

# Devil's Claw

(*Harpagophytum procumbens*)

Also known as 'grapple plant' or 'wood spider'

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**PREPARATIONS:** Preparations use the cut and dried secondary storage roots (tubers) formulated as a decoction or tincture or as solid dosage forms (e.g. tablets, capsules) containing powdered devil's claw root extract. Dosages of Devil's Claw root extract used in clinical trials in low back pain typically range from 2 to 4.5g daily (equivalent to around 30 to 100mg harpagoside daily) for four to 20 weeks.

**ACTIVE CONSTITUENTS:** Iridoids, especially harpagoside, although other compounds present may contribute to pharmacological activities. As with other herbal medicines, the profile of constituents in Devil's Claw raw material and preparations will vary qualitatively and quantitatively depending on environmental factors, species, plant part used, methods of preparation and other factors. The harpagoside content of commercial extracts of *H. procumbens* is reported to range from 0.8 to 2.3%.

**MAIN USES:** Long history of medicinal use for a variety of conditions, including arthritis, gout, myalgia and lumbago. Current interest is focussed on its use in the treatment of rheumatic and osteoarthritic conditions, and low back pain.

**EVIDENCE FOR EFFICACY:** Several randomised trials using Devil's Claw extracts standardised on harpagoside content have reported superiority over placebo for some aspects of low back pain and rheumatic complaints. However, some studies used non-standard outcome measures and carried out several

## Summary Message

There is evidence that Devil's Claw can be an effective short-term treatment for acute exacerbations of low back pain and, to a lesser extent, in rheumatic and osteoarthritic conditions. Acute adverse effects reported in clinical trials were mild diarrhoea and flatulence. Long-term adverse effects have not been studied. As with all herbal medicines, Devil's Claw products differ in their pharmaceutical quality, and the implications of this for efficacy and safety should be considered.

post-hoc analyses. Further studies have used recognised, predefined outcome measures to establish the therapeutic value of standardised Devil's Claw extracts in patients with arthritic and rheumatic conditions.

A systematic review of 12 controlled trials of Devil's Claw preparations in osteoarthritis, low back pain and mixed pain conditions found differing levels of evidence for the different preparations. In three trials, an aqueous extract of Devil's Claw (dose equivalent to harpagoside 50 or 100mg daily for four weeks) was superior to placebo in reducing acute pain episodes in patients with chronic non-specific low back pain and, in another trial, the same extract (dose equivalent to harpagoside 60mg daily for six weeks) was not inferior to rofecoxib 12.5mg daily for the same outcome.

**Herbal** medicines are a popular health care choice, but few have been tested to contemporary standards. **CHARMS & HARMS** summarises the evidence for the potential benefits and possible harms of well-known herbal medicines.

**ADVERSE EFFECTS:** Randomised, placebo-controlled trials involving patients with rheumatic and arthritic conditions who have received Devil's Claw extracts or powdered drug at approximately recommended doses for four weeks have reported mild, transient gastrointestinal symptoms (such as diarrhoea, flatulence) in a small proportion (less than 10%) of Devil's Claw recipients. No serious adverse events were reported.

Chronic toxicity studies and clinical experience with prolonged use are lacking, so the effects of long-term use of Devil's Claw are not known. On this basis, and in view of possible cardioactivity, Devil's Claw should not be used for long periods of time at doses higher than recommended. Given the lack of data on the effects of Devil's Claw taken during pregnancy and lactation, its use should be avoided during these periods.

**DRUG INTERACTIONS:** There are no reported drug interactions for Devil's Claw, although on the basis of evidence from preclinical studies of Devil's Claw's cardioactivity, the possibility of excessive doses interfering with existing treatment for cardiac disorders and/or with hypo/hypertensive therapy should be considered.

#### Key references

- Barnes J, Anderson LA, Phillipson JD. Herbal medicines. 3rd ed. London: Pharmaceutical Press. p 207-214.
- Gagnier JJ et al. Harpagophytum procumbens for osteoarthritis and low back pain: a systematic review. BMC Complementary and Alternative Medicine 2004;4:13

## Combined inhalers are more effective than beta-agonist alone for chronic obstructive pulmonary disease but with some potential harms

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**THE PROBLEM:** COPD is a chronic progressive condition. A variety of treatments are given and it can be difficult for primary care physicians to know how beneficial are bronchodilators and inhaled corticosteroids. This review attempts to deal with this issue.

**CLINICAL BOTTOM LINE:** The combination of long acting beta-agonists and inhaled corticosteroids is more effective than beta-agonist alone in terms of reducing exacerbations and death. The NNT=4 to prevent one exacerbation over one year. There was an increase in harms depending on the baseline rate of pneumonia. When the baseline rate was 20% (Torch study ref 1) the NNH=12 for causing pneumonia while in a study with a baseline rate of 2% pneumonia the NNH=84.

	Success	Evidence	Harms
<b>Combined long acting beta-agonist with inhaled corticosteroids</b>	NNT=4 to prevent one exacerbation. In the largest study the NNT=38 to prevent one death <sup>1</sup>	Cochrane review <sup>2</sup>	NNH=12 in the Torch study with base rate of 20% for pneumonia. In another study with baseline rates of 2% NNH=84

NNT = numbers needed to treat  
NNH = numbers needed to harm

#### References

- Calverley P et al. Torch investigators. N Engl J Med 2007;356:775-89.
- Nannini LJ et al. Combined corticosteroid and long-acting beta-agonist in one inhaler versus long-acting beta-agonists for chronic obstructive pulmonary disease. Cochrane Reviews 2007, Issue 4. Art No: CD006829.

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