

## ECHINACEA HELPS PREVENT COLDS

**E**chinacea, one of the most commonly used herbal supplements, can halve the risk of catching the common cold, according to a study published in *Lancet Infectious Diseases*.

Earlier studies have failed to find convincing evidence that echinacea worked, so the findings are likely to be controversial. A research team, from the School of Pharmacy at the University of Connecticut, USA, carried out a meta-analysis of 14 studies into the use of echinacea to relieve/protect against catching a cold.

Echinacea reduced the incidence of cold by 65% if it was used to prevent 'natural' catching of a cold. In patients directly inoculated with the cold-causing rhinovirus, it reduced cold incidence by 35%.

Overall, echinacea reduced the chances of catching a cold by 58% (odds ratio 0.42;  $p < 0.001$ ) and shortened the length of a cold by an average of 1.4 days.

In one of the 14 studies the researchers reviewed, echinacea was used together with vitamin C. This combination reduced cold incidence by 86%.

The researchers said: "With over 200 viruses capable of causing the common cold, echinacea could have modest effects against rhinovirus but marked effects against other viruses."

Echinacea is a collection of nine related plant species indigenous to North America. The authors commented that its mechanism of action is unclear but effects on the immune system have been suggested.

### ACTION

This analysis of the literature suggests that echinacea has a benefit in decreasing the incidence and duration of the common cold. However, more research is needed to properly understand the mechanisms. Echinacea should not be taken during pregnancy and should not be used by anyone with an autoimmune condition or who has had an organ transplant.

*Lancet Infectious Dis* 2007; 7: 473-80.



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This article will help you understand how 'blinding' contributes to the rigorousness of randomised controlled trials.

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## THE CONTROL OF KNOWLEDGE IN RANDOMISED CONTROLLED TRIALS: BLINDING

Blinding in a research study means:

"Keeping study participants, healthcare providers, and sometimes those collecting and analysing clinical data unaware of the assigned intervention, so they will not be influenced by that knowledge."

(<http://www.consort-statement.org/Statement/examples11a.htm>)

### Why is blinding used?

- Patients' beliefs regarding treatment may affect outcomes (for example, cyclists given placebo may cycle faster if they think it is caffeine).<sup>1</sup>
- To prevent 'performance bias' (eg knowledge of group allocation may lead to patients or health professionals altering the treatment).
- To prevent biasing outcome measurement or data analyses.

### When are patients blinded?

- Study subjects are blinded at the start of the trial, although they may guess they have been given treatment if the effect is marked.<sup>2</sup>

### What are 'single', 'double' and 'triple' blinding?

- These refer to the number of people blinded (eg patients, researchers or others).
- Studies are often double-blind, which means that neither the patients nor the researchers know which treatment or other intervention has been given to individuals in the study.
- There is no shared definition of these terms<sup>3</sup> so it is important that researchers clearly state who was blinded.

### How is blinding achieved?

- In single-blind RCTs the patient is blinded by making the intervention and placebo indistinguishable (eg same sensation, colour, size and shape).
- Double-blind RCTs are conducted if investigators can give the intervention without knowing exactly what they are administering; it is therefore easier to blind investigators administering drugs than surgery!
- The statistician (who has randomised patients to each group) will provide the investigator with the intervention to be given to each patient, and reveal group allocation to researchers after they have analysed the data.



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2. Altman DG, Schulz KF, Moher D. Turning a blind eye: testing the success of blinding and the CONSORT statement. *BMJ* 2004; **328**(7448): 1135.
3. Devereaux PJ, Manns BJ, Ghali WA, Quan H, Lacchetti C, Montori VM *et al*. Physician interpretations and textbook definitions of blinding terminology in randomized controlled trials. *JAMA* 2001; **285**: 2000-2003.