

**Perioperative Implications****Drug Interactions**

- Additive serotonergic effects and serotonin syndrome–like effects with antidepressants include SSRIs
- Due to serotonergic properties, the following should be avoided with SAME (in view of the risks of serotonin syndrome–like effects): dextromethorphan (Robitussin DM, other cough syrups), meperidine (Demerol), pentazocine (Talwin), tramadol (Ultram), sumatriptan (Imitrex), and other 5-HT<sub>1B/1D</sub> receptor agonists.
- Additive side effects like hyperthermia, agitation, confusion, and coma when used with MAOIs.
- Other side effects may include dry mouth, nausea, gas, diarrhea, headache, anxiety, nervousness, restlessness, and insomnia.
- Large doses of SAME may cause mania (abn elevated mood). People with bipolar disorder (manic depression) should not take SAME because it may worsen manic episodes.
- Taking levodopa (L-DOPA) for Parkinson disease may lower the levels of SAME in the body. This contributes to depression and increases the side effects of levodopa.
- SAME decreases effectiveness of levodopa.
- SAME concentrations can be lowered in the presence of guanidinoacetate (also known as glycyocamine)

supplementation. Glycyocamine is a direct precursor of creatine, which is a popular nutritional supplement.

- SAME does not improve outcome or reduce the occurrence of adverse events for chronic liver diseases such as cholestasis and viral hepatitis.

**Contraindications**

- Pts taking MAO inhibitors or within 2 wk of their discontinuation
- Concurrent use with antidepressant drugs, including MAOIs, can lead to additive stimulatory effects. Agitation, tremor, insomnia, nervousness, irregular or accelerated heart rate are theoretical concerns.
- Parkinson disease with levodopa treatment.

## Saw Palmetto

Joan Spiegel

**Uses**

- BPH
- Urinary tract inflammation (prostatitis)
- Underactive bladder
- Male- and female-pattern baldness
- Aphrodisiac
- Breast augmentation

**Perioperative Risks**

- No established interactions with anesthetic agents

**Worry About**

- Saw palmetto has been implicated in hepatitis, cholecystitis, bleeding diatheses, conduction defects, and erectile dysfunction. No studies confirm these effects.
- Unsubstantiated pharmacologic effects such as increasing the action of benzodiazepines

**Overview**

- Saw palmetto extract is an extract of the fruit of *Serenoa repens* from the American dwarf palm tree. Saw palmetto's active ingredients include fatty acids, plant sterols, and flavonoids.
- Saw palmetto has hormonal (estrogenic) effects as well as direct inhibitory effects on androgen receptors. There are also possible anti-inflammatory effects (from the berries of the plant).
- Saw palmetto has not been evaluated by the FDA.
- Saw palmetto is possibly ineffective for its intended use, the treatment of BPH.

**Etiology**

- Mechanism of action: Saw palmetto exhibits antiestrogenic and antiandrogenic effects by inhibiting the actions of 5-alpha reductase enzyme (thereby preventing the conversion of testosterone to dihydrotestosterone, a cause of BPH and baldness).

**Possible Drug Interactions**

- Any medication that alters male sex hormones should not be taken with saw palmetto. Examples include finasteride and flutamide.
- Drugs that affect coagulation should also not be consumed with saw palmetto; these include Coumadin and anti-inflammatory agents (clopidogrel, ibuprofen, aspirin)
- Because saw palmetto may have hormone-like effects, it may make oral contraceptives less effective, thus raising the risk of unplanned pregnancy.
- Tannins in saw palmetto may interfere with iron absorption.
- Tinctures may contain large amounts of alcohol and thus cause N/V when taken with metronidazole or disulfiram.

**Assessment Points**

System	Effect	Test
GI	Occasional upset, hepatitis, and cholecystitis (very rare)	LFTs
HEME	Bleeding, iron deficiency	None, iron studies, Hgb
GU	Improved urinary symptoms (conflicting data)	None
ENDO	Breast enlargement (unproved) Prevent hair involution due to dihydrotestosterone (unproved)	None

**Key References:** *Serenoa repens*, *Altern Med Rev* 3(3):227–229, 1998; Bent S, Kane C, Shinohara K, et al.: Saw palmetto for benign prostatic hyperplasia, *N Engl J Med* 354(6):557–566, 2006; Tacklind J, Macdonald R, Rutks I, et al.: *Serenoa repens* for benign prostatic hyperplasia, *Cochrane Database Syst Rev* 12:CD001423, 2012.

**Perioperative Implications****Preoperative Concerns**

- Self-reporting of other herbal supplements

- Unknown effects in children; interference with birth control and in lactating mothers

**Intraoperative Concerns**

- None known

**Postoperative Period**

- Routine

## St. John's Wort (*Hypericum perforatum*)

Theodore G. Cheek | Lee A. Fleisher

**Uses**

- More than 3% of presurgical pts report using St. John's wort.
- Taken mainly for depression, although pts may take it for a variety of reasons including anxiety, viral and bacterial infections, menstrual cramps, HIV, cancer, chest congestion, hemorrhoids, skin wounds, and burns.
- Efficacy in treating depression is controversial.
- Most integrative medical specialists will use every other alternative first because of drug interactions; this is at

best a third-line medication. Others such as S-adenosyl-L-methionine are equally or more effective and without undesirable drug interactions or other side effects.

**Worry About**

- Drug interactions: May prolong sedative effects of other drugs including anesthetics and sedatives. There are case reports of a severe hypertensive response to vasopressors such as ephedrine or phenylephrine in pts taking St. John's wort.

- Induces cytochrome P450 enzymes; promotes metabolism and decreased blood levels of warfarin, cyclosporine, digoxin, CCBs, and steroids; even renders birth control pills and menopausal drug therapies ineffective. Watch for unplanned and sometimes unwanted pregnancies due to this effect.)
- Serotonin-like syndrome (Htn, tachycardia, agitation, restlessness).
- Unpredictable effects due to lack of strict regulation.