

## ARNICA

### Common names

Arnica Flos, Arnica Flower, Arnikabluten, Bergwohlverleih, Fleurs d'Arnica, Kraftwurz, Leopard's Bane, Mountain Tobacco, Wolf's Bane, Wundkraut (1, 2)

### Scientific Names

Arnica Montana; Arnica fulgens; Arnica sororia; Arnica latifolia; Arnica cordifolia; Family: Asteraceae or Compositae. (1, 2)

### Description of active ingredients

The arnica plant has a bright yellow, daisy-like flower that blooms in July. It is a perennial that is protected in parts of Europe. The active components in arnica are sesquiterpene lactones –which are known to reduce inflammation and decrease pain-although current data does not fully explain how they exert their anti-inflammatory effect. Other active principals are thymol, flavonoids, inulin, carotenoids and tannins. (4)

### Mechanism of Action

The applicable part of arnica is the flowerhead. (1) The sesquiterpenoid lactones of arnica are the active principles and produce anti-inflammatory and analgesic effects. (1) They also can have some antibiotic activity. Two components of arnica, helenalin and 11 alpha, 13-dihydrohelenalin, inhibit human platelet function. (1) The sesquiterpene lactones –helenalin, 11 alpha, 13-dihydrohelenalin and chamissonolid inhibit activation of transcription factor NF-kappa B (suggests a molecular mechanism for the anti-inflammatory effect of these lactones –which differs from that of other nonsteroidal anti-inflammatory drugs, like NSAIDs. (7) Two homogeneous polysaccharides, an acidic aragino-3,6-galactan-protein and a neutral fucogalactoxyloglucan have been isolated from the arnica cell. The fucogalactoxyloglucan shows a pronounced enhancement of phagocytosis in vivo. The arabino-3,6-galactan-protein displays a strong anticomplementary effect and stimulates macrophages to excrete the tumour necrosis factor (TNF alpha).(4, 6)

### Current indications and efficacy:

**Medicinal Uses:** for inflammation and immune system stimulation associated with bruises, aches, and sprains, for mouth/throat inflammation, insect bites, and superficial phlebitis. (1,2) It is considered safe when used topically for short-term use on unbroken skin. (1,2)

### Abortifacient (1,2)

**Flavoring:** used to flavor many beverages, desserts, and gelatins. Flavoring use allowed in US, but maximum use level is usually 0.03%. It is considered safe when used as a flavoring, although Canadian regulations don't allow its use as a nonmedicinal ingredient in oral products. (1,2)

**Other uses:** Arnica is used in hair tonics and anti-dandruff preparations. The oil is used in perfumes, and in cosmetics.

**Poisonous:** Arnica is considered poisonous and causes severe/fatal poisoning when taken internally. (1)

**Adverse Reactions:** Arnica can be cardiotoxic and cause large increases in blood pressure –although there was no information on exactly how much would cause these deleterious effects. (1)

Arnica is irritating to mucous membranes and can cause gastroenteritis, muscle paralysis (voluntary and cardiac), increased or decreased pulse rate, heart palpitations, shortness of breath, and death. (1,2)

Contraindications: Arnica should not be used orally or topically with pregnancy/lactation because it is probably not safe. (1,2)

**Efficacy:** Homoeopathic oral arnica failed to show any advantage compared with placebo in reducing postoperative pain, bruising, and swelling in patients having elective hand surgery. (5) Trials have shown that arnica is ineffective for muscle soreness following intense exercise, that it doesn't prevent pain or swelling any more effectively than a placebo, that it has no effect on postoperative recovery, and that it has a significant impact on parameters of blood coagulation. This ineffectiveness seems to be a recurring theme in the few available trials testing the efficacy of arnica. There hasn't been any substantial, clinically significant evidence that this product works –and yet it has been

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consistently used for hundreds of years. There is insufficient reliable information available to rate effectiveness for bruises, aches, sprains, insect bites, and sore throats. (2)

### **Contraindications/allergies**

Arnica should not be used in pregnancy or during lactation. Constituents of arnica can decrease platelet aggregation in vitro –but has not been demonstrated in humans. (1) Arnica is also contraindicated in individuals with infections or inflammatory gastrointestinal conditions. (1) Avoid the use of arnica on broken or damaged skin. (1) Arnica can cause reactions in individuals allergic to plants in the Asteraceae or Compositae family –including ragweed, chrysanthemums, marigolds, daisies, and many other herbs. (1)

### **Dosage forms, recommended doses, duration**

Topical: The typical strength of homeopathic formulas of arnica is 2 grams of the flowerheads in 100ml water. (1) For a poultice, the tincture of arnica is diluted three to ten times with water. (1) For a mouthwash, the tincture is diluted ten times, and should not be swallowed. (1) Ointments commonly have a maximum of 20-25% of the tincture or 15% of the oil. (1) The tincture is usually a 1:10 dilution, and the oil is usually made with 1 part herb extract to 5 parts vegetable fixed oil. (1) There is no information regarding duration of use.

### **Drug interactions and Drug-disease interactions**

Arnica could potentiate the effects of anticoagulant and antiplatelet drugs – increasing the risk for bleeding. Constituents of arnica can decrease platelet aggregation in vitro –but the effect has not been demonstrated in humans. (1) Arnica should be used cautiously in patients taking any anticoagulant or antiplatelet drugs, including: aspirin, clopidogrel, enoxaparin, heparin, and warfarin. (1, 3) Herbs with coumarin constituents could also increase the risk of bleeding, including: chamomile, feverfew, garlic, ginger, ginkgo, and many others. (1) Arnica should not be used on broken/-damaged skin or with infectious or inflammatory GI conditions –including irritable bowel, ulcers, and Crohn’s disease. (2, 3)

### **Other Safety Issues**

Avoid internal use of arnica because it can be poisonous and cardiotoxic. (1). Arnica taken orally can cause irritation of mucous membranes, drowsiness, stomach pain, vomiting, diarrhea, tachycardia, shortness of breath, coma, and death. (2) Topically, arnica can cause contact dermatitis and mucous membrane irritation. (2)

### **References**

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