

The Carlat Psychiatry Report

SAMe Fact Sheet

Indications: Not regulated by the FDA, considered a nutritional supplement.

What it is: SAMe is S-Adenosyl-L-Methionine, and is produced by our bodies as a derivative of the amino acid methionine. Its biochemical function is to donate methyl groups to molecules. It is necessary for the production of both serotonin and norepinephrine.

Mechanism: Mechanism of psychiatric effect is unknown. Theoretically, ingesting more SAMe than your body normally produces might lead to a higher production of both serotonin and norepinephrine, in turn leading to an antidepressant effect.

Evidence for Efficacy:

- Major Depression: Numerous clinical trials have shown SAMe superior to placebo and equivalent to tricyclic antidepressants. The Agency for Healthcare Research and Quality (AHRQ) has published a meta-analysis concluding that SAMe's efficacy is similar to conventional antidepressants.
- Osteoarthritis: SAMe appears to be as effective as nonsteroidal antiinflammatory drugs (NSAIDs) in treating the pain associated with osteoarthritis.

Dosing:

- Supplied in 200-400 mg tablets by most manufacturers.
- Effective dose is variable, but most antidepressant studies have used doses of about 1600 mg QD.

Cost: Potentially expensive, so it pays to shop around. Neighborhood pharmacies charge up to \$10/day (assuming a dose of 1600 mg QD). Internet sites advertise versions costing as low as \$3/day. The tricky part is that SAMe is a pretty unstable compound, and the active component may degrade. One analysis revealed that one brand contained only 25% the amount of SAMe as a brand from a competing manufacturer. So it might make sense to pay higher prices for SAMe from a reputable company.

Side Effects:

- Essentially no side effects; in particular, no sexual side effects.
- Theoretical concern of elevated homocysteine, since SAMe is converted to this during normal metabolism. Elevated homocysteine can lead to vascular disease. No reports of this problem in the literature so far, but some recommend taking folate and vitamin B supplements to help ensure brisk homocysteine metabolism.

Drug-drug interactions:

- **None reported.** Safe to combine with MAOIs.