



# The Hepatitis Foundation of New Zealand

*Know it. Test it. Treat it.*

## The liver

The liver is a very important organ. We cannot live without our liver. It performs over 500 different chemical functions, and affects nearly every physiological process of the body.



The liver stores energy like a battery, by stock-piling sugar, carbohydrates, fat, vitamins and minerals until it is needed. It then converts food into glucose, proteins and fats. The liver helps spread nutrients around the body. It also cleans the blood by filtering alcohol and other toxic substances and removing these from the body.

Important proteins that affect the blood, such as albumin and clotting factors, are made by the liver. It is one of the main organs involved in our natural immunity, as it releases important chemicals that activate immune responses when infection is detected. The production and maintenance of hormones is also controlled by the liver.

The liver is in the upper right-hand part of the abdomen, underneath the diaphragm and below the ribs. It is to the right of the stomach and over top of the gallbladder. It is the largest organ inside the human body and weighs approximately 1.36 kg. It is reddish brown in colour and is divided into four lobes of different sizes and lengths.

The organ can repair and rebuild itself. Even if only 25 per cent of it is still healthy, the liver can regenerate itself into a full liver again. However, if the liver becomes severely damaged, there comes a point at which it is no longer able to repair itself.

## Liver damage

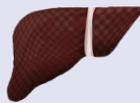
### Stages of liver damage



Healthy liver



Liver fibrosis  
Scar tissue forms



Cirrhosis  
Large sections of  
the liver become  
scarred

Hepatitis causes inflammation of the liver, which leads to scarring. Over time the normal cells are replaced with scar tissue which damages the liver. Scar tissue reduces the blood flow through the liver and when it reaches a cirrhotic state (advanced scarring of the liver) it cannot perform normally and liver failure can occur.

Scarring of the liver is a slow process and can take between 20 and 40 years from the onset of liver disease until the development of cirrhosis. The scarring begins with mild/moderate fibrosis and can progress to cirrhosis. Lifestyle factors can speed up the scarring process, such as alcohol and drug use, as well as being overweight.

Liver damage can also lead to liver cancer (also called hepatocellular carcinoma, hepatoma or HCC). People with liver cancer do not experience any symptoms or signs until the cancer is very large and at this stage it is not curable. Anybody with cirrhosis should have regular screening as people with cirrhosis are more likely to get liver cancer.