

Recessive Inheritance

Information Guide

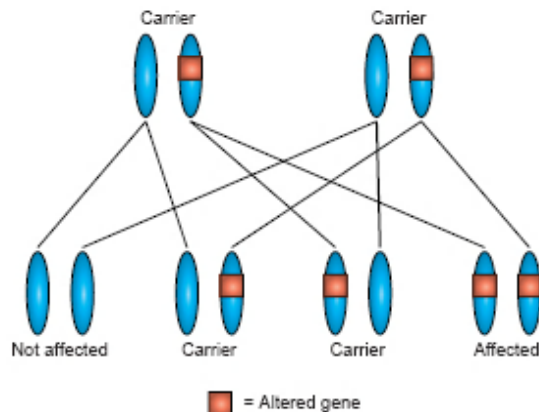
What are genes?

Genes are the unique set of instructions inside our bodies which make each of us an individual. There are many thousands of different genes, each carrying a different instruction. If a gene is altered, it can cause a genetic condition or disease. This gene alteration is sometimes known as a mutation.

We have two copies of each gene. One copy is inherited from each of our parents. When we have children, we pass on only one copy of each of our genes.

What does recessive inheritance mean?

Some conditions are inherited in a recessive way. In recessive conditions, individuals who have only one altered copy of a gene are completely healthy. They are known as carriers, because they carry one altered copy of a gene. Their normal copy of the gene keeps them healthy and compensates for the altered copy of the gene.



Autosomal Recessive Inheritance

Having children

If both healthy parents carry the same altered recessive gene, then each child they have has a 25% (1 in 4) risk of inheriting the altered gene from both parents and therefore being affected. For each child, regardless of their sex, the risk is the same = 25%.

Children of couples who are both carriers of the same altered recessive gene have a 50% (1 in 2) chance of inheriting one copy of the altered gene from one of their parents. If this happens, they are healthy carriers themselves. There is also a 25% (1 in 4) chance that a child of a carrier couple will inherit two normal copies of the gene. These children will be completely normal.

If only one parent is a carrier of the altered gene, then each of their children has a 50% chance of being a healthy carrier, but will not be affected.

Parents who are closely related to each other, such as first cousins, are more likely to have children with recessive conditions.

For additional information or support

If you have any further questions about inheritance, please contact:

Genetic Medicine

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

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

Do you have difficulty speaking or understanding English ?

আপনি কি ইংরেজীতে বুঝতে কিংবা বুঝাতে পেরেছেন ? (BENGALI)

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