

Weight-Loss Surgery Cuts Fatty Liver Complications

Bariatric surgery was linked to fewer serious adverse liver disease outcomes in people with obesity and MASH-related cirrhosis.

May 9, 2025 By [Sukanya Charuchandra](#)

No currently approved medications have been shown to reduce serious liver complications for people with cirrhosis caused by [metabolic dysfunction-associated steatohepatitis \(MASH\)](#). But a recent long-term study offers promising news: Patients who underwent bariatric surgery had significantly lower rates of major adverse liver-related outcomes compared to those who received standard nonsurgical care. These findings were published in [Nature Medicine](#).

MASH and its earlier stage, metabolic dysfunction-associated steatotic liver disease (MASLD), are responsible for a growing proportion of advanced liver disease worldwide. Over time, the buildup of fat in the liver can lead to fibrosis, [cirrhosis](#) and [liver cancer](#). With only [one approved medication](#) (Rezdiffra), management largely relies on lifestyle changes such as weight loss and exercise.

Ali Aminian, MD, of the Cleveland Clinic, and colleagues conducted an observational study exploring the impact of metabolic surgery versus nonsurgical interventions on the incidence of adverse liver-related outcomes in people with obesity and MASH-related cirrhosis. Bariatric, or metabolic surgery, such as gastric bypass or sleeve gastrectomy, alters the anatomy of the stomach, leading to appetite suppression, weight loss and improved metabolism.

The study included 168 people with obesity and MASH-related compensated cirrhosis, meaning they still had adequate liver function. Nearly 70% were women, and the average age was 54 years. Within this group, 62 people underwent bariatric surgery while 106 did not receive surgical intervention.

The primary study endpoint was the occurrence of major adverse liver outcomes, including liver decompensation—characterized by abdominal fluid buildup (ascites), bleeding veins in the stomach, liver-related cognitive issues (hepatic encephalopathy)—liver cancer, liver transplantation or death. The secondary endpoint was liver function deterioration.

People in the bariatric surgery group lost an average of 32 kilograms (about 70 pounds)—nearly 30% of their body weight—over the course of 15 years, compared with just 10% weight loss in the nonsurgical intervention group.

During this 15-year period, 21% of patients in the surgery group experienced major adverse liver outcomes, compared with 46% in the nonsurgical group. This means those in the former group had a 72% lower risk of such outcomes. In particular, decompensated cirrhosis was half as likely in the surgery group (16% versus 31%).

Over the same period, 16% in the surgery group and 31% in the nonsurgical group experienced loss of liver function, meaning the former group had an 80% lower risk of liver function deterioration.

Liver transplantation is considered risky for people with extreme obesity. But surgery as a weight-loss intervention could make those with obesity and MASH eligible for a liver transplant.

However, the researchers cautioned that their observations were limited to a study population that was largely white. Moreover, with no data available on physical activity, diet, smoking and alcohol consumption, the researchers could not rule out the impact of a healthy lifestyle. Of note, GLP-1 agonists and related [weight-loss medications](#), which sometimes replace bariatric surgery, came into widespread use during the study period.

“In conclusion, among patients with compensated MASH-related cirrhosis and obesity, metabolic surgery, compared with nonsurgical management, was associated with a significantly lower risk of incident major adverse liver outcomes,” wrote the researchers. “In the absence of approved medical therapies for compensated MASH-related cirrhosis, metabolic surgery may represent a safe and effective therapeutic option to influence the trajectory of cirrhosis in selected patients.”

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