

# S-Adenosyl Methionine (SAME) for Depression and Related Conditions

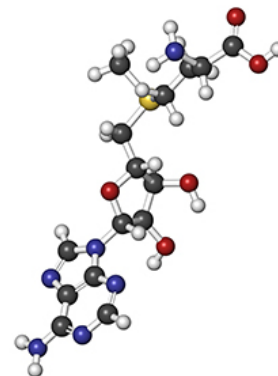


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**Summary:** S-Adenosyl methionine (often referred to as SAME) is a substance naturally present in the human body, and is involved in many important processes in our cells, including energy production, various hormones and neurotransmitters (brain chemicals). There is some evidence (though not a large body of evidence) in adults that suggests it may be helpful for depression, substance use and psychosis (as well as other conditions such as osteoarthritis).

## What Is S-Adenosyl Methionine (SAME)?

S-adenosyl methionine (often referred to as SAME) is a substance naturally present in the human body, and helps produce and regulate hormones and neurotransmitters (brain chemicals).

In North America, SAME is classified as a dietary supplement.

In Europe, SAME has been available by prescription since the mid-1980s for the treatment of various conditions.

## What is the Evidence?

Promising evidence (though not a large amount of evidence) in adults suggests that it:

- May be helpful as an antidepressant (Sarris, 2016; Sharma, 2017)
- May be used as alone as an antidepressant or in combination with standard antidepressants -- does not appear to have significant interactions.
- It is more effective than placebo.
- It is about equivalent in efficacy for depression as the tricyclic antidepressants and SSRIs (Mischoulon, 2018)
- May also help with certain neurocognitive, substance use and psychotic disorders and comorbid medical conditions (Sharma, 2017).

SAME is also reported to be helpful for others conditions such as:

- Migraine headaches.
- Musculoskeletal conditions such as osteoarthritis (joint disease that causes joint pain and stiffness); fibromyalgia (widespread pain and stiffness)
- Liver disease

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## What about Children and Adolescents?

Unfortunately, there is little (if any) research in children and adolescents.

- A case report reported it was helpful in three children, aged 8-12 (Schaller, 2004). Dosages started at 200 mg daily, and were increased up to 1200 mg daily.
- A review reports that there are no randomized controlled trials (RCT) about S-adenosylmethionine for depression in children or adolescents (Hazell, 2015). Extrapolating from the adult literature however, it is “reasonable to think that the treatment could also be effective for depression in children and adolescents.”

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## How Does It Work?

Depression can be linked to deficiencies with folate and B12, and SAM-e appears to have effects on these vitamins, which are involved with numerous physiologic processes, e.g. synthesis of neurotransmitters such as dopamine, serotonin and acetylcholine.

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## Thinking about trying SAME?

Are you thinking about trying SAME for depression or anxiety? If so, speak to your health care provider to weigh the risk and benefits in your specific situation. There is a much more evidence to start with other options first (such as cognitive behavioural therapy and SSRIs) for conditions such as depression and anxiety.

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## What Dosages?

Different studies have studied different dosages in the treatment of depression.

SAM-e dosages have ranged from 200 to 1600 mg a day and more recently doses even as high as 3200 mg a day (Mischoulon, 2018).

Based on the research to date, one possible dosage plan might be:

- Week 1: Start at 400 mg once daily for 1-2 weeks.
- Week 2: Are there still symptoms? If so, then further increase to 800 mg daily.
- Week 3: Are there still significant symptoms? If so, then increase to 1200 mg daily.
- Week 4: Are there still significant symptoms? If so, then increase to 1600 mg daily.
- Week 5 and 6: Reassess, and see if it should be continued or not.

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## What are the Side Effects?

Side effects from SAME tend to be less common than from prescription medications, and if they occur, tend to be mild. They may include:

- GI: Upset stomach, nausea, constipation, diarrhea
- Neurological: Mild insomnia, dizziness
- Mood: irritability, anxiety, worsening of bipolar symptoms (such as mania) in those with bipolar
- Other: Sweating

Do you have a diagnosis of bipolar disorder? If so, then talk to your doctor as there is a risk that there could be antidepressant effects that could worsen your bipolar.

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## For More Information

SAMe

<https://www.mayoclinic.org/drugs-supplements-same/art-20364924>

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## References

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[https://www.cochrane.org/CD011286/DEPRESSN\\_s-adenosyl-methionine-depression-adults](https://www.cochrane.org/CD011286/DEPRESSN_s-adenosyl-methionine-depression-adults)

Hazell P. Depression in children and adolescents: complementary therapies. BMJ Clin Evid. 2015 Dec;2015 . PMID: 26649557; PMCID: PMC4673912.

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Mischoulon D: S-Adenosyl Methionine (SAM-e), Clinical Rounds from Massachusetts General Hospital.

<https://psychopharmacologyinstitute.com/section/s-adenosylmethionine-same-for-depression-what-does-the-evidence-say-2066-4181>

Sarris J et al.: Adjunctive Nutraceuticals for Depression: A Systematic Review and Meta-Analyses, Am. J. Psychiatry 173;6, June 2016.

Summary: Evidence supports adjunctive use of SAME, methylfolate, omega-3, and vitamin D with antidepressants to reduce depressive symptoms.

Sharma, Anup et al. "S-Adenosylmethionine (SAME) for Neuropsychiatric Disorders: A Clinician-Oriented Review of Research." The Journal of clinical psychiatry vol. 78,6 (2017): e656-e667. doi:10.4088/JCP.16r11113

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5501081/>

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## About this Document

Written by the eMentalHealth.ca team, which includes health professionals at CHEO and the University of Ottawa. Special thanks to Marla Sullivan, pharmacist, CHEO.

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