

Dominant 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 contains a disease-causing (pathogenic) alteration, it can cause people to have an increased chance of developing a genetic condition. A gene alteration is sometimes known as a gene variant.

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 dominant inheritance mean?

Some genetic conditions are passed on through the family in a dominant way. These conditions are caused by an alteration in one copy of a gene. They are called dominant because the altered copy of the gene is dominant over the other copy of the gene. This means having a pathogenic alteration in one copy of the gene is enough to put individuals at an increased chance of developing the condition.

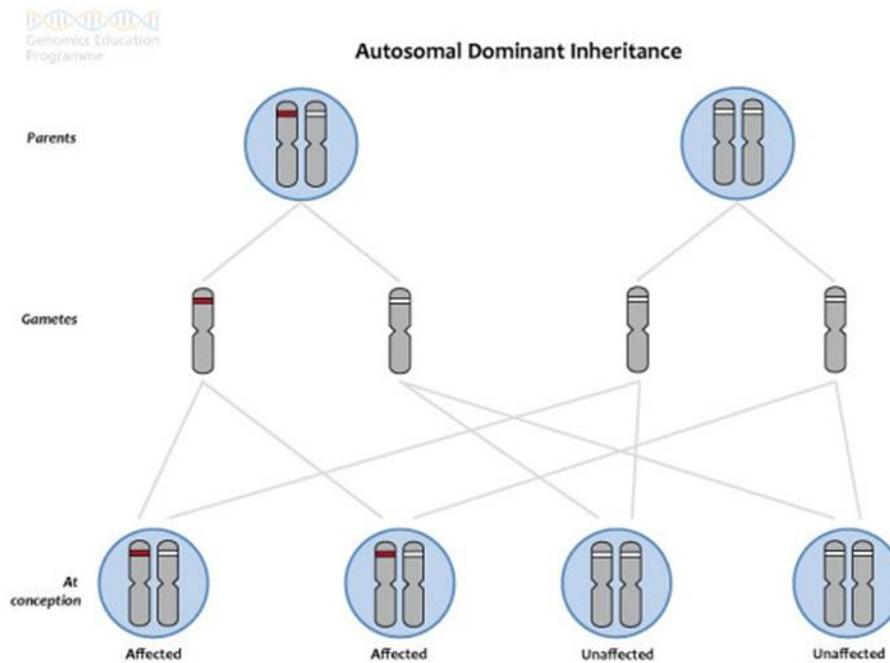
Having children

If a parent carries an altered gene for a dominant condition, each of their children has a 50%, or 1 in 2 chance of inheriting the altered gene and being affected by the condition. For each child, regardless of their sex, the risk is the same = 50%.

In some dominant conditions, it is possible to inherit an altered gene without showing any symptoms of the condition. Even within a family, some individuals may be affected by the same dominant condition in different ways.

Some dominant conditions are known as "late onset disorders". In other words, they only affect individuals in adulthood.

In some families, an isolated case of a dominant disorder may be the result of a new variant (an alteration which arises for the first time) in either the egg or the sperm that went to make that child.



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If you need more advice about any aspect of Dominant Inheritance, you are welcome to contact:

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This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at pals@lwh.nhs.uk

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