



NAFLD/NASH 101: A Resource for Clinicians

Nonalcoholic fatty liver disease (NAFLD) is a condition in which too much fat builds up in the liver. Nonalcoholic steatohepatitis (NASH) is caused when that extra fat turns into inflammation (swelling in the liver) and fibrosis (scarring) of the liver. If severe enough, NASH can lead to cirrhosis or liver cancer, potentially requiring a liver transplant. In addition, cardiac-related deaths are one of the leading causes of mortality for people living with NAFLD or NASH.

Researchers estimate that about 25 percent of people worldwide have NAFLD and 2-6% have NASH.^{1 2}

While NAFLD/NASH occurs in all populations, it is more common in Hispanic, Asian, and White populations than African-American. Further research supports that Hispanic individuals of Mexican origin have one of the highest incidences.³

NAFLD/NASH can affect people of any age, including children. It is more common in people who live with certain conditions, including obesity (BMI >30) and conditions that may be related to obesity, such as type 2 diabetes, high blood pressure, or high cholesterol.

India is the only country that currently has a medication approved specifically for NASH. Several medications, however, are being tested in clinical trials for approval. Providers may also choose to prescribe medications for conditions that complicate NASH, such as diabetes and high blood pressure.

It is possible to stop NASH in the early stages from progressing to severe liver damage through lifestyle change by focusing on physical activity and nutrition. Research shows that some individuals may need to lose up to 7 to 10 percent of body weight to reduce liver inflammation.

The symptoms of NASH are hard to recognize, leading it to remain under-diagnosed. Health care providers, however, are now using newer non-invasive screening and diagnostic tools, offering a safer and more thorough examination of the liver compared with biopsies that examine a small piece.

Non-invasive diagnostics include:

- **Blood tests:** A lab analysis to calculate the amount of fat in the liver. Specific blood tests include AST to Platelet Ratio Index (APRI), Fibrosis-4 Test (FIB-4), Enhanced Liver Fibrosis (ELF), and FibroTest.
- **Multiparametric Magnetic Resonance Imaging (e.g., LiverMultiScan):** Imaging technology that uses magnetic resonance imaging (MRI) to measure liver fat, iron, fibrosis and inflammation in a scan of up to 15 minutes.
- **Transient Elastography (e.g., Fibroscan):** Imaging device that uses ultrasound to measure liver stiffness.
- **Magnetic Resonance Elastography (MRE):** Imaging technology that combines MRI with sound waves to create a visual map (elastogram) to measure liver stiffness.
- **Shear Wave Elastography:** Imaging technology that uses ultrasound to measure liver stiffness.

This resource is produced by Global Liver Institute in collaboration with Clinical Care Options, LLC. It is supported by educational grants from Gilead Sciences and Novo Nordisk Inc as part of the program, *NASH Core Curriculum: A Comprehensive Online Resource Center*. Learn more at www.clinicaloptions.com/hepatitis/programs/nash-core-curriculum.

¹ Estes C, Razavi H, Loomba R, et al. Modeling the epidemic of nonalcoholic fatty liver disease demonstrates an exponential increase in burden of disease. *Hepatology*. 2018; 67:123–133.

² Younossi ZM, Koenig AB, Abdelatif D, et al. Global epidemiology of nonalcoholic fatty liver disease—Meta-analytic assessment of prevalence, incidence, and outcomes. *Hepatology*. 2016; 64:73–84.

³ Pan, J. J., & Fallon, M. B. (2014). Gender and racial differences in nonalcoholic fatty liver disease. *World journal of hepatology*, 6(5), 274–283.