Why Anti-inflammation Matters & What to do about it!

Inflammation, a vital part of our natural immune response, demonstrates the body's attempt to heal itself after an injury; defend itself against foreign invaders, such as viruses and bacteria; and repair damaged tissue. However, long term inflammation can be problematic, and plays a role in many chronic diseases.

Acute vs. chronic inflammation

The two types of inflammation, acute and chronic (or systemic) reflect the time frame involved. Acute inflammation occurs quickly, lasts from minutes to a few days, and arises after an injury such as a superficial cut or skin abrasion, a sprained ankle; or an infection such acute bronchitis, a sore throat, tonsillitis, etc.

Chronic inflammation, a long-term condition, exists in patients with allergies, autoimmune, and chronic diseases. Habitual or environmental factors, such as excess weight, poor diet, a lack of exercise, stress, smoking, pollution, poor oral health and excessive alcohol consumption can also lead to chronic inflammation.

Often, acute inflammation is perceived as "good", because it is the body's attempt to heal itself after an injury, while chronic inflammation is considered "bad". Chronic inflammation, a persistent, low-grade inflammation, occurs when the body sends an inflammatory response to a perceived internal threat that does not require an inflammatory response. The false positive, or signal error triggers white blood cells to swarm, but with nothing to do and nowhere to go they sometimes attack internal organs or other tissues and cells. Persistent inflammation has been linked to a variety of ailments, including heart disease, diabetes, lung issues, depression, and cancer. Low-grade inflammation often does not have symptoms, but a lab test of the C reactive protein level, which increases when the body is inflamed, identifies its occurrence.

Anti-inflammatory diet and nutrients

Anti-inflammatory diets, popular in recent years, can provide benefits for all aspects of your health — from reducing pain, elevating energy, and boosting mood, to balancing immune function. Anti-inflammatory nutrients can also nourish your microbiome and give your beneficial bacteria the prebiotic fuel they need to really thrive.

Anti-inflammatory food components such as omega-3 fatty acids can inhibit an enzyme that produces prostaglandins, which trigger inflammation. Foods rich in phytonutrients have also been touted for their antioxidant and anti inflammatory properties.

Omega-3 fatty acids:

Perhaps one of the most well known nutrients when it comes to promoting anti-inflammation in the body, research surrounding omega-3 fatty acid suggests that it plays an important role in heart health. Benefits include increasing lipoprotein metabolism to lowering triglycerides (that can damage blood vessel integrity and function), as well as maintaining blood vessel elasticity and flexibility and preventing or slowing arterial plaque formation. Omega-3 fatty acids, especially EPA and DHA, can reduce inflammation and allergic reactions through a mechanism blocking the pathway of arachidonic acid inducing inflammation and allergic reaction. They can also balance the immune system by decreasing auto antibody production which slows the progression of autoimmune diseases.

Bromelain & Curcumin:

Bromelain, an enzyme found in pineapple, contains anti inflammatory properties. Studies found that bromelain helps decrease post exercise inflammation, by assisting in cell repair and the resolution of soreness, and improving digestion as well. Curcumin is the active ingredient in turmeric that causes the bright yellow/orange color of the pigment which contains potent anti-inflammatory and antioxidant properties. Curcumin compounds are involved in many biochemical pathways to moderate the inflammatory process. Research shows curcumin possesses the ability to prevent plaque buildup in blood vessels that could potentially prevent cognitive decline and heart disease, and may also help to ease joint inflammation and pain associated with arthritis.

Antioxidants:

In normal and healthy body condition, there is a balance between free radicals and antioxidants defense mechanisms. However, if the equilibrium is disturbed, it can lead to oxidative stress and associated inflammation and damage. Numerous studies demonstrated that flavonoids, polyphenols, and trace metals such as Zinc, Magnesium, Manganese, Copper, and Selenium perform a significant function in the antioxidant system. Moreover, dietary antioxidants including tocopherols, carotenoids, and ascorbic acid also exert an effective role as anti inflammatory factors by blocking two major signaling pathways, NF-kB and MAPKs which have primary roles in the production of various pro-inflammatory mediators.