



## **Sickle Cell Disease**

### **What is sickle cell anemia?**

Sickle cell anemia is an inherited disorder that affects hemoglobin, a protein that enables red blood cells to carry oxygen to all parts of the body. The disorder produces abnormal hemoglobin, which causes the red blood cells to become crescent or sickle shaped. Normal red blood cells are round and move through blood vessels in the body to deliver oxygen. Sickle red blood cells become hard, sticky and have difficulty passing through the small blood vessels. When these hard, pointed red cells go through capillaries, they clog the flow and break apart. This causes pain, damage and anemia.

### **What is sickle cell trait?**

Sickle cell trait is seen in a person who carries one sickle hemoglobin producing gene inherited from their parents and one normal hemoglobin gene. Normal hemoglobin is called type A. Sickle hemoglobin is called hemoglobin AS on the hemoglobin electrophoresis. This combination of one normal and one abnormal gene will NOT cause sickle cell disease.

### **How do you get sickle cell anemia or trait?**

You inherit the abnormal hemoglobin from your parents, who may be carriers with sickle cell trait or parents with sickle cell disease. You cannot catch it. You are born with the sickle cell hemoglobin and it is present for life. If you inherit only one sickle gene, you have sickle cell trait. If you inherit two sickle cell genes you have sickle cell disease.

### **How common is sickle cell anemia?**

It is most common in people whose ancestors come from sub-Saharan Africa, Spanish-speaking regions of Central and South America, Saudi Arabia, India and the Mediterranean. The disease occurs in approximately 1 in every 500 African American births and 1 in every 1,200 Hispanic-American births. One in 12 African Americans carries the sickle cell trait.