

HIIT for liver health

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New research led by Western Sydney University suggests that aerobic exercise interventions incorporating either high-intensity interval training (HIIT) or moderate-intensity continuous training (MICT) are effective for improving non-alcoholic fatty liver disease.

One of the most prevalent liver diseases in the world, affecting approximately 20-30% of the population, non-alcoholic fatty [liver](#)

[disease](#) (NAFLD) is characterized as excess fat accumulation in the liver of people without excessive alcohol intake. The increasing burden of obesity and the [metabolic syndrome](#) are attributed to its high prevalence and its emergence as a serious health problem, as well as its potential to cause cirrhosis and liver cancer.

Due to the lack of effective therapies, lifestyle interventions targeting weight loss continue to be the primary approach for the management of NAFLD.

For this [review](#), researchers from Western Sydney University, the University of Sydney and the University of Queensland, screened over 28,000 studies, with the primary analysis including 19 studies, involving 745 adult participants.

Published in the *Journal of Clinical Endocrinology and Metabolism*, The Effect of High-intensity Interval Training vs Moderate-intensity Continuous Training on Liver Fat: A Systematic Review and Meta-Analysis is the first review to determine the effect of aerobic [exercise](#) on liver fat by comparing HIIT to MICT.

The review is also the first to solely include studies that assessed liver fat by gold standard non-invasive measurement techniques such as proton magnetic resonance spectroscopy (H-MRS) and magnetic resonance imaging (MRI).

The pooled analysis showed that both HIIT and MICT resulted in clinically significant liver fat reduction when compared to the control (-2.85% for HIIT vs Control and -3.144% MICT vs Control).

Additionally, HIIT workouts (characterized by bouts of high-intensity aerobic exercise alternating with rest periods), were just as effective when compared to MICT workouts (traditional aerobic exercise training)

in reducing liver fat despite requiring less time and energy.

The authors say the research has practical recommendations and implications for clinical practice, and could contribute to reducing NAFLD.

Lead author, NICM Health Research Institute Postdoctoral Research Fellow Dr. Angelo Sabag said that regular aerobic exercise was an important management intervention, whether HIIT or MICT, and that if left untreated, NAFLD can lead to serious complications.

"Non-alcoholic fatty liver disease is a predictor of metabolic disorders, closely linked to the development and severity of various diseases such as type 2 diabetes.

"Our review demonstrates the importance of regular aerobic exercise as an effective therapy in those at risk, with both HIIT and MICT found to improve liver fat to similar degrees.

"It is useful information to know that by training harder in less time with HIIT, you can achieve the same results as MICT, which is ideal for those with a busy lifestyle and little time.

"Another interesting finding was that even if people didn't exercise at volumes sufficient to satisfy the recommended physical activity guidelines, they could still achieve clinically significant improvements in liver fat so long as they exercised regularly above a moderate intensity," said Dr. Sabag.

The review builds on previous studies that have shown comparable effects of HIIT to MICT for improving cardiometabolic health including cardiorespiratory fitness and blood pressure.

Further studies are recommended to determine the importance of exercise prescription variables on [liver](#) fat such as exercise intensity. The authors also noted that whilst the study was of a moderate to high quality review, the sample size of studies involving HIIT intervention were relatively low.

More information: Angelo Sabag et al, The Effect of High-intensity Interval Training vs Moderate-intensity Continuous Training on Liver Fat: A Systematic Review and Meta-Analysis, *The Journal of Clinical Endocrinology & Metabolism* (2021). [DOI: 10.1210/clinem/dgab795](https://doi.org/10.1210/clinem/dgab795)

Provided by Western Sydney University

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