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## Healing with MSM © VR

By Yousry Naguib, PhD

Methyl sulfonyl methane, also known as dimethyl sulfone, is a naturally occurring sulfur compound found in a variety of foods, including fruits and vegetables, milk, meat, seafood, eggs, grains, legumes, onions, garlic, asparagus, cabbage, sprouts, and broccoli. It is also found in human body fluids, tissues, and urine.

MSM, which has the chemical formula C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>S, is an important nutrient and essential for healthy connective tissues and joint function, proper enzyme activity and hormone balance.

MSM provides the essential sulfur necessary for a number of body chemicals, including amino acids (building blocks for proteins), insulin, which helps regulate carbohydrate metabolism, the anticoagulant heparin, and certain enzymes. Sulfur is also present in the B vitamins thiamine and biotin.

Sulfur constitutes about 0.25 percent of our total body weight, similar to potassium. Sulfur is vital for the synthesis of collagen (the protein found in connective tissue in our bodies), and is a major component in the formation of cartilage and connective tissues. Sulfur is present in keratin, which is necessary for the maintenance of the skin, hair, and nails; and it gives strength, shape, and hardness to their protein tissues.

MSM also plays an essential role in the biosynthesis of the essential sulfur-amino acids methionine, and cysteine. The ability of MSM to give up its sulfur to these essential amino acids and other serum proteins was demonstrated in an animal study. Guinea pigs were fed MSM labeled with radioactive sulfur. Analysis of their serum proteins revealed that the radio-active sulfur was incorporated into the amino acids methionine and cysteine, eventually finding its way into the collagen of skin, joints and blood vessels.

The sulfur-containing amino acids help form other important chemicals such as biotin, lipoic acid, and glutathione. Sulfur is often associated with bad odors, like those of garlic, egg yolks, cabbage, and sprouts. However, MSM is odorless and does not produce intestinal gas or body odor. MSM is a slightly

bitter tasting, water soluble white powder.

### **Health Benefits**

MSM supplementation was found to improve many health problems such as allergies, arthritis, skin problems, stomach and digestive tract problems. MSM plays a role in collagen synthesis, which helps skin becomes softer, more resilient, and hair and nails grow faster and stronger (the beauty mineral). MSM is also important in wound healing, healthy hair and nails, arthritis, acne, and depression.

Lawrence, Jacob, and Zucker in their book, *The Miracle of MSM*, also stated that MSM is a natural remedy for arthritis, fibromyalgia, tendonitis and bursitis, muscular soreness, carpal tunnel syndrome, post-traumatic inflammation and pain, heartburn, back pain, and allergies. MSM benefits include nail-strengthening, thicker hair, and softening of skin tissue. The formation of keratin for hair and nail growth is dependent on MSM.

MSM is also effective in ameliorating symptoms of physiological response to stress including gastrointestinal upset, and pain associated with arthritis.

MSM helps the body replace old skin cells with healthy cells, and helps wrinkles go away. MSM can be added to aloe vera gel for application to the skin. MSM can also reduce scar tissue by altering the cross linking process in collagen to allow tissue repair and healing to take place.

A magnetic resonance imaging (MRI) study at Huntington Medical Research Institute in Pasadena, CA, showed that MSM has the ability to cross the blood brain barrier. MSM was detected in significant concentrations in the brains of both patients with memory loss and normal volunteers who ingested MSM at the recommended doses of 1 to 3 g daily.

A report published in the *Urologic Clinics of North America* suggested MSM holds promise for the treatment of interstitial cystitis patients (a disease that involves inflammation or irritation of the bladder wall leading to scarring and sometimes bleeding), as well as those suffering from painful bladder (urethral) syndrome.

Russian scientists reported that prolonged oral administration of dimethyl sulfoxide and its main metabolite MSM lessened the destructive changes in the joints of mice with spontaneous arthritis, which is the inflammation of joints, characterized by pain, stiffness, swelling, and a restricted range of movement.

In a double-blind study, Ronald Lawrence, MD, at UCLA School of Medicine found that about 80 percent of patients with arthritis who ingested 2,250 mg of MSM a day for six weeks showed improvement in their pain symptoms, while those on the placebo experienced an average of 18 percent improvement at six weeks.

Studies using animal models have shown that MSM provided significant protection against the development of autoimmune lympho-proliferative disease, characterized by proliferation of lymphocyte (white blood cells) tissue in mice, and that MSM had a marked protective effects on the development of spontaneous joint disease in mice with autoimmune lympho-proliferative disease. A study published wed that MSM was effective in the chemo-prevention of rat mammary cancers.

### **Safety**

MSM is virtually non-toxic, and has been widely used as a dietary supplement without side effects. Dr. Lawrence has treated patients at the Oregon Health Sciences University with MSM for many years with no apparent side effects.

### **Dosage**

A single dose of MSM is usually not effective in ameliorating symptoms. Noticeable results are usually seen within 2 to 21 days. Daily dosages of 2 to 4 grams are recommended. Excess MSM is said to be flushed out of the body after about a 12-hour period

### **Summary**

MSM is a safe supplement, and an effective solution for many types of pain and inflammatory conditions, including: degenerative wear- and tear-arthritis, rheumatoid arthritis, back pain, muscle pain, chronic headaches, Fibromyalgia, and Carpal Tunnel Syndrome. MSM can also help speed wound healing, and reduce scar tissue. MSM can also strengthen hair and nails. **VR**

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