

Patient information

Non-Alcoholic Fatty Liver Disease (NAFLD)

Digestive Diseases Care Group

Non-alcoholic Fatty Liver Disease

Non-alcoholic fatty liver disease (NAFLD) describes a range of conditions caused by a build-up of fat within liver cells. It is very common and in many cases is linked to being obese or overweight. Most people with NAFLD do not develop serious liver problems. In some people, the build-up of fat in the liver can lead to serious liver disease. However, all people with NAFLD have an increased risk of developing cardiovascular problems such as heart attacks and stroke.

If you are obese or overweight, a main treatment advised for NAFLD is usually gradual weight loss and regular exercise. This not only helps with NAFLD but will help reduce your risk of developing cardiovascular problems. Other treatment methods are discussed below.

What is non-alcoholic fatty liver disease?

NAFLD describes a range of conditions caused by a build-up of fat within liver cells. It is helpful to divide NAFLD into four stages:

- **Simple fatty liver (hepatic steatosis).** Normally, very little fat is stored in liver cells. Simple fatty liver means excess fat builds up (accumulates) in liver cells. For most people, simple fatty liver does not cause any harm or problems to the liver. However, in some people it can progress to more severe forms of NAFLD.
- **Non-alcoholic steatohepatitis (NASH).** In this condition the excess fat in the liver cells is associated with, or may cause, inflammation of the liver. ('Steato' means fat, and 'hepatitis' means inflammation of the liver). This is much less common than simple fatty liver.
- **Fibrosis.** Any form of persistent hepatitis, including steatohepatitis, may eventually cause scar tissue (fibrosis) to form within the liver. When fibrosis first develops often there are many liver cells that continue to function quite well.
- **Cirrhosis.** This is a serious condition where normal liver tissue is replaced by a lot of fibrosis. The structure and function of the liver are badly disrupted. It is, in effect, like a severe form of liver fibrosis. Many liver conditions can lead to cirrhosis, including NAFLD.

Who gets non-alcoholic fatty liver?

Anyone can get a fatty liver. However, non-alcoholic fatty liver disease (NAFLD) is becoming very common with up to one-third of all adults having evidence of liver fat build up. In many cases fatty liver is linked to being overweight or obese. Rarer causes of fatty liver can be related to medications or genetic diseases.

People with NAFLD also have an increased risk of developing cardiovascular problems such as heart attacks and stroke

How is non-alcoholic fatty liver disease (NAFLD) diagnosed?

Non-alcoholic fatty liver disease (NAFLD) is diagnosed when you have evidence of a fatty liver, and are not drinking alcohol excessively (less than 14 units per week for both males and females).

What does one unit of alcohol look like?



***You shouldn't regularly exceed 14 units per week**

(Image used with permission of Drinkaware)

Often people with fatty liver have abnormal blood tests called liver function tests (LFTs). However, many other liver conditions can cause abnormal LFTs, and normal LFTs do not rule out significant liver disease. Therefore, if you have abnormal LFTs, a doctor will usually do various other blood tests to rule out other causes of liver problems, such as viral infections and immune disorders.

Scans of the liver can be helpful. For example, an ultrasound scan, CT scan or MRI scan can often show signs of an enlarged or fatty liver. All patients are offered transient elastography (fibrosan) which is a simple non-invasive test to assess whether the fat in the liver has caused any permanent damage (cirrhosis).

What symptoms does fatty liver cause?

Most people with a fatty liver have no symptoms.

However, some people have:

- nagging persistent pain in the upper right part of the tummy (abdomen), over an enlarged liver.
- tiredness.

Why is it important to know if I have got NASH?

People with NASH are at higher risk of developing serious liver disease including cirrhosis and liver cancer, and should be treated and monitored for these reasons. It is estimated on average about 2 in 100 people with simple fatty liver progress to cirrhosis over 15-20 years. About 12 in 100 people with NASH progress to cirrhosis over about eight years.

What is the treatment for non-alcoholic fatty liver disease (NAFLD)?

If you are obese or overweight, the main treatment advised for non-alcoholic fatty liver disease, including NASH is weight loss and regular exercise. This not only helps with non-alcoholic fatty liver disease but will help reduce your risk of developing cardiovascular problems.

Since most cases of NAFLD are linked to being obese or overweight, there is good evidence a programme of gradual weight loss and regular exercise can reduce the amount of fat in your liver. So, if you have simple fatty liver or mild NASH, this may prevent or delay the progression of liver disease and may reduce your chance of developing cirrhosis - a condition where normal liver tissue is replaced by a lot of scar tissue (fibrosis). Sustained 5-10% weight loss can be an effective treatment for fatty liver. In some people who are very obese, obesity (bariatric) surgery may be considered, as studies have shown this may help to improve NASH.

Treatment of linked conditions and risk factors is also important, such as type 2 diabetes, high cholesterol and high blood pressure. These will reduce the risk of heart attack and stroke as well as help the liver. Other lifestyle factors are also important such as not smoking, keeping your weight in check, taking regular exercise and eating a healthy balanced diet.

At the moment, there are no specific licensed drugs to treat NASH. However, several new medications are under evaluation in clinical trials. If you have NASH or are at high risk of having NASH, you may be eligible to take part in a clinical trial. Please ask your doctor about this.

What should I eat and change with my lifestyle?

In general terms, lifestyle changes to improve fatty liver need to reduce the amount of calories being consumed in food and drink, and become more physically active. There are no specific diets that are proven to be more effective than others, but some general guidance is given in the table at the end of this information sheet.

How much alcohol can I drink?

It is advised you do not drink any alcohol if you have NAFLD, although very occasional alcohol is unlikely to be harmful. NAFLD (by definition) is not caused by alcohol. However, regular amounts of alcohol may make NAFLD worse. The maximum limit should be less than 14 units per week for both men and women.

What monitoring do I need?

If you have simple fatty liver, and are at low risk of scarring, then you should make positive changes to lifestyle by diet and exercise, and be reassessed by your family doctor (GP) every three years.

NAFLD clinic and liver clinic

If you have been identified as having NASH with liver scarring you may be seen yearly and be offered follow-up fibroscans to see if your liver is deteriorating. If you had advanced fibrosis or cirrhosis you will be seen every six months to monitor for potential serious complications of advanced liver disease.

There is also a specialised NAFLD intervention clinic currently held at Broadgreen Hospital which you may be referred to for follow up. Here you can talk to the doctors or nurses about managing your risk factors for NAFLD and onward referral to community services that may be able to help you with a healthier lifestyle. There are also upcoming clinical trials looking to find new medications that are effective for NASH and you may be approached about whether you would be eligible to take part during your clinic visit.

What is the outlook?

The outlook (prognosis) for most people with NAFLD, is that the condition does not progress beyond simple fatty liver or non-alcoholic steatohepatitis (NASH). Cirrhosis - a condition where normal liver tissue is replaced by a lot of scar tissue (fibrosis) - and serious liver problems do not develop in most cases. The condition may reverse and even go away by weight loss (if you are overweight or obese) or with good control of diabetes (if diabetes is the cause).

However, fatty liver does progress to NASH in some people and NASH progresses to cirrhosis in some people. It is not clear why some people with NASH (and not others) progress to cirrhosis. Cirrhosis is very serious; it can lead to liver failure and may be fatal.

It is estimated that, on average:

- About 2 in 100 people with simple fatty liver progress to cirrhosis over 15-20 years.
- About 12 in 100 people with NASH progress to cirrhosis over about eight years.

So, most people with NAFLD do not develop serious liver disease. However, because NAFLD has become very common in recent years (probably because of the epidemic in obesity), NAFLD has become a common cause of cirrhosis.

Cardiovascular disease is the most common cause of illness and death in people with NAFLD. Perhaps the most important 'take home message' if you are diagnosed with NAFLD is not to focus too much on your liver. Rather, concentrate on reducing any risk factors for developing cardiovascular problems. This is mainly lifestyle changes - in particular, diet, weight loss and exercise for most people and giving up smoking if you smoke.

Summary

Your doctor or nurse should be able to assess your risk of having NASH and significant liver disease. Treatment and follow up can be tailored according to your needs. In general lifestyle changes to your diet (reducing calories, reducing alcohol and increasing physical activity) are the best treatment for fatty liver.

Lifestyle recommendations for people with fatty liver disease

Lifestyle recommendations

Specifically avoid

Sustained weight loss 5-10%	water	Avoid sugary drinks
Calorie restriction	Portion control; 1200-1500 kcal daily for weight less than 115 kg 1500-1800 kcal daily for weight more than 115 kg	avoid 'going large' avoid late night eating
Limit alcohol	Less than 14 units per week	Too much alcohol more than 14 units / week
Get sufficient sleep		Avoid caffeine at night
Increase physical activity	Wear / download on your smartphone a pedometer, aiming for 10,000 steps / day	Sedentary lifestyle
Avoid saturated and trans fats	Olive oil, nuts, avocado, oily fish (tuna, mackerel, sardines)	Fast food, fried food
Low carbohydrate diet	Three to five portions of vegetables and fruit two to four serving / day	Simple carbohydrates with fructose corn syrup

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Further information

Hepatology Specialist Nurses

Tel: 0151 706 2805

Text phone number: 18001 0151 706 2805

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