



MSM

It's Elementary, My Dear for Arthritis, Inflammation & Pain

by Margy Squires

Knobby knuckles and creaky joints. Movement hindered by swelling, inflammation and bone on bone pain. Osteoarthritis affects some 30 million Americans and many are looking for natural ways to relieve symptoms and stay functional. MSM is a natural element of the sulfur mineral family. Its active role is building new cells and the connective tissue in cartilage, muscles and joints that give our bodies form and structure. As an anti-inflammatory, MSM is a valuable and viable alternative to aspirin and other nonsteroidal anti-inflammatory drugs (NSAIDs) as well as newer COX-2 enzyme inhibitors like Celebrex®. Short for methylsulfonylmethane, MSM is also safer, particularly for long-term use, without the risks of GI bleeds or stomach complaints. But what is the science behind MSM?

Stanley Jacob, M.D. and biochemist Robert Herschler are credited with much of the investigative studies on MSM. Their research on DMSO, another sulfur family member, led them to discover MSM, which is formed when oxygen is added (DMSO_2). They noted remarkable healing results but without DMSO side effects (bad breath, skin redness, allergies and sulfur smell), making MSM more easily tolerated. Herschler patented the term MSM as an acronym. Jacob has treated more than 18,000 patients with MSM for many different conditions at Oregon Sciences University with great success. Retired veterinarian John Metcalf used MSM extensively for his practice on small animals as well as thoroughbred horses for arthritis and skin problems.

WHAT DOES MSM DO FOR OA?

Although the exact biochemistry of how MSM works is ongoing, the obvious benefit in three decades of clinical trials confirms MSM as a safe and effective anti-inflammatory. MSM may do this in several ways including 1) lowering the auto-immune response to noxious stimuli which provokes inflammation, 2) inhibiting the development of abnormal antibodies to the body's own tissues (in auto-immune disorders such as arthritis, lupus, etc), and 3) interfering with rheumatoid factor and antinuclear antibodies (ANA) themselves. By thwarting prostaglandins and leukotrienes—hormone-like substances involved in inflammation—MSM relieves associated inflammatory pain. MSM is also believed to lessen pain by interrupting central nervous system signaling of C-fibers to the brain.

MSM's role in joint health is better understood. Sulfur is a structural part of connective tissue, skin, hair, nails and joint cartilage. Sulfur depletion therefore affects those areas. Although sulfur deficiency itself is not proven in studies, scientists know as we age that cartilage sulfur content decreases, a correlate to joint degeneration. In osteoarthritis, the sulfur amount in cartilage is only one-third of that present in normal controls. They note too that certain arthritic drugs deplete sulfur—so although they are effective in reducing pain and inflammation, they do so at the expense of joint integrity. MSM on the other hand actually works as well as NSAIDs, plus donates sulfur to assist healing, and protects articular cartilage surfaces that are susceptible in OA.

MSM on the other hand actually **works as well as NSAIDs**, plus donates sulfur to **assist healing**, and **protects articular cartilage** surfaces that are susceptible in OA

Continued

MSM *continued*

MSM STUDIES

Dr. Ronald Lawrence co-wrote a book with Dr. Jacob and also used MSM in his practice for more than 20 years. In one of Lawrence's studies, 80% of the patients he gave 2,250 mg of MSM a day had significant reduction in osteoarthritis pain in only 6 weeks, compared to 16% of controls. Dr. Jacob's study compared divided doses of 6000 mg MSM to 600 mg ibuprofen, taken daily for 4 weeks. He found MSM just as effective, without the side effects. In yet another 12 week trial, patients with knee OA given 3000 mg MSM twice daily had 'significant reductions' in pain and in the difficulty of performing daily tasks [Kim et al, 2004]. One study of MSM and glucosamine showed 'reduction in pain and swelling, plus improvement of functional ability' [Usha PR et al, 2004]. The second compared MSM with glucosamine and chondroitin and reported MSM 'definitely useful in decreasing pain, improving functional ability and joint mobility in patients with OA' [Vidyasagar S et al, 2004]. Numerous other human and animal studies have come to like conclusions.



FOOD SOURCES

Sulfur is present and required for the structure of every living cell. You only need a little (about 1-2 parts per million) but it's difficult to obtain from food sources. Sulfur is very fragile and most is destroyed in cooking or heating foods. Sulfur is found in protein foods (from amino acids) in meat, fish, poultry, unpasturized milk, legumes and particularly egg yolks. Asparagus, Brussels sprouts, cabbage, garlic, onions and some nuts have less. (Complete vegans may be low). Since minerals must be obtained by the diet, the only way to ensure therapeutic levels may be by supplementation.

SAFETY & EFFICACY

MSM has a well-documented safety record covering many research years. No known serious or adverse effects have been reported on animals or humans. MSM is safely taken with NSAIDs (and may lower the dose over time), plus is often combined effectively with other nutrients such as glucosamine, chondroitin and vitamin C for collagen and joint health. According to Dr. Jacob, "I've used it (MSM) successfully in treating a wide variety of patients suffering from simple arthritis and joint pain to more chronic conditions including irritable bowel syndrome. I have been able to provide relief in about 70 percent of patients with chronic autoimmune disorders such as lupus, scleroderma, fibromyalgia and rheumatoid arthritis with aggressive MSM therapy."

NOTE: MSM and the mineral sulfur should not be confused with sulfa (antibiotic) and sulfites (preservatives) which cause allergies in many people.

MSM Benefits



- Allergies
- Alzheimer's
- Arthritis
- Asthma
- Candida
- Certain Cancers
- ME/CFS
- Chronic Pain/FMS
- Constipation
- Diabetes
- Digestive Disorders
- Interstitial Cystitis
- Irritable Bowel
- Muscle Pain & Recovery
- Parasites
- Pets
- PMS
- Rheumatism
- Skin Disorders & Healing
- Ulcers

RESOURCES

1. Amiel, D. Assessment of MSM on the development of OA (animal study). *The FASEB Jour* 2008;22:1094-3.
2. Jacob, SW. *The Miracle of MSM: The Natural Solution for Pain*. New York. Penguin Putnam, 1999.
3. Jacob SW, Appleton J. *MSM-The Definitive Guide*. Topanga, CA. Freedom Press, 2003.
4. Kim LS et al. Efficacy of MSM in OA pain of the knee: a pilot clinical trial. *Osteoarthr and Cartil*. 2006;14:286-94.
5. Squires, M. MSM for Better Health. *Health Points*, April 1997.
6. Usha PR et al. Randomised, double-blind, parallel, placebo-controlled study of oral glucosamine, MSM and their combination to OA. *Clin Drug Investig*. 2004;24(6):353-63.
7. Vidyasagar S et al. efficacy and tolerability of glucosamine chondroitin sulphate, MSM in OA of knee in Indian patients. *Iran J Pharmacol Ther* 2004;3:61-5.

©2009-2011 TyH Publications (M. Squires)

Published in *Health Points*. This article is protected by copyright and may not be reproduced without written permission. For information on a subscription, please call TyH Publications, 1-800-801-1406 or write TyH Publications, 12005 N. Saguaro Blvd., Ste. 102, Fountain Hills, AZ 85268. E-mail editor@e-tyh.com. For information on TyH products, visit our website at www.e-tyh.com.

Disclaimer: For informational purposes only. Not intended to diagnose, cure or treat any disorders, or replace professional medical counsel.