

Information for Patients and Families

Autosomal Recessive Inheritance

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. This gene alteration is sometimes known as a **gene variant**.

What does Autosomal Recessive inheritance mean?

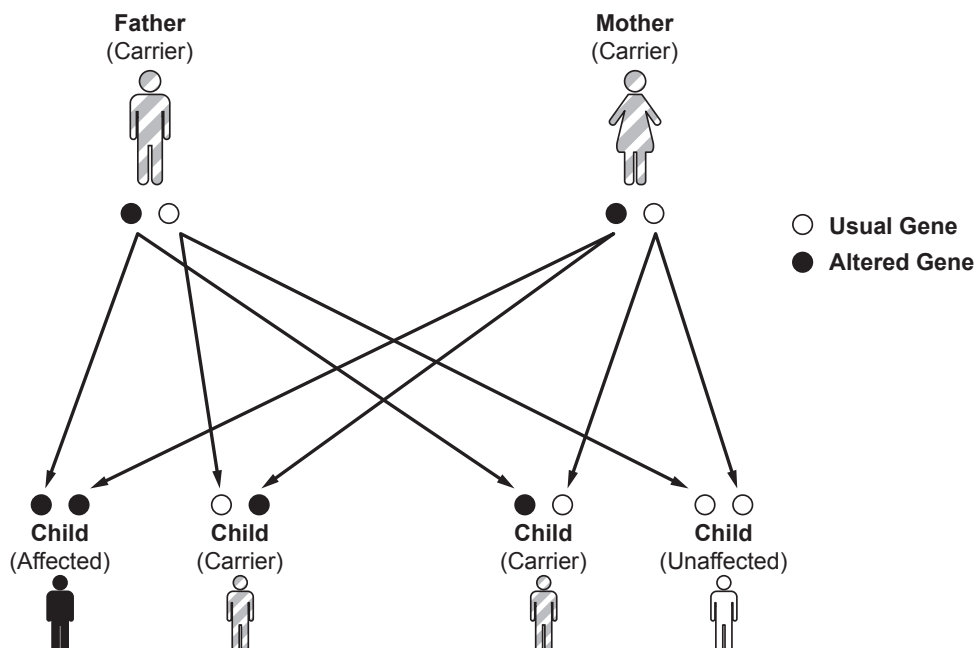
- Some conditions are inherited in a **recessive** way. This means a person must inherit **two altered copies** of a gene (one from each parent) to be affected by the condition.
- People who inherit **only one altered copy** of the gene are called **carriers**. They are not affected by the condition because their healthy copy of the gene compensates for the altered one.

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Having children

The diagram below shows a recessive pattern of inheritance.



If both healthy parents carry an alteration in the same gene, each child they have has:

- A 25% (1 in 4) chance of inheriting the altered gene from both parents and therefore being affected with the condition.
- 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.
- A 25% (1 in 4) chance that a child will inherit two usual copies of the gene. These children will not be affected with the condition and will not pass it on to their children.

This chance is the same for **each child**, regardless of their sex.

Further information

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