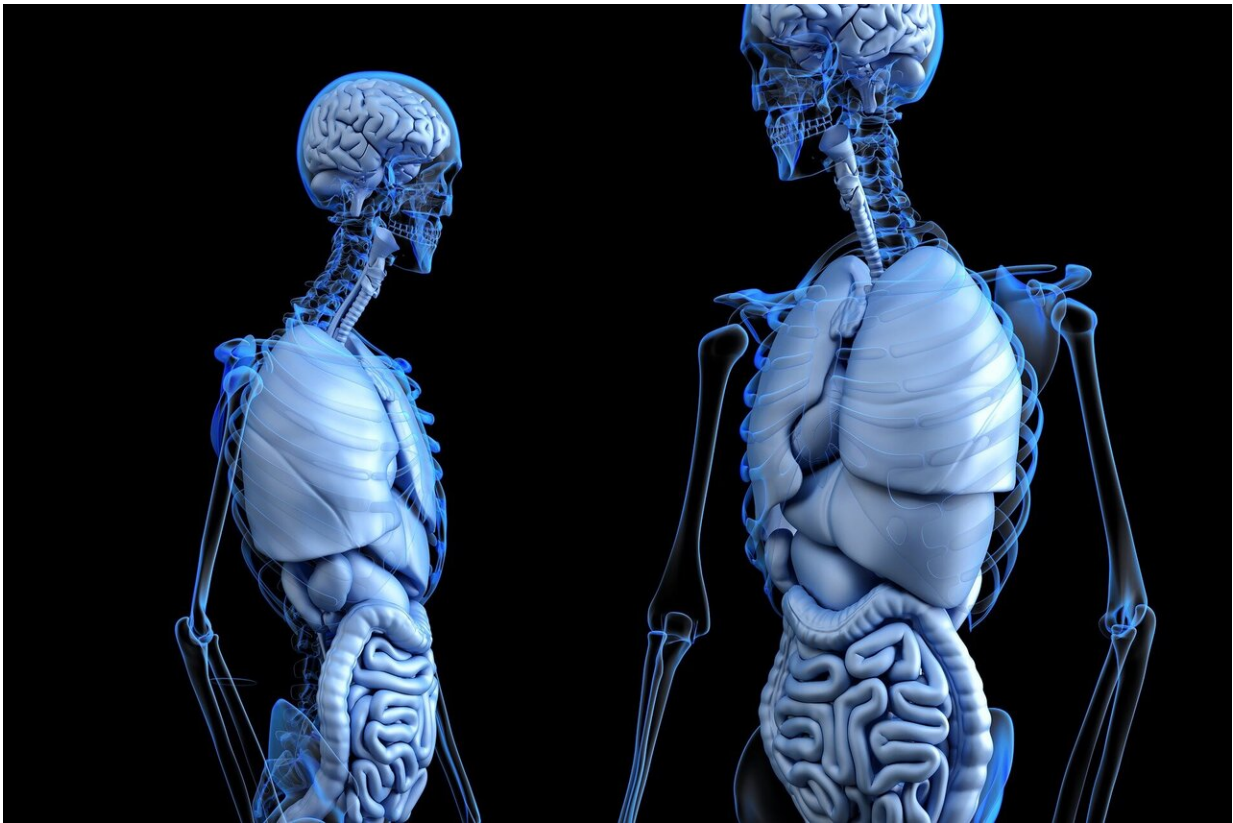


Even mild fatty liver disease is linked to increased mortality

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Non-alcoholic fatty liver disease, NAFLD, affects nearly one in four adults in Europe and the U.S. Earlier research has demonstrated an increased risk of death in patients with NAFLD and advanced fibrosis or

cirrhosis. Now, researchers at Karolinska Institutet in Sweden and Massachusetts General Hospital in the U.S. show that mortality increases with disease severity, but even mild fatty liver disease is linked to higher mortality. The findings have been published in the scientific journal *Gut*.

Non-alcoholic fatty [liver](#) disease is often caused by obesity and affects nearly 25 percent of U.S. and European adults. It represents the most common cause of chronic liver disease in Western countries. Small clinical studies have demonstrated that among patients with NAFLD, advanced liver fibrosis is the most important histological predictor of mortality, but until now, population-level data have been missing from cohorts with liver histology.

Given the growing burden of NAFLD, researchers at Karolinska Institutet and Massachusetts General Hospital matched 10,568 individuals with biopsy-confirmed NAFLD to general population controls through Sweden's comprehensive, nationwide registers. They found that all stages of NAFLD were associated with excess mortality risk, even early stages of disease. This risk was driven primarily by deaths from extra-hepatic cancer and cirrhosis, while the risks of cardiovascular mortality or hepatocellular carcinoma (HCC) mortality were relatively modest.

Patients with NAFLD had a 93 percent increased risk of all-cause mortality, but the numbers varied with disease severity. The risk increased progressively from the mildest form of NAFLD (simple steatosis), to non-fibrotic steatohepatitis (NASH), to non-cirrhotic fibrosis and to severe NAFLD with liver cirrhosis.

"This is the first nationwide cohort study with detailed liver histology data to confirm that NAFLD contributes to an [increased risk](#) of all-cause mortality," says first author, Tracey G. Simon, researcher and hepatologist at Massachusetts General Hospital. "These findings should

be used to develop more targeted interventions designed to reduce [mortality](#), in patients with NAFLD. We need public health strategies that prevent both extra-hepatic cancer and NAFLD progression to cirrhosis, for this rapidly growing population."

The study builds on the ESPRESSO cohort (Epidemiology Strengthened by Histopathology Reports in Sweden). Histopathology data from more than two million people have been linked to nationwide Swedish registers such as the Patient Register, the Cause of Death Register, the Prescribed Drug Register and the Cancer Register.

"Through contacting all pathology departments in Sweden, we have managed to construct a nationwide gastrointestinal histopathology cohort that allows us to examine a range of gastrointestinal diseases, including NAFLD," says last author Jonas F. Ludvigsson, pediatrician at Örebro University Hospital and professor at the Department of Medical Epidemiology and Biostatistics, Karolinska Institutet. "The current study on NAFLD and risk of death is the 17th study published this year that takes advantage of the ESPRESSO cohort."

More information: Tracey G Simon et al. Mortality in biopsy-confirmed nonalcoholic fatty liver disease: results from a nationwide cohort, *Gut* (2020). [DOI: 10.1136/gutjnl-2020-322786](https://doi.org/10.1136/gutjnl-2020-322786)

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