Background:

With relatively little published research on MSM, it's easy to be skeptical. However, MSM does have a scientific basis. It is a normal metabolite, or byproduct, of dimethyl sulfoxide, better known as DMSO. Twenty years ago, DMSO was an alternative "wonder drug," and it still has a strong following.

"It's a tale of two cities," says Stanley W. Jacob, M.D., of Oregon Health Sciences University in Portland. Both substances, in a manner of speaking, have historically been joined at the hip.

In 1961, when Jacob was head of the university's organ-transplant program, he thought DMSO, a common industrial compound, might help in the cryogenic preservation of organs. Curious, he applied a small amount of the chemical to his hand and watched in amazement as it penetrated. Seconds later, he felt the sulfur-like taste of oysters in his mouth. At that time, most physicians and researchers did not think absorption occurred through the skin, but DMSO obviously moved through the skin and quickly entered the bloodstream. At first, Jacob thought that DMSO might be useful in transporting other drugs through the skin.

He teamed up with Robert J. Herschler, a biological chemist and inventor, and together they investigated the properties and medicinal uses of DMSO. It turned out that DMSO was a powerful antioxidant, antiinflammatory, and pain reliever-and beneficial in a wide range of conditions. Although some major drug companies showed interest in DMSO and funded research on it, the FDA was slow to approve it. It wasn't until 1978-15 years later-that the FDA approved DMSO as a prescription drug for the treatment of severe bladder infections.

By that time, however, DMSO had gained a huge public following, and word of mouth spread knowledge of its benefits. The compound was cheap and easily available over the counter in health food stores. The only negative aspect of DMSO was its characteristically strong sulfur smell and the taste it created, even when it was applied to the skin.

Growing Interest in MSM

By 1978, Jacob and Herschler had also become intrigued with MSM. According to Jacob, 15 percent of DMSO (whether taken orally, intravenously, or applied topically) is converted to MSM. MSM appeared to be one of the active forms of DMSO in the body.

Unlike DMSO, MSM is a nutrient found in many foods, and it is normally present in the bodies of people and animals. Unpasteurized milk is a particularly rich dietary source of it, and small amounts of MSM are found in fruits, vegetables, and grains. Food refining and processing removes MSM much the way it reduces vitamin and mineral levels.

How does MSM work?

Frustrated, Jacob admits that much more research has to be conducted. Only about two dozen scientific papers have been published on MSM, compared with 55,000 on DMSO. However, some people have made a credible argument that, because MSM is the main metabolite of DMSO, many of the DMSO studies are "co-studies" of both substances.

MSM, which is about 34 percent sulfur by weight, may work in large part by donating the mineral to a broad range of normal biochemical processes in the body. Although sulfur is essential for health, it is not officially regarded as that by the U.S. Academy of Sciences (which establishes nutritional recommendations) and by the U.S. Food and Drug Administration.

Ironically, while sulfur is one of the most abundant minerals in the body, it has been one of the least researched. Sulfur is a component of amino acids (methionine cysteine, taurine), some vitamins (e.g. B1, biotin), hormones (insulin), coenzymes (coenzyme A), and antioxidants (glutathione, N-acetylcysteine, alpha-lipoic acid). Because sulfur is necessary to build "disulfide bonds," which hold together tissue, it forms part of the body's physical structure, including protein, collagen, glucosamine, skin, and nails.

Alexander Schauss, Ph.D., director of the American Institute for Biosocial Research, Tacoma, Wash., "Nobody writes about sulfur," he says. "It's taken for granted and neglected. But like any mineral, when it's in short supply, it has a rate-limiting effect that interferes with normal body processes."
MSM May Benefit Varied Conditions:

DMSO and MSM have very similar effects, says Jacob. DMSO is the more potent pain reliever and an antioxidant. “But MSM is a pain reliever, and it reduces inflammation clinically,” he adds. One of the advantages of MSM is that it doesn’t possess or create a pungent sulfur odor. That, Jacob says, eases the problem with bad breath and increases the therapy’s “social acceptability.”

- Muscle and joint pain. Like DMSO, MSM (taken orally) can relieve pain and inflammation in muscles and joints. Many of the components of joints are made from collagen and glucosamine, both of which are sulfur dependent. MSM can be helpful in most musculoskeletal pain and inflammation, including rheumatoid arthritis, osteoarthritis, tendonitis, and gout.

- Interstitial cystitis. Interstitial cystitis is the only condition that DMSO, in prescription form, has been approved for therapeutic use.

- Scleroderma. It appears that MSM may normalize collagen formation.

- Allergies. MSM has been shown helpful, clinically, in lupus erythematosus and may be beneficial in other autoimmune (self-allergic) disorders.

- Other conditions. MSM may reduce excess stomach acid and hypersensitivity to some drugs. Laboratory studies have found that it can retard the growth of vascular smooth-muscle tissue, which is associated with increased risk of coronary heart disease, and that it may have some anticancer properties.

Despite his clinical successes with MSM, it is unclear exactly why or how it works. More research and controlled trials with people are ongoing.

Taking MSM

For all practical purposes, MSM has vitamin-like effects that promote normal growth and repair mechanisms in the body. It is not a vitamin but a nutritional supplement. The dosage range is wide, going from one or two grams daily all the way up to 80 grams daily. Approximately two grams a day would be a good general dosage. Always follow label instructions.

The lack of scientific research will undoubtedly hinder the recognition and acceptance of MSM as a therapeutic nutrient. However, based on its growing use and the many positive experiences, MSM may develop a strong following as a natural over-the-counter remedy.

Should you have any additional questions, please do not hesitate to contact our office. We will be more than happy to answer any questions you may have.