



"Do more, Learn more, Live more"

**MSM: Organic Sulfur and Human Health**  
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**What is MSM?**

MSM (methyl-sulfonyl-methane) is a natural form of organic sulfur found in small amounts in food and in the human body. Sulfur, the eighth most abundant element present in all living organisms, is essential for life. Some of the essential functions that make sulfur possible for us to live include maintaining the structure of the proteins of the body, helping in the formation of keratin, which is essential for hair and nail growth, maintaining immune system function, catalyzing the chemical reactions which change food into energy and neutralizing or eliminating toxins from the body.

Medical doctors have been using MSM for many conditions, including chronic pain. Let's examine some of the clinical research on MSM.

**How effective is MSM in the treatment of pain?**

In a study conducted by the University of California School of Medicine in Los Angeles, patients who took 2,250 milligrams of MSM daily for six weeks reported an 80 percent reduction in arthritis symptoms.

During many years of clinical use at Oregon Health Sciences University in Portland, researchers have documented a number of effects in case reports on hundreds of patients treated orally with more than two grams of MSM daily, including:

- Inhibition of pain impulses along nerve fibers
- Decreased inflammation
- Increased blood supply
- Reduction of muscle spasm
- Softening of scar tissue

Further study has indicated MSM can significantly reduce symptoms of degenerative arthritis in comparison to 2,400 mg. of Motrin. Eighty-two percent of participants receiving MSM in a double-blinded study reported better pain control within six weeks of starting treatment, while only 18 percent of participants receiving Motrin showed improvement.

### **Exercise Induced Injury**

In an interesting study, twenty-four subjects that sustained athletic injuries received either a placebo or MSM in unmarked capsules in addition to routine chiropractic manipulation, ultrasound and muscle stimulation at each visit. At the conclusion of the study, patients on MSM reported a 58.3% reduction in symptoms, and had 3.25 visits for treatment, while patients on placebo reported a 33.3% reduction in pain, but had more visits for treatment to address their pain (5.25).

### **Possible Chemoprotective Effect**

The Departments of Microbiology and Immunology and of Biochemistry, University of Western Ontario, London, Ontario, studied the possible chemopreventive effect of MSM on cell culture (murine eythroleukemia). It seems that MSM functioned similar to aspirin and induced differentiation by a cyclooxygenase independent mechanism and suggested that a common mechanism for chemopreventive action invoked by both agents might be the activation of gene functions leading to differentiation and thereby dismantling the cellular capacity for proliferation.

### **Allergic Rhinitis**

In examining 50 subjects who had seasonal allergic rhinitis who completed a study, subjects consumed 2,600 mg per day of MSM orally for 30 days. By day seven, upper and total respiratory symptoms were reduced significantly. Lower respiratory symptoms were significantly improved from baseline by week 3. All respiratory improvements were maintained through the 30-day visit. Energy levels were increased significantly by day 14, and this continued through day 30.

A study published in Clinical Drug Investigations found that the combination of glucosamine and MSM is more effective against osteoarthritis than either nutrient alone. Although the individual nutrients did improve pain and swelling in patients' affected joints, the combined therapy was more effective than MSM or glucosamine alone in reducing these symptoms and improving the function of joints. In the clinical trial 118 patients with mild to moderate osteoarthritis were treated three times daily with either 500 milligrams of glucosamine, 500 milligrams of MSM, a combination of both, or an inactive placebo. After 12 weeks of treatment, the average pain score had fallen from 1.74 to 0.65 in the glucosamine-only group. In MSM-only participants, it fell from 1.53 to 0.74.

However, in the combination group, it fell from 1.7 to 0.36. The researchers also found that the combination treatment had a faster effect on pain and inflammation compared to glucosamine alone. All of the treatments were well tolerated. Though I am a believer in glucosamine sulfate and routinely employ it in clinical practice, I think the dose of MSM in this study was quite low. A minimum of 2000 mg, twice daily seems to be more effective than a total dose of 1500 mg daily.

### **Snoring, Hair and Nails**

A small but interesting study at Oregon Health Sciences University focused on MSM's effect on snoring. After four days of treatment, 80% of the subjects showed a significant reduction in snoring.

In a small hair and nail study at Oregon Health Science University, nail growth improved and hair growth and appearance improved by week six.

### **Summary from the New York Academy of Sciences**

Excerpts from the Annals of The New York Academy of Sciences Volume 411, summarized some interesting reports on MSM and reduction of allergic responses to foods and pollen, control of hyperacidity, reduction in the hypersensitivity to certain drugs such as aspirin, nonsteroidal antiarthritic agents, such as Motrin, Indocin and Naprosyn, control of constipation, reduced pain associated with systemic inflammatory disorders, and a review of in vitro and in vivo tests of MSM against various parasitic organisms.

### **Selected References:**

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