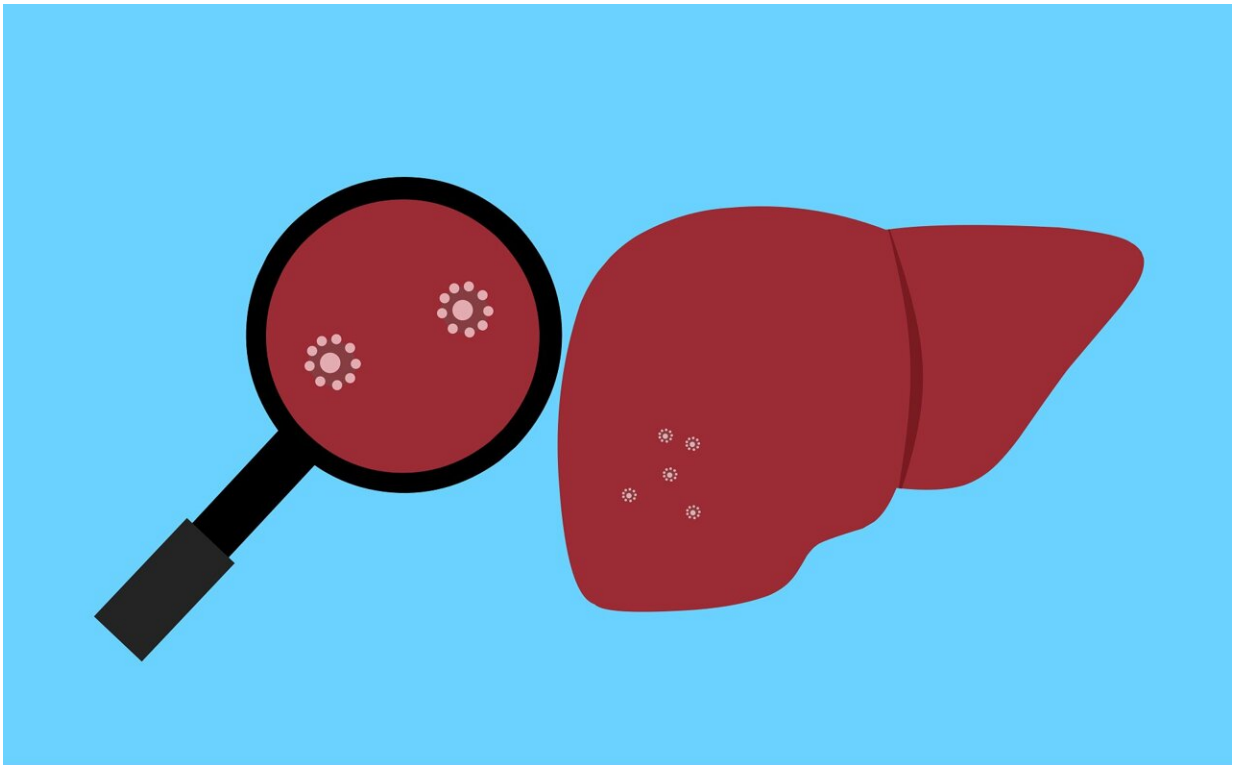


# Boosting omega-3 production could help cut chronic inflammation and fatty liver disease

January 25 2023

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A new study from researchers at Laval University in Quebec, Canada, shows that genetically increasing omega-3 fatty acid production, without direct gut microbiota contact, improves the balance of insulin and

glucagon (glucose balance) in obese mice.

Omega-3 [fatty acids](#) reduce fat deposits in the liver by interacting with [gut microbiota](#) during the digestion process. Augmenting omega-3 fatty acid liver content, in turn, increased levels of omega-3–derived mediators, which could play a critical role in reducing liver fat storage and chronic inflammation.

"We were trying to determine what role the gut microbiota plays in omega-3 fatty acid-related metabolic improvements such as plasma glucose and insulin, gut health and liver function," said André Marette, Ph.D., lead author of the study.

Fatty liver disease is increasingly being diagnosed and associated with comorbidities such as diabetes and heart disease. The goal is to reduce [fatty liver disease](#) and related comorbidities by reducing chronic inflammation and the amount of liver fat deposits.

The paper is published in the journal *Function*.

**More information:** Noémie Daniel et al, Comparing transgenic production to supplementation of  $\omega$ -3 PUFA reveals distinct but overlapping mechanisms underlying protection against metabolic and hepatic disorders, *Function* (2022). [DOI: 10.1093/function/zqac069](https://doi.org/10.1093/function/zqac069)

Provided by American Physiological Society

Citation: Boosting omega-3 production could help cut chronic inflammation and fatty liver disease (2023, January 25) retrieved 2 May 2023 from <https://medicalxpress.com/news/2023-01-boosting-omega-production-chronic-inflammation.html>

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