

Large fat cells may increase risk of type 2 diabetes in women

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Middle-aged women with large abdominal fat cells have a higher risk of developing type 2 diabetes later in life compared to women with smaller fat cells. Waist circumference divided by body height can also be used to determine which women are at risk. This is shown in a new study from the Sahlgrenska Academy at the University of Gothenburg, Sweden.

The study, which will be published in the next issue of the scientific journal [FASEB Journal](#), is based on the extensive population study of women in Gothenburg *Kvinnoundersökningen i Göteborg*.

"The results indicate that large [fat cells](#) contribute to the development of type 2 [diabetes](#), and we will now begin investigating the mechanisms behind this finding. Increased knowledge about large fat cells and their effects may lead to new preventive and therapeutic alternatives, says Malin Lönn, associate professor in experimental medicine at the Sahlgrenska Academy.

The researchers analysed data on cell size collected from 245 women in 1974-75, and found that the 36 women who developed diabetes over the course of 25 years had larger abdominal fat cells than those who did not develop the disease. The larger the fat cells, the larger the probability of developing [type 2 diabetes](#). Since a person's fat cells vary significantly in size, the researchers used an average for each person.

In addition, the study reveals a simpler and faster way to predict which women are at risk of developing type 2 diabetes: waist circumference

divided by body height.

'Our study suggests that this ratio may be even better than fat cell size at estimating who is at risk of developing type 2 diabetes. The higher the waist-to-height ratio, the higher the risk', says Lönn.

More information: FASEB Journal; Title of the article: Adipocyte size predicts incidence of type 2 diabetes in [women](#)

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