

Researchers identify new genetic links to body fat distribution

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Researchers at the National Institutes of Health have identified seven new areas of the genome linked to body fat distribution—a finding that could offer new insights into the biologic mechanisms that influence a person's risk for diabetes, heart disease and stroke.

The study, which included more than 18,000 individuals of European, African, Hispanic, and Chinese ancestry, is the largest ever to examine genetic variants across the genome and their association with ectopic fat, which accumulates in the abdominal area. The findings appear in the December 5 online issue of *Nature Genetics*.

Scientists have long studied the significance of body fat distribution and they know that it is reflected in a person's body shape. The fact that particular body shapes run in families suggests a person's genes may influence the amount of fat that accumulates in various parts of the body. These variations in body fat distribution matter: Visceral fat, or belly fat, has been linked to higher rates of [heart disease](#) and hypertension, for example, while [subcutaneous fat](#) that accumulates in the hips and thighs appears to offer some protection against chronic disease.

Less understood, say researchers at the National Heart, Lung, and Blood Institute (NHLBI), are the genetic determinants of [body fat distribution](#) and they hope their study begins to change that. By identifying genes that are associated with ectopic fat, they say they can learn more about the biological mechanisms that may influence individual differences in the

risk for cardiometabolic diseases.

The multiethnic nature of the study strengthened the findings, the researchers note, as the study found the association between the genetic regions and the ectopic fat to be the same across all ancestries, no matter the sample size.

More information: Multiethnic genome-wide meta-analysis of ectopic fat depots identifies loci associated with adipocyte development and differentiation, *Nature Genetics*, [nature.com/articles/doi:10.1038/ng.3738](https://doi.org/10.1038/ng.3738)

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