

## For more information

If you need more advice about any aspect of  
XYY Condition, you are welcome to contact:

### CLINICAL GENETICS DEPARTMENTS:

#### **Northern Scotland (main base Aberdeen)**

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#### **Tayside (main base Dundee)**

Tel: 01382 632035 / Fax: 01382 496382  
(Perth & Kinross, Angus, North East Fife)

#### **South East Scotland (main base Edinburgh)**

Tel: 0131 537 1116 / Fax: 0131 537 1153  
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#### **West of Scotland (main base Glasgow)**

Tel: 0141 354 9200 / Fax: 0141 232 7986  
(Glasgow, Argyll & Bute, Ayrshire, Dumfries &  
Galloway, Stirling, Lanarkshire, Falkirk)

Unique, the Rare Chromosome Disorder Support  
Group, is a source of information, mutual support and  
self-help for families of children with any rare  
chromosome disorder, including XYY.

#### **Unique**

#### **Rare Chromosome Disorder Support Group**

tel: 01883 330766

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The logo for Unique, featuring the word "Unique" in a stylized, yellow, cursive font with a yellow underline.

This leaflet was written by Guy's & St. Thomas' Clinical Genetics. Updated by  
Genetic Interest Group, April 2002.  
Updated by Scottish Genetic Forum, July 2012  
Supported by [ScotGEN](http://www.scotgen.org)

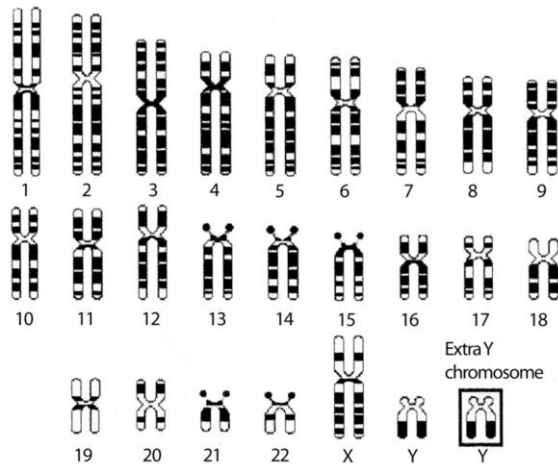
# The XYY Condition



An information sheet  
to be given to  
parents and families

## Introduction

Humans are usually born with 46 chromosomes, which are arranged in 23 pairs. One of these pairs determines whether a baby is male or female, and these are known as the sex chromosomes. Boys are boys because they are born with the sex chromosomes XY, and girls are girls because they are born with two X chromosomes (XX).



Occasionally, however, a boy is born with an extra Y chromosome and this is known as XYY. The picture above is a drawing of chromosomes from someone who has an extra Y chromosome.

About 1 in 1,000 boys has an extra Y chromosome, but often they are unaware of it. In Britain it is estimated that there are about 25,000 boys and men who have XYY. Even though these boys have an extra Y sex chromosome, they are 100% male in every way.

## What causes the XYY condition?

Most parents who have a child with XYY have normal chromosomes themselves. The extra Y chromosome is thought to be due to a mistake occurring when cells divide around the time of fertilisation. The cause of this is not known.

## Will it happen again?

This is very unlikely, but some parents do opt to have a test in a future pregnancy to check the chromosomes of the baby. The need for testing can be discussed at a genetics clinic.

## What are the effects of the XYY condition?

### Babies

Boys born with XYY look and behave just like other babies. Their weight and length is normal, and they are no more likely to be born with abnormalities than any other children. They are not more prone to other illnesses.

### Toddlers

Boys with XYY usually sit, crawl and walk at the usual time, but they may be slower to learn to talk than other children. About half of the boys with XYY have some delay in their speech development. Speech therapy is helpful and can be commenced when the child is between 3 and 4 years old.

### Schoolchildren

Boys with XYY tend to be taller than other boys of their age, and this may mean that more is expected of them than of other children of the same age. There is a wide range of abilities in boys with XYY, as there is with other children. The average intelligence (IQ) of boys with XYY is slightly lower than that of boys with normal chromosomes, and compared with their brothers and sisters their IQ is 10-15 points lower.

**It is important to realise that this amount of variation often occurs naturally between children in the same family.**

About half of XYY boys may need some extra help at school, but the majority still manage well at mainstream school.

Some boys may have behaviour problems such as temper tantrums, which may require referral to a child guidance clinic, but these problems usually respond well to treatment. Some boys are described as easily distractible and more active physically. If parents are aware of this and can channel the child's energies constructively this does not need to be a problem.

Aggression is not more frequently observed than in other children. The impact of the environment can be significant. XYY boys seem to cope less well with difficult social circumstances than their brothers and sisters, for instance when dealing with family conflict and stress. For this reason a strong, supportive home environment is especially important.

XYY boys from stable, nurturing families seem to have no more psychological disorders than their brothers and sisters.

There is no increased risk of schizophrenia, manic-depressive disorders or any other serious mental illness.

### Adolescence

XYY boys grow slightly faster in childhood, and their average final height is 188 cm (around 6 feet 3 inches). Puberty is normal and comes at the expected time.

Many boys with XYY go on to further education after leaving school, but they are less likely to do this than their brothers and sisters. Some research has suggested that boys with XYY are more likely to take part in minor crime than other similar boys with only one Y chromosome.

### Adulthood

The majority of XYY men (around 75%) are in employment in a wide variety of jobs.

Men with XYY get married and have children just like men with XY chromosomes. Sexual function and fertility is normal. XYY does not seem to appear in their children any more than by chance. The majority of men with XYY live normal fulfilling lives and are completely unaware that they have an unusual chromosome pattern.