

Inflammation Treatment Strategies

Traditional upper limit lab values for high sensitive C-reactive protein (hs CRP) is 3.0. These values reflect inflammation that is associated with disease. Dr. Russell Jaffe, MD, Ph.D. describes inflammation as repair deficit. The body wants to repair itself however there is a deficit in its ability to establish and maintain homeostasis. Increased or long term inflammation in essence represents increased or long term deficiencies of the factors that are needed for cellular repair and maintain homeostasis.

Dr. Jaffe suggests the physiological value to strive for is 0.5 or less. Using CRP as a marker encourages patients to lead a wellness lifestyle. This repeatable marker allows you to help patients systematically eliminate the factors that can cause inflammation. Remember, hs CRP is not the bad guy it is merely the reflection of a deeper issue that must be tracked down and addressed. The following come from Dr. Alex Vasquez's excellent book, *Chiropractic and Naturopathic Mastery of Common Clinical Disorders*. CRP is a protein made by the liver in response to the immunological activation characteristic of infectious or inflammatory conditions. Generally, any tissue injury or inflammatory process, especially that involves the immune system increased production of IL-6, will result in increased CRP. Elevated values are seen with:

- Infections: Bacterial, fungal, parasitic, viral diseases, and some patients with dysbiosis will have mildly-moderately elevated CRP.
- Inflammatory bowel disease: Crohn's disease and ulcerative colitis (generally higher in CD than UC).
- Autoimmune disease: Rheumatoid arthritis, polymyalgia rheumatic, giant cell arteritis and polyarteritis nodosa (not always SLE)
- Acute myocardial infarction or other tissue ischemia
- Organ transplant rejection: Renal (not cardiac)
- Trauma: Burns, surgery
- Obesity: Leads to modest elevations in CRP
- Coronary artery inflammation/atherosclerosis
- Pain: tendonitis, fibromyalgia, phlebitis, etc

Other factors which can be ruled out are toxins or the inability to detoxify them, reduced levels of antioxidants or key minerals, immunological food sensitivities or food reactants, or depleted nutritional factors necessary for energy production or metabolic efficiency. Because detoxification is so tied to inflammation consider homocysteine among other things as a marker for detoxification. Methylation is vital for life and is involved in hundreds of different processes in the body, especially detoxification and DNA repair. In the body B vitamins breakdown the homocysteine into methionine which is a building block for SAM-e, an amino acid associated with mood. SAM-e increases the activity of an enzyme that converts methionine into glutathione, one of the most important detoxifying enzymes in our body. Elevated homocysteine can shrink your brain, dull your reflexes and lead to depression. Excess homocysteine can enhance free radical damage in the artery's causing plaque formation.

Nutrients to Reduce Homocysteine

B complex: specifically B12, Folate and B6. To a lesser degree choline, betaine and riboflavin can be beneficial.

Bio-B Complex™ 1 bid, **B12-2000™ Lozenges** 2-10 per day depending on the size of the patient and the elevation of homocysteine. IMPORTANT: Allow the B12 lozenges to dissolve for maximum absorption. If levels do not increase after 60 days (sooner if patient has a history of cardiovascular disease), add **Folate-5 Plus™** (5 mg of folate) 1 tid.

Beta-TCP™ 3 tid and **Bio-GGG-B™** 2 tid can also be added for stubborn cases.

Elevated homocysteine vascular inflammation is almost certain therefore have patients follow a diet that is devoid of grains, dairy, alcohol and packaged foods. The diet on page 3 taken from the 3-Step Detox is a great start.

Nutrients to Reduce hs C-Reactive Protein

Finding the source of inflammation is ultimately to best strategy; however, global factors that increase healing and mitochondrial health have been repeatedly shown to reduce CRP such as multiple vitamin/mineral supplements, vitamins C, D, E, omega-3 fatty acids and GLA from omega-6 fatty acids, plant based antioxidants, factors that reduce homocysteine as well as the use of a plant based anti-inflammatory diet. One other note, since CRP is a circulating protein, the use of proteolytic enzymes should be considered.

ProMulti-Plus® 2 bid.

KappArest™ 4 bid.

Bio-D-Mulsion Forte® 2-3 drops per day or enough to raise blood levels to 50 ng/ml.

Biomega-3™ liquid up to 2 tbsps per day for 30 days then switch to **Optimal EFAs®** 2-3 bid as a maintenance or use 1 tablespoon.

Intenzyme Forte™ 4 tables 3-4 times a day between meals on an empty stomach.

Bio-FCTS™ as a source of quercetin and plant based flavanoids 2 tid.

References

More Than Just a Bunch of Numbers, Making Sense of Blood Chemistry Results, sixth edition, Balancing Body Chemistry With Nutrition, August 2007.

Vasquez, Alex, Chiropractic and Naturopathic Mastery of Common Clinical Disorders, Integrative and Biological Medicine Research and Consulting LLC, September 2009.

Hypo-Allergenic / Anti-Inflammatory Diet Basics

Foods To Avoid

All gluten-containing foods like wheat, rye, oats and barley which are commonly found in breads, pasta and other products from refined flour.

The most common allergies are caused by this group of foods. By avoiding these foods for a few Weeks, your system gets a chance to relax and clear itself out. You may not even know you have an allergy to these foods because the symptoms may be so subtle.

Alcohol, caffeine (coffee, black teas and sodas) and soy milk, soda and fruit drinks that are high in refined sugars.

Both alcohol and caffeine are hard on the liver. So give your liver a vacation!

Pork, cold cuts, bacon, hot dogs, canned meat, sausage and shellfish.

Meats, unless organic, are typically high in nasty ingredients such as estrogens, antibiotics and others typical of processed foods.

Corn and tomato sauce (whole fresh tomatoes are OK).

These are common allergens and can contribute to pain and inflammation.

All dairy (milk, cheese, butter, yogurt, etc.)

Dairy products are most likely to cause allergies and can increase pain. Stay away from creamy salad dressings (ranch, creamy garlic, etc.) as they contain dairy.

Foods high in fats and oils, including peanuts, refined oils, margarine and shortening.

This diet was designed to lessen the burden placed on your system by eliminating many foods, including those high in fats and refined and processed oils.

All refined sugar products (candy bars and other junk food).

Refined sugar slows the process of detoxification and weaken the immune system.

Any other foods not listed on these pages that you know you are allergic to.

Give your healthcare practitioner a list of foods that you know you are allergic to.