

Pediatric liver disease increases risk of developing type 2 diabetes

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Nonalcoholic fatty liver disease (NAFLD) is the most common pediatric liver disease, affecting 5 to 8 million children in the United States. In NAFLD, the cells of the liver store large fat droplets, which can affect

the function of the liver. Physicians have long observed a relationship between NAFLD and type 2 diabetes in adults, but much less is known about a similar connection in children.

Rates of type 2 [diabetes](#) have doubled in [children](#) over the past 20 years. Children with NAFLD have features of insulin resistance, a key characteristic of type 2 diabetes, and so may be at risk for developing the disease.

"There is a growing public health crisis as children with diabetes mature into adults with diabetes. We need to better understand how NAFLD contributes to type 2 [diabetes risk](#) in children so that we can actively work to prevent it," said Jeffrey Schwimmer, MD, professor of pediatrics at University of California San Diego School of Medicine and director of the Fatty Liver Clinic at Rady Children's Hospital-San Diego.

In a new study, published June 13, 2022 in *Clinical Gastroenterology and Hepatology*, a national team of researchers, led by senior author Schwimmer, provides hard numbers describing the connection between NAFLD and diabetes risk, finding that among 892 children with NAFLD enrolled in the Nonalcoholic Steatohepatitis Clinical Research Network, type 2 diabetes was present in 6.6 percent of the children at initial assessment, with the incidence rate increasing 3 percent annually over the next four years.

By the end of the study, one in every six children had developed type 2 diabetes.

"This is alarming because type 2 diabetes in youth is a much more aggressive disease than in adults, with more immediate and serious complications and outcomes," said Schwimmer.

The authors also identified specific factors that increase the risk of type

2 diabetes in children with NAFLD: sex (females were more likely to develop type 2 diabetes), severity of obesity and the amount of fat and [scar tissue](#) in the liver.

"These findings have clinical implications for gastroenterologists caring for children with NAFLD," Schwimmer said. "They should be aware of the risk and provide monitoring, anticipatory guidance and lifestyle interventions that help their patients avoid developing type 2 diabetes."

More information: Kimberly P. Newton et al, Incidence of Type 2 Diabetes in Children with Nonalcoholic Fatty Liver Disease, *Clinical Gastroenterology and Hepatology* (2022). [DOI: 10.1016/j.cgh.2022.05.028](#)

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