ST. VINCENT'S UNIVERSITY HOSPITAL
Elm Park

St. Vincent's University Hospital Liver Network

Guidelines for the Management of Adults with Asymptomatic Liver Blood Test Abnormalities

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1. Scope of Guideline

This guideline relates to adults with no symptoms or signs of liver disease, found to have abnormal liver blood tests. This guideline does not apply to children.

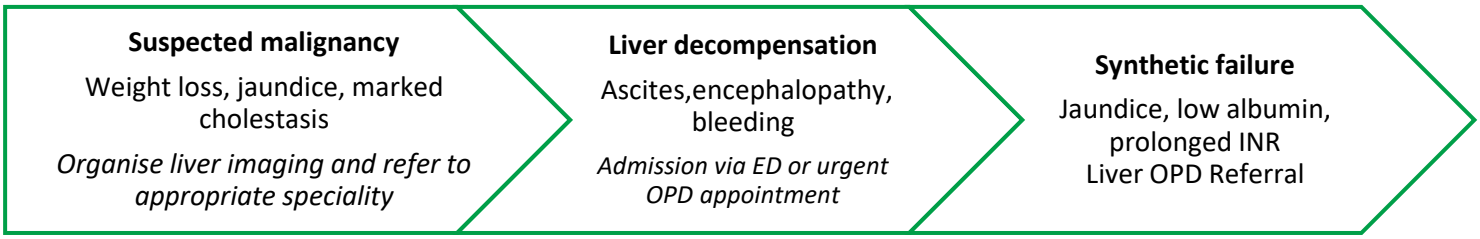
This is a guide only and is not intended to replace clinical judgement.

Bilirubin, albumin and INR are the only blood markers of liver function
ALT, AST, ALP and GGT are liver enzymes indicating level of ongoing liver injury
Low platelets can be seen in advanced liver disease or patients who are drinking heavily

The main contributors to liver disease are obesity, alcohol and viral hepatitis. These are largely preventable risk factors that can be targeted with advice and intervention in primary care.

2. Pattern of abnormal LFTs

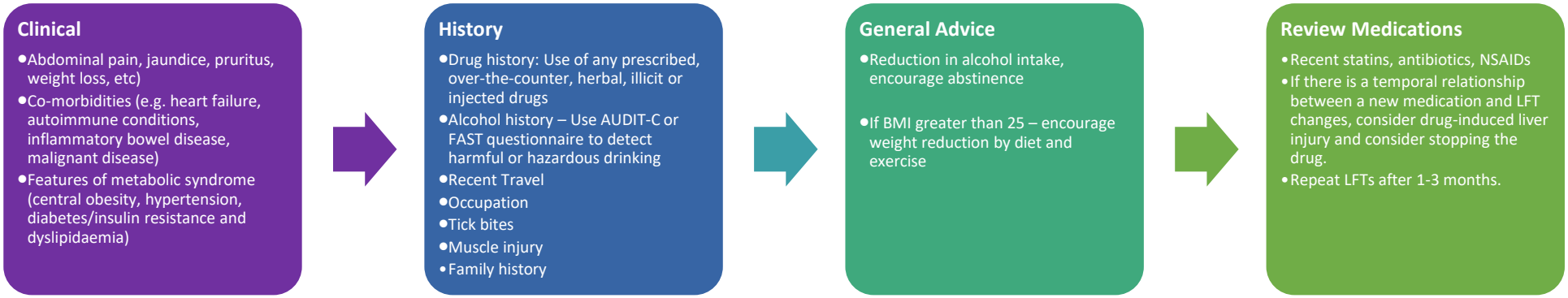
a. Recognise Red Flags for referral (Symptomatic Abnormal LFTs **Not discussed further in this guideline*)



b. Clinical Pattern Recognition

Isolated raised bilirubin	Cholestatic pattern	Hepatitic pattern
•Consider Gilbert's syndrome. •This is a benign condition and does not need referral. •It occurs in about 5% of the population. •Repeat Liver blood tests including split bilirubin on a fasting sample with an FBC. •The bilirubin should be slightly higher on a fasting sample and should be predominantly unconjugated bilirubin. There should be no evidence of anaemia. •If the patient is anaemic haemolysis needs to be excluded (reticulocyte count, LDH)	•ALP raised significantly more than ALT. • Consider bone causes of raised ALP e.g. Paget's Disease/metastatic bone disease. •Check Vitamin D and correct if low. •Repeating Liver blood tests with a GGT can help confirm a liver cause.	•Most marked abnormality is a raised ALT (and AST if reported), though ALP and/or GGT may also be raised. •These can be short-lived, due to intercurrent illness, reverting to normal a few weeks later •Common causes – Metabolic-associated syeatotic liver disease (MASLD), alcohol-related liver disease, autoimmune hepatitis, drug-induced liver injury, etc

3. First Assessment for patients with elevated LFTs



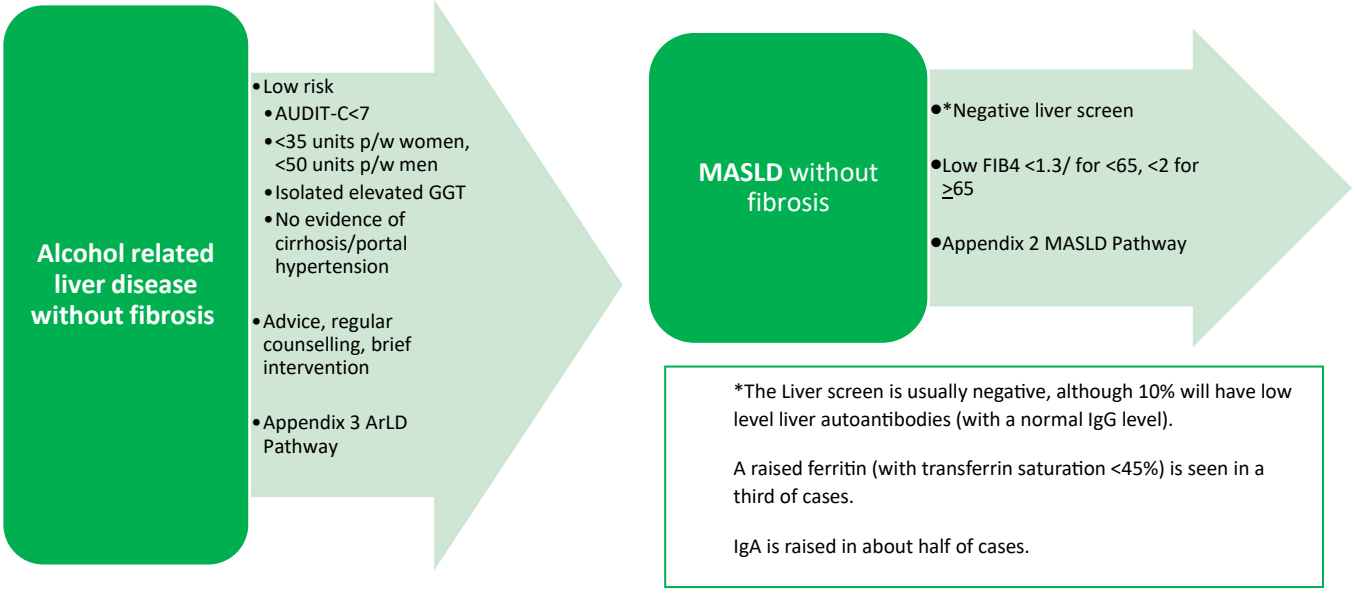
4. When to Repeat LFTs

See Section 5 and 6

5. Who to refer?

Diagnosis	Results
Hepatitis C infection (HCV)	HCV antibody positive – check hepatitis C PCR/Hep C Antigen **If positive -** refer to hepatology **If negative**, repeat 3 months later and if still negative, reassure patient infection has cleared, no referral required
Hepatitis B infection (HBV)	HbsAg positive
Autoimmune hepatitis (AIH)	ALT increased, positive autoantibodies (SMA, ANA, or LKM) +/- raised IgG
Primary biliary cholangitis (PBC)	Raised ALP (Cholestatic pattern), positive antimitochondrial antibody (AMA)
Primary sclerosing cholangitis (PSC)	History of inflammatory bowel disease, cholestatic pattern of LFTs
Haemochromatosis	Increased ferritin >300 (males, post-menopausal females) and >200 (pre-menopausal females) and Tsat% ≥ 45% on ≥2 occasions (Fasting samples) Send HFE genotype
Wilson's disease	Abnormal low caeruloplasmin performed in a patient below age 55 years old – Refer
Alpha-1 antitrypsin deficiency	Low alpha - 1 antitrypsin (<0.9g/L) - Refer
Alcohol Related Liver Disease	Advanced alcohol-related liver disease (Signs of portal hypertension on US, low platelets, low albumin or raised bilirubin) Hazardous/harmful drinker (Identified AUDIT-C>8). *See also Appendix 2*
MASLD	Fib4>1.3 (<65 years), Fib4>2 (>65 years). *See also Appendix 3*
SIGNIFICANT FINDING: **Any biliary duct dilation on USS**	Needs further assessment and URGENT hospital referral

6. Patients who do not require referral to the liver clinic – ArLD and MASLD



Appendix 1

Abbreviations

ArLD-Alcohol-related Liver Disease

BMI-Body Mass Index

ED-Emergency Department

HCC-Hepatocellular carcinoma

LFTs-Liver Function Tests

MASLD-Metabolic dysfunction-Associated Steatotic Liver Disease

NIL-Non-Invasive Liver screen

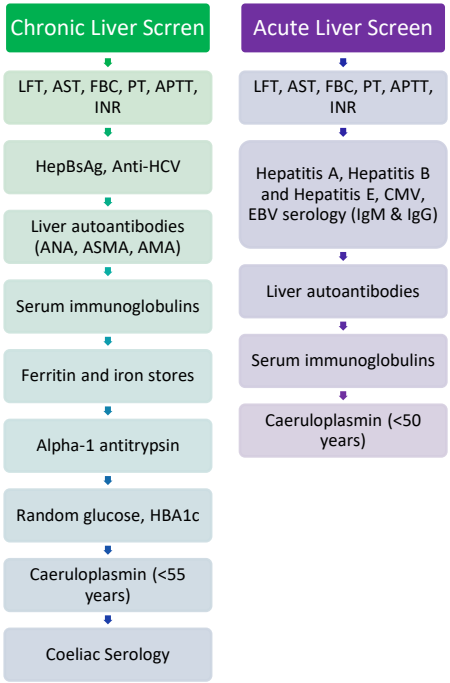
NSAIDs-Non-steroidal anti-inflammatory drugs

OPD-Out-patient Department

US-ultrasound

Appendix 2

Non-Invasive Liver Screen (NIL)



Appendix 3

Alcohol-related Liver Disease Pathway

- Raise the issue
- Screen and give feedback
- Listen for readiness to change
- Offer
  Information and advice
  Enhance motivation
  Alternative Coping strategies

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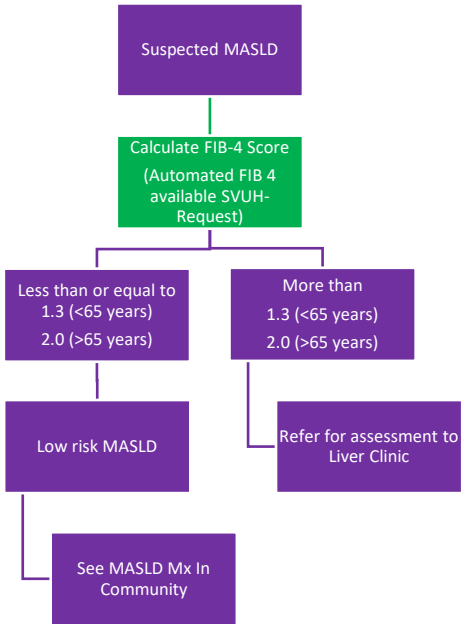
Appendix 4

MASLD (Metabolic Dysfunction-Associated Steatotic Liver Disease) Pathway



- For patients below 65 years of age, a FIB-4 score lower than 1.3 reliably excludes advanced fibrosis and can be managed in primary care.
- For patients over 65 years old, a FIB-4 score lower than 2.0 reliably excludes advanced fibrosis and can be managed in primary care.
- If FIB-4 score is greater than 1.3 (below 65 years old) or greater than 2.0 for over 65-year-olds » patients have a significant risk of having advanced fibrosis » **Refer to liver clinic**.

MASLD Management in Community

Mainstay of management for patients with MASLD is lifestyle modification and optimisation of diabetes and cardiovascular risk factors.

• Give patients advice about MASLD and its treatment. This leaflet provides comprehensive information about MASLD. https://www.stvincents.ie/app/uploads/2017/05/MASLD-booklet-2024.pdf

• If BMI >25 or raised waist circumference- Aim for at least a loss of 10% of body weight

- Consider referral to specialist weight management services if patients meet the criteria for bariatric surgery (BMI>35)
- Advise exercise at least 30 minutes 3 times per week (both cardiovascular and resistance exercise are beneficial even independent of weight loss)

• Optimize control of diabetes- Use metformin, SGLT2 inhibitor or GLP-1 analogue where appropriate. Treat hypertension and cholesterol as appropriate.

• Statins are safe in patients with MASLD and should be considered in those with a QRISK >10%

• Drink sensibly – <7 units per week for males and females. There is no evidence at present to recommend abstinence unless cirrhotic however no safe level of alcohol consumption can be advised

• Calculate the FIB-4 score every 3 years and refer if the FIB-4 score increases above the age-related cut-offs

MASLD Bundle

Lifestyle changes				
Ensure information leaflets on NAFLD given	Y	N		
Change in weight since last clinic appointment (+ or -)	kg		%	
Target weight (aim >5% weight loss if overweight and >10% if obese)	Kg			
Discuss/reinforce dietary advice	Y	N		
If not losing weight offer referral to dietician	Y	N	N/A	decline
Current activity levels & discuss increasing activity/exercise				

Managing metabolic risk factors				
Review BP (further monitoring or treatment if BP>140/90 via GP)	Y	N		
Review diabetic control/ screen for diabetes (If suboptimal control, then advise GP/diabetologist to review regimen)	Y	N		
Ensure on statin - If no, why not? Not tolerated □ Low risk □ (statins are recommended for patients with T2DM or a QRISK2 >10%)	Y	N		
Smoking cessation advice Smoker: Y N	Y	N	NA	
Routine investigations: FBC, U/E, LFT, AST, GGT, HbA1c, glucose, lipids (fasting preferred). If Cirrhotic: AFP, vitamin D. Check liver screen completed.				