

Each hour of sedentary time is associated with a 22 percent increased risk of developing type 2 diabetes

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Each extra hour of daily sedentary time (for example spent sitting at a computer) is associated with a 22% increased risk of developing type 2 diabetes, concludes new research published in *Diabetologia* (the journal of the European Association for the Study of Diabetes). The study is by Julianne van der Berg, Maastricht University, the Netherlands, and colleagues.

The study investigated cross-sectional associations of total duration and patterns of sedentary behaviour with [glucose metabolism](#) status and the metabolic syndrome. The study participants used the thigh-worn activPAL3 accelerometer, which classifies sedentary behaviour using data on posture, as this has shown to be an accurate means of assessing sedentary behaviour.

In this study, data were taken from the Maastricht Study, an observational, prospective, population-based cohort study in the Netherlands. The authors included 2,497 participants (mean age 60 years, 52% men) from this study who were asked to wear their accelerometer 24 hours per day for 8 consecutive days. The authors calculated the daily amount of [sedentary time](#), daily number of sedentary breaks, number of prolonged sedentary periods (of 30 minutes or more), and the average duration of these sedentary periods. To determine diabetes status, participants underwent an oral glucose tolerance test.

Overall, 1,395 (56%) participants had a normal glucose metabolism, 388 (15%) had an impaired glucose metabolism and 714 (29%) had type 2 diabetes. Participants with type 2 diabetes spent the most time sedentary, up to 26 more minutes per day in comparison with participants with an impaired or normal glucose metabolism. The increased risk of diabetes per additional hour of sedentary time was 22%. No significant associations were seen for the number of sedentary breaks, the number of prolonged sedentary periods or average duration of these sedentary periods with diabetes status.

The authors say their study is the largest in which this type of posture-identifying accelerometry has been used to objectively measure total duration and patterns of sedentary behaviour in a cohort of people with type 2 diabetes, impaired glucose tolerance, and normal glucose metabolism.

The authors say: "An extra hour of sedentary time was associated with a 22% increased odds for type 2 diabetes."

They conclude : "Future studies in [participants](#) with type 2 diabetes should be conducted to confirm our results...nevertheless, our findings could have important implications for public health as they suggest that sedentary behaviour may play a significant role in the development and prevention of type 2 diabetes, independent of high-intensity physical activity. Consideration should be given to including strategies to reduce the amount of sedentary time in [diabetes](#) prevention programmes."

More information: Julianne D. van der Berg et al. Associations of total amount and patterns of sedentary behaviour with type 2 diabetes and the metabolic syndrome: The Maastricht Study, *Diabetologia* (2016). [DOI: 10.1007/s00125-015-3861-8](https://doi.org/10.1007/s00125-015-3861-8)

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