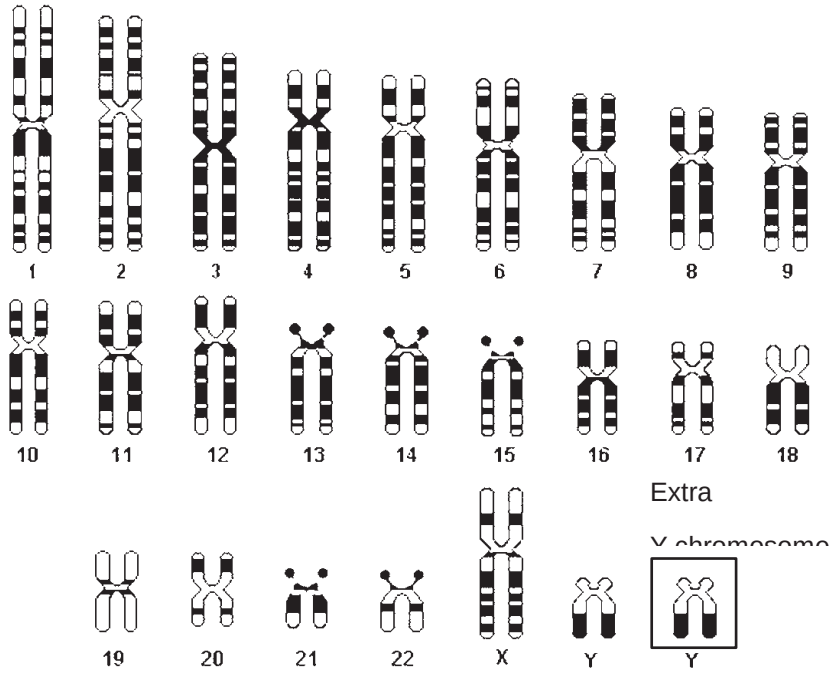
Saint Mary's Hospital
Manchester Centre for Genomic Medicine

Information for Patients

The XYY Condition

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 per cent 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 are 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.

- **School children**

  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 distracted 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 that 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.

- **Adulthood**

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

  Most 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.

For more information

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

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Sixth Floor
Saint Mary's Hospital
Oxford Road Manchester M13 9WL

Telephone: (0161) 276 6506 (Reception)
Facsimile: (0161) 276 6145

Department staffed Monday–Friday, 9.00 am to 5.00 pm.

Website: www.mangen.co.uk

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 disorders, including XYY:

Unique (Rare Chromosome Disorder Support Group)
Telephone: 01883 330766
Email: info@rarechromo.org
Website: www.rarechromo.org

Please let us know if you would like this leaflet in another format (e.g. large print, Braille, audio).

The information in this leaflet was collated from various sources including the work of Dr Shirley Ratcliffe, who has made a special study of sex chromosome disorders. Thanks also to the Kennedy-Galton Centre.

We would like to acknowledge our Clinical Genetics colleagues at Guy's and St Thomas' Hospital NHS Trust who originally designed and wrote this leaflet.

Seen in clinic by (doctor): _____

And (Genetic Counsellor): _____

Telephone number: _____

Family reference number: _____