

**A potent combination of two isolates and two herbs effective in managing pain and inflammation associated with arthritis, sports injuries and muscle strains and sprains**

**INDICATIONS:**

- Joint inflammation
- Osteoarthritis (especially knee)
- Rheumatoid arthritis
- Sports injuries
- Pain associated with inflammation

Methylsulfonylmethane (MSM), the isoxidized form of dimethyl-sulfoxide (DSMO), is an effective natural analgesic and anti-inflammatory agent. Glucosamine is classified as a slow-acting drug in the treatment of osteoarthritis and is an efficacious chondroprotective agent. A randomized, double-blind, parallel, placebo-controlled study involving 118 patients orally administered 500 mg of MSM, glucosamine, both or a placebo, found that the combination of MSM and glucosamine was superior to either alone in the treatment of osteoarthritis.

To quote the studies findings: *"The combination of MSM and glucosamine produced an analgesic and anti-inflammatory effect in osteoarthritis. Combination therapy showed better efficacy in reducing pain and swelling and in improving the functional ability of joints than the individual agents. The onset of analgesic and anti-inflammatory activity was found to be more rapid with the combination than with Glucosamine. It can be concluded that the combination of MSM with Glucosamine provides better and more rapid improvement in patients with osteoarthritis."*

The addition of two highly recognized herbs (Boswellia serrata and Evening Primrose oil) known for their anti-inflammatory properties makes **MSM-GLS+** a highly valuable formula in the treatment of pain, inflammation associated with osteo- and rheumatoid arthritis, sports injuries and muscle strains and sprains.

Methylsulfonylmethane (MSM) is a special form of sulfur naturally found in all plants, soils, fruits, vegetables and animal tissue. MSM is important to human health as a dietary source of sulfur required for the body to properly function. MSM is nontoxic, and recognized through clinical evidence as being effective in accelerating healing associated with musculoskeletal injuries and inflammations. In order to remain flexible and healthy, cartilage, joints, and synovial fluid need sulfur-containing compounds. MSM levels in the body decrease with age, resulting in symptoms of fatigue, tissue, and organ degeneration and increase susceptibility to disease. Studies have shown that MSM does get absorbed by the body tissues when taken as a supplement.

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**Each 2 capsules contain:**

<b>Ingredients:</b>	<b>Mode of action</b>
Glucosamine sulfate . . . . .500 mg	Decreases osteoarthritic pain; stimulates the synthesis of proteoglycans
MSM (methylsulfonylmethane) . . . .800 mg	Analgesic, anti-inflammatory, connective tissue maintenance
Boswellia serrata, powdered . . . .200 mg (gum resin) 60% boswellic acid	Anti-inflammatory blocking 5 lipoxygenase
Evening primrose oil . . . . .60 mg powdered (oil)	Reduces levels of inflammatory leukotrienes

**Other ingredients:** microcrystalline cellulose, magnesium stearate, silicon dioxide.

**Side effects:** None

**Contraindications:** Do not use if pregnant or breastfeeding or if you have shellfish allergies.

**Warnings:** Consult a practitioner if you have diabetes, or if you take blood thinners, antipsychotics, phenothiazines, black cohosh and/or chasteberry. Do not use if you have any seizure disorder, mania and/or schizophrenia.

**ADULT DOSAGE:** Take two capsules two to three times a day.

# MSM-GLS+™

MSM helps to reduce inflammation due to injury or inflammatory diseases, such as arthritis; can shorten recuperation time from sports injuries and strenuous exercise; and acts to relieve muscular aches and pains. MSM works to relieve pain and inflammation by: blocking the passage of pain impulses within the nerves; by reducing inflammation (the cause of pressure on nerves and other tissues) as a source of pain; and, by stimulating greater blood flow and thereby accelerating the healing processes. MSM also reduces muscle spasm, a condition which typically occurs in association with damage to the musculoskeletal system.

Dr. Stanley Jacob, MD at the Oregon Health Sciences University in Portland is perhaps the leading researcher on the therapeutic use of MSM. He and his research team through various research studies have documented that the daily oral use of 2.0 grams of MSM, can be effective in bringing about: inhibition of pain impulses along nerve fibers (analgesia); decreased inflammation; increased blood supply; reduction of muscle spasm and a softening of scar tissue. One study showed that MSM was more effective in reducing symptoms of degenerative arthritis compared to 2,400 mg. of Ibuprofen. In this double-blind study 82% of participants taking MSM reported better pain control within six weeks of starting treatment, whereas only 18% of participants receiving Ibuprofen showed improvement. In another study, investigating MSM and sports injuries involving muscles, tendons and ligaments, it was found that the group taking MSM experienced a more rapid reduction of symptoms compared to the placebo group.

Glucosamine sulfate (GLS) is the salt of the natural aminomonosaccharide glucosamine. Glucosamine's primary therapeutic use is in the treatment of degenerative diseases of the joint. It promotes the production of proteoglycans, which are necessary for proper joint function and responsible for stimulating joint repair. Importantly, GS also plays a role in converting sulfur into cartilage, which is significant, since most osteoarthritis sufferers are sulfur deficient. Numerous controlled studies have concluded that GLS is of benefit in the treatment of arthritis, in particular OA. Studies have shown that, even though glucosamine sulfate has little anti-inflammatory effect and no painkilling effect, it can be as good as or better than NSAIDS in relieving the pain, inflammation, and stiffness of osteoarthritis. This is significant because long-term use of glucosamine sulfate has no adverse effects. One study concluded that since GS naturally occurs in the human body and is virtually devoid of toxicity it is highly suitable for long-term use in the treatment of osteoarthritis.

The best glucosamine sulfate supplements are derived from higher-quality European sources, such as is found in MSM-GLS+. Asian-source glucosamine sulfate, though less expensive, appear to be less effective and may contain dangerous heavy metals.

Boswellia serrata (or salai guggul in Hindi) has long been recognized for its anti-inflammatory properties in Ayurvedic medicine. The resin of the tree contains medicinally active ingredients called alpha, beta and gamma boswellic acids that block 5 lipoxygenase, boswellic acids which inhibit the synthesis of pro-inflammatory leukotrienes. Today, *Boswellia serrata* is recognized as one of the most effective botanicals used to moderate symptoms of rheumatoid and osteoarthritis. A recent controlled study using boswellia in the treatment of painful knee osteoarthritis, concluded that those patients employing the herb had significant reductions in knee pain and knee swelling and had greater knee flexion and were able to walk longer pain free distances. *Boswellia* has also been clinically used in the treatment of rheumatoid arthritis (RA). Studies and clinical reports in India and more recent clinical trials in Germany have confirmed that standardised extract of *Boswellia* is an effective treatment for rheumatoid arthritis in adults and children. Study participants reported significant reduction of pain. Many were able to reduce their intake of NSAIDS, and said their overall health and clinical symptoms had improved.

Evening Primrose Oil: Gamma linolenic acid or GLA is a type of fatty acid derived from the seed oil of the evening primrose oil plant. The use of GLA inhibits the inflammatory process through two mechanisms: by blocking the production of leukotrienes and increasing the production of PGE. The therapeutic use of GLA in RA has resulted in a mild reduction in the articular symptoms especially morning stiffness. Evening Primrose Oil has shown beneficial effects against rheumatoid arthritis. Those treated with the GLA reported a considerable reduction in joint tenderness and/or swollen joints, whereas no improvement was evident in the placebo group.

## REFERENCES

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