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Manchester Centre for Genomic Medicine

Information for Patients

X-linked Inheritance (Female Carriers)

What is X-linked inheritance?

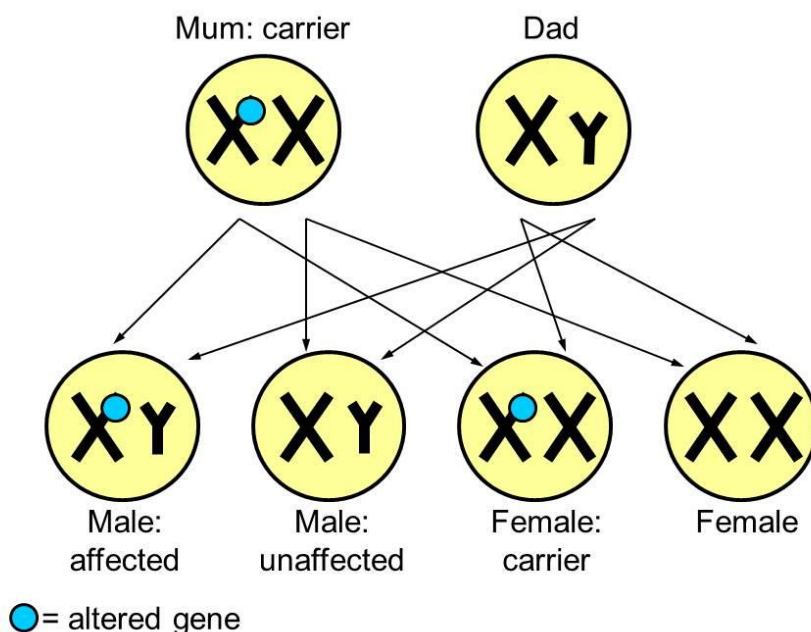X-linked conditions are health problems caused by altered genes on the X chromosome.

If a woman or girl has an altered gene on one of her two X chromosomes, she is likely to be a healthy carrier. This is because women with an altered gene on one X chromosome will also have a second normal copy of the gene on their other X chromosome.

In most conditions, women with the altered gene will be healthy carriers. In other conditions, she may have some milder symptoms of the disorder.

If a man or boy has an altered gene on his X chromosome, he will be affected as he has only one X chromosome and so does not have another copy of the gene to compensate.

Having children

X-linked recessive inheritance (female carrier)

X-linked conditions are gender specific, so they have different outcomes for boys and girls.

If a female carrier has a boy, there is a 50% (1 in 2) chance that the boy will be affected by the X-linked condition caused by the altered gene that she carries.

If a female carrier has a girl, there is a 50% (1 in 2) chance that the girl will inherit the altered gene.

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Sometimes boys are born with X-linked conditions even though their mothers are not carriers. When this happens, it is particularly important to get specialist advice about future pregnancies. You can ask your genetic counsellor or genetic doctor for more information about this.

For more information

A separate information sheet called "Introduction to chromosomes" is available. If you need more advice about any aspect of X-linked Inheritance, you are welcome to contact:

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Saint Mary's Hospital
Oxford Road Manchester   M13 9WL

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Website: www.mangen.co.uk

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