Inside Out: Gastroenterology & Hepatology Workshop

Saturday 25 October 2025
Clinical Skills Development Service | RBWH

phn BRISBANE NORTH
An Australian Government Initiative

Queensland Government
Metro North Health

Metabolic dysfunction-associated fatty liver disease (MAFLD)

Dr Marnie Wood
Gastroenterologist & Hepatologist | RBWH

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Queensland Government
Metro North Health

Dr Marnie Wood FRACP PhD
Gastroenterologist/Hepatologist RBWH
25th October 2025

~~MAFLD~~

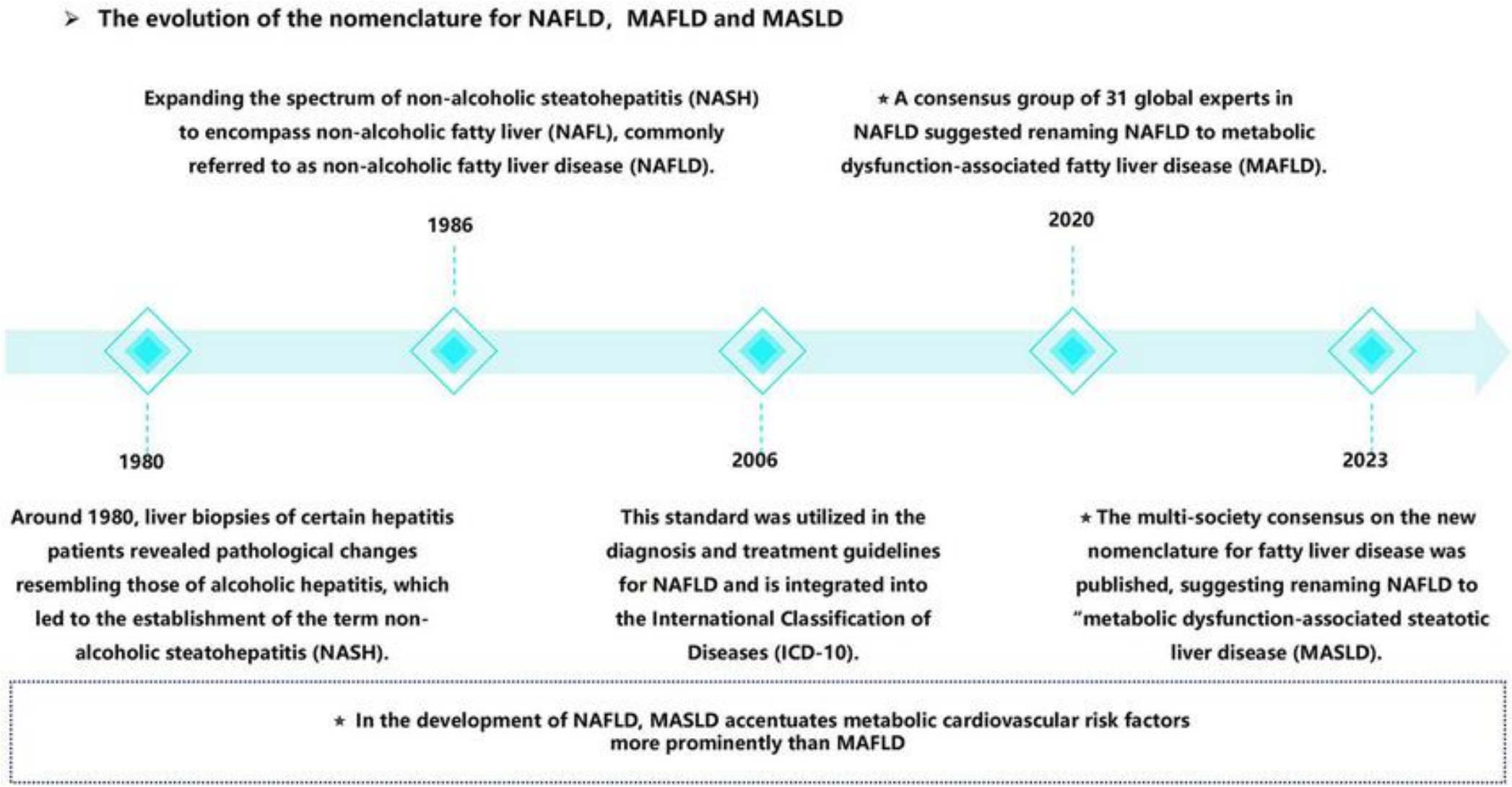
MASLD

Plan

- Solid understanding of the disease
- How to assess
- Who to refer
- How to manage
- What is coming

“What's in a name? That which we call a rose
By any other name would smell as sweet”

W. Shakespeare 1597



Bai et al, Front Nutrit 2025

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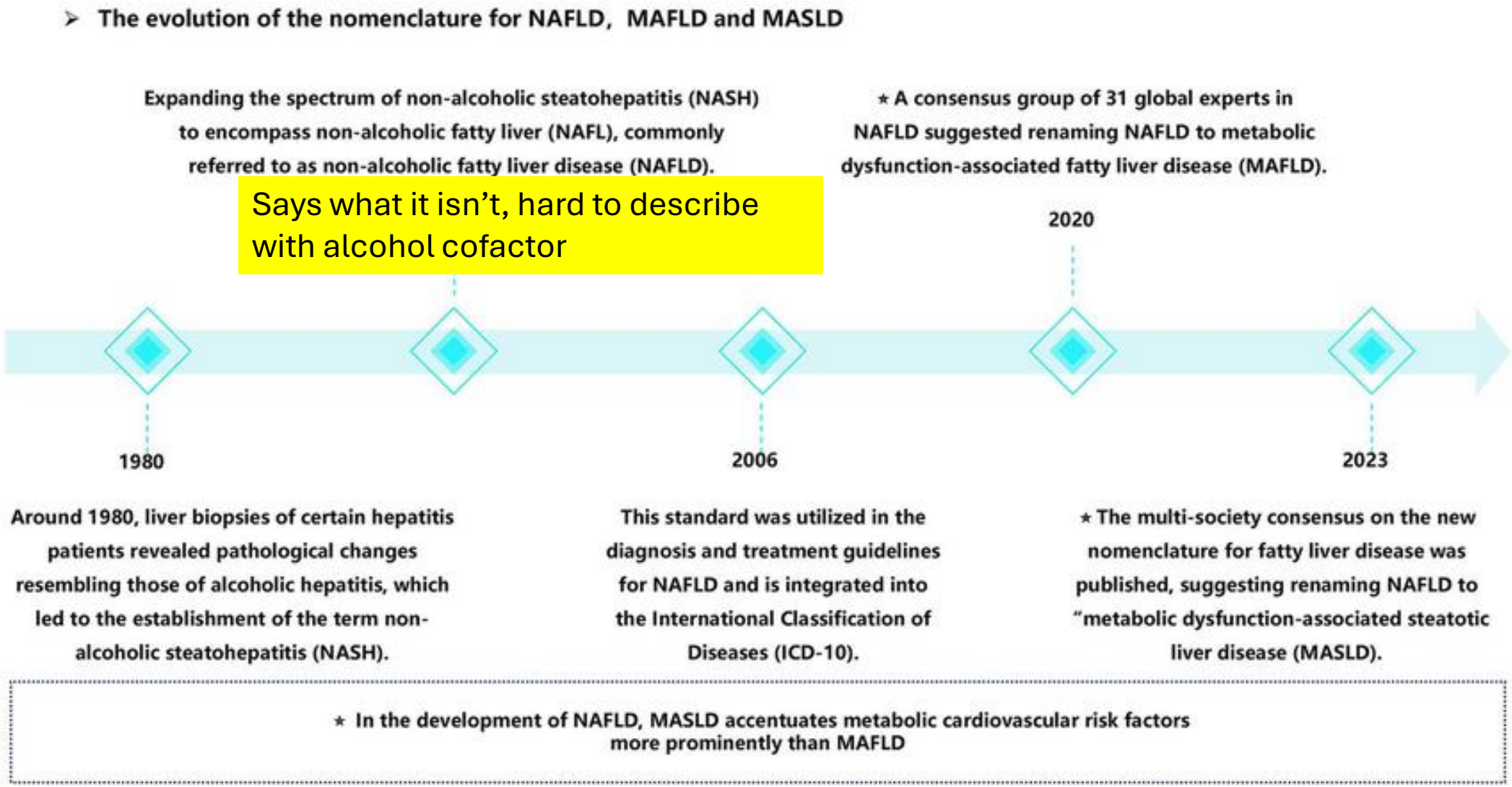

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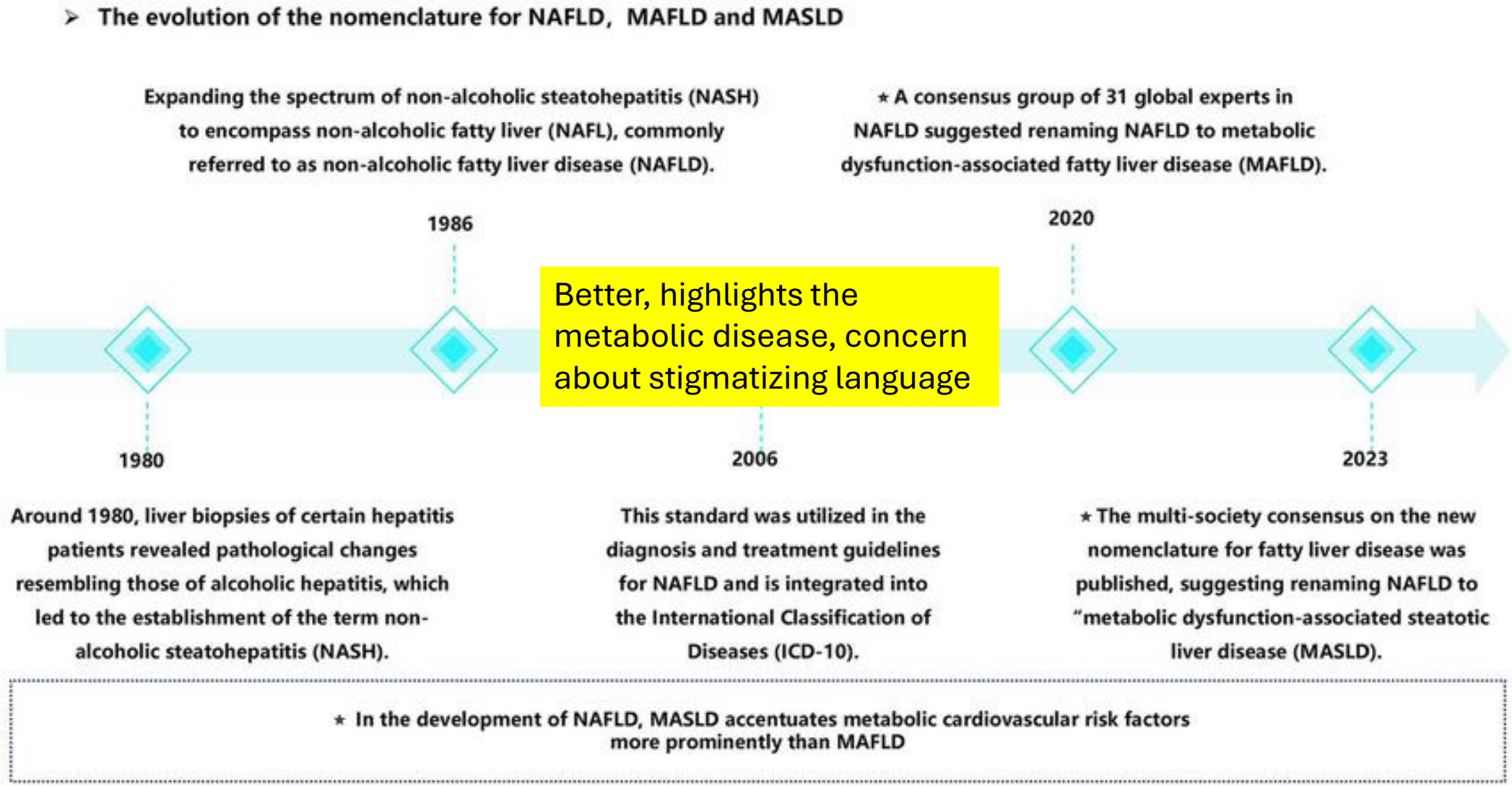

Better, highlights the metabolic disease, concern about stigmatizing language

Bai et al, Front Nutrit 2025

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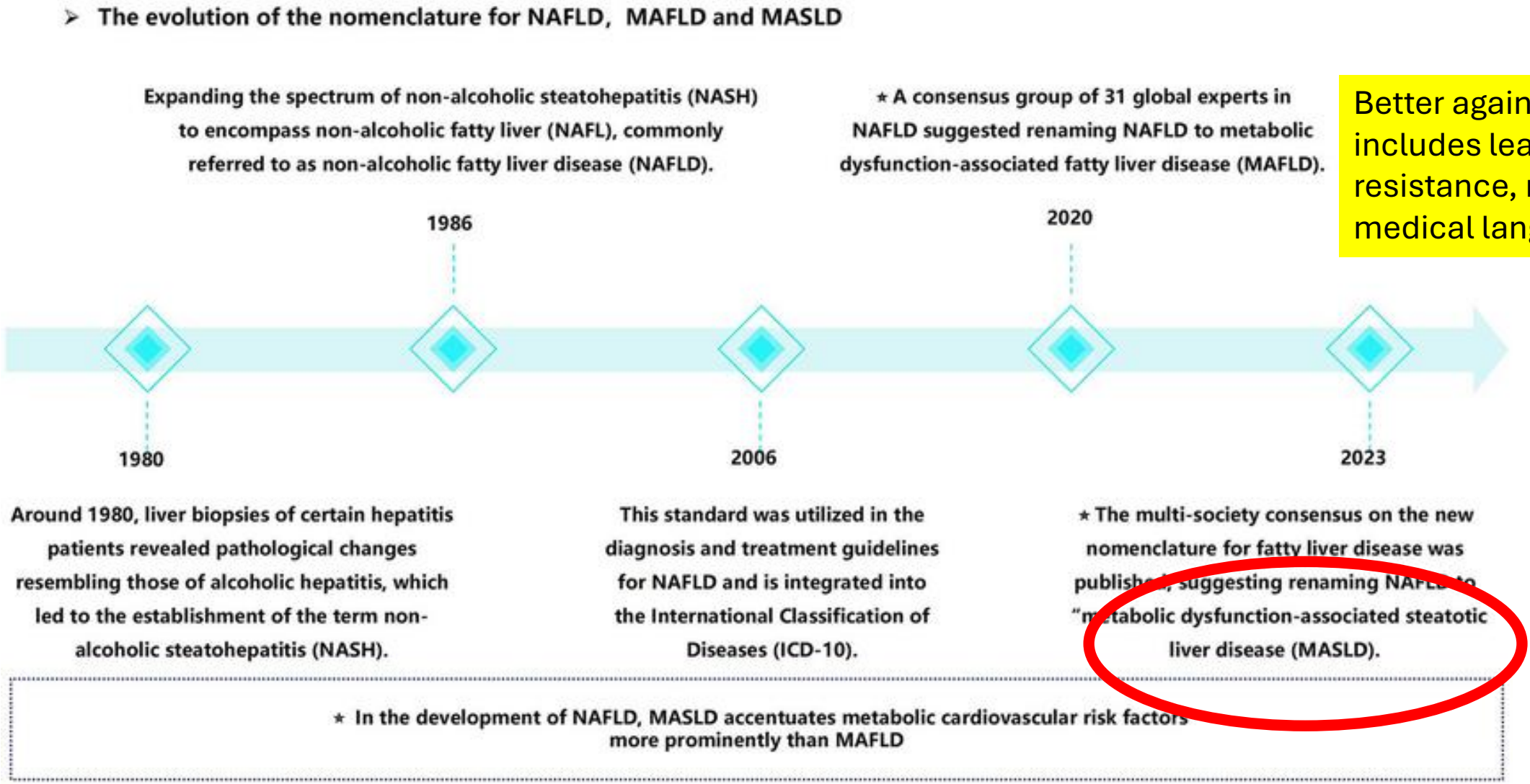


Better again, includes lean insulin resistance, neutral medical language

Bai et al, Front Nutrit 2025

2024 was a big year for practice guidelines

Clinical Practice Guidelines

JOURNAL OF HEPATOLOGY

EASL–EASD–EASO Clinical Practice Guidelines on the management of metabolic dysfunction-associated steatotic liver disease (MASLD)☆

European Association for the Study of the Liver (EASL)*, European Association for the Study of Diabetes (EASD), European Association for the Study of Obesity (EASO)

Metabolic dysfunction–associated steatotic liver disease: Update and impact of new nomenclature on the American Association for the Study of Liver Diseases practice guidance on nonalcoholic fatty liver disease

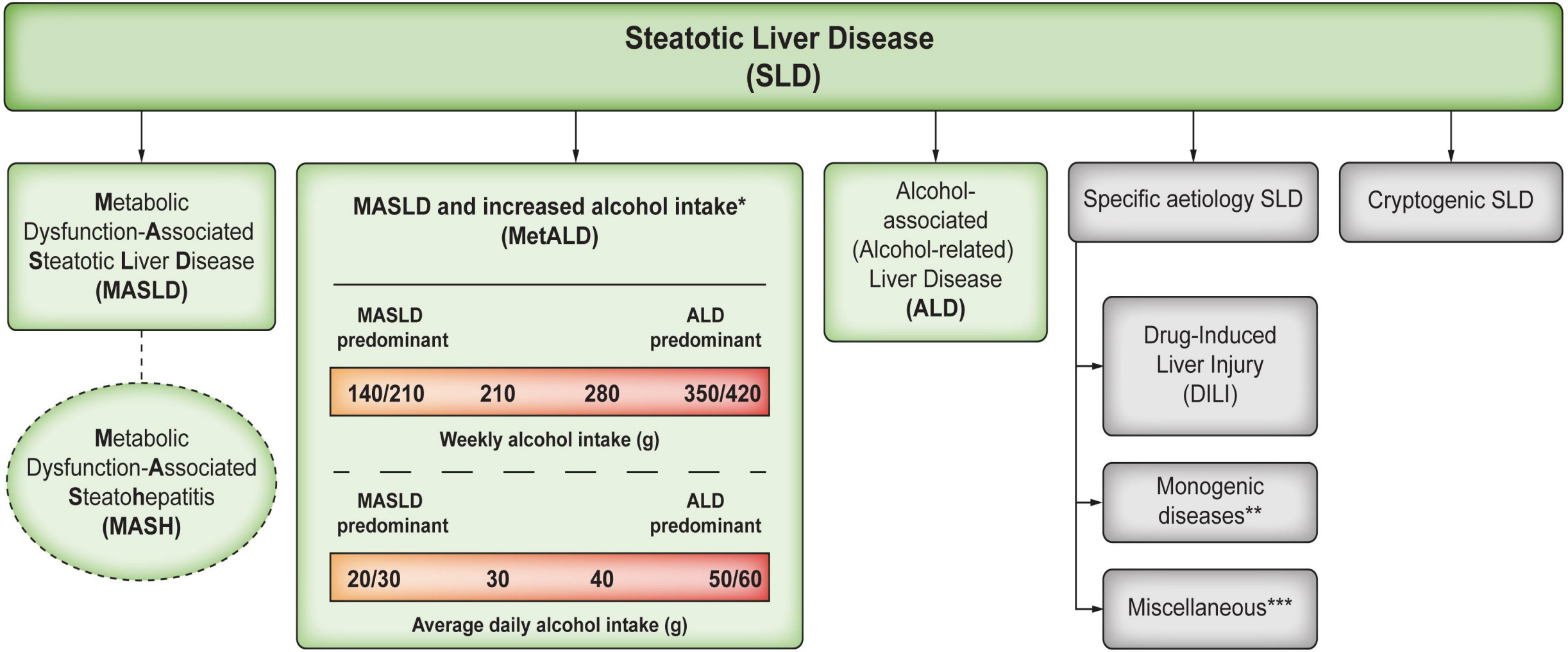
Kanwal, Fasiha[1,2,3]; Neuschwander-Tetri, Brent A.[4]; Loomba, Rohit[5]; Rinella, Mary E.[6]

Author Information

Hepatology 79(5):p 1212-1219, May 2024. | *DOI:* 10.1097/HEP.0000000000000670

Recommendations for the assessment of metabolic dysfunction-associated fatty liver disease (MAFLD) in primary care: a consensus statement

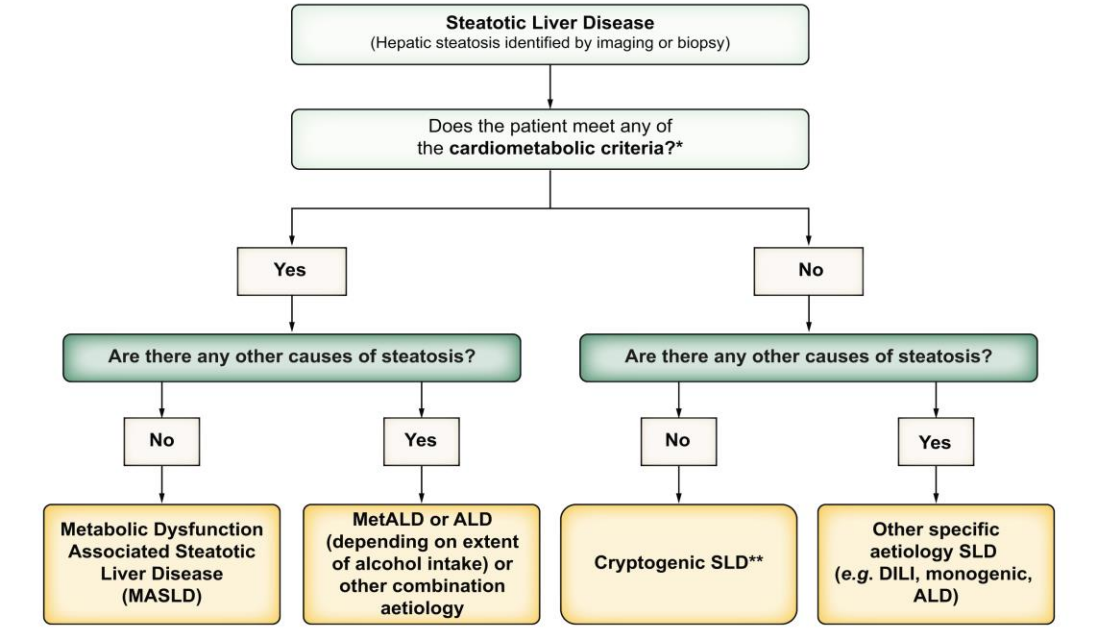
GESA Gastroenterological Society of Australia



Journal of Hepatology 2023 791542-1556DOI: (10.1016/j.jhep.2023.06.003)

"MASLD is the presence of excess triglyceride storage in the liver in the presence of at least one cardiometabolic risk factor"

- BMI or waist circumference
- Diabetes or impaired glucose tolerance
- Hypertension
- Elevated triglycerides
- Dyslipidemia



*Cardiometabolic criteria

Adult criteria

At least 1 out of 5:

- ☐ BMI ≥25 kg/m² [23 Asia] **OR** WC >94 cm (M) 80 cm (F) **OR** ethnicity adjusted equivalent
- ☐ Fasting serum glucose ≥5.6 mmol/L [100 mg/dl] **OR** 2-hour post-load glucose levels ≥7.8 mmol/L [≥140 mg/dl] **OR** HbA1c ≥5.7% [39 mmol/L] **OR** type 2 diabetes **OR** treatment for type 2 diabetes
- ☐ Blood pressure ≥130/85 mmHg **OR** specific antihypertensive drug treatment
- ☐ Plasma triglycerides ≥1.70 mmol/L [150 mg/dl] **OR** lipid lowering treatment
- ☐ Plasma HDL-cholesterol ≤1.0 mmol/L [40 mg/dl] (M) and ≤1.3 mmol/L [50 mg/dl] (F) **OR** lipid lowering treatment

Paediatric criteria

At least 1 out of 5:

- ☐ BMI ≥85th percentile for age/sex [BMI z score ≥+1] **OR** WC >95th percentile **OR** ethnicity adjusted equivalent
- ☐ Fasting serum glucose ≥5.6 mmol/L [≥100 mg/dl] **OR** serum glucose ≥11.1 mmol/L [≥200 mg/dl] **OR** 2-hour post-load glucose levels ≥7.8 mmol [140 mg/dl] **OR** HbA1c ≥5.7% [39 mmol/L] **OR** already diagnosed/treated type 2 diabetes **OR** treatment for type 2 diabetes
- ☐ Blood pressure age <13 yr, BP ≥95th percentile **OR** ≥130/80 mmHg (whichever is lower); age ≥13 yr, 130/85 mmHg **OR** specific antihypertensive drug treatment
- ☐ Plasma triglycerides age <10 yr, ≥1.15 mmol/L [≥100 mg/dl]; age ≥10 yr, ≥1.70 mmol/L [≥150 mg/dl] **OR** lipid lowering treatment
- ☐ Plasma HDL-cholesterol ≤1.0 mmol/L [≤40 mg/dl] **OR** lipid lowering treatment

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High and rising rates of disease globally

- One in three Australians have MASLD
- Two in three Australians with Type II DM or Obesity have MASLD
- Only 4-5% are aware they have MASLD

Risk factor	Prevalence of MAFLD[28,33]
Overweight	30%
Obesity	55%–75%
Type 2 diabetes	55%–60%
Dyslipidaemia	55%
Hypertension	50%
Metabolic syndrome	70%

Roberts et al, MJA 2021

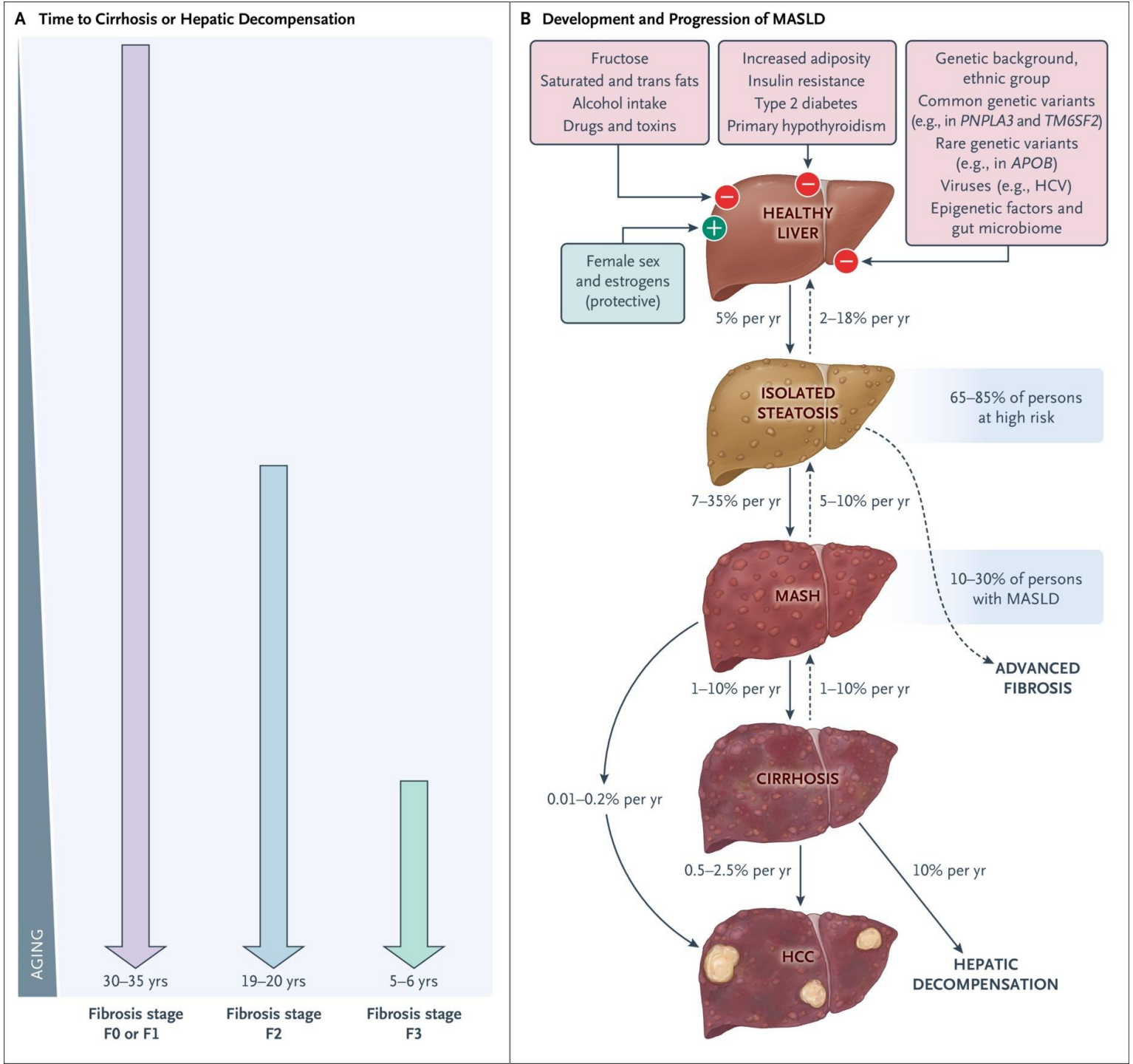
Lomanarco et al, Diabet Care 2021

Alqahtani et al, Hepatol Comm 2021

Natural History of Steatotic Liver Disease and MASLD.

Targher G et al. N Engl J Med2025;393:683-698

The NEW ENGLAND JOURNAL of MEDICINE



How do patients present?

44 yo male

- Wife suggested “check up”
- Ht 180cm, Wt 90 kg BMI 27.8kg/m2
- BP 125/80 on irbesartan
- ALT 75, AST 40, Alb 44, Bili 12, Platelets 280
- Etoh: 20g x 3nights per week

Clinical History

Abnormal liver function tests

Findings

Moderate increased echogenicity of the liver is consistent with hepatic steatosis. No hepatic lesion. The portal vein is patent with antegrade flow.

Two mobile gallbladder calculi are present, largest 24 mm. The gallbladder is 3 mm in thickness with no tenderness on sono palpation. The common bile duct is 4 mm.

The pancreas is unremarkable. The spleen is mildly enlarged, 13.3 cm. No ascites. No hydronephrosis, renal masses or calculi. Non-aneurysmal abdominal aorta.

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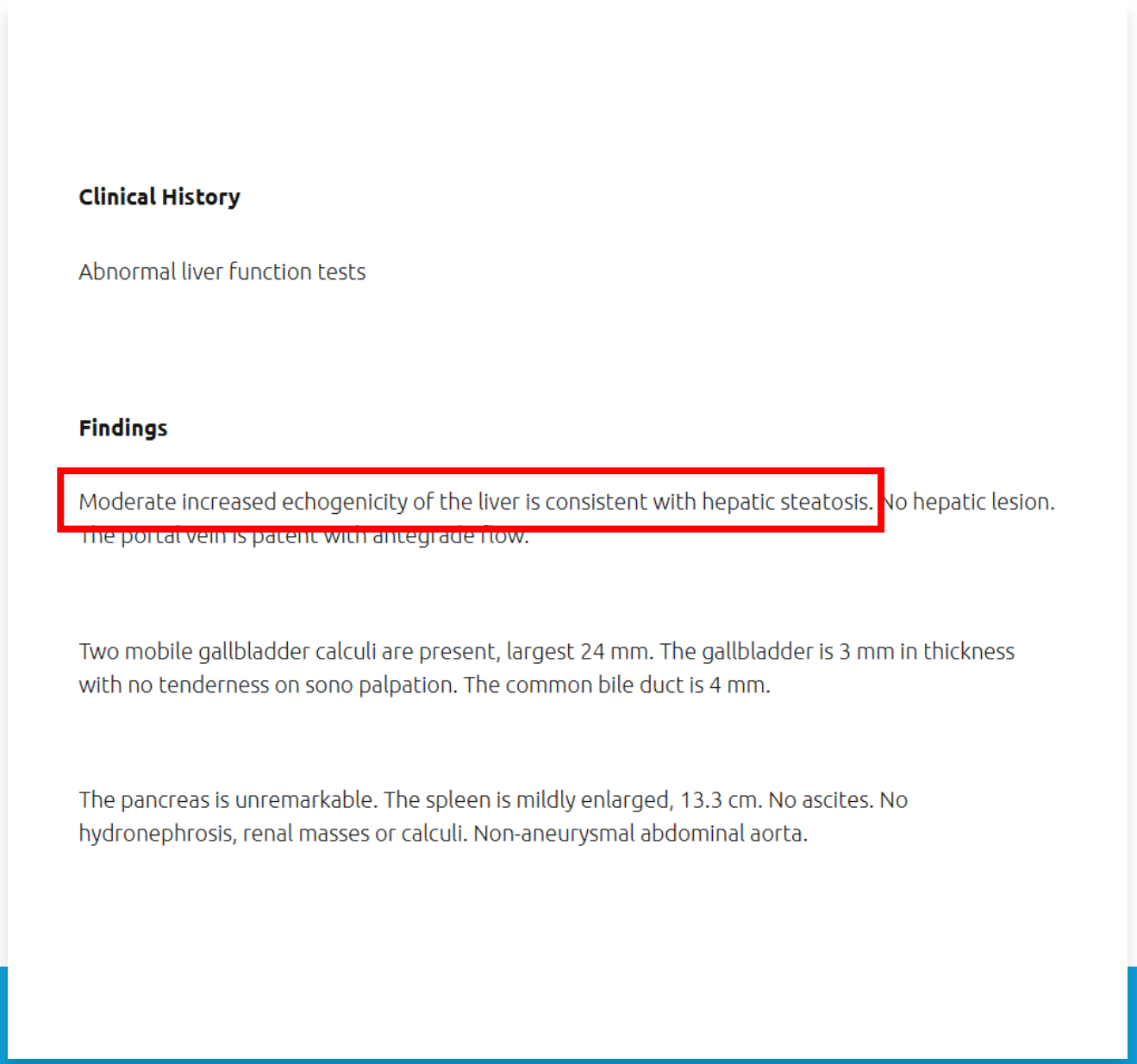

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Is this MASLD ?

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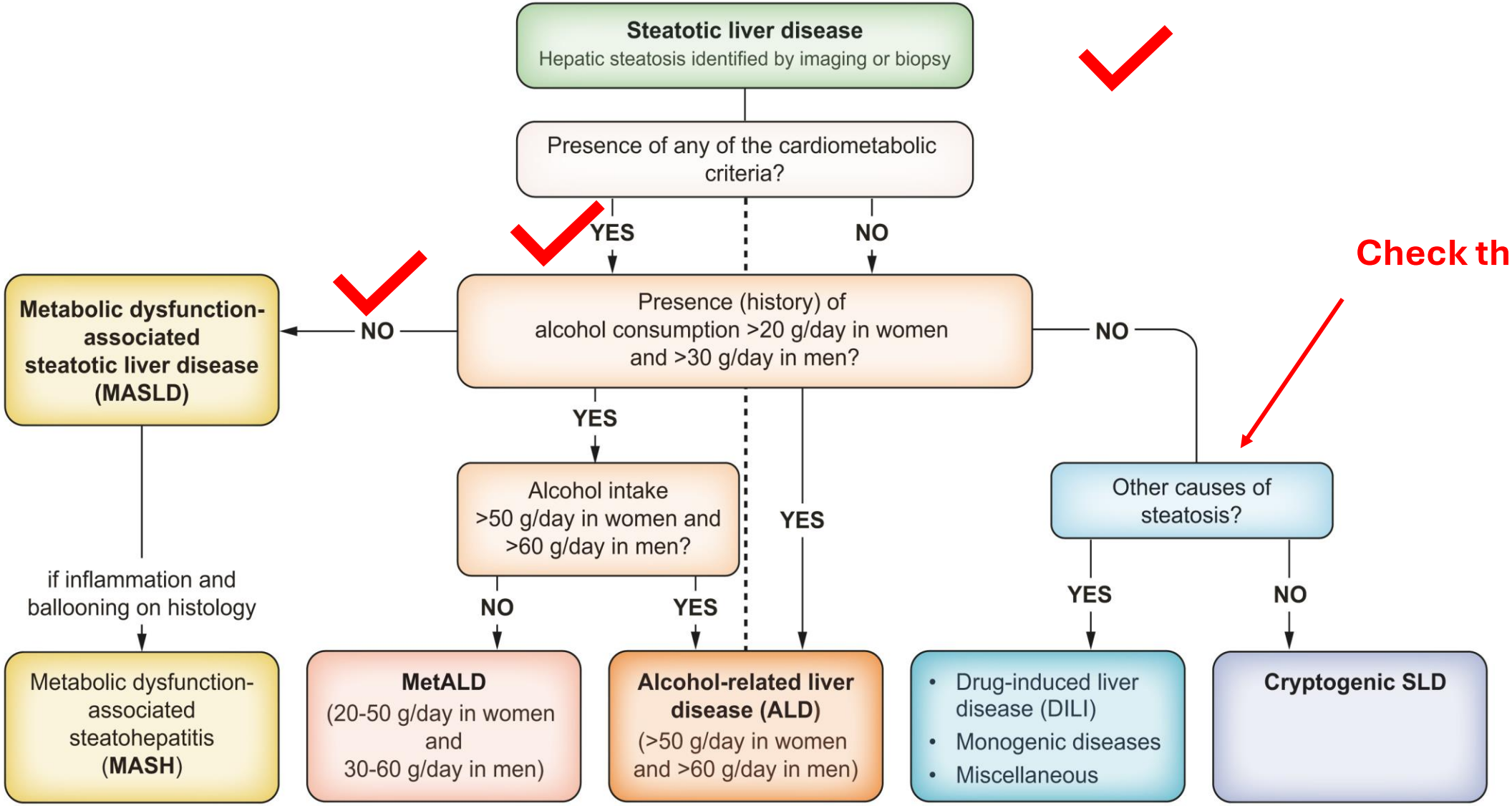
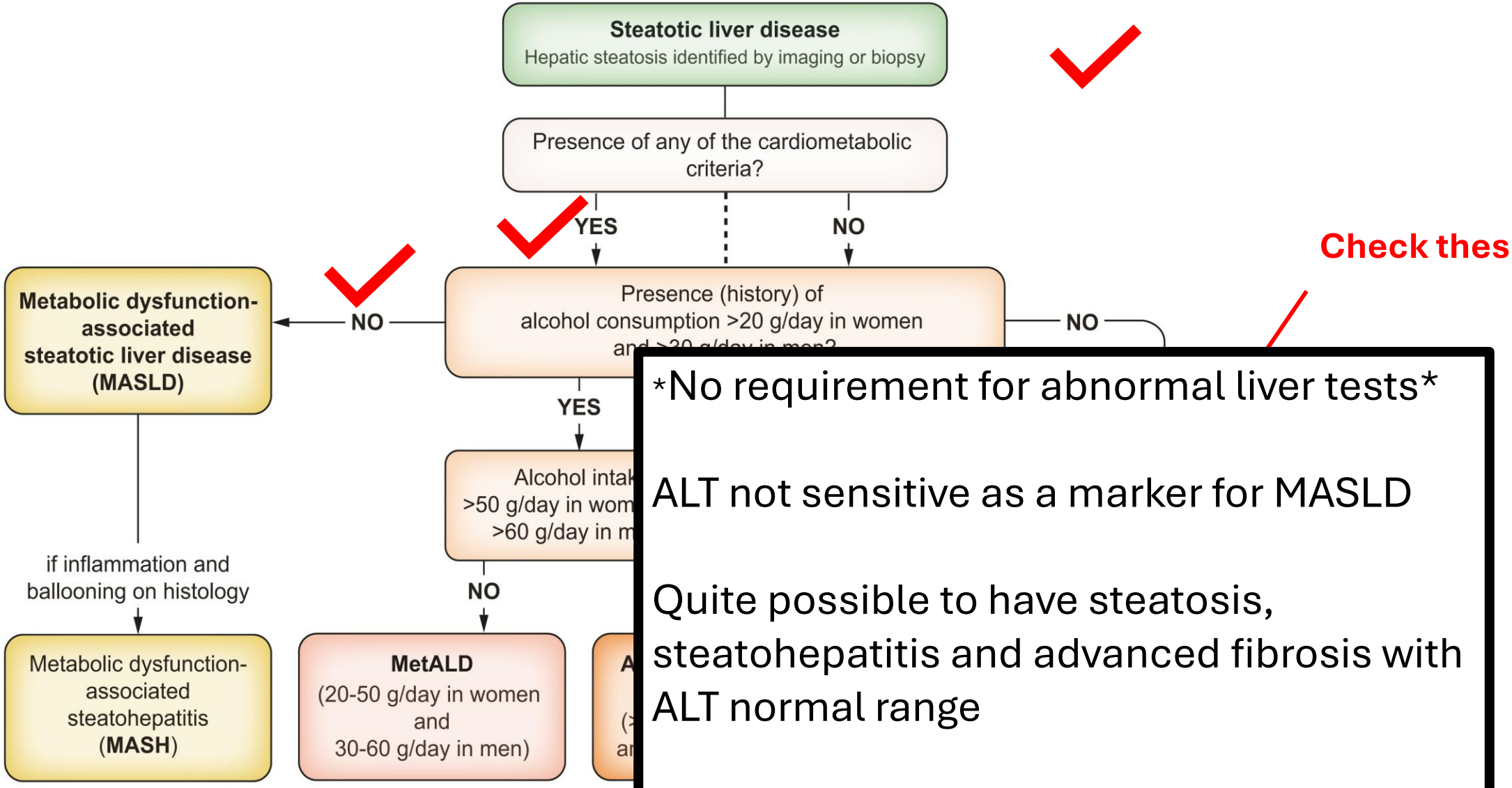


Journal of Hepatology 2024 81492-542DOI: (10.1016/j.jhep.2024.04.031)



Check these!

No requirement for abnormal liver tests

ALT not sensitive as a marker for MASLD

Quite possible to have steatosis, steatohepatitis and advanced fibrosis with ALT normal range

(35% MASH, 20% advanced fibrosis, 7% cirrhosis – Samer et al, Am J Gastro 2019

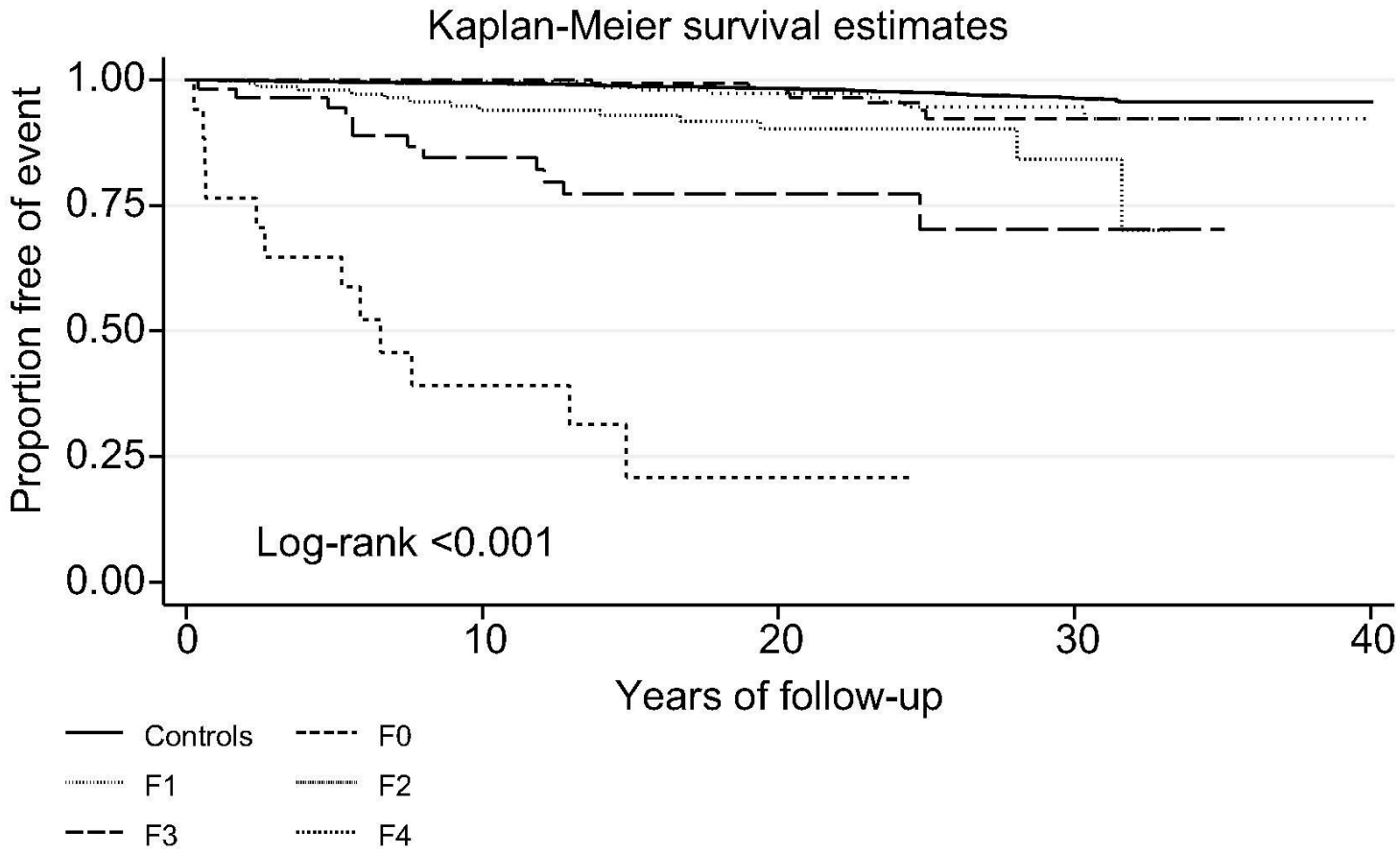
Journal of Hepatology 2024 81492-542DOI: (10.1016/j.jhep.2024.04.031)

Assessing for other causes of steatosis or elevated liver enzymes … the “liver screen”

- Medications causing steatosis – corticosteroids, amiodarone, valproate, tamoxifen
- Hepatitis C
- Hepatitis B
- Wilson’s disease – low ceruloplasmin, high 24 hour urinary copper
- Coeliac screening
- Iron studies (frequent hyperferritinemia)
- Alpha 1 AT
- Consider immune causes – AIH, PBC, PSC
- (not CMV, EBV)

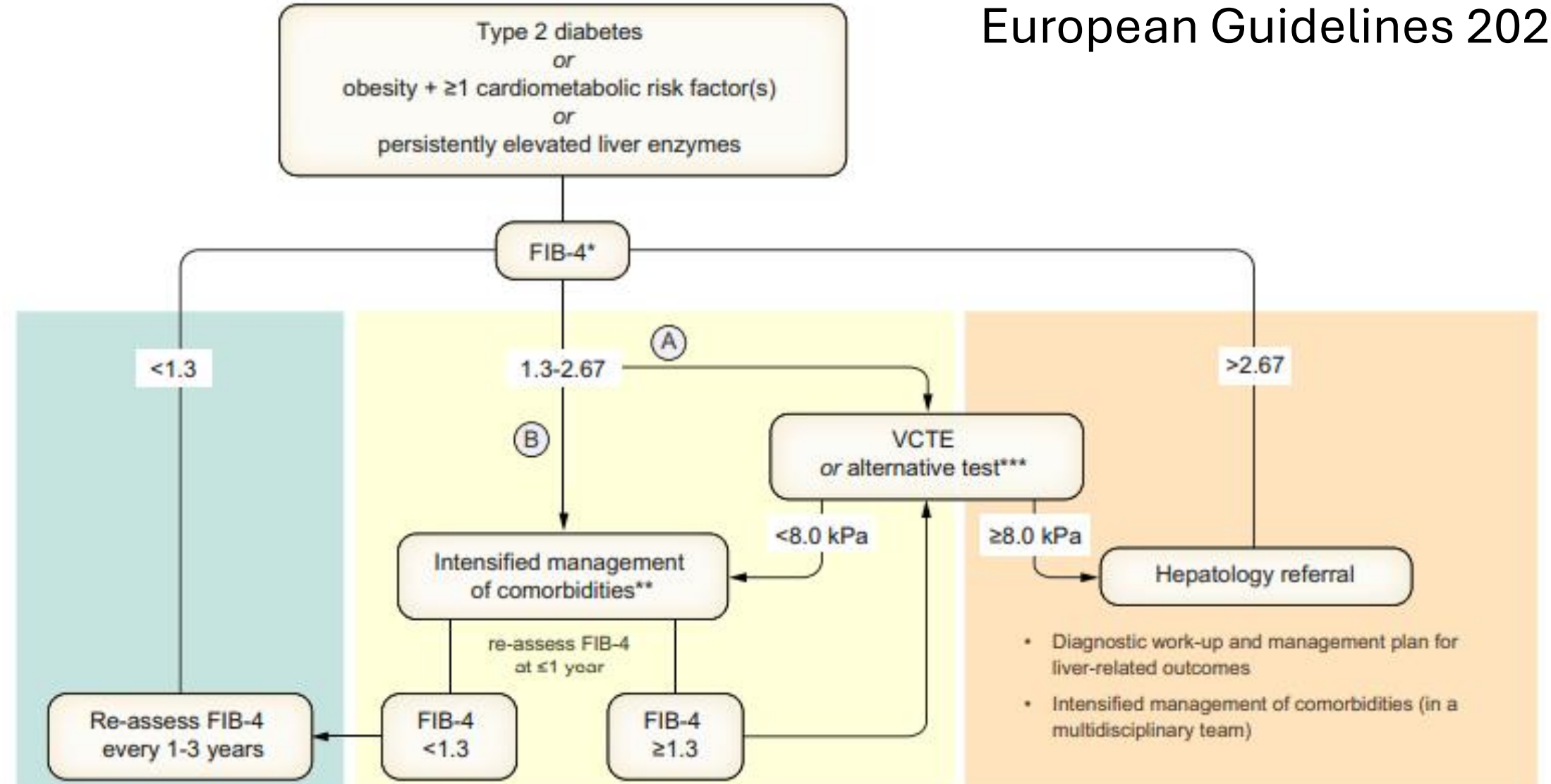
MASLD without cofactors – what next?

- All practice guidelines recommend a non-invasive assessment of fibrosis
- The presence or absence of fibrosis is the strongest predictor of **liver** related outcomes
- Patients with advanced fibrosis selected for further liver care



Hagstrom et al, J Hepatol 2017

European Guidelines 2024



* FIB-4 thresholds valid for age ≤65 years (for age >65 years: lower FIB-4 cut-off is 2.0)
** *e.g.* lifestyle intervention, treatment of comorbidities (*e.g.* GLP1RA), bariatric procedures
*** *e.g.* MRE, SWE, ELF, with adapted thresholds
Ⓐ and Ⓑ are options, depending on medical history, clinical context and local resources

Journal of Hepatology, **September 2024**. vol. 81 | 492–542

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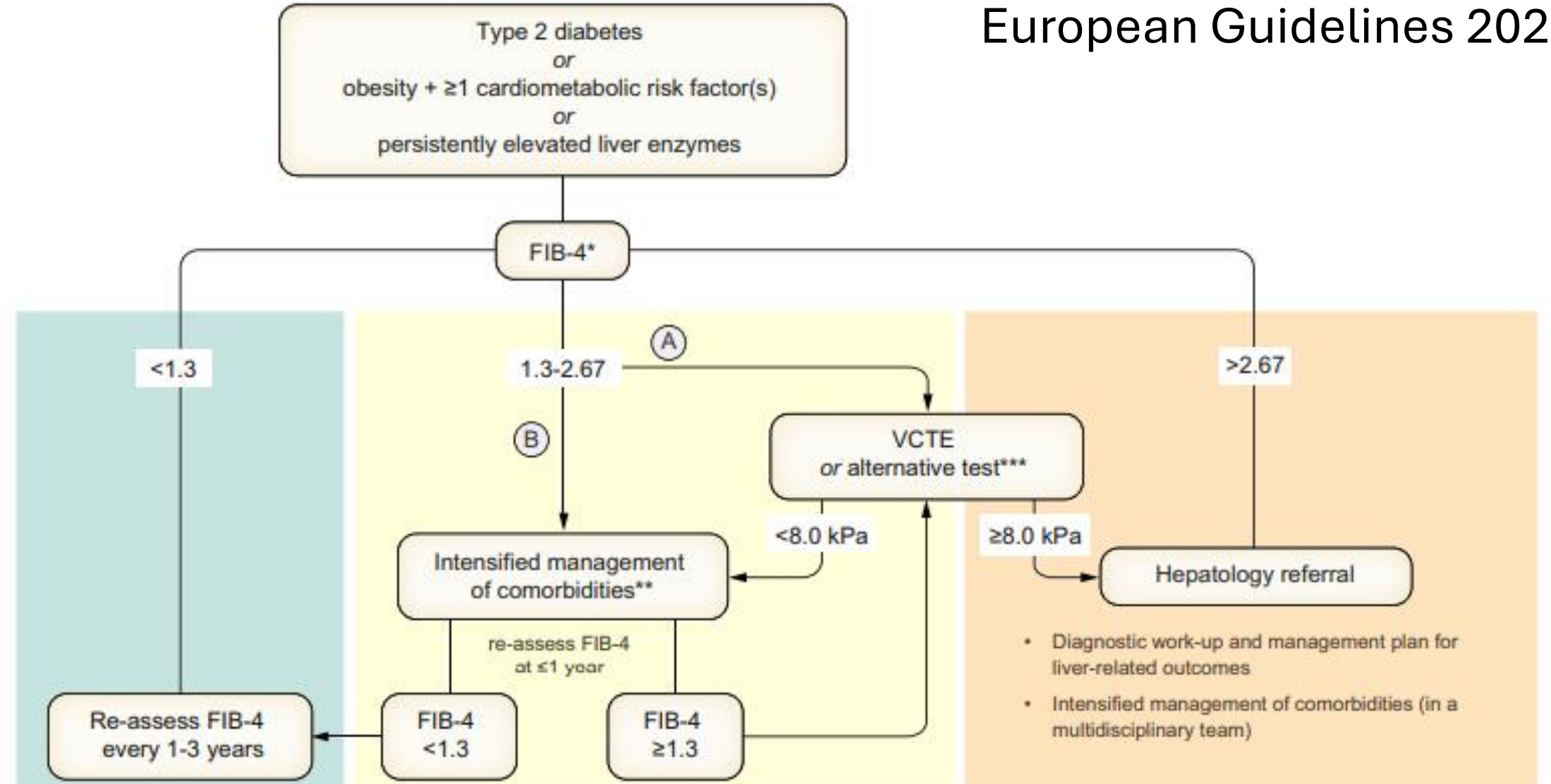

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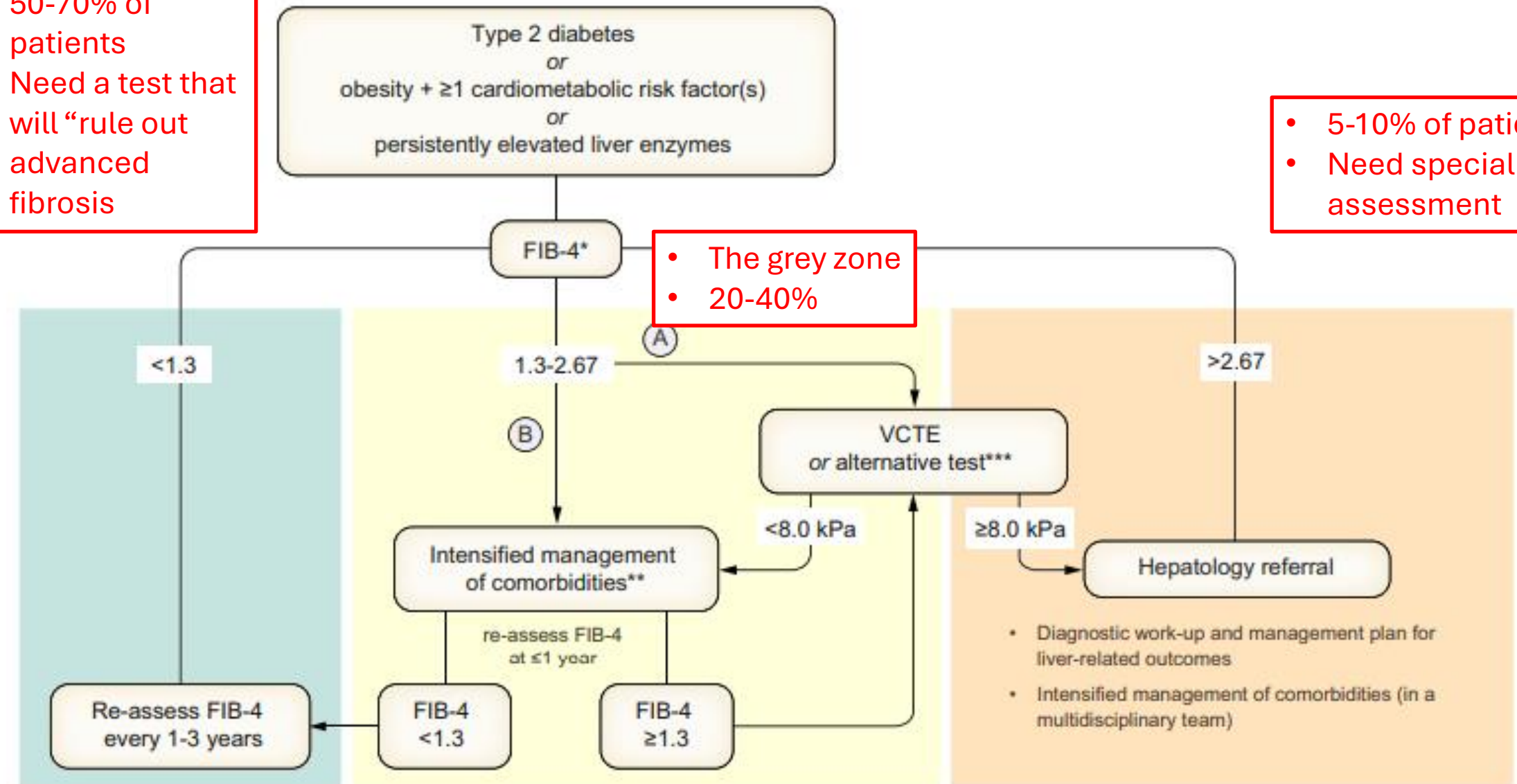
- 50-70% of patients
- Need a test that will "rule out advanced fibrosis



- The grey zone
- 20-40%

- 5-10% of patients
- Need specialised liver assessment

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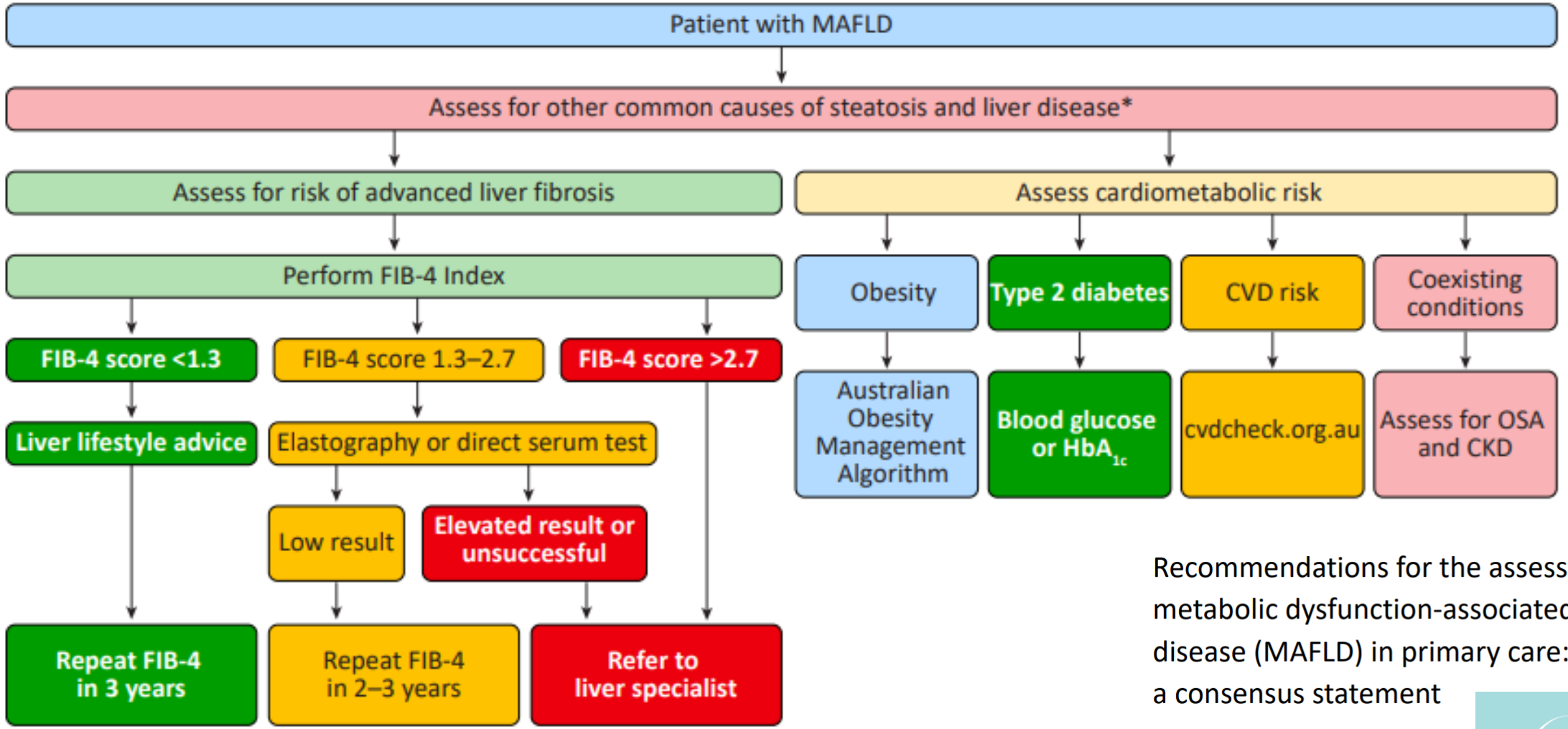

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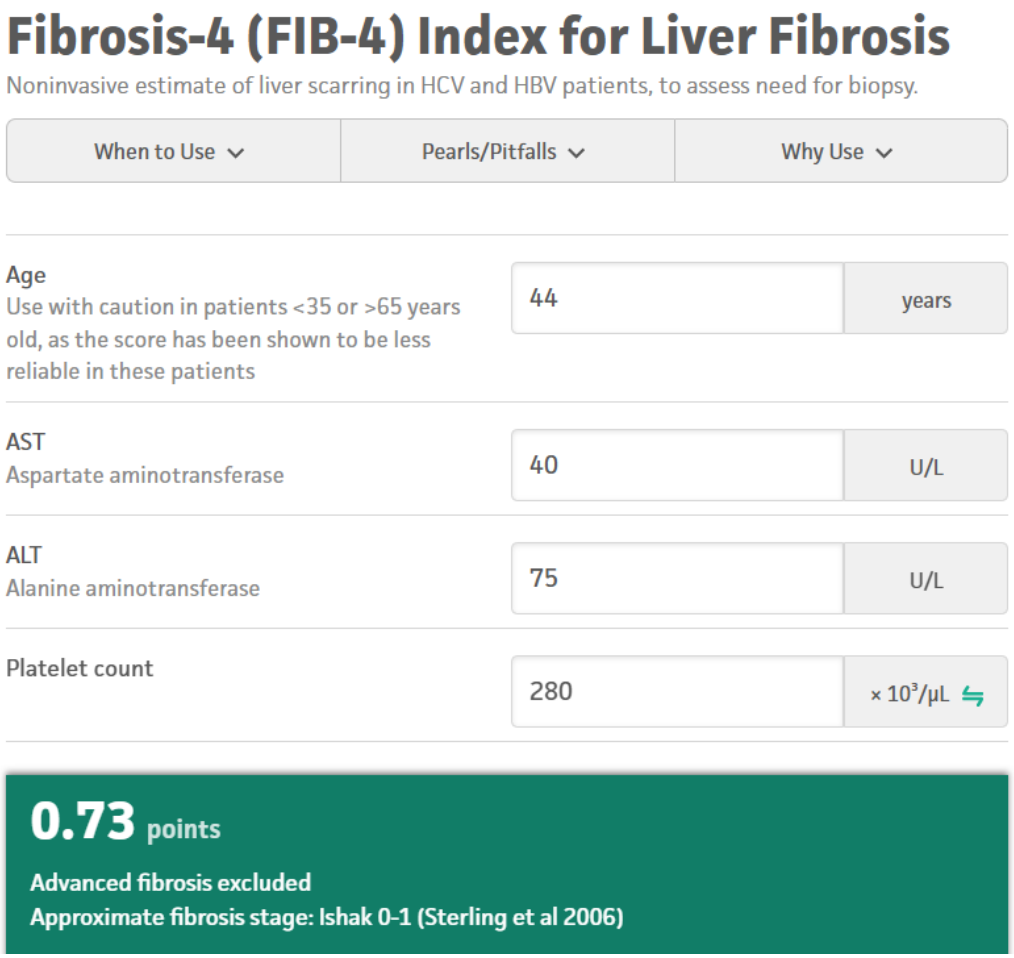
CKD = chronic kidney disease; CVD = cardiovascular disease; FIB-4 = Fibrosis 4; HbA_{1c} = glycated haemoglobin; MAFLD = metabolic dysfunction-associated fatty liver disease; OSA = obstructive sleep apnoea.

FIB-4

- Uses age, ALT, AST and platelets in calculation to group into low, intermediate and higher risk for advanced fibrosis
- Validated in multiple ethnicities
- Valid even with normal transaminases

- Can be affected by alcohol or ITP
- Inaccurate in those less than 35 years or >65 (uses a higher threshold)
- In a low risk population – rules out advanced fibrosis ~ 97% NPV, PPV ~25%



Back to our patient.....

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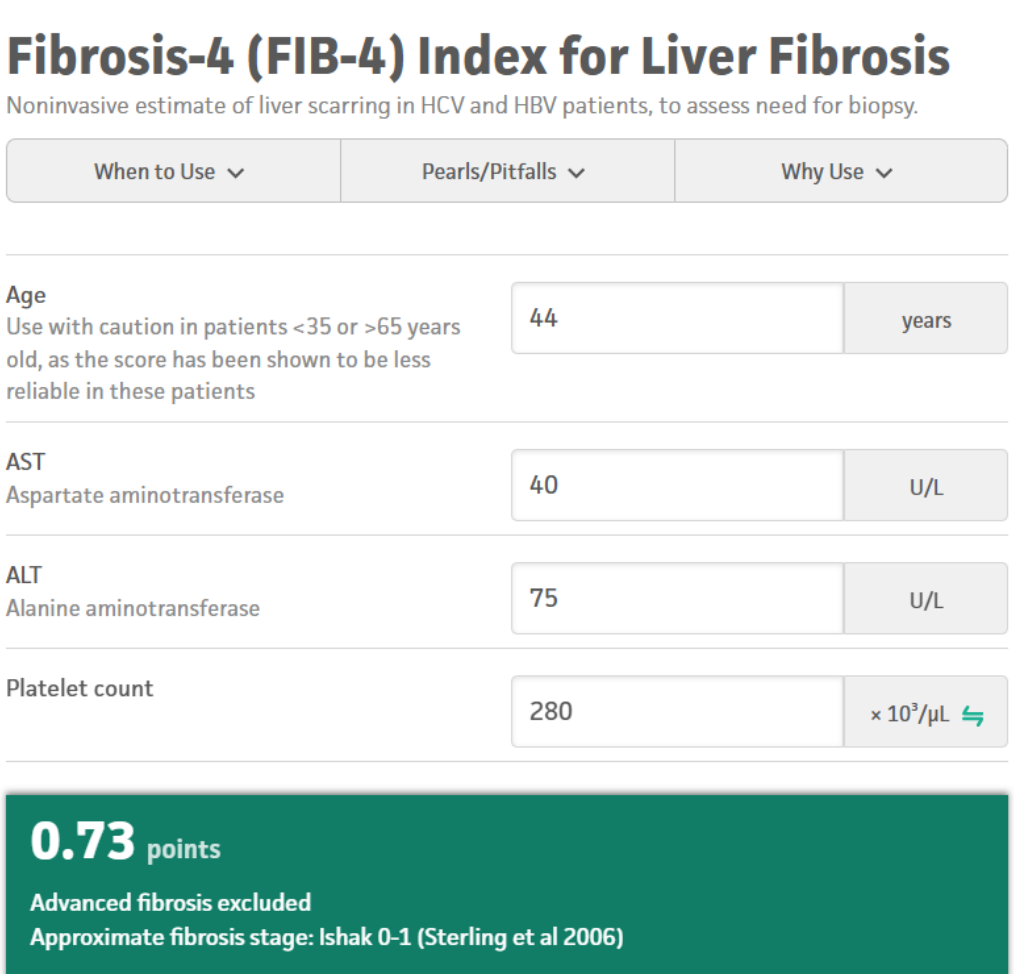

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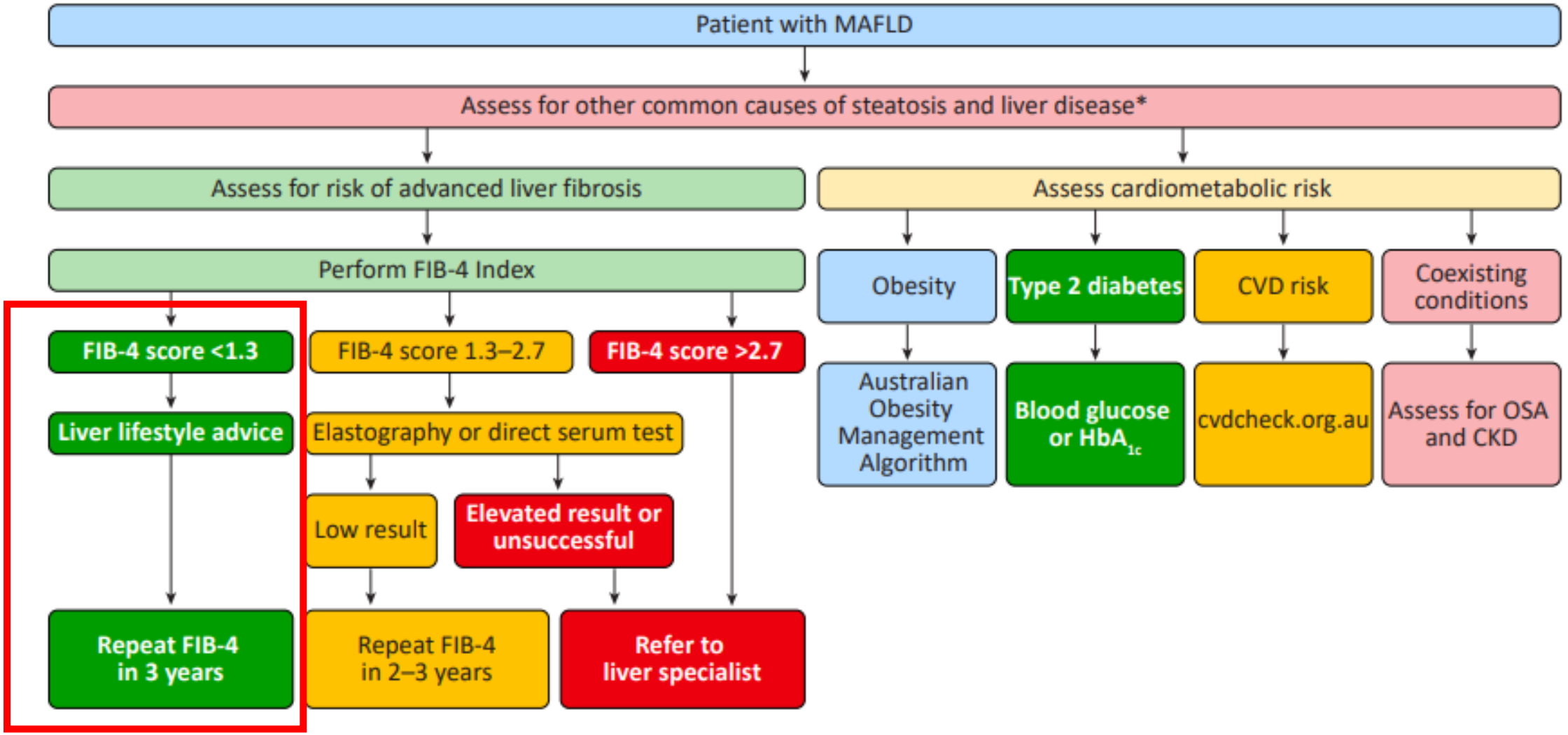

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What if the blood results were different?

Fibrosis-4 (FIB-4) Index for Liver Fibrosis

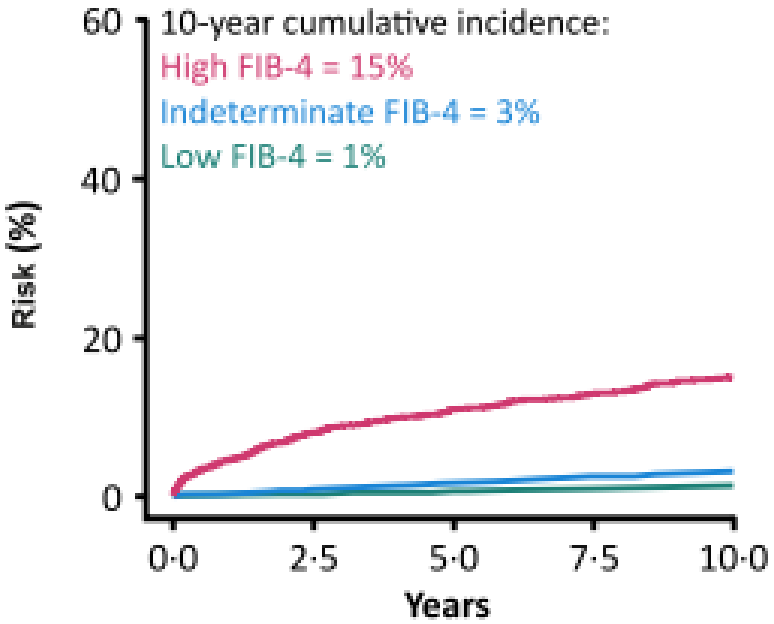
Noninvasive estimate of liver scarring in HCV and HBV patients, to assess need for biopsy.

When to Use | Pearls/Pitfalls | Why Use

Age Use with caution in patients <35 or >65 years old, as the score has been shown to be less reliable in these patients	60	years
AST Aspartate aminotransferase	75	U/L
ALT Alanine aminotransferase	40	U/L
Platelet count	120	× 10^3/μL

5.93 points

Advanced fibrosis (METAVIR stage F3-F4) likely (McPherson 2017)
Approximate fibrosis stage: Ishak 4-6 (Sterling et al 2006)



Prognostic utility of Fibrosis-4 Index for risk of subsequent liver and cardiovascular events, and all-cause mortality in individuals with obesity and/or type 2 diabetes: a longitudinal cohort study

- FIB4 can predict future liver related events and overall mortality in MASLD
- Reductions in scores over time can be used to adjust risk

Anstee et al, Lancet Reg. Health Eur. 2024

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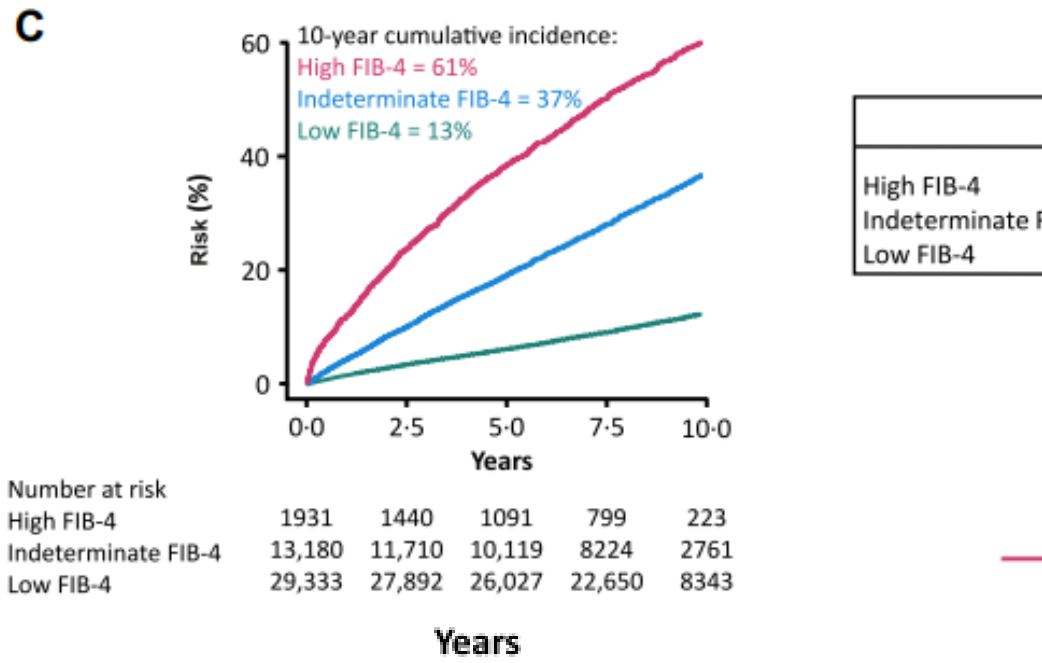

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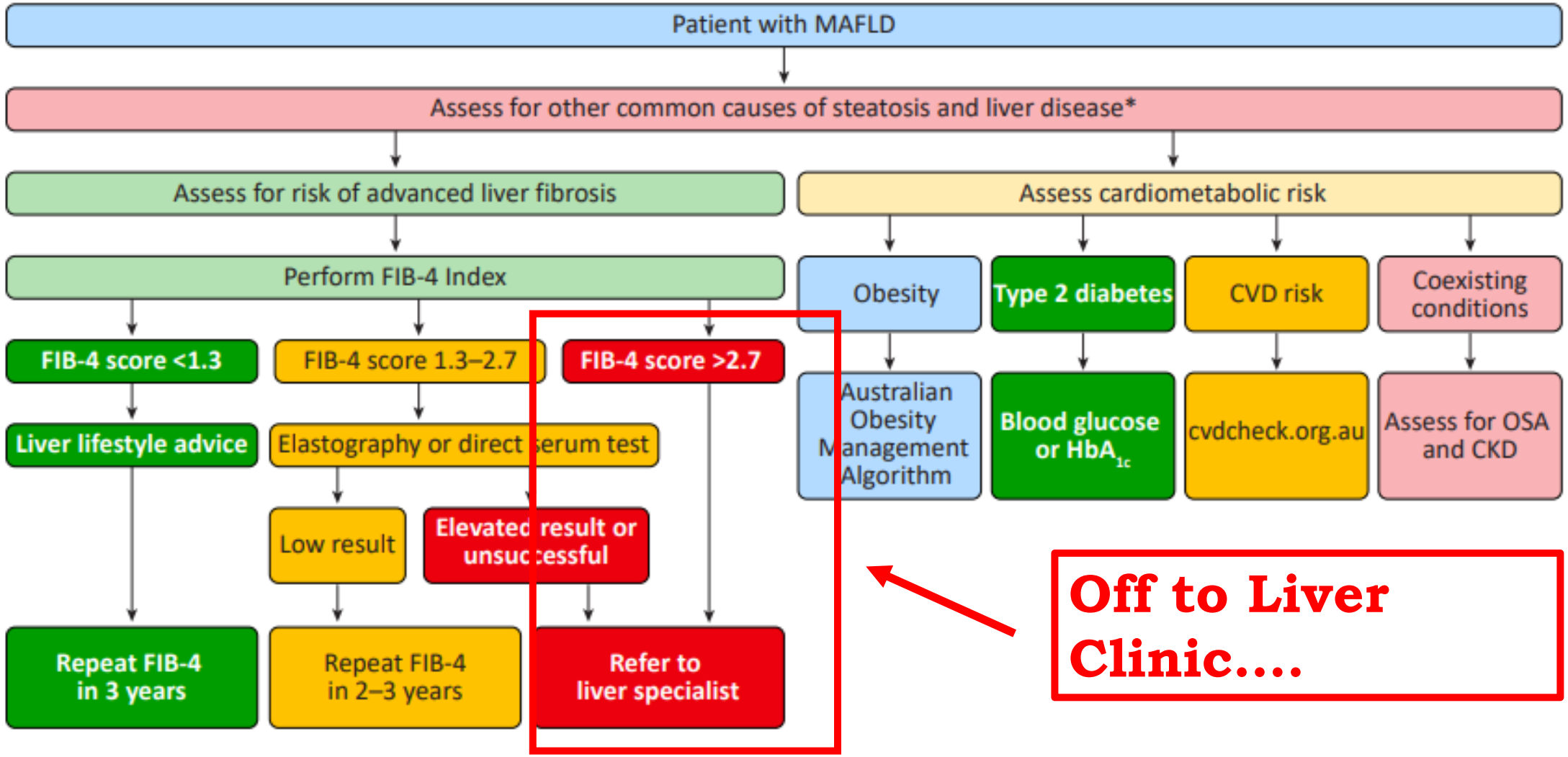

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Liver Clinic

- Confirm or refute advanced fibrosis
  - Fibroscan (+/- biopsy)
- Confirm no other diagnosis (alcohol)
- Consider whether CSPH (Clinically Significant Portal Hypertension)
- Consider the role of HCC surveillance
- Consider suitability for clinical trials
- Management of decompensation

- Hospital based risk factor management – Tertiary Obesity Management Service, Statewide Bariatric Service, Mood and Food Program, QUT Partnership Program (Type II DM)
- No personalised dietetic service for weight loss
- Low risk patients returned for holistic risk factor management in primary care

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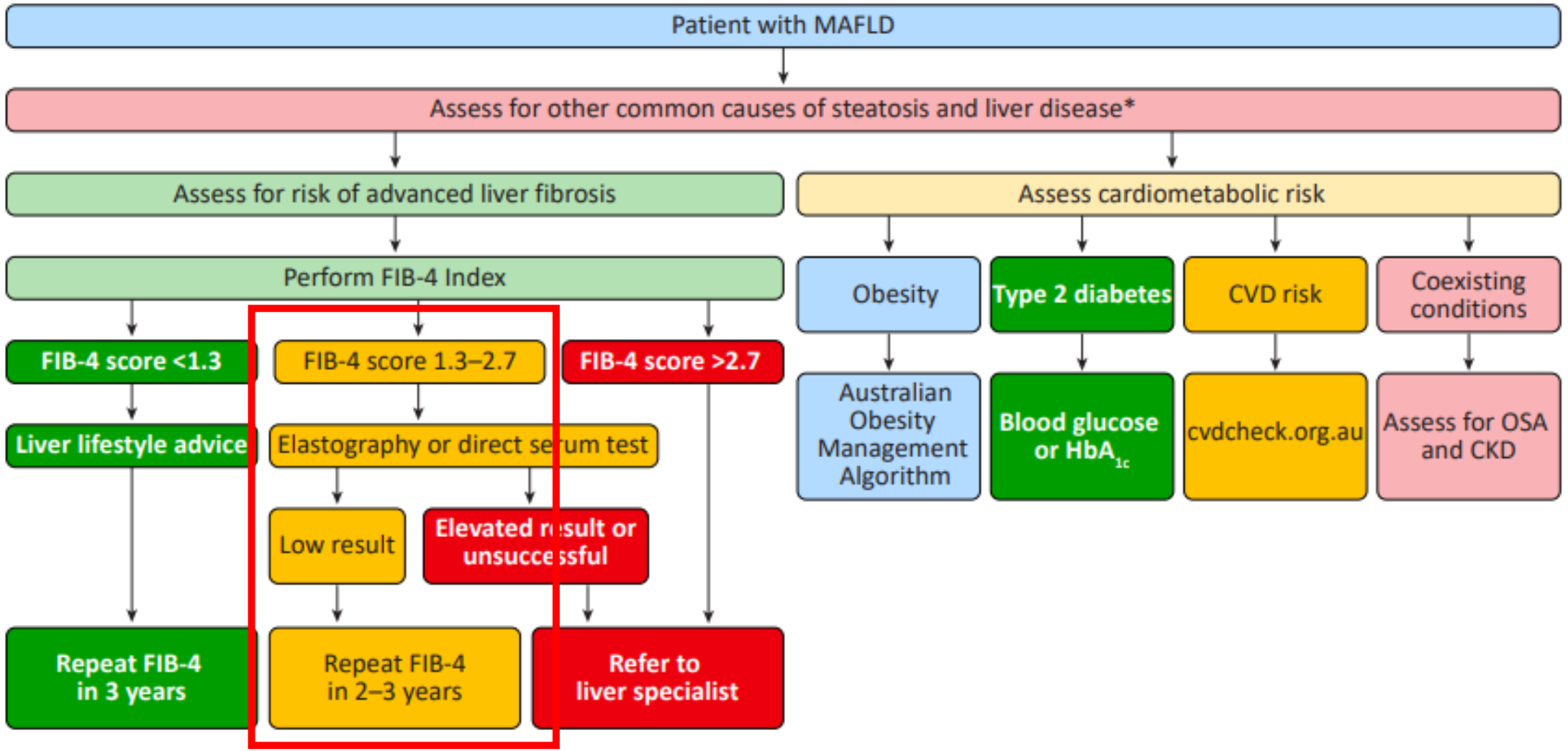

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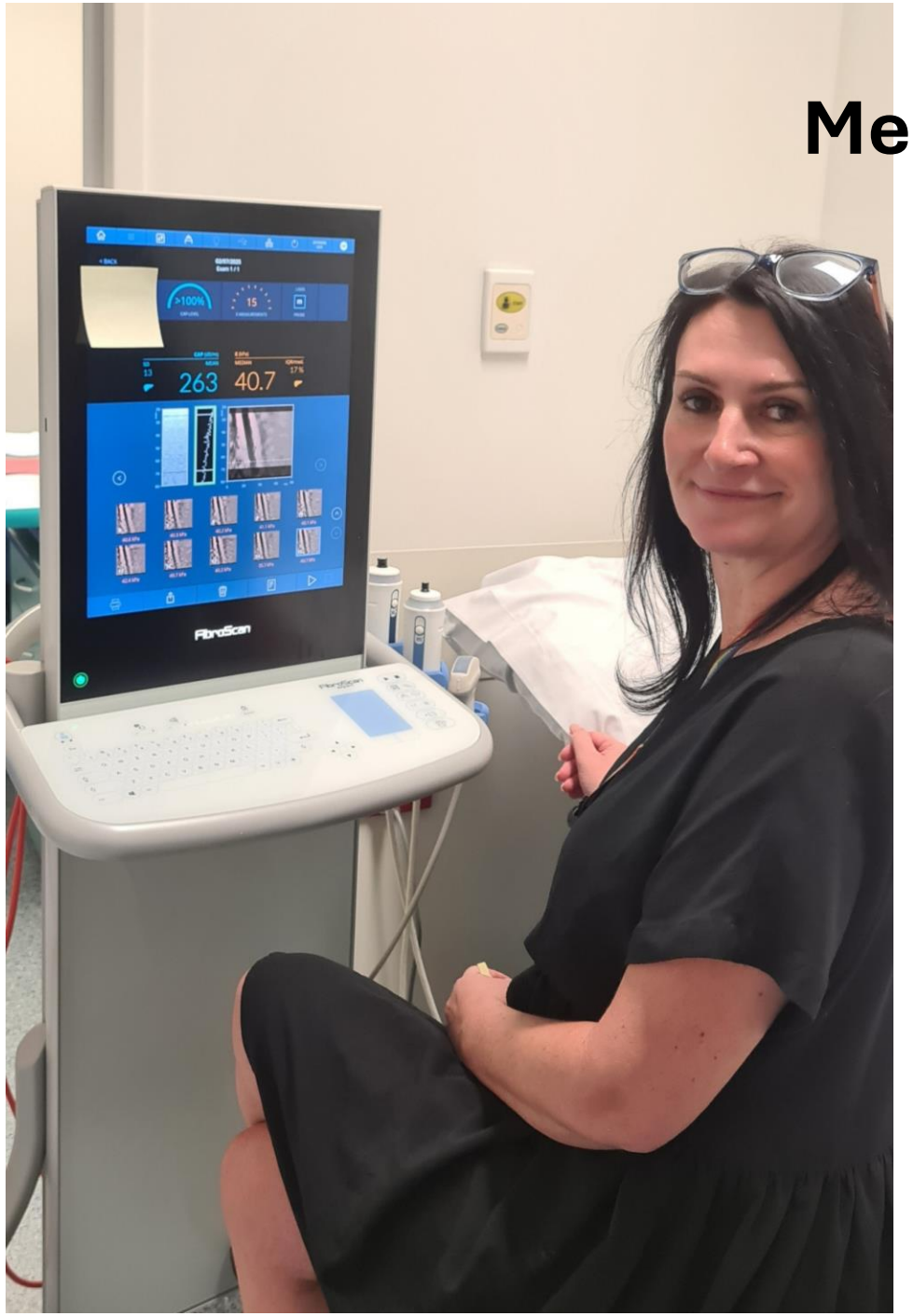
What about the grey zone? About 1/3 of patients

- Need another test
  - Elastography
  - Serum test
  - (repeat FIB4 after intensive risk factor management)
  - Or hepatology assessment

Elastography

- Measures the “stiffness” of liver tissue, correlates with fibrosis – A sonic palpation
- Can be artificially elevated by inflammation, alcoholic hepatitis, recent food, heart failure or cholestasis
- Transient elastography = Fibroscan – used in clinics
- Swear wave elastography – usually available in radiology facilities
- Inter operator variability – the challenges of knowing the local services
- Readings difficult to acquire with abdominal adiposity – failure rate 10-30%
- No medicare rebate

Elastography



Mel

Biomarkers

New noninvasive biomarkers of liver fibrosis the (2017) Enhanced Liver Fibrosis score (ELF score)

Hyaluronic acid (HA)

Procollagen III amino terminal peptide (PIIINP)

Tissue inhibitor of metalloproteinase 1 (TIMP-1)

Run as automated immunoassays using a serum sample

ELF Score^{*T} = 2.278 + 0.851 ln (C_{HA}) + 0.751 ln (C_{PIIINP}) + 0.394 ln (C_{TIMP-1})

- < 7.7: no to mild fibrosis
- ≥ 7.7 — < 9.8: Moderate fibrosis
- ≥ 9.8 — < 11.3: Severe fibrosis
- ≥ 11.3: Cirrhosis

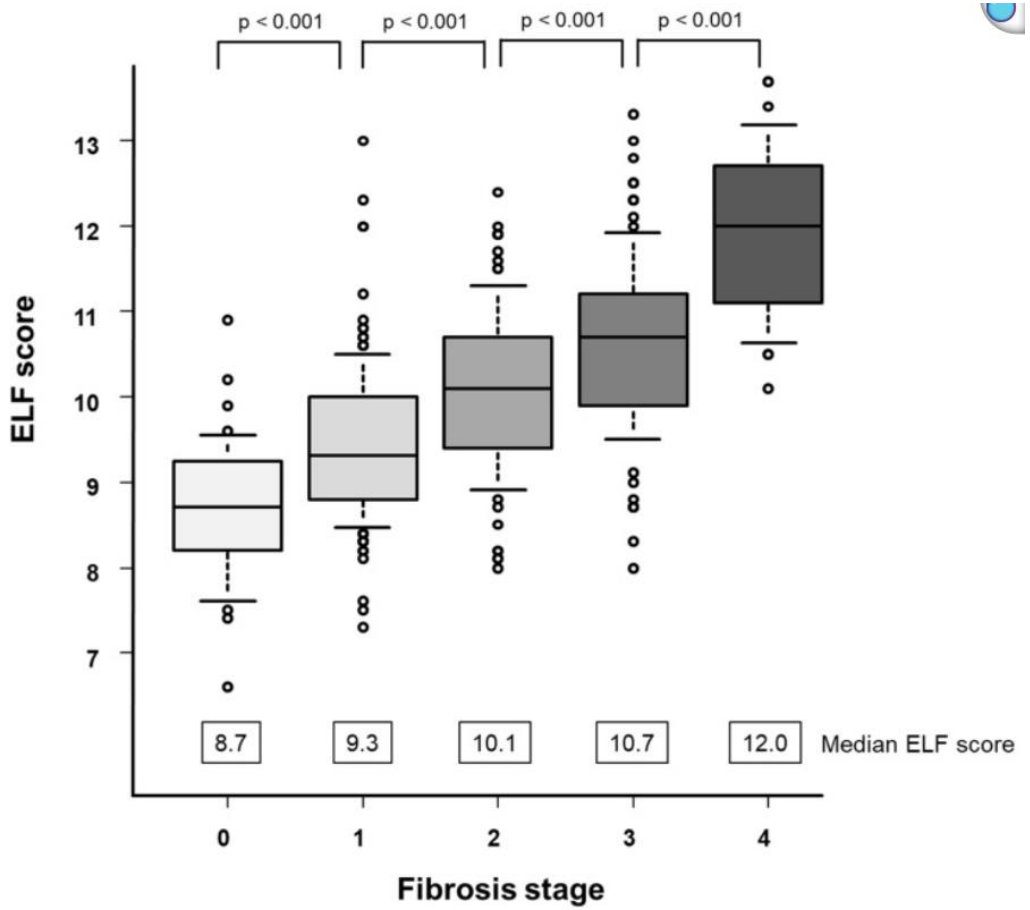
There is still a grey zone!

No medicare rebate

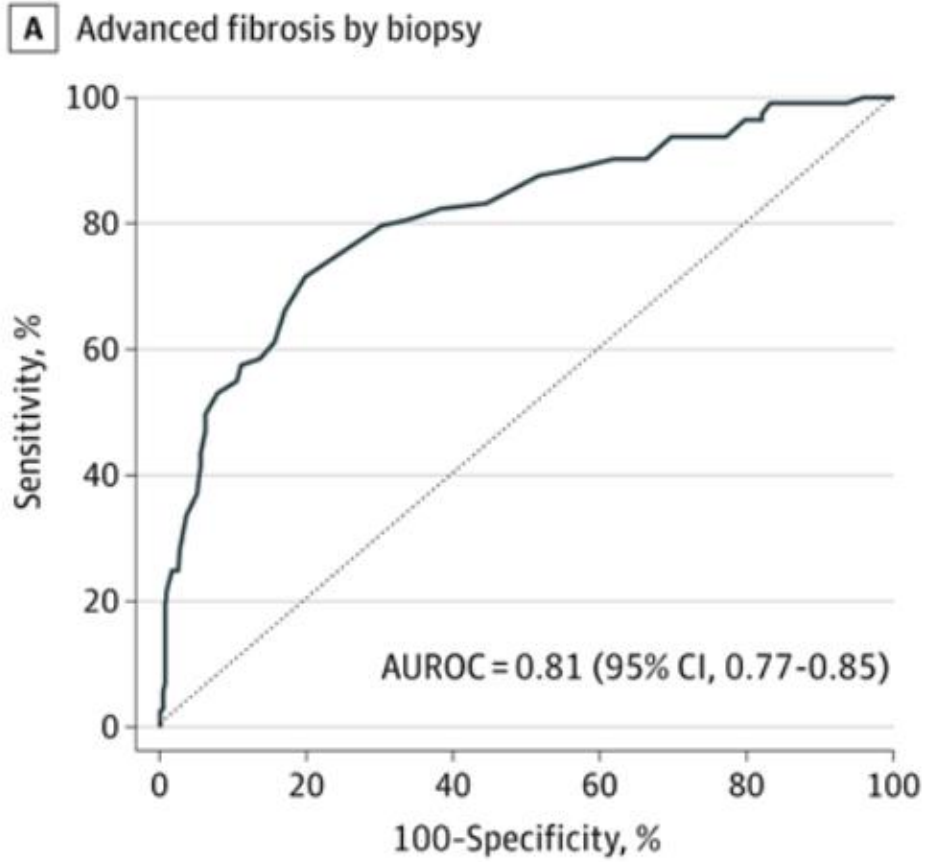
Current cost $233 S+N

Request as “Serum Liver Fibrosis Markers”

ELF score has similar accuracy to elastography

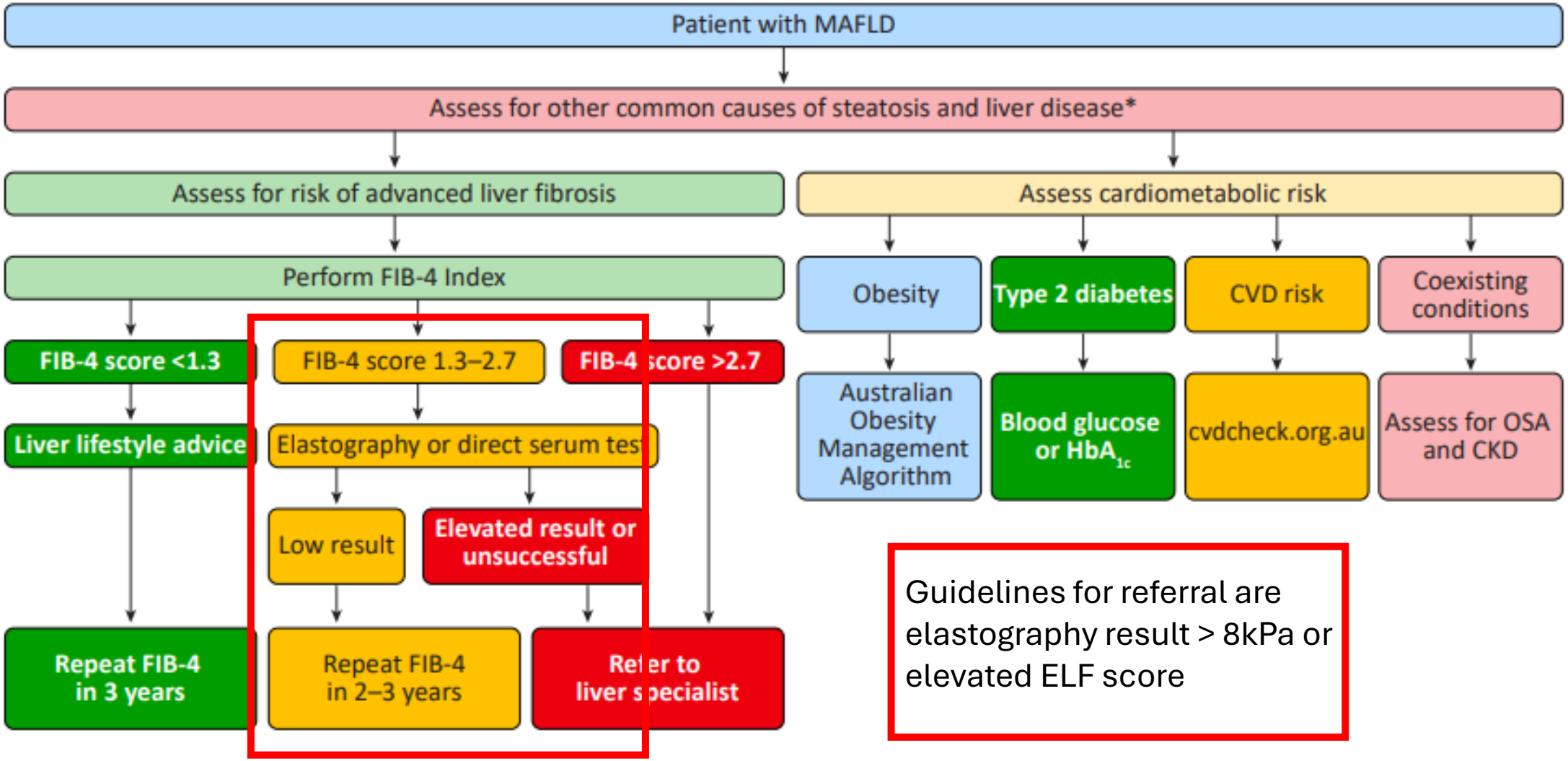


Studied in various biopsied CLD
Tomaki et al, Diagnostics 2022



Study in biopsied MASLD
Younossi et al, JAMA 2021

Figure 2. Assessment algorithm for a patient presenting with MAFLD

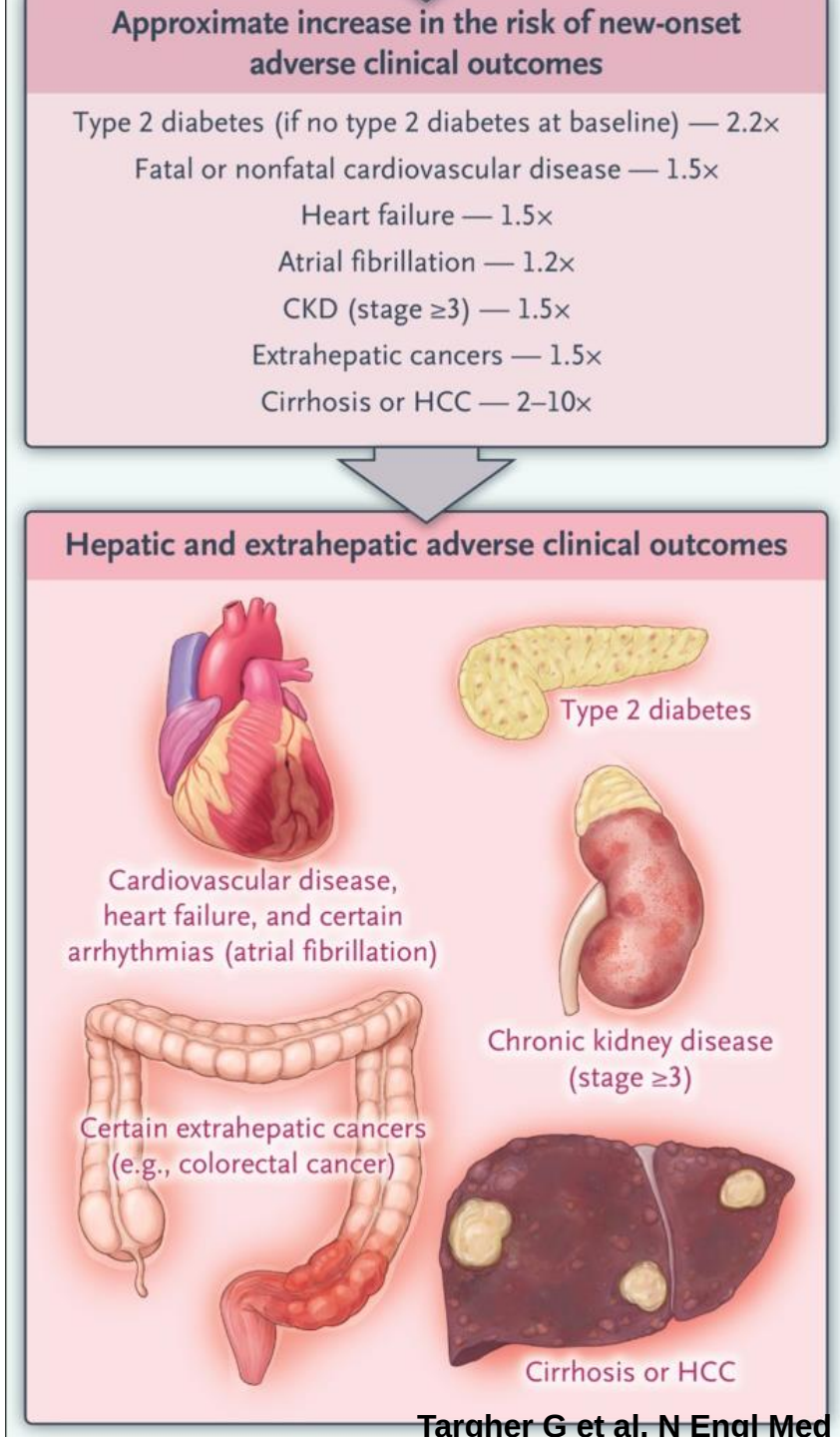


* Evaluate alcohol intake, medications, risk factors for viral hepatitis, and iron overload.

CKD = chronic kidney disease; CVD = cardiovascular disease; FIB-4 = Fibrosis 4; HbA_{1c} = glycated haemoglobin; MAFLD = metabolic dysfunction-associated fatty liver disease; OSA = obstructive sleep apnoea.

OK, so we have diagnosed MASLD and staged the fibrosis. What next?

- This is a multisystem disease
- Treatment revolves around managing all of the risk factors especially the insulin resistance and cardiovascular risks



Targher G et al. N Engl Med 2025;393:683-698

Positive lifestyle modification

Exercise

- Reduces liver fat content
- Reduces ALT
- Improves liver stiffness
- Reduces insulin resistance
- Improves dyslipidemia
- Improves adiponectin levels
- Improves sarcopoenia
- Improvements can occur independent of weight loss, but are heightened by weight loss

- Psychological benefits
- Cardiovascular benefits
- Social engagement
- Sleep benefits

Liu et al, J Obes Metab Syndr 2025

Positive lifestyle modification

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- Cardiovascular benefits
- Social engagement
- Sleep benefits

Continued adherence is more important than exercise type – ideally a combination of aerobic and resistance training

Liu et al, J Obes Metab Syndr 2025

Positive lifestyle modification

Weight reduction

- Clear evidence of benefit from high quality clinical trials
- 5% body weight reduction reduces liver fat
- 7-10% body weight reduction reduces liver inflammation
- >10 % body weight reduction improves fibrosis scores

Studies with follow up out to 24 months tend to show regain and partial deterioration of liver lipid and stiffness scores after lifestyle intervention

Positive lifestyle modification

Dietary intervention

- No clear difference in liver results between low fat vs low carb vs intermittent fasting
- Mediterranean-style diet consistently shows liver and CVS benefits even without weight loss
- Positive association with MASLD and sweet beverages
- Positive association with ultra-processed foods
- Protective effect of coffee consumption

Positive lifestyle modification

Alcohol

- Recommend abstinence from alcohol in cirrhosis
- In noncirrhotic MASLD, hard to recommend any safe level of consumption
- Moderate levels of consumption associated with up to twice the rate of progression in observational studies
- Discuss risks and recommend consumption as low as possible

Jarvis et al, BMJ Open 2022

Pharmacological interventions

Until recently, little evidence for any liver specific pharmacological interventions

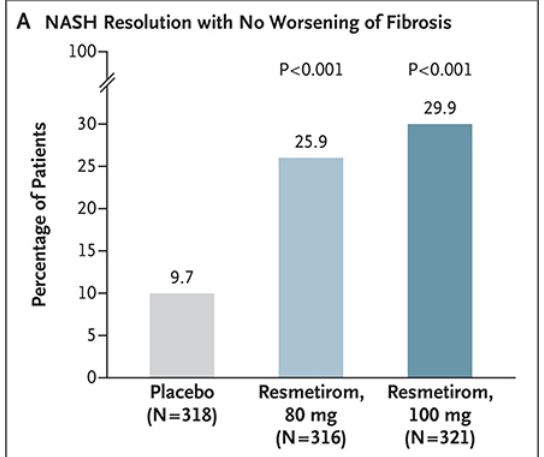
- Resmetirom US TGA approved 2024
- Increasing data for GLP1
- Fibroblast growth factor 21 analogues in clinical trials

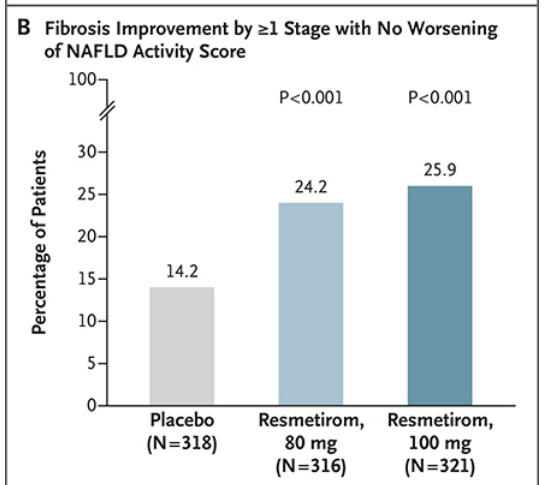
ESTABLISHED IN 1812 FEBRUARY 8, 2024 VOL. 390 NO. 6

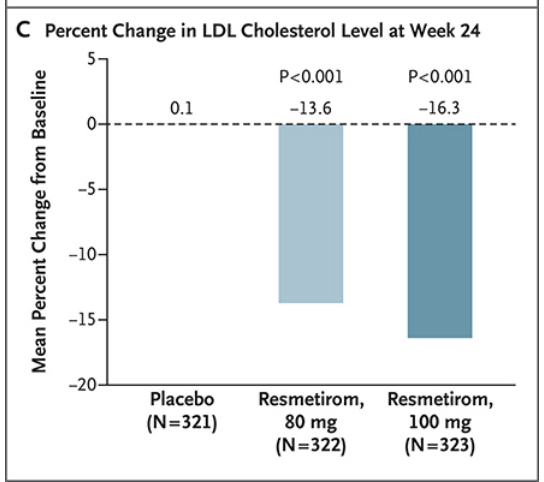
A Phase 3, Randomized, Controlled Trial of Resmetirom in NASH with Liver Fibrosis

S.A. Harrison, P. Bedossa, C.D. Guy, J.M. Schattenberg, R. Loomba, R. Taub, D. Labriola, S.E. Moussa, G.W. Neff, M.E. Rinella, Q.M. Anstee, M.F. Abdelmalek, Z. Younossi, S.J. Baum, S. Francque, M.R. Charlton, P.N. Newsome, N. Lanthier, I. Schiefke, A. Mangia, J.M. Pericàs, R. Patil, A.J. Sanyal, M. Noureddin, M.B. Bansal, N. Alkhouri, L. Castera, M. Rudraraju, and V. Ratziu, for the MAESTRO-NASH Investigators*

- Oral, liver directed, thyroid hormone receptor agonist
- Thyroid hormone in the liver reduces lipogenesis, increases lipophagy and reduces fibrogenesis
- Included F1-F3 patients
- Week 52 data published, trial continues to 5 year
- Improvements in liver fat, fibrosis, LDL
- Side effects diarrhoea, nausea, pruritis

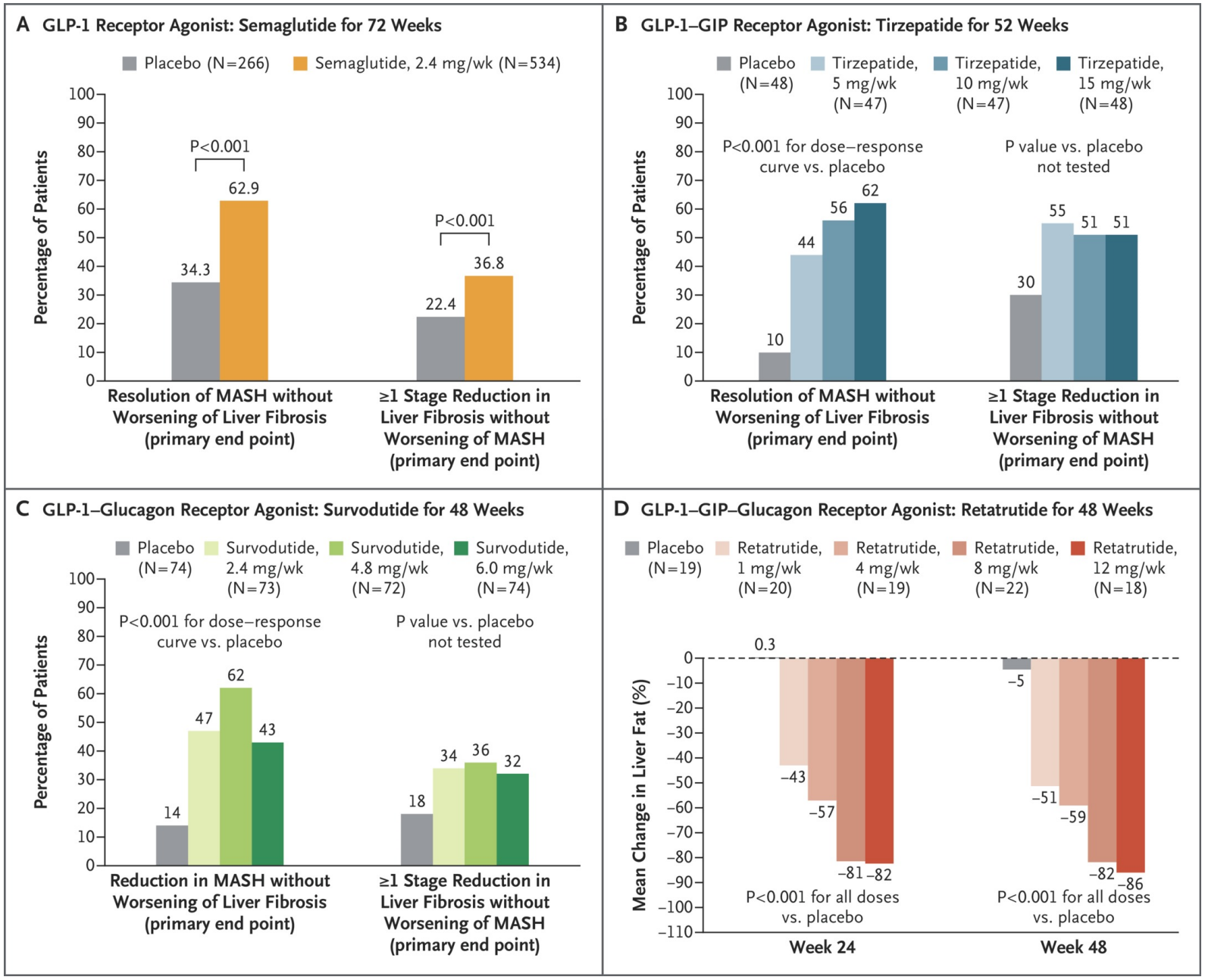






GLP1 agonists

- Improved histology in MASH studies involving semaglutide and tirzepetide (RCT)
- Real world cohort studies show reduction in cirrhosis diagnosis and lower risk of HCC
- Newer agents in the pipeline
- TGA approval is for management of overweight and obesity with comorbidities



Targher G et al. N Engl J Med2025;393:683-698

Fibroblast Growth Factor 21 analogues

- Still in clinical trial stage
- Targeting hepatic lipid metabolism, insulin sensitivity
- May reduce fibrosis stage in F2-3

Clinical Trial > Lancet Gastroenterol Hepatol. 2023 Dec;8(12):1080-1093.
doi: 10.1016/S2468-1253(23)00272-8. Epub 2023 Oct 3.

Safety and efficacy of once-weekly efruxifermin versus placebo in non-alcoholic steatohepatitis (HARMONY): a multicentre, randomised, double-blind, placebo-controlled, phase 2b trial

Stephen A Harrison [1], Juan P Frias [2], Guy Neff [3], Gary A Abrams [4], K Jean Lucas [5], William Sanchez [6], Sudhanshu Gogia [7], Muhammed Y Sheikh [8], Cynthia Behling [9], Pierre Bedossa [10], Lan Shao [11], Doreen Chan [12], Erica Fong [12], Brittany de Temple [12], Reshma Shringarpure [13], Erik J Tillman [12], Timothy Rolph [12], Andrew Cheng [12], Kitty Yale [12]; HARMONY Study Group

Pharmacological interventions

Treating the comorbidities in MASLD

- Obesity
- Type II DM
- Dyslipidemia

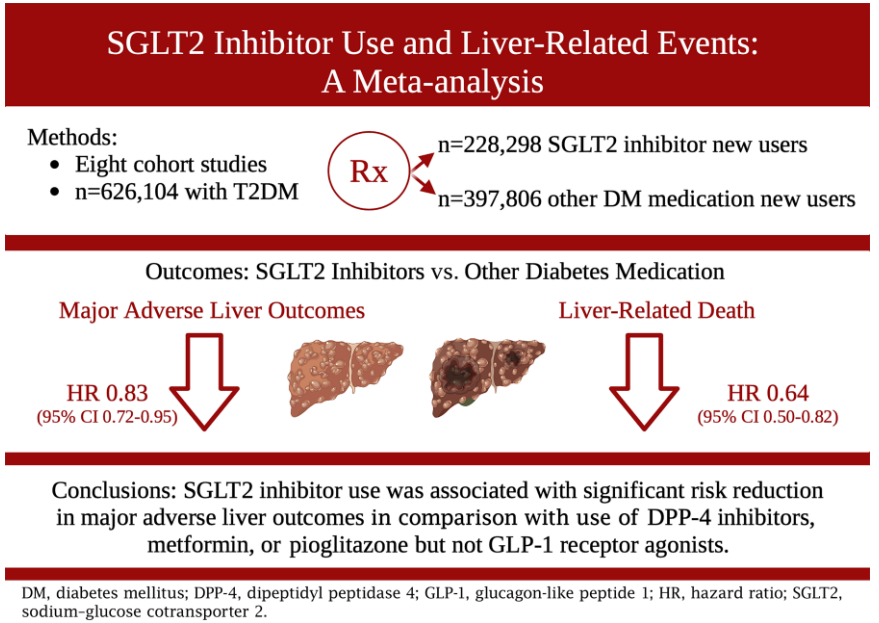
Type II DM

- SGLT2-inhibitors have hepatoprotective effects in Type II DM
- Meta-analysis of cohort studies reassuring
- One RCT assessing histological end points at 48 weeks showing improvements

Sodium–Glucose Cotransporter 2 Inhibitor Use and Risk of Liver-Related Events in Patients With Type 2 Diabetes: A Meta-analysis of Observational Cohort Studies

Alessandro Mantovani, Riccardo Morandin, Maria Giovanna Lando, Veronica Fiorio, Grazia Pennisi, Salvatore Petta, Norbert Stefan, Herbert Tilg, Christopher D. Byrne, and Giovanni Targher

Diabetes Care 2025;48(6):1042–1052 | https://doi.org/10.2337/dc25-0282



DM, diabetes mellitus; DPP-4, dipeptidyl peptidase 4; GLP-1, glucagon-like peptide 1; HR, hazard ratio; SGLT2, sodium-glucose cotransporter 2.

Randomized Controlled Trial › BMJ. 2025 Jun 4:389:e083735. doi: 10.1136/bmj-2024-083735.

Effect of dapagliflozin on metabolic dysfunction-associated steatohepatitis: multicentre, double blind, randomised, placebo controlled trial

Jiayang Lin [1 2 3 4], Yan Huang [5 3 4], Bingyan Xu [1 2 3 4], Xuejiang Gu [6], Junlin Huang [1 2 3 4], Jia Sun [7], Lijing Jia [8], Jiang He [9 10], Chensihan Huang [1 2 3 4], Xueyun Wei [1 2 3 4], Jinjun Chen [11], Xiaomin Chen [12], Jingping Zhou [13], Lixian Wu [14], Peizhen Zhang [15 2 3 4], Yaxin Zhu [8], Huimin Xia [6], Ge Wen [16], Yating Liu [1 2 3 4], Shiqun Liu [1], Yanmei Zeng [1], Lin Zhou [1], Hongxia Jia [1], Hua He [17], Yaoming Xue [1], Fenglin Wu [1], Huijie Zhang [15 2 5 3 4]

Metformin

- Weight neutral
- No high quality evidence that improves MASLD histology but may be useful
- No indication for discontinuation unless decompensation or renal failure

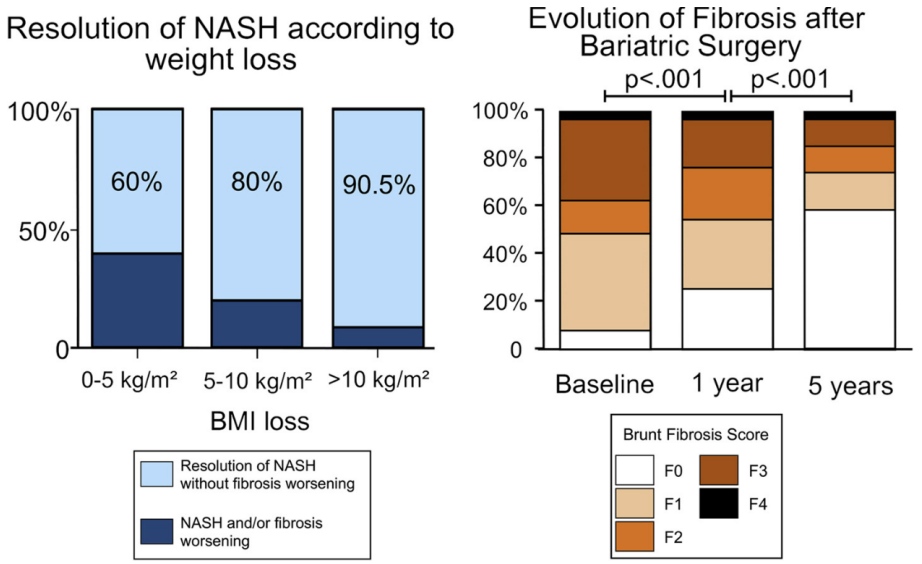
Dyslipidemia – Statins are safe

- No increased risk of hepatotoxicity in MASLD
- Undertreatment is frequent, vascular disease is the commonest cause of death in those without advanced fibrosis
- Observational studies suggest benefits in liver outcomes but no RCT with histological end points

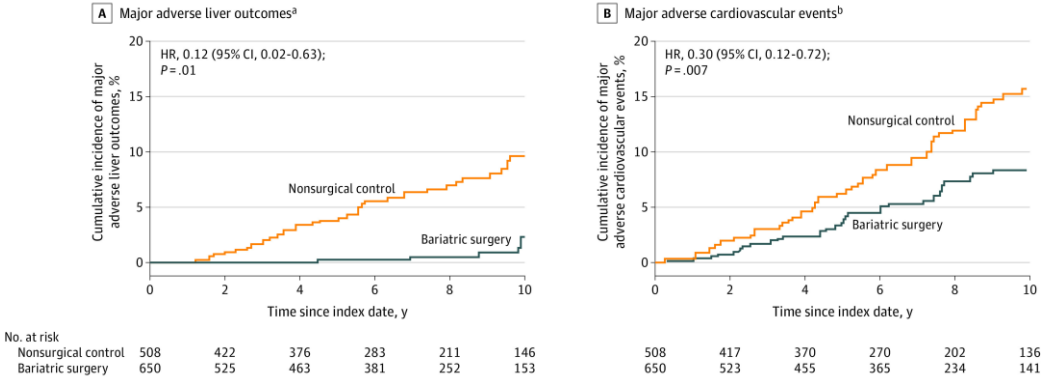
Chalasani et al, Gastro 2004
El-Serag eg al Gastro 2009
Blais et al, Dig Dis Sci 2016

Surgical Interventions

- Bariatric surgery (when indicated) can be associated with long term improvements in MASLD histology
- Prospective (non RCT) studies show improved liver outcomes
- Beware of established cirrhosis and alcohol risks



*single centre, patients with severe obesity
Lassalilly et al, Gastro 2020



*baseline MASH F1-3, non randomised
Aminean et al, JAMA 2021

Hepatocellular Carcinoma

- Rapidly increasing in incidence, 5 year survival low
- Cirrhotic patients should be in a surveillance program unless not appropriate for age and stage
- Non-cirrhotic HCC is “a thing” especially in older, diabetic males
- Incidence doesn’t warrant surveillance, but lesions should be investigated (multiphase CT or MRI)
- Normal AFP doesn’t rule out malignancy

2024

Figure 1: Hepatocellular carcinomas cases diagnosed and incidence rates
Persons, All ages, 2001 to 2020

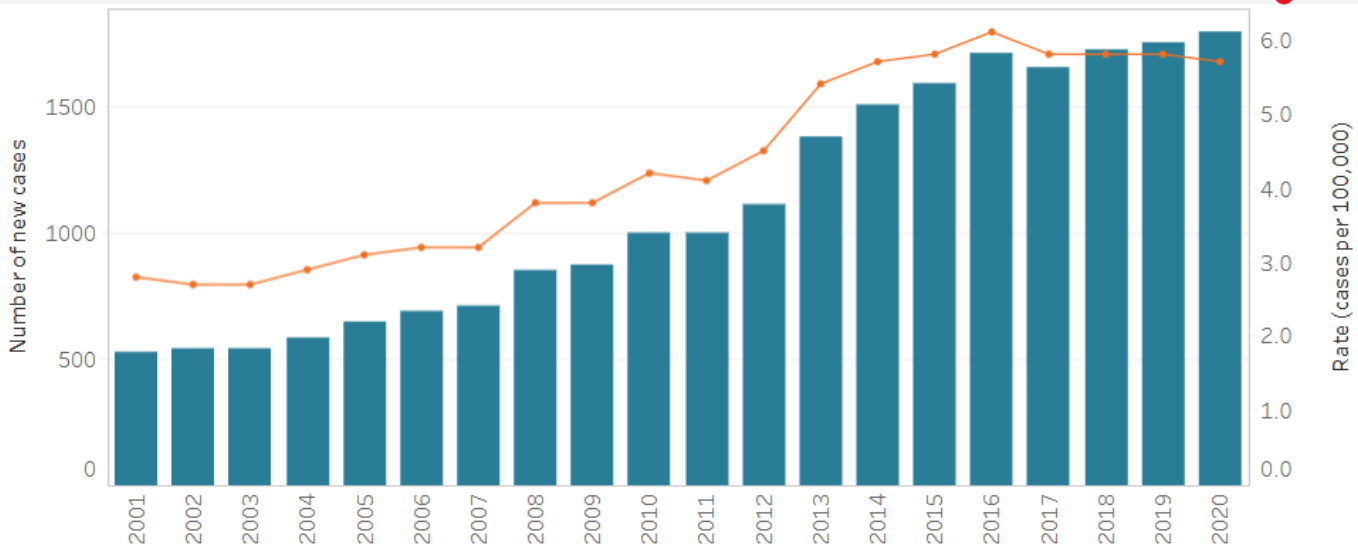


Figure 1 provides the number of cases and rates for the selected cancer

AIHW
Australian Institute of Health and Welfare (2024) *Cancer data in Australia*, AIHW, Australian Government, accessed 05 October 2025.

Summary

- MASLD is the liver manifestation of the metabolic syndrome and reflects a multisystem disease
- Common and becoming more common
- Assess for other causes of liver dysfunction and address these
- Assess fibrosis stage to risk stratify – FIB4 +/- other tests
- Manage the risk factors – physical activity, diet quality, weight, insulin resistance, dyslipidemia, smoking
- Liver specific treatments are coming but patients need multisystem care
- General Practice is vital for the holistic risk factor management, preventative care needed for this condition
- Who to refer?

Summary

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- Liver specific treatments are coming but patients need multisystem care
- General Practice is vital for the holistic risk factor management, preventative care needed for this condition
- Who to refer?
  - **Uncertainty re diagnosis**
  - **Uncertainty re fibrosis stage**
  - **Advanced fibrosis**

Patient support and resources

GE Society Australia
https://www.gesa.org.au/resources/patient-resources/

GESA
Gastroenterological Society of Australia

Information about

Fatty Liver Disease

Shvdlovski | Shutterstock.com

What is fatty liver disease?

"Fatty liver disease" is a condition where fat builds up 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 affects about a third of Australian adults.

What are the symptoms?

Most people don't have any symptoms. Fatty liver sometimes causes abdominal (belly) pain and fatigue (tiredness), but this is rare. It doesn't cause nausea or intolerance to fatty foods.

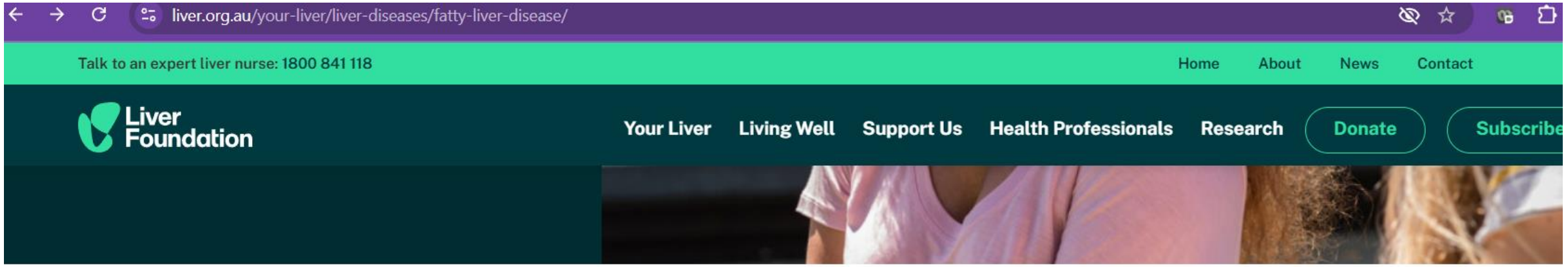
Why does fatty liver need treatment?

What is MAFLD?

Metabolic (dysfunction)-associated fatty liver disease (MAFLD), which used to be known as non-alcoholic fatty liver disease (NAFLD), is the most common form of fatty liver disease. It can range in severity from mild, with no inflammation (damage), to severe, with inflammation in

Patient support and resources

Australian Liver Foundation (https://liver.org.au/)



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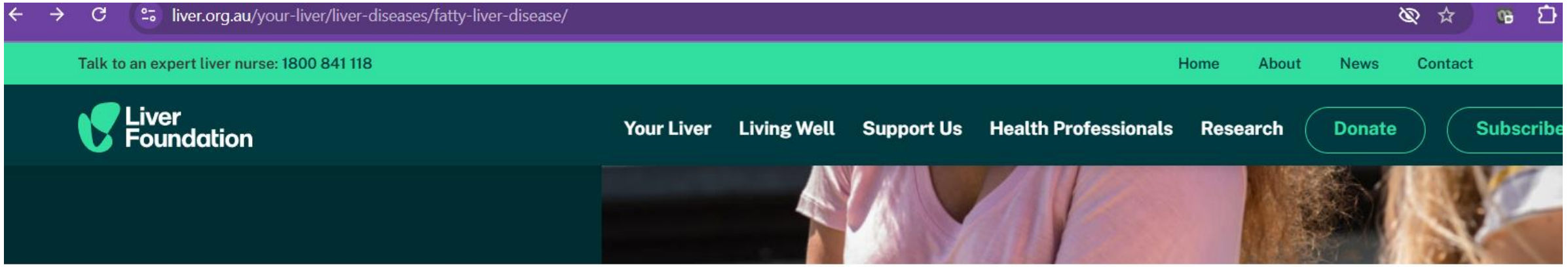


Fatty Liver

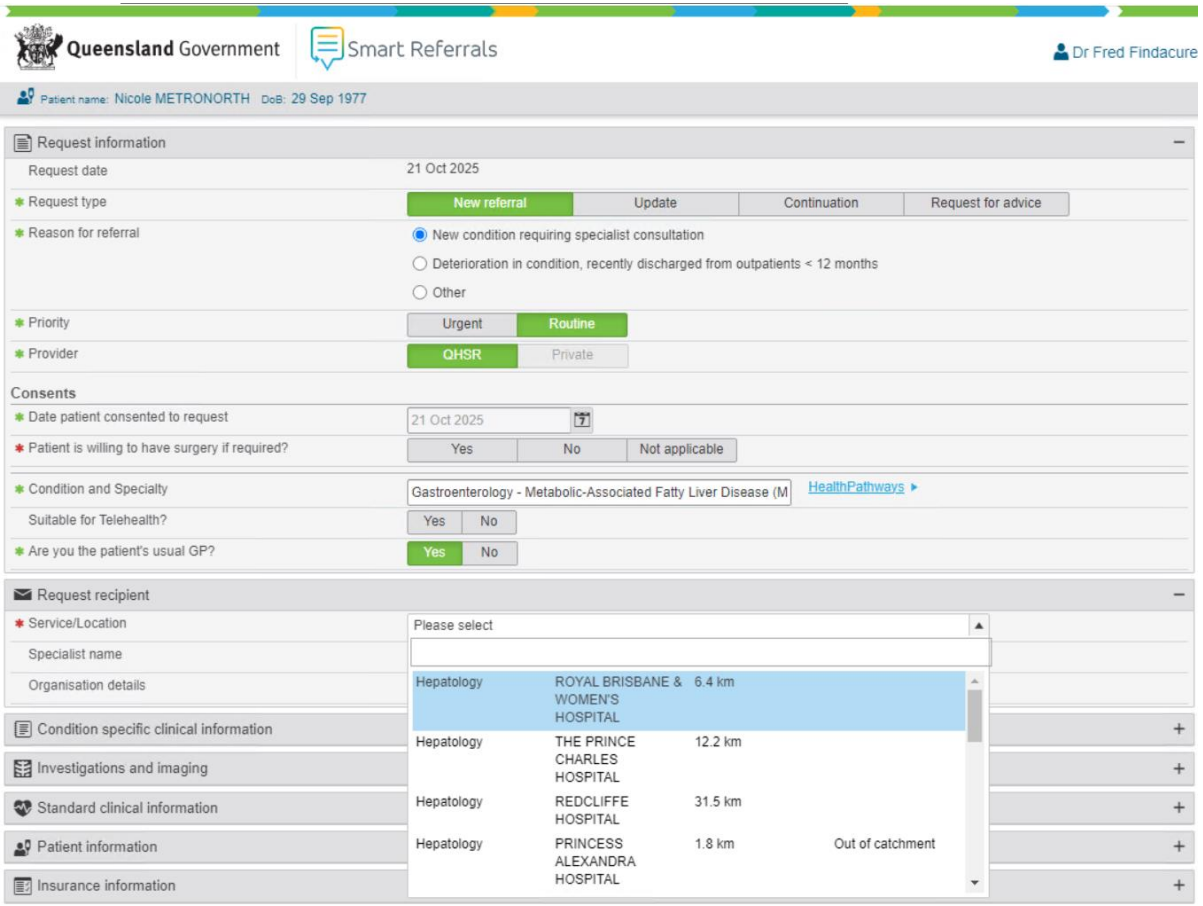
See also Abnormal Liver Function Tests.

Background

About fatty liver

Assessment

1. Consider fatty liver in a patient with an incidental finding of non-specific elevated liver enzymes or hepatic steatosis on ultrasound.
2. Take a history:
   - Check for signs and symptoms of liver disease.
   - Consider risk factors for metabolic dysfunction-associated fatty liver disease (MAFLD) and related co-morbidities.
   - Assess alcohol consumption and other lifestyle factors e.g., physical activity, smoking, diet.
   - People with obesity and MAFLD should be assessed in accordance with the Australian Obesity Management Algorithm.
3. Examination:
   - Check vital signs.
   - Measure height and weight and calculate BMI.
   - Check abdomen for:
     - hepatomegaly (reflecting chronic liver disease)
     - a hard, irregular liver outline (reflecting cirrhosis)
     - splenomegaly or ascites (reflecting portal hypertension)
     - masses (reflecting hepatocellular carcinoma (HCC))
     - tenderness (suggestive of pathology other than MAFLD)
   - Examine for signs of severe liver disease.
4. Investigation:
   - Arrange baseline investigations.
   - Arrange further investigations if indicated to exclude other causes of liver disease e.g., hepatitis B (HBV), hepatitis C (HCV), haemochromatosis, autoimmune liver disease. See also Abnormal Liver Function Tests.
5. Diagnose MAFLD – presence of hepatic steatosis (with ultrasound the first line test to diagnose steatosis) plus with one of the following:
   - Overweight or obesity (defined as BMI ≥ 25kg/m^2 in Caucasians, or BMI ≥ 23 kg/m^2 in Asians)
   - Type 2 diabetes
   - Lean/normal weight with the presence of at least 2 metabolic risk abnormalities.



Metabolic Dysfunction-Associated Fatty Liver Disease (MAFLD) also MASLD, formerly NAFLD

Emergency department referrals

All urgent cases must be discussed with the on call Registrar to obtain appropriate prioritisation and treatment. Contact through:

- Royal Brisbane and Women's Hospital (07) 3646 8111
- The Prince Charles Hospital (07) 3139 4000
- Redcliffe Hospital (07) 3883 7777
- Caboolture Hospital (07) 5433 8888

Urgent cases accepted via phone must be accompanied with a written referral and a copy faxed immediately to the Central Patient Intake Unit: 1300 364 952.

Potentially life-threatening symptoms suggestive of:

- Acute severe GI bleeding
- Acute liver failure: (acutely abnormal liver blood tests in absence of cirrhosis, associated with development of coagulopathy and hepatic encephalopathy)
- Sepsis in a patient with cirrhosis
- Severe encephalopathy in a patient with liver disease
- New significant renal dysfunction in a patient with cirrhosis

Does your patient wish to be referred?

Minimum referral criteria

Does your patient meet the minimum referral criteria?

Category 1
Appointment within 30 days is desirable

- MAFLD with **concerning features**
  - Evidence of liver decompensation (e.g. jaundice and/or ascites and/or encephalopathy)

Other Hepatology conditions

Send referral

Hotline: 1300 364 938

Electronic:
GP Smart Referrals (preferred)
eReferral system templates
Medical Objects ID: MQ40290004P
HealthLink EDI: qldmnhhs

Mail:
Metro North Central Patient Intake
Aspley Community Centre
776 Zillmere Road
ASPLEY QLD 4034

Health pathways

Access to Health Pathways is free for clinicians in Metro North Brisbane.

For login details email:
healthpathways@brisbanenorthphn.org.au

Login to Brisbane North Health Pathways:
brisbanenorth.healthpathwayscommunity.org

Locations

Caboolture Hospital
Redcliffe Hospital