

# Precocious Puberty

Children with Spina Bifida and hydrocephalus may start puberty earlier than their peers.

## What is Puberty?

Puberty refers to normal body changes that lead to maturity and the ability to have children. Normal puberty begins between ages 8 and 12 in girls and between 9 and 14 in boys. Hormones made in the brain control the timing and sequence of puberty. These hormones stimulate other parts of the body to make sex hormones. The sex hormones, especially estrogen in girls and testosterone in boys, cause sexual maturation.

## What are the stages of normal puberty in girls?

The physical changes seen in puberty are labeled by "Tanner staging." Stage 1 is child-like (before puberty) and stage 5 is full maturity. The usual sequence in girls is:

- Breasts start to develop.
- Hips widen and there is a growth spurt that usually lasts about three to four years.
- Pubic hair grows (three-to-six months after breasts develop).
- Other body hair grows.
- First period usually starts two to two-and-a-half years after breast development is noticed. Body odor may also change.

The average age that breasts start to develop in girls is 9 to 10. Puberty usually starts earlier in African-American girls than in Caucasian girls. Some experts found that breast development in African-American girls started a year before it did in Caucasian girls. Breasts typically take at least three years to mature fully.

If major breast development starts before age 8, it is considered early. (Sometimes girls will have some breast development, with no other signs of puberty. This isolated change may be normal.)

## What are the stages of normal puberty in boys?

The usual sequence in boys is:

- The testicles grow larger.
- The penis grows larger.
- Pubic hair grows.
- There is a growth spurt.
- Other body hair grows.

If boys show major development before age 9, it is considered early. Early puberty in girls or boys is called "Precocious Puberty."

## What is precocious puberty?

"Precocious puberty" means that these changes start much earlier than expected. Early puberty can cause problems. Once puberty starts, bones become more adult-like and eventually stop growing.



So most children who start puberty too early will be shorter than they otherwise would have been. They have normal or increased bone density, and do not have decreased bone density in adulthood.

Another major problem with early puberty is that body changes happen much earlier than in other children of the same age. This makes a child appear different. Children with early puberty might be teased. This is common for girls who develop breasts early. Girls might receive sexual advances for which they are not mentally and emotionally ready. Boys might become more aggressive than their peers.

Children with early puberty might feel alone and rejected. Adults might expect them to act older than they are. This can be hard for children because they can't live up to how others think they should act. For children with Spina Bifida, early puberty and all of the problems that go with it can make daily life more difficult.

### Why are children with Spina Bifida and hydrocephalus more likely to start puberty earlier than their peers?

No one knows for sure why children (especially girls) with Spina Bifida and hydrocephalus are more likely to have early puberty. Most think that hydrocephalus changes the time when the brain sends "puberty hormones" into the bloodstream.

### What do I do if my child shows signs of precocious puberty?

Your child should be seen by a health care provider if he or she:

- Starts puberty early;
- Has an unusual sequence of the steps outlined above; or
- Has very fast sexual development.

Your child would be referred to an endocrinologist (a doctor who specializes in hormones). If no other problems are found, the most common treatment is to delay puberty. There are hormonal treatments that can stop puberty, usually after three to six months; and may reverse some changes.

GnRH analogs, synthetic hormones that block the body's production of the sex hormones that cause precocious puberty, are available under different names, but Lupron and Supprelin are the most commonly used medications. Positive results are usually within a year of starting treatment with an GnRH analog, and the drugs are considered to be generally safe. However, all drugs potentially have side effects, and families should discuss this with their physicians.

### What is the benefit to delaying puberty in my child?

It is thought that delaying puberty helps children grow taller than they would have been otherwise. More important however, the delay in sexual maturation should allow children (and parents) to adjust to their growing bodies and feelings, and help them have a healthy sexual identity.

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