



# Sickle Cell and Thalassaemia Centre 0121 507 6040

## Haemoglobinopathies

Sickle cell disorder and Thalassaemia are both **Haemoglobinopathies**; genetic disorders of the haemoglobin. We all have genes which carry information about the structures of our haemoglobin. Abnormalities in these genes will result in qualitative and quantitative changes within haemoglobin.

- Qualitative disorder** – sickle cell disorder affects the **quality** of the haemoglobin; there is a structural alteration.
- Quantitative disorder** – Thalassaemia affects the **quantity** of the haemoglobin; a failure to produce parts of the haemoglobin molecule.

**Haemoglobin** transports oxygen from the lungs to the tissues and is contained within circulating red blood cells.

rbc –red blood cells

Each molecule contains alpha and beta globin chains.

The number of alpha and beta globin chains need to precisely match.