



New Blood Score May Identify Serious Fatty Liver Risks

The MVX index may detect fatty liver earlier for better treatment outcomes.

June 29, 2026 By Eva Lorenz

The metabolic vulnerability index (MVX), which considers both [inflammation](#) and metabolic malnutrition, is a new blood-based score that may help identify those at highest [risk](#) for serious health problems due to [fatty liver disease](#). A [new study published in Nature Communications](#) showed that higher MVX scores were strongly associated with [liver cancer](#), [liver failure](#) or [death](#).

“First, this demonstrates the ability of the MVX to predict the future development of key clinical events of interest and could provide clinicians with a validated tool to assist decision-making,” wrote the study’s authors. “Next, it can be used to define enrichment strategies for outcome risk in [clinical trials](#) within clinical trial populations.

[Metabolic dysfunction-associated steatotic liver disease \(MASLD\)](#) and its more severe form, [metabolic dysfunction associated steatohepatitis \(MASH\)](#), are responsible for a growing proportion of advanced liver disease worldwide. [Around a third](#) of people in the United States have MASLD, and about 5% have MASH. Over time, the buildup of fat in the liver can lead to serious complications, including [cirrhosis](#) and [liver cancer](#). Fatty liver disease often occurs in people with obesity, type 2 diabetes and other metabolic conditions. With only two approved medications ([Rezdiffra](#) and [Wegovy](#)), management still largely depends on lifestyle changes such as weight loss and exercise.

In its early stages, MASLD often does not cause symptoms, and symptoms that develop as the disease progresses can be vague, like fatigue or malaise, according to the [Mayo Clinic](#). The only other well-established blood [biomarker](#) for MASLD is the FIB-4 index, which estimates liver scarring, or [fibrosis](#), and is best used to monitor the later stages of MASLD. Alongside measuring liver scarring and enzymes, fatty liver disease can be detected through liver biopsy or imaging procedures, including ultrasound, magnetic resonance imaging (MRI) and computerized tomography (CT) scans.

Researchers from Virginia Commonwealth University followed 1,613 patients, analyzing blood tests, clinical records and MVX data for at least 48 weeks to track liver outcomes, and compared MVX data to standard fatty liver disease blood detection assays, such as fibrosis stage, to determine the efficacy of the new blood score.

Every 10-point increase in MVX led to a 2.7 times greater risk of death, 5.1 times greater risk of death due to liver disease and 2.5 times greater risk of severe liver failure. Used alongside fibrosis blood tests, MVX scores predicted patient outcomes, including death, liver failure and liver cancer, at higher rates than fibrosis stage alone.

“The current study represents this ‘first-step’ for the use of the MVX as a prognostic biomarker for MASLD,” wrote the study’s authors.

Overall, the MVX index did not predict all-cause or liver disease related death better than the FIB-4 index. However, the MVX index identified younger individuals in need of liver disease intervention, meaning the new blood score may be beneficial for populations—such as those with type 2 diabetes—for whom measuring fibrosis stage is not the best way to detect MASLD.

Understanding the efficacy of the MVX index may also help shift the overall understanding of fatty liver disease.

“Conventional histological assessment does not capture the metabolic and inflammatory components completely and are likely to underestimate the metabo-inflammatory nature of MASLD,” wrote the study’s authors. “The components of MVX capture changes in metabolism and inflammation and provides proof of concept that metabo-inflammatory markers affect outcomes.”

To learn more about detection, treatment, risk factors and more, check out Hep’s basics on fatty liver disease: [“What Is Fatty Liver Disease? \(MASLD and MASH\)”](#)