

# Similar genetic variation found in overweight newborns and adults

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Similar genetic variations occur in both overweight newborns and obese adults, a large study finds. The results will be presented Tuesday at The Endocrine Society's 95th Annual Meeting in San Francisco.

"Our data suggest that [adult obesity](#) and newborn adiposity share, in part, a common [genetic background](#)," said study lead author Reeti Chawla, MD, fellow in pediatric endocrinology at Ann & Robert H. Lurie Children's Hospital of Chicago and the Northwestern University Feinberg School of Medicine, in Chicago, IL. "Allowing earlier identification of high-risk [newborns](#) may allow for earlier interventions to take place to possibly prevent obesity later in life. "

Obesity has become an epidemic worldwide. In the United States alone, more than one-third of adults are obese, according to the Centers for Disease Control and Prevention. Excess weight and obesity are related to numerous health problems, including heart disease, type 2 diabetes, stroke and some cancers. Since being obese in childhood increases the risk of adult obesity, medical researchers are interested in identifying early risk factors, or genetic markers, to help predict who is at greater risk for weight gain.

One of these genetic markers is called a single nucleotide polymorphism, or SNP, which is a naturally occurring genetic variant within the general population. In this case, investigators used SNPs related to adult obesity to identify genetic markers associated with higher newborn weight and skinfold thickness.

Investigators were able to identify 144 SNPs associated with birth weight or skinfold thickness. Since some of these 144 SNPs are closely linked and inherited together, they then narrowed the group down to 45 SNPs that are related to higher fat among newborns.

Investigators obtained the genetic data of 4,465 newborns from a large, multi-ethnic study examining the association between maternal blood-sugar levels and risk of poor pregnancy outcome. The study, called the Hyperglycemia and Adverse Pregnancy Outcomes, or HAPO, comprised mothers and infants from diverse ethnic backgrounds, including 1,095 Afro-Caribbean, 1,363 European, 616 Mexican-American and 1,207 of Thai descent.

Chawla said that she and her team now are using the 45 SNPs identified in this study to develop a [genetic](#) risk score "to determine whether bearing a large number of these SNPs predicts which newborns are at risk for increased fat at birth and, potentially, obesity later in life."

Provided by The Endocrine Society

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