



hanover healthfoods

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**Kordel's
Milk
Thistle
Complex
Buy 90,
Get 30 FREE**



40 Hanover Street
Edinburgh EH2 2DR
0131-225 4291
info@hanoverhealth.co.uk

Preserve Your Liver



Phase 1 converts a toxic chemical into a less harmful chemical. This is achieved by various chemical reactions (such as oxidation, reduction and hydrolysis), during this process free radicals are produced which, if excessive, can damage the liver cells. Antioxidants (such as Vitamins C, E and natural carotenoids) reduce the damage caused by these free radicals. If antioxidants are lacking and toxin exposure is high, toxic chemicals become far more dangerous.

Essential cofactors of P450 Phase 1 detoxification: NADH (Co-enzyme of B3), B2, B3, Magnesium, Iron, indoles from cruciferous vegetables.

The activity of Phase I detoxification enzymes decreases in age- one of the reasons why hangovers get worse as you get older. Aging also decreases blood flow through the liver, further aggravating the problem. Lack of the physical activity necessary for good circulation, combined with the poor nutrition commonly seen in the elderly, add up to a significant impairment of detoxification capacity, which is typically found in ageing individuals. Never stop moving! Never stop eating healthily!

Phase 2 is called the conjugation pathway, whereby the liver cells add another substance (e.g. Cysteine) to a toxic chemical or drug, to render it less harmful. This makes the toxin or drug water-soluble, so it can then be excreted from the body.

Sulphur containing foods and amino acids stimulate Phase 2 detox such as eggs and cruciferous vegetables (e.g. broccoli, cabbage, Brussels sprouts, cauliflower), raw garlic, onions, leeks
(continued overleaf)

The liver, the largest solid organ and gland in the body, weighs up to 4 pounds. It holds approximately one pint of your total blood supply at any given moment and is estimated to have over 500 functions. Rather impressive, dontcha think?

Your liver plays a vital role in fighting infections, particularly infections arising in the bowel. It does this by mobilising part of your body's defence mechanism called the macrophage system. The liver contains over half of the body's supply of macrophages, which literally eat any bacteria that they come into contact with. If the liver is overworked in any way its ability to fight infections is impaired. This is yet another reason why everyone catches a cold right after the festive season!

Your liver has two different ways of getting rid of toxins. These are known as Phase 1 and Phase 2. They are both different and require different nutrients. Many people are aware of the importance of the 'liver herb' Milk Thistle for liver health, but other nutrients are required in order for optimum liver health and this is why we have put this newsletter together.

Amazing Propolis

Propolis is one of the many substances produced by bees which have been exploited by humans, and with 78 published pieces of research in 2014 alone, it has never been more exciting to researchers.

What is Propolis? Some of you might already know as we have sold it in Hanover Healthfoods for many decades. Propolis is a combination of waxy, resinous, sticky elements collected by bees. It's main use in the hive is to fill gaps and cracks in the structure of the hive, but it can also be used to literally embalm foreign invaders like mice which are too big for the bees to drag outside.

More than 180 compounds have so far been found in Propolis. The biggest group are flavonoids which generally give plants their colour, taste and smell but are often part of their own immune system. This protective resin is the basis of Propolis but it also contains a range of 'phenolics' of which the one which is used most in research is CAPE (caffeic acid phenyl ester).

Historically humans have used Propolis for much the same reason that bees use it, for its antimicrobial and antifungal properties, so it is found in a lot of throat lozenges and sprays. Some people take it in capsule to boost their immune systems, and slightly less commonly it can be found in mouthwashes, toothpastes and topical creams.

Propolis has been shown to kill over thirty disease-causing bacteria (including antibiotic resistant *Staph aureus* and *H. pylori*), 24 fungi (including *Candida*, ringworm and athlete's

foot), 4 protozoa (including *giardia*) and 18 viruses (including herpes, herpes simplex and influenza). This is interesting because most conventional antibiotics are not successful against viruses. The components in Propolis have also been shown to protect the liver against the ill-effects of alcohol and paracetamol.

Additionally, my quick trawl through the research published on Propolis in 2014 threw up some interesting findings which are worth sharing... A study published in July showed that a solution of Propolis was more effective against gum disease and bleeding gums than chlorhexidine, the main ingredient in Corsodyl. Another study published this August showed that a Propolis cream outperformed a placebo in healing diabetic foot ulcers.

We stock Propolis in capsules, liquid, throat spray, lozenges and cream.

John, Hanover Healthfoods



Milk Thistle is a powerful antioxidant that has the ability to fortify the liver. It's effectiveness in treating the liver stems from a complex of three liver protecting compounds known as silymarin which constitutes 4% to 6% of the ripe seeds. It neutralises, detoxifies and protects against free radical molecules. It promotes the regeneration of healthy new cells which replace old damaged ones. It helps to strengthen the liver by preventing the depletion of glutathione which is essential to the detoxifying process.



and shallots are all good sources of natural sulphur compounds to enhance Phase 2. These foods can be considered to have a cleansing action.

For increased Phase 2 detoxification, the liver cells require sulphur-containing amino acids such as L-Taurine (Solgar, £7.15/50) and Cysteine (Solgar, £21.25/60). The nutrients Glycine, Glutamine, Choline and Inositol are also required for efficient Phase 2 detox. We sell the powerful detoxifying amino-acid L-Glutamine (Solgar, £14.10/60x1g). Sulphur is needed to make Glutathione-S-transferase which is the most powerful liver protector.

If Phase 1 and 2 pathways become overloaded, there **will** be a build-up of toxins in the body. Many of these toxins are fat soluble and incorporate themselves into fatty parts of the body where they may stay for years, if not for a lifetime- it's not called a beer belly for nothing! The brain and the endocrine (hormonal) glands are also fatty organs, and are common sites for fat-soluble toxins to accumulate. This may result in symptoms of brain dysfunction and hormonal imbalances, such as infertility, breast pain, menstrual disturbances, adrenal gland exhaustion and early menopause.

Fatty liver is never a good thing, as fat soluble toxins stick to the fat, which impairs the function of the liver (creating a vicious cycle of toxicity). Lecithin is a crucial nutrient in preventing and detoxifying a fatty liver. Available in capsule (Natures Aid, £6.45/90) or in granules (£6.40/250g).

If you're feeling like your liver is needing a little boost or even a complete overhaul come inside and get some advice today!

Regan, Hanover Healthfoods