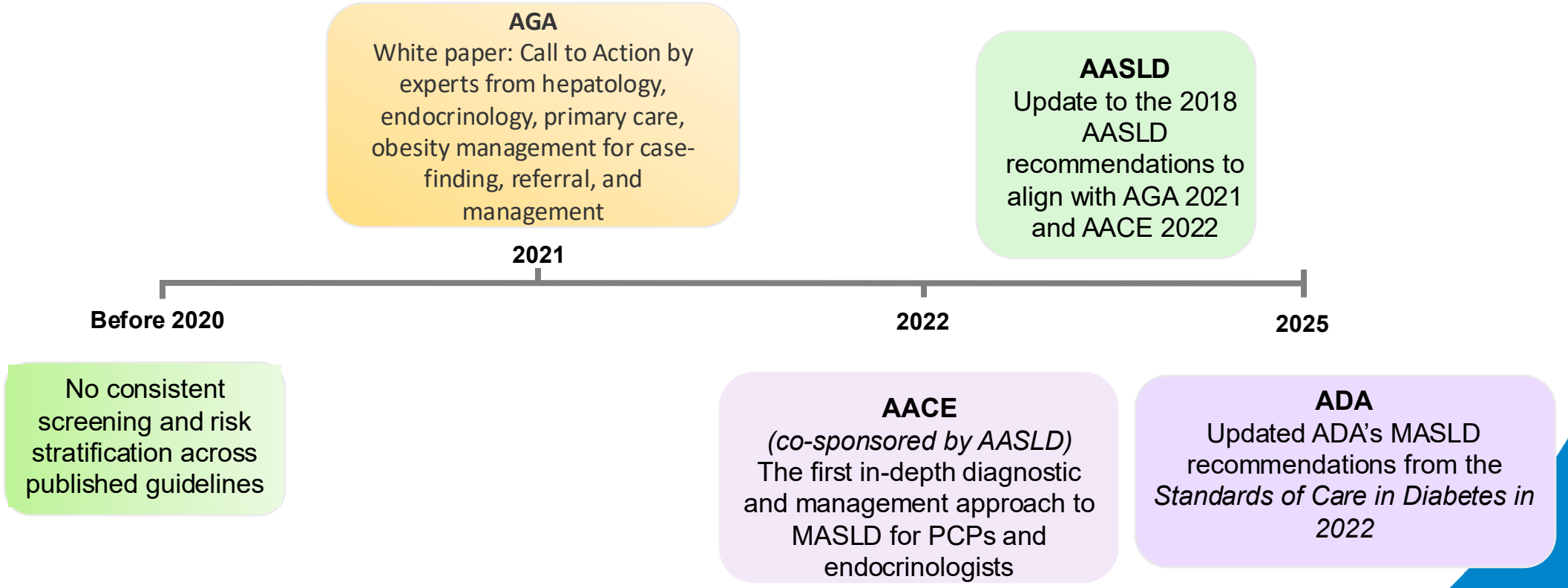
MASLD Testing in 2026 and Beyond: Rethinking Risk Stratification with Noninvasive Testing

Fasiha Kanwal, MD, MSHS

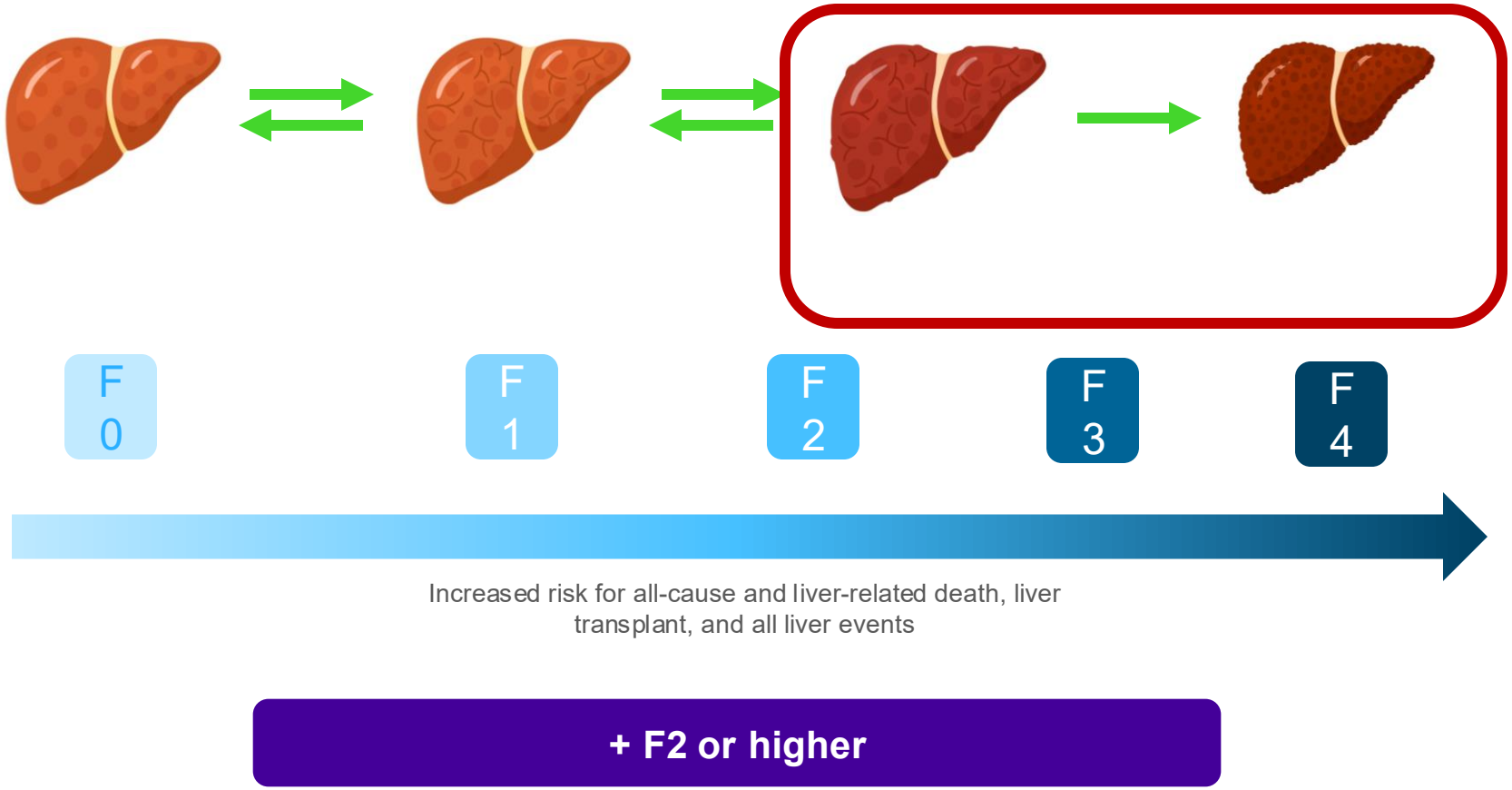
May 7, 2026

Guidelines now support earlier MASLD screening and risk stratification



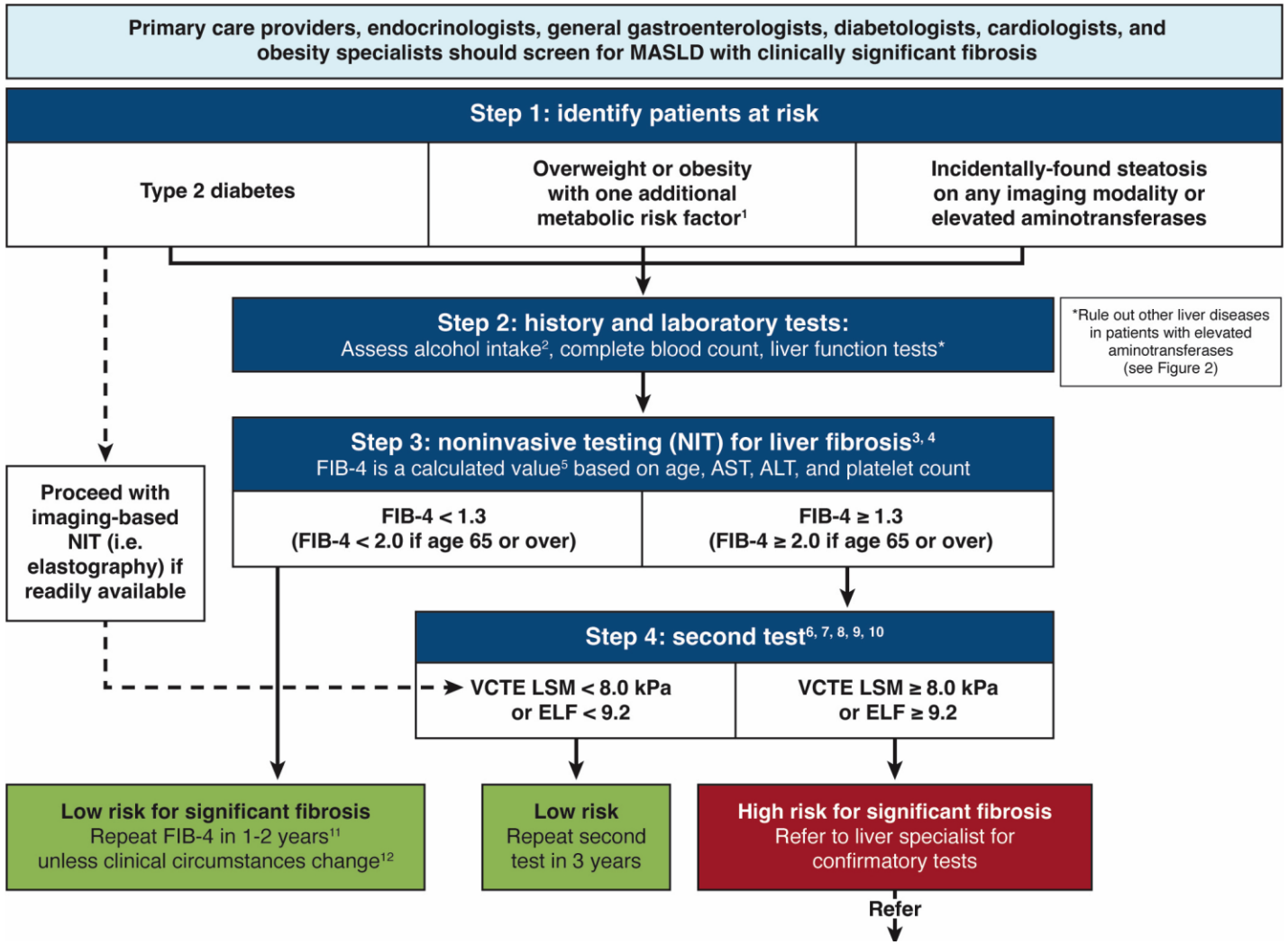
AACE, American Association of Clinical Endocrinology; AASLD, American Association for the Study of Liver Diseases; ADA, American Diabetes Association; AGA, American Gastroenterological Association; T2D, type 2 diabetes.

Health risks increase with higher fibrosis stages



Rinella ME, et al. *Hepatology*. 2023;77(5):1797-1835.

Updates to AGA Clinical Care Pathway



Kanwal F, Bril F et al. Updates to the AGA Clinical Care Pathway
Gastroenterology **2026**

Patients who should be screened

Groups known to be at greatest risk of MASLD/MASH-related fibrosis

People with T2D

22% of people with diabetes have clinically significant fibrosis[3]

People with obesity and one more metabolic risk factors

11% of people with obesity and additional CMRF have clinically significant fibrosis[2]

People with incidental finding of hepatic steatosis or elevated aminotransferases

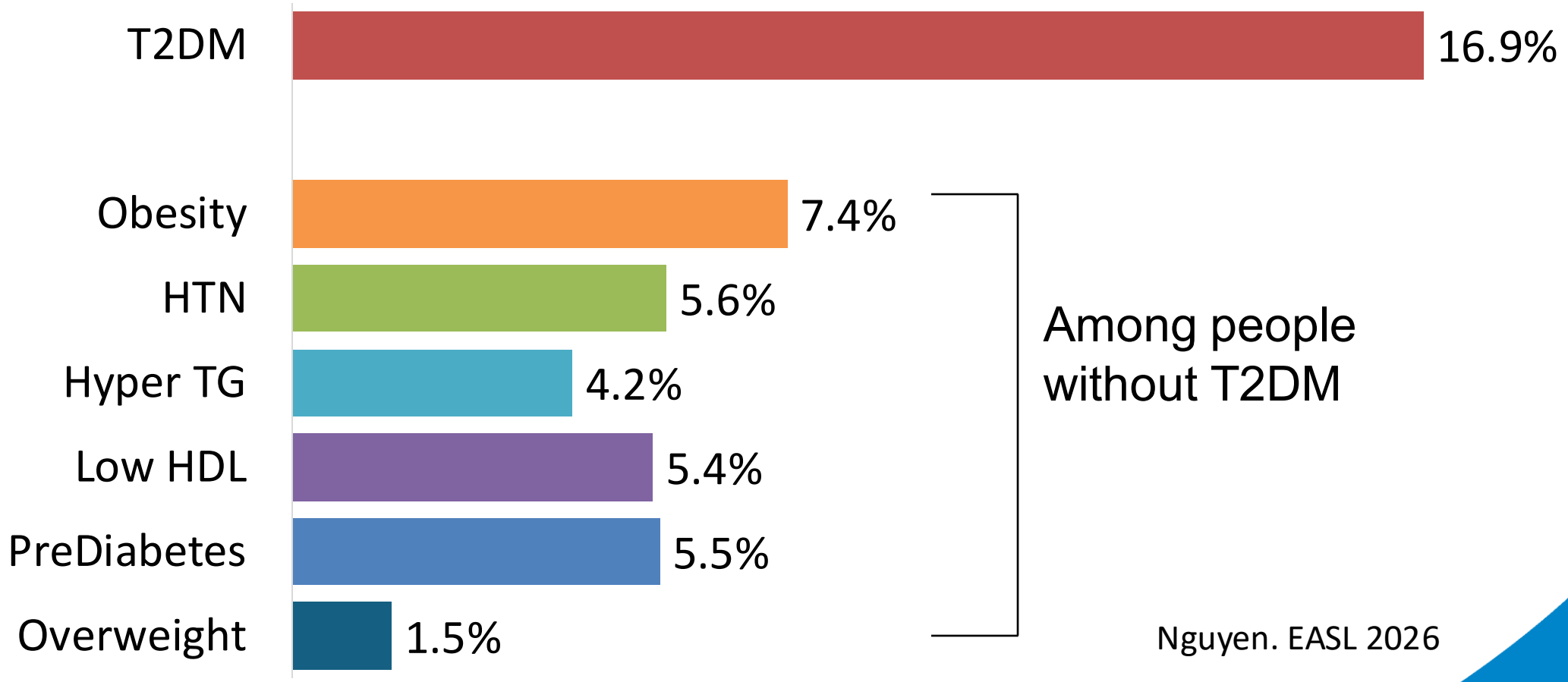
11% of this population have clinically significant fibrosis[4]

Effective screening and timely diagnosis of fibrosis can prevent progression to complications in these key groups

Kanwal F, et al. *Gastroenterology*. 2021;161(5):1657-1669.
Lomonaco R, et al. *Diabetes Care*. 2021; 44(2):399-406.
Quek J, et al. *Lancet Gastroenterol Hepatol*. 2023;8(1):20-30.

AACE®

Prevalence of MASH with clinically significant fibrosis among US adults with CMRFs (2017-20 NHANES data)



Nguyen. EASL 2026

*Fibrosis defined as VCTE>8 kPa and CAP >275 dB/m or VCTE> 15 kPa regardless of CAP

Prevalence of MASH with clinically significant fibrosis among US adults with Obesity (post-hoc analysis)

Prevalence of steatosis and fibrosis (F2+ and F3+) in individuals with overweight/obesity (Yang et al. Gut 2024) without diabetes. Courtesy: Rohit Loomba.

	Overall (N=385)	Obesity	
		No additional CMRFs (N=38)	With ≥ 1 additional CMRFs (N=347)
Steatosis	286 (74.3%)	16 (42.1%)	270 (77.8%)
Significant Fibrosis	38 (9.9%)	0	38 (11.0%)
Advanced Fibrosis (option 1)	24 (6.2%)	0	24 (6.9%)
Advanced Fibrosis (option 2)	12 (3.1%)	0	12 (3.5%)

Steatosis: defined as MRI-PDFF≥5% or CAP≥288 dB/m
Significant fibrosis: defined as MRE≥3 kPa or VCTE≥8 kPa.
Advanced fibrosis (option 1): defined as MRE≥3.63 kPa or VCTE≥8.6 kPa.
Advanced fibrosis (option 2): defined as MRE≥3.63 kPa or VCTE≥12.1 kPa.

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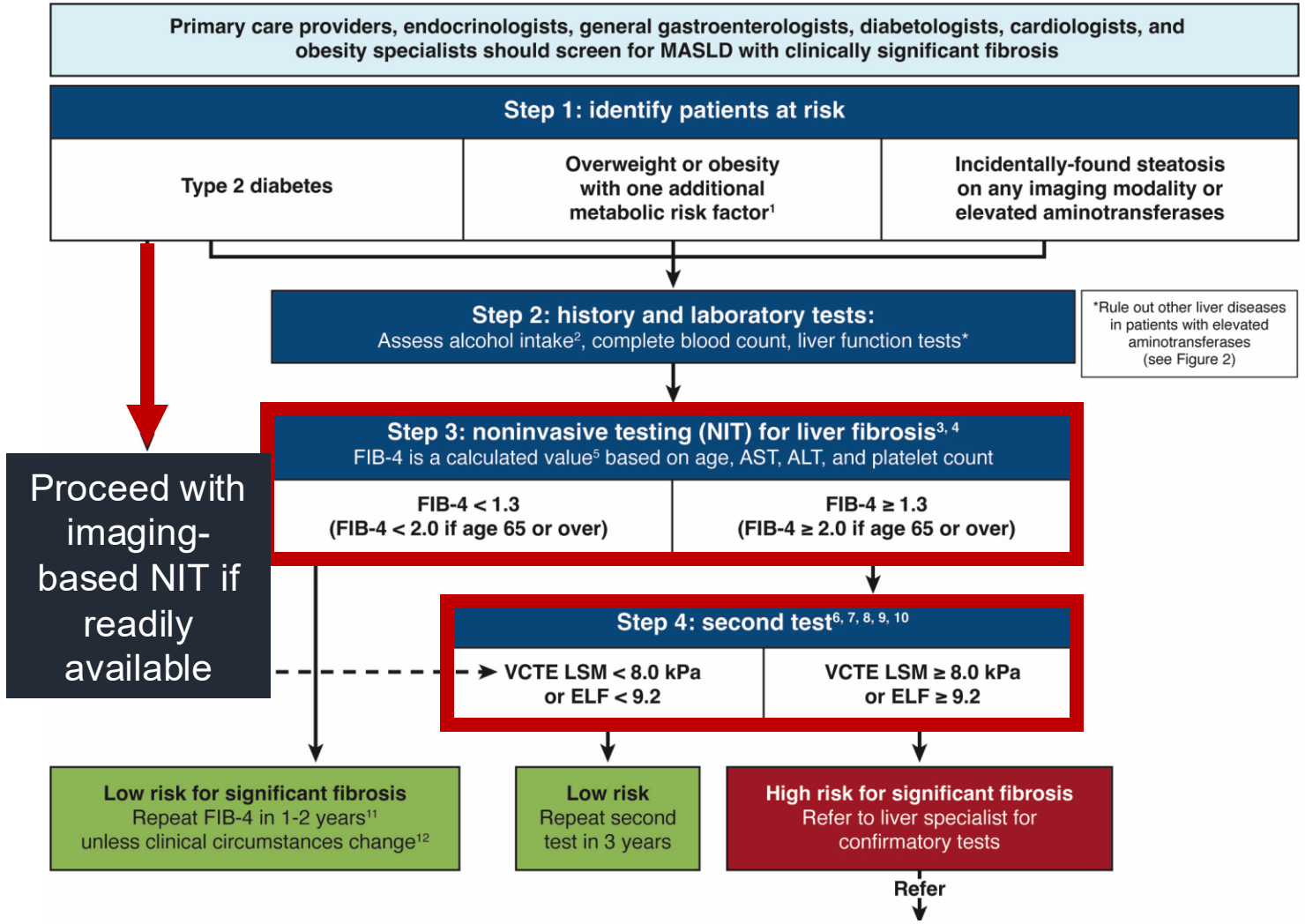
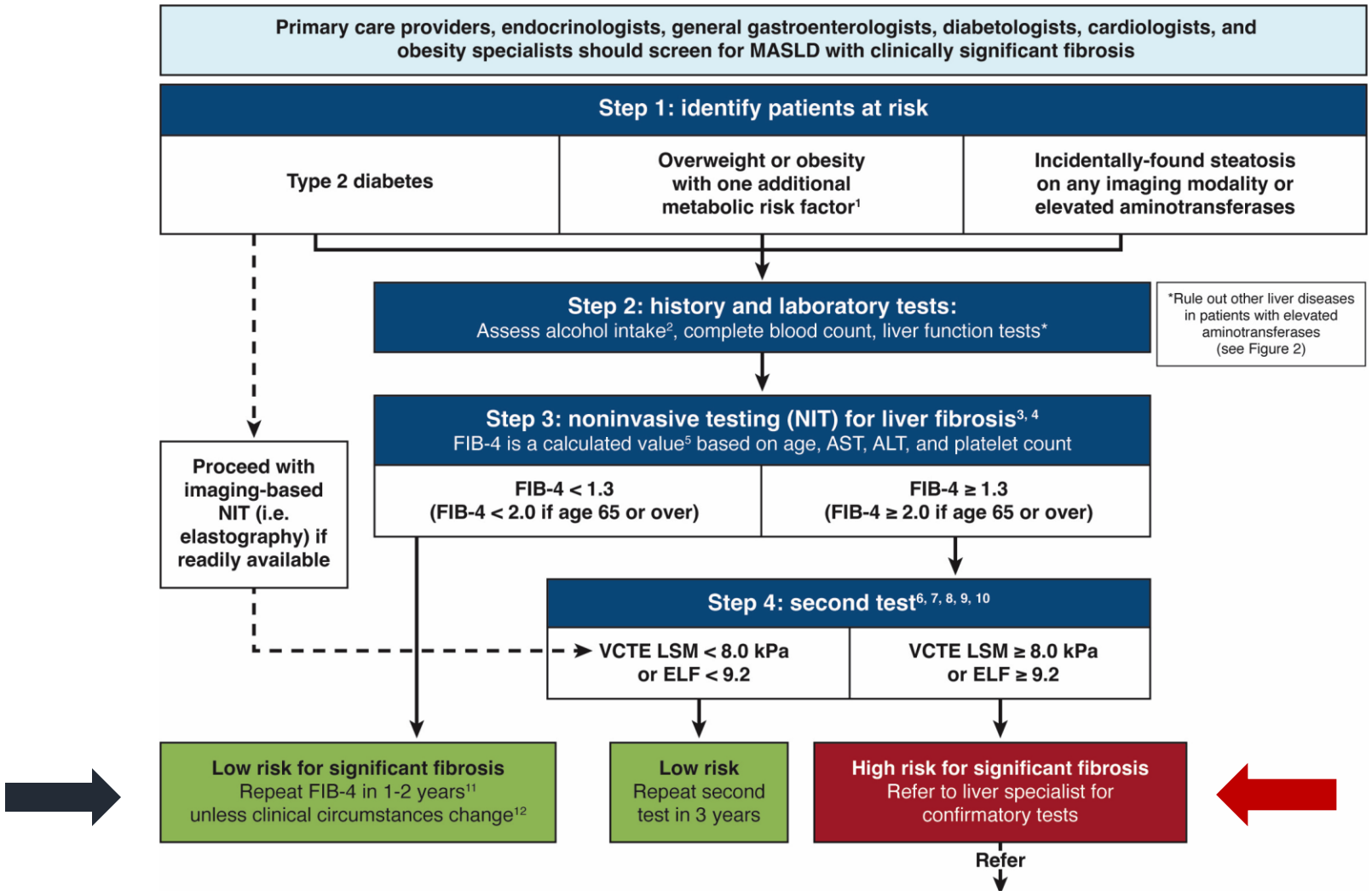
Updates to AGA Clinical Care Pathway



Kanwal F, et al. Updates to the AGA Clinical Care Pathway
Gastroenterology **2026**

Updates to AGA Clinical Care Pathway

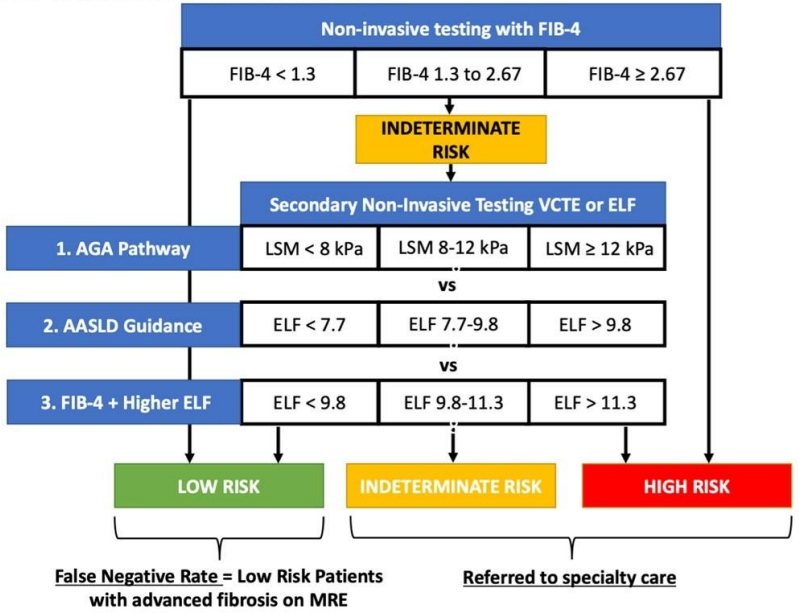


Validation of screening & risk stratification pathway

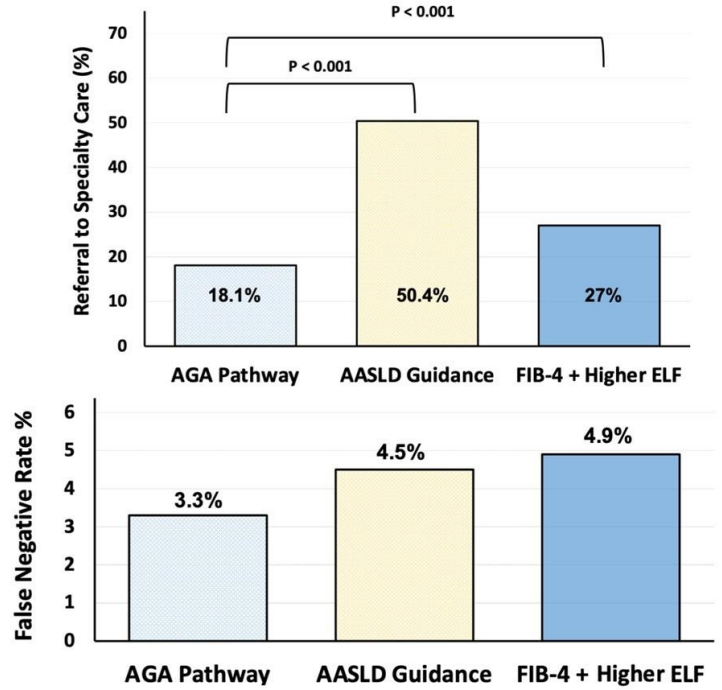
VALIDATION OF AGA CLINICAL CARE PATHWAY AND AASLD PRACTICE GUIDANCE FOR NONALCOHOLIC FATTY LIVER DISEASE IN A PROSPECTIVE COHORT OF PATIENTS WITH TYPE 2 DIABETES

Study Population & Intervention

Adults aged 50 years or older with type 2 diabetes mellitus (N=417) undergo sequential testing comparing the AGA Clinical Care Pathway, AASLD Practice Guidance and FIB-4 + higher ELF with MRE as the reference test for advanced fibrosis.



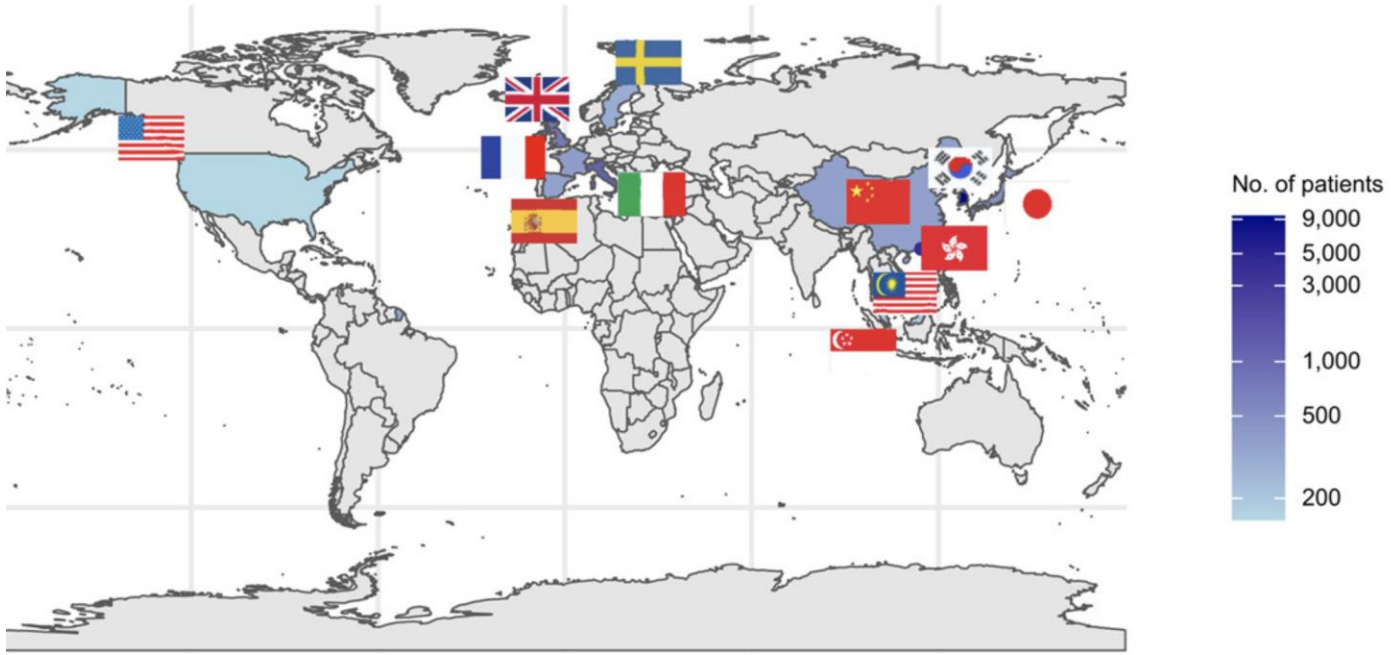
Outcomes

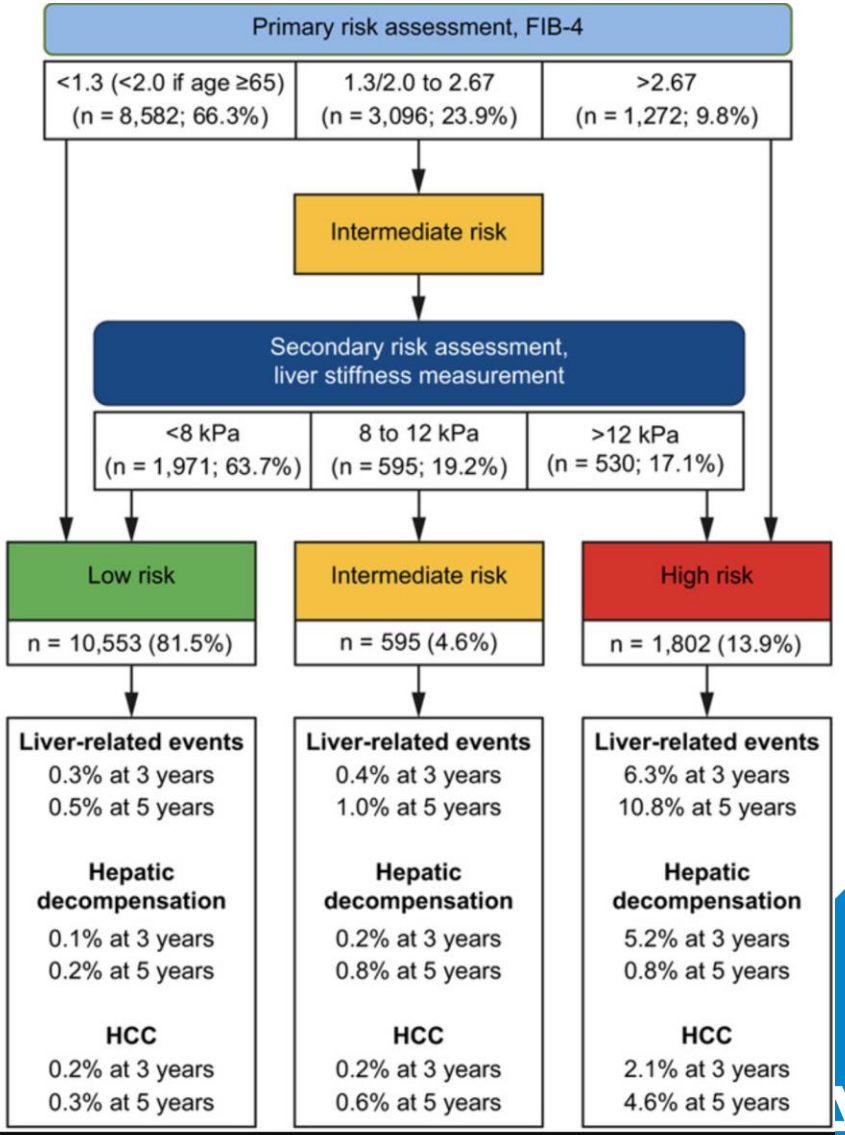


Ajmera, et al. *Hepatology.*

Validation of screening & risk stratification pathway

12,950 patients with MASLD who underwent VCTE from
16 centres in 12 countries/regions (prospective at 14 centres)



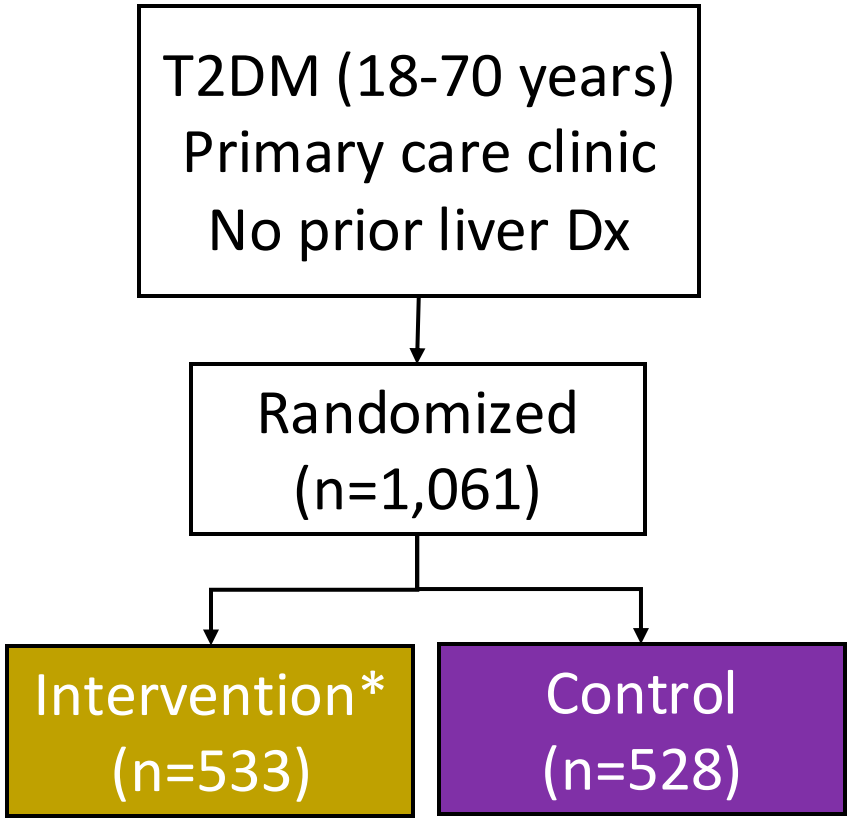


Conclusions:

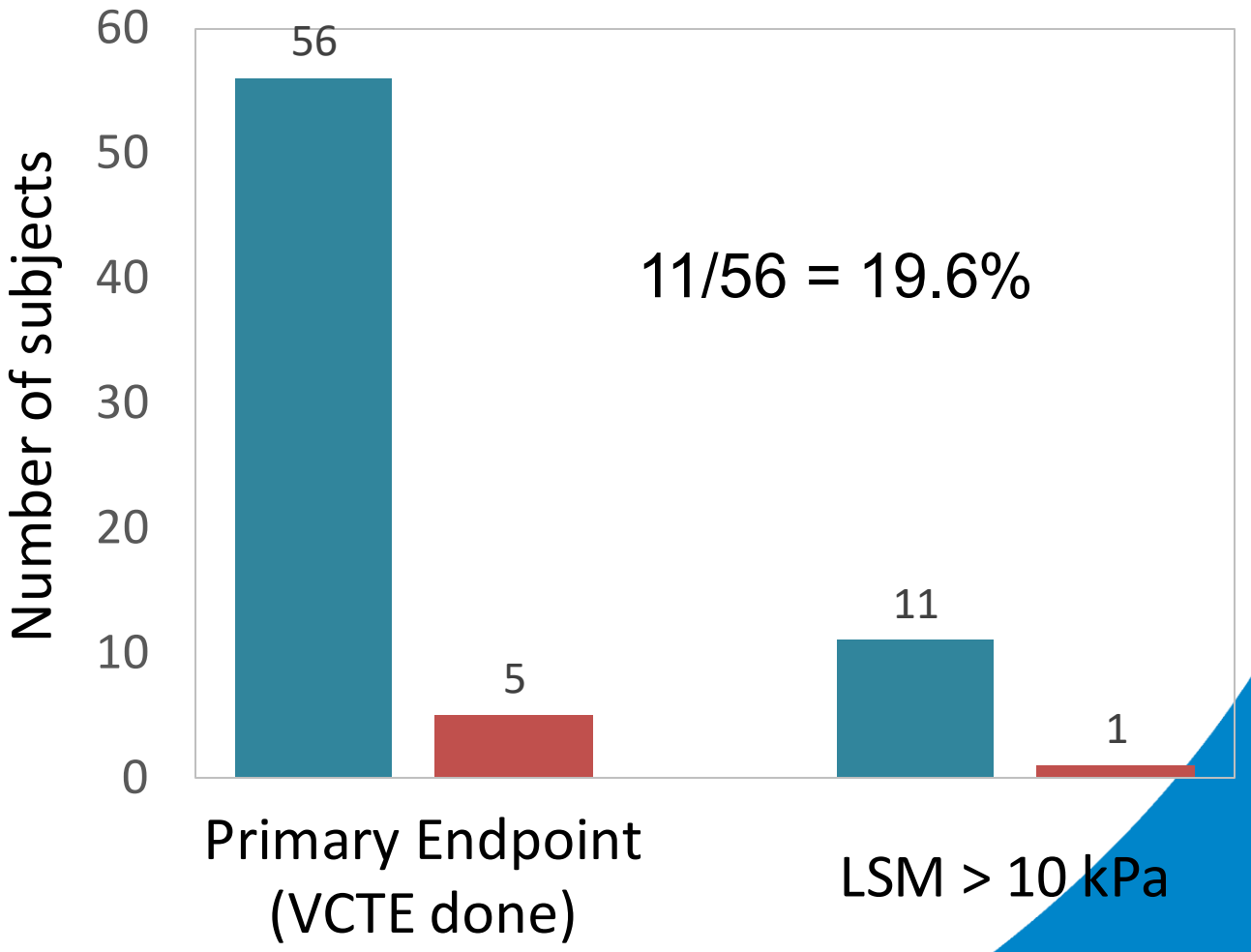
- Non-invasive 2-step approach effectively classifies patients at different risks of liver-related events
- With FIB-4 as the first-line test, substituting LSM with agile scores or FAST does not improve the prediction further

Yip et al. J Hepatology 2025

Evidence of screening leading to fibrosis diagnosis



*FIB-4/APRI auto-calculated followed by VCTE

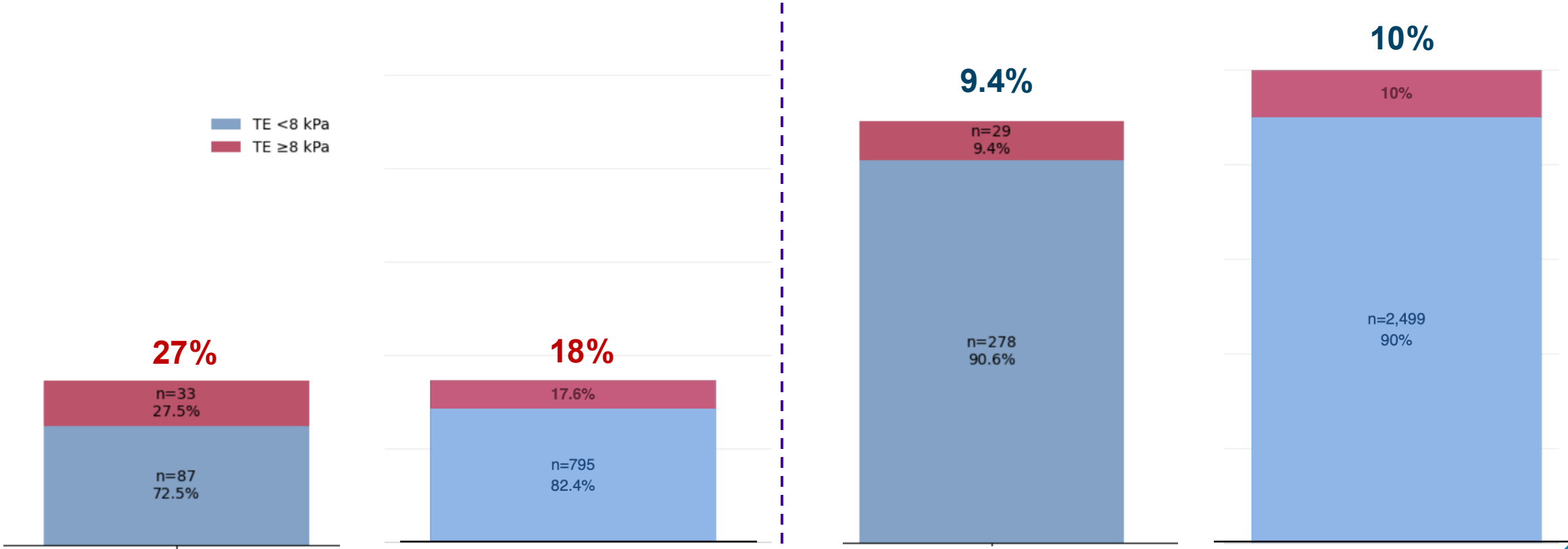


Zhang. Gut 2023;72:2364–2371

Only 1/3 complied with VCTE.

Convergent data from population-based studies

We miss people with fibrosis



FIB-4 >1.3
Kjaergaard M
Journal of hepatology
2023;79:277-28

FIB-4 >1.3
Chang et al. CGH
2024;22:1453-1461.

FIB-4 <1.3
Kjaergaard M
Journal of hepatology
2023;79:277-28

FIB-4 >1.3
Chang et al. CGH
2024;22:1453-1461.

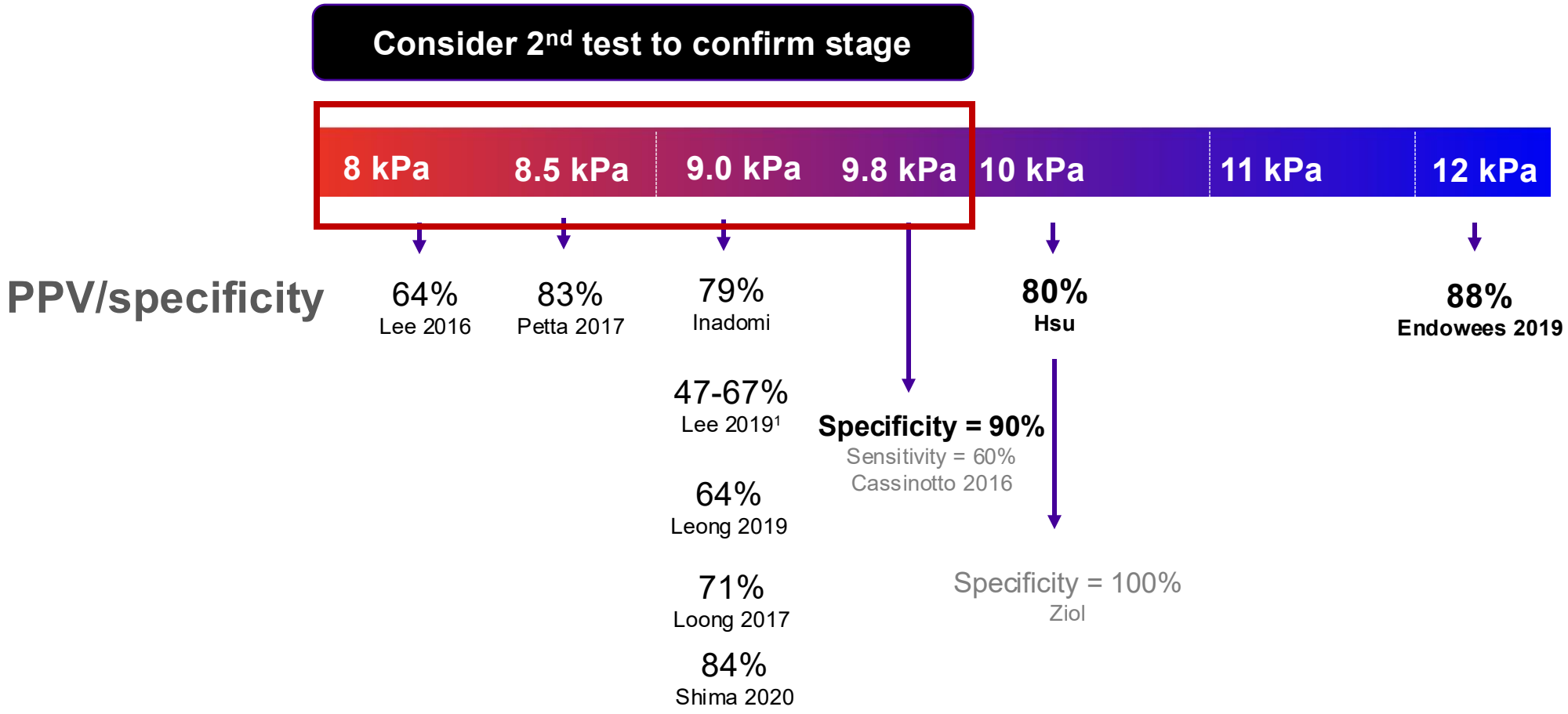
Potential short-term solutions

1. Imaging based NIT (if available)

2. Newer simple scores (after further validation)

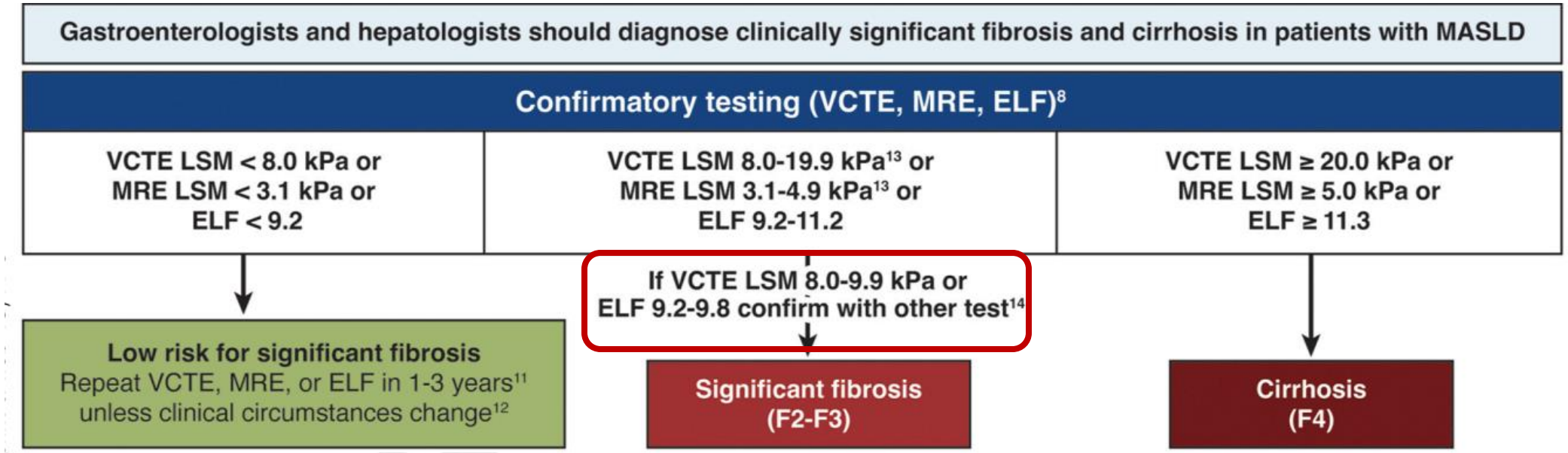
3. Proprietary (blood-based) tests

Vibration controlled transient elastography: Cut-offs for ruling in ≥F2



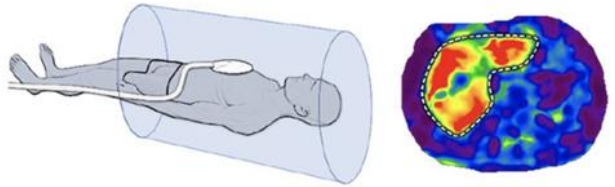
Selvaraj et al (LITMUS). J Hepatology 2021

Guidance on repeating or confirming LSM



MR Elastography

An individual patient data meta-analysis

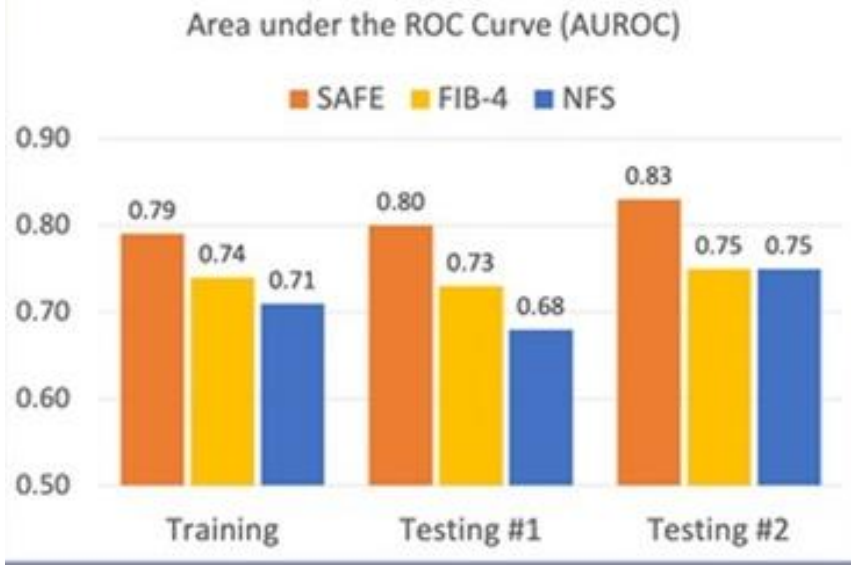


MRE-based liver stiffness measurements in 798 patients from 8 international cohorts

Liang et al. J Hepatol. 2023

SAFE Score

- Developed to detect F2+ fibrosis in MASLD, using the NASH CRN cohort
- Includes metabolic and liver injury variables:
  - Age, **BMI, diabetes**, AST, ALT, globulin, platelets
- Thresholds
  - <0 = Low Risk
  - 0-99 = Intermediate
  - ≥100 = High Risk



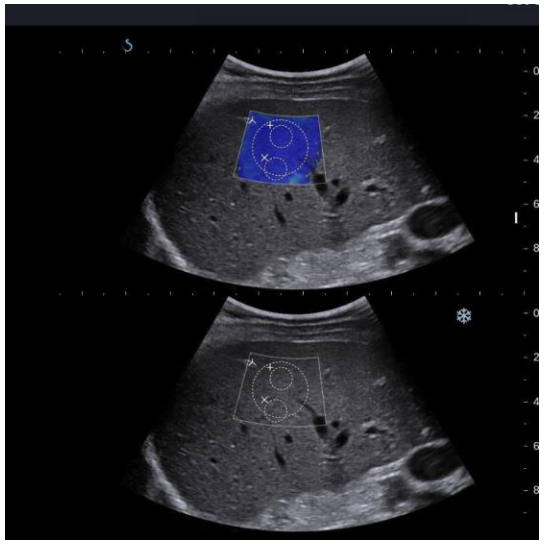
- In a retrospective comparative study using digital twin virtual trials in NHANES data (T2D, >40 years), SAFE based strategy detected more people with LSM >8kPa than FIB-4 based strategy

Outcome	FIB-4 Arm	SAFE Arm
LSM ≥8 kPa detection, %	7.5 (0.6)	17.8 (1.0)

Sripongpun. Hepatology 2023;77:256-267
https://www.mdcalc.com/calc/10613/steatosis-associated-fibrosis-estimator-SAFE-score

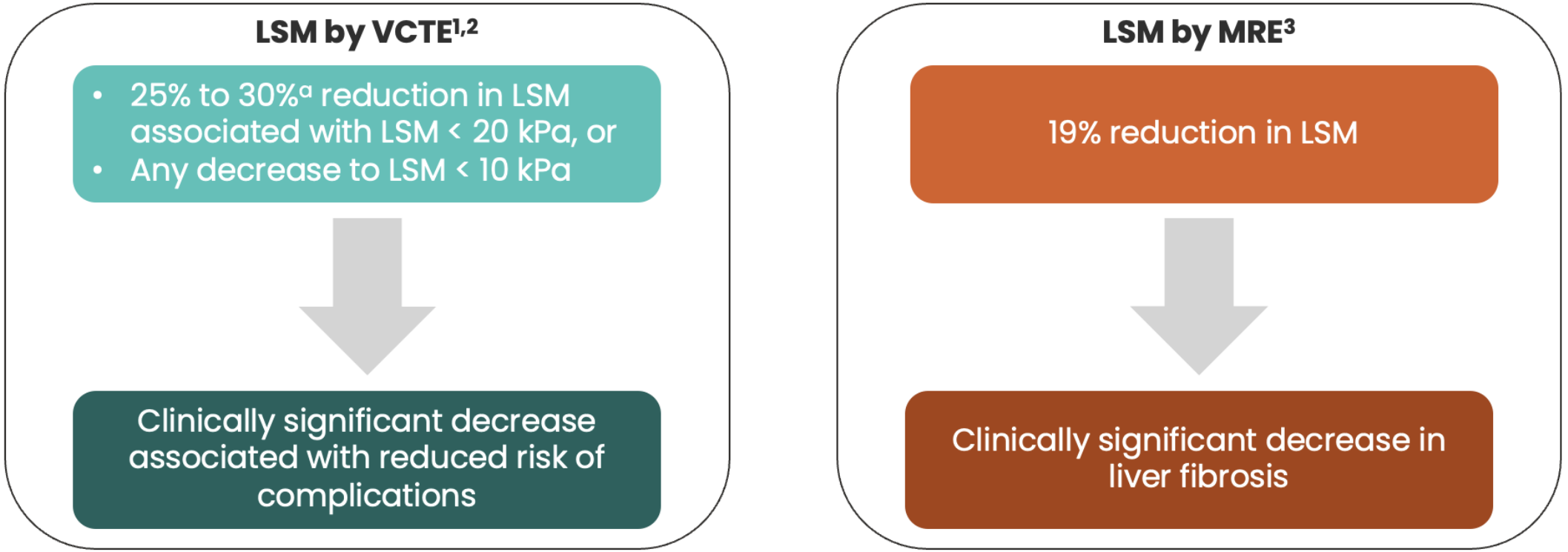
Non-Invasive tests: Today and Tomorrow

- ADAPT score
- MACK-3
- AGILE 3+
- AGILE 4



Shear-wave elastography

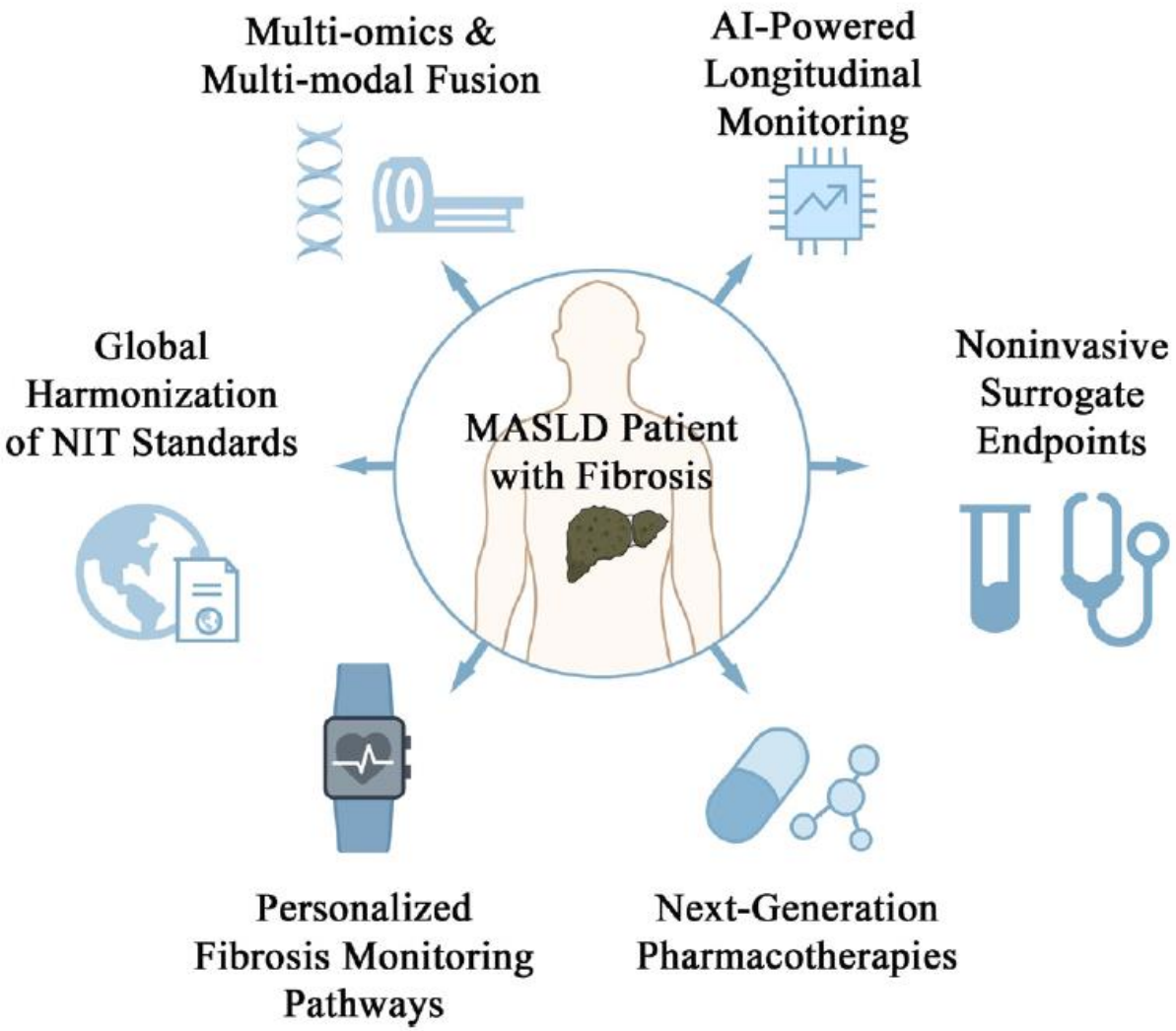
Proposed LSM cut-offs for longitudinal monitoring



Data are evolving. Limited data on meaningful change in the setting of treatments

1. Semmler G, et al. *Gastroenterology*. 2023; 165:1041–1052; 2. de Franchis R, et al. *J Hepatol*. 2022; 76(4):959-974;
3. Radiological Society of North America Quantitative Imaging Biomarkers Alliance:
https://qibawiki.rsna.org/images/a/a5/MRE-QIBAProfile-2018-05-02-CONSENSUS.pdf [accessed August 28, 2024].

Future of non-invasive testing



Summary: Where we are now: areas of alignment

- Who to screen is relatively consistent across guidelines
  - T2D
  - Obesity + cardiometabolic risk factors
  - Incidentally identified steatosis
- A tiered, risk-based approach is now standard
  - First line: simple, scalable NITs (e.g., FIB-4)
  - Second line: imaging or proprietary tests for risk refinement
- Noninvasive testing can identify clinically meaningful fibrosis
  - Enables targeted referral

Summary: What still needs to be solved

- Current NITs are useful, but leave significant room for improvement
  - The pathways and guidance will need to evolve as new data emerge
- Implementation is *the* major barrier
  - Ways to move forward:
    - Consistency across guidelines (NIT, cut-offs etc.) to reduce variation in care
    - Simplicity in algorithms to support adoption in primary care and non-specialty settings
    - Coordinated, cross-society messaging to accelerate awareness and uptake
    - Investment in real-world demonstration projects to show feasibility, impact, and value