

EFFECTS OF INTERMITTENT FASTING ON METABOLIC DYSFUNCTION-ASSOCIATED FATTY LIVER DISEASE ARE TRANSMISSIBLE THROUGH FECAL TRANSPLANTS

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Poster

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One month of 16-hour daily intermittent fasting improved insulin resistance, liver function biomarkers, and liver pathology in both high-fat diet mice and obese human volunteers, with effects correlating to increases in Lachnospiraceae and butyrate-producing gut bacteria.

KEY POINTS

- In mice on high-fat diet, one month of intermittent fasting decreased insulin resistance ($p < 0.001$), reduced AST, ALT, and triglycerides ($p < 0.05$), and improved liver pathology by 63.0% ($p < 0.001$) as measured by steatosis and inflammation
- In obese human volunteers, one month of intermittent fasting caused 3.5% weight loss ($p = 0.003$) and improved all liver function biomarkers ($p < 0.001$)
- Improvements in both mice and humans correlated with increased abundance of Lachnospiraceae (46.9% in mice, 53.6% in humans) and butyrate-producing genera (63.0% in mice, 28.4% in humans)
- Fecal microbiota transplantation from intermittent fasting-treated mice or humans to recipient mice improved insulin sensitivity, liver function, and liver pathology (all $p < 0.05$)
- Butyrate exposure reduced microvesicular fatty accumulation in human MAFLD liver-derived organoids ($p < 0.001$)

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