Colds & Flu

How to support a healthy immune system

HEALTH INFORMATION SERIES

How to Use Herbal Remedies Safely

This guidebook is not intended to replace medical advice. You should consult a Healthcare Professional if you have any condition which is of concern. For safe, effective results when taking herbal remedies, follow the guidelines below.

If the product you have has an in-pack leaflet then you should follow the instructions and advice on the leaflet and product packaging.

If the product does not come with an in-pack leaflet then you should follow the instructions and advice on the product packaging. The following general advice also applies to products with no in-pack leaflet.

- If there is any doubt as to the nature of the problem please consult your Doctor for a diagnosis.
- Do not use when pregnant or breastfeeding unless under the supervision of a Healthcare Professional.
- Do not use for children under 2 years of age unless under the supervision of a Healthcare Professional.
- Do not exceed stated doses.
- Do not use alongside medication with the same action eg. a calming herb alongside tranquillizing medication.
- Do not take more than 3 herbal remedies concurrently.
- Stop taking herbal remedies 14 days before surgery.

What is the immune system?

The immune system is the **body's defence mechanism** – the army with which the body protects itself against disease-causing organisms such as viruses, bacteria or fungi, which are known as **pathogens**. The troops that make up this army are various types of **white blood cells**, which are produced in the bone marrow.

The immune army is an amazing system that, when working well, is constantly vigilant in order to protect us from infection, infestation and general invasion by bugs of all descriptions. Like any army, however, the immune system has to be fed the right food to stay fit, and experience the right conditions to allow it to work to its best ability. This booklet gives you information on the correct food choices and lifestyle decisions to ensure that you keep colds, coughs and flu episodes to a minimum.

There are also plenty of herbs that have been used traditionally to help the immune system work effectively, and aid your recovery when cold and flu bugs get hold of you. This booklet identifies herbs that can be used to help your immune function and thereby your overall health.

How does the immune system work?

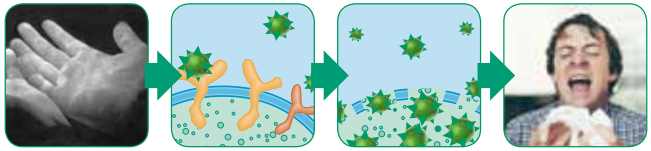
An invading pathogen has many obstacles to surmount in order to infect the body, as there are outposts of the immune system stationed at all entrances.

Firstly, the pathogen must penetrate the external barrier of the skin, or survive the stomach acid if entering via the digestive tract. The nasal passages might seem a good potential entry route, but they secrete mucus that traps and then flushes away pathogenic matter. Saliva and tears both contain antibacterial enzymes, to neutralise pathogens that attempt to enter via the mouth or eyes.

Pathogens that make it past the salivary enzymes and stomach acid still have to contend with gastrointestinal mucus, which can trap and expel them. Additionally, the gut contains more than 70% of the body's supply of immune cells, which seek out and destroy pathogens that have made it past the mouth and stomach. Any pathogenic matter that gets into the bloodstream from the digestive tract will have to travel through the liver, where more immune cells are on hand to deal with them.

If a pathogen gets past all these defences and manages to infect tissue cells, an immune response is triggered.

- The damaged cells call for help (by releasing chemicals such as **TNF-α**, that attract immune cells).
- Immune cells come along and identify the pathogen as bad/unfriendly to the body and call up more troops that attack and hopefully kill the pathogen. Symptoms of this attack are a raised temperature, feeling tired and a little achy, slightly swollen lymph glands, and possibly a runny nose.
- The immune system can also make an **antibody** for that pathogen. An antibody is a bit like a customised pair of handcuffs, which attach to the baddie and make it easier for the alerted troops to spot and kill it. The antibody remains in the system, ready to use if that particular bug turns up again.



TNF-α causes inflammation to dilate the blood vessels and make it easier for immune cells to get to a site of infection. This is clearly useful, but if TNF-α is produced in too great amounts it can give us the classic unpleasant symptoms of colds and flu – high temperature, headaches, aching joints, etc. It is needed in the right amounts – not too much and not too little. Research has shown that Echinacea can balance the production of TNF-α. *Gertsch J et al. FEBS Lett. 2004; 577 (3): 563 – 569*

If your immune system is working well

- You don't fall prey to every bug around
- You throw off infections quite easily
- You aren't constantly itching or sneezing
- You generally feel well

If you have a fully functional immune system, then when you are exposed to a bug, you should kick it out quickly and symptoms such as a raised temperature will not last for long.

What happens if your immune system isn't up to scratch

Weak immune function makes it harder to withstand infection by viruses, bacteria or fungi.

A person with a poorly functioning immune system that can't spot invaders swiftly enough will fall prey to many infections. The immune system will take longer to conquer the bug, so symptoms such as raised temperature, swollen glands, sore throat, catarrh, etc., will be present more frequently.

Why might you have weak immune function?

Eating a bad diet – junk food, lots of caffeine, not enough vegetables and fruit, sugar (sugar competes with vitamin C, which is good for the immune system; so if you have heaps of sugar then you undermine your immune system).

Eating lots of fatty foods – having a high fat intake or high cholesterol makes your immune cells lazy – they lie around instead of going out on patrol!

Drinking excessive amounts of alcohol is also bad for your immune cells, which get disorientated and confused...just like us!

Smoking is bad for immune function as well as everything else in the body.

Being stressed and unhappy also means you'll have a less active and efficient immune response.

Not getting enough sleep lowers your immune function.

Echinacea and the immune system

Echinacea is known to support the immune system, meaning that pathogens (viruses and bacteria) can be despatched effectively. Thus, it can help protect you against

- **Bacterial infections** – colds, cystitis, coughs
- **Viral infections** – flu, cold sores, chickenpox, shingles
- **Fungal infestations** – ringworm, Candida, thrush

Echinacea research

Research on Echinacea shows cells that had been pre-treated with Echinacea responded more effectively to a pathogen than non-treated cells. The pre-treated cells produced TNF-α (see page 4) over a longer period of time than the non-treated cells, but without the surges that lead to unpleasant symptoms. *(Gertsch J et al. FEBS Letters 577 (2004) 563-569.)*

One of the key ways that Echinacea works is by balancing the production of this inflammatory TNF-α. It has been found to stimulate the body's cells to produce TNF-α when required, but without getting out of control and creating unnecessary inflammation. The alkylamides found in large quantities in fresh Echinacea have been shown to have significant effect on balancing TNF-α. Levels of alkylamides decrease in dried Echinacea, reducing the effectiveness.

(Tobler M et al. Schweizerische Zeitschrift für GanzheitsMedizin (1994); 5: 257-266.)

One of the conclusions of the research was that extracts of fresh Echinacea are ideal for **preventing common infections**, as it ensures that the body is ready to respond to any pathogen immediately.

Take Echinacea to help fight colds and flu.

People who work with the general public, in the health service or in schools, often find that they suffer regular colds and flu because of the number of people they come into contact with. Taking Echinacea can help with the symptoms of colds, flu and upper respiratory tract infections. One study showed that those using a fresh extract of Echinacea purpurea experienced a 63% reduction in cold and flu symptoms, compared to 29% in the placebo group. *(Brinkeborn R M et al. Phytomedicine (1999); 6: 1-5.)*

If you already have a cold or flu bug, take Echinacea to speed up your recovery time.

Research quoted in the *Lancet Infectious Diseases* in June 2007 concluded that Echinacea could reduce the duration of colds and flu by a day-and-a-half in people who were affected. The same research concluded that Echinacea could more than halve the risk of catching a common cold. Overall Echinacea was shown to decrease the odds of developing a cold by 58%.

Key Research Papers on Echinacea

Brinkeborn R. M. et al., Phytomedicine 1999. *Echinaforce is well tolerated and is significantly more effective than placebo in the treatment of influenza infection.*

Goel et al. J Clin Pharm Ther. 2004, 29 (1): 75 – 83. *Echinacea purpurea is efficacious in the treatment of colds and flu, when it is used as soon as a cold starts.*

Goel et al. Phytother Res. 2005 Aug; 19 (8): 689-94. *Echinacea purpurea taken at the onset of a cold speeds up resolution of symptoms. An increase in the number of circulating total white blood cells, monocytes, neutrophils and NK cells, as well as an improved neutralisation of free radicals is demonstrated.*

Gertsch J et al. FEBS Letters 2004; 577: 563 – 569. *A definitive mechanism of action for Echinaforce is pinpointed: the action of alkylamides in modulating production of TNF-α. Echinaforce is an immunomodulator rather than an immunostimulant.*

Schoop R et al. Clinical Therapeutics. 2006: 1: 10. *Meta-analysis concluding that use of Echinacea is effective in the prevention of the symptoms of the common cold. Those using Echinacea were less likely to develop colds when compared to placebo, reducing the incidence by about half.*

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