A New Name, A New Era: Updates in MASLD/MASH

CPFI Annual Conference & National Student Retreat

Evan S Drake, PharmD, CPP

06 June 2026

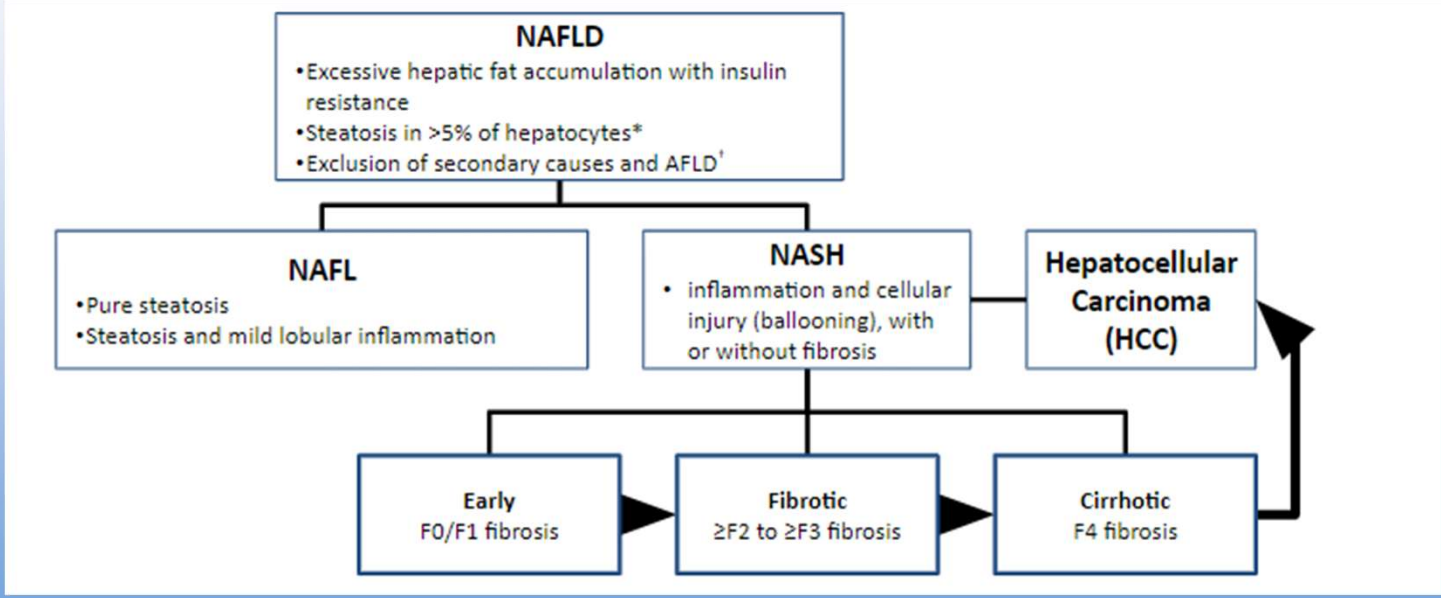
Learning Objectives

- Describe the updated nomenclature and diagnostic criteria for MASLD and MASH.
- Apply current and emerging guidelines and clinical care pathways to identify and manage patients with MASLD/MASH in practice.
- Compare current and emerging pharmacologic therapies for MASLD/MASH based on efficacy, safety, and clinical role.
- Identify opportunities for pharmacist intervention to improve early detection and optimize management of MASLD/MASH.

Quick Poll

- Have you seen or used the terms MASLD or MASH prior to today?
- Have you utilized these terms in practice?

What We Learned…



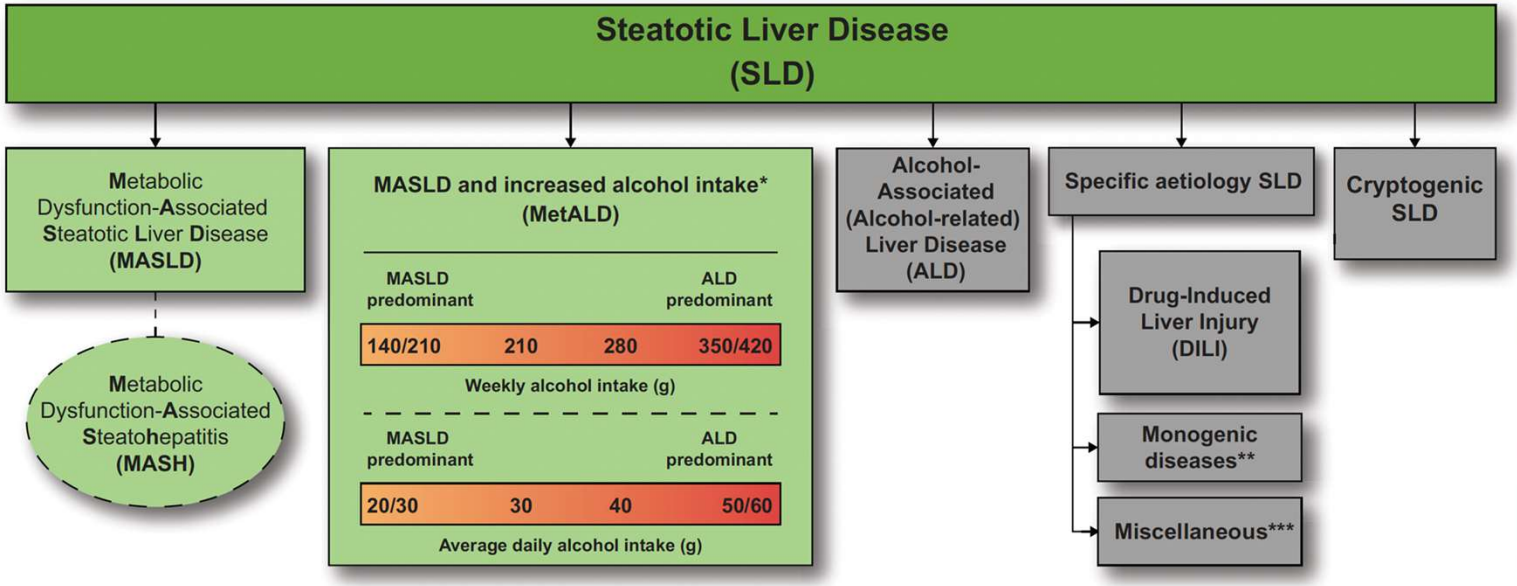
EASL–EASD–EASO CPG NAFLD. J Hepatol 2016;64:1388–402.

Updated Nomenclature

OLD	NEW	Diagnostics: ≥5% hepatic steatosis
Non-alcoholic fatty liver disease (NAFLD)	Metabolic dysfunction-associated steatotic liver disease (**MASLD**)	>In the presence of at least 1 cardiometabolic risk factor >WITHOUT hepatocellular injury
Non-alcoholic steatohepatitis (NASH)	Metabolic dysfunction-associated steatohepatitis (**MASH**)	WITH hepatocellular injury and inflammation (± fibrosis)

Rinella ME, Lazarus JV, Ratziu V, et al. Hepatology. 2023;78(6):1966-1986.

Updated Algorithm



*Weekly intake 140-350g female, 210-420g male (average daily 20-50g female, 30-60g male)
**e.g. Lysosomal Acid Lipase Deficiency (LALD), Wilson disease, hypobetalipoproteinemia, inborn errors of metabolism
***e.g. Hepatitis C virus (HCV), malnutrition, celiac disease, human immunodeficiency virus (HIV)

Rinella ME, Lazarus JV, Ratziu V, et al. Hepatology. 2023;78(6):1966-1986.

Why does this matter?

MASLD is the leading cause of chronic liver disease globally → 1 in 4 people

Less than 5% of persons with MASLD are aware of their liver disease

Manikat R, et al. Gastroenterol Rep (Oxf). 2024;12:goae069.
Rinella ME, et al. Hepatology. 2023; 77:1979-1835.

Why does this matter?

COMMON

UNDERDIAGNOSED

PROGRESSIVE

ACTIONABLE

Introducing…

Past Medical History	Hypertension Type 2 Diabetes Overweight (BMI: 33 kg/m^2)	
Social History	Works full-time as an insurance agent 1-2 beers/week Non-smoker	
Pertinent Labs	AST: 38 ALT: 52	Platelets: 230
Imaging	Recent ultrasound shows hepatic steatosis (>5%)	

CD

Which is the most appropriate classification for this patient?

a) Alcohol-associated liver disease
b) MASLD
c) MASH
d) Viral hepatitis

CD

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b) MASLD
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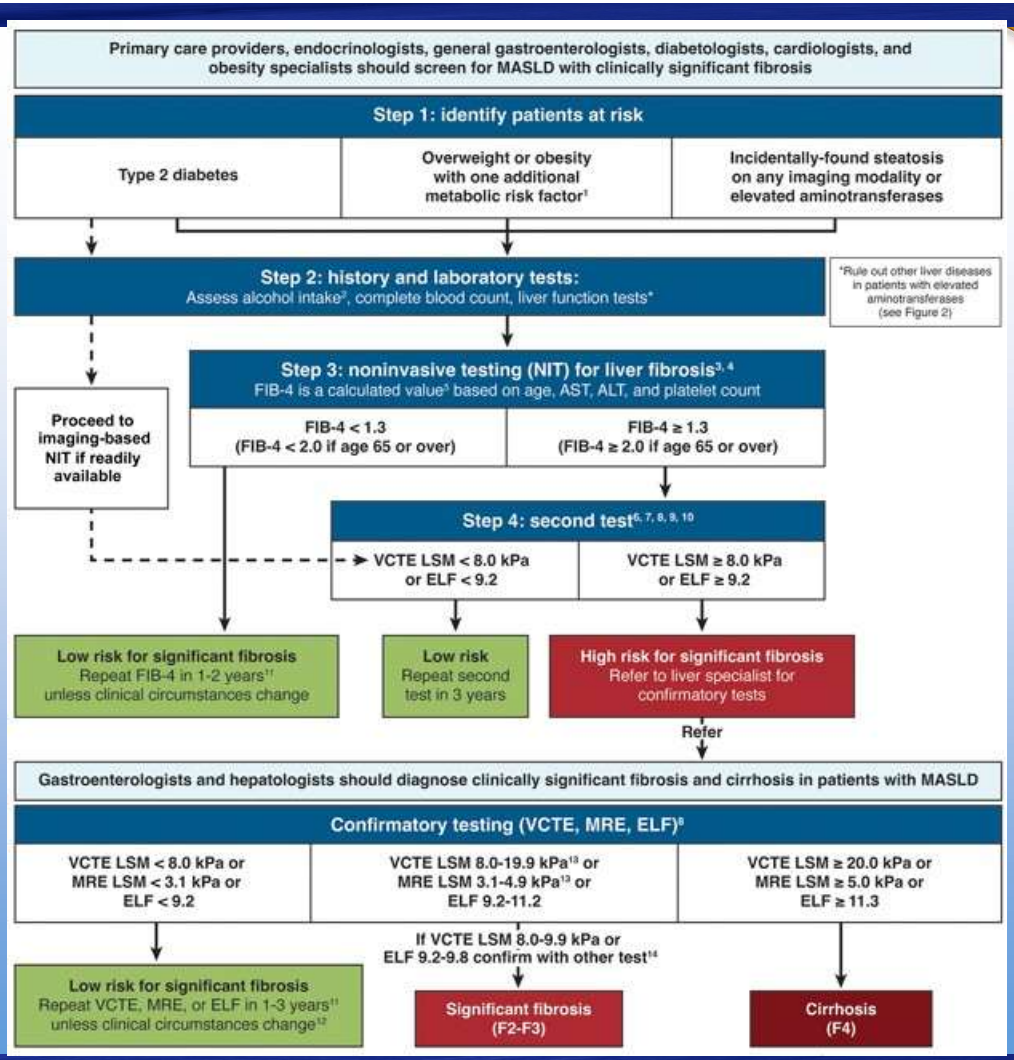
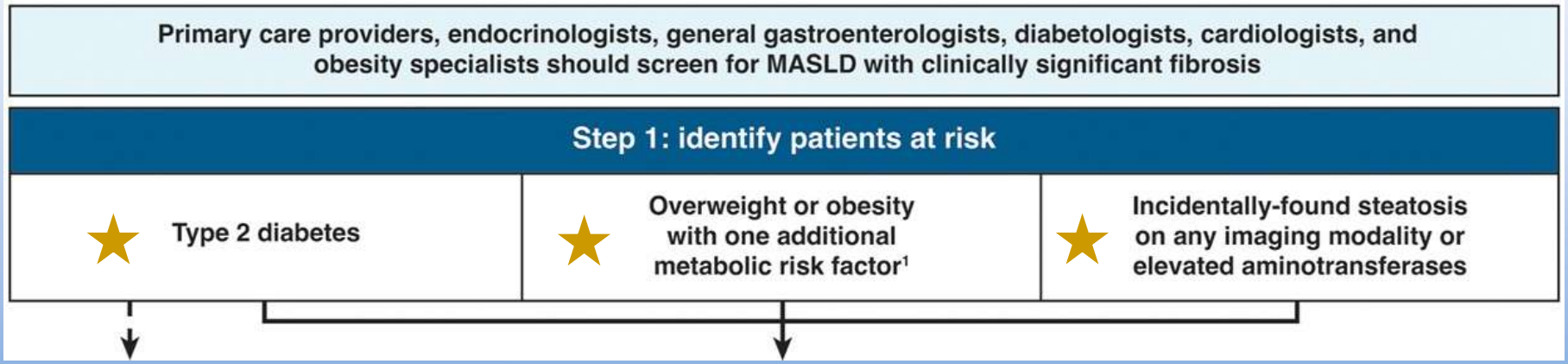
Screening & Risk Stratification



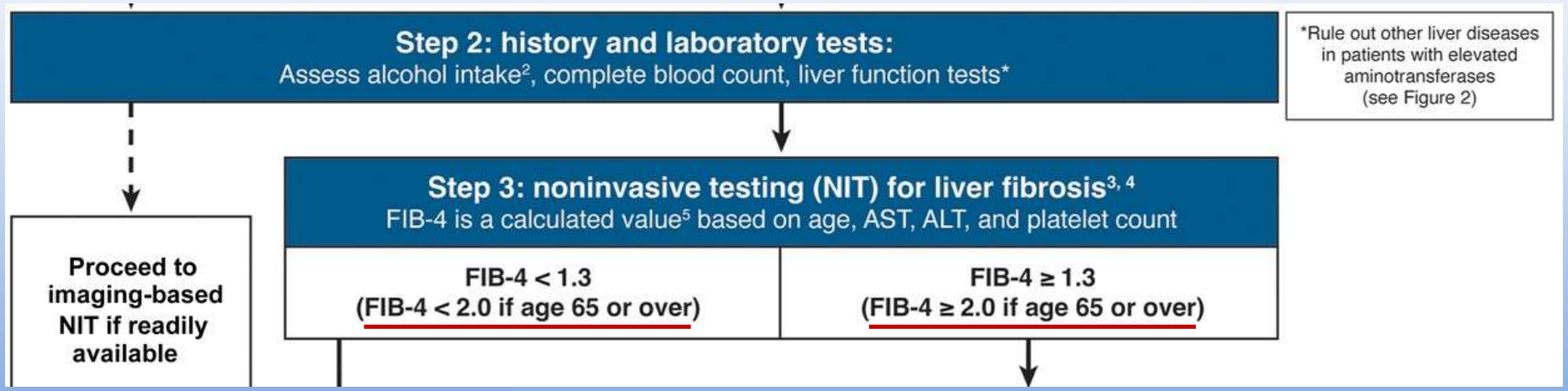
Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

Screening – Who?



Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

Screening – How?



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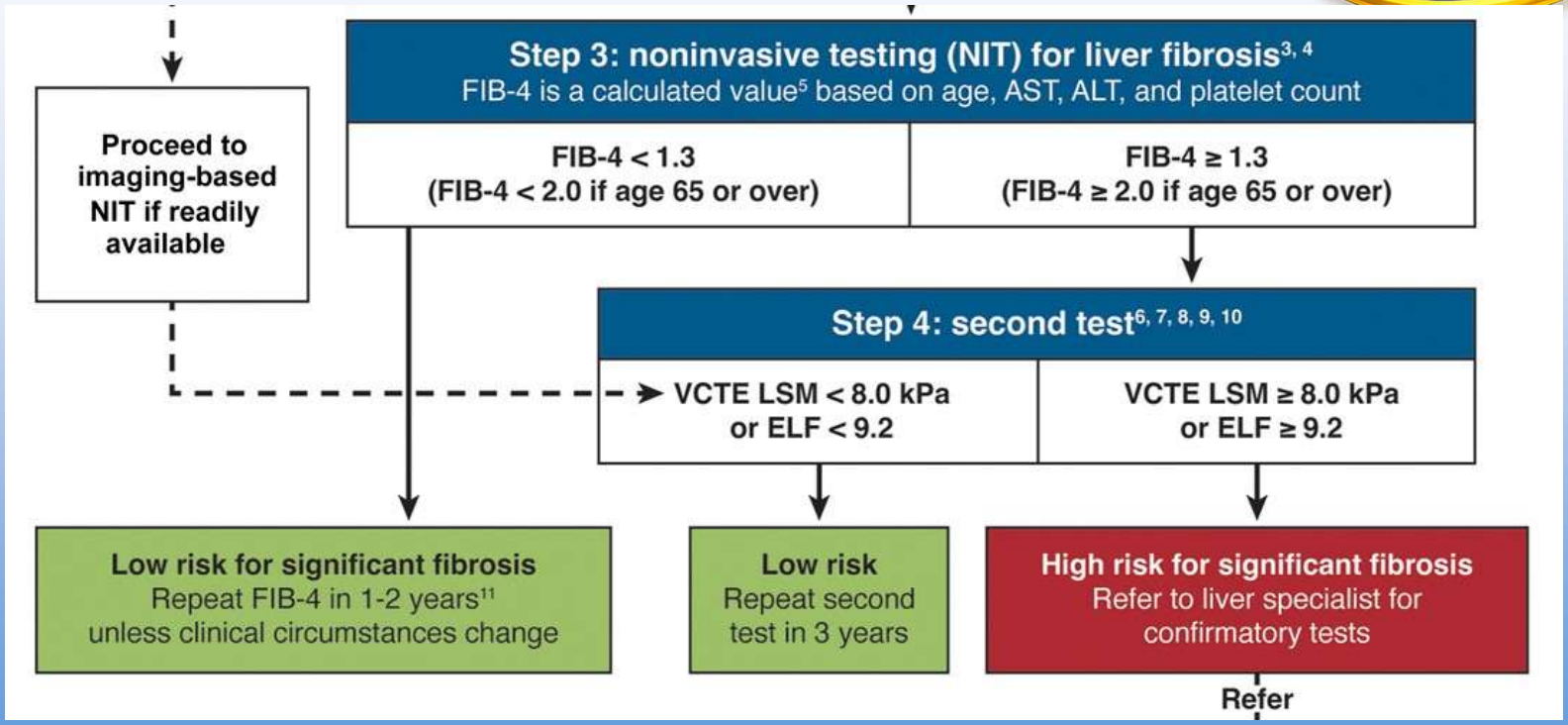
Screening & Risk Stratification



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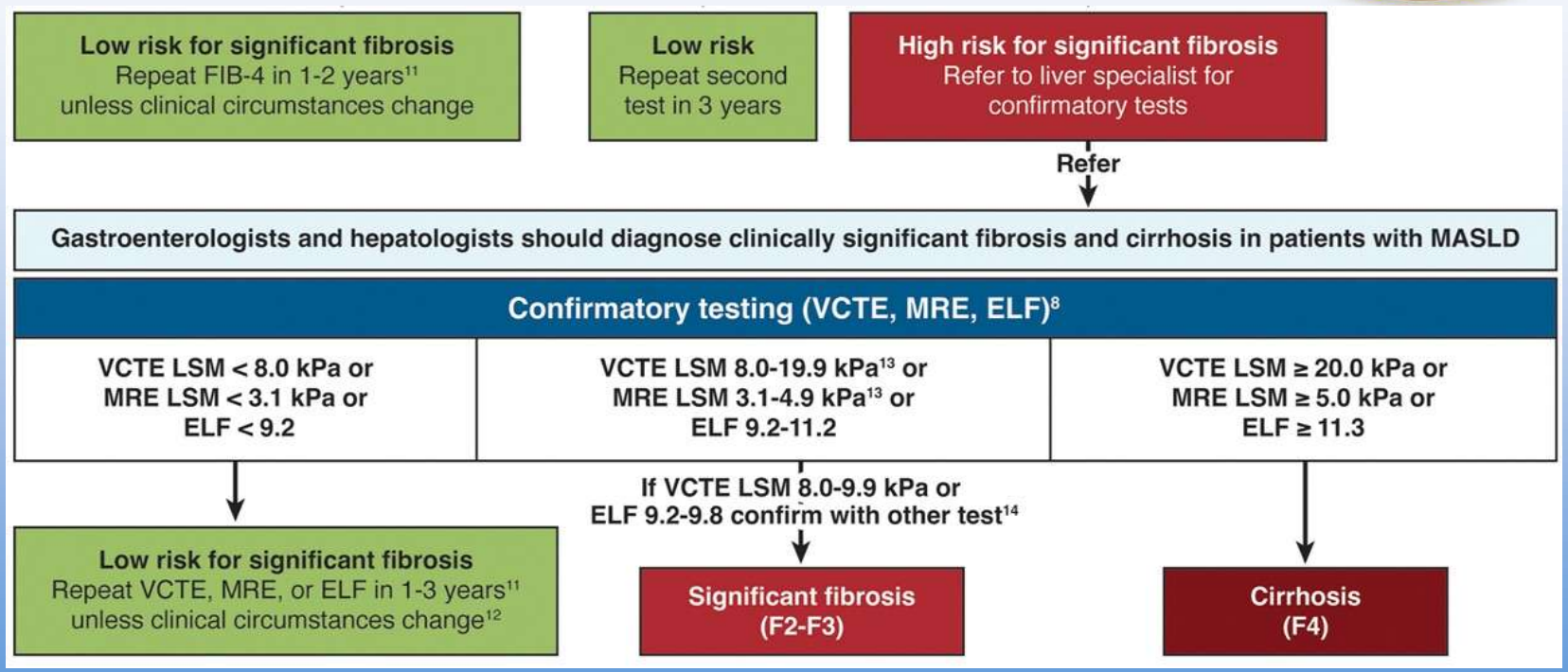
Referral



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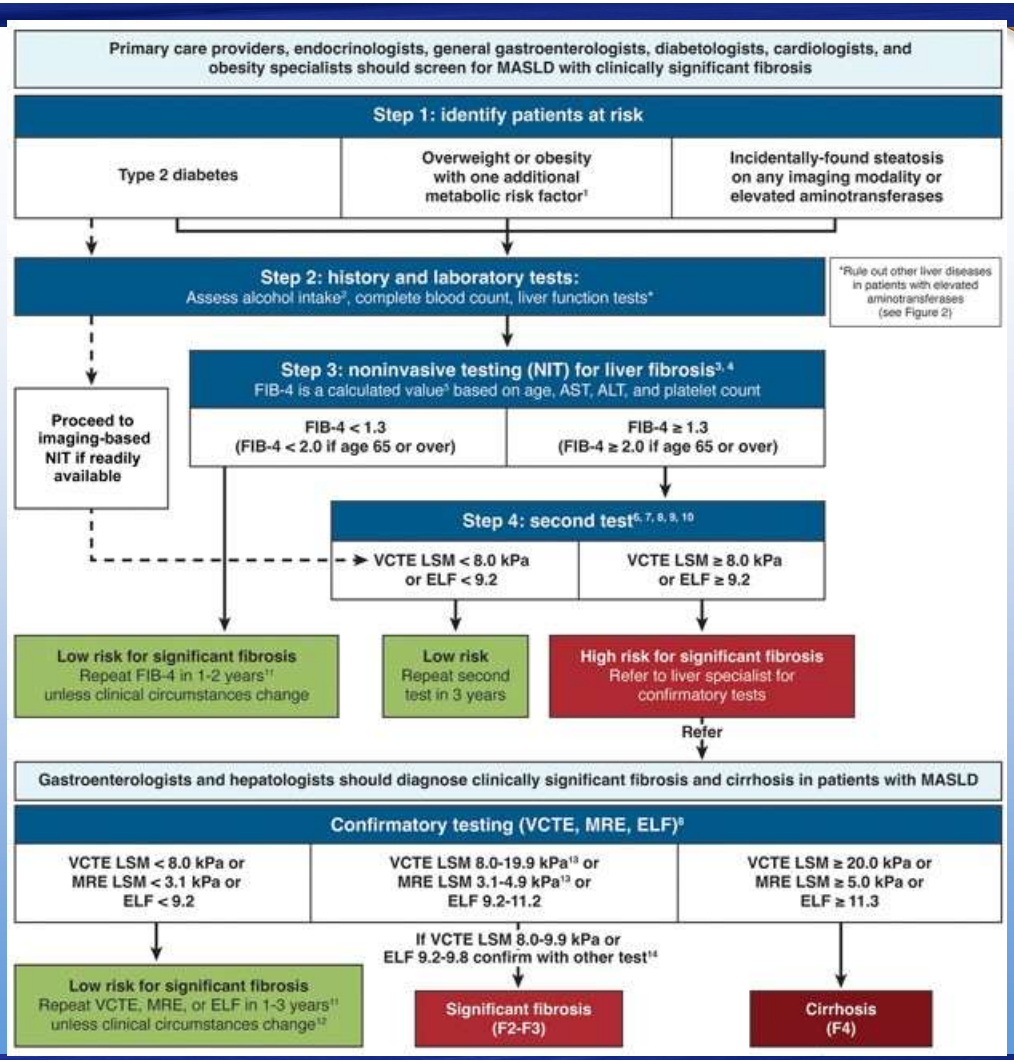

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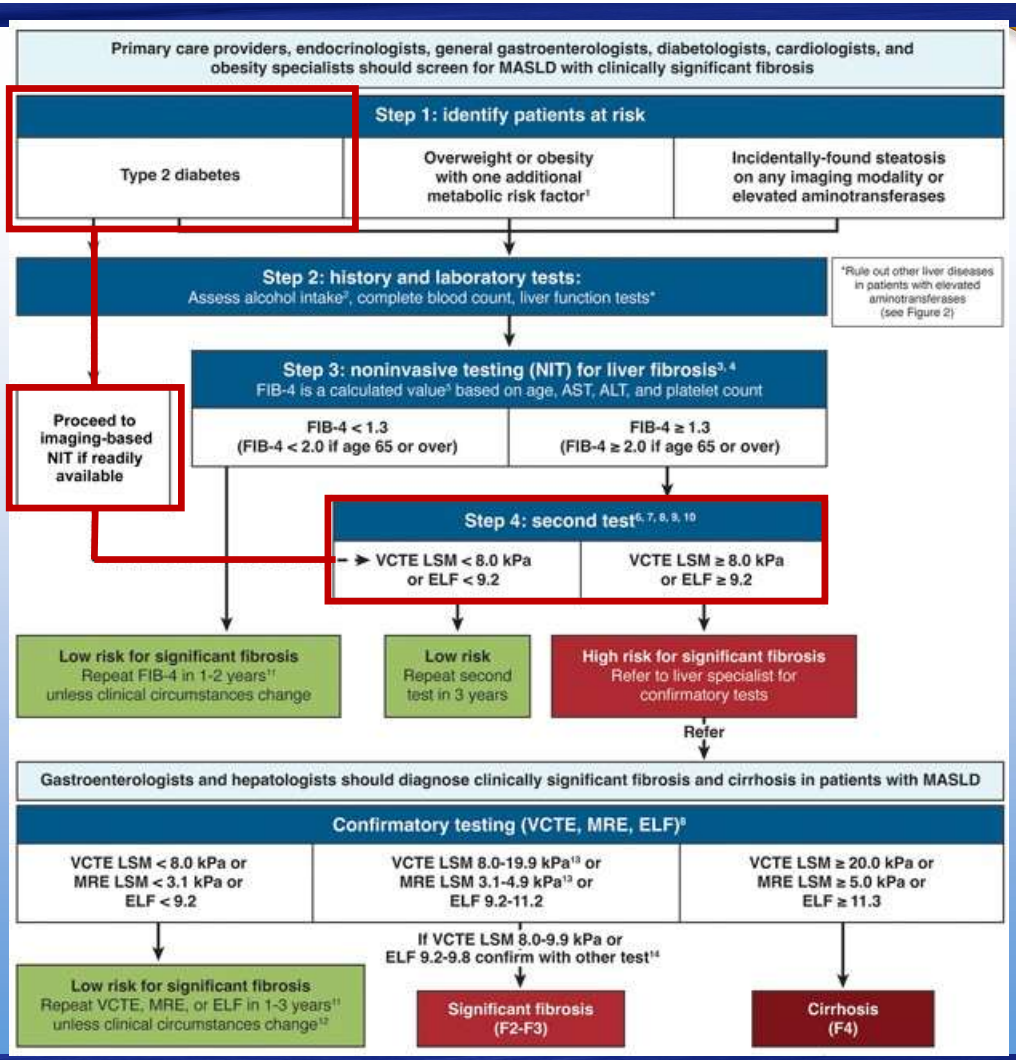

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CD

Past Medical History	Hypertension Type 2 Diabetes Overweight (BMI: 33 kg/m^2)	
Social History	Works full-time as an insurance agent 1-2 beers/week Non-smoker	
Pertinent Labs	AST: 38 ALT: 52	Platelets: 230
Imaging	Recent ultrasound shows hepatic steatosis (>5%)	

CD

With MASLD identified, what is the most appropriate next step in the work up of CD?

a) Calculate FIB-4 score
b) Order liver biopsy
c) Start pharmacologic therapy
d) Refer to hepatology

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Management

Management – Broad Overview

	Low risk FIB-4 < 1.3 or VCTE LSM < 8 kPa or ELF < 9.2 or MRE LSM < 3.1 or Liver biopsy F0-F1	High risk VCTE LSM ≥ 8 kPa or ELF ≥ 9.2 or MRE LSM ≥ 3.1 or Liver biopsy F2+
	Management by primary care provider, dietitian, endocrinologist, diabetologist, obesity expert, cardiologist, others	Management by gastroenterologist, hepatologist, and/or other providers with experience with patients with MASH, together with multidisciplinary team
Lifestyle intervention, including cessation of alcohol use[1]	Yes	Yes
Structured weight loss programs and/or antiobesity medications[2]	Yes, target of at least ≥ 5%	Yes, target of at least ≥ 10%
Bariatric surgery if indicated	Yes	Yes, can be considered in compensated cirrhosis, but contraindicated in decompensated cirrhosis[3]
Control of CVD risk factors (LDL-C, BP, A1C, etc.)	Yes	Yes
Statins are safe if indicated	Yes	Yes, except in decompensated cirrhosis[4]. Adjust dose if patient is on resmetirom

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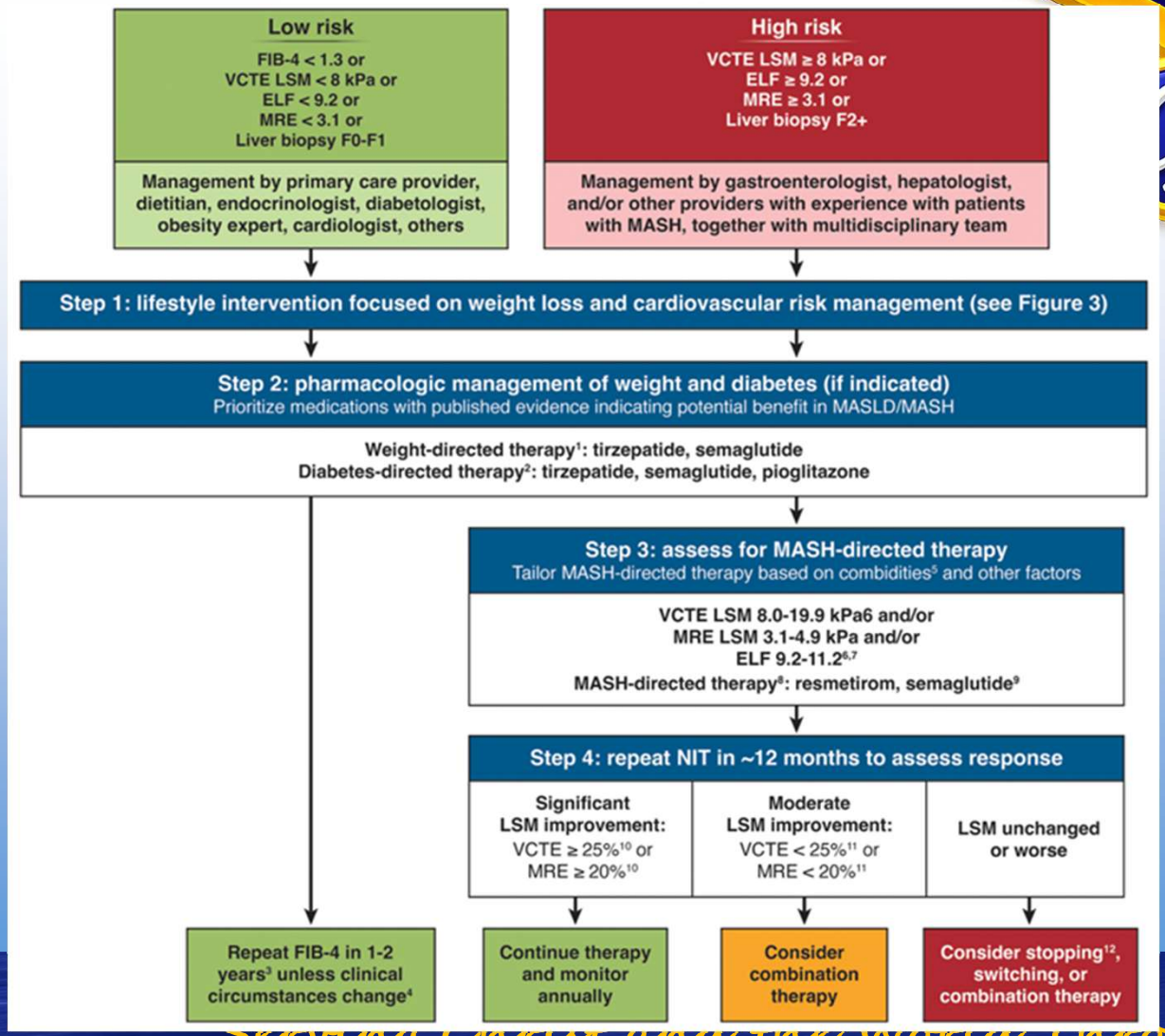

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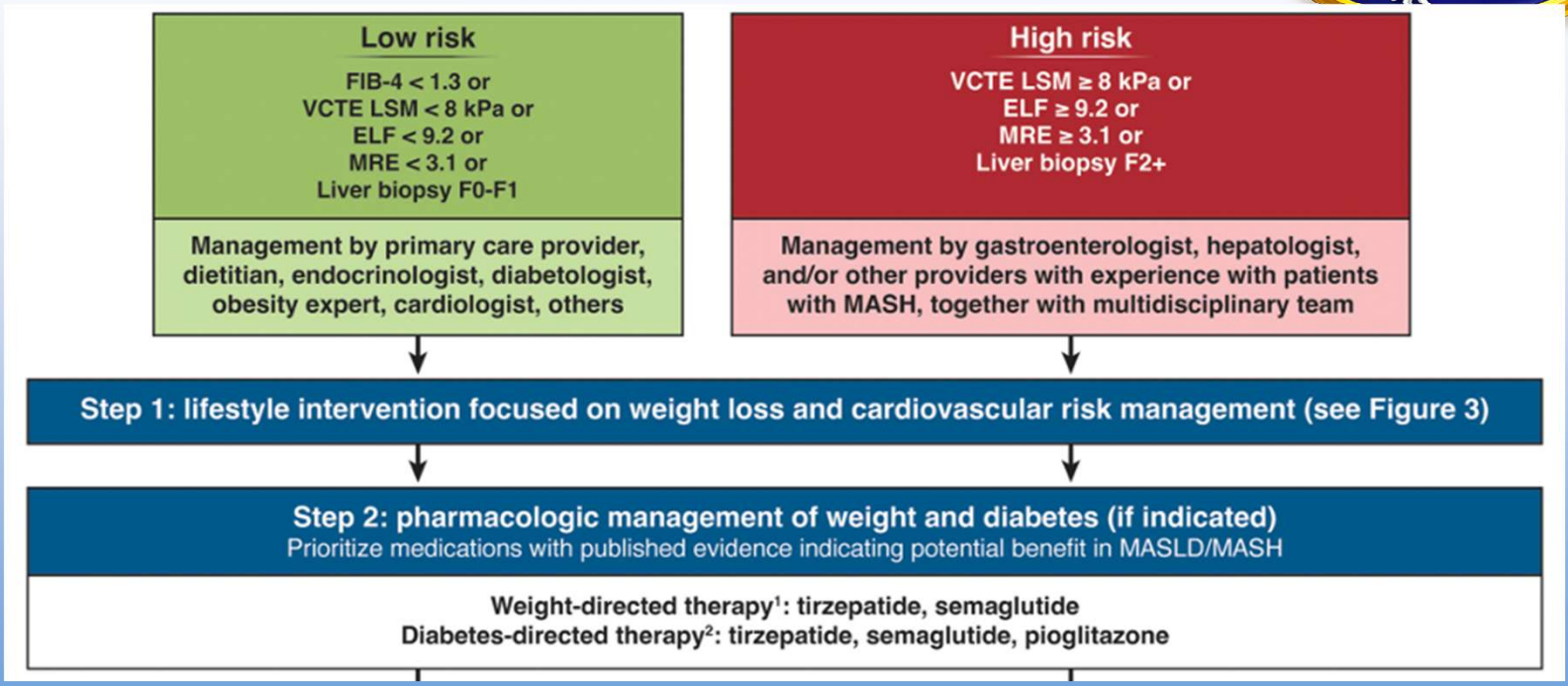

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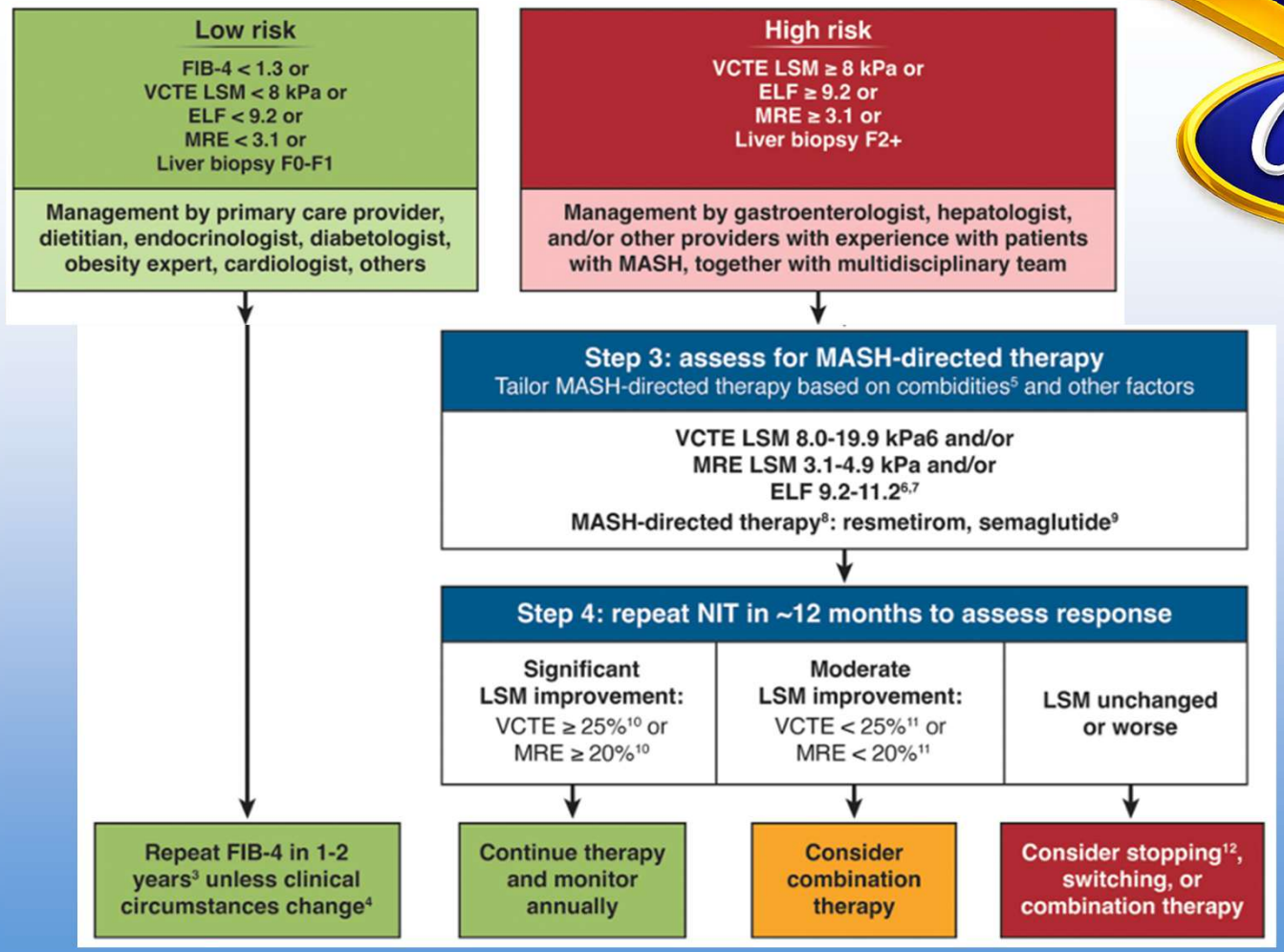

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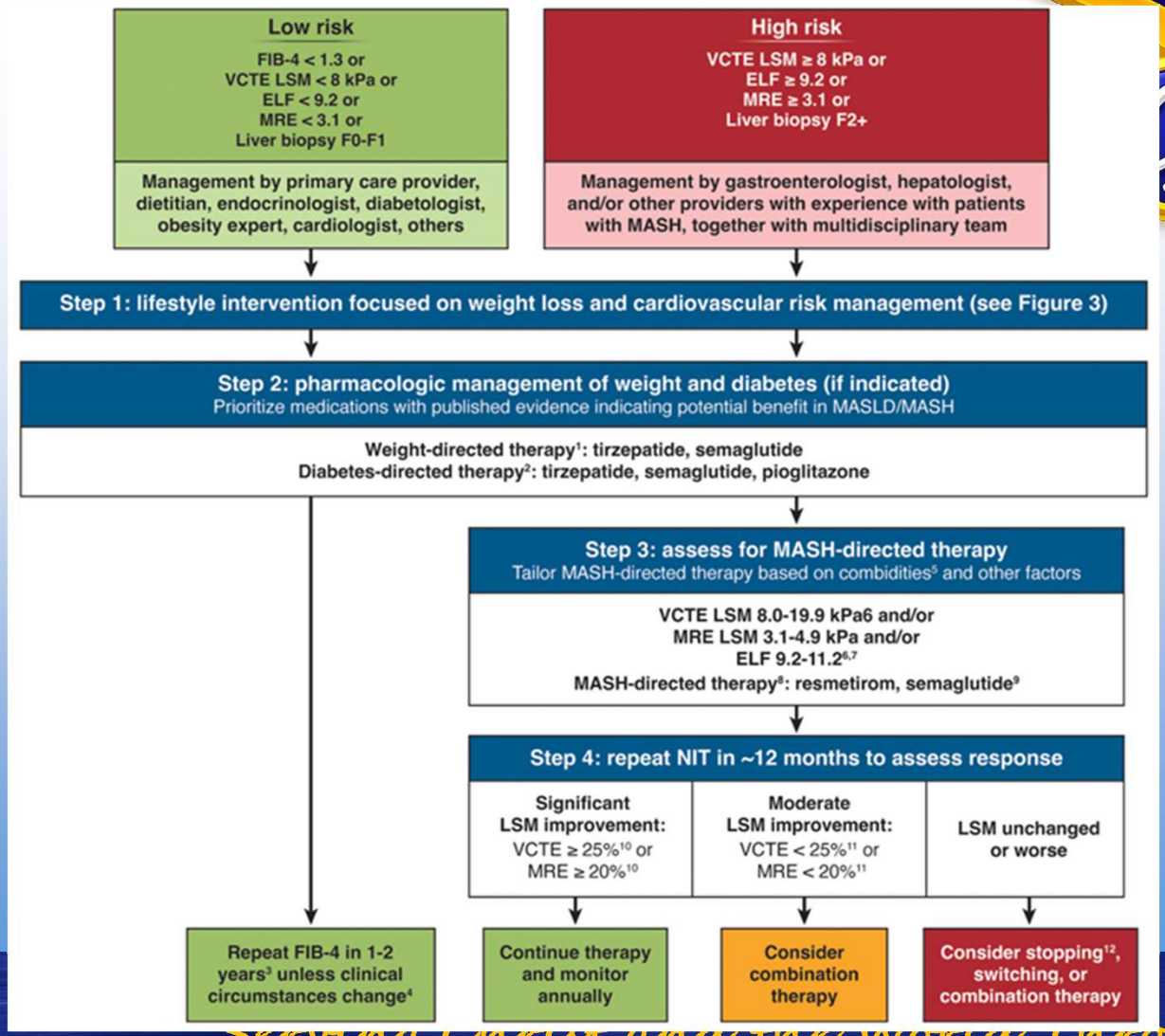

Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

CD a few years later

Past Medical History	Hypertension Type 2 Diabetes Overweight (BMI: 34 kg/m^2)	
Social History	Works full-time as an insurance agent 1-2 beers/week Non-smoker	
Pertinent Labs	AST: 52 ALT: 58	Platelets: 165
FIB-4	2.0	
Follow	Referral to specialist. VCTE = 10.2 kPa	

CD a few years later

CD was referred to hepatology where a transient elastography is completed and results suggest moderate fibrosis. A follow up liver biopsy confirms MASH with F2 fibrosis. Patient states they are working on their diet and exercise, but asks can anything else be done? Which is the most appropriate next step?

a) No pharmacologic therapy indicated
b) Start pioglitazone
c) Initiate GLP-1 RA
d) Stop statin therapy

CD a few years later

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Medication Therapies

Management: Low-Risk

- **Progression of liver disease is still a concern**
- **Management of cardiometabolic risk factors is a priority**

- Weight-directed therapy
  - Semaglutide (Wegovy®) or tirzepatide (Zepbound®)

- Diabetes-directed therapy
  - Semaglutide (Ozempic®) or tirzepatide (Mounjaro®) or pioglitazone

Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

Tirzepatide (Mounjaro®, Wegovy®)

EFFECTS	Weight	↓↓↓
	Glycemia	↓↓↓
	LDL-C	↓
	Liver steatosis	+ (phase 2)
	Liver fibrosis	+ (phase 2)
	CV outcomes	+ (phase 3)[4]
	CKD outcomes	Not studied[5]
	OSA severity	+ (phase 3)
	HFpEF severity	+ (phase 3)
	Other cardiometabolic considerations	↓ TG; ↑ HDL-C; ↓ Blood pressure Rapid weight loss can lead to sarcopenia

Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

Tirzepatide

SYNERGY-NASH				
Trial design	Phase 2, double-blind, randomized, placebo-controlled			
Dosing	5 mg, 10 mg, 15 mg			
Inclusion Criteria	Adults with biopsy-confirmed MASH with stage F2 or F3 fibrosis			
Primary End Point	Resolution of MASH without worsening of fibrosis at 52 weeks			
Secondary End Point	Improvement of at least one fibrosis stage without worsening of MASH			
Results – Primary	Placebo: 9.8%	5 mg: 43.6%	10 mg: 55.5%	15 mg: 62.4%
Results – Secondary	Placebo: 29.7%	5 mg: 54.9%	10 mg: 51.3%	15 mg: 51.0%
Conclusion	Tirzepatide is more effective than placebo			

Loomba R, et al. N Engl J Med. 2024;391(4):299-310.

Pioglitazone

EFFECTS	Weight	↑
	Glycemia	↓
	LDL-C	↔
	Liver steatosis	+ (phase 3)
	Liver fibrosis	↔
	CV outcomes	+ (phase 3)
	CKD outcomes	Not studied[5]
	OSA severity	Not studied
	HFpEF severity	–
	Other cardiometabolic considerations	↓ TG; ↑ HDL-C Increases risk of bone fractures and anemia Change in fat distribution favorable

Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

Pioglitazone

- Has shown improvement in steatohepatitis in patients with and without Type 2 Diabetes and MASH
- Several risks associated that should always be considered prior to therapy initiation

Belfort R, et al. N Engl J Med. 2006;355(22):2297-2307.
Cusi K, et al. Ann Intern Med. 2016;165(5):305-315
Sanyal AJ, et al. N Engl J Med. 2010;362(18):1675-1685.

Management: High-Risk

- **Prevention of further progression and MASH resolution**
- Resmetirom (Rezdiffra®)
- Semaglutide (Wegovy®)

Resmetirom (Rezdiffra®)

EFFECTS	Weight	↔
	Glycemia	↔
	LDL-C	↓↓
	Liver steatosis	+ (phase 3)
	Liver fibrosis	+ (phase 3)
	CV outcomes	Not studied
	CKD outcomes	Not studied
	OSA severity	Not studied
	HFpEF severity	Not studied
	Other cardiometabolic considerations	↓ TG; ↓ Lp(a); ↑ SHBG with consequent increase in total testosterone and estradiol levels[6]

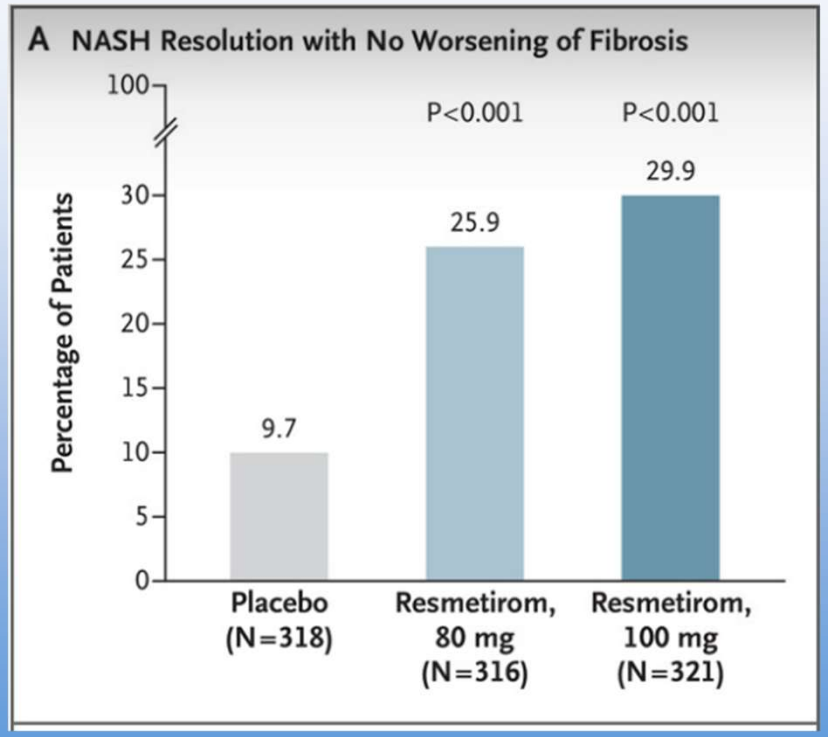
Kanwal F, et al. Gastroenterol. 2026:S0016-5085(26)00198-8.

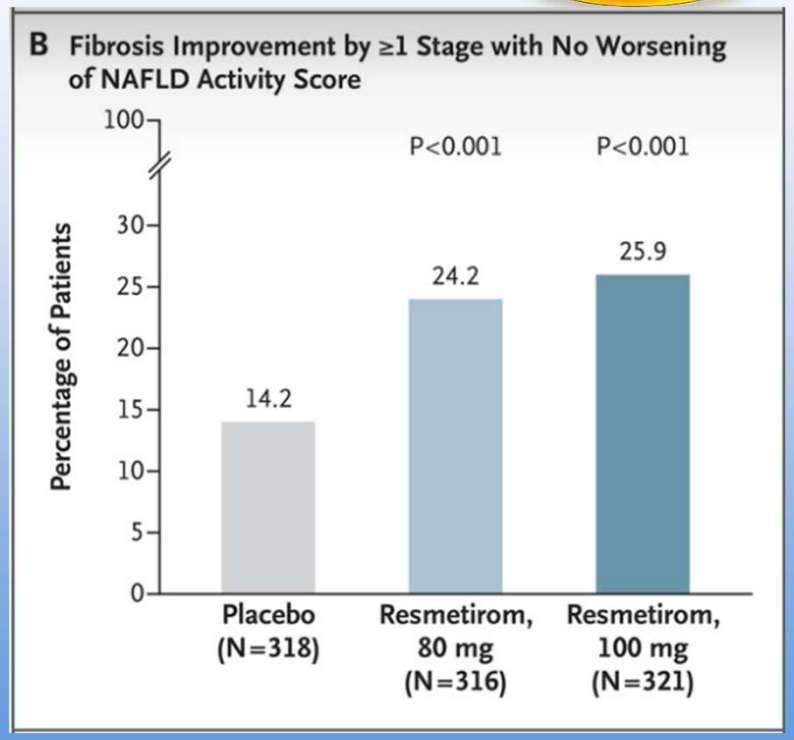
Resmetirom (Rezdiffra®)

Indication	Noncirrhotic metabolic dysfunction-associated steatotic liver disease with moderate to advanced liver fibrosis (F2 or F3)	
Mechanism of Action	Thyroid Hormone Receptor-Beta (THR-β) Agonist	
Dosing	< 100 kg = 80 mg once daily	≥ 100 kg = 100 mg once daily
Warnings/Precautions	Hepatoxicity	Gallbladder-related
Adverse Reactions	Diarrhea, nausea, pruritic, vomiting, constipation, abdominal pain Transient increase in ALT/AST	
Drug-Drug Interactions	CYP2C8 inhibitors	Select statins

Rezdiffra (Resmetirom). [Package Insert]. 2024
Harrison SA, et al. N Engl J Med 2024;390:497-509.

MAESTRO-NASH Trial





Harrison SA, et al. N Engl J Med 2024;390:497-509.

Semaglutide (Wegovy®)

EFFECTS	Weight	↓↓
	Glycemia	↓↓
	LDL-C	↓
	Liver steatosis	+ (phase 3)
	Liver fibrosis	+ (phase 3)
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	OSA severity	Not studied[5]
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	Other cardiometabolic considerations	↓ TG; ↑ HDL-C; ↓ Blood pressure Rapid weight loss can lead to sarcopenia

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Semaglutide (Wegovy®)

Indication	Noncirrhotic metabolic dysfunction-associated steatotic liver disease with moderate to advanced liver fibrosis (F2 or F3)
Mechanism of Action	GLP-1 receptor agonist
Dosing	Target maintenance dosage: 2.4 mg once weekly
Warnings/Precautions	Consistent with other Wegovy-treated conditions
Adverse Reactions	Consistent with other Wegovy-treated conditions

Wegovy (semaglutide). [Package insert]. 2026.

ESSENCE Trial

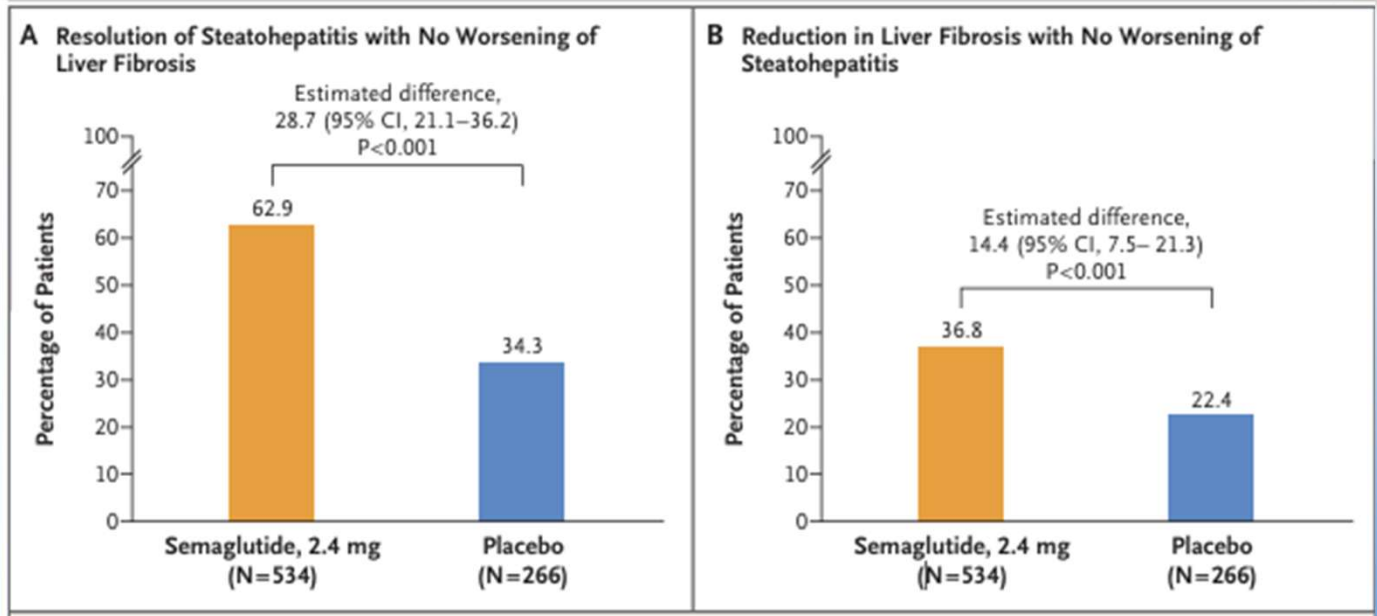


Figure 1. Primary End Points.

Sanyal AJ, et al. N Engl J Med. 2025;392:2089-2099.

In the works…

- Semaglutide: ESSENCE Part 2
  - Long-term clinical outcomes for prevention of major adverse liver outcomes (MALO)
  - MASH and moderate-to-advanced liver fibrosis (F2/F3)
- Resmetirom: MAESTRO-NASH-OUTCOMES
  - Compensated cirrhosis
  - MALO
- Tirzepatide: SYNERGY-OUTCOMES
  - Tirzepatide & retatrutide
  - MASLD
  - Prevention of MALO

Clinicaltrials.gov

Opportunities for Pharmacists

The Problem

What We Have	What Often Happens
Patients seen regularly FIB-4 pathways	Never Calculated
Noninvasive Staging	Delayed referral
Effective Therapies	Late identification

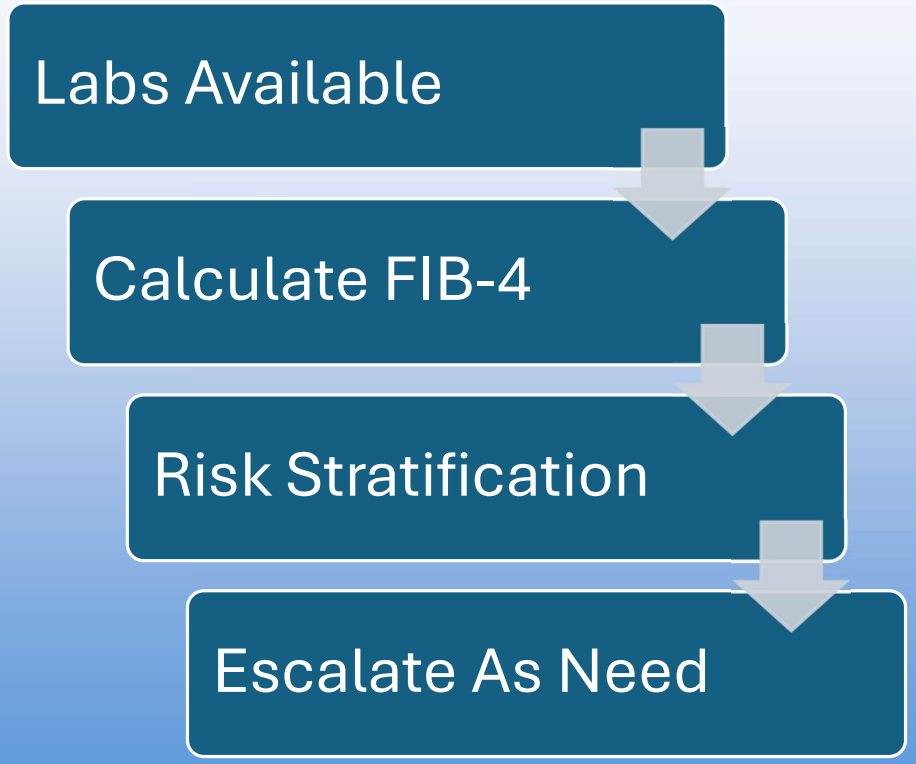
A Solution


Ambulatory Care Clinic
Chronic Care Management
Primary Care
YOU
Transitions of Care
MTM Visits
Community Pharmacy

Opportunity #1: Identification

Recognize and Act

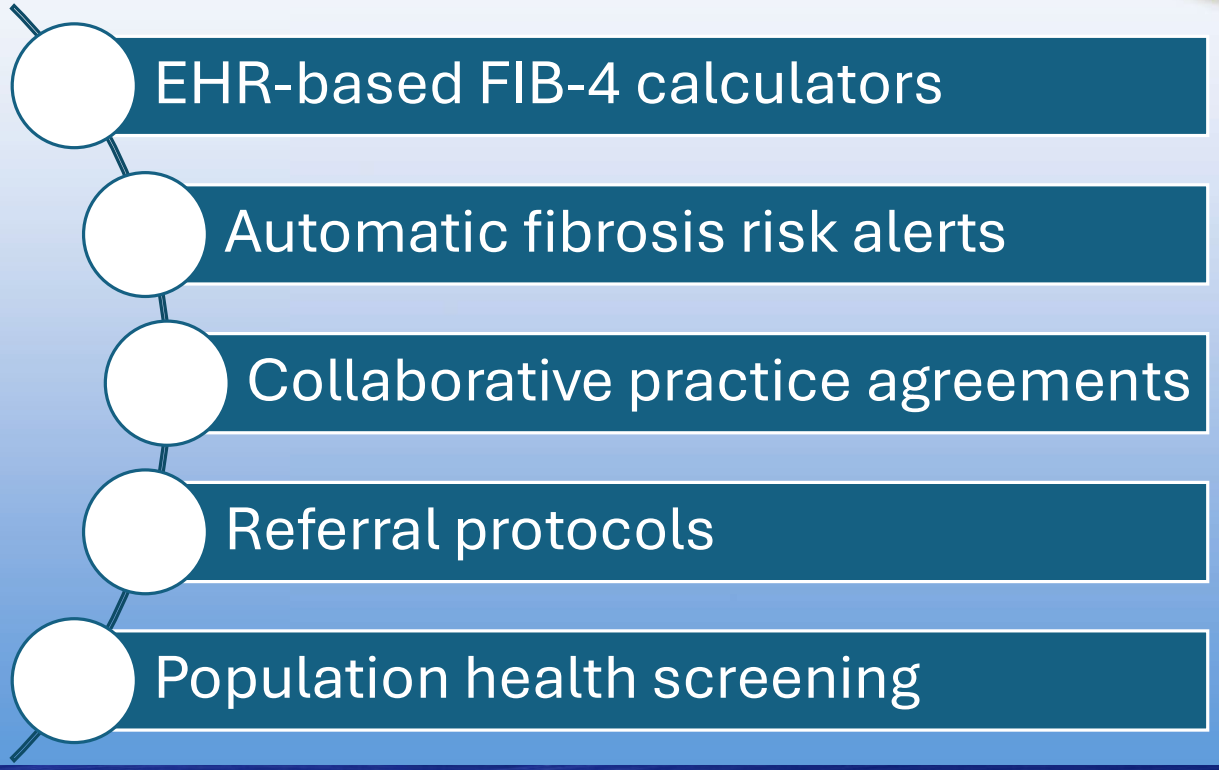
Opportunity #2: FIB-4 Implementation



Opportunity #3: Cardiometabolic Optimization

Diabetes	Cardiovascular Risk	Weight Management
GLP-1 Receptor Agonists	Statin therapy	Nutrition
Pioglitazone	Blood pressure control	Physical Activity
SGLT-2 inhibitors		Anti-obesity medication therapies

Opportunity #4: System-Level



Pharmacist Take-Away

Which of the following represents an opportunity for pharmacists to be impactful in the identification and optimization of MASLD/MASH management?

a) Implement FIB-4 screening protocols within the clinic.
b) Optimize cardiometabolic risk factors, including diabetes, weight management, and cardiovascular disease management
c) Provide patient education on lifestyle modifications and adherence to pharmacologic therapy
d) All of the above

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d) All of the above

Bringing it All Together

Bringing it All Together

Name	• MASLD • MASH
Identify	• Recognize high risk patients
STAGE	• FIB-4 • Non-invasive imaging/blood work
ACT	• Lifestyle • Cardiometabolic optimization • Pharmacotherapy when indicated

Bringing it All Together

You cannot treat what you do not identify

You can make a difference

Questions?

References

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