

# Role of exercise in the mechanisms ameliorating hepatic steatosis in non-alcoholic fatty liver disease

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Hepatic steatosis is an abnormal lipid accumulation within hepatocytes, generally present in non-alcoholic fatty liver disease (NAFLD) patients, a starting-point pathology currently associated with other clinical manifestations such as metabolic syndrome, non-alcoholic steatohepatitis (NASH), fibrosis, cirrhosis, and eventually hepatocellular carcinoma. Hepatic steatosis in NAFLD may be induced by mechanisms such as insulin resistance, increased fatty acid uptake, a higher de novo lipogenesis from glucose or acetate, lower fatty acids oxidation and a decrease in fatty acid mobilization from liver. Among different therapeutic strategies appropriate for these patients, exercise has shown to be effective in reversing hepatic steatosis. However, the specific mechanisms involved in this response remain unclear. Therefore, the aim of this review is (1) to describe the mechanisms whereby exercise reverts hepatic steatosis, and (2) review the clinical outcomes of different exercise modalities in NAFLD parameters. Therefore, this knowledge may provide the basis suggesting potential clinical benefits of exercise as an adjunct therapy for patients with NAFLD and associated metabolic diseases. © 2018, Springer-Verlag Italia S.r.l., part of Springer Nature.

Exercise

Hepatic steatosis

Non-alcoholic fatty liver disease