

Put Out the Fire

by Ann Carey Tobin, M.D., FAAFP

A basic tenet of [Functional Medicine](#) suggests that many diseases we regard as distinct entities may be more accurately described as symptoms. If you dissect the underlying pathology of the more common chronic diseases of our more affluent civilization, you discover that they can share common etiologies. The process in which they manifest in what we label as a specific disease is driven by our individual genetic code, biochemical uniqueness, environmental exposures, and lifestyle choices. In other words, two individuals can have the same underlying trigger(s) for illness, but develop what conventional medicine would interpret as two different diseases.

Research implicates [inflammation](#) as an underlying culprit in this disease. Inflammation is one of the body's mechanisms for self-healing. In response to a stressful event, such as infection, toxin exposure or injury, biochemical messengers, known as cytokines, are released to initiate a familiar cascade of events. White blood cells rush in, and blood vessels dilate to increase blood flow. Healing is the objective, but it is often accompanied with the unpleasant side effects of swelling, redness, warmth, fever and/or pain. This is an adaptive response that, despite the potential for discomfort, actually serves us well in confronting acute assaults to our health.

Acute inflammation is an effective self-healing modality that actually curbs its own process through release of anti-inflammatory messenger molecules. The trouble begins when the process becomes a chronic, low-grade inflammatory response that continually floods the body with inflammatory chemicals. The result can be obvious damage to cells, tissues and organs, as seen in the swollen and painful joints of arthritis, the diarrhea and bleeding of inflammatory bowel disease (e.g. Ulcerative Colitis, Crohn's Disease), or asthma's inflamed and constricted airways. A more "silent" inflammatory process, however, may play a significant role in such chronic conditions as heart disease, stroke, dementia, autoimmune conditions, osteoporosis, cancer and obesity.

Many of the triggers of chronic inflammation are a product of modern living (see my last post: [What Message Do You Want to Send?](#)). Inappropriate nutrition is a major factor, including the consumption of too many refined or processed carbohydrates, unhealthy fats, or an inadequate intake of the healing types of foods, such as antioxidant-rich fruits and vegetables, omega-3 essential fatty acids and fiber. Lack of exercise, poor stress management, and environmental toxins are other factors. In addition, the excess weight that often results from these poor lifestyle habits serves as a source of "mixed-up" biochemical and hormonal signals that contribute to the chronic inflammation, and feedback into further weight gain.

When sugar and protein chemically react they can produce pro-inflammatory substances called [advanced glycation end products](#) (AGES). This process can be minimized by limiting consumption of refined and processed carbohydrates, such as sugar, white flour products (bread, snack foods, pastries, etc.), white potatoes, sweetened beverages, especially those containing high fructose corn syrup, and other fast foods. Whole grains, beans, and fruits, vegetables and herbs, in particular those intensely colored or from the onion/garlic family, are rich sources of anti-inflammatory nutrients. Consider substituting quinoa, kameth or brown rice for bread, and sweet potato for the white variety. Throw

beans in stir fry and soups, and get acquainted with hummus dip. Double up on the servings of dark, green leafy vegetables, experiment with winter squash, and make room daily for berries, apples and stone fruits.

Understanding the role that fat plays in this scenario is critical. The [essential fatty acids](#) (EFAs), omega 3 and omega 6, need to be in a proper balance to promote healthy inflammatory responses. Omega 6 EFAs are the substrate for pro-inflammatory messenger molecules. They are necessary, but over represented in our Western diet. They are derived from healthy oil-rich seeds, and the oils extracted from them, e.g. corn, sunflower, safflower, cotton-seed, but then are used extensively in processed, snack and fast foods, margarines, vegetable shortenings and partially-hydrogenated oils. Their consumption should be limited, and balance restored by eating more sources of the anti-inflammatory substrate omega 3 EFAs. These include cold water fatty (oily) fish, walnuts, flax seed, hemp seed, soy, sea vegetables and canola oil (organic, expeller-pressed to avoid contamination from pesticides and chemicals). Other sources of healthy fats are the monounsaturated fats of olive oil, avocado, and some nuts and seeds.

Animal protein, e.g. red meat, poultry, dairy, is a source of pro-inflammatory saturated fat. More prudent sources of protein are of vegetable origin—legumes (soy, beans, lentils), whole grains, seeds and nuts.

Examples of anti-inflammatory diets are the Mediterranean diet, as promoted by [Andrew Weil, M.D.](#) (*Eating Well for Optimal Health*, and *Healthy Aging*), and The Fat Resistance Diet, as developed by [Leo Galland, M.D.](#), and promoted in his book of the same name. A regular regimen of physical activity, and attention to managing stress are also essential to achieve success. Certain supplements can be useful adjuncts to this worthy endeavor, but should be personalized to meet individual needs. Some common options are ginger, turmeric, fish oil, GLA and vitamin D3. Attention to these lifestyle choices will improve your health and well being, and contribute to putting out the fire of chronic inflammation. Be well.

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