



SAMe

Common Names: *SAM*

Scientific Names: *S-adenosyl-L-methionine*

Effectiveness: SAMe may be effective in decreasing osteoarthritis pain and improving function. SAMe needs to be taken at least 1 month before its effects are seen.

Safety: Currently lack of evidence necessary to fully assess SierraSil safety.

What is SAMe?

- SAMe is a naturally occurring chemical in our bodies. It is made up of an amino acid (methionine) and adenosine triphosphate (ATP).
- It is involved in the formation, activation, or breakdown of other chemicals (hormones, proteins, phospholipids) in the body. Abnormal levels of SAMe can lead to various problems in our body, including osteoarthritis.
- Low levels of folate and vitamin B12 can also result in low levels of SAMe.

What it is it used for in people with rheumatic conditions?

- SAMe has been used to reduce joint pain from osteoarthritis.

How is it thought to work?

- SAMe may work a few different ways to help with osteoarthritis
 - SAMe increases the amount of a molecule (chondrocyte proteoglycan) that builds and maintains the “cushion” between joints (cartilage). This reduces the cartilage breakdown.
 - SAMe is also thought to help by taking part in a reaction in the body that produces polyamines (spermidine and spermine). Polyamines are thought to have properties that relieve pain and decrease inflammation.

Does it Work? What the Science Says: (for Health Care Professionals)

<p>SAMe (600-1200mg/day)</p>	<ul style="list-style-type: none"> A meta-analysis of 4 small randomized clinical trials (N=656) comparing the use of SAMe to placebo in patients with osteoarthritis of the knee or hip over 3-12 weeks. There was no effect on pain scores (0.4cm on a 10cm VAS) or function (SMD 0.02 (95%CI -0.68 to 0.71) on WOMAC scale). Few adverse effects were reported. 	<p>Meta-analysis of 4 RCTs of poor methodological quality demonstrated SAMe had no clinically important effect on osteoarthritis related pain or function</p>
<p>SAMe (1200mg/day)</p>	<ul style="list-style-type: none"> A randomized, double-blind, double-dummy cross-over study of 61 patients with knee OA comparing SAMe 600mg BID to celecoxib 100mg BID (8 weeks each with 1 week washout). Outcomes of pain, activity impairment (Rowland-Morris scale), functional health (COOP questionnaire & SF-36), and clinical assessment (using the WOMAC tool) were measured. Both showed similar changes in pain and functional scores, with a decrease of ~20 points on a VAS (baseline 45) and ~ 35% on WOMAC activity score (baseline 55) from baseline at 8 weeks. SAMe effect was delayed (8 weeks) compared to celecoxib (4 weeks). Adverse effects were systematically collected using patient diaries, nursing assessments, and interviews and included GI, psychiatric, insomnia, allergy, and rash (not specified between groups). 	<p>Small, well-conducted trial shows SAMe has similar efficacy to celecoxib with fewer adverse events. However reliability of evidence is uncertain</p>

What are possible side effects and what can I do about them?

- SAMe is generally well tolerated when taken orally. The most common side effect is nausea.

- Some other side effects more common at higher doses include gas, vomiting, diarrhea, constipation, dry mouth, headache, difficulty sleeping, loss of appetite, sweating, dizziness and nervousness.
- SAME can also cause skin rashes and itchiness.

Interactions

With drugs:

- SAME may increase levels of serotonin and interact with drugs used for depression, anxiety, and pain. Symptoms may include agitation, confusion, tremors, shivering, sweating, and faster heartbeat. More severe symptoms would be high fever and seizures.
 - It is not recommended to take SAME with any drug used for depression or anxiety
- *Common antidepressant and anti-anxiety drugs may include: citalopram (Celexa), paroxetine (Paxil), venlafaxine (Effexor or Pristiq), duloxetine (Cymbalta), and more*
- *MAOI drugs should not be taken within two weeks of SAME (ie, tranylcypromine, phenelzine, selegiline)*
 - It is not recommended to take SAME with any other drugs that affect serotonin levels
- *Common examples may include: tramadol (Ultram), meperidine (Demerol) or dextromethorphan (cough syrup)*
 - SAME may decrease the effect of levodopa (a drug used in Parkinson disease).

With Other Herbals:

- SAME should not be used with other natural health products that increase serotonin levels
 - *Such as: St. John's wort, Hawaiian baby woodrose, L-tryptophan*

With Other Diseases:

- SAME should not be used by people with bipolar disorder or Parkinson disease (if being treated with levodopa).
- SAME should be stopped 2 weeks before any surgical procedures due to its effects on the blood vessels and nervous system.

For more information about SAME, consult your physician and pharmacist.