

*Aesculus hippocastanum* by: ©Mimi Hernandez for European Scientific Cooperative on Phytotherapy (ESCOP), 2005

**Botanical Nomenclature:** *Aesculus hippocastanum*

**Family:** hippocastanacea family

**Common Name:** Horsechestnut, Spanish chestnut, Buckeye

**Parts Used** Seed- primarily for its escin content

### **Background:**

The Horse chestnut comes from a deciduous tree belonging to the aesculus genus and the hippocastanacea family that is cultivated around the world, particularly in Europe and Russia. Traditionally it has been used to treat conditions such as neuralgia and rheumatism and conditions of venous congestion with dull achy pain, fullness, and engorgement. In addition it has also been used for rectal complaints such as hemorrhoids, rectal neuralgia, and proctitis. Its use is widely accepted in Germany where much of the research has originated, and in 1996 horse chestnut seed extract products represented the third best selling herbal extract. The saponin fraction of Horse chestnut is referred to as aescin (or escin) and it is this extract that has been extensively researched in various clinical trials which have supported its efficacy in treating chronic venous insufficiency, oedema, and haematoma, and preventing post surgical thrombosis. In addition to various standardized oral products, there are also available topical preparations for application to haematoma or oedema inflicted tissues.

### **Key Constituents:**

Contains 3-6% saponins known as escin which is a mixture of over 30 pentacyclic triterpene diester glycosides. Also contains flavanoids, lipids, and sterols.

### **Traditional Uses:**

Traditionally used to treat conditions such as neuralgia and rheumatism and conditions of venous congestion with dull achy pain, fullness, and engorgement. One specific indication was dull aching pain in any part of the body, but especially in the hepatic region. Also used for rectal complaints such as hemorrhoids, rectal neuralgia, and proctitis and rectal associated headaches, spasmodic asthma, dizziness, and digestive disturbances.

### **Summary of Physiological action words**

Antioedematous

Anti-inflammatory

Venotonic

Topical anti-inflammatory

Vasoconstrictor

### **Science**

A range of placebo controlled studies suggest that horsechestnut seed's saponin fraction extract, escin has demonstrated superior results in the treatment of chronic venous insufficiency. Its use has been documented to coincide with a decrease in lower leg circumference and oedema as well as to prevent post surgical thrombosis. One clinical trial demonstrates horsechestnut seed extract's efficacy in treating haematoma topically. Many studies point towards its ability to increase venous tone and contraction, increase capillary resistance, and decrease capillary permeability. In addition, the saponin fraction of horsechestnut, escin, has been shown to inhibit the enzymes elastase and hyaluronidase in vitro, while in vivo studies have pointed to its possible role in decreasing histamine and serotonin induced capillary hyperpermeability thus decreasing inflammation. At least two in vitro studies have hinted at escin's role in inhibiting hypoxia induced neutrophil adherence to the veins. A number of mice studies have shown escin and its components to have hypoglycemic effects, possibly by slowing gastric transit time, thus opening the door to future human studies in the treatment of altered glucose control.

The clinical trial data is impressive with many double-blind controlled studies, one formal meta-analysis, and at least 3 systematic reviews in support of horse chestnut seed extract's efficacy in treating chronic venous insufficiency. All of the clinical trials were conducted using Horse chestnut seed's extract which is a saponin fraction known as escin. Horse chestnut seed extract's equivalence to compression therapy has been demonstrated most significantly in the early stages of chronic venous insufficiency. Since chronic venous insufficiency is a chronic condition, standardized proprietary extracts taken over the long term may be the most effective solution in practice.

### **Symptom Presentation & Specific Indications:**

Chronic venous insufficiency, varicose veins, haemorrhoids, and oedema of the lower limbs.

Topical use indicated for haematoma and contusions. Prophylactic indication to decrease the chance of deep venous thrombosis after surgery. Indicated for skin care to treat fragile capillaries, pimples, sunburn, or cellulite. Issues where local tissue oedema is involved such as carpal tunnel syndrome, dysmenorrhoea, Bell's palsy, or intervertebral disc lesion. Topical use indicated for non penetrating wounds, and sports injuries

### **Preparation and Dosage:**

1-2 g of dried seed per day. 2-6ml of 1:2 liquid extract, 5-15ml of 1:5 tincture daily. Preparations containing 100mg escin per day. Horsechestnut tablets standardized to 40mg escin: 2-3 daily.

### **Safety Issues / Contraindications**

Horsechestnut should not be applied topically to broken or ulcerated skin.

Gastrointestinal irritation can result at very high dosages. Haemolysis with associated kidney damage could result if sufficient quantities of escin are absorbed through damaged or irritated gastrointestinal membranes.

Gastric irritation and reflux may occur as with all saponin containing herbs. Taking enteric coated preparations can prevent this. Saponins and sapogenins cause haemolysis in the bloodstream but this effect is negligible at the oral doses used. Horsechestnut should not be applied to broken or ulcerated skin due to the irritant effects of the saponins. From 1968 to 1989 nearly 900 million doses of Venostatine standardized horsechestnut were prescribed with only 15 patients reporting significant side effects. A few cases of pruritis, calf spasm, headaches, and dizziness have been documented in the literature, and contact dermatitis has been reported following topical application. Some people have demonstrated an allergic sensitivity to horse chestnuts and should thus avoid its use.