



Tallaght
University
Hospital

Ospidéal
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Thamhlachta

An Academic Partner of Trinity College Dublin



Lifestyle & your Liver

PATIENT
INFORMATION
BOOKLET

**Non-Alcoholic Fatty Liver Disease (NAFD)
Metabolic Dysfunction- Associated
Steatotic Liver Disease (MASLD)**

Mission Statement

The gastroenterology team in Tallaght University Hospital have produced this booklet in conjunction with the Newcastle Upon Tyne Freeman Hospital Liver Clinic and St. Vincent's University Hospital liver unit to help you understand NAFLD/MASLD and the current treatments; it will also help you to track your treatment and achieve your personal goals towards a healthier life.

This booklet provides general advice on lifestyle changes.

If you are unsure whether these changes are right for you, please discuss with your doctor or healthcare professional.



What is NAFLD/MASLD?

The liver is an organ that is situated on the right side of the abdomen. It has several functions one of the most important is the storage of nutrients and the detoxification of harmful substances.

In some patients, excess fat can build up in the liver and cause NAFLD/MASLD.

NAFLD/MASLD is not harmful in the early stages but can result in fibrosis/scarring. Your doctor/ hospital will monitor your liver function tests to prevent this occurring.

It usually happens in people who are overweight, have diabetes or high cholesterol.



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MASLD has four 'steps' from simple fatty liver to severe scarring. Each step is described below:

Step 1: Simple fatty liver (Steatosis)

This is the most common form of MASLD. This is where excess fat builds up in the liver cells.

Step 2: Metabolic Associated Steatohepatitis (MASH)

Some people with simple fatty liver go on to develop inflammation, called metabolic associated steatohepatitis (MASH). This can happen even when you feel well.

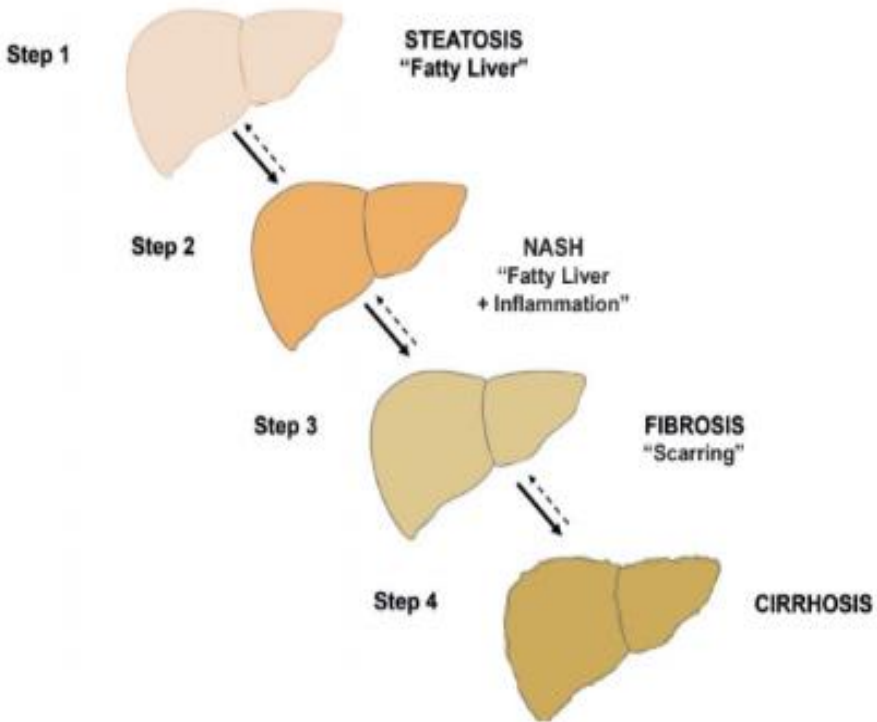
Step 3: Fibrosis

If inflammation carries on for a long period of time, then the liver becomes scarred. This fibrous tissue replaces some of the healthy liver tissue, but there is still enough healthy tissue for the liver to function normally.

Step 4: Cirrhosis

This is the most severe stage. Bands of scar tissue and clumps of liver cells develop. The liver shrinks and becomes nodular (known as cirrhosis). When these changes occur, the liver can stop working normally and the patient can become very unwell.

Cirrhosis increases the risk of developing liver cancer, internal bleeding and liver failure.



Based on information available so far, we know that in the majority of patients with simple fatty liver, the liver remains stable over time. In contrast, patients with MASH have a higher risk of worsening liver injury, with approximately 10% of people developing irreversible liver scarring or cirrhosis over an eight to ten year timeframe.

MASLD is not caused by alcohol, although high alcohol consumption can make the problem worse.

People with MASLD have an increased risk of heart attack and stroke. Your GP may need to help you to get your blood pressure, cholesterol or diabetes under control

How is MASLD identified

Most patients with MASLD do not have specific symptoms. MASLD is often picked up incidentally whilst having blood tests for another reason, such as a well-person check or during tests for other diseases. The liver blood tests are usually abnormal, but not always.

Surprisingly, the degree of abnormality of the blood tests does not reliably predict the severity of liver injury.

When a patient is suspected of having MASLD on the basis of clinical history, examination and blood tests, the next step is an ultrasound scan. A fatty liver usually looks brighter-than-normal on the scan. A fibroscan may also be carried out to assess the amount of fat in the liver and detect if there is any fibrosis/ scarring.

Unfortunately, neither the blood tests nor routine scans can reliably distinguish between simple fatty liver (“Step 1”) and more severe disease with inflammation (“Step 2”) or scarring/cirrhosis (“Steps 3/4”).

Accurate diagnosis and ruling out of other liver conditions, means a sample of liver tissue has to be examined under a microscope. This sample is taken by what is called a liver biopsy. This test removes a sample of cells from the liver by using a needle.

The risk of liver biopsy has to be weighed against the benefits of diagnosing the liver disease accurately. For these reasons physicians currently differ over if and when to perform liver biopsies in patients with suspected MASLD.

How will MASLD affect me?

Most people with MASLD are not aware they have it. Unless your liver is very scarred or inflamed you will not know you have NAFLD.

You need to seek medical help by visiting your GP or attending your local hospital if you experience

- Yellowing / Jaundice of the skin or whites of the eyes
- Abdominal swelling / pain
- Itchy skin bruising very easily

Monitoring

Your nurse or doctor will ask you about your diet, alcohol intake and smoking status.

It is very important to monitor your risk of developing liver disease and prevent cardiovascular problems by having

- 1) Weight and blood pressure checks annually
- 2) Screening for diabetes

How is MASLD treated?

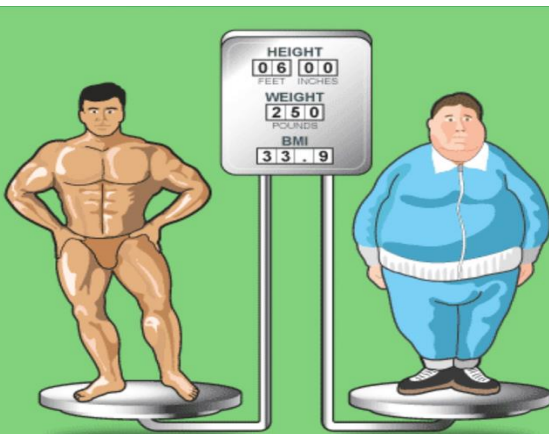
At present there are no specific medicines to treat MASLD. The best evidence of benefit is for weight reduction (5-10% of your body weight) by diet and exercise.



Studies have shown that good glucose control in patients who have diabetes may help the liver to improve. There is some preliminary evidence that treatment with certain anti-diabetic medicines may help reduce the severity of liver damage. Patients with high cholesterol should be treated to reduce the risk of heart disease and stroke.

Studies are in progress with the aim of increasing our understanding of the precise cause of MASLD and trials of new drugs based on this increased understanding are currently underway.

As a result, it is hoped that in a few years' time we will have better medicines to treat MASLD.



How can I change my lifestyle and protect my liver?

The best way to stop MASLD and to remain healthy is to maintain a healthy weight and lifestyle.

Below is a list of simple things that you can do to improve your liver.

- It is recommended that you lose between 5-10% of your body weight gradually. This can be achieved by making small sustainable changes to your diet e.g. eating more vegetables and less red meat. Choose low fat, low salt and low sugar options.
- Set yourself small achievable goals for example decrease the amount of sugar you put in your tea or coffee gradually until you no longer require it.

- Use a smaller dinner plate
- Drink three cups of coffee per day
- Drink six to eight glasses of water per day
- Eat a well-balanced diet containing five to seven portions of fruit and vegetables per day
- Adopt a Mediterranean style diet



- **No safe level of alcohol consumption can be advised.** However, if ongoing alcohol consumption we would recommend;
 - ❑ Not exceeding seven units of alcohol per week
 - ❑ Having at least two alcohol free days during the week and avoiding binge drinking (that is more than six drinks on one occasion)
 - ❑ If you have cirrhosis of the liver, we recommend you do not drink any alcohol

- Exercise for at least 30 minutes five times per week. Try walking, running, swimming to keep active. Invite a friend along to keep you motivated
- Smoking cessation. Your GP/ allied healthcare professional will be able to help you with this.



Pint of premium beer (5%)
= 2.8 units



Pint of cider (5%)
= 2.8 units



Alcopop 275ml (4%)
= 1.4 units



Can of beer 330ml (4%)
= 1.7 units



Gin / Vodka / Rum
35ml (37.5%)
= 1.3 units



Spirits 1 litre
(37.5%)
= 37 units



Small bottle of wine
187.5ml (12%)
= 2.3 units



Bottle of wine 750ml
(12%)
= 9.2 units

How can I improve my diet?

Eating well with MASLD

A well-balanced and healthy diet is essential for all steps of your NAFLD condition. The following advice can help:

- Control your calorie intake
- Make healthy food, snack and drink choices
- We recommend that you avoid crash diets as they can worsen liver function and lead to future weight regain.



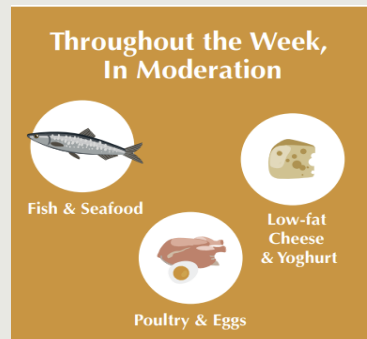
Nutrition labels

It is a good idea to get used to reading nutrition labels on packaged food and drinks:

- Check what it contains - find calories, fat, sugar and salt levels
- Compare similar foods to find the healthy option
- Choose the foods that best suit your needs to maintain a healthy weight.

The Mediterranean Diet

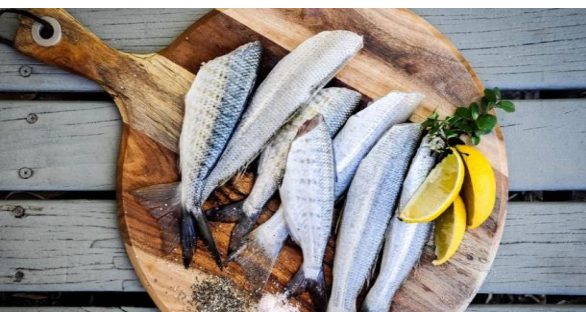
The Mediterranean diet is based on the traditional healthy living habits of people from countries around the Mediterranean Sea. It involves some important food choices such as:



What's for Breakfast?

Most mornings, start your day with porridge and fruit or whole-grain cereal or whole-grain toast and low-fat yogurt with berries.

- Choose fresh fruit instead of fruit juice.
- Add toasted nuts, stewed fruit or cinnamon to porridge or steep oats overnight and add to low fat yoghurt.
- Try oily fish e.g. sardines, kippers, tinned salmon.



What's for lunch?

- Most days, try different types of salads. Add black beans or Chick peas, oily fish e.g. Sardines or salmon, olive oil and vinegar dressing instead of mayonnaise, a small piece of grilled chicken or turkey.
- Try pasta with olive oil or sesame oil and pine nuts.
- Try bread dipped in hummus or olive oil and herbs.
- Try scrambled egg or baked beans on toast.
- Add tomatoes and lettuce to your sandwich.
- Enjoy some low-fat cottage cheese with fruit.

What's for Dinner?

- Most evenings, fill your plate with vegetables that are steamed, roasted, or sautéed in a little olive oil with herbs and spices. Avoid using butter.
- Add beans, lentils, brown rice, or whole-grain pasta.
- Try a lentil or chickpea stew or a stir fry using rapeseed seed oil and nuts.
- A couple of times a week, fill half your plate with vegetables, and add some chicken or any fish or egg and brown rice, wholemeal pasta or quinoa. Enjoy some fruit for dessert.



What's a healthy snack?

- Fruit, nuts, fresh carrots, sugar snap peas and cherry tomatoes.

How to get started with your Mediterranean Diet

- Clean out your cupboard; throw away highly processed foods.
- Reduce red meat; replace with fish and poultry. Limit your dairy to low fat cheese, yoghurt and milk.
- Slowly add more fruits and vegetables into every meal.
- Try a new vegetable every week.
- Use olive oil, rapeseed oil, sesame seed oil, herbs, and spices for flavour instead of salt and butter.
- Grab a handful of nuts or fruit for a snack.
- Drink water instead of sugary fizzy drinks.
- Choose brown rice and whole-grain bread.
- Start eating more pulses (for example butter beans, chickpeas and lentils).

Check out the following websites

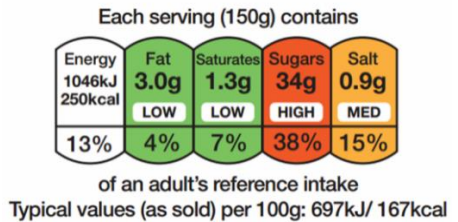
<https://croi.ie/healthyeating/>

<https://www.bhf.org.uk>

<https://www.hse.ie/phew>

<https://www.getirelandactive.ie>

Check the label | Food Standards Agency



How are you going to make these lifestyle changes?

Set a personal weight loss target to help reduce the amount of fat in your liver. Your initial target should be 5% weight loss and then increase it to 10%. For example if you weigh 80kg then a weight loss of 0.5-1kg per month should be your aim.

Weight	Height	Body Mass Index (BMI)
<input type="text"/>	<input type="text"/>	<input type="text"/>
Target weight		
<input type="text"/>		

Steps to success

Check what is available in your community to help with weight loss- your GP or Nurse can guide you with this.

Useful links

Below are useful links which will give your more information.

Irish Liver Foundation--[Irish Liver Foundation](#)

British Liver trust--[British Liver Trust - Pioneering Liver Health](#)

Diabetes SMART— <http://www.diabeteseducation.ie/>

Get Ireland walking <https://www.getirelandwalking.ie/findgroup>

Stop smoking - <https://www2.hse.ie> › living-well › quit-smoking

HSE wellness programme –
[Health and Wellbeing - HSE.ie](http://www.hse.ie)



What should my target weight loss be?	0.5kg-1kg (or 1lb-2lb) a week until you are a healthy BMI
What steps can I take?	
How can I achieve my weight loss?	
What can I change to make this happen?	
How will I track my progress?	Start a lifestyle diary and set goals that you can tick off

How can physical activity / exercise improve my general health?

- Stronger muscles and bones
- Improved fitness of heart and lungs
- Reduced blood pressure and blood glucose control
- Improved mood
- Higher energy levels
- Improved sleep patterns
- Improved esteem and self confidence



How much physical activity do I need to do?

Public health guidelines promote at least 30 minutes of moderate intensity exercise a day. This can be broken down

Into ten minute bouts, if this is more manageable.

It is important to set yourself an achievable goal and try and gradually build up to this – the more physical activity/exercise you can do, the better!

Moderate intensity activity should:

- Raise your heart rate
- Make you breathe faster and harder
- Make you feel warmer
- You can talk, but are not able to sing

What type of exercise will help my liver?

Aerobic exercise for example swimming, walking or jogging combined with resistance training such as weight training are valuable in reducing fat in the liver and have been proven to improve liver function

Some ideas for increasing activity levels are

- Walk to work or part of the way
- Stand for one minute if you find you are sitting down for more than an hour
- Use the stairs instead of a lift
- Walk your dog daily
- Join a local walking group/ exercise class/ dance class
- Mow the lawn or do some gardening

Short bursts of physical activity are just as good as long periods of activity.

Walking is a good place to being your physical activity journey. 10,000 steps is recommended per day. You can track your steps by using your smartphone or download an *app to track your steps.*

No matter how slow you move you are still moving faster than a person who is sitting down!

How much activity does it take to burn of calories?

FOOD TYPE	CALORIES APPROX.	 WALK OFF KCAL (medium walk 3-5mph)	 RUN OFF KCAL (slow running 5mph)
 Sugary soft drink (330ml can)	138	26 min	13 min
 Standard chocolate bar	229	42 min	22 min
 Sandwich (chicken & bacon)	445	1 hr 22 min	42 min
 Large Pizza (1/4 pizza)	449	1 hr 23 min	43 min
 Medium mocha coffee	290	53 min	28 min
 Packet Crisps	171	31 min	16 min
 Dry roasted peanuts (50g)	296	54 min	28 min
 Iced cinnamon roll	420	1 hr 17 min	40 min
 Cereal (1 bowl)	172	31 min	16 min
 Blueberry muffin	265	48 min	25 min

Activity Planner

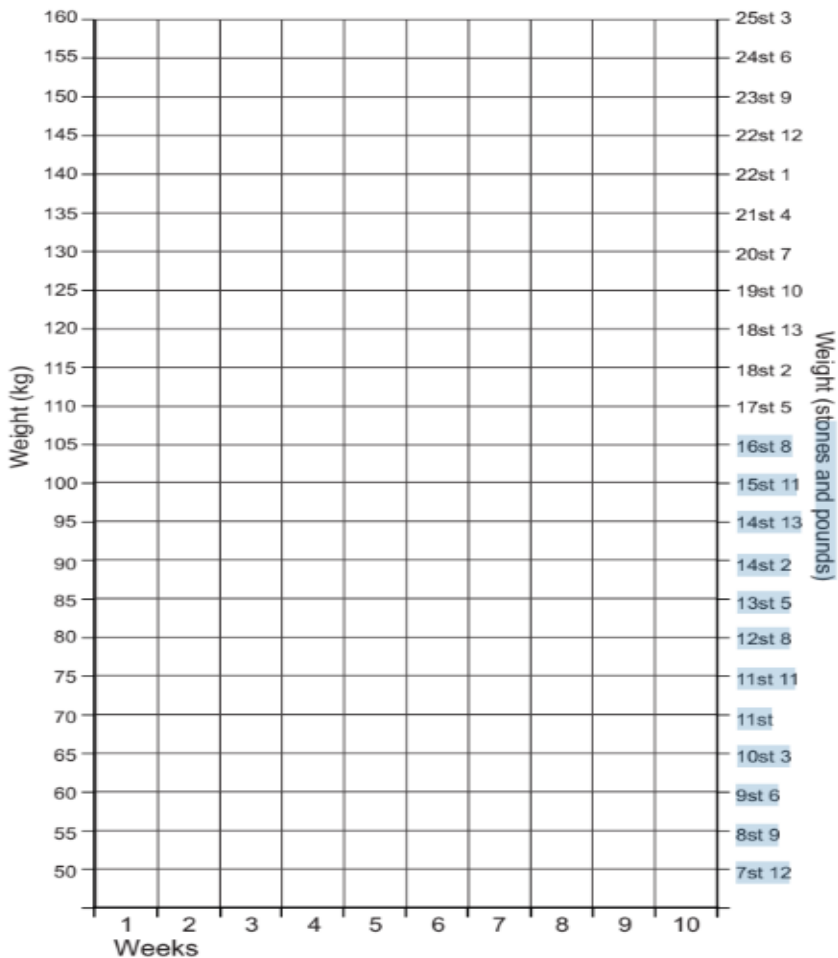
An activity planner can be useful for setting goals and recording your activity.

Day	Goal Minutes / steps / other	Activity When? Where? Who with? How long for?	Achieved Minutes / steps / other
Mon			
Tues			
Wed			
Thu			
Fri			
Sat			
Sun			



Monitor your weight

You may find it useful to measure your weight at home each week to track your progress.



Local Activities / Gyms

Vault Health Club, Tallaght	01 551 7242	Belgard Square, Tallaght	*M-F (5:30am-10pm)
Westpark Fitness	01 462 6911	Greenhills Road, Tallaght	*M-F (6am-10pm)
Tallaght Leisure Centre	01 452 3300	Fortunestown Way, Tallaght	*M-F (7am-9pm)
Back2Basics	01 269 5764	Unit 2, Broomhill Business complex	*M-F (5:20am-8pm)
*Opening hours vary at weekends			

Healthy Eating

HSE- Community cooking courses		www.hse.ie/communitycooking
Safe Food		https://weighth2live.safefood.eu
Safe Food		www.safefood.eu/Healthy-Eating.aspx
HSE- PHEW	Mary.Doolan1@hse.ie 01 274 4360 086 857 8703	www.hse.ie/phew
Primary Care nutrition & dietetics service		Community Nutrition and Dietetics - HSE.ie
HSE Wellness program		https://www.hse.ie/healthandwellbeing/