

The Holistic Truth

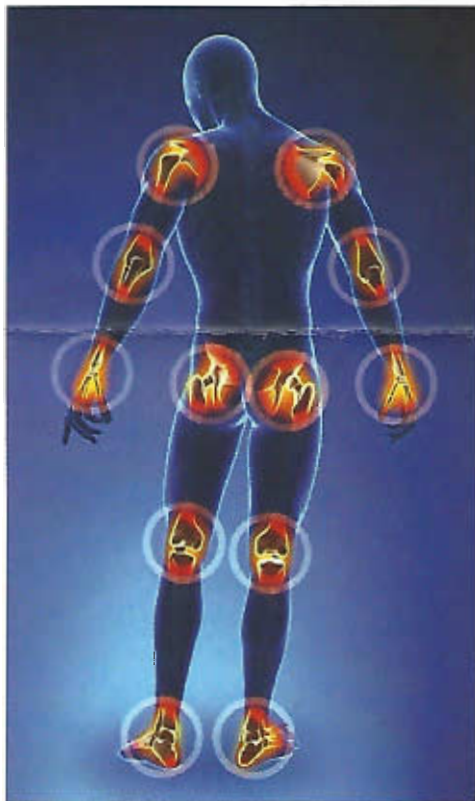
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Joint Wellness Solutions

Inflammation is a key component of joint pain and stiffness experienced by people with arthritis. 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. 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.



Acute inflammation may be characterized by joint pain & stiffness; redness; swollen joints that are painful to the touch; loss of function; and flu-like symptoms such as fever, chills, decreased appetite, and fatigue. Inflammatory compounds may irritate the joint and wear down the cartilage.



Osteoarthritis (OA) also called Degenerative joint disease (DJD)

is the most common form of arthritis, occurring most often in people over age 40. Conventionally, OA is generally considered to be non-inflammatory, in contrast to rheumatoid arthritis (RA) which IS inflammatory. However, OA does have some inflammatory traits: the joint capsule can become inflamed, though mildly so in comparison to RA. Also OA is characterized by deterioration of cartilage in joints, most common in hips & knees.

People with OA experience deep, aching joint pain that is worse after exertion, along with morning stiffness, stiffness after exercise, and aching from weather changes. They feel better with rest. There can be limited movement, grating noises of the joints during motion, swollen joints, and X-ray evidence of narrowed joint space, bony deposits, sclerosis of subchondral space, joint deformity, and joint fusion

Rheumatoid arthritis, in contrast, is an autoimmune disorder involving chronic inflammation of joints and other tissues in the body. As with other autoimmune disorders, RA occurs when the immune system mistakenly attacks the body's own tissues. Rheumatoid arthritis affects the lining of the joints causing swelling, pain, inflammation, and eventual joint deformity and erosion. The symptoms



of RA include joint pain, tenderness, and swelling, often worse in the mornings or after inactivity. People with this disease also struggle with fatigue, fever, and sometimes weight loss.

Conventional Medical Approach to Inflammation

The allopathic approach to treating inflammation includes an array of interventions. Rest, exercise, physical therapy, medications, and surgery are all part of a conventional treatment plan for both acute and chronic inflammatory diseases. Medications prescribed depend on the cause of the joint pain but may include NSAIDs (non-steroidal anti-inflammatory drugs) like aspirin, ibuprofen, naproxen; corticosteroids (e.g. prednisone); DMARDs (disease-modifying anti-rheumatic drugs) like methotrexate, sulfasalazine, hydrochloroquine; biologic agents (biologic response modifiers) like adalimumab (Humira), etanercept (Enbrel), rituximab (Rituxan), infliximab (Remicade).

These pharmaceutical drugs carry risks of side effects. For example, NSAIDs may cause bleeding in the upper gastrointestinal tract, ulcers, and reflux (heartburn). NSAIDs can also induce renal side effects like decreased creatinine clearance and even acute kidney failure. 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. DMARDs carry the risk of serious side effects like liver damage, bone marrow suppression, and serious lung infections. Biologics can increase the risk of infections since they act to suppress the immune system.

Alternatives to Alleviating Joint Pain & Inflammation

Nutritional Frontiers offers several options for relieving the inflammation and pain associated with arthritis, including the formulas X-Flame, Omega 3D, HA Plus capsules with BioCell, and HA Plus vegetarian powder with HyaMax.



X-Flame

is a unique formula that contains patented ingredients to reduce inflammation and modulate immune function. Select ingredients in X-Flame have been researched for their ability to reduce pain and swelling, increase mobility, and decrease the need for over-the-counter pain medication. X-Flame contains Kre-Celazine®, DMG HCl, Turmeric Root Extract (95% Curcuminoids), Boswellia serrata extract (65% Boswellic Acid), Ginger Root Extract (5% Gingerols), quercetin, rutin, luteolin, and cayenne.

Kre-Celazine® is a patented formulation that includes fatty acids and creatine. A case study, a double-blind placebo controlled trial, and Jana prove the safety and efficacy in reducing inflammation, pain, and poor reliance of over the counter medication.

DMG (Dimethylglycine Hydrochloride) is a supplement that modulates cytokine production, acting as an anti-oxidant as well as anti-inflammatory agent. DMG is a methyl donor, which means it transfers a methyl group to other

substances. Methylation is required in many biological processes. DMG is also said to enhance athletic performance by improving oxygen utilization* and may help modulate immune and inflammatory responses in rheumatoid arthritis.

Boswellia serrata is an Ayurvedic herb found throughout western and central India. It 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) is a bright yellow culinary spice that acts as an anti-oxidant 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 has analgesic and anti-inflammatory actions, as well as acting as a digestive tonic.*

Cayenne pepper is said to enhance the actions of other herbs, acting as a synergist.* Cayenne improves circulation and may be helpful for reducing the pain of arthritis, diabetic neuropathy, post-herpetic neuralgia, psoriasis, postsurgical pain, and fibromyalgia.*



HA Plus

HA Plus and HA Plus Vegetarian powder 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 contains BioCell Type II Collagen Matrix, which consists of collagen & hyaluronic acid in a patented delivery system utilizing low molecular weight (less than 30,000 daltons) for optimal utilization by the body.* This product also contains chondroitin sulfate, glucosamine sulfate, and MSM (methylsulfonylmethane) which are well known to support joint health and proper joint function. MSM helps support joint comfort and supplies an excellent source of sulfur to help ensure the body's ability to synthesize collagen for connective tissue health, and maintain cell membrane flexibility. Glucosamine is a nutritional building block for connective tissue. It is necessary for the production of hyaluronic acid (HA) and chondroitin sulfates which support joint comfort and mobility

Please note that HA Plus capsules contain shellfish-derived ingredients (the vegetarian powder does not).

As with many other Nutritional Frontiers products, though, it is free of dairy, gluten, yeast, synthetic dyes, and artificial flavoring.



HA Vegetarian powder

contains similar ingredients as the capsules except its hyaluronic acid is in the form of HyaMax™, a standardized natural Hyaluronic acid. It has a mucopolysaccharide structure with extremely large molecules composed of repeat disaccharide units of glucuronic acid and N-acetyl glucosamine, which can bind 1000 times its own weight of water for lubricating the movable parts of the human body, especially joints and muscles. It may also moisturize the skin, and play a role in wound healing. Additionally, HA Plus vegetarian powder contains Beta glucan, which can enhance immune function and support

inflammation management by balancing macrophage, B lymphocyte and suppressor T cell action, and increased nonspecific- host resistance to a variety of bacterial, viral, fungal and parasitic infections.* HA vegetarian powder also contains arabinogalactans which are a class of long chained, densely branched polysaccharides (MW 10,000-120,000), which have been found to have strong immune-stimulating and anti-inflammatory properties.* AG is rich in quercetin, which inhibits the release of histamines and leukotrienes into the bloodstream.



Omega 3D

is a blend of non- GMO natural oils from fish that combines the benefits of Omega 3 essential fatty acids and Vitamin D3. This formula contains 780mg of combined EPA with DHA plus Vitamin D3 to provide a healthy balance of essential fatty acids that are critical to total body health. EFAs are anti-inflammatory, promoting the release of anti-inflammatory compounds from cells. Omega 3 fatty acids in fish oil can help reduce the symptoms of arthritis including reducing joint pain, morning stiffness, and NSAID medication use.

**These statements have not been evaluated by the FDA. The products referred to are not intended to treat, cure, or prevent any disease.*

The Wellness Solutions

X Flame

Manage Inflammation and Pain

HA Plus:

Helps Rebuild Cartilage

Omega 3D:

Balance Inflammation Throughout Body



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