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Dominant Inheritance

An information leaflet for patients and families

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What is 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 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 each pass on only one copy of each of our genes.

What does dominant inheritance mean?

Some genetic conditions are passed on in 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.

Having children

If a parent carries an altered gene for a dominant condition, each of their children regardless of the sex has a 50%, or 1 in 2 chance of inheriting the altered gene and being affected by the condition. 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”. This means they only affect individuals in adulthood.

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

