

# Regular aerobic exercise reduces health concerns associated with fatty liver

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Researchers from the University of Sydney, Australia determined that patients with a sedentary lifestyle who engage in routine physical activities lower their risk of nonalcoholic fatty liver disease (NAFLD). The lower risk of problems associated with fatty liver was not contingent upon weight loss, but a direct result from the increased aerobic exercise. The results of this study are published in the October issue of *Hepatology*, a journal of the American Association for the Study of Liver Diseases.

Nonalcoholic [fatty liver disease](#) affects 30% of the adult population and the majority of obese individuals. The condition, where fat accumulates in the liver of those people who drink little or no alcohol, can cause inflammation or scarring of the liver with more serious cases, known as nonalcoholic steatohepatitis, possibly progressing to liver failure.

A study, led by Jacob George, M.D. from Westmead Hospital at the University of Sydney, included 19 obese adults who had a body mass index  $>30$  kg/m<sup>2</sup> and reported a [sedentary lifestyle](#). Baseline measurements were performed to determine hepatic triglyceride concentration (HTGC) and hepatic lipid saturation index (SI), intramyocellular triglyceride (IMTG) levels, visceral adipose tissue (VAT) or amount of fat stores in the abdomen, cardiorespiratory fitness, blood biochemistry, and measurements for body height and weight. Volunteers either received 4 weeks of aerobic cycling exercise (12 subjects) or a placebo (7 participants), which involved regular stretching.

At the end of the 4-week period, measurements were again taken from each participant. Body weight and [body mass index](#) (BMI) remained unchanged, but cardiorespiratory fitness significantly improved in the exercise group versus placebo. Researchers noted a 21% reduction of HTGC and 12% VAT volume in those participants who were subject to regular exercise. "Our data provides the first direct experimental evidence that regular aerobic exercise reduces fatty liver in obesity without concurrent changes in body weight or abdominal fat," explained researchers.

Individuals who are obese are at risk for a number of cardiovascular and metabolic health concerns, including heart disease and diabetes. "Our observation of the beneficial effect of regular exercise itself on liver and abdominal fat should refocus the debate on the role of physical activity in the prevention and management of obesity and NAFLD," concluded Dr. George. Past studies have shown that exercise adherence appears to be more sustainable over time than weight loss. "Further studies of the long-term benefit of routine physical activity on lowering HTGC and its impact on obesity and NAFLD should be explored," suggested Dr. George.

More information: "[Aerobic exercise](#) training reduces hepatic and visceral lipids in [obese individuals](#) without weight loss," Nathan A. Johnson, Toos Sachinwalla, David W. Walton, Kate Smith, Ashley Armstrong, Martin W. Thompson, Jacob George. *Hepatology*; Published Online: June 15, 2009; [DOI: 10.1002/hep.23129](#)

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