

# Fatty Liver Disease

## What is fatty liver disease?

'Fatty liver disease' describes conditions characterised by the accumulation of excess fat in the liver. When too much fat is stored in the liver, it can lead to liver scarring, or 'cirrhosis'. Fatty liver is very common and can affect more than 1 in 3 Australians.

## What are the symptoms?

Most people describe no symptoms. Fatty liver rarely causes abdominal pain and fatigue. It does not cause nausea or fatty food intolerance. However, it often causes mildly abnormal liver blood test results.

## Why does fatty liver need treatment?

People with fatty liver are at an increased risk of heart problems, strokes, kidney disease and even cancer. In some people, fatty liver will progress to cirrhosis. If this happens, it can result in abdominal swelling, bleeding, confusion and an increased risk of liver cancer.

## What causes fatty liver?

Fatty liver is not caused simply by eating fatty foods. It is usually associated with a combination of things occurring in the body over a long period, such as:

### Most common causes

- Elevated body weight, particularly excess weight around the waist area (about 7 out of 10 people considered obese have fatty liver disease)
- Type 2 diabetes mellitus or insulin resistance
- High blood cholesterol and triglyceride levels
- Excess alcohol consumption

### Less common causes

- Underactive thyroid
- Certain drugs
- Polycystic ovary syndrome



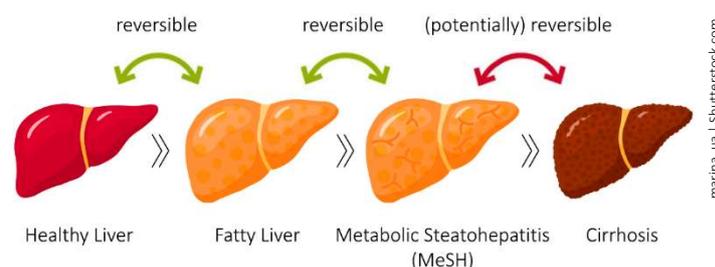
## What is MAFLD (metabolic [dysfunction]-associated fatty liver disease)?

MAFLD, formerly known as non-alcoholic fatty liver disease (NAFLD), is the most common form of fatty liver disease. It can range in severity from mild and without inflammation (damage) to inflammation in the liver (steatohepatitis).

MAFLD is associated with resistance to insulin, a hormone the body produces to maintain normal amounts of sugar in the blood. If you are insulin-resistant, your body is not as sensitive as it should be to the effect of insulin, so blood sugar levels can exceed the normal range. By losing weight and increasing physical activity, you can reduce insulin resistance.

Metabolic steatohepatitis (MeSH) is a chronic disease in which the excess fat in the liver causes inflammation of the liver.

The condition worsens slowly and is more likely to be a problem if you also have another liver disease, such as hepatitis C or B, or if you drink too much alcohol. In some people, it may gradually progress to scarring of the liver and to more serious chronic liver disease, such as cirrhosis or liver cancer.



MeSH typically occurs in people who are overweight and/or who have type 2 diabetes. High levels of blood fats (cholesterol and triglycerides) are frequently seen in these people. You should therefore control as many of these risk factors as possible.

## How is fatty liver diagnosed?

Because fatty liver disease does not usually cause symptoms, many people do not realise they have it until they have a routine blood test. This is usually followed up with an ultrasound and further blood tests (to exclude other causes).

Imaging of the liver can also come in the form of a CT (computed tomography) scan or an MRI (magnetic resonance imaging) scan. Nowadays, a FibroScan (similar to an ultrasound) may be used to specifically measure liver fat and scar tissue and is available in some centres.

Your doctor may suggest a liver biopsy. The biopsy allows liver cells to be examined under a microscope to assess the degree of fat accumulation, inflammation and more detailed assessment of any liver scarring.

## What can you do if you have MAFLD or steatohepatitis?

There are no approved drug or surgical treatments available for MAFLD. However, it can respond very well to changes in diet and physical activity.

- Plan ahead. Weight loss strategies in the first 2 months are easier to maintain over years.
- If overweight, weight loss of about 4 to 10% of your current body weight can reduce disease progression and even reverse liver damage.
- Gradual weight loss of about 0.8 to 1 kg per week is OK.
- Aim for a waistline less than 80 cm if you are a woman or less than 94 cm if you are a man.
- Do aerobic-type exercise of at least moderate intensity on 3 to 5 days each week (totalling >150 minutes). This can include activities such as brisk walking, cycling, team sports and dancing at a level of effort which you would describe as 'somewhat hard' (a rating of 3–4/10) to 'hard' (a rating of 5–6/10).

- Do resistance-type exercise involving weight machines, weights or body weight exercises on 2 to 3 days each week. This is particularly important to maintain muscle, especially when you are trying to lose weight. As a guide, use a resistance or weight that you can lift at least eight times but no more than 12 times. Consider contacting an accredited exercise physiologist ([www.essa.org.au](http://www.essa.org.au)) for individualised and specialised help with your exercise.
- Recognise that aerobic-type exercise will assist with weight management but also directly benefits liver health, even without weight loss. Exercise helps many of the conditions linked to MAFLD (e.g. diabetes and high blood fat levels) and makes people feel better.
- Eat a healthy diet with an abundance of vegetables every day, as well as wholegrains, nuts, fish and seafood, extra virgin olive oil and fruits.
- Avoid highly processed foods.
- Get good control of diabetes and cholesterol levels. Medications to help with diabetes and cholesterol reduce the risk of damage to your liver. Take the medications your doctor prescribes.
- Avoid or minimise alcohol consumption.
- Quit smoking.
- Do not take any drugs your doctor has not prescribed.
- Make the required changes and maintain them. Have regular check-ups with your doctor. That way, you can expect to lead a healthier life.

## I am trying but not losing weight

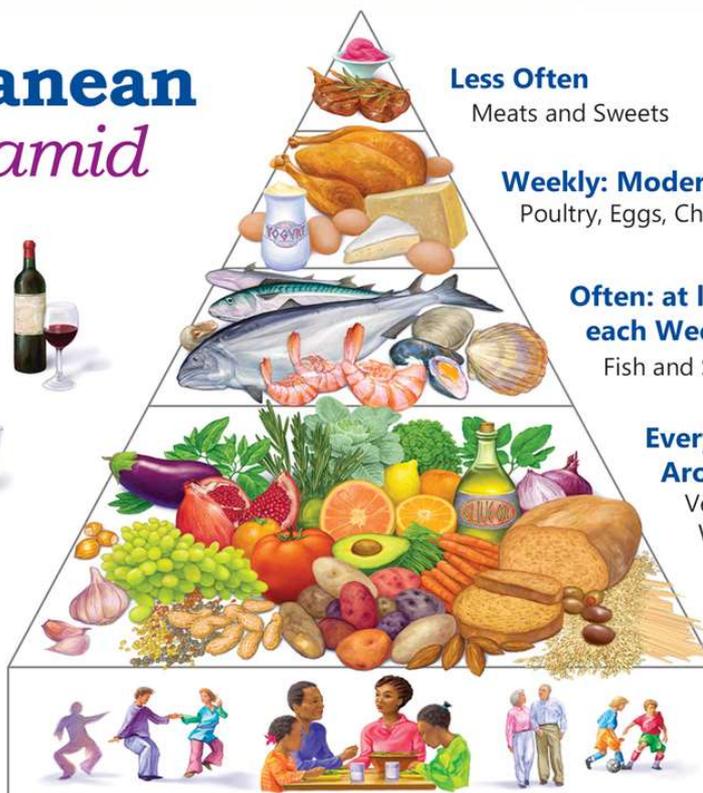
It's OK! If you improve diet quality and exercise regularly, liver fat can still be reduced even without weight loss. Your doctor or dietitian may be able to give you individualised advice about what dietary pattern or approach may work better for you, or if any medications may help increase weight loss. Approaches such as the Mediterranean diet and the intermittent fasting diet can help reduce inflammation in some people with MAFLD and are good options to discuss with your doctor or dietitian.

# Mediterranean Diet Pyramid

**In Moderation**  
Wine



**Every Day**  
Water



**Less Often**  
Meats and Sweets

**Weekly: Moderate Portions**  
Poultry, Eggs, Cheese and Yogurt

**Often: at least Twice each Week**  
Fish and Seafood

**Every Day: Base Each Meal Around these Foods**  
Vegetables, Fruits, Whole Wheat Grains, Olive Oil, Beans, Nuts, Legumes and Seeds, Herbs and Spices

**Every Day**  
Be Physically Active;  
Enjoy Meals with Others

Illustration by George Middleton

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## In summary

Fatty liver disease is very common in Australia. Most people with the disease can improve their health through simple and sustained lifestyle measures, such as improving the quality of the food they eat, increasing daily exercise and reducing alcohol consumption.

To find out more about changes you can make to help your liver, or if you have any questions or concerns, see your doctor.

## Intermittent FASTING



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## Acknowledgements

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