

Non-alcohol related fatty liver disease

What is a fatty liver?

A healthy liver should contain little or no fat. However, in some people, fat builds up in the liver, leading to a condition called non-alcohol related fatty liver disease (sometimes referred to as NAFLD). If these fatty deposits build up over a long time, they can damage the liver and stop it working properly. It's estimated that one in three people in the UK have non-alcohol related fatty liver disease.

Most commonly, these fatty deposits are found in people who are overweight or obese, although sometimes they are seen in people who are not overweight.

Drinking too much alcohol can also cause fat to build up in the liver. If alcohol is the cause of fatty liver disease, it's called alcohol-related liver disease. For more information on this, download our fact sheet on **Alcohol-Related Liver Disease** from www.britishlivertrust.org.uk/publications

How does fat damage the liver?

When fat builds up in the liver, especially over a long period of time, it can cause inflammation. Inflammation is the body's response to harm and is the first stage in the healing process. But if damage to the liver continues before the damaged tissue is repaired, new liver cells can't regenerate fast enough and scar tissue forms. This scar tissue is called **fibrosis**.

If the damage to the liver continues, the inflammation and fibrosis spreads throughout the liver, affecting how well it works and even changing its shape. This is known as **compensated cirrhosis**. There may not be any symptoms of liver disease at this stage and often, the liver is able to keep working quite well, although any damage that occurs to the liver at this point may be permanent. **However, it is possible to stop further damage and stabilise the condition if the cause of the inflammation is removed.**

If damage to the liver continues, it will become unable to function properly and will start to fail. This is known as **decompensated cirrhosis**, or end-stage liver disease. Chemicals and waste products normally dealt with by the liver start to build up in the body and can cause symptoms such as confusion and memory loss, jaundice (yellowing of the skin and eyes) and a build-up of fluid in the tummy. Other major organs in the body may start to fail too, eventually leading to loss of life.

How does fatty liver disease progress?

Non-alcohol related fatty liver disease has four main stages. These are:

1. **Simple fatty liver, or steatosis** – This is the milder form of the disease. Commonly, there will be a small amount of fat in the liver that hasn't yet caused inflammation or damage and may only be discovered during tests carried out for other reasons.
2. **Non-alcohol related steatohepatitis** – In some people, non-alcohol related fatty liver disease can progress to the next stage of the disease, which is non-alcohol related steatohepatitis (sometimes referred to as NASH). This is the more serious form of non-alcohol related fatty liver disease, where the build-up of fat begins to trigger inflammation. It's estimated that 5% of the population has non-alcohol related steatohepatitis. →

3. **Fibrosis** – Ongoing damage leads to scar tissue (fibrosis) forming throughout the liver and around nearby blood vessels.
4. **Cirrhosis** (see previous page) – This develops over many years and is where bumps, known as nodules, form in and on the liver, replacing smooth tissue. The liver may shrink and become stiff (healthy liver tissue should be soft). The damage now is permanent, and may lead to liver failure (where the liver stops working properly).

I have been diagnosed with non-alcohol related fatty liver disease. How can I stop it from progressing?

At present, there is no specific treatment for non-alcohol related fatty liver disease. However, there are important lifestyle changes you can make to stop it getting worse. Because it's often linked to being overweight, losing weight by following a healthy balanced diet and doing regular exercise can help. In fact, there's good evidence to show that sensible, gradual weight loss coupled with increased exercise can reduce the amount of fat in your liver. If your liver disease is linked to diabetes, high blood pressure or cholesterol, it's especially important to maintain a healthy weight and increase the amount of exercise you do. Your doctor will also advise on medication that can help too.

Is it possible to reverse non-alcohol related fatty liver disease?

It may be possible to reduce the amount of fat in your liver if you commit to the lifestyle changes outlined above. In particular, the following may help:

- Aim to reduce your weight so that you have a BMI of 18.5-24.9. This is in the healthy range (see below). Losing 10% of your bodyweight can reduce the amount of fat in the liver and improve non-alcohol related fatty liver disease or non-alcohol related steatohepatitis.
- Focus on a healthy balanced diet that includes lots of fresh vegetables, fruit, wholegrain carbohydrates and lean protein, such as chicken. Cut down on processed foods and snacks that are high in fat and sugar, and limit the amount of alcohol you drink.
- Make exercise a regular part of your daily routine. Aim for 150 minutes per week (30 mins five days a week, for example) of moderate-to-intense activity every week, such as running, cycling or brisk walking.

How do I know if I'm overweight? Your BMI explained

In the UK, doctors use a measure called the body mass index (BMI) to assess whether someone is a healthy weight. It divides an adult's weight in kilograms by their height in metres squared. You can find a BMI calculator on the internet, or ask your doctor to work it out for you if you're not sure.

If your BMI is:

- Below 18.5, you're in the underweight range
- Between 18.5 and 24.9, you're in a healthy weight range
- Between 25-29.9, you're in the overweight range
- Between 30-39.9, you're in the obese range.

What should I do next?

If you have non-alcohol related fatty liver disease, your GP should now assess you to see how likely it is you have fibrosis or cirrhosis using a blood test score. In some cases you may also be given a specialist scan (fibroskan). If you have a high risk of fibrosis or cirrhosis you will be referred on to a specialist team. If you have a low risk, you should receive advice on your lifestyle and be re-checked for risk of fibrosis every three-five years.

If you are referred to a specialist team, this should either be a gastroenterologist (a doctor who specialises in diseases relating to the digestive tract with a liver specialism) or a hepatologist (a doctor who specialises in liver disease). They will be able to assess further the extent of the damage to the liver and decide on the best way to treat it.

You may be advised to book regular appointments with your doctor so they can check your liver function and keep an eye on any new symptoms that may develop. They can also encourage you if you're trying to lose weight and monitor your BMI.

If you need help to lose weight, organisations such as Weight Watchers or Slimming World offer healthy, well-balanced calorie-controlled eating plans that can help, as well as a supportive community via either group meetings or online forums. Your doctor may refer you to a dietitian, who can provide expert advice on food and nutrition specific to your circumstances and condition. If you need help controlling your diet (as with binge eating, for example) you may be referred to a counsellor or therapist who can help you explore these issues further. They can also give you coping strategies to help break negative thought processes and eating patterns.

Useful contacts include:

Weight Watchers – offers weight loss plans and advice on healthy living, both online and at weekly meetings. Visit www.weightwatchers.com/uk

Slimming World – uses 'food optimising' to encourage weight loss. Eat as much as you like of healthy, wholesome foods such as fruit, vegetables and lean meats, whilst keeping alcohol, bakery goods and chocolate as treats. See www.slimmingworld.co.uk

British Association for Counselling and Psychotherapy – helps you find a qualified, registered counsellor or therapist local to you, or online, who specialises in your area of need. See www.bacp.co.uk

BEAT – the eating disorders charity understands that eating disorders are complex mental health issues. Call the helpline on 0808 801 0677 or visit www.beateatingdisorders.org.uk.

Getting help and support

A diagnosis of any kind of liver disease can be worrying and you may have a lot of questions. Talk to your doctor about anything you don't understand. You can also call the British Liver Trust's helpline on **0800 652 7330** to speak with a liver nurse specialist. Alternatively, email us at helpline@britishlivertrust.org.uk.

You'll find more information about non-alcohol related fatty liver disease on our website at www.britishlivertrust.org.uk, where you can also download our booklet **Non-Alcohol Related Fatty Liver Disease**.




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