



**About Tiana & Star:** Tiana is 7 years old, Star is 10 years old

**Genetic disorder:** Brittle Bone Disease

**Like:** Swimming, pop music, the colour pink, ice lollies, strawberries, their dog Ella.

**Dislike:** Hospital waiting rooms, needles, broccoli.

**Home town:** Manchester

**Mum:** Elaine

**Dad:** Peter

**Unaffected siblings:** Jasmine (age 16)

## BRITTLE BONE DISEASE

- Also known as **Osteogenesis Imperfecta**.
- Caused by a **gene fault** affecting 'collagen' production - a **protein** needed for **strong bones**.
- Bones are **fragile** and **break easily**, often for **no apparent reason**.
- Star has broken **33 bones** in total including: **Toes, Metatarsals, Tibias, Fibulas, Femurs, Humerus, Ulna, Spine and Ribs**.
- Tiana's **mum has Brittle Bone Disease too**. She has a **50:50 chance** of passing on the gene **each time she has a child**, which is why Tiana and Star have the condition, but their **sister Jasmine doesn't**.
- There is **no cure**. Gentle exercise like **swimming** can help to **build muscle** and **increase bone strength**, reducing the chance of fractures.
- A '**dominant**' condition caused by inheriting a **single copy** of the faulty gene from one of the parents.

## GENETIC DISORDERS

- Genes are made out of **DNA** and most contain **instructions for making proteins**.
- 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**.
- A **genetic disorder** happens when a **change** in one or more genes causes **vital proteins** in the body to be **missing or faulty**.

## CURRICULUM LINKS

- KS1 Science:** Ourselves; Human variation.
- KS2 Science:** Moving and growing.
- KS1/2 PSHE and Citizenship:** Respecting the differences between people; Community cohesion.

## USEFUL LINKS

- The Brittle Bone Society:** [www.brittlebone.org](http://www.brittlebone.org)  
More about living with Brittle Bone Disease.
- Kid's Health:** <http://kidshealth.org>  
Learn about health and how the body works.
- GOSH Kids:** <http://www.childrenfirst.nhs.uk>  
Age-appropriate information about hospital life.

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

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