

## For more information:

If you need more advice about any aspect of recessive inheritance, you are welcome to contact:

### Genetic Medicine

Sixth Floor

Saint Mary's Hospital

Oxford Road

Manchester, M13 9WL

Telephone: 0161 276 6506 Reception

Facsimile: 0161 276 6145

Department staffed

Monday - Friday 9.00 am to 5.00 pm

## Translation and Interpretation Service

Do you have difficulty speaking or understanding English ?

আপনি কি ইংরেজিতে বুঝতে কিংবা বুঝাতে পারছেন ? (BENGALI)

क्या आपको अंग्रेजी बोलने या समझने में कठिनाई है ? (HINDI)

તમે ભાષા કારણે વાતચીત કરવામાં મુશ્કેલી આવે છે ? (GUJARATI)

ਕਿ ਤੁਹਾਨੂੰ ਅੰਗ੍ਰੇਜ਼ੀ ਬੋਲਣ ਨਾਂ ਸਮਝਣ ਵਿਚ ਦਿਥੜ ਹੈ ? (PUNJABI)

Miyey ku adagtahay inaad ku hadasho Ingriisida aad sahamto (SOMALI)

هل لديك مشاكل في فهم والتكلم باللغة الانجليزية ؟ (ARABIC)

你有困難講英語或明白英語嗎？ (CANTONESE)

کیا آپ کو انگریزی سمجھنے اور سمجھانے میں دقت پیش آتی ہے؟ (URDU)

☎ Telephone Number 0161 276 6202/6342

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.

**Please let us know if you would like this leaflet in another format (e.g. large print, Braille, audio, British Sign Language video/DVD) or in another language.**

Seen in clinic by .....(doctor)

and .....(genetic counsellor)

Telephone number .....

Last updated Aug 2005: Leaflet 4.1: TIG 57/05

# Recessive inheritance

Department of  
Clinical Genetics

General information



INVESTOR IN PEOPLE



## 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.

## 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.

## Autosomal recessive inheritance

