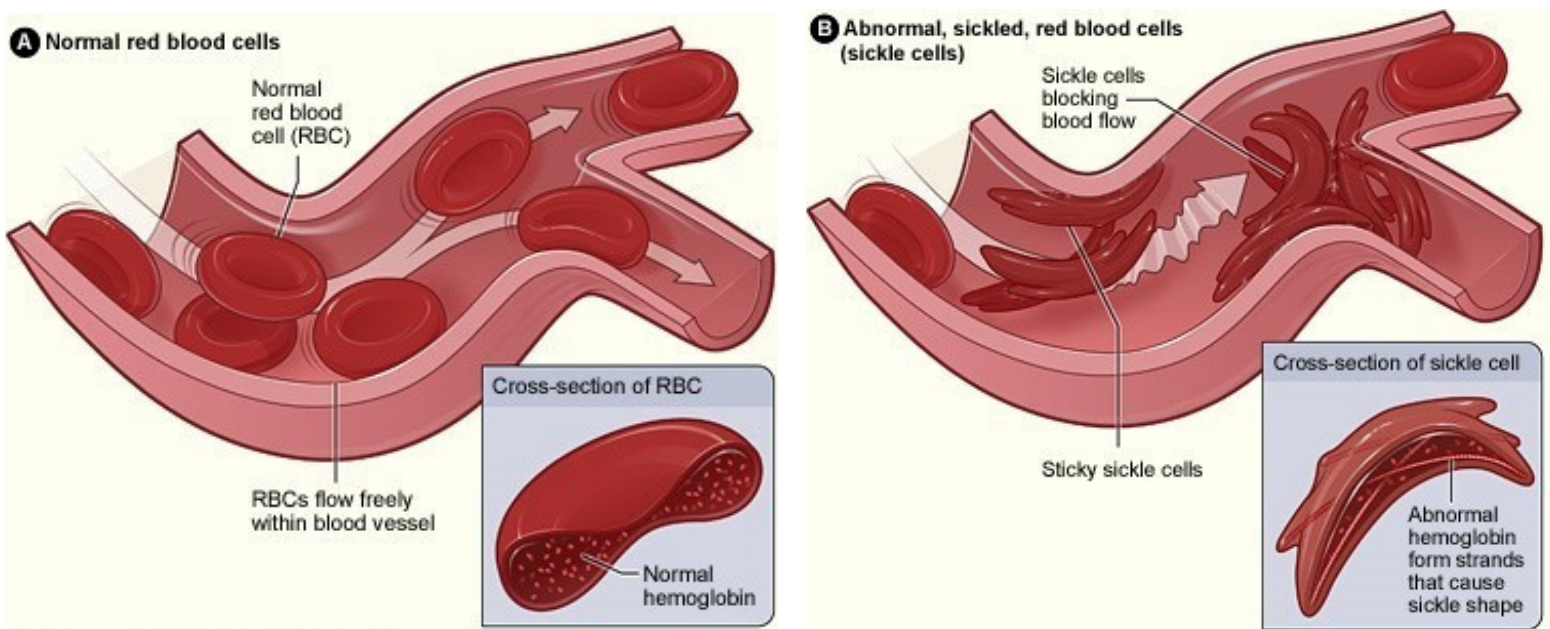


Genetics: Sickle Cell Anemia

What is Sickle Cell Anemia?

Sickle cell anemia is the most common form of sickle cell disease (SCD). It may also be referred to as HB-SS or SS Disease. SCD is a disease that causes red blood cells (RBCs) to have an abnormal shape.



Sickle red blood cells can get stuck in blood vessels and block the flow of blood and oxygen in the body. When this happens it can cause severe pain, serious infections, organ damage, or even stroke.

What is hemoglobin and what does it do?

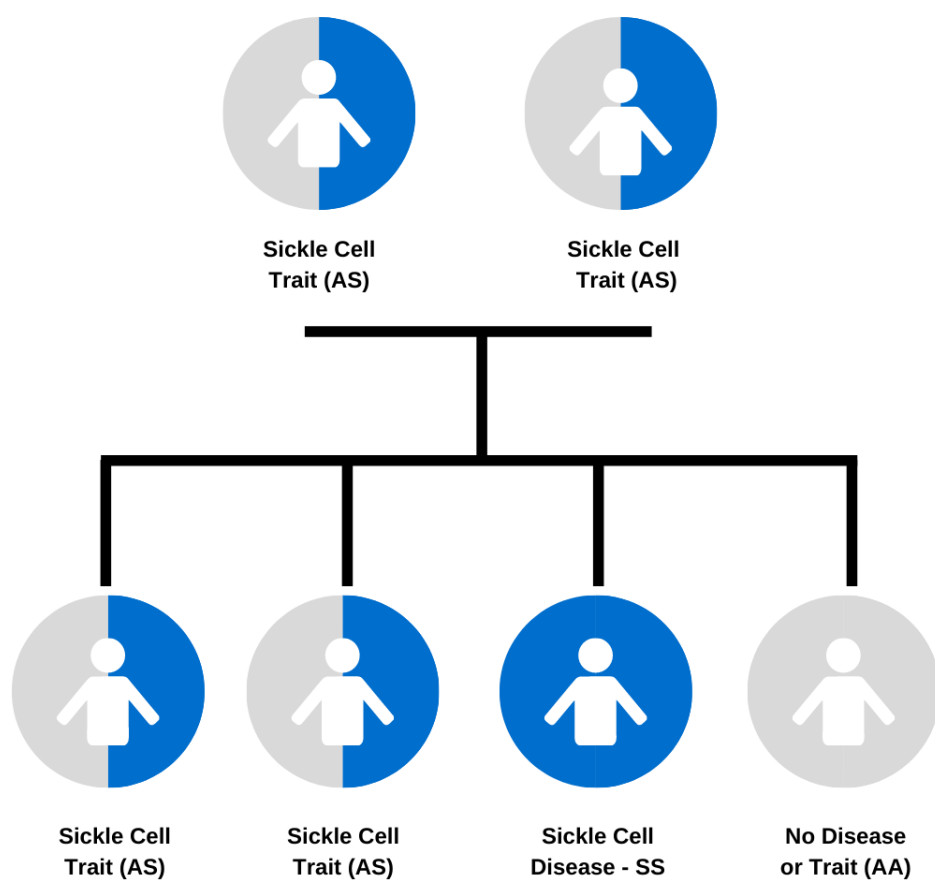
Red blood cells contain hemoglobin (HEE-MUH-GLOW-BIN). Hemoglobin is a protein that carries oxygen around the body. There are several types of abnormal hemoglobin. **Sickled hemoglobin** is the type that causes sickle cell anemia. It is usually written as Hb-S. A person needs two copies of Hb-S to have sickle cell anemia - one copy from each parent.

How does a person get Sickle Cell Anemia?

Sickle cell anemia is a genetic disorder, meaning it is passed on from parents to their children just like hair, eye, and skin color. **You are born with sickle cell anemia disease. It is not contagious. Boys and girls have an equal chance of getting sickle cell anemia.**

If both parents have sickle cell trait (one copy of the hemoglobin S gene) then there is a:

- 25% (1 in 4) chance any of their children will have **sickle cell anemia (SS)**.
- 50% (1 in 2) chance any of their children will have **sickle cell trait (AS)**.
- 25% (1 in 4) chance any of their children will be **unaffected (AA)**.



If one parent has sickle cell disease and one parent has sickle cell trait, there is a

higher chance (50%) that their child will have sickle cell anemia. Boys and girls have an equal chance of getting sickle cell anemia.

The only way to know if you have sickle cell trait or beta thalassemia trait, is to have a special blood test called a hemoglobin electrophoresis.

If you have questions about you or your family's trait/disease status, please contact our genetic counselor: **Kristin Clemenz, MS: 312-227-4817**

If you have questions or concerns about your child's health and/or treatment, please contact the sickle cell care team: **312-227-4813 (M-F 9am to 5pm)**, **312-227-4000 (After hours, ask for hematologist on call)**

The Comprehensive Sickle Cell Program

Division of Hematology, Oncology and Stem Cell Transplantation
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