

Dear Doctor +

“My Child is Affected by Obesity. Will it Affect When They Enter Puberty?”



*Answer Provided by
Marisa Censani, MD*

This is a question more and more families have as the number of children in the U.S. living with obesity grows.

Childhood Obesity 101

Obesity is measured differently for children than it is for adults. However, both use body mass index (BMI) to help diagnose the disease. For children and teens, BMI is a percent based on height, weight, age and gender. A child is considered to have excess weight if their BMI percent is between 85-95%. If their BMI is 95% or greater, they are considered to have obesity.

Like adults, children with obesity are at higher risk for several related conditions such as prediabetes, high blood pressure and high cholesterol. Children with excess weight may also enter puberty at a different age than a child with a normal weight.

A Look at Puberty

Boys and girls start puberty at different ages and show different symptoms.

Age Ranges for Puberty:

	AVERAGE AGE	NORMAL AGE RANGE	EARLY PUBERTY
Girls	10	8 to 13	Before 8
Boys	11	9 to 14	Before 9



The start of puberty is guided by two glands in the brain. They are the hypothalamus and the pituitary glands. At the start of puberty, the hypothalamus sends a signal to the pituitary gland to release hormones.

Weight and Changes in Puberty

Studies have shown that excess weight and obesity affect the start of puberty differently for boys and girls. In girls, it can cause early puberty and in boys it can delay puberty. While the average age of a girl's first menstrual cycle has remained 12.5-13 years over the past few decades, studies have shown that the average age of the start of puberty in girls is decreasing.

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What Causes Early Puberty?

While it is known that excess weight in girls is associated with early puberty, the exact cause is not known. Many healthcare providers (HCPs) believe it could be caused by an increased number of hormones produced by excess fat cells. Fat cells produce Leptin, which plays a role in appetite regulation, body weight and puberty in girls.

Studies are ongoing to see if there is an environmental link between the use of chemicals, such as pesticides (*which can disrupt endocrine production*), and changes in puberty.

Are There Side Effects to Early Puberty?

There is no straight-forward answer to this question. This area is being researched as there are concerns about the impact of early puberty on the emotional and social development of pre-teens and teenagers. Another possible side effect is a change in the growth pattern and final height among children who enter puberty early. To monitor for these effects in your pre-teens and teenagers, it is best to keep annual well visits with your child's HCP.

Can Early Puberty be Misdiagnosed?

Yes. Early puberty can be misdiagnosed in girls with obesity if excess weight is mistaken for breast development. Your child's HCP will need to conduct a physical exam and review her growth on growth charts.

Growth before puberty averages two inches per year. Growth of more than two inches per year, along with changing growth curves on the growth chart, can be a sign of entering puberty. Your child's HCP may need to gather more information through hormone measurements, bone maturity assessments or a pelvic ultrasound to make a full diagnosis and determine if any treatment is needed.

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Platinum: \$100,000 and up Bronze: \$5,000 - \$9,999
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Silver: \$10,000 - \$49,999

List as of 10/04/19

Can Early Puberty be Prevented?

There is no clear answer to this question either. Environmental factors can play a role in early puberty. However, childhood obesity is a risk factor for early puberty. So, it is important to talk with your child’s HCP to identify and treat childhood obesity as early as possible. Early treatment is the best way to prevent or reduce the effects of all obesity-related conditions.

In addition to eating a healthy and balanced meal plan, the US Department of Health and Human Services has issued physical activity guidelines for children and teens.



Activity Guidelines for Children and Teens

From Health.gov

- It is important to give children and teens the chance to participate in physical activities that are appropriate for their age, are enjoyable and offer variety.
- Children and teens ages six to 17 years should do 60 minutes (*one hour*) or more of moderate-to-vigorous physical activity daily:

TYPE OF ACTIVITY	AMOUNT OF TIME	SUGGESTED ACTIVITIES
Aerobic	Most of the 60 minutes per day At least 3 days per week	Biking, swimming, hiking, tag, soccer, tennis, dancing, running or martial arts
Muscle-strengthening	Part of the 60 minutes per day At least 3 days per week	Swinging, rope or tree-climbing, sit-ups or push-ups
Bone-strengthening	Part of the 60 minutes per day At least 3 days per week	Basketball, gymnastics, hopping, skipping, jumping rope, tennis or running

Key Points to Remember

Childhood obesity can play a role in early puberty in girls and delayed puberty in boys. It is best to monitor your child’s development and overall health with their HCP through annual visits. Along with a healthy meal plan and physical activity, early treatment for excess weight and obesity can help to lessen or prevent obesity-related conditions including changes in puberty.

About the Author:

Marisa Censani, MD, is a pediatric endocrinologist and the director of the Pediatric Obesity Program in the Division of Pediatric Endocrinology at Weill Cornell Medicine/New York Presbyterian Hospital in New York City. She founded the Kids and Teens Healthy Weight Program at her institution where she has developed afterschool nutritional sessions for families and collaborated with various subspecialists in the prevention and treatment of childhood obesity. She currently serves on the Board of Trustees of the Obesity Medicine Association (OMA) and is coauthor of OMA’s Pediatric Obesity Algorithm. Her obesity research has been reported in numerous media outlets, including Medscape, Medpage Today, Endocrine News, Clinical Endocrinology News, Science news and Science Daily. She is board certified in pediatrics and pediatric endocrinology and is a diplomate of the American Board of Obesity Medicine (ABOM).



ABOUT THE OBESITY ACTION COALITION (OAC)

The Obesity Action Coalition (OAC) is a National non-profit organization dedicated to giving a voice to individuals affected by obesity and helping them along their journey toward better health. Our core focuses are to elevate the conversation of weight and its impact on health, improve access to obesity care, provide science-based education on obesity and its treatments, and fight to eliminate weight bias and discrimination.



VIBRANT COMMUNITY



NATIONAL AWARENESS CAMPAIGNS



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LEARN, CONNECT, ENGAGE

The OAC knows that the journey with weight can be challenging but we also know that great things happen when we learn, connect and engage. That is why the OAC Community exists. Our Community is designed to provide quality education, ongoing support programs, an opportunity to connect, and a place to take action on important issues.

Through the OAC Community, you can get access to:

- Weight & Health Education • Community Blogs
 - Community Discussion Forum
 - Ongoing Support • Meaningful Connections
- AND MUCH MORE**



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