Defeat Inflammation Naturally
with Nutritional Frontiers

Inflammation is a health concern that causes both acute and chronic problems.

What is Inflammation:
The inflammatory process consists of a cascade of events in response to injury or trauma. The traumatic insult may be physical, chemical or biological. Sometimes inflammation can occur acutely, but it may also develop into a more chronic problem.

The word “inflammation” comes from the Latin inflammare, meaning “to set on fire.”
The cardinal signs of inflammation are rubor, redness; calor, heat (or warmth); tumor, swelling; and dolor, pain; These signs may be seen at certain times, but not necessarily always present or all together. Changes to the tissues, cells, and blood vessels surrounding the inflamed area are evident. In best case scenarios, the inflammatory process leads to repair & healing. It is when the inflammatory response is abnormal, exaggerated, or prolonged that problems can occur and the inflammatory mediators can cause destruction as well as healing.

The Players in Inflammation
White blood cells, also called leukocytes, release inflammatory mediators such as cytokines, leukotrienes, and prostaglandins. Some types of leukocytes called phagocytes also act by ingesting foreign particles (such as bacteria) and cellular debris. Granulocytes, monocytes, and lymphocytes are other types of white blood cells that are involved in the inflammatory process. These mediators induce increased blood flow to the area and leakage of fluid in the tissues, resulting in the symptoms of inflammation.

Symptoms of Inflammation
Acute inflammation may be characterized by joint pain & stiffness; redness; swollen joints that are painful to the touch; loss of function; flu-like symptoms such as fever, chills, decreased appetite, and fatigue. Inflammatory substances may irritate the joint and wear down the cartilage Inflammation can also affect internal organs especially in autoimmune diseases which lead to a state of chronic inflammation. Depending on the location, inflammation can cause things like high blood pressure, asthma attacks, diarrhea, etc. Cardiovascular disease is also related to inflammation. Inflammation plays a role in the development and progression of coronary artery disease. When inflammation occurs in the coronary arteries, it can trigger a series of events that can lead to heart attack and stroke: plaque, rupture of the plaque, thrombus (clot) formation, embolization into the blood vessels, and ultimately heart attack or stroke.

X-Flame is a supplement by Nutritional Frontiers that targets inflammation safely and effectively. Select ingredients in X-Flame have been researched and proven to reduce pain and swelling, increase mobility, and decrease the need for over-the-counter pain medication.

X-Flame contains:
- Kre-Celazine® 1,500 mg
- DMG HCl 250 mg
- Turmeric Root Extract (95% Curcuminoids) 200 mg
- Boswellia serrata Extract (65% Boswellic Acid) 200 mg
- Ginger Root Extract (5% Gingerols) 50 mg
- Quercetin (as Quercetin Dihydrate) 75 mg
- Rutin 75 mg
- Luteolin (from Perilla Leaf Extract) 8 mg
- Cayenne Pepper Powder 5 mg
Conventional Medical Approach to Inflammation

The allopathic approach to treating inflammation includes an array of interventions. Rest, exercises, physical therapy, medications, and surgery are all part of a conventional treatment plan for both acute and chronic inflammatory diseases. Medications prescribed may include:

- NSAIDs (non-steroidal anti-inflammatory drugs) like aspirin, ibuprofen, naproxen Corticosteroids (e.g. prednisone) Methotrexate, sulfasalazine, anti-malarial drugs like hydrochloroquine.

The pharmaceutical drugs typically used in these cases carry risks of side effects. For example, NSAIDS have the following possible side effects:
- Gastrointestinal: upper GI bleeding, ulcers, reflux
- Renal: acute kidney failure (rare), decreased creatinine clearance

Corticosteroid use may cause nervousness, restlessness, trouble sleeping, increased appetite, dizziness, sodium or fluid retention, increased susceptibility to infection, increased stomach acid secretion (leading to reflux or ulcers), osteoporosis, diabetes, Cushing’s syndrome, and irregular periods among other things.

Alternatives to Alleviating Inflammation

Nutritional Frontiers offers several options for relieving inflammation and its effects such as X-Flame, Omega 3 & 6 Fatty Acid formulations, CybZyme and BetaZyme (taken between meals), and HA Plus.

Other ingredients in X-Flame

- **Boswellia serrata** - This Ayurvedic herb targets conditions like arthritis, asthma, and colitis. Boswellia does not possess the unpleasant gastric side effects exhibited by pharmaceutical NSAIDs. The mechanism of action by which Boswellia improves arthritis is thought to be improved blood supply to the joints and the prevention of connective tissue breakdown.

- **Turmeric (Curcuma longa)** - This bright yellow culinary spice is an anti-oxidant and cholagogue (stimulates gall bladder function), as well as having potent anti-inflammatory actions. Turmeric inhibits the formation of the pro-inflammatory mediators thromboxane and prostaglandin. Additionally, it does not interfere with beneficial prostaglandin production and therefore does not harm the stomach lining. Like Boswellia, this distinguishes it from the problematic pharmaceutical NSAIDs.

- **Ginger root (Zingiber off.)** - A tonic to the digestive system, ginger also has analgesic and anti-inflammatory actions.

- **Cayenne pepper** - As a synergizing herb, cayenne is said to enhance the actions of other herbs. Cayenne improves circulation and may be helpful for reducing the pain of arthritis, diabetic neuropathy, postherpetic neuralgia, psoriasis, postsurgical pain, and fibromyalgia.

- **Quercitin, Rutin, and Luteolin (from Perilla leaf extract)** are in the dietary flavonoid family. Flavonoid intake may reduce risk of cancer, neurodegenerative disease, and cognitive decline associated with aging. Bioflavonoids are also used for hepatitis, chronic venous insufficiency, gingivitis, and bruising. Quercitin has been used effectively for prostatitis, asthma, allergies, upper respiratory infections, and more.
OMEGA 3D is a blend of non-GMO natural oils from Fish that combines the health benefits of Omega 3 and Vitamin D3. It is a comprehensive “multi” fatty acid supplement that is rich in EPA, DHA and Vitamin D3.

- It provides a healthy balance of essential fatty acids that are critical to total body health. These fatty acids play a vital role in the structure of cell membranes, healthy hair and skin, and support cardiovascular, nerve, neurological and immune system functions.
- It also provides the desirable ratio of Omega 3 to Vitamin D3 for more efficient and beneficial prostaglandin production.

HA Plus and HA Plus Liquid are excellent supplements to assist in joint repair and increase joint comfort. HA stands for Hyaluronic acid, which is a substance found through the body especially in cartilage, synovial fluid, skin, and the eye. It supports connective tissue structures. HA Plus also contains Glucosamine sulfate and MSM (methylsulfonylmethane) which are well known to support joint health and proper joint function.

HA Plus

The ingredients in HA Plus may help support conditions associated with inflammation and pain. This formulation does not possess the unpleasant gastric side effects exhibited by anti-inflammatory drugs. Some researched ingredients in this formulation support use in treating various types of arthritis. An active ingredient, turmeric inhibits the formation of pro-inflammatory mediators thromboxane and prostaglandin.

References

Golini, Jeff. “Controlled Case Study with Kre-Celazine®” Performing Laboratory BioCeutical Research & Development Laboratory, Montana Division. September 2007.