

# Location of body fat can increase hypertension risk

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Human male abdomen. Credit: Locketudor/Wikipedia/CC BY-SA 3.0

People with fat around their abdominal area are at greater risk of

developing hypertension when compared to those with similar body mass index but fat concentrations elsewhere on the body, according to a study published today in the *Journal of the American College of Cardiology*.

Obesity is a known risk factor for [hypertension](#), or [high blood pressure](#), and it is widely reported that the location of fat on a person's body can lead to increased risk of other health issues like heart disease and cancer. However, the relationship between hypertension and overall obesity versus site-specific fat accumulation is unclear.

For this study, 903 patients enrolled in the Dallas Heart Study were followed for an average of seven years to track development of hypertension. Hypertension was classified as a [systolic blood pressure](#) of greater or equal to 140, diastolic blood pressure of greater or equal to 90, or initiation of [blood pressure](#) medications. Patients also received imaging of [visceral fat](#), or fat located deep in the abdominal cavity between the organs; subcutaneous fat, or visible fat located all over the body; and lower-body fat.

"Generally speaking, visceral fat stores correlate with the 'apple shape' as opposed to the 'pear shape,' so having centrally located fat when you look in the mirror tends to correlate with higher levels of fat inside the abdomen," said senior author Aslan T. Turer, M.D., M.H.S., a cardiologist at the University of Texas Southwestern Medical Center in Dallas.

At the end of the study period, 25 percent of patients developed hypertension. While higher BMI was associated with increased incidence of hypertension, when abdominal fat content, overall fat content and lower-body fat content were factored in, only abdominal fat remained independently associated with hypertension. The relationship between abdominal fat and hypertension did not change when factoring in gender, age or race.

The strongest correlation between abdominal fat and hypertension was observed with retroperitoneal fat, which is a type of visceral fat located behind the [abdominal cavity](#) and largely around the kidneys.

"The high incidence of hypertension and presence of retroperitoneal fat could suggest that the effects from fat around the kidneys are influencing the development of hypertension," Turer said. "This link could open new avenues for the prevention and management of hypertension. The finding of the fat around the kidney is a novel one and we do not know specifically what the 'in the mirror' correlates are."

Provided by American College of Cardiology

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