

# Genetic risk score linked to increased risk of diabetes

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Image courtesy of Blausen Medical

A genetic risk score based on 46 gene variants linked to type 2 diabetes is associated with increases in the risk of type 2 diabetes and declines in glucose control and beta-cell function, according to a study published online July 8 in *Diabetes*.

(HealthDay)—A genetic risk score based on 46 gene variants linked to type 2 diabetes is associated with increases in the risk of type 2 diabetes and declines in glucose control and beta-cell function, according to a study published online July 8 in *Diabetes*.

Ehm A. Andersson, from the Novo Nordisk Foundation Center for Basic Metabolic Research at the University of Copenhagen in Denmark, and colleagues genotyped 5,850 individuals for 46 variants associated with type 2 diabetes. The team performed physical examinations and glucose tolerance tests at baseline and after five years.

During a median follow-up of 11 years, the researchers recorded 327

incident cases of type 2 diabetes. Each risk allele was associated with an increased risk of type 2 diabetes (hazard ratio, 1.06 per risk allele). After five years, while the general population improved their [glucose regulation](#), each additional allele in the genetic risk score was associated with a relative increase in plasma glucose at fasting and during an [oral glucose tolerance test](#) and a relative decline in beta-cell function, with no effect on measures of insulin sensitivity.

"In conclusion, a genetic [risk score](#) based on 46 variants associated strongly with incident type 2 diabetes and five-year changes in plasma glucose and beta-cell function," Andersson and colleagues write.

"Individuals who gain weight may be more susceptible to the cumulative impact of type 2 diabetes risk variants on fasting [plasma glucose](#)."

**More information:** [Abstract](#)

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