Identify Cirrhosis in Your At-Risk Patients

FIB-4 Is a Noninvasive Tool to Stratify Fibrosis Risk

Patients With Cirrhosis Often Are Not Diagnosed Until Decompensation[1]

UP TO 40%

of patients with cirrhosis are asymptomatic[2]

Many patients are at higher risk of cirrhosis and its complications[3,4]

- **T2D** (or prediabetes)
- **Obesity** (or metabolic syndrome)
- **Hepatic steatosis** (on imaging)
- **Persistently elevated ALT or AST***

→ **MASLD**

- **Heavy alcohol use** (or binge drinking) → **ALD**

Medical history and physical exam alone are often insufficient to detect cirrhosis[5]

FIB-4 (FIBROSIS-4) IS AN EASY-TO-USE FORMULA to calculate the risk of liver fibrosis, which is strongly linked to development of cirrhosis and future decompensation complications, including ascites, variceal hemorrhage, and hepatic encephalopathy (HE)[3,6]

*AST or ALT >30 IU/L for >6 months.[3]

ALD, alcohol-associated liver disease; ALT, alanine aminotransferase; AST, aspartate aminotransferase; MASLD, metabolic dysfunction–associated steatotic liver disease; T2D, type 2 diabetes.

FIB-4 May Expedite Detection of Fibrosis and Cirrhosis Before Complications Arise[3,6]

$$\text{FIB-4 SCORE}^{3} = \frac{\text{AGE (years)} \times \text{AST (IU/L)}}{\text{PLATELET COUNT } (10^{9}/\text{L}) \times \sqrt{\text{ALT (IU/L)}}}$$

- Uses values from routine blood work[3]
- High validity to predict hepatic fibrosis changes over time[3]
- Easily incorporated into an EMR or calculated online[3]

Guidelines recommend initial risk assessment for fibrosis using FIB-4[3,4,6]

AASLD · AACE · ACG

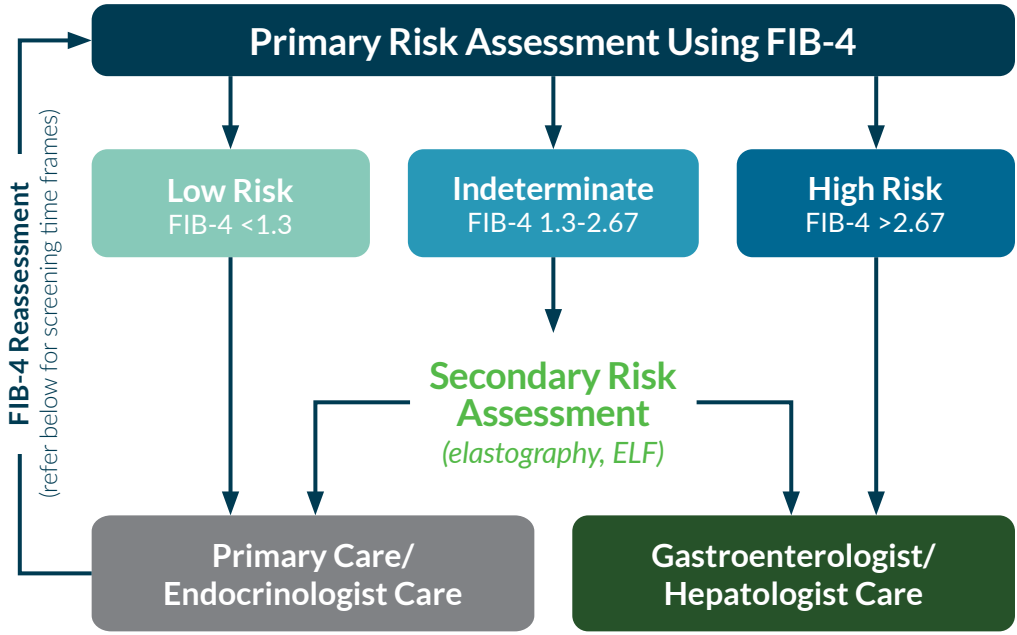
Early detection of severe liver damage facilitates the diagnosis of cirrhosis, allowing for increased monitoring and interventions to manage and reduce the risk of its complications[3,6]

*In patients 65 years and older, the cutoff for FIB-4 low risk should be <2.0 (rather than <1.3). FIB-4 has low accuracy in patients under 35 years old; consider use of secondary assessment.[3,6]

AACE, American Association of Clinical Endocrinology; AASLD, American Association for the Study of Liver Diseases; ACG, American College of Gastroenterology; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ELF, Enhanced Liver Fibrosis; EMR, electronic medical record; FIB-4, Fibrosis-4; T2D, type 2 diabetes.

Higher FIB-4 Score May Signal the Need for Liver Specialist Involvement[3,6]

Fibrosis Risk Stratification[3,6,*]



Guidelines recommend...

FIB-4 >2.67: Prompt referral of high-risk patients to a liver specialist[3,6]

FIB-4 1.3-2.67: Referral of indeterminate patients for secondary risk assessment[3,6]

FIB-4 <1.3: Periodic screening of low-risk patients[6]

- T2D or prediabetes
- ≥2 metabolic risk factors

EVERY 1-2 YEARS

- No T2D
- <2 metabolic risk factors

EVERY 2-3 YEARS

Use FIB-4 to Uncover Fibrosis and Cirrhosis, Which Can Lead to Complications Like HE[3,6]

HE is a brain dysfunction caused by liver insufficiency and/or portosystemic shunting[7]

UP TO 80%

of patients with cirrhosis will develop some form of HE, presenting as a range of neuropsychiatric abnormalities[7]

Monitor patients with diagnosed or suspected cirrhosis for HE, which may resemble common disorders that alter consciousness[6-8]

Mental changes[7]

- Disorientation
- Confusion
- Altered behavior
- Lethargy

Physical changes[7]

- Asterixis (hand flapping tremor)
- Dyspraxia
- Bradykinesia

Scan this QR code to use our online FIB-4 calculator
You can also access the calculator here

FIB-4, Fibrosis-4; HE, hepatic encephalopathy.

References
1. Schwarz M et al. *PLoS One*. 2023;18(8):e0290352. **2.** Heidelbaugh JJ, Bruderly M. *Am Fam Physician*. 2006;74(5):756-762.
3. Cusi K et al. *Endocr Pract*. 2022;28(5):528-562. **4.** Jophlin LL et al. *Am J Gastroenterol*. 2024;119(1):30-54.
5. de Bruyn G, Graviss EA. *BMC Med Inform Decis Mak*. 2001;1:6. **6.** Rinella ME et al. *Hepatology*. 2023;77(5):1797-1835.
7. Vilstrup H et al. *Hepatology*. 2014;60(2):715-735. **8.** Shawcross DL et al. *Eur J Gastroenterol Hepatol*. 2016;28(2):146-152.

Salix Pharmaceuticals

Salix Pharmaceuticals, Inc.
400 Somerset Corporate Blvd., Bridgewater, NJ 08807