



### About Pamela (age 19)

**Genetic disorder:** Sickle Cell Anaemia

**Likes:** Singing, hanging out with friends.

**Dislikes:** People not believing that she's ill, missing out at school.

**Home town:** Coulsden, Surrey

**Mum:** Hannah

**Dad:** Oliver

**Siblings:** Jackie (age 15), Jerry (age 14), Ama (age 8).

## SICKLE-CELL ANAEMIA

• An inherited blood disorder which causes unpredictable and sometimes intense bouts of pain known as a 'crisis'.

• A crisis happens when the red blood cells, which are usually round and flexible, become sticky and 'sickle'-shaped, causing temporary blockages which restrict blood flow.

• Being a carrier (aka having sickle cell trait) can protect against malaria, so people with ancestors from West Africa, the Caribbean, some parts of India and the Mediterranean have a higher chance of inheriting the condition.

• You can't tell where people's ancestors come from just by their skin colour or their name, so anyone could be affected.

• It's the most common genetic disorder in England. 1 in 2000 babies are born with it.

• The cause of the condition was discovered by Dr James Herrick who reported finding 'peculiar elongated cells' in a patient's blood in 1910.

## USEFUL LINKS

• The Sickle Cell Society:

[www.sicklecellsociety.org](http://www.sicklecellsociety.org)

• Sickle Cell and Young Stroke Survivors:

[www.scyss.org](http://www.scyss.org) Find out more about living with Sickle Cell Anaemia.

• Kids Health: <http://kidshealth.org> Easy to understand information about a range of conditions including Sickle Cell Anaemia.

## GENETIC DISORDERS

• Genes are made out of DNA and most contain instructions for making proteins.

• A genetic disorder happens when a change in one or more genes causes vital proteins in the body to be missing or faulty.

• Most disorders are recessive, occurring when someone inherits two copies of the faulty gene – one from each parent.

• Others are dominant, meaning a single copy of the faulty gene is

enough to cause the condition.

• X-linked disorders are caused by a faulty gene on the x-chromosome, of which girls have two (XX) and boys only one (XY). These usually only affect boys.

• An estimated 1 in 25 children in the UK are born with a genetic disorder.

• Some other examples of genetic disorders include Cystic Fibrosis, Sickle Cell Anaemia, Huntington's Disease and Haemophilia.

## CURRICULUM LINKS

• **KS3 Science:** Variation and classification; Inheritance and selection.

• **GCSE Science:** Genetics and inheritance; Ethical and social issues in science.

• **KS3/4 PSHE and Citizenship:** Identities and diversity; Prejudice and discrimination; Human rights; Community cohesion.

FOR MORE RESOURCES LIKE THESE AND TO SIGN UP FOR JEANS FOR GENES DAY, VISIT US AT [WWW.JEANSFORGENES.ORG](http://WWW.JEANSFORGENES.ORG)

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