

# Look After Your Liver... And It Will Look After You

*The liver is unique in that it can regenerate itself after damage. A liver can regrow to a normal size even after up to 90% of it has been removed, according to the National Institutes of Health in the USA. So what makes this 'father of the organs and glands' so special?*

## Why is it so important?

Textbooks will tell you that the liver is in charge of anywhere between 100-200 different activities within the human body. The liver processes, changes and stores the nutrients of food until they are needed. If they are immediately required, they pass into the venous circulation. Fats are either stored in the liver or sent back into the circulation in the fat depots. More frequently they are combined with proteins as lipoproteins to be used as an energy source.

Some other functions include: -

Forming plasma proteins

Converting glucose to glycogen

Producing heat

Synthesising Vitamin A from carotene

Storing vitamins (vitamins A, B complex, B12, D, E and K, the reserves lasting several months)

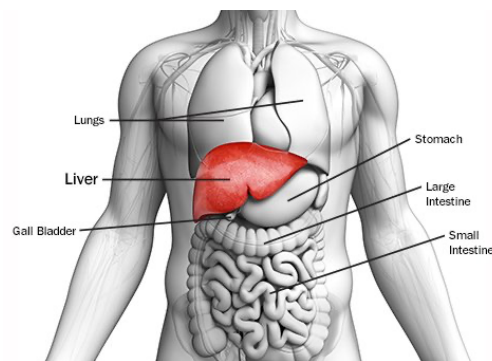
Deactivating hormones

Metabolising alcohol

Metabolising oestrogen and progesterone

## Where is it located?

This is the largest organ in the body (outside the skin) and is situated in the upper part of the abdomen with the majority being on the right-hand side. It is protected by the thoracic ribs from injury, lying deep against the 7<sup>th</sup> -11<sup>th</sup> ribs on the right side. It crosses over through the midline to the left towards the stomach. It has neighbouring organs and structures - the diaphragm and ribs superiorly, the stomach on its left and the right kidney, gall bladder and right flexure of the large intestine posteriorly.



It is divided up into four lobes – the large right lobe, smaller left lobe, the caudate and the quadrate. There is a region on the liver called the **Portal Fissure** where various structures enter and leave the liver, such as the hepatic artery, the portal vein, hepatic ducts and lymph vessels. The liver has two blood supplies – 20 per cent comes from the systemic circulation while 80 per cent is in the portal venous system draining the intestinal tract from the stomach to the rectum. This brings absorbed food to the liver. Over a litre of blood per minute passes through the liver.

## Physical Symptoms associated with Poor Liver Functioning

If the liver is not functioning correctly, the body can display symptoms through the joints similar to arthritis.

### Bile

- Issues around bile production, made by the liver, can lead to stiffness and inflammation as bile has very powerful anti-inflammatory properties. Added to this, **vitamin K2**, which is also responsible for transporting calcium from the blood into the bone, needs the help and support of bile.
- **Cholestasis** occurs when concentrated bile is being backed up and not flowing through the bile duct leading to inflammation. There can be itching of the plantar aspect of the foot due to a build-up of fluids and blocked bile flow. The accompanying pain from this

inflammatory process is found on the right-hand side of the body and will be accompanied by stiffness.

- If the person has a fatty liver (a build-up of fats within the liver tissue) it can lead to pain or inflammation in the bottom of the foot known as *plantar fasciitis*.
- If the body is highly inflamed, then the ligaments in your feet would also be susceptible. Systemic inflammation can be caused by several factors; the most common ones include poor diet, immune system disorders, chronic infections, diabetes and obesity (fat cells manufacture inflammatory chemicals) and having a fatty liver. If a fatty liver is ignored for many years, people can develop symptoms such as swelling over both feet, swelling in the belly with water known as ascites.

### Circulation

- Observing the appearance of the lower leg and the foot gives detailed information about the overall health of the person because the circulatory system relies on a fully-functioning heart to send blood to the feet and return it efficiently. The liver is intimately involved with circulation since it needs to detoxify the blood as well as assist in the transportation of nutrients.
- In the lower leg, a red-brown discolouration or spotting caused by spider veins, can usually be seen due to *cirrhosis*. This is because the liver is building up high levels of oestrogen and too much oestrogen can affect the vascular system. It is also an indicator in diabetes.
- **Gout** occurs most commonly in the big toe because uric acid is sensitive to temperature changes and turns into crystals at cooler temperatures. Since the toe is the part of the body furthest from the heart, it is also the coolest part and therefore the most susceptible to gout.

### Skin

- **Cracked heels** are usually due to a vitamin B3 deficiency or an omega-3 fatty acid deficiency. One of the functions of bile acids is to help absorb these fatty acids.
- While both vitamin A and vitamin E are involved in skin health, vitamin B3 also affects the skin and a B3 deficiency can create a problem with *Pellagra*, where areas of the skin exposed to either sunlight or friction are typically affected first. Over time, affected skin may become darker, stiffen, peel, or bleed.
- **Fungal toenails** may indicate liver problems since those people have a higher level of fungus growing on their body. This could be due to an imbalance in the micro-flora in the gut, causing an overgrowth of fungus and yeast on the outside of the body. The nail bed is white with a loss of definition in the Luna due to poor circulation.
- **Bad odour** occurs when the liver is not able to detoxify correctly, and the toxicity is backing up through the skin. Usually, it relates to a poor diet and has knock-on effects for the large intestine, the kidneys and the skin, since all of them are involved in elimination.
- **Pitted oedema** occurs when a finger is pressed into the lower leg causing a lingering indentation. The poor drainage of fluid is a common liver symptom.

## **How Emotions and Mental Processes Affect the Liver**

The liver is easily influenced by anger, frustration, and resentment. We want to clear away something as it disturbs us rather than fixate on emotions as this will create disease.

As well as being a destructive emotion, anger can be a clearing force to keep things moving and flowing. When anger eases, this energy transforms into clear-headedness, faith and optimism. Rest and recuperation are essential during these hours in order to experience the restorative power that a thorough cleansing of the blood can bring.

Your liver energy encourages you to clear out the waste and plan your next adventure, while pacing yourself and not overloading your mind, body and spirit.

A good rule of thumb is to never eat when you are angry or upset as it is like stuffing emotions inside. Do not eat with people you do not like!

## **Checklist – does this sound familiar in your case-taking?**

Clues to a liver energy imbalance:-

- ✓ Inability to get off to sleep?
- ✓ Waking during the hours of 1am -3am?
- ✓ Headaches in the night?
- ✓ Feeling overheated during sleep?
- ✓ Waking with a craving for food?
- ✓ Rising with aching joints?
- ✓ Frequent sighing?

## **What else to look out for ...**

- The side effects from medications
- A high percentage of sugar in the diet
- A lack of any vegetables
- Excessive protein leading to large amounts of nitrogenous waste overtime that can then overload the liver and the kidney
- You can maybe advise on liver-cleansing foods such as leafy greens, sprouts, broccoli, beetroot, garlic, onion, cabbage, pink grapefruit, lemon and most bitter and sour foods.

So, spare a thought for the liver during this festive period (and beyond) and all the amazing tasks it will have to perform.

Think laterally about all the conditions mentioned in this essay and relate them back to a liver energy weakness. By working on the liver reflex (or through the meridians if that's your area of expertise) you can adopt a fresh approach to working with a whole raft of conditions, quite a few of which will have tell-tale signs on the feet.