

Understanding Early Puberty in Girls

Girls go through puberty as they grow and develop into young adults. Sometimes girls go through puberty earlier than we expect. This handout will tell you about early puberty in girls, how we evaluate and treat early puberty and the long-term effects of early puberty.

WHAT IS EARLY PUBERTY?

Early puberty is when your daughter starts showing the first signs of puberty before she is 8 years old. This can be normal, but might require evaluation by a pediatric endocrinologist.

WHAT IS NORMAL PUBERTY?

Normal puberty is when children's bodies start to grow and develop into young adult bodies. Girls usually start to go through puberty between the ages of 8-13 years. When your daughter starts to go through puberty, her gonads (ovaries) and adrenal glands (glands that sit on top of the kidneys) release hormones. These hormones cause the first signs of puberty, which are breast development, body odor, underarm hair, pubic hair and acne (pimples). Over time, girls will develop later signs of puberty, such as a growth spurt followed by starting their menstrual periods.

There are 2 types of puberty that make up the entire pubertal process. These are:

- **Adrenal puberty**

This is when the adrenal glands make hormones that cause the first signs of puberty including body odor, pubic hair, underarm hair and acne.

- **Gonadal puberty**

This is when the pituitary gland (a small gland in the brain that controls other glands in the body) makes hormones that tell the gonads (ovaries) to make the hormones estrogen and progesterone. These hormones are responsible for breast and uterine development, starting a monthly period and growing taller.

WHAT CAUSES EARLY PUBERTY?

The causes of early adrenal puberty and early gonadal puberty are different.

Early adrenal puberty: Sometimes, early adrenal puberty is normal. Other times, a problem with the adrenal glands can cause your daughter to have early adrenal puberty.

Early gonadal puberty: There are 2 types of early gonadal puberty, which have different causes. These are:

- **Gonadotropin dependent puberty**

This type of puberty is caused by the pituitary gland making the hormones FSH and LH, which stimulate the ovaries to make estrogen. This can be caused by tumors, radiation or trauma in the central nervous system or can be idiopathic. This means we have not found a cause of the early gonadal puberty.

- **Gonadotropin independent puberty.**

This type of puberty is caused by the ovaries working on their own or exposure to medication or products with hormones in them.

HOW DO WE EVALUATE EARLY PUBERTY?

Our evaluation of your daughter's early puberty begins with a discussion about your daughter's signs of puberty and a physical exam. If your daughter has signs of early puberty, we will typically have her get an X-ray of her left hand and wrist called a **bone age**. A bone age tells us how much your child's bones have matured. It can also help us figure out if your child should have further evaluation with blood tests.

Your child might have a blood test to help us measure your child's hormone levels. This will help us figure out if your child is experiencing gonadotropin dependent or independent puberty. It will also help us figure out if there is a concern about the adrenal glands. Depending on the results of the laboratory testing further radiology testing may include a pelvic ultrasound or head MRI.

HOW DO WE TREAT EARLY PUBERTY?

The type of treatment we recommend depends on the type of early puberty she has.

If your daughter has early adrenal puberty, she might not need any treatment. If your daughter is overweight and has early adrenal puberty, losing weight can help slow down puberty. If the puberty is caused by elevated hormones we can give her medication to decrease the hormone levels.

If your daughter has early gonadal puberty and it is happening slowly and with no serious causes, she might not need any treatment. If the gonadal puberty is caused by high hormone levels, we can give her medication to decrease the hormone levels. She will take this medication until she has reached an appropriate age to start puberty. This can help your daughter reach a normal adult height and help her look and feel more like her true age.

WHAT IS THE OUTLOOK FOR MY DAUGHTER'S EARLY PUBERTY?

Your daughter should do quite well if she has treatment for her early puberty.

HOW CAN I HELP MY DAUGHTER WHO HAS EARLY PUBERTY?

You can reassure your daughter that these changes are not different from other children - they are just happening earlier. Your daughter might be self-conscious about these early changes. This is an important time to listen and respond to questions and concerns she might have. You should continue to treat your daughter appropriately for her age and continue to help her with self-esteem.

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