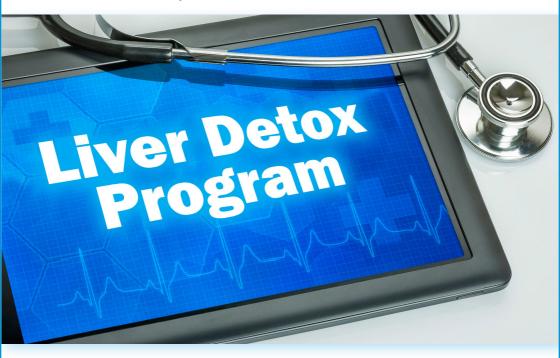


By Brett Elliott - Medical Herbalist





INTRODUCTION

Liver Detox is a controversial subject, because medical doctors generally say "you can't detox your liver, because your liver detoxifies itself."

This is true in a sense, but what they often fail to understand is that the liver can become overloaded with the very toxins it's meant to process and start to breakdown, become diseased and even fail completely.

Liver disease is one of the major causes of morbidity and mortality across the world.

According to World Health Organization estimates, about 500 million people are living with chronic hepatitis infections resulting in the death of over one million people annually. These liver infections can result from pharmaceutical use.

Medicinal plants however, serve as a vital source of potentially useful new compounds for the development of effective therapy to combat liver problems. (1)

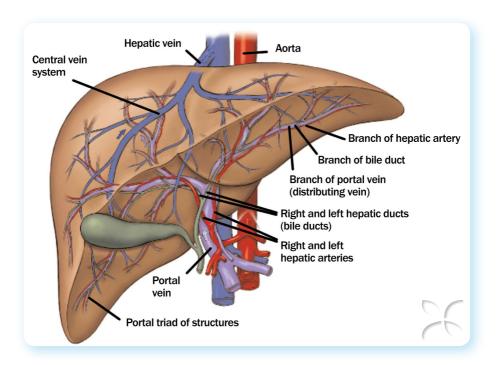
So let's briefly talk about your liver function!



WHAT DOES YOUR LIVER DO?

Weighing in at 1.5 kilos your liver is the largest organ of your body. It is like a busy chemical-processing factory that performs over 500 functions for the body.

The healthy functioning of your liver is vital to the continued life of your physical body.



The Liver is responsible for over 250 functions including:

- Breaking down and eliminating every toxic substance that enters your bloodstream
- Processing and sorting all the blood and nutrients returning from the digestive process (except fat)

- · Producing bile for digestion
- Balancing cholesterol
- Balancing your hormones (especially estrogen)
- · Storage of some nutrients ready for the body to use
- Synthesizing substances essential for the immune system

The list goes on, and truly testifies to the benefits of maintaining a healthy liver.

Benefits of a healthy liver

There is much you can do to improve your health, simply by giving a little TLC to your liver.

If you have high cholesterol, then rather than taking a harmful statin drug, nurture your liver!

For a sluggish bowel, acne, poor immune system, bloating or menopause supporting liver function is key.

How about your immune system?

Let's say you eat a healthy balanced diet with only occasional alcohol but suffer from frequent chest infections, headaches or skin irritations. Nothing to do with your liver you think until you connect to dots.

You stay up too late at night then perhaps wake in the middle of the night. This is the time your liver is the most active, dumping toxins and producing such things as natural killer cells for your immune system.

However, an active liver requires you to be resting at this particular time so it can get to work.

If you wake during the nights sweating or feeling uncomfortable, tossing and turning or getting hot feet then these are signs pointing to a disturbed liver function.



Hidden danger

Many substances including medicinal drugs commonly thought to be safe, are bombarding the liver with extra workload, acidity, inflammation and tissue damage.

For example, thousands of people around the world think nothing of taking painkillers on a regular basis yet acetominaphen (paracetemol) toxicity is common. It is so dangerous it can completely destroy the liver function if taken only slightly above the dose stated on label. Known by various names in different countries this is panadol, tylenol and other over-the-counter cold and flu, fever and pain remedies.

Experience shows that even when prescribed appropriately at the usual therapeutic dosage, paracetamol can be toxic to the liver (hepatotoxic). (7)

Drug-induced liver injury has become a leading cause of severe liver disease in Western countries and therefore poses a major clinical and regulatory challenge. (18)



Overloaded Liver

According to recent reports oxidative stress plays a pivotal role in the initiation and progression of hepatic (liver) damage following insult to a variety of hepatotoxins. The role of oxidative stress in viral hepatitis and autoimmune related liver diseases has been extensively documented. Moreover hepatotoxic chemicals damage liver cells. (1)

The liver is the largest and most vital organ of the human body. Besides its crucial role in the metabolism of nutrients, liver is responsible for bio-transformation of drugs and chemicals thereby protecting body against toxic foreign materials. In this process the liver is exposed to high concentration of toxic chemicals and their metabolites which may cause liver injury.

There are more than a hundred well known liver diseases with diversified pathology. The most frequent causes of hepatic disease include infectious agents (especially hepatitis viral A, B, and C), obesity related fatty liver disease, xenobiotics (alcohol, drugs, and chemicals) induced liver injury, inherited and genetic defects related liver diseases, autoimmune hepatitis, liver cirrhosis, and primary or secondary liver cancer. (1)

So what can we do to detoxify, protect and heal our liver?

You are about to find a whole world of answers.



LIVER PROTECTION MADE EASY

We can see that healthy liver function is necessary every time you eat a meal, come into contact with pesticides, have a menstrual cycle, pass through menopause, take a painkiller and basically every second of the day.

The good news is that there is much you can do to aid your liver.

First, there are the obvious lifestyle necessities:

- · Adequate sleep, preferably at night
- A balanced diet high in live, unprocessed fruits and vegetables (processed packet foods made in the factory are not considered part of a healthy diet)
- Moderate, regular exercise, necessary for circulation to the liver and health of all organs, muscles, blood vessels, and to lighten the load on the liver
- Drink adequate water, it is your body's solvent that helps your blood carry nutrients and wastes in and away from the liver
- Avoid alcohol and processed foods with lots of bad fats and additives
- Avoid taking pharmaceutical drugs if at all possible and seek out natural medicines where practical

Let's take a look at some of the more detailed choices which have a direct effect on the liver. Specific foods and food supplements, herbs and **detox programs**.



FOODS FOR THE LIVER

- Broccoli and the rest of the brassica family
 of vegetables are proven to support Phase 2 liver
 detoxification, eat plenty of broccoli, cauliflower,
 cabbage (all kinds) and kale; in-fact rocket was
 observed to protect the liver against induced hepatic
 injury through its potent antioxidant activity. (5)
- Raw fermented vegetables (see recipe)
 - give increased nutrients and support the health of the colon which in turn aids the liver.
- Onions all vegetables from this family including leeks, garlic and shallots provide natural mustard oil glycosides that greatly support liver detox processes.



 Beetroot – for blood building (the liver contains 13% of your body's blood); beetroot (Beta vulgaris) is high in iron, is a good antioxidant and has been shown to protect liver cells.

The hepatoprotective activity of Beta vulgaris may be attributed to its antioxidant (2) and anti-inflammatory (3) activities. The plant is safe to use even in large doses. Phytochemical studies on roots of Beta vulgaris have shown the presence of betaine, betacyanins, betaxanthins, oxalic acid, and ascorbic acid. (4)

 Turmeric – a common spice you can add to soups, casseroles, curries and rice. Turmeric protects the liver against oxidative stress, improves blood circulation and improves liver function and detoxification processes.

It has been shown that curcumin found in turmeric is very effective in preventing liver damage induced by paracetamol overdose, and that the level of protection afforded by curcumin against paracetamol-induced liver damage is comparable to that of N-acetyl cysteine (NAC), which is presently the main clinical treatment for paracetamol overdose in humans. (8)



 Grapefruit - Studies conducted over past decades have suggested that the grapefruit might be active in cellular regeneration, cholesterol reduction, the detoxifying process, and the maintenance of heart health, in rheumatoid arthritis, for the control of body weight, and in cancer prevention. Grapefruit juice is an excellent source of many phytochemicals and nutrients that contribute to a healthy diet. It reduces fat accumulation in the liver and increases liver enzymes involved detoxification. (17)



 Berries - These include Blueberries (Bilberry), Cranberry and Grape due to anthocyanins and proanthocyanidins.

The results of one study indicated that treatment with Bilberry significantly increased the liver enzymes, and spleen function, improving the proliferation of lymphocytes deriving from this organ. In conclusion, the authors suggested that consuming this berry type protected Liver hepatocytes from Oxidative Stress and could modulate the function of immune cells.

It is important to remember that the anthocyanins and proanthocyanidins like those found in berries are also widely available in fruits, vegetables, and seeds of natural origin. (17)

HERBS FOR THE LIVER

 Chamomile: Results have confirmed that the chamomile extract has reversal effects on the levels of paracetamol hepatotoxicity, and the authors concluded that the extract served as a hepatoprotective agent and that this hepatoprotective activity of chamomile might be due to the normalization of impaired membrane function activity. (17)



• Milk thistle: The seeds are well known for liver protection properties. Milk Thistle helps repair of damaged liver tissue and aids liver detoxification. A well known hepatic antioxidant, silymarin, from the milk thistle (Silybum marianum), inhibits liver damage by scavenging free radicals among other mechanisms. This powerful antioxidant protects the liver against alcohol and pharmaceutical injury and even poisoning from extremely toxic compounds. (9)

Milk Thistle is one of the most investigated plant extracts, with known mechanisms of action for oral treatment of toxic liver damage. Silymarin has been used as a protective treatment in acute and chronic liver diseases. (17)

It also acts by stimulating liver cell regeneration and cell membrane stabilization to prevent hepatotoxic agents from entering hepatocytes (17)

• Golden seal: The root contains substances that protect the liver, aid liver function and are antimicrobial. Another great liver stimulant and protector. One study demonstrated that berberine (from golden seal) possesses hepatoprotective effects against liver toxicity and that the effects are both preventive and curative. Berberine should have potential for developing a new drug to treat liver toxicity. (10)



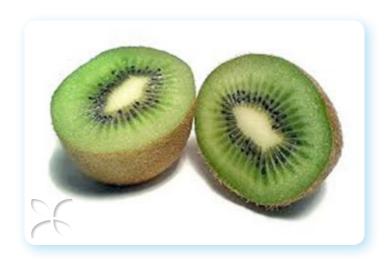
Results of another study show that Golden seal reduces acetominaphen (paracetemol) toxicity, and related acute liver failure. (11)

 Dandelion: The leaf and root gently support liver, gall bladder and kidney function. Results of one study suggest that the extract of Dandelion root has protective action against alcohol-induced toxicity in the liver by elevating antioxidative potentials and decreasing lipid peroxidation. (12)



 Wormwood: bitter properties in the leaf stimulate liver secretions and kill parasites. It is long known that the bitter constituents stimulate the gustatory nerves in the mouth and increase the secretion of gastric juice and bile, thereby promoting appetite and digestion. (13) • Turkish Rhubarb: Moderate doses stimulate a sluggish liver and bowel helping your liver to detoxify it's own cells as well as the blood passing through it. There is some evidence of the protective potential of this herb against liver injury due to multiple causes (14)

In another study Turkish Rhubarb targeted liver metabolic and immune pathways and may be bene icial for complex metabolic diseases such fatty liver disease. (15)



• **Kiwifruit:** As an antioxidant it protects the liver and has been shown to inhibit certain cancers. Use only organic kiwifruit to completely avoid the heavy sprays normally used. Data reported in one study suggested a bene icial effect of kiwi fruit peptides on the physiology of human intestine. (16)

 Barley grass: A good source of superoxide dismutase (SOD) a group of enzymes important to a healthy liver.

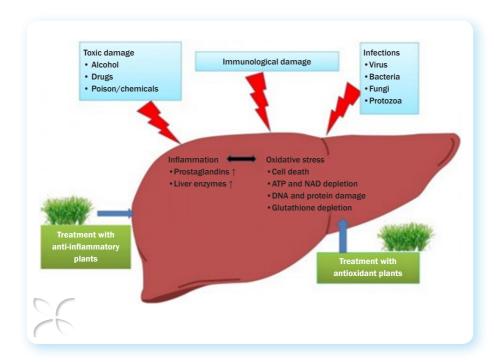
SOD aids in Phase 2 liver detoxi ication. Barley grass supplementation sustains liver anti-oxidative enzymes, catalase, glutathione peroxidase, and superoxide dismutase, at transcriptional and enzymatic levels, thus suppressing oxidative stress markers. (6)

 Spirulina: Liver examinations have revealed that Spirulina is potent in protecting the liver from toxic lesions and preserved the liver cell (hepatocyte) structure.

Lesions including necrosis, lymphocyte in iltration, ballooning degeneration, and hepatocyte injury, as well as irregular lamellar organization, dilation of the endoplasmic reticula, and the presence of great numbers of cytoplasmic vacuolizations, were reversed by Spirulina. (17)

In other words, Spirulina heals the liver.





LIVER PROTECTION

The anti-inflammatory and anti-oxidant herbs spoken about protect the liver against variety of toxins and injurious stimuli by improving many liver cell functions, reducing the oxidative stress, the related liver damage and inflammation.

Detox your liver for better general health

You will see very noticeable differences in your health when you pay attention to the foods and herbs that benefit your liver. Doing a regular detox for the colon with additional herbs to support your liver will reward you with faster initial results and ongoing improvement as you continue to eat healthy, living foods.

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