



# AASLD 2023 Practice Guidelines on the Clinical Assessment and Management of Nonalcoholic Fatty Liver Disease

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**NAFLD** is a spectrum of disease, defined as a population in which **≥5% of hepatocytes** display macrovascular steatosis, in the absence of alternative causes in individuals who drink little/no alcohol.

- Includes *nonalcoholic fatty, nonalcoholic steatohepatitis* (inflammation and cellular injury with or without fibrosis) and *cirrhosis* (characterized by bands of fibrous septa and cirrhotic nodules).
- Prevalence in adults is approximately **25-30%**, but often remains undiagnosed.
- Rates of fibrosis progression and decompensation vary depending on **baseline disease severity, genetic, environmental, and comorbid diseases**.

## Guidance Statements (GS) 1 - 7: Comorbid Conditions and Alcohol Consumption

*Comorbid conditions: Type II Diabetes Mellitus (DM2), hypertension (HTN), dyslipidemia (HLD), cardiovascular disease (CVD)*

- **CVD** → statins recommended, including in compensated cirrhosis (careful monitoring in decompensated cirrhosis)
- **HLD** → lifestyle changes + omega-3 fatty acids, icosapent ethyl, or fibrates recommended.
- **DM2** → screen and monitor for advanced fibrosis
- All patients with clinically significant fibrosis (≥F2) → complete alcohol abstinence.

## GS 8: No need to routinely measure testosterone levels in NAFLD patients.

- ↑ rates of NAFLD in hypothyroidism, hypogonadism, growth hormone deficiency, and polycystic ovarian syndrome.
- ↑ rates of NAFLD in androgen deficiency; however, **no evidence** to measure testosterone levels.

Rinella, M. E., Neuschwander-tetri, B. A., Caldwell, S. H., Barb, D., & Rinella, M. E. (2023). American Association for the Study of Liver Diseases Practice Guidelines on the Clinical Assessment and Management of Nonalcoholic Fatty Liver Disease. *Hepatology*, 1–81. <https://doi.org/10.1097/HEP.0000000000000323>

## GSs 9 – 12 : Screening for Advanced Fibrosis

- **Avoid** general population-based screening.
- All patients with NAFLD + obesity or other metabolic factors → **primary risk assessment with FIB-4**
  - Repeat @ 1-2 year intervals
- All high risk individuals → **screen for advanced fibrosis**
  - High risk: DM2, obesity, family history of cirrhosis

**GS 13: Patients with NASH cirrhosis are at the highest risk for liver-related decompensation and require routine surveillance.**

**GS 14: If advanced NASH with a discordant NIT → referral to specialist for management and evaluation.**

## GSs 15 – 16: If advanced NASH fibrosis:

- Aminotransferase levels may be normal in advanced stages, so **not a reliable marker**
- 1<sup>st</sup> degree relatives should be counseled re: ↑ risk and offered screening for NAFLD

## GSs 17 – 18: Ultrasound (US) is not recommended to diagnose NAFLD.

- US lacks sensitivity & only provides subjective quantification of steatosis.
- CAP with VCTE → **superior point-of-care technique to quantify steatosis**

**GS 19: If FIB-4 ≥ 1.3, alternative NITs should be used to exclude advanced fibrosis.\***

*\*In age >65, FIB-4 ≥ 2.*

- Alternative methods = VCTE (e.g., Fibroscan), MRE, ELF.
  - Can help predict an ↑ risk of hepatic decompensation & mortality.

**CAP** = controlled attenuation parameter  
**ELF** = enhanced liver fibrosis  
**FAST** = FibroScan-AST  
**FIB-4** = Fibrosis-4 Index

**MRE** = magnetic resonance elastography  
**NIT** = non-invasive testing  
**VCTE** = vibration-controlled elastography

**GS 20 - 21: Patients with NAFLD who are overweight/obese should**  
 1) be on a diet that leads to calorie deficit and 2) ↑ exercise as much as possible.

- Weight loss improves steatosis, NASH, and fibrosis in a **dose-dependent manner**.
- 3 cups of coffee daily = less advanced liver disease.

**GS 22: Bariatric surgery should be considered an option for all patients that meet criteria in patients w/o cirrhosis.\***

- Resolves NAFLD in majority of patients and ↓ mortality from CVD and malignancy.
- \*In patients with decompensated cirrhosis, bariatric surgery = **absolute contraindication**.

**GSs 23 – 28: In those with NASH + DM2, consider Semaglutide and Pioglitazone. If w/o DM2, consider Vitamin E.\*\***

\*\* in the context of no cirrhosis

- These may improve NASH, but **do not have** an antifibrotic effect.
- Metformin, UDCA, DPP-4, statins, and silymarin **do not have** histological benefit and **should not be used**.

**GS 29: ALT improvement or reduction in fat by imaging techniques can be used as a histological marker of improvement.**

- ALT **normalization can predict NASH resolution**.
- Histological improvement can also be tracked by NITs (i.e., FIB-4, FAST, ELF, VCTE).

# Management Algorithm for NAFLD

