

# Understanding Delayed Puberty in Girls

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

## WHAT IS DELAYED PUBERTY?

Delayed puberty is when your daughter does not show the first signs of gonadal puberty by the time she is 13 years old.

## 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 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 the hormones FSH and LH, which 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 DELAYED PUBERTY?

There are 2 types of delayed puberty, which are:

- **Primary hypogonadism**

This is when the ovaries do not respond to the hormones FSH and LH made by the pituitary gland.

- **Secondary hypogonadism**

This is when the pituitary gland does not make the hormones FSH and LH. This type of delayed puberty may happen very late, but is otherwise normal. It also tends to run in families.

## HOW DO WE EVALUATE DELAYED PUBERTY?

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

Your child might have an early morning blood test to help us measure your child's hormone levels. Hormones, like estrogen, reach their highest levels first thing in the morning. Additional blood testing done at the same time might include FSH, LH, cortisol, ACTH, thyroid hormone studies, growth factors and a prolactin level. We also do genetic evaluations if they are needed. Depending on the results of the laboratory testing further radiology testing may include a pelvic ultrasound or head MRI.

## HOW DO WE TREAT DELAYED PUBERTY?

Delayed puberty does not always have to be treated. We treat delayed puberty if your daughter is concerned about her lack of pubertal signs. We treat delayed puberty with small doses of estrogen in the form of a pill or a skin patch. If your daughter does not start showing signs of puberty on her own, then we slowly increase the dose over time. We then add progesterone after she gets her first period.

## WHAT IS THE OUTLOOK FOR MY DAUGHTER'S DELAYED PUBERTY?

**Your daughter should do well if she eventually starts to show signs of puberty on her own.** She should reach a normal adult height, have normal bone strength and show all of the physical signs of puberty. It should not affect her chances of having children in the future.

If your daughter has to take estrogen or progesterone for a long time, it might affect her chances of being fertile enough to have children in the future. If this happens, we can give special medications that might help with fertility when she reaches an appropriate age to have children.

## HOW CAN I HELP MY DAUGHTER WHO HAS DELAYED PUBERTY?

**You can reassure your daughter that these changes are not different from other children – they are just happening later.** She might be self-conscious about these later changes. This is an important time to listen and respond to questions and concerns your daughter 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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