

# Risk of liver disease and cancer starts from adolescence in overweight or obese men

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This is an image of a weight scale. Credit: CDC/Debora Cartagena

Young men who are overweight or obese could run a higher risk of developing severe liver disease or liver cancer in later life, suggests research published online in the journal *Gut*.

Researchers from Sweden found that the risk of having a high [body mass index](#) (BMI) for developing severe liver disease seems to be present

from an early age and is heightened by development of type 2 diabetes.

Overweight and obesity levels are increasing globally and around 1 billion people are now projected to be obese (defined as having a BMI higher than 30 kg/m<sup>2</sup>) by 2030.

A high BMI is associated with an increased risk for future severe liver disease and liver cancer in adults, while also increasing the risk for type 2 diabetes, which is, in turn, linked to a higher risk of severe liver disease.

A previous study has shown that a high BMI in late adolescent men is associated with an increased risk of death in, or hospitalisation for, end-stage liver disease, even when other factors are taken into account - such as [alcohol consumption](#), smoking and use of narcotics - but the link between BMI and liver disease was not examined in great depth.

Therefore, researchers led by Dr Hannes Hagström, of the Centre for Digestive Diseases at the Karolinska University Hospital, Stockholm, Sweden set out to investigate how BMI in early adolescents impacted on [liver problems](#) later in life.

They used register data from more than 1.2 million Swedish men enlisted for military conscription between 1969 and 1996.

They also linked data on severe liver disease, liver cancer and type 2 diabetes during follow-up from population-based registers.

The men were followed up from one year after conscription until 31 December 2012.

Results showed that during follow-up of more than 34 million person-years, there were 5,281 cases of severe liver disease including 251 cases

of liver cancer.

The researchers discovered that overweight men were almost half as likely and obese men more than twice as likely to develop liver disease in later life than men of normal weight.

Men who developed type 2 diabetes had an even higher risk. Men with obesity and type 2 diabetes were more than three times more likely to have liver problems when they were older compared with non-diabetic, normal weight men.

Factors such as alcohol consumption and smoking by the men were taken into account and the researchers excluded men who received a diagnosis of alcoholic liver disease during follow-up from their analysis, but this did not significantly change their overall findings about excess risk associated with high BMI.

This was an observational study, so no firm conclusions can be drawn about cause and effect. However, the researchers said it was likely that the increased prevalence of overweight and obesity around the world could lead to an increase in the total number of cases with severe liver disease in the future, including an increasing incidence of [liver cancer](#).

They conclude: "This could have implications for public health decision making, strengthening the need of targeted intervention against overweight and obesity at an early age and specifically highlights the risk of type 2 diabetes mellitus as a risk factor for liver disease.

"Screening of men with type 2 [diabetes](#) mellitus for presence of manifest liver disease using non-invasive, inexpensive scoring systems could be a way forward.

"Interventions to reduce the increasing prevalence of overweight and

obesity should be implemented from an early age to reduce the future burden of severe [liver](#) disease on individuals and society."

**More information:** High BMI in late adolescence predicts future severe liver disease and hepatocellular carcinoma: a national, population-based cohort study in 1.2 million men

[gut.bmj.com/lookup/doi/10.1136/gutjnl-2016-313622](https://gut.bmj.com/lookup/doi/10.1136/gutjnl-2016-313622)

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