

## **Black Cohosh** (*Cimicifuga racemosa*)

### **History**

- Black cohosh is a plant which grows naturally throughout eastern North America.
- Used for centuries by Native Americans for menopausal and menstrual problems.
- From 1820-1926, black cohosh root was part of the U.S. Pharmacopoeia.
- Black cohosh was a main ingredient in Lydia Pinkham's Vegetable Compound, an early 20<sup>th</sup> century remedy for "female complaints".
- During the 20th century, black cohosh continued to be widely used in Germany, especially for the treatment of hot flashes.

### **Most studied use:**

Menopausal symptoms

### **Other common uses:**

Menstrual symptoms, arthritis, snake bites, insect repellent (Latin *cimex* means bug and *fugare* means put to flight).

### **Summary evaluation:**

- Small clinical studies suggest that black cohosh may diminish hot flashes, but the quality of those trials has been poor.
- It is unclear whether black cohosh might act centrally via the CNS or peripherally via estrogen receptors. Some extracts appear to bind to estrogen receptors, so most sources consider it to be a phytoestrogen.
- Because one study of breast cancer survivors has shown no benefit, black cohosh is not recommended for patients who have had breast cancer.
- Given its low side effect profile, it is reasonable to try a short-term trial of black cohosh for reducing menopausal symptoms, but its long term safety is unknown.

### **Pharmacology**

- Medicinally active form is an extract from the dried rhizome and roots.
- Presumed active compounds are the triterpene glycosides, including cimicifugoside and 27-deoxyacetin.

### **Mechanism of Action**

- Exact mechanism of action is unknown. Some extracts appear to bind to estrogen receptor, so most researchers now consider black cohosh to be a phytoestrogen, but it may also act centrally on the CNS, possibly on the hypothalamus.
- Animal studies have demonstrated suppression of LH but not FSH, and weak binding to the estrogen receptor, but a recent clinical study showed no change in LH, FSH, or estradiol in postmenopausal women given black cohosh.

### **Clinical Studies**

- There have been 3 double-blind RCT's of black cohosh for hot flashes. All have tested a formulation called Remifemin which is manufactured in Germany but widely available in the United States.
- Lehmann et al. (1988) found it to be equal in efficacy to estrogen, although the study's small size (n=60) limited its power to detect clinically significant differences.
- Stoll et al (1987) randomized 80 women to black cohosh, estrogen, or placebo. Women who took black cohosh had fewer hot flashes, although the trial's methodology is called into question by the fact that women who took estrogen did not do better than those who took placebo.
- Jacobson et al (2001) compared black cohosh to placebo in women with breast cancer, the majority of whom were also taking tamoxifen. Symptoms of hot flashes were no different between the two groups.
- There is no data to support the use of black cohosh for its other purposes.

### **Adverse effects**

- Mild gastric discomfort may occur with doses between 40-160 mg/d.
- Side effects, including nausea and vomiting, vertigo, uterine contractions and bradycardia, have been reported in doses higher than 160 mg/day.

### **Contraindications/Cautions:**

- It is unknown whether long-term use of black cohosh could have stimulatory effects on the breast or uterus which could theoretically increase cancer risk,

although studies with estrogen sensitive breast cancer cells do not demonstrate proliferative activity.

**Important drug/herb interactions:**

- No significant interactions known.

**Formulation and dosage**

- All studies have tested Remifemin, a commercial product manufactured in Germany but widely available in the United States.
- The formulation of Remifemin has changed somewhat over the years, however, such that equivalent doses are not always comparable.
- The manufacturer (Schaper & Brummer) now estimates that the dose of the currently available preparation which best approximates the doses which previously have been tested is 40 mg po bid, with each 20 mg tablet standardized to contain 1 mg of triterpene glycosides.
- There are over 120 OTC products containing black cohosh at various doses ranging from 20-550 mg. Some are standardized and some are not.

**Key Black Cohosh References**

1. Stoll W. Phytopharmakon influence atrophic vaginal epithelium: double-blind study of cimicifuga vs. Estrogenic substances. *Therapeutikon* 1987;1:23.
2. Lehmann-Willenbrock E, et al. [Clinical and endocrinologic studies of the treatment of ovarian insufficiency manifestations following hysterectomy with intact adnexa]. *Zentralbl Gynakol* 1988;110:611-8.
3. Jacobson JS, et al. Randomized trial of black cohosh for the treatment of hot flashes among women with a history of breast cancer. *J Clin Oncol* 2001;27:39-45.
4. Liske E Hanggi W, Henneicke-Von Zepelin H, et al. Physiological investigation of a unique extract of black cohosh (*Cimicifugae racemosae rhizoma*): A 6-month clinical study demonstrates no systemic estrogenic effect. *J Women's Health & Gender-Based Med* 2002;11:163-74.

**For Additional Information**

1. Natural Medicines Comprehensive Database. Available through UW Healthlinks.
2. About Herbs. <http://www.fammed.washington.edu/predoctoral/CAM/sites.html>.

3. [Herbmed.org](http://Herbmed.org) for more general background.
4. For information about the quality of specific brands, check [Consumerlabs.com](http://Consumerlabs.com).