



COMPOUNDING WITHOUT
COMPROMISE SINCE 1962

INFLAMAGESIC

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Studies have demonstrated that most Americans are in a hyper-inflamed and exacerbated state of pain because of our high consumption of sugar and animal products in the form of dairy, meat, fish, and eggs. Added to this is the exposure to environmental chemicals and genetically modified organisms, as well as ubiquitously low hormone production. We are the largest patrons of anti-inflammatory drugs, both prescription and over-the-counter. We lead the world in autoimmune diseases. The obvious primary combatant of this existence, as well as prevention, is a change in diet that becomes organic and plant based. However, in the mean time while these transitions are taking place, a product called Inflammagesic has been designed to effectively reduce pain and inflammation throughout the entire body while promoting collagen formation and healing.

Synthetic steroids, such as prednisone, and non-steroidal anti-inflammatory drugs (NSAIDS), such as ibuprofen and naproxen, work to cut off all inflammation. However, some inflammation is required for healing tendons, skin, and joints properly. NSAIDS and steroids even prevent the repair of tissues from daily wear and tear causing cartilage, tendons, ligaments, and muscles to thin out and therefore rendering them more susceptible to injury. This is especially detrimental to the elderly and to women, who with age, lose their ability to produce collagen. Dramatic examples of this effect are the bleed-outs and perforated ulcers due to extreme thinning of the stomach lining. Kidney and liver damage are other common but potentially devastating side-effects of NSAIDS, as are bronchospasm, blood dyscrasias, fluid retention, congestive heart failure, stroke, constipation, drowsiness, dizziness, and delayed ovulation.

Although some inflammation is necessary to catalyze the healing and repair process, too much inhibits these vital functions. Inflammagesic allows enough inflammation for healing while cutting down on the excessive and deleterious

amounts of inflammation, maximizing the body's ability to recover from injury and maintain everyday health. It supports the structure and function of connective tissues and joints. It reduces the generation of eicosanoids and cytokines, such as prostaglandins, leukotrienes, and nitric oxide, by targeting the enzyme pathways of COX and LOX enzymes. (You've heard of the COX/LOX pathways in inflammation?) Inflammagesic can accomplish this without causing any of the issues associated with NSAIDs or steroids. Think of Inflammagesic as your healthy alternative to conventional anti-inflammatory drugs.

Inflammagesic is a blend of traditional herbs, including tumeric, boswellia, devils's claw, ginger, and yucca, as well as bromelian and quercetin. These botanicals and health supportive nutrients reduce allergic and asthmatic reactions, inhibit formation of inflammatory compounds, provide antioxidant protection against the damaging effects of free radicals, and reduce growth and metastases of tumors. Many of these herbs have been used for centuries in Ayurvedic medicine, and have proven beneficial in treating rheumatoid and osteoarthritis, headaches, and cardiovascular disease. The ingredients in Inflammagesic have been successfully used for brain and central nervous system inflammation that is involved in cases of depression, autism, TBI, and degenerative neurological diseases like Parkinson's, Alzheimers, and Multiple Sclerosis.

GETTING DOWN TO THE NITTY-GRITTY:

Tumeric, an herb used for centuries in Ayurvedic medicine, has been the subject of many research studies. Curcumin, one of turmeric's most active constituents, has been found to reduce inflammation and pain via several biochemical pathways that are similar to how NSAIDs work, but more gently and in balance. First, it drives down arachidonic acid release from phospholipids by reducing the activity of an enzyme called phospholipase A2. Second, it inhibits cyclooxygenase-2 (COX-

2) expression. Third, it lessens the macrophage production of nitric oxide. And fourth, it lowers TNF α 's activation of nuclear factor kappa-beta (NF-kB). NF-kB elevates in response to stressors such as injury, stress, infection, chemical exposure, and consumption of animal products, as do all the other markers mentioned here. Tumeric's curcumin was even compared to phenylbutazone for its anti-inflammatory effect with favorable results. Tumeric also reduces pain by depleting substance P, the messenger molecule that carries the sensation of pain to our brains. A fabulous benefit is that there is virtually no toxicity at normal doses.

Boswellic acids are pentacyclic triterpenes thought to be the active ingredients of boswellia serrata gum resin, also known as Frankincense. Frankincense resin, a traditional herb of the Ayurvedic pharmacopoeia, has been used for centuries as an astringent, anti-arthritic, antiseptic, stimulant, and expectorant. It has an inhibitory and apoptotic affect against leukemia cells. Studies support the use of boswellia serrata in all inflammatory bowel diseases, asthma, arthritis, and autoimmune diseases.

Boswellic acids have been found to inhibit the 5-lipoxygenase (5-LOX) enzyme, thereby lowering the synthesis of leukotrienes from arachidonic acid. Boswellia dramatically reduces immune globulin synthesis and the leukotrienes before they can cause bronchospasm, helping to prevent asthma attacks. These boswellic acids also drive down leukocyte elastase involved in emphysema and the mucus production in cystic fibrosis, chronic bronchitis, and respiratory distress syndrome.

Research has also suggested that boswellia's beneficial effects are a result of its ability to prevent the expression of VCAM-1 and ICAM-1 induced by TNF α , making it useful in allaying atherosclerosis, rheumatoid arthritis, and other inflammatory conditions.

NSAIDS thin tissues through glycosaminoglycan degradation, opening up the susceptible tissues to injury. Boswellia, on the other hand, does not disturb glycosaminoglycan synthesis and promotes tissue and collagen growth.

Bromelain is the name given to a group of proteolytic (protein-digesting) enzymes, derived from the stem and fruit of pineapple. Bromelain reduces swelling, bruising, healing time, blood clotting, and tumor growth. It also rebuilds muscles and collagen, supports normal mucosal tissue function, and enhances the absorption of quercetin. Bromelain administration has been found to interfere with the inflammatory arachidonic acid cascade as well as lead to significant reductions in concentrations of 2-series

prostaglandins, while simultaneously promoting the anti-inflammatory prostaglandin 3 series. It continues to modulate the immune system by reducing kininogen, which in turn inhibits bradykinin release. Research has also found that it lowers substance P, contributing to its analgesic properties. By way of degrading fibrin and fibrinogen, bromelain helps prevent the excess formation of blood clots.

Ginger has a long history of use in both Ayurvedic and Asian systems for health and well-being. It naturally contains a matrix of active constituents including gingerols, beta-carotene, capsaicin, curcumin, and salicylate. Ginger inhibits inflammatory prostaglandins, reduces pain and swelling, and has documented anti-ulcer and analgesic effects. Ginger has been found to reduce biosynthesis of leukotrienes, nitric oxide, and 2-series prostaglandins. The unique actions of ginger are a reflection of it being an inhibitor of both COX and LOX enzymes. Ginger has long been used for nausea, vomiting, and vascular inflammation.

Devil's claw is an herb that is native to Southern Africa. Related to sesame, the root was traditionally used as a digestive aid and to treat arthritis and fever. It is recognized in the European Pharmacopoeia as an analgesic, a sedative, a diuretic, and an anti-rheumatic. Both the whole herb and one of its major constituents, the iridoid harpagoside, have been shown to reduce cytokine production, including the inhibition of NF-kB activation and its subsequent inducible expression of COX-2 and nitric oxide. Harpagosides are the main anti-inflammatory constituents, acting as a COX-2 enzyme inhibitor, reducing prostaglandin E2 synthesis, and inhibiting cysteinyl leukotrienes. Devil's Claw was compared favorably to Vioxx in studies for back pain.

Quercetin, a flavonoid phytonutrient, is naturally occurring in onions, apples, broccoli, chocolate, wine, and citrus fruits. It travels in nature with vitamin C and other bioflavonoids such as rutin and hesperidin. Not only does quercetin have strong antioxidant activity, but results from studies suggest it also prevents mast cell and basophil degranulation, reduces leukotriene synthesis, and inhibits the activity of the NF-kB pathway; the latter mechanism may in turn decrease nitric oxide synthase expression. All of these mechanisms give it powerful abilities to stabilize the immune system and drive down allergic reactions. Quercetin promotes sinus and respiratory health and is excellent for use in patients with asthma. It is beneficial not only for reducing inflammation but also in rebuilding tissue. Quercetin inhibits the pathways of inflammatory prostaglandins without disturbing the prostaglandins that promote healing.

Yucca is a plant native to the Southwestern United States and Mexico. Related to agave, yucca contains yuccaols, phenols, sterols, gloriosaols, and resveratrols that act as steroids, COX 1&2 pro-inflammatory enzymes, and powerful antioxidants. Recently, researchers have identified the presence of not only resveratrol, but also resveratrol-like stilbenes in yucca. Resveratrol is the phytonutrient present in red wine that has been attributed with many of its health promoting benefits. Among its other numerous actions suggested by studies, resveratrol has been found to inhibit NF-kB activation and nitric oxide.

A FEW EXAMPLES OF SCIENTIFIC RESEARCH

In a double-blind study published by Deodhar, et al, (1980), administration of 1200mg of curcumin for 2 weeks was found to improve morning joint comfort and walking time in individuals with joint concerns. One serving of Inflammagesic contains 750mg of turmeric standardized to contain 713mg of curcuminoids.

A double-blind, crossover trial performed by Kimmatkar, et al, (2003) found improvements in joint comfort as well as an increase in knee flexion and walking distance in participants who received 999mg per day of boswellia for 8 weeks. One serving of Inflammagesic contains 500mg of boswellia.

In an open, non-placebo controlled trial of healthy adults with recently developed, mild joint concerns, Walker, et al, (2002) found that those receiving either 200mg or 400mg per day of bromelain for 30 days reported improvements in joint comfort. One serving of Inflammagesic contains 75mg of bromelain.

The results of a double-blind, placebo controlled, crossover study by Wigler, et al, (2003) found that individuals receiving 1000mg per day of ginger extract for 60 days had improvements in joint comfort on movement measured by a visual analog scale. One serving of Inflammagesic contains 100mg of ginger.

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