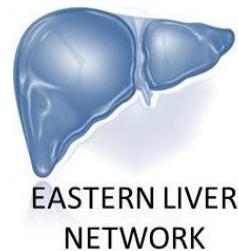
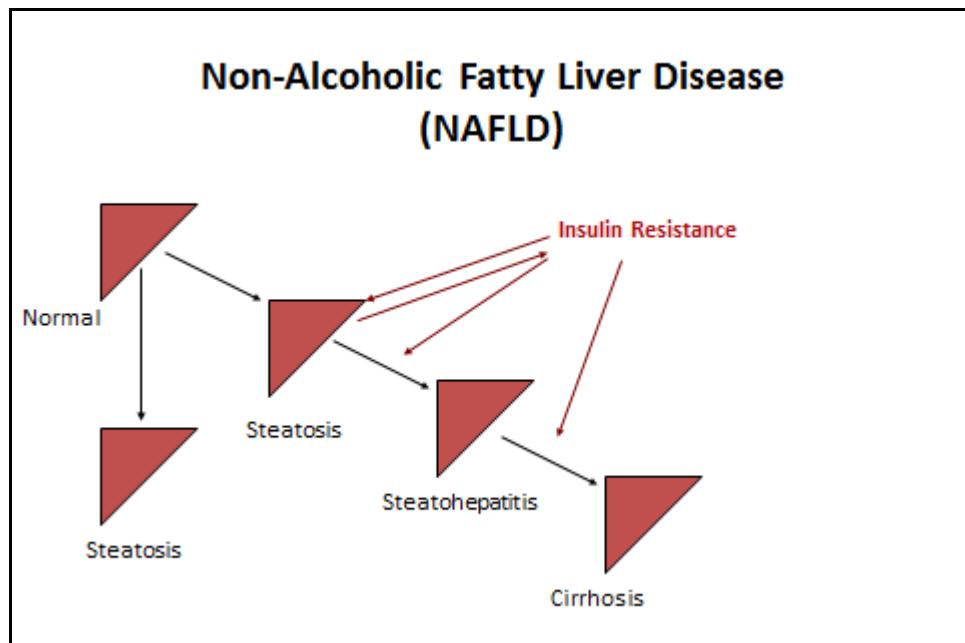


# NON-ALCOHOLIC FATTY LIVER DISEASE



## What is fatty liver?

Fatty liver is a condition where you accumulate too much fat in your liver. For some people this does not cause any health problems. However, for others over a period of time the fat causes inflammation and scarring resulting in a condition called NASH (non-alcoholic steatohepatitis).



## Who gets fatty liver?

Fatty liver is now the most common cause of liver disease and it is estimated that about one in every four people have it.

People who get fatty liver are commonly, but not always, overweight. If a person has fatty liver they are more likely to have or develop type 2 diabetes, high blood pressure and high cholesterol. There is also an increased risk of developing heart disease. Where you carry your extra weight may put you at more risk of liver disease and indeed other health problems too. If your body is an "apple" shape you will carry extra fat around your abdominal area this causes a release of fatty acids, hormones and inflammatory agents which put you more at risk of liver damage and other health problems. Some drugs can cause fatty liver and we can advise you regarding these.

## What tests might I have to diagnose fatty liver or NASH?

A number of different sorts of tests are used to assess whether a person has fatty liver and, if so, whether it is causing significant liver damage:

- Blood tests - These allow us look for a number of causes of liver disease and also other health conditions (for example, diabetes)
- Liver ultrasound - This is used to assess whether there may be fatty liver and also whether there is evidence of severe liver scarring. This is a procedure very similar to the one used for pregnant women to look at their unborn baby. Gel will be put on your abdominal area and a probe applied which allows the radiologist to assess the liver structure. The procedure lasts around ten minutes.
- FibroScan - This is very similar to an ultrasound, except the probe does not take pictures of the liver, but instead gives a pulse of vibration to measures the liver. This usually coincides with clinic visits. Increased liver stiffness indicates scarring/damage.

- Liver biopsy – This is a procedure whereby a tiny sample of liver tissue is taken under local anaesthetic, using ultrasound-guidance. This procedure is carried out if we suspect you have inflammation and scarring on the liver or we are concerned about your blood results and the possibility that something else is affecting your liver. It is currently the best way of assessing the nature and the degree of liver damage. This test is usually done as a day case. You will be injected with local anaesthetic to numb the area where the biopsy will be taken. A small hollow needle will then be inserted into the liver to get a small sample of liver tissue. You will then usually be asked to lie on your right side for about two hours and be on bed rest for around a further four hours. Your blood pressure and pulse will be checked on a regular basis as there is a small risk of bleeding. The liver tissue is then looked at by a specialist, which usually takes around two to three weeks.

## What if my test results indicate that I just have fatty liver?

If your tests suggest that you just have fatty liver you may be referred back to your GP for follow up and re-referral should there be concerns. Reassessment with is often recommended after a period of time. As the following advice will explain it is essential for you overall health to address your diet and exercise levels.

## What if I am found to have nonalcoholic steatohepatitis (NASH) - what does it mean?

The specialist who looks at your liver biopsy will be able to determine the level of liver damage that you have. This may be,

- Mild to moderate liver disease - this means that you are at risk of developing worsening scarring and cirrhosis. Follow up and monitoring will usually be offered
- Severe fibrosis/cirrhosis – this means that the scarring is severe and has reached the stage of having cirrhosis or nearly cirrhosis. There is an increased risk of liver cancer and patients in this category are usually seen every six months for blood tests and an ultrasound scan

## What are the symptoms of fatty liver/NASH?

Most people do not have any symptoms from their fatty liver. Some people will complain of discomfort around the upper right hand side of their abdomen where the liver is located. Your liver is encased in a capsule and if you have fat in your liver this can causes the capsule to stretch causing discomfort. Some people get tiredness and fatigue. Some people have symptoms from the health conditions that are linked to fatty liver, including diabetes, high blood pressure, sleep apnoea, heart disease. Some people who have NASH with cirrhosis, can over time develop other specific symptoms of liver disease, such as jaundice (yellow eyes and/or skin), swelling of ankles and abdomen with fluid and bleeding from the gut. These issues will be discussed with people who are found to have cirrhosis.

## What is cirrhosis?

Cirrhosis is caused by continuous long-term liver damage leading to scarring. Cirrhosis can be due to a number of things, including alcohol, viral infections, damage from the immune system and also hereditary causes, but also related to obesity and type 2 diabetes. A healthy liver has a smooth outline and is soft in texture but cirrhosis causes the liver to become hard with irregular bumps, called nodules. Over time in cirrhosis the liver can run out of healthy cells to support the normal functions of the liver. Further information is given on the cirrhosis information leaflet.

## What can I do if I have fatty liver or NASH?

There is no medication at present which is definitively proven to improve fatty liver or NASH long-term. There are, however, a number of promising new treatments for NASH and there are a number of studies being undertaken in the region involving these medications. As such, you may be approached and asked if you would like to be involved in one of these studies. Your treatment will not be affected in any way if you decide you do not want to be involved.

**If you are overweight** it is really important to make lifestyle changes. There is evidence to suggest that gradual weight loss and the introduction of regular exercise reduces fat in your liver. We can advise you about diet and exercise programs available in your area and offer you written information regarding recommended national

guidelines on exercise and a British Heart Foundation booklet on diet, which can be found [here](#). If indicated you may be offered referral to an obesity service.

**If you are diabetic** it is really important that your diabetes is well controlled. One of the blood tests we check is your HbA1c, which tells us how well your diabetes has been controlled over the last few weeks. If this is elevated your diabetic medication may need to be reviewed. If appropriate you may benefit from a referral to a specialist diabetic clinic. If you are not diabetic we will check your glucose (sugar) levels at each of your clinic appointments to make sure that you have not developed diabetes.

**If you have a high cholesterol** we may ask your GP to consider starting treatment. It is a common misconception that people with liver problems should not be started on medications such as "statins" or "fibrates". However, if you have a heart disease risk which suggests that you would benefit from taking a statin, then we would recommend that you do so (unless there is another medical reason to avoid these drugs).

**If you are on medication that causes fatty liver** we may ask your GP or other specialist doctor to consider stopping this and changing to an alternative drug.

**If you have high blood pressure** it is important that this is well controlled. If you are already on medication your blood pressure will be checked at your GP surgery as advised. We will measure your blood pressure at your clinic visits. If we find your reading is elevated, we will ask you to make an appointment with your GP or practice nurse to have this monitored and they may start you on medication if indicated.

**If you drink alcohol** we would advise you to stick within recommended drinking limits, unless you have cirrhosis in which case we would recommend abstinence. If you have moderate disease we would recommend that you do not consume more than 10 units of alcohol/week. Alcohol has not caused your liver disease but it is an extra irritant to the liver if you drink more than is recommended. A lot of drinks now tell you how many units are in them but some examples are, a normal strength pint of lager contains 2 units and most bottles of wine contain 10 units.

We hope this information has helped you understand your liver disease.

## Further information

- The British Liver Trust ([www.britishlivertrust.org.uk](http://www.britishlivertrust.org.uk))
- [www.patient.co.uk](http://www.patient.co.uk)
- NHS Choices [www.nhs.uk/conditions/fatty-liver-disease/Pages/Introduction.aspx](http://www.nhs.uk/conditions/fatty-liver-disease/Pages/Introduction.aspx)
- British Heart Foundation (<https://www.bhf.org.uk/informationsupport/support/healthy-living/healthy-eating>)