



**Black cohosh** (*Actaea racemosa* or archaically *Cimicifuga racemosa*) root/rhizome, *baneberry, black snakeroot, bugbane, rattle-root, rattle-top, rattleweed, squawroot, traubensilberkerze, wanzenkraut*

### **Common Indications:**

- Symptoms of Menopause (including Hot Flashes)
- Osteoporosis Prevention
- Breast Cancer Protection
- Weight Gain
- Menstrual Migraine
- Primary and Secondary Infertility
- Prostate Cancer
- Pain Relief (Inflammation, Menopausal & Arthritis)

### **General Comments:**

Black cohosh has a long history of use in many cultures for a diverse number of health problems. European and American use for menopausal issues has made black cohosh a well recognized element by millions of patients and practitioners. U.S. Pharmacopoeias from 1820 have listed this herb as a viable option in the treatment of hormone related issues.

### **Benefits & Mechanism of Action:**

Symptoms of Menopause (including Hot Flashes)

The isoflavone formononetin has been reported to have estrogenic activity in laboratory rats. Formononetin was reported to act as a competitor with estrogen in binding to uterine cells *ex vivo*. Clinical studies have reported positive effects on menopausal and postmenopausal complaints when using standardized extracts of black cohosh.<sup>1,2</sup> A clinical study assessing climacteric symptoms in 120 healthy, postmenopausal women compared the use of black cohosh versus fluoxetine (Prozac).<sup>3</sup> While fluoxetine was more effective in altering the symptoms of depression, black cohosh was more effective in resolving issues of hot flashes and sweats. Studies of the use of black cohosh in the treatment of menopausal symptoms show mixed results but there are enough positive outcomes to warrant further investigation.<sup>4</sup>

Osteoporosis Prevention

The black cohosh fraction known as Cimicifugoside is thought to provide balance to the estrogen and progesterone ratio thru its affect on the hypothalamus-pituitary system. Black cohosh has been shown to have a positive affect on two different markers of bone activity. Its use leads to a rise in alkaline phosphatase, a marker of bone formation. N-telopeptides measured in the urine are a sign of bone loss and these have been reduced in postmenopausal patient in black cohosh. Thus the use of this herb is may be very protective of bone density.<sup>5</sup>

### Breast Cancer Protection

The triterpenoid 27-deoxyactein, a component of black cohosh, has also been reported to produce estrogen-like effects in humans yet it does not stimulate breast cancer cells. It has been shown in fact to induce apoptosis thus inhibiting proliferation of estrogen receptor-positive and negative human breast carcinoma cell lines. Black cohosh is not reported to exert an estrogenic effect on breast tissue, and therefore is reported safe in those with breast cancer or predisposed to breast cancer.<sup>6,7,8,9,10,11</sup>

### Weight Gain

Animal models showed decreased pituitary LH secretion, decreased body weight gain and intra-abdominal fat accumulation, and lowered fasting plasma insulin.<sup>12</sup>

### Menstrual Migraine

A small randomized control trial showed that black cohosh, in combination with soy isoflavones and dong quai, significantly reduced migraine episodes.<sup>13</sup>

### Primary and Secondary Infertility

Black cohosh has been shown helpful in both primary and secondary infertility, even in women with polycystic ovarian syndrome.<sup>14,15</sup> A black cohosh preparation called Klimadynon was used in conjunction with clomiphene citrate. There was a statistically significant increase in the thickness of the endometrium, a decrease in time needed for follicular maturation, and a higher serum progesterone in the luteal phase.<sup>14,15</sup> A 2012 trial looked at black cohosh in direct comparison to clomiphene citrate. While the results were not statistically significant, more women taking black cohosh became pregnant. They also had statistically significant beneficial LH and FSH/LH levels, thicker endometrium, and statistically significantly higher levels of progesterone.<sup>16,17</sup>

### Prostate Cancer

In vitro studies suggest that black cohosh has theoretical usefulness in the treatment of prostate cancer.<sup>18,19,20</sup>

## Pain Relief (Inflammation, Menopausal & Arthritis)

In vitro animal studies demonstrated anti-inflammatory action with black cohosh supplementation. Data showed an inhibition of IL-6, TNF-alpha, IFN-gamma, and nitric oxide.<sup>21,22</sup> Black cohosh is also an agonist and competitive ligand for mu-opioid receptors.<sup>23</sup>

### **Dose:**

#### General

- Standardized extract: 20mg, 2 times daily
- Powdered root: 0.3-2g three times daily
- Tincture (1:10): 2-4mL three times daily
- Fluid extract (1:1, g/mL): 0.3-2mL three times daily

#### Primary and Secondary Infertility

- 20-120mg per day

### **Standardization:**

- Black cohosh products should be standardized to contain 1mg triterpenes (27-deoxyacteine).

### **Cautions & Side Effects:**

Black cohosh has been reported to be safe in recommended doses.

Symptoms that may indicate acute toxicity include:

- Nausea and vomiting
- Vertigo
- Visual disturbances

Black cohosh should be used with caution in those individuals with a liver condition or predisposed to a liver condition. A 2010 review article reported 69 cases of black cohosh as initial suspect in exogenously-induced liver disease.<sup>24</sup> A case of acute hepatitis involved a 47-year-old woman who used black cohosh for symptoms of menopause.<sup>25</sup> The patient received a liver transplant three weeks after initially taking the herb. The report indicated the dose of black cohosh did not exceed the dosage recommended on the package; but no other dosage information was provided. No other cause for liver disease was found.

#### Medication interactions

Medications with increased effects while taking black cohosh include:

- Anesthesia<sup>26</sup>
- Clomiphene citrate<sup>14,15</sup>
- Doxorubicin<sup>27</sup>

- Docetaxel<sup>27</sup>
- Hepatotoxic medications

Medications with decreased effects while taking black cohosh include:

- Cisplatin<sup>27</sup>

Patients with the follow disease states or conditions should not use black cohosh:

- Liver disease

## References:

### Symptoms of Menopause (including Hot Flashes)

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## Cautions & Side Effects

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