

Low-Carb Diet Offers Benefits for People with Fatty Liver Disease

Carbohydrate restriction was linked to weight loss and better heart and metabolic health among people with MASLD.

September 8, 2025 By [Sukanya Charuchandra](#)

Low-carbohydrate diets may improve key markers of heart and metabolic health for people with [metabolic dysfunction-associated steatotic liver disease \(MASLD\)](#), according to study findings published in [Frontiers in Nutrition](#). The researchers found that cutting carbs significantly lowered body weight, blood sugar, triglycerides.

MASLD and its more severe form, metabolic dysfunction-associated steatohepatitis (MASH), are responsible for a growing proportion of advanced liver disease worldwide. Over time, the buildup of fat in the liver can lead to serious complications, including fibrosis, [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 largely depends on lifestyle changes such as weight loss and exercise.

Shanshan Pi, of Beijing University of Chinese Medicine, and colleagues conducted a systematic review and meta-analysis to explore the impact of a low-carbohydrate diet on heart-related risks in people with MASLD. They searched the PubMed, Cochrane Library, Web of Science and Scopus databases from their inception through March 2025. The analysis included 16 randomized controlled trials that enrolled a total of 1,056 people.

The studies showed that low-carbohydrate diets significantly lowered body weight, body mass index (BMI), hemoglobin A1c (a measure of blood sugar) and triglycerides. Even when looking at dietary interventions followed for less than six months, improvements were noted in BMI, hemoglobin A1c and triglycerides.

What's more, when carb restriction was extreme—with less than 26% of energy derived from carbohydrates—the benefits were greater. Again, these included improvements in weight, BMI, hemoglobin A1c and triglycerides, as well as blood pressure, HOMA-IR (a measure of insulin resistance) and waist circumference.

While low-carbohydrate diets ameliorated cardiometabolic risk factors, “short-term

implementation of a strict carbohydrate-restricted dietary regimen may yield additional clinical benefits,” wrote researchers. “Future research should prioritize standardized nutrient assessment, enhanced adherence strategies and cardiovascular endpoint trials.”

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