

Abnormal Liver Function Tests LFT

Bili, ALT, AST, ALP, GGT

Compare with previous results to assess trend. Any persistent abnormality needs further assessment.

Non-alcoholic fatty liver disease (NAFLD) has now been replaced by :
Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD)

History

Alcohol history* /Metabolic Syndrome & BMI Drug history**/ risk factors for viral hepatitis/ family history

Investigations: NILS (Non-Invasive Liver Screen) +/- Abdominal Ultrasound Scan

Clinical Pattern Recognition

↑ AST/ALT = hepatocellular damage
↑ GGT/ALP = cholestasis
AST >> ALT = alcohol
ALP >> GGT = bone disease, pregnancy
GGT >> ALP = alcohol, medications**

NILS Blood Tests

(On ICE look for the Abnormal LFTs panel)
LFTs, U&Es, Clotting profile, CRP
Iron profile
Immunoglobulins
Auto-antibody profile (ANA, ASM, AMA, ALKM)
Hepatitis B & C
Hepatitis A and E if ALT > 1000
tTg (Coeliac screen)
Alpha-1-Antitrypsin (A1AT)
Caeruloplasmin (if < 40 years of age)
Alpha fetoprotein
Fasting lipid profile

Use Advice & Guidance if unsure how to interpret any NILS result

Hepatic Synthetic failure

↑Bilirubin ↓ Albumin ↑INR ↑PT
OR
suspected malignancy
Weight loss
Marked Cholestasis

Urgent Referral

Urgent ultrasound and/or urgent referral to secondary care

ALT > 1000: Urgent hospital admission

Viral hepatitis
Ischaemic hepatitis
Drug-induced liver injury (paracetamol)
(Autoimmune hepatitis)

Isolated raised Bilirubin

with otherwise normal liver blood tests
Most commonly due to Gilbert's syndrome
Less commonly due to haemolysis (consider reticulocyte count, LDH haptoglobin)

Bili <65

Patient well:
check FBC & blood film to exclude haemolysis
if normal :possible Gilberts (repeat bil 1-3 months)

Gilberts Syndrome

Confirmed: tell patient

Bili >65

Advice and guidance gastroenterologist

Isolated ↑ ALP only

Check vit D levels
Consider low vit D bone disease pregnancy

If Vit D low

Tx as per Barnsley Guidelines

If Vit D levels normal

advice and guidance hepatologist

Isolated Cholestatic liver enzymes ↑ALP & ↑GGT

Abnormal USS (localised lesions) and/or positive NILS

Refer to secondary care Hepatology Clinic

Hepatic liver enzymes ↑ALT or ↑AST

MASLD RISK FACTORS

T2DM
BMI.25
Dyslipidaemia
Hypertension

Likely MASLD ***

Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD)
Previously known as -Non-Alcoholic Fatty Liver Disease) +/- Metabolic Syndrome
SEE BELOW

Ultrasound /NILS results

Normal USS and negative NILS

ALP & GGT remain abnormal.

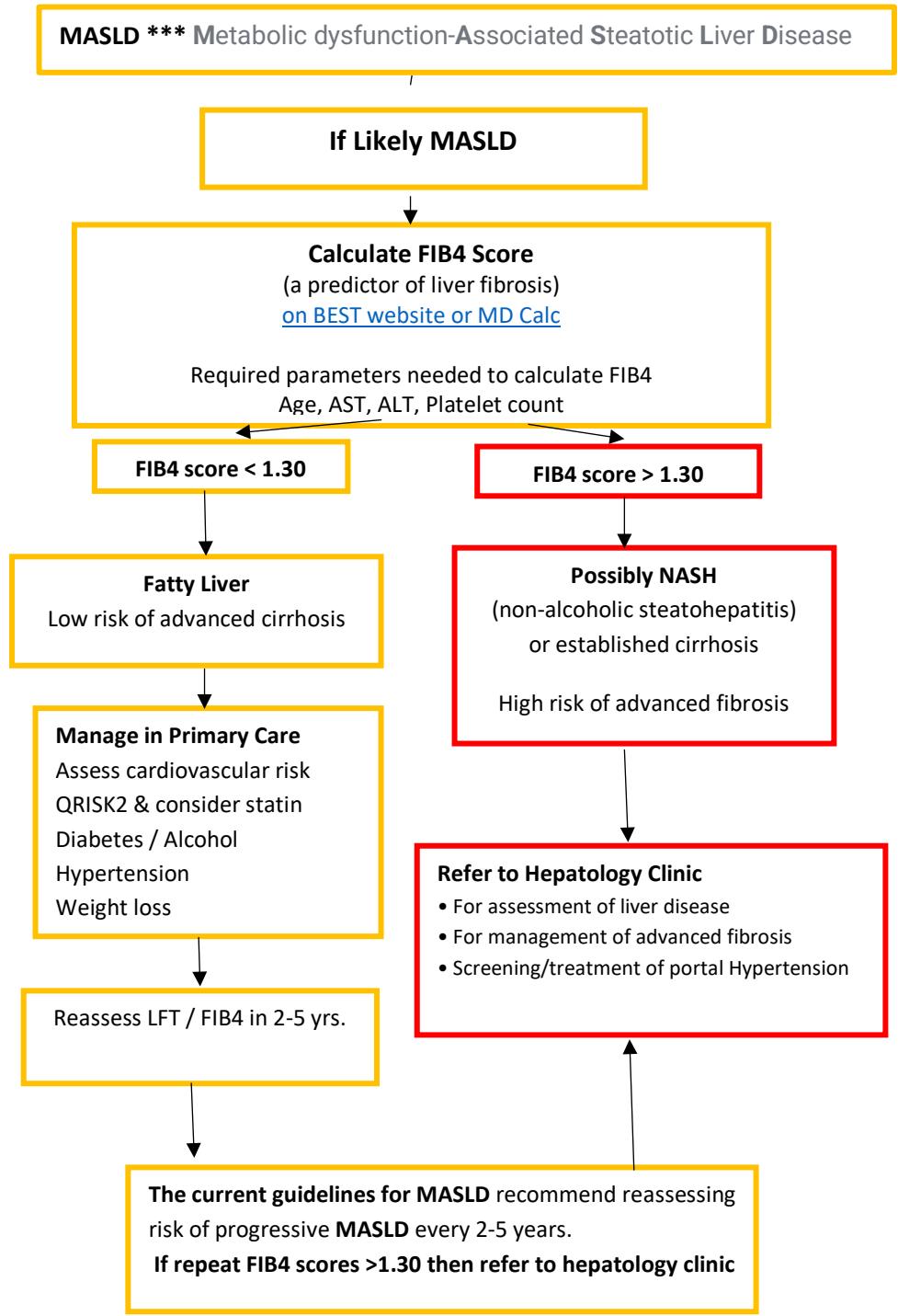
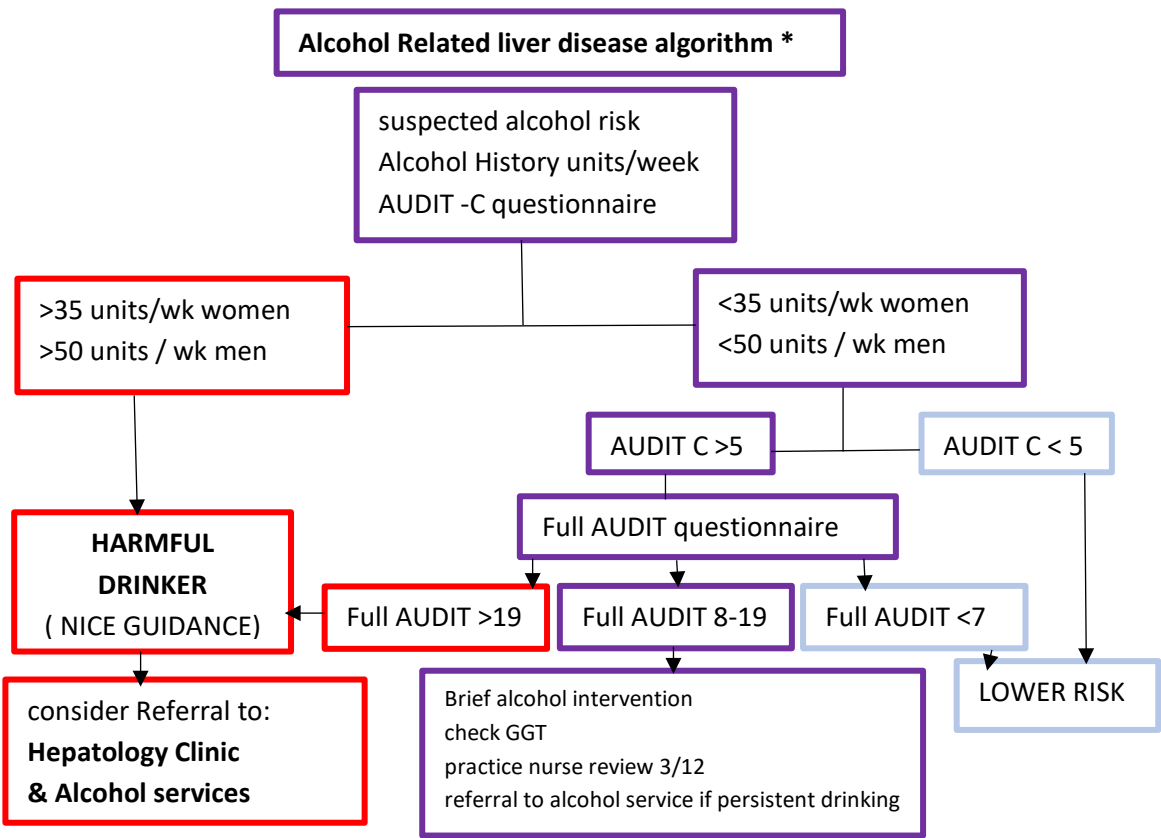
ALT & AST remain abnormal

There is a growing burden of MASLD being referred to secondary care.

A significant proportion of these patients can be safely managed in primary care.

No

Yes



DRUG INDUCED LIVER INJURY **

Acute hepatitis	Ibuprofen, phenytoin, anti TB meds
Cholestatic	Co-amoxiclav, flucloxacillin, carbamazepine, phenytoin
Auto immune	Nitrofurantoin, minocycline, alpha methyl dopa
Steatohepatitis	Tamoxifen, amiodarone, tetracycline, valproic acid
Cirrhosis	Methotrexate, amiodarone
Vanishing duct syndrome	Carbamazepine, co trimoxazole
Peliosis hepatis	Azathioprine, anabolic steroids
Hepatic adenoma	Oral contraceptive, anabolic steroid