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Memorial Sloan Kettering Cancer Center

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Give to MSK

What is it?

DMSO may help relieve pain but more studies are needed to confirm its safety and efficacy. There is no evidence that DMSO can treat cancer in humans.

DMSO is a widely used chemical solvent. It is rapidly absorbed when applied to the skin, and has been shown to reduce pain and inflammation. DMSO is used as a prescription drug to treat inflammation and pain of the bladder. Small studies suggest that DMSO may help relieve peripheral neuropathy and post-thoracotomy pain. It has also been studied for its effects on painful bladder syndrome/interstitial cystitis, but definitive evidence is lacking. More research is also needed to determine its effects in patients with osteoarthritis.

DMSO is approved for the treatment of interstitial cystitis, when administered intravesically.

What are the potential uses and benefits?

- As a cancer treatment
  Some laboratory studies have shown that DMSO may slow down the progression of cancer; however, clinical studies have not been performed.
- To treat chemotherapy extravasations (chemotherapy that has leaked and become trapped in surrounding tissue)
  DMSO may be used to treat this condition in a hospital setting.
- To reduce pain
  Applying DMSO to the skin appears to reduce pain in humans.
- To treat arthritis and osteoarthritis
  A few studies show that application of DMSO to the skin reduces pain and inflammation in humans; however, more studies are needed to determine the optimal dose.
- To treat interstitial cystitis (inflammation and pain of the bladder of unknown origin)
  Intravesical DMSO is an accepted treatment for interstitial cystitis; however, more studies are needed to establish this use.

What are the side effects?

- Garlic taste in mouth, dry skin, erythema and pruritis, urine discoloration, halitosis, agitation, hypotension, sedation and dizziness have been reported following use of DMSO.
- A systematic review of 109 studies showed that the most common adverse effects of DMSO were mild, transient gastrointestinal and skin reactions, and that small doses appear to be safe.
- DMSO was shown to cause neural damage in mice. Clinical relevance is not known.

What else do I need to know?

Patient Warnings:

DMSO is approved for the treatment of interstitial cystitis, when administered intravesically. But it is not approved for over-the-counter use in any form due to insufficient evidence of efficacy and potential toxicities. The industrial form of DMSO may be contaminated with other chemicals.

Do Not Take if:

- You are pregnant.

If you have any questions, contact a member of your care team directly. If you're a patient at MSK and you need to reach a provider after 5 p.m., during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.
Dimethylsulfoxide - Last updated on July 26, 2023

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