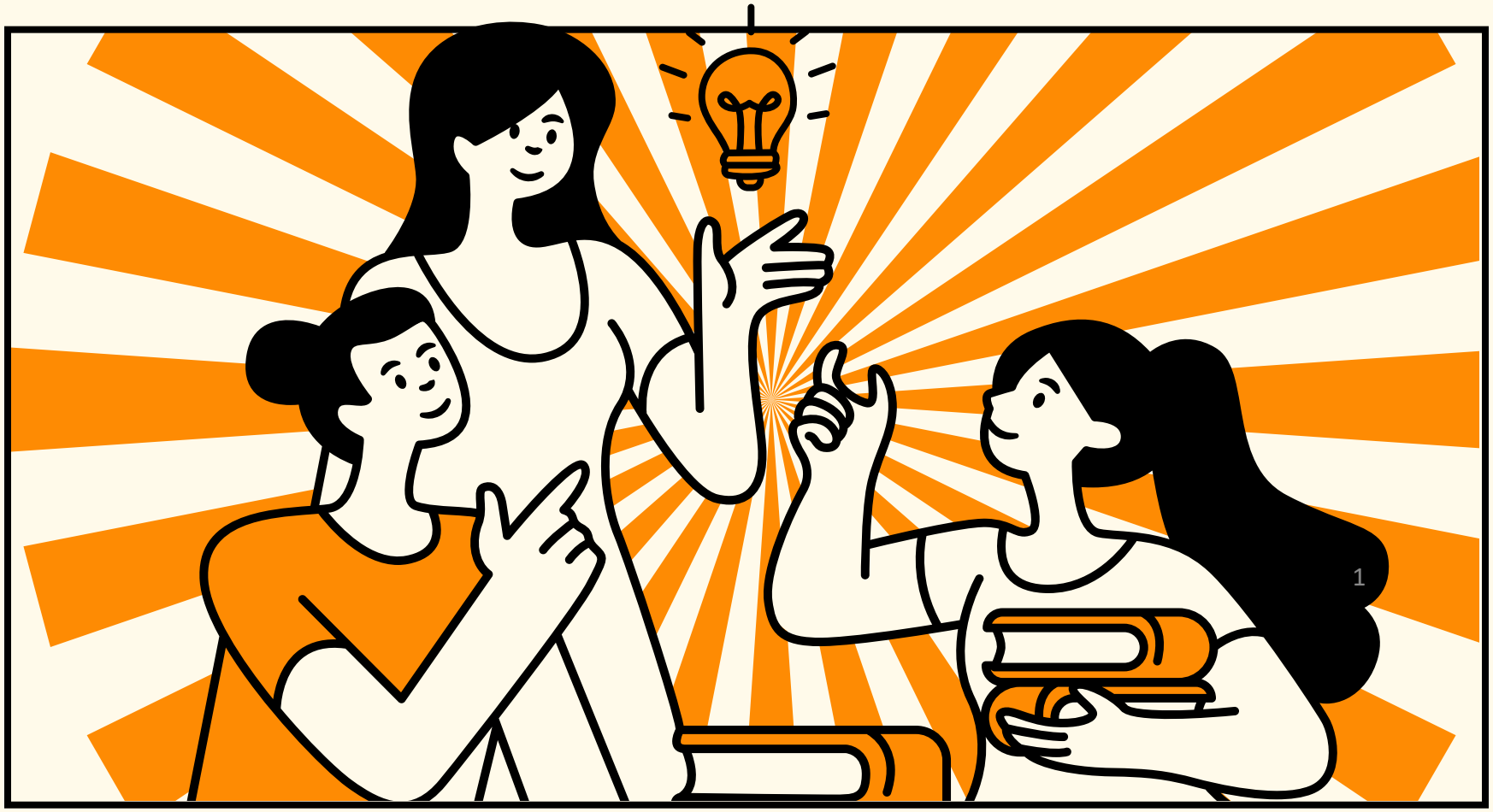
JOURNAL CLUB

01

TOGETHER, WE CAN LEARN FROM EACH OTHER



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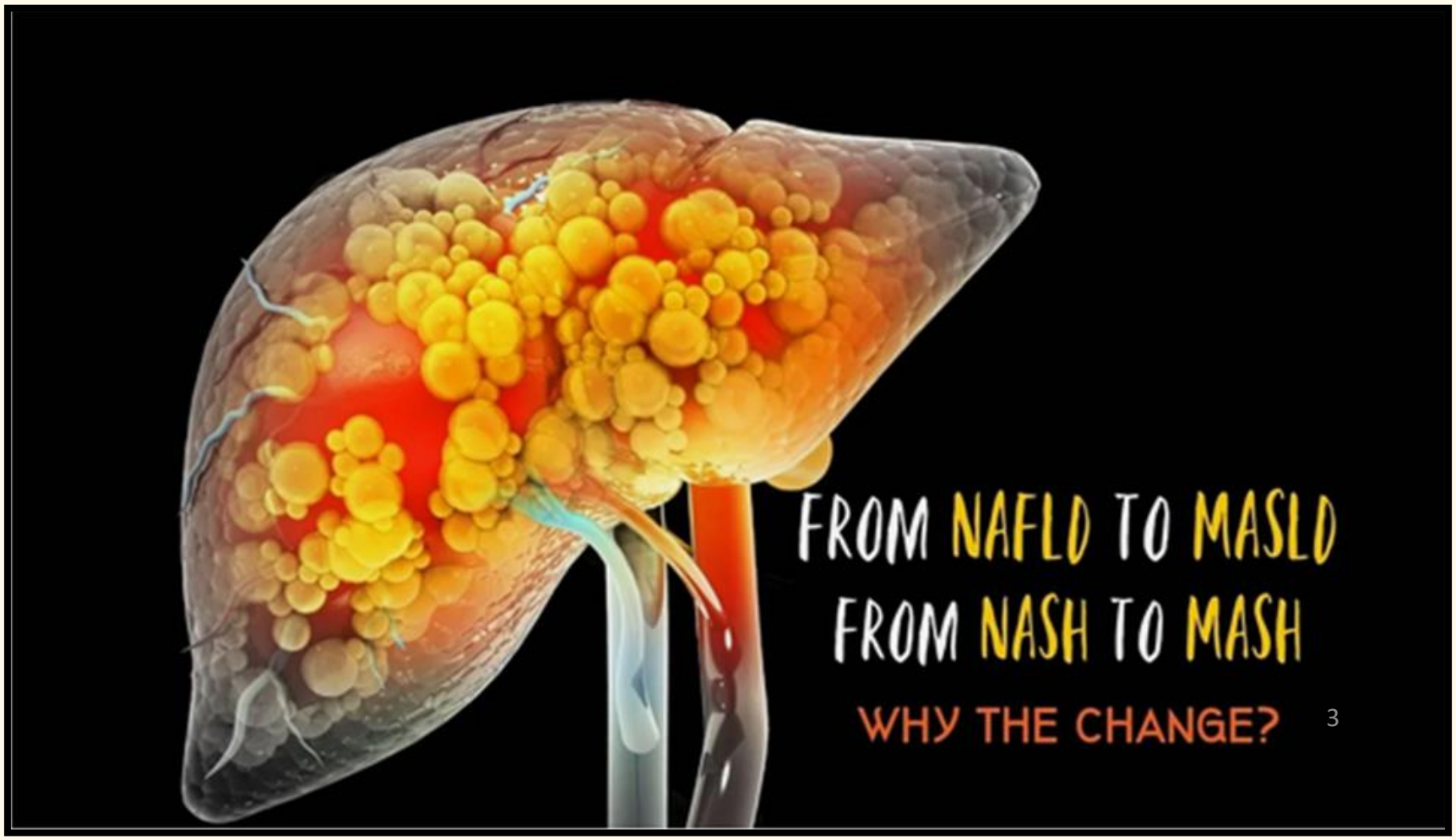
SEE YOU!

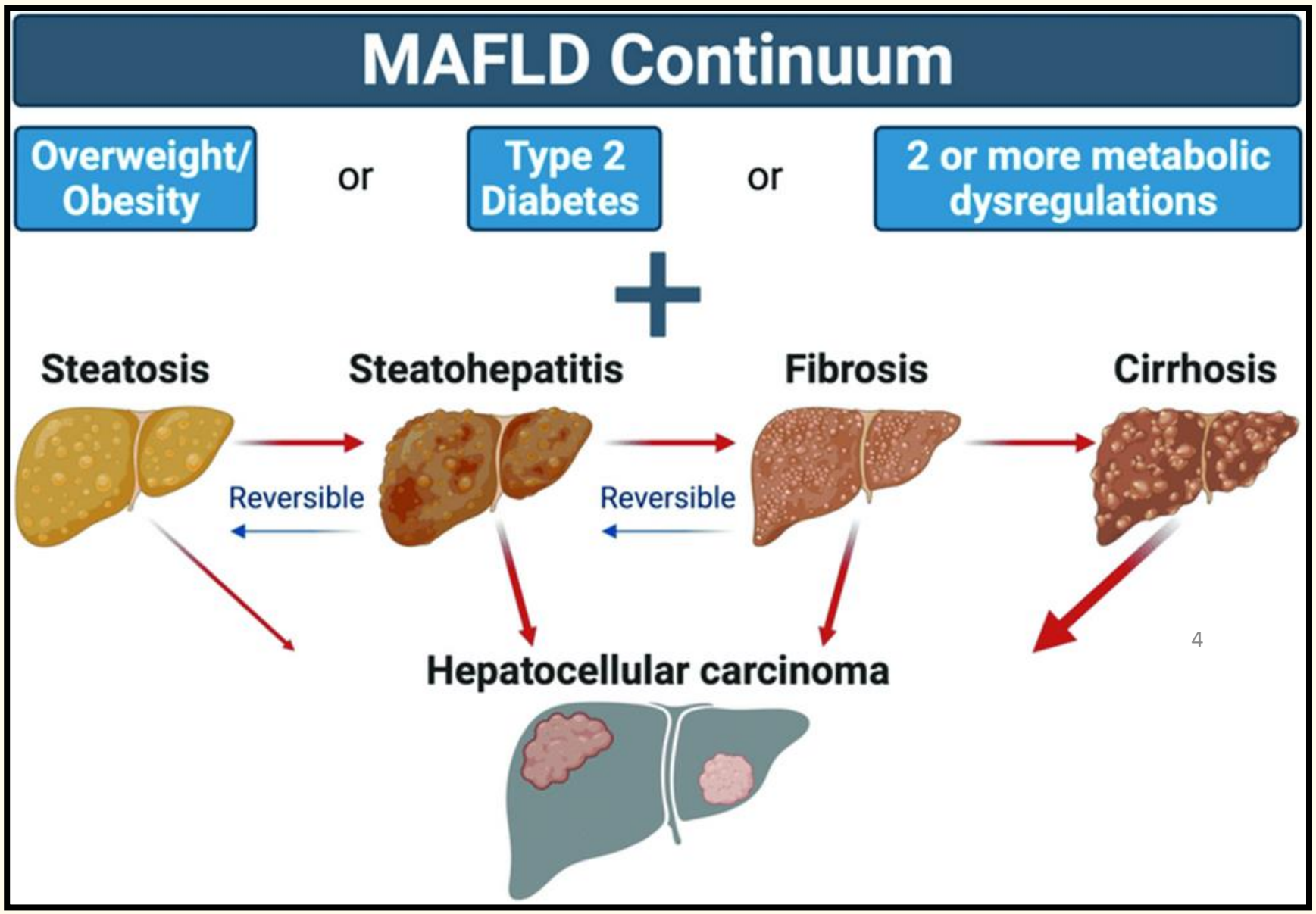
EASL–EASD–EASO Clinical Practice Guidelines on the management of metabolic dysfunction-associated steatotic liver disease (MASLD)☆

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)

MASLD



MASLD spectrum



Risk Factors

- Obesity
- T2D
- Dyslipidemia and hypertension
- OSA and PCOS
- Post-menopausal women
- Ethnicity
- Smoking

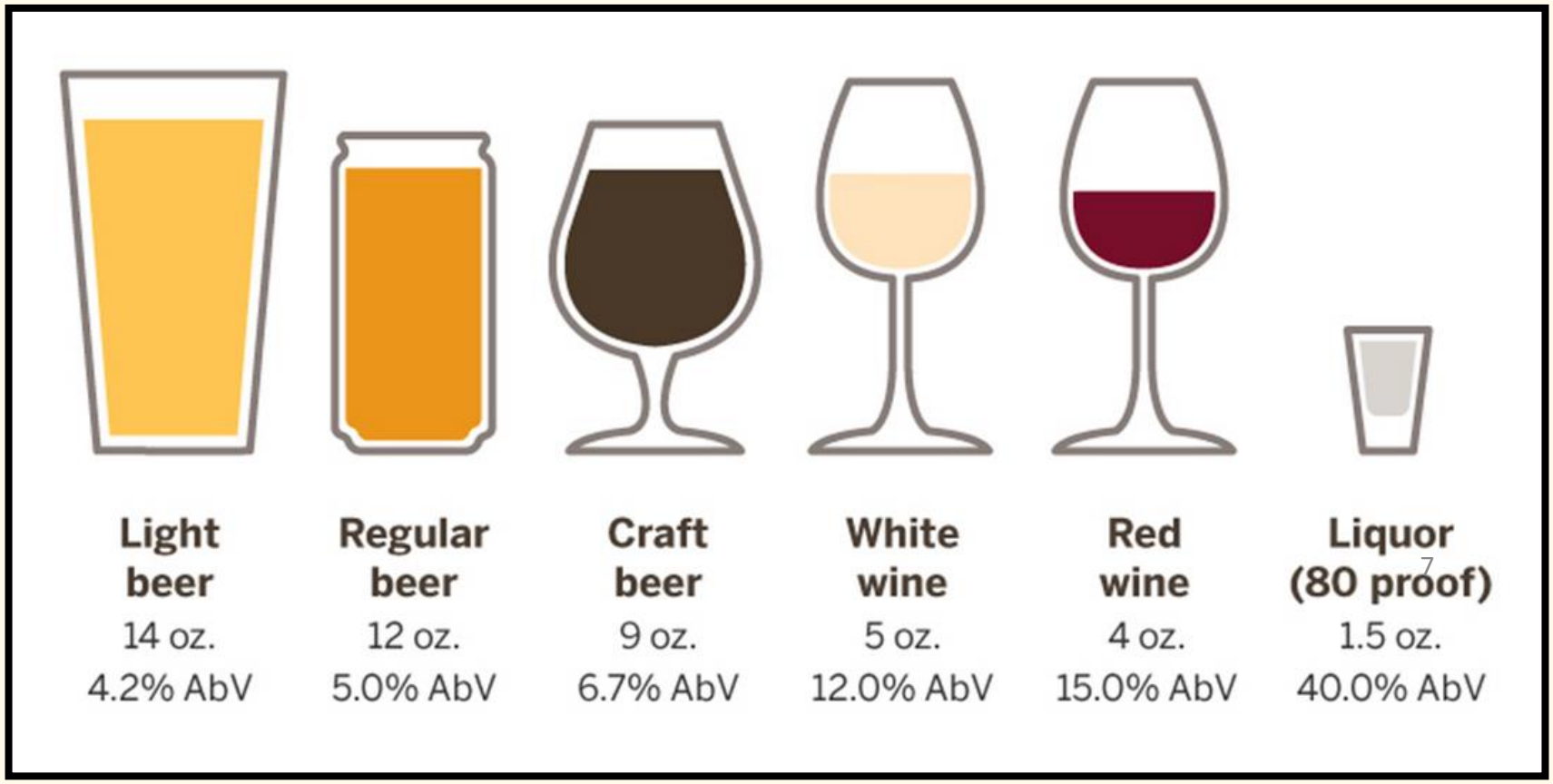
Risk Factors

Table 3. Cardiometabolic risk factors in the definition of MASLD.[2]

Metabolic risk factor	Adult criteria
Overweight or Obesity	Body mass index ≥25 kg/m^2 (≥23 kg/m^2 in people of Asian ethnicity) Waist circumference • ≥94 cm in men and ≥80 cm in women (Europeans) • ≥90 cm in men and ≥80 cm in women (South Asians and Chinese) • ≥85 cm in men and ≥90 cm in women (Japanese)
Dysglycaemia or type 2 diabetes	Prediabetes: HbA_{1c} 39-47 mmol/mol (5.7-6.4%) or fasting plasma glucose 5.6-6.9 mmol/L (100-125 mg/dl) or 2-h plasm glucose during OGTT 7.8-11 mmol/L (140-199 mg/dl) *or* Type 2 diabetes: HbA_{1c} ≥48 mmol/mol (≥6.5%) or fasting plasma glucose ≥7.0 mmol/L (≥126 mg/dl) or 2-h plasma glucos during OGTT ≥11.1 mmol/L (≥200 mg/dl) *or* Treatment for type 2 diabetes
Plasma triglycerides	≥1.7 mmol/L (≥150 mg/dl) *or* lipid-lowering treatment
HDL-cholesterol	≤1.0 mmol/L (≤39 mg/dl) in men and ≤1.3 mmol/L (≤50 mg/dl) in women *or* lipid-lowering treatment
Blood pressure	≥130/85 mmHg *or* treatment for hypertension

HbA1c, glycated haemoglobin; HDL, high-density lipoprotein; OGTT, oral glucose tolerance test.

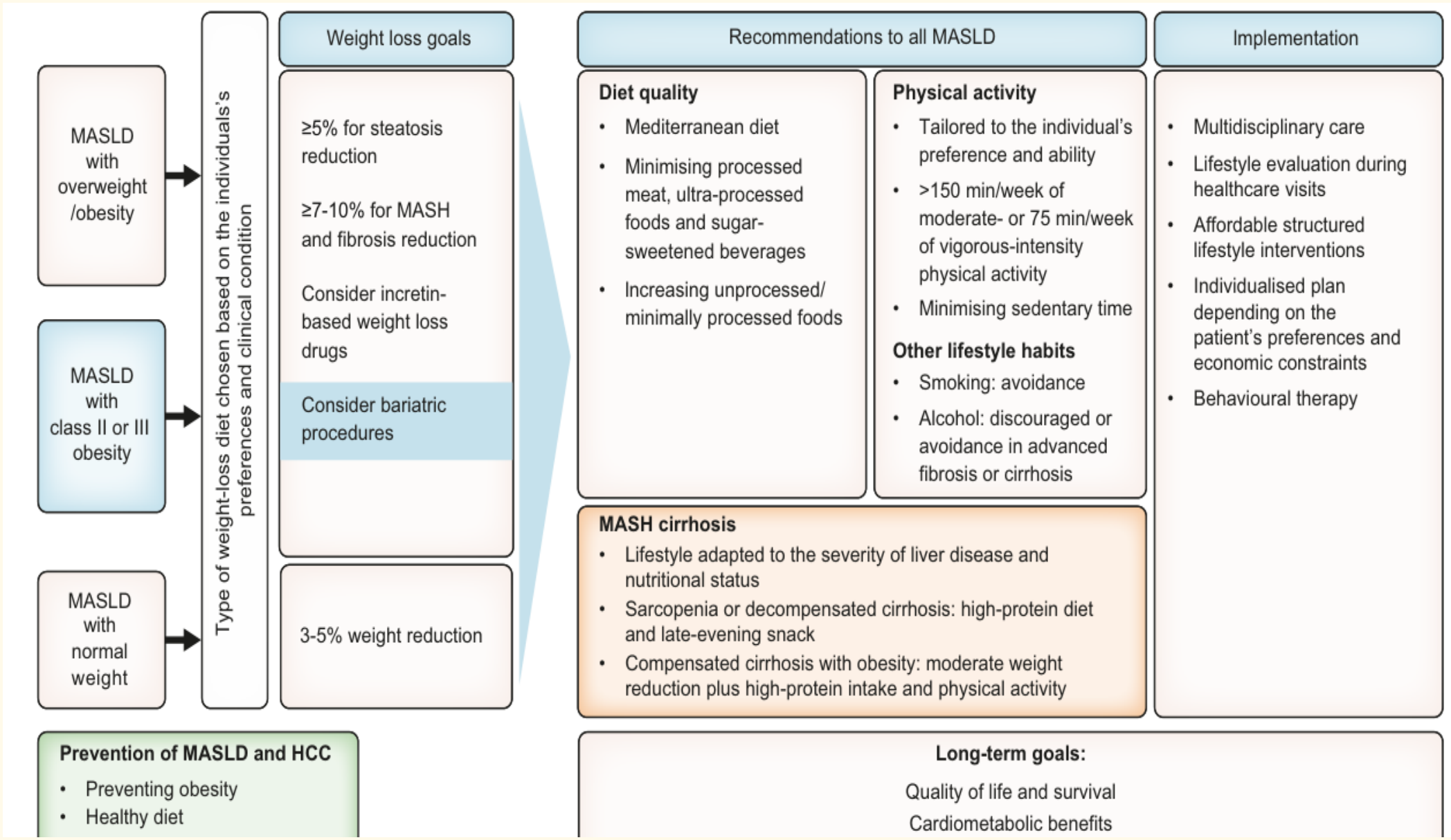
How can alcohol consumption effect MASLD



What are non pharmacological measures to prevent MASLD

- Diet Quality
- Physical Activity
- Smoking Cessation

What are non pharmacological measures to prevent MASLD



Diagnosis of MASLD: A Multi-Step Approach

This multi-step process begins with evaluating those at risk:

1. Type 2 Diabetes (T2D)
2. Abdominal obesity and at least one additional metabolic risk factor
3. Persistently elevated liver enzymes

Step 1: FIB-4 Test

- FIB-4 < 1.3: Indicates a low risk of advanced fibrosis, and these individuals may be re-assessed every 1-3 years.

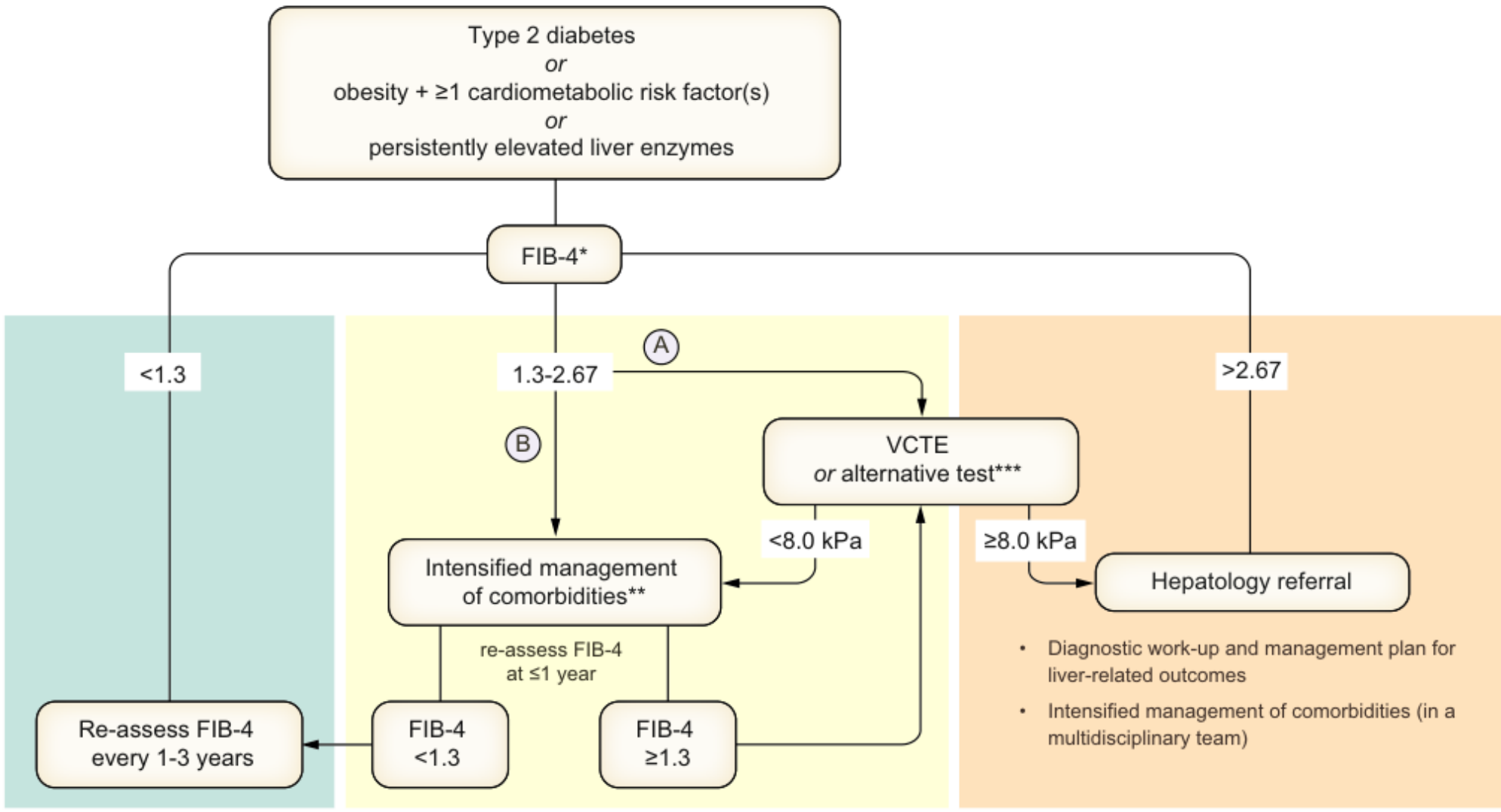
- FIB-4 > 2.67 (or > 2.0 in individuals aged > 65 years): Increased risk of advanced fibrosis.

- **FIB-4 between 1.3 and 2.67: In this scenario, two options are recommended based on the patient's medical history, clinical context, and available resources:**

Option 1: Proceed to Liver Elastography (e.g., VCTE) This option is particularly recommended if the FIB-4 value is close to 2.67 or the individual has high-risk conditions.

Option 2: 1-Year Intervention of Lifestyle Changes and Intensified Management of Cardiometabolic Risk Factors If the re-tested FIB-4 level remains elevated after a year, elastography is then recommended.

Step 1: FIB-4 Test



Step 2: Liver Elastography or Blood Tests for Collagen Components

- Liver Elastography: VCTE assesses liver stiffness, providing a reliable estimation of fibrosis.
- Blood Tests for Collagen Components: Enhanced Liver Fibrosis (ELF) test, can be used to detect advanced liver fibrosis.[13]

Non-Invasive Scores:

- FIB-4
- APRI (AST to platelet ratio index)
- NFS (NAFLD fibrosis score)
- ELF Test
- ADAPT (Age, Diabetes, PRO-C3, and Platelet count)
- Liver Elastography (Ultrasound- and MRI-based)
- Quantitative Assessment of Liver Lipid Content (MRI-PDFF)
- Combined Scores (e.g., MAST, FAST, MEFIB)

Factors Associated with Higher HCC Risk in MASLD

Individuals Recommended for Hepatocellular Carcinoma (HCC) Monitoring in the Context of MASLD

Table 8. Factors associated with a higher risk of HCC occurrence in MASLD.

Factor(s)	Ref.
Presence and duration of T2D, obesity or both	57,531
Older age	532,533
Concurrent alcohol intake and/or smoking	532,533
Individuals with FIB-4 >3.25	244
Individuals with LSM >10 kPa and increasing change in LSM over time	185

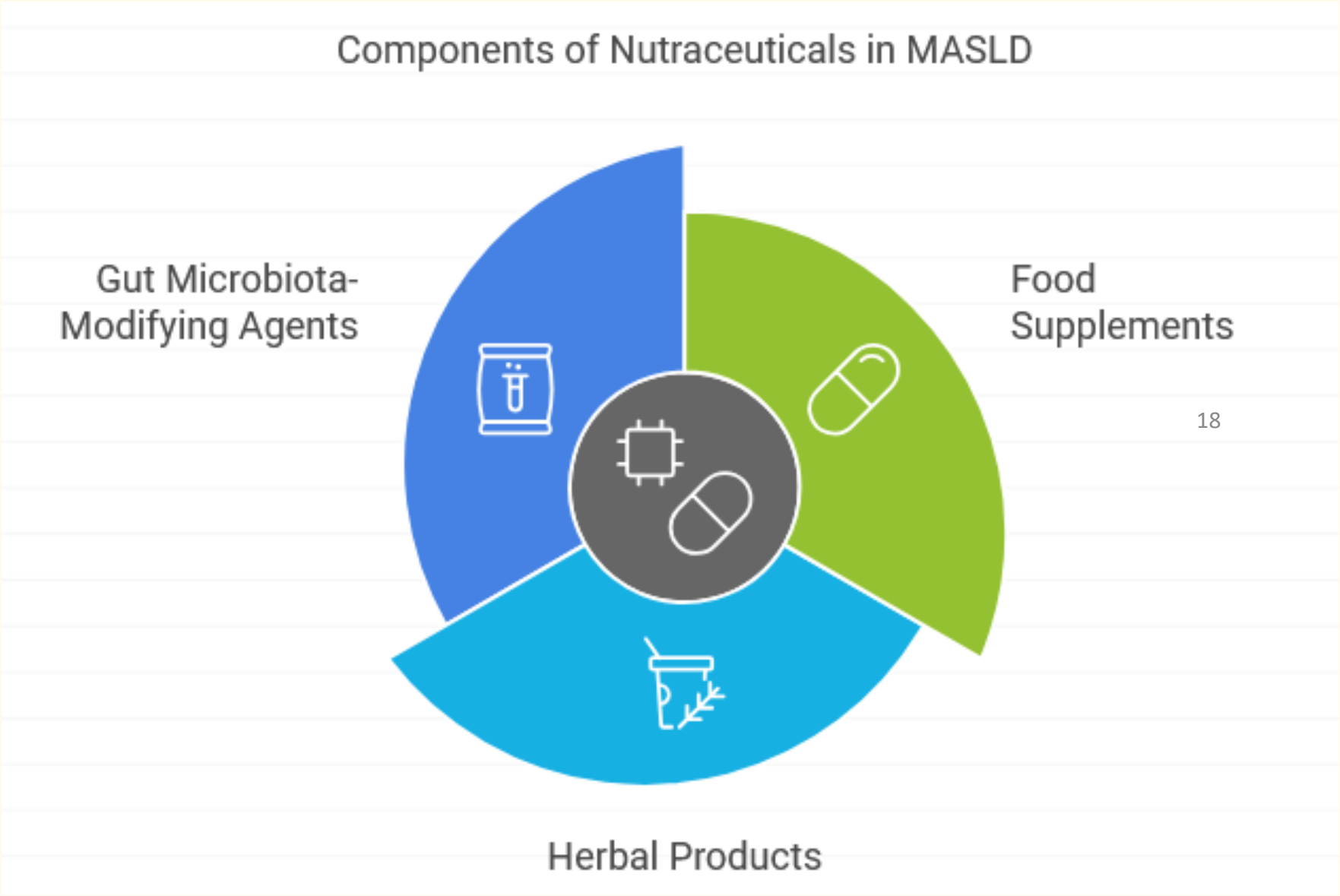
Objectives in MASLD Management:

- Preventing Cirrhosis Decompensation
- Slowing Liver Function Decline
- Preventing the Occurrence of HCC
- Avoiding Liver Transplantation

Challenges in Demonstrating Clinical Outcomes

- **Heterogeneity in Disease Progression:** The course of MASLD can vary greatly between individuals.
- **Fluctuating Disease Activity**
- **Slow Natural History**

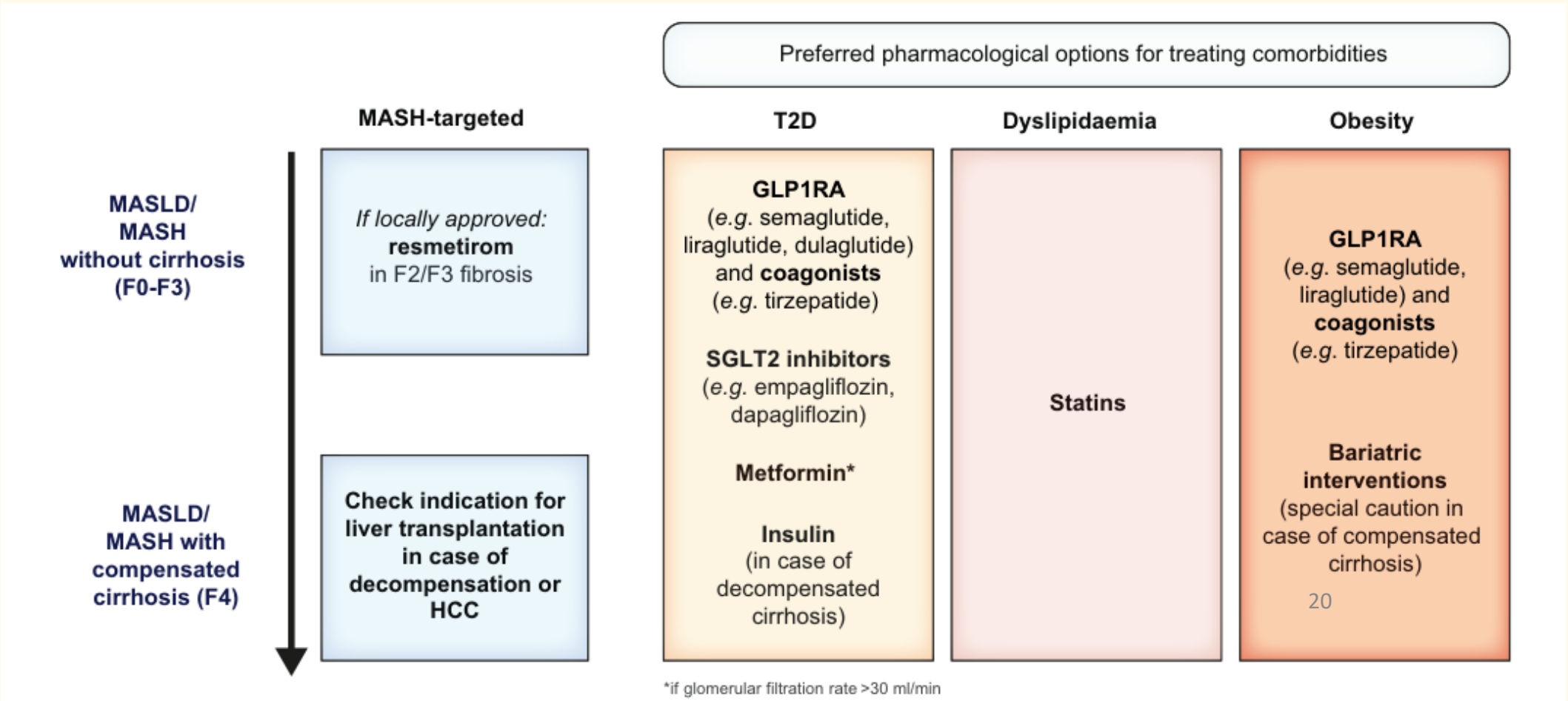
Efficacy of Nutraceuticals in MASLD including food supplements, herbal products, and gut microbiota-modifying agents



Pharmacological treatment drugs for MASLD

- Resmetirom
- Vitamin E
- Ursodeoxycholic acid
- Omega-3 polyunsaturated fatty acids
- Statins
- GLP1RAs
- SGLT2 inhibitors
- thiazolidinedione
- Metformin

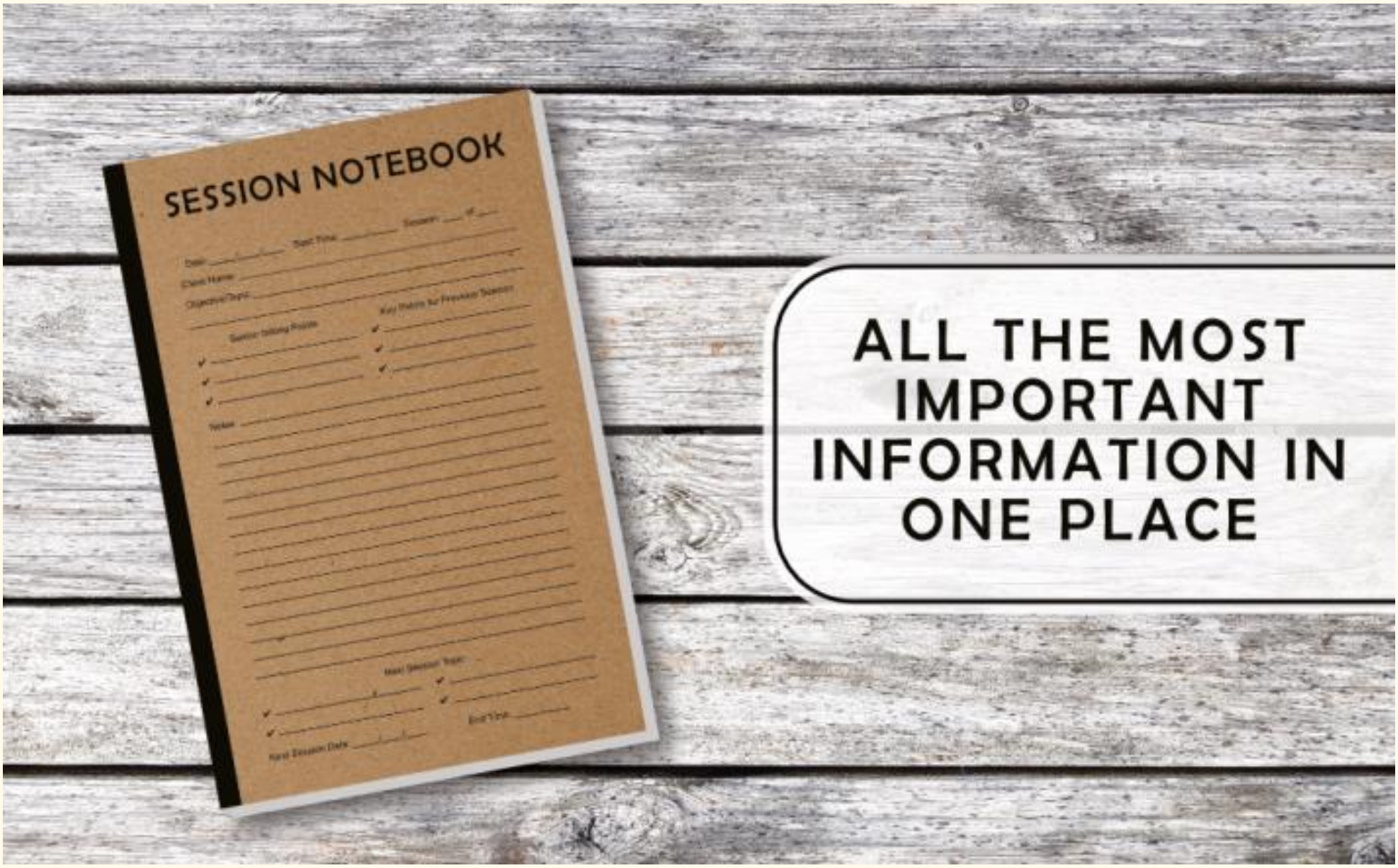
Pharmacological treatment drugs for MASLD



Bariatric Surgery for MASLD

Gastric banding, sleeve gastrectomy, vertical banded gastroplasty, Roux-en-Y gastric bypass, biliopancreatic diversion are examples of bariatric surgery procedures.

Multiple studies have shown that Roux-en-Y gastric bypass leads to a higher percentage of individuals achieving improvement in steatohepatitis and liver fibrosis compared to other bariatric procedures.[21]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MANY THANKS
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