



raises funds for



TEACHER FACTSHEET:

ALFIE'S STORY



CHRONIC GRANULOMATOUS DISORDER (CGD)

- CGD is caused by a **faulty gene** and affects the ability of white blood cells to **fight off certain bacterial and fungal infections**.
- CGD is a **rare genetic condition** that affects only one in 250,000 people.
- People affected by **CGD** can be **susceptible to serious illnesses and infections** like repeated bouts of pneumonia, abscesses (boils) of the skin, tissues and organs and lots of infections caused by bacteria and fungus.
- CGD can be managed** (with difficulty) by taking regular antibiotics and anti-fungal drugs to help keep infections at bay. **Without these drugs, people affected by CGD would die in childhood.**
- CGD** can be cured by having a **bone marrow transplantation (BMT)** but the implications of this are serious.
- Overall **85 per cent** of people who have a bone marrow transplant **survive**. Of those that survive, **8 out of 10** of them are cured of CGD.

About Alfie (age 14)

Genetic disorder: Chronic granulomatous disorder

Likes: Rugby, football, playing on his X-box

Dislikes: Mushrooms!

Home town: Petersfield, West Sussex

Mum: Kath

Dad: Phil

Siblings: Sam (20 years old) and Henry (18 years old)

GENETIC DISORDERS

- We have two copies of each **gene**, one from each **parent**. **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 not work properly**.
- Most genetic 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**.
- Half** of all **childhood deaths** in the UK are linked to a **genetic disorder**.
- Some other examples of genetic disorders include **Cystic Fibrosis, Sickle Cell Anaemia, Huntington's disease** and **Haemophilia**.

CURRICULUM LINKS

- Key Stage 3:** Citizenship: engage with and reflect on different ideas, opinions, beliefs and values when exploring topical and controversial issues and problems.
- Key Stage 3 Science:** Variation and classification; Inheritance and selection
- GCSE Science:** Genetics and inheritance; Ethical and social issues in science.

USEFUL LINKS

For further information on the condition visit the CGD society: www.cgdsociety.org

FOR MORE RESOURCES GO TO WWW.GENESAREUS.ORG

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