes healing by causing swelling that cushions injured cells. During the immune response, the immune system produces pro-inflammatory chemicals including the cytokines interleukin and interferon, C-reactive protein, hormones known as prostaglandins, and also free radicals. After recovery from infection or injury, the immune system stops producing and releasing these chemicals and, consequently, inflammation subsides.

Chronic Inflammation

Problems occur when inflammation persists. In chronic low-grade inflammation, the immune system continues to produce inflammatory chemicals. This sets the stage for persistent inflammation. Because inflammation causes swelling and compresses nerves it causes pain and eventually damages tissue. Over time, inflammation leads to chronic disease. Certain foods such as 6-omega oils found in cooking oils, certain carbohydrates particularly refined sugars and white flour, and trans fats found in crackers and bake
goods also induce production of these pro-inflammatory compounds. Diets rich in these particular foods also contribute to chronic inflammation. A diet rich in fatty fish and vegetables reduces these effects because omega-3 oils produce other chemical with anti-inflammatory properties that effectively reduce inflammation.

**Dietary Measures to Reduce Inflammation**

Following a low-glycemic diet that's rich in omega-3 and monounsaturated fats and olive oil but low in omega-6 and saturated fats can reduce inflammation. The Mediterranean diet fits this profile. The best supplements for reducing inflammation include omega-3 fatty acids, curcuminoids in turmeric, garlic, ginger, pomegranate, luteolin, alpha lipoic acid, 5-Loxin, bioflavinoids, vitamin K, vitamin C, and vitamin E. Various vegetables, particularly those low in starch such as broccoli, cauliflower, and salad greens also contain anti-inflammatory compounds. Besides increasing these food sources, the Life Extension Foundation recommends avoiding eating foods cooked at high temperatures, and minimizing foods high in arachidonic acid such as red meat and egg yolks.

**Resources:**

