XYY Syndrome

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What is XYY syndrome?

Most people have 46 chromosomes in each cell. In males, this typically includes one X chromosome and one Y chromosome (XY). XYY syndrome is a genetic condition that occurs when a male has an extra copy of the Y chromosome in each of their cells (XYY). Sometimes, this mutation is only present in some cells. Males with XYY syndrome have 47 chromosomes because of the extra Y chromosome.

This condition is also sometimes called Jacob’s syndrome, XYY karyotype, or YY syndrome. According to the National Institutes of Health, XYY syndrome occurs in 1 out of every 1,000 boys.

For the most part, people with XYY syndrome lead typical lives. Some may be taller than average and face learning difficulties or speech problems. They may also grow up with minor physical differences, such as weaker muscle tone. Besides these complications, though, males with XYY syndrome don’t usually have any distinguishing physical features, and they have normal sexual development.

What causes XYY syndrome?

XYY syndrome is the result of a random mix-up, or mutation, during the creation of a male’s genetic code. Most cases of XYY syndrome are not inherited. Researchers don’t believe that there’s any genetic predisposition to it. That is, men with XYY syndrome are not more or less likely than other men to have children with XYY syndrome. The random error can occur during the formation of sperm or at different times during the formation of an embryo. In the latter case, a male may have some cells that are not affected. This means that some cells may have XY genotype while others have XYY genotype.

What are the symptoms of XYY syndrome?

The signs and symptoms of XYY syndrome differ from person to person and age to age.

Symptoms in a baby who has XYY syndrome can include:

- hypotonia (weak muscle tone)
- delayed motor skill development, such as with walking or crawling
- delayed or difficult speech

Symptoms in a young child or teenager with XYY syndrome can include:
a schedule that’s best suited to your child’s needs. Outside tutors and educational instruction may be necessary.

**Outlook**

People with XYY syndrome can — and very often do — live completely normal lives with the condition. In fact, XYY syndrome can remain undiagnosed throughout a person’s lifetime. If it is diagnosed, however, individuals with XYY syndrome can find the help they might need.