

# It's Valentine's! Are You My Type?

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IT'S Valentine's Day! Reportedly the most celebrated day around the world besides New Year. Did you know that Saint Valentine's Day is named after a saint called Valentinus who it is said was imprisoned for performing weddings on soldiers forbidden to marry and for ministering to Christians who were persecuted under the Roman Empire? Legend has it that he healed the daughter of his jailer and before his execution he wrote "*from your Valentine*" as a farewell to her! By the 15th Century, 14 February had become associated with romance and the tradition of courtly love and had pretty much evolved to what happens now – an occasion when lovers (current or would-be!) express their love by presenting each other with flowers, chocolates, romantic gestures and cards known as 'valentines'.

## Why Care about Type?

FROM the type of people we might be attracted to this Valentine's Day to the way we look and behave there's a lot we inherit from our parents through genes, including our **haemoglobin genotype**. This tells us the two genes (one inherited from each parent) that determine our type of blood haemoglobin. Haemoglobin is the substance in our blood that gives blood its red colour and carries oxygen around our body. The type of haemoglobin genes we inherit or pass on can play an important role in determining whether we or our children are affected by two serious inherited blood conditions – **sickle cell**

**disease** and **thalassaemia**. The usual type of haemoglobin gene is haemoglobin A. Unusual haemoglobin genes include haemoglobin S (known as 'sickle haemoglobin'), haemoglobin C and beta thalassaemia. People can only get sickle cell or thalassaemia if they inherit **two** unusual genes for haemoglobin. People who inherit only **one** unusual gene are known as 'carriers' or are said to have the 'trait'. This Valentine's as we establish new relationships and cement old ones it seems a good time to raise awareness of these two inherited blood conditions and for individuals to consider finding out about their haemoglobin type since each time two people who are carriers have a baby there is a 25% chance the baby could be born with sickle cell disease or thalassaemia. A simple blood test will determine if you carry a gene for sickle cell or thalassaemia.

In the UK approximately 15,000 people have sickle cell disease and each year around 274 new babies are born with the condition, which mainly affects people who originate from Africa, the Caribbean, Asia, the Middle East and also the Mediterranean. It also affects 'White' people too though much less frequently. Sickle cell disease is a serious inherited blood condition that can cause severe pain, anaemia and organ damage. Someone has sickle cell disease if they inherit genes for haemoglobin that cause their round blood cells to change to a banana or 'sickle' shape when the cells give up their oxygen as they flow around the body. These sickle cells cause blockages in blood flow through the veins, resulting in severe pain known as a 'crisis' as oxygen is stopped from reaching the various parts of the body. The sickle cells also break down quicker than normal blood cells, causing anaemia hence one type of sickle cell disease is known as sickle

cell anaemia.

Thalassaemia is a condition most common among people originating from India, Pakistan, Bangladesh, Cyprus and China. However, people from Africa and the Caribbean can be carriers of the beta thalassaemia gene and if someone has both this and the sickle cell gene they have a type of sickle cell disease known as 'sickle beta thalassaemia'. Individuals who have inherited two beta thalassaemia genes have a serious condition known as Beta Thalassaemia major which affects their ability to produce enough red blood cells. This causes severe anaemia and organ damage and they need to be on regular blood transfusions throughout life.

## This Valentine's why not be the perfect partner!

IN the UK there is an NHS Sickle Cell and Thalassaemia Screening Programme which offers all pregnant women the blood test to determine if they carry a gene for sickle cell or thalassaemia. If the woman is a carrier then the father-to-be is also invited for the blood test. (Guess what? Only 50% of these men currently accept their invite!). However, anyone can ask their GP for this blood test at anytime in their life especially before you and your partner decide to start a family. You can both then discuss any risks and the choices that are right for you. The Screening Programme also tests all newborn babies for the sickle cell gene. Latest data from screening newborn babies in the UK reports that

1 in every 70 babies born is carrying a sickle cell gene (Black African 1 in 7; Black Caribbean 1 in 8; White 1 in 450). Around 380,000 people in England are estimated to be carriers of an unusual haemoglobin gene. **During this month of 'courtly love' and amorous liaisons I am not for one minute suggesting that together with a sappy card, chocolate and flowers, you present your valentine with an invite to go for a blood test! I am simply proposing that it is good for individuals to get educated about these genetic blood conditions so they can make informed choices (about testing) if and when the need arises, with a special appeal going out to the men. By so doing, you just might end up being that perfect partner after all!**

### Screening Programmes

Sickle Cell & Thalassaemia