# Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)

A guide for South East London Primary Care (Adult)

Key messages:

1. MASLD is a risk factor for cardiovascular disease, end stage liver disease and liver cancer
2. Early identification and management in primary care can improve patient outcomes

This guide takes you through the practical steps to diagnose and manage MASLD

Always work within your knowledge and competency

May 2027

# Why focus on MASLD?

## What is MASLD?

- **Metabolic dysfunction associated steatotic liver disease** (MASLD) was previously known as non-alcoholic fatty liver disease (NAFLD).
- The term NAFLD was misleading and stigmatising as the condition is **metabolic**, not just the absence of alcohol.

## Increased prevalence

- **1 in 4 people in the UK** have early stages of MASLD[1]
- MASLD is the commonest cause of abnormal liver function tests in the UK[2]
- MASLD affects up to 91% of people with BMI >30 and 55% of those with Type 2 diabetes (T2DM).[3] (In SEL this equates to 318,865 and 65,711 people respectively[4])

## Cardiovascular risk

- **MASLD increases the risk of T2DM, hypertension (HTN) and chronic kidney disease (CKD)** [5]
- Cardiovascular disease is the leading cause of death in people with MASLD[5]

## Cancer prevention

- MASLD it is associated with higher risk of **hepatocellular carcinoma (HCC)** and certain **extrahepatic cancers**, mostly thyroid and gastrointestinal[6]

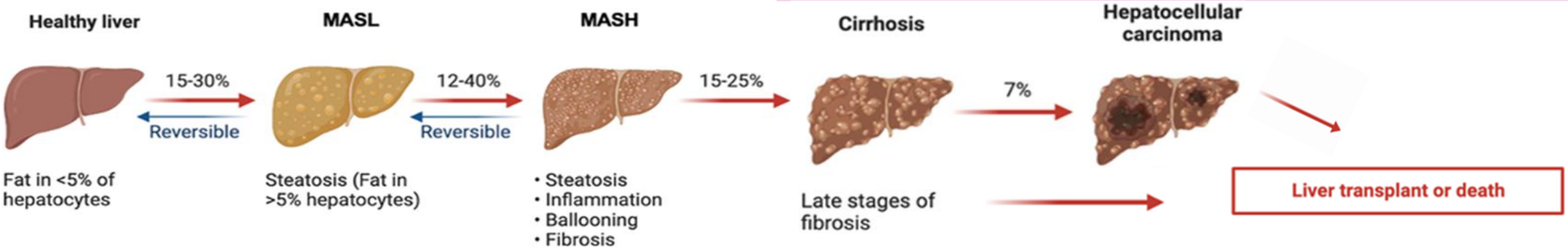
## Hepatitis B and Hepatitis C screening

- Consider screening for **Hepatitis B** which is **treatable**, and **hepatitis C** which is **curable**
- Early diagnosis helps to prevent cirrhosis and liver cancer and **onward transmission**

## Cost savings for the NHS and community

- Liver disease is the **second leading cause of working lives lost (ages 16-64)**, overtaking ischaemic heart disease and accidental poisoning[7]
- MASLD may lead to liver transplantation, **costing the NHS £50,000–£100,000 per procedure**, excluding post-operative care and lifelong medication[8]

Image showing progression of MASLD to HCC[9]



# How to assess MASLD[2,6,11]

Clinical Effectiveness South East London

MASLD is defined as: ≥5% hepatic steatosis and ≥1 cardiometabolic risk factor with **no other underlying causes** and **minimal/no alcohol intake**

## When to suspect MASLD

### Persistently elevated LFTs

for ≥3 months (typically ALT>AST)

**AND** ≥1 of

### Metabolic dysfunction

- T2DM/NDH
- Hypertension
- Central obesity (waist-to-height ratio >0.59)
- Hyperlipidaemia (raised levels of ≥1 serum lipids)

**OR**

### Imaging evidence of fat accumulation

Most commonly incidental finding of 'fatty liver' on USS.

## Exclude co-existing liver disease or secondary causes

### 1. History and Examination

- Symptoms (e.g. RUQ pain, fatigue)
- Alcohol intake
- Drug history (e.g. methotrexate, tamoxifen, amiodarone)
- Family history (e.g. haemochromatosis)
- Co-morbidities (e.g. autoimmune conditions)
- BMI and waist circumference
- Blood pressure
- QRISK2/3
- Signs of advanced liver disease (e.g. jaundice, ascites, hepatosplenomegaly)

**If significant alcohol consumption** (>17 units/week for women, >26 units/week for men) **AND** >1 metabolic risk factor → It is newly defined as Metabolic Dysfunction-Associated and Alcohol-Associated liver disease (MetALD)[10]

### 2. Blood tests

To consider

Based on history and examination

- FBC
- Coagulation
- LFTs
- Hba1c
- Lipid profile
- Renal profile
- TFTs
- Coeliac

Liver screen :

- HBsAg, Hep C antibody, HIV
- Ferritin + iron studies
- Autoantibodies (including ANA)
- Immunoglobulins
- Apha-1-antitrypsin
- Caeruloplasmin if <40 years.

### 3. Liver USS

If not already done, request to rule out alternative hepatobiliary pathology (e.g. gallstones, hepatobiliary masses, features of chronic liver disease)

Normal USS **does not** rule out mild steatosis. If strong clinical suspicion, then refer for Fibroscan (p.6)

## Code

***Metabolic dysfunction-associated steatotic liver disease***

## Risk stratify

### Calculate FIB-4 score

You will need the patient's:

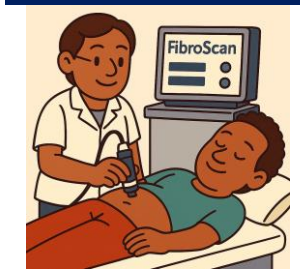
- Age
- AST
- ALT
- Platelet count

Score is less reliable in ≤35yrs – use A&G

**Code the *Fib-4 score* on EMIS**

| FIB-4 score | Interpretation and Action |
|---|---|
| <1.30 (<2.0 if ≥65 yrs) | **LOW RISK OF FIBROSIS**<br>1. Lifestyle advice (p. 5)<br>2. Optimisation of cardiovascular risk factors (e.g. smoking, HTN, T2DM).<br>3. Reduce alcohol intake<br>4. **Repeat FIB-4 every 3 years**<br>Use Ardens Diary Recall (under Investigations – Bloods) and/or Accurx date schedule text option to remind patients |
| 1.30 – 3.25 (2.0 – 2.67 ≥65 yrs) | **INTERMEDIATE RISK OF FIBROSIS**<br>**Refer** for Fibroscan (p.6) |
| >3.25 (>2.67 if ≥65 yrs) | **HIGH RISK OF FIBROSIS**<br>**Refer** to Hepatology Service |

# FibroScan and result interpretation[2,15,16,17]




## What is a Fibroscan?

Also known as Transient Elastography, a Fibroscan is a non-invasive ultrasound. It is used to identify fibrosis (scarring) and steatosis (fatty change) without needing a liver biopsy.
Patient information can be found here

## Considerations before requesting

- The patient needs to be able to attend an outpatient appointment
- The patient needs to be able to lie flat on an examination couch
- Avoid during acute illness

**FIBROSCAN REPORT**

1. **Upload report on EMIS and code**
   *'Ultrasound elastography of liver'*
2. **Review Liver Stiffness Measurement score (LSM)** which indicates level of liver fibrosis
   Code: *'Liver Transient Elastography Fibrosis score'*
3. **Review Controlled Attenuation Parameter score (CAP)** which indicates level of steatosis (%)

| LSM (kPa) | Interpretation and Action |
|---|---|
| **<8.5** | Normal – reassure, maintain healthy lifestyle |
| **8.5–11.4** | Lifestyle management; **consider repeat Fibroscan** in 2 years |
| **≥10 + diabetes** | **Refer hepatology** (eRS/A&G) |
| **≥11.5** | **Refer hepatology** (eRS/A&G) |

| CAP (dB/m) | % Fat | Interpretation and Action |
|---|---|---|
| **<248** | <5 | No steatosis. Maintain healthy lifestyle. |
| **248-267** | 5-33 | Mild steatosis. Offer lifestyle management. |
| **268-279** | 34-66 | Moderate steatosis. Lifestyle management and repeat **Fibroscan in 2 years** |
| **>280** | >66 | Severe steatosis. Lifestyle management and repeat **Fibroscan in 2 years.** |

# Management of MASLD[2,12,13,14]

MASLD is manageable with early lifestyle changes. The aim is to reduce progression and reduce the risk of cardiac and liver disease.

## Manage cardiovascular risk

### Agree a personalised target

| HbA1c Target | |
|---|---|
| NICE | ≤48mmol/mol - unless taking drug that causes hypos |
| | ≤53mmol/mol - on a drug that causes hypos |
| | Relax targets for frail/older patients. |
| QOF | ≤58mmol/mol – without moderate or severe frailty |
| | ≤75mmol/mol – with moderate or severe frailty |
| Aim for especially tight control in younger people < 40 years | |

| Clinic BP Target | | |
|---|---|---|
| Adjust to 5mmHg lower for ABPM and home readings | | |
| **ACR/frailty** | **Systolic** | **Diastolic** |
| ACR <70 | 120-139 | <90 |
| ACR ≥70 | 120-129 | <80 |
| Frail | Individualise | |

| Lipid Target |
|---|
| **No CVD** – primary prevention<br>40% reduction in baseline non-HDL cholesterol. |
| **Established CVD** – secondary prevention<br>LDL-C ≤ 2mmol/L or non-HDL ≤ 2.6mmol/L |
| Can initiate/continue with lipid lowering therapies with MASLD without advance fibrosis or cirrhosis |

| BMI Target: NICE |
|---|
| If overweight, weight loss target of 5–10% of body weight.<br>Overweight= BMI ≥ 25 kg/m$^2$ white groups, BMI ≥ 23 kg/m$^2$ South Asian, Chinese, other Asian, Middle Eastern, Black African or African-Caribbean family background. |

## Support lifestyle changes

Consider Vital 5 Check

Alcohol within or below healthy limits
Ideally should be avoided

Regular exercise.
Aim for >150mins/ week
**Aerobic exercise** is better

Evidence shows a diet **high in olive oil, fruit, veg, nuts, fish and low in processed meats and saturated fats** reduces liver fat without weight loss

**Weight loss** reduces inflammation.
Set realistic goals.
Refer for support

Screen for **depression or anxiety**
Consider local IAPTs for Long Term Conditions

Support **smoking cessation**

## Optimise management of all comorbidities

Refer to individual condition guide below or use the Multiple Long term condition resource pack

**Type 2 Diabetes**
Includes weight management resources




**Lipids**
SEL Guidance




**CKD**




**HTN**




**DEPRESSION & ANXIETY**




**GLP1 ANALOGUE PATHWAY**
SEL guidance



## Ongoing monitoring

- Annual CVD risk assessment
- Ongoing monitoring depends on the patient's FIB-4 score (p.3) and FibroScan report

## When to refer

Refer to specialist if:

- The person is at high risk of advanced liver fibrosis (p.3 and p.4)
- There are signs of advanced liver disease on examination.
- There is uncertainty about the diagnosis
- See borough pathways on p.6

## Patient information

- KCH MASLD Booklet – providing advice on lifestyle measures
- LIVFIT (MASLD) Patient Support Group join through link
- Liver UK – Written information, video and infographics.
- African Caribbean Cookery Book
- What is a Fibroscan

# South East London Referral Pathways

Clinical Effectiveness South East London

| Service | Kings / PRUH | GSTT | UHL / QEH | Bromley referral system (ROP) |
|---|---|---|---|---|
| FibroScan | No direct access<br>Generic referral to GI & Liver > Hepatology > Abnormal LFT's | No direct access<br>Generic referral to GI & Liver > Hepatology > Liver, Pancreas & Biliary assessment | Generic referral to GI & Liver > Hepatology > Gastroenterology RAS | Referral Optimisation Tool > GI & Liver > KCH Non alcohol fatty liver disease referral form |
| Hepatology | Generic referral to GI & Liver > Hepatology > Abnormal LFT's<br><br>Generic referral to GI & Liver > Hepatology > Cirrhosis clinic | Generic referral to GI & Liver > Hepatology > Liver, Pancreas & Biliary assessment | Generic referral to GI & Liver > Hepatology > Gastroenterology RAS | Referral Optimisation Tool > GI & Liver > Hospital referral letter |
| Viral Hepatitis B and C | For any new diagnosis or patient who is out of care and needs review please use the '*SEL Hepatitis B and C referral form*' on DXS | | | Referral Optimisation Tool >GI & Liver > '*SEL* Hepatitis B and C referral form |
| Other sources of support | Advice and Guidance<br>Consultant Connect | | | |

## References


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**Acknowledgements**

CESEL guides are co-developed by SEL primary care clinicians and SEL experts. This guidance aligns with the most up to date relevant NICE guidance .

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## Abbreviations

**ABPM: Ambulatory BP measurement**
**ACR: Albumin creatinine ratio**
**ALT: Alanine transaminase**
**AST: aspartate aminotransferase**
**A&G: Advice and Guidance**
**BMI: Body Mass Index**
**CAP: Controlled Attenuation parameter**
**CKD: Chronic kidney disease**
**FBC: full blood count**
**FIB: Fibrosis**
**HBV: Hepatitis B virus**
**HCC: Hepatocellular carcinoma**
**HCV: Hepatitis C virus**
**HIV: Human immunodeficiency virus**
**HTN: Hypertension**
**IAPT: Improving access to psychological therapies**
**LFT: Liver function tests**
**LSM: liver stiffness measurement**
**MASLD: metabolic dysfunction-associated steatotic liver disease**
**MASH: Metabolic dysfunction-associated steatohepatitis**
**Met-ALD: Metabolic dysfunction and alcohol-associated liver disease**
**NAFLD: non-alcoholic fatty liver disease**
**NDH: non-diabetic hyperglycaemia**
**NICE: National Institute for Health and Care excellence**
**QOF: Quality and Outcomes Framework**
**RUQ: right upper quadrant**
**SEL: South East London**
**T2DM: Type 2 Diabetes Mellitus**
**TFT: thyroid function test**
**USS: Ultrasound scan**