People who exercised for at least two and a half hours a week were about 25 percent less likely to develop hepatic steatosis, or fat accumulation in the liver, and those with steatosis were more likely to see improvement, compared with people who were inactive, according to study findings published recently in the Journal of Gastroenterology and Hepatology. The researchers suggested that the beneficial effects of exercise were likely attributable to changes in body fat distribution, not simply weight loss.

Fatty liver disease, often associated with obesity and metabolic syndrome, is a leading cause of liver problems in the United States. Non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH), its more severe form, refer to accumulation of fat in the liver in people who do not drink heavily. Over time, fat accumulation and the accompanying inflammation and buildup of scar tissue (fibrosis and cirrhosis) can interfere with normal liver function and lead to liver cancer.

While several medications are currently under study for fatty liver disease, diet, exercise and weight loss remain the mainstays of NAFLD treatment.

Aline Mendes Gerage of the Federal University of Santa Catarina in Florianópolis, Brazil, and colleagues conducted a study to evaluate the effects of physical activity on the course of liver steatosis over time.

The study included 5,860 people who participated in an employer-sponsored health evaluation in São Paulo. Most study participants were men and the average age was in the mid-forties. People with alcoholic liver disease and those with chronic hepatitis B or C were excluded. The researchers used ultrasound scans to evaluate liver fat status at the start of the study and again after around two and a half years. They found that 1,902 participants had NAFLD and liver steatosis and 3,958 did not have steatosis at study entry. Half of the people with steatosis and 12 percent of those without it had metabolic syndrome, a cluster of cardiovascular risk factors that include abdominal obesity, high blood pressure, abnormal blood fat levels and insulin resistance.
Participants were divided according to whether they engaged in physical activity for at least 150 minutes per week or less at the start of the study. Fewer than half of participants were classified as physically active at study entry in both the steatosis group (33 percent) and the group without steatosis (43 percent). The researchers also looked at whether physically active participants remained active or became inactive and whether inactive people stayed inactive or became active.

Between the start of the study and the second ultrasound scan taken 12 to 82 months later, 15 percent of participants who started without steatosis developed it for the first time, while 15 percent of those with steatosis at study entry showed improvement.

The study found that people without initial liver steatosis who either remained physically active or became active were significantly less likely than inactive participants to develop steatosis during follow-up, after adjusting for other relevant risk factors.

Similarly, after adjusting for age, sex and presence of metabolic syndrome among people who did have steatosis at baseline, those who either remained or became physically active were significantly more likely to experience steatosis improvement or reversal. However, after adjusting for changes in body mass index, the difference was no longer statistically significant—meaning it could have been the result of chance—suggesting that changes in body composition played a key role in steatosis outcomes.

“Higher levels of physical activity were associated with prevention and treatment of hepatitis steatosis, with evidence of effect mediation by changes in body mass index,” the study authors concluded.

“These results are important clinically and suggest that even a relatively moderate-term physical activity regimen of about 31 months imparts beneficial effects that are sufficient to impact the severity of hepatic steatosis,” the researchers added. “Our results support the recommendation of regular physical activity as a mainstream intervention for prevention and treatment of NAFLD.”

To read the study abstract, click here.