

Hydrocephalus & Precocious Puberty



Some children with Hydrocephalus may develop early puberty. It is seen more often in girls than in boys. Preparation of the child for the onset of periods and sexual development needs to be handled sensitively.

Normal Puberty

The way puberty works is quite complicated. The time the process begins in any child depends upon many factors. Some of these are hormonal, some are genetic and others are environmental. The whole process works a little like a chain reaction. Two bodies within the brain, the hypothalamus and pituitary gland, coordinate it.

As we know puberty brings a number of different changes to the body. In boys, the change begins with sexual development and is followed by the development of pubic hair, acne, increased growth, increased strength, deepening voice and skeletal maturation.

In girls the changes begin with breast development and finish with menstruation. Along the way there is increased growth, skeletal maturation, body shape changes and uterine development.

Puberty usually extends for about two years for both boys and girls.

Precocious Puberty

Currently the onset of puberty is not considered premature unless it occurs before the age of 8 in girls and 9 in boys. However, it does depend on a number of factors like a person's race, for instance. Afro-Caribbean children tend to reach puberty earlier than Caucasian children.

Diet and nutrition also affect the timing of puberty. Girls today reach puberty 2-3 years earlier than they did 100 years ago. This is thought to be largely due to better nutrition today.

Precocious puberty is when the right things happen in the right sequence but at the wrong time. Sometimes things can happen in the wrong order or sometimes puberty may begin and then stop. These are not considered to be precocious puberty.

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What causes it?

Why people with Hydrocephalus are more likely to go through precocious puberty is not certain. It is thought that the alteration to the brain anatomy associated with Hydrocephalus somehow affects the pituitary gland. Other children with central nervous system disorders, brain tumours, meningitis and trauma are also more likely to have an early onset of puberty.

What problems are there?

There are a number of problems likely to follow from or be associated with precocious puberty.

1. Before puberty a child usually grows at a steady rate, adding about 5-8 cm. per year to his or her height. Upon reaching puberty, the child undergoes a growth spurt. During this time, he or she grows about 10-15 cm. per year. While the sex hormones accelerate growth, they also speed up the process that ends growth. Children who start puberty prematurely are tall for their age, but since their skeleton matures and growth stops at an earlier age than normal, they never reach their full height potential as adults. There are other factors involved with Hydrocephalus, which contribute to short stature, but adults with Hydrocephalus, on average, are about 30 cm. shorter than the average person without Hydrocephalus.
2. Behaviour may change to that typical of an adolescent. Some girls who start puberty prematurely go through periods of moodiness and irritability, much like teenage girls. Some boys become more aggressive than their peers and develop a sex drive. On top of the self-consciousness and lower self-image involved with being a person with a disability being physically more mature than other children the same age, is another issue to be self-consciousness about.
3. Teasing from other children about sexual development can also be a problem. Such teasing is especially common for girls who develop breasts. Parents can help by acknowledging that the teasing is upsetting and by helping children find a way to deal with it.
4. Children with Hydrocephalus often feel isolated and rejected socially. This is particularly true when, because of their learning disabilities, they have not been able to learn social skills appropriate to their age. Having another set of problems, which leads to age-inappropriate behaviour, adds to the problem.

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Summary

Children with Hydrocephalus are likely to have an increased incidence of precocious or early puberty. Investigations carried out by a paediatric endocrinologist are aimed at confirming the diagnosis and giving an estimate on prognosis in terms of the pace of future development and final height.

One extra problem with precocious puberty for children with Hydrocephalus is that the early rapid growth can increase the likelihood of tethering of the spinal cord.