

# Earlier onset of puberty in girls linked to obesity

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New research in *Pediatrics* shows obesity is the largest predictor of earlier onset puberty in girls, which is affecting white girls much sooner than previously reported.

Published online Nov. 4, the multi-institutional study strengthens a growing body of research documenting the earlier onset of puberty in girls of all races.

"The impact of earlier maturation in girls has important clinical implications involving psychosocial and biologic outcomes," said Frank Biro, MD, lead investigator and a physician in the Division of Adolescent Medicine at Cincinnati Children's Hospital Medical Center. "The current study suggests clinicians may need to redefine the ages for both early and late maturation in girls."

Girls with earlier maturation are at risk for a multitude of challenges, including lower self-esteem, higher rates of depression, norm-breaking behaviors and lower academic achievement. Early maturation also results in greater risks of obesity, hypertension and several cancers – including breast, ovarian and endometrial cancer.

The study was conducted through the Breast Cancer and Environmental Research Program, established by the National Institute of Environmental Health Science. *Pediatrics* is the journal of the American Academy of Pediatrics.

Researchers at centers in the San Francisco Bay Area, Cincinnati and New York City examined the ages of 1,239 girls at the onset of breast development and the impact of body mass index and race/ethnicity. The girls ranged in age from 6 to 8 years at enrollment and were followed at regular intervals from 2004 to 2011. Researchers used well-established criteria of pubertal [maturation](#), including the five stages of breast development known as the Tanner Breast Stages.

The girls were followed longitudinally, which involved multiple regular visits for each girl. Researchers said this method provided a good perspective of what happened to each girl and when it occurred.

Researchers found the respective ages at the onset of breast development varied by race, [body mass index](#) (obesity), and geographic location. Breast development began in white, non-Hispanic girls, at a [median age](#) of 9.7 years, earlier than previously reported. Black girls continue to experience [breast development](#) earlier than white girls, at a median age of 8.8 years. The median age for Hispanic girls in the study was 9.3 years, and 9.7 years for Asian girls.

Body [mass index](#) was a stronger predictor of earlier puberty than race or ethnicity. Although the research team is still working to confirm the exact environmental and physiological factors behind the phenomenon, they conclude the earlier onset of puberty in white girls is likely caused by greater [obesity](#).

Provided by Cincinnati Children's Hospital Medical Center

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