

# Abdominal fat in early pregnancy can predict development of gestational diabetes

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Pregnancy test. Credit: public domain

Women who have high levels of abdominal fat during their first trimester of pregnancy have a higher risk of developing diabetes later in their pregnancy, according to a new study published today in *Diabetes Care*.

The study looked at nearly 500 women between 18 and 42 years old. Researchers found that those with higher levels of abdominal fat were at an increased risk of developing diabetes at around 24 to 28 weeks of their [pregnancy](#).

"This study highlights the potential to screen patients in their early stages of pregnancy, and use abdominal fat to predict the development of diabetes," said Leanne De Souza, a PhD candidate in obstetrics and gynecology at St. Michael's Hospital and lead author of the study.

"By taking pictures of abdominal fat in early pregnancy using ultrasound during routine clinical visits, we could identify women with high levels of abdominal fat who may be at risk of developing gestational diabetes later on," said De Souza.

Doctors traditionally screen patients for diabetes during their second or third trimester by looking at risk factors including age, ethnicity, body mass index, family history of diabetes and the results of a glucose challenge test.

"The problem with those risk factors is that they don't really tell us who's at a high risk of diabetes," said De Souza. "Up to 60 per cent of women will start their pregnancy overweight, many women are having children at an older age, and most people have a family member with Type 2 diabetes, so traditional [risk factors](#) are starting to apply to more and more people, which prevent us from properly identifying those at a high risk."

In their study, researchers used an ultrasound scan at 11 to 14 weeks' gestation to measure visceral fat, subcutaneous fat and total fat in the abdominal region. Visceral fat builds up between and around internal organs such as the stomach and intestines, and produces toxins that make the body resistant to insulin. Subcutaneous fat is found just beneath the skin, and total fat is the combination of visceral and [subcutaneous fat](#).

While previous research has shown that [visceral fat](#) can be a risk factor for developing diabetes, this study shows that both visceral and total [abdominal fat](#) were predictors of developing gestational diabetes.

Previous research has also found that up to 20 to 50 per cent of the women who developed [gestational diabetes](#) went on to develop Type 2 diabetes within five years after their pregnancy.

"Screening patients for visceral and total fat in their early stages of pregnancy could eventually be used to help doctors and health practitioners identify those at increased risk of gestational [diabetes](#)," said De Souza. "Prevention efforts could involve promoting a healthy diet and lifestyle, and helping patients avoid excess abdominal weight gain."

Provided by St. Michael's Hospital

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