

Support for a Healthy Inflammatory Response

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

The Physiology and Resolution of Inflammation

The immune system responds to injury, infection, pathogens, and exposure to toxic compounds by initiating an inflammatory cascade that involves the activation of leukocytes, macrophages, and pro-inflammatory mediators such as cytokines IL-1B, IL-6, TNF alpha, and IFN-gamma.¹

Acute inflammation can be characterized by redness, swelling, pain, heat, and/or loss of function. Without proper resolution, acute inflammation can become chronic or result in fibrosis. Chronic inflammation can affect multiple organ systems and lead to neurological, gastrointestinal, metabolic, endocrine, and cardiovascular symptoms. The brain and mental health may be impacted by chronic inflammation via the gut-brain axis.²

The resolution of acute inflammation involves an interface between innate and adaptive immunity. This process requires the activity of lipid chemical mediators called *resolvins* and *protectins* that enable inflamed tissues to return to homeostasis. These anti-inflammatory mediators control local inflammatory responses by protecting organs and stimulating mucosal antimicrobial defense and clearance.³

Implementing lifestyle practices and nutritional interventions can support the resolution of acute inflammation and avoid the detrimental health effects associated with chronic inflammation.

Supportive Lifestyle Practices

- Educate patients on the importance of regular exercise. Research has shown that participating in physical activity more than 22 times per month led to a 37% reduction in risk for an elevated C-reactive protein (CRP) when compared to exercising less than 3 times per month.⁴

- Recommend smoking cessation for patients who smoke. Exposure to cigarette smoke increases the number of reactive oxygen species that trigger inflammatory gene activation such as IL-8 and TNF alpha.⁵
- Counsel patients on the importance of maintaining healthy body composition. Increased body fat has been correlated with higher levels of inflammatory markers such as TNF alpha, CRP, IL-6 and IL-18.^{6,7}

Whole Foods Nutritional Recommendations

- Recommend that patients limit ultra-processed foods such as refined grains and foods high in simple sugars. Consumption of these foods may lead to hyperglycemia which raises the level of oxidative stress in the body and induces the release of inflammatory cytokines such as IL-6 and TNF alpha.⁸
- Educate patients on how they can use whole-food nutrition to support the resolution of inflammation. The Mediterranean diet is a well-researched style of eating that has been associated with decreased inflammatory markers such as c-reactive protein and IL-6.⁹
- Encourage the inclusion of foods rich in omega-3 polyunsaturated fatty acids in the diet. Resolvins and protectins—lipid mediators that are key players in the resolution of acute inflammation—are biosynthesized from precursor essential omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).³ EPA and DHA can be found in fatty fish such as salmon, tuna, sardines, and mackerel.
- Encourage the consumption of nuts and seeds, which are rich in polyphenols, tocopherols, phytosterols, and mineral antioxidants. These constituents allow them to modulate inflammation and reduce reactive oxygen species.¹⁰
- Recommend the addition of ginger, garlic, turmeric, and olive oil while cooking. These foods contain bioactive compounds that can facilitate healthy inflammatory processes.^{11,12}

Dietary Supplement Regimen



Olprima™ EPA|DHA

Suggested Use: **2 softgels per day**

Through a 55:45 ratio of omega-3s EPA and DHA, Olprima™ EPA|DHA supports cardiovascular and brain health while supporting the body’s healthy inflammatory response.*



Hemp Oil Complex™

Suggested Use: **2 softgels per day**

- Provides a 3-in-1 benefit for the whole body: supporting the endocannabinoid system, inflammation response resolution pathways, and endogenous antioxidant pathways*
- Combination of natural omega-3 fatty acids, including DHA and EPA
- Contains full spectrum, organic, non-genetically engineered hemp, grown on the Standard Process certified organic farm^



Turmeric Forte

Suggested Use: **1 tablet 1-2 times daily**

Turmeric Forte contains a bioavailable form of Turmeric rhizome and Fenugreek seed to support a healthy inflammatory response.*



Boswellia Complex

Suggested Use: **1 tablet 2-4 times daily**

Boswellia Complex contains Boswellia, Celery Seed, Ginger, and Turmeric. These herbs have been traditionally used in herbal preparations to:

- Maintain and support healthy joints*
- Support healthy circulation*
- Provide antioxidant activity*

Assessment

- Key lab studies: complete blood count, ferritin, c-reactive protein, and high sensitivity c-reactive protein
- Standard Process Omega-3 Index Plus Test

In Office/Physical Exam

- Symptoms such as pain, loss of function, fatigue, mood issues, gastrointestinal problems
- History of frequent infections

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