



# REDEFINING MASLD/MASH CARE:

Personalized Strategies for Assessment, Diagnosis and Management



in partnership with



## Biomarkers & Noninvasive Tests: Utility and Implications for Treatment

NITs are used to exclude advanced disease and assess the likelihood of significant fibrosis, predict risk of disease progression and decompensation, make treatment decisions, and assess response to treatment.

### Liver Biopsy and Histology

- Definitive diagnosis and reference standard for grading & staging MASLD/MASH
- Limitations in risk, cost, & resource utilization
- Should be reserved for specific clinical scenarios in GI/hepatology care setting

### Key Biomarkers and NITs

- **FIB-4:** Validated and recommended as first-line assessment for endocrinologists (and general practice) based on its simplicity and minimal cost
  - Based on age, ALT, AST, platelet count
  - $FIB-4 = (Age \times AST) / (Platelet\ Count \times \sqrt{ALT})$
- **VCTE (eg, FibroScan®):** Transient elastography, ultrasound to measure liver stiffness via use of a probe placed between ribs over the liver
- **ELF:** Proprietary blood test to identify patients with MASLD at increased risk of progression

### Primary Risk Assessment

FIB-4 < 1.3	FIB-4 1.3 – 2.67	FIB-4 > 2.67
Low Risk	Indeterminant Risk	High Risk
Can be managed in the endocrinology (or primary care) settings	Undergo Secondary Risk Assessment	Refer to GI/Hepatology Care
<p>FIB-4 should not be used in acutely ill patients            In patients &gt;65, a lower FIB-4 cutoff of &gt;2.0 should be used instead of 1.3            In patients &lt;35, a secondary assessment should be considered among those with increased metabolic risks or elevated liver chemistries</p>		

### Secondary Risk Assessment

ELF <7.7	ELF 7.7-9.8	ELF >9.8
Low	Intermediate	High
Can be managed in the endocrinology (or primary care) settings	Refer to GI/Hepatology Care	Refer to GI/Hepatology Care

or

VCTE <8.0	VCTE 8-12	VCTE >12.0
Low	Intermediate	High
Can be managed in the endocrinology (or primary care) settings	Refer to GI/Hepatology Care	Refer to GI/Hepatology Care

ELF, enhanced liver fibrosis; FIB-4; fibrosis-4 index; MASH, metabolic dysfunction-associated steatohepatitis; MASLD, Metabolic dysfunction-associated steatotic liver disease; NIT, noninvasive test; T2D, Type 2 Diabetes; VCTE, vibration-controlled transient elastography  
 Clark JM, Cryer DRH, Morton M, Shubrook JH. Nonalcoholic fatty liver disease from a primary care perspective. Diabetes Obes Metab. 2023;25(6):1421-1433. doi:10.1111/dom.15016; ElSayed NA, Aleppo G, Arora VR, et al., American Diabetes Association. 4. Comprehensive medical evaluation and assessment of comorbidities: Standards of Care in Diabetes—2023. Diabetes Care 2023;46(Suppl. 1): S49–S67.2; Rinella ME, Neuschwander-Tetri BA, Siddiqui MS, et al. AASLD Practice Guidance on the clinical assessment and management of nonalcoholic fatty liver disease. Hepatology. 2023;77(5):1797-1835. doi:10.1097/HEP.000000000000323