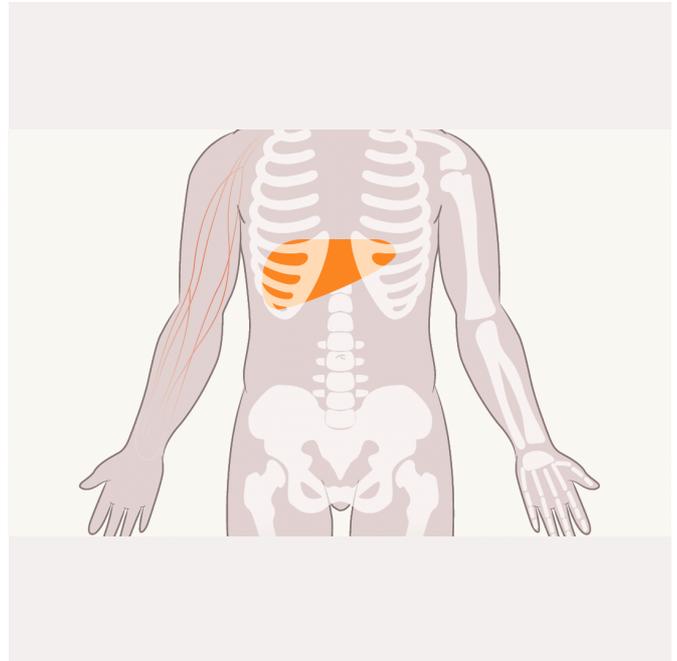


Factsheet Fatty liver disease and HIV

Key points

- Fatty liver disease occurs when fat builds up in liver cells.
- A healthy diet and exercise can reduce your risk of fatty liver disease.
- There are currently no good treatments for fatty liver disease.
- Over time fatty liver disease can lead to serious complications including cirrhosis and liver cancer.



Fatty liver disease occurs when triglycerides and other fats build up in the liver, which can cause inflammation and interfere with normal liver function. The condition often develops in people who are overweight or obese. It is now one of the leading causes of serious liver disease worldwide.

Fat accumulation in liver cells is known as steatosis. Fatty liver is a common consequence of heavy drinking.

When it occurs in people who drink little or no alcohol, its milder form is known as non-alcoholic fatty liver disease (NALFD) and its more severe form is non-alcoholic steatohepatitis (NASH). Most people who have fatty liver disease don't have hepatitis B or C.

Located on the right side of the abdomen behind the ribcage, [the liver](#) carries out many vital functions. These include filtering the blood, helping convert food into energy, processing medications and producing proteins that help the blood clot after an injury. Over time, fat accumulation in liver cells can lead to inflammation and progressive liver damage. This can include:

Fibrosis – build-up of collagen and other fibrous scar tissue, leading to a 'stiff' liver.

Cirrhosis – serious scarring that blocks blood flow through the liver and interferes with liver function.

Hepatocellular carcinoma (HCC) – a type of cancer that starts in the liver.

End-stage liver disease – severe loss of liver function that can result in death without a liver transplant.

Your lifestyle and fatty liver disease

Liver fat build-up is linked to being overweight and having a cluster of metabolic problems like high blood fat levels and [type 2 diabetes](#) (known as metabolic syndrome).

Changes to your lifestyle can lower your risk of developing fatty liver disease. The same lifestyle changes can help reduce the amount of fat in your liver if you already have it.

Lose weight. Maintaining a healthy weight can keep you from getting fatty liver disease. You should aim to keep your weight within the ideal range for your height, age and sex. Your doctor, nurse or dietitian can tell you what this range is. Weight loss is best achieved by both reducing calories and increasingly physical activity.

Exercise regularly. You should aim to do at least 150 minutes of [moderate aerobic activity](#) every week (for example, 30 minutes on five days a week). Moderate activity includes brisk walking, dancing, gardening and cycling. In addition to exercising at home or at the gym, try to increase the amount of physical activity in your daily routine. For example, increase the amount you walk by parking your car further away from shops or getting off the bus a couple of stops early.

Eat a healthy, balanced diet. A [balanced diet](#) includes a lot of vegetables, fruit and whole grains. Replace red meat with other protein sources such as chicken, fish and beans. Limit foods and drinks that are high in fat and refined sugar. This may be easier if you plan your meals around vegetables rather than meat, rice or pasta. A dietitian at your GP or HIV clinic can help you find a diet that will suit the way you live and the foods you like to eat.

Drink less alcohol. [Alcohol](#) can cause severe liver damage including fat build-up and scarring. This usually happens after years of heavy drinking, but binge drinking (drinking a lot on a single occasion) can also harm your liver. [Experts recommend that men and women](#) should drink no more than 14 units of alcohol a week.

Who is at risk?

Fatty liver disease is becoming more common as the number of people who are overweight rises. As many as one in five people in the UK may have fatty liver disease.

The more overweight you are – especially if you have excess fat around the waistline – the greater your risk of having fatty liver disease. Experts estimate that up to 90% of obese people have NAFLD. If you have conditions that make up metabolic syndrome, including high cholesterol and triglyceride levels, [high blood pressure](#) and insulin resistance or type 2 diabetes, you are more likely to develop fatty liver disease.

Because it develops slowly, fatty liver disease is most often seen in people aged 40 or older. People with [hepatitis B](#) or [hepatitis C](#) are more likely to develop fatty liver disease. Some medications can cause fatty liver as a side-effect. It is also caused by some genetic conditions and can run in families.

Fatty liver disease in people with HIV

Fatty liver disease has not been as extensively studied as other causes of liver disease in people living with HIV. Some research shows that people with HIV are more likely to develop fatty liver disease than HIV-negative people. For example, [one recent large study](#) found that a third of people with HIV had NAFLD. The main risk factors were being overweight and having conditions related to metabolic syndrome. Fatty liver disease is even more common in HIV-positive people who have hepatitis C co-infection.

Some older HIV medications, including zidovudine (*Retrovir*) and stavudine (*Zerit*), could cause serious steatosis and liver enlargement as a side-effect related to mitochondrial toxicity. This is generally not a concern with modern anti-HIV drugs. However, [some studies suggest](#) that efavirenz (*Sustiva*, also included in the *Atripla* combination pill) may be more associated with fatty liver disease than other drugs.

Symptoms

Most people do not have symptoms during the early stages of fatty liver disease. The condition progresses over time as working liver cells become filled with fat. NAFLD usually does not cause serious problems, but NASH can lead to inflammation and scarring as the liver tries to repair itself. Many people never develop serious liver complications, but in some cases the liver can stop working properly. People with advanced liver damage are at greater risk for developing liver cancer.

"Because it develops slowly, fatty liver disease is most often seen in people aged 40 or older."

Early symptoms of impaired liver function can include fatigue (unusual tiredness), flu-like symptoms, loss of appetite, pain or swelling in the upper abdomen and jaundice (yellowing of the skin and eyes). As liver damage worsens, people can develop more severe symptoms including ascites (fluid build-up in the abdomen), bleeding in the throat or stomach and mental confusion (hepatic encephalopathy).

Diagnosis and monitoring

Fatty liver disease may be detected through [liver function tests](#) that are routinely done at your HIV clinic. These blood tests, including the ALT test, measure proteins associated with liver

inflammation. But results are often normal or only slightly elevated in people with fatty liver disease.

Imaging tests such as ultrasound, CT scans and MRI scans can reveal fat in the liver. Another imaging test called *FibroScan* is sometimes used to assess how much liver damage you have. The most accurate way to diagnose fatty liver disease is a liver biopsy, in which a small sample of liver tissue is removed for lab testing.

Treatment and management

There is no approved drug treatment for non-alcoholic fatty liver disease (NALFD) or non-alcoholic steatohepatitis (NASH). However, many different experimental therapies are currently being tested in clinical trials.

Weight loss is the mainstay of fatty liver management, along with treatment of related conditions such as diabetes and elevated blood fat levels. This also reduces the risk of cardiovascular disease, which is a leading cause of death for people with fatty liver disease.

It may be necessary to lose a substantial amount of weight before liver damage improves, but any weight loss is beneficial. Alcohol-related fatty liver disease usually improves when people stop drinking.

People with fatty liver disease should receive the hepatitis A and hepatitis B vaccines, because these viruses can cause more liver serious damage in people with existing liver disease.

Other sources of information

For more information, you may find the website of the British Liver Trust helpful: www.britishlivertrust.org.uk. You can also contact their helpline team on 0800 652 7330.

Find out more

A healthy weight Basic leaflet with pictures

HIV & hepatitis Information booklet

Alcohol Simple factsheet