

## INFLAMMATION AND CANCER

From the Breast Cancer Options 2016 Healthy Lifestyles Calendar

Cancer is caused by internal factors (such as inherited mutations, hormones and immune conditions) and environmental or acquired factors (such as tobacco, diet, radiation, and infectious organisms). Only 5-10% of all cancer cases are due to genetic defects and the remaining 90-95% are due to environment and lifestyle factors. This provides major opportunities for reducing the risk of getting many cancers in the first place.

While inflammation is a protector of our health when it's an acute response, chronic inflammation is a different story. Chronic inflammation underlies cancer development, promotion, and angiogenesis. Chronic, low-grade systemic inflammation-fueled by excessive belly fat, poor diet, lack of exercise, disrupted hormones, smoking, and gum disease-may explain why lifestyle-linked diseases have reached epidemic levels in Western countries, while remaining rare in the developing world. It orchestrates the microenvironment around tumors, contributing to proliferation, survival and migration.

### INFLAMMATION CONTRIBUTORS

**Physical & Mental Stressors:** The immune system is well designed to handle such physical stressors as microbes, sprained ankles and hay fever. It is not clear however, how the immune system reacts to the accumulation of other physical stressors-poor nutrition, lack of sleep, stress, food allergies, postural and joint misalignment and foreign substances. When faced with a lot of different stressors the intricately tuned immune system can get caught in a stress hormone-inflammation loop. Significant research has indicated that mental stressors provide as great a challenge to homeostasis as physical conditions like influenza or muscle tears. Unchecked and unregulated stress is associated with elevated levels of cortisol. Cortisol, is a hormone that is released along with adrenaline as part of the body's "fight or flight" response which is also activated by stress. Thus, cortisol, inflammation, weight gain, and a weakened immune system viciously cycle with each other unless cortisol and stress levels become checked.

**Sleep Deprivation.** Lack of sleep increases inflammation in the body. Sleep is a time for the body to recover and repair both mentally and physically. That's why sleep experts recommend getting 7-9 hours nightly to function optimally. Studies indicate that this time period is critical for biochemical balance in substances like GH and cortisol.

#### Anti-Inflammatory foods:

Vegetables, fruits, nuts, seeds and healthy oils like olive oil or coconut oil. Avoid processed foods, dairy, wheat and sugar. Good examples of foods to include are apples, berries, broccoli, mushrooms, papaya, pineapple, and spinach. Drink water or herbal tea.

**Excess Weight.** Biochemical imbalances have also been linked to inflammation caused especially by excess intra-abdominal fat. Excessive intra-abdominal fat produces a cortisol response, which tells the body to store fat; this begins a never-ending feedback loop. Elevated cortisol from stress increases insulin and creates abdominal fat. It turns up the production of hormones and pro-inflammatory cytokines and is linked to a number of chronic diseases like heart disease and cancer.

**Diet:** A huge contributing factor to inflammation is the Western comfort food diet, high in saturated and trans fats, simple carbohydrates and animal proteins. Eat a balanced, whole foods diet high in fruits and vegetables, fresh fish and nuts to get antioxidants and omega-3 fatty acids which help control inflammation.

**COOLING DOWN INFLAMMATION:** The best ways to fight chronic inflammation is to create an active lifestyle with increased exercise, adequate sleep and good nutrition.

It's also important to work at decreasing stress. Exercise and meditation reduce stress which reduces inflammation. By making small changes every day you create a large impact on fighting chronic inflammation. A well rounded program should include exercise, a diet with little or no processed foods, and attention to stress relief. Begin each day with a plan to practice some of these healthful tips.

Anti-inflammatory supplements:  
Curcumin, Fish oil, Vitamin D, Spirulina, Boswellia, SAmE, Ginger, Bromelein and Bioflavonoids. (check with your doctor if you are undergoing chemotherapy)

