

## Sickle Cell Anemia

- Sickle cell anemia is a serious disease in which the body makes sickle-shaped red blood cells. “Sickle-shaped” means that the red blood cells are shaped like a “C.”
- Normal red blood cells are disc-shaped and move easily through your blood vessels. Red blood cells contain the protein hemoglobin. This iron-rich protein gives blood its red color and carries oxygen from the lungs to the rest of the body.
- Sickle cells contain abnormal hemoglobin that causes the cells to have a sickle shape. Sickle-shaped cells don’t move easily through your blood vessels. They’re stiff and sticky and tend to form clumps and get stuck in the blood vessels.
- The clumps of sickle cells block blood flow in the blood vessels that lead to the limbs and organs. Blocked blood vessels can cause pain, serious infections, and organ damage.
- Sickle cell anemia is an inherited, lifelong disease. People who have sickle cell anemia are born with it. They inherit two copies of the sickle cell gene – one from each parent.
- People who inherit only one sickle cell gene (from one parent) have a condition called sickle cell trait. Sickle cell trait is different from sickle cell anemia. People who have the condition usually have no signs or symptoms and lead normal lives. However, they can pass the sickle cell gene to their children.
- Sickle cell anemia affects millions of people worldwide. In the United States, the disease affects about 70,000 people – mainly African Americans.
- The most common signs and symptoms of sickle cell anemia are linked with anemia and pain. Sudden pain throughout the body is a common symptom of sickle cell anemia. This pain is called a “sickle cell crisis.” Sickle cell crises often affect the bones, lungs, abdomen, and joints.
- Early diagnosis of sickle cell anemia is very important. Children who have the disease need prompt and proper treatment.
- Sickle cell anemia has no widely available cure. However, there are treatments for the symptoms and complications of the disease. Treatments include medicines, fluids, and procedures. Bone marrow transplants may offer a cure in a small number of cases.
- You can’t prevent sickle cell anemia because it is an inherited disease. However, you can take steps to reduce its complications.
- With good health care, many people who have sickle cell anemia can live productive lives. They also can have reasonably good health much of the time and live longer today than in the past. If you have sickle cell anemia, it’s important to adopt or maintain a healthy lifestyle, take steps to prevent and control complications, and learn ways to cope with pain.
- If you have a child or teenager who has sickle cell anemia, you can take steps to learn about the disease and help your child manage it.
- Researchers continue to look for new treatments for sickle cell anemia. These include gene therapy and improved bone marrow transplants.

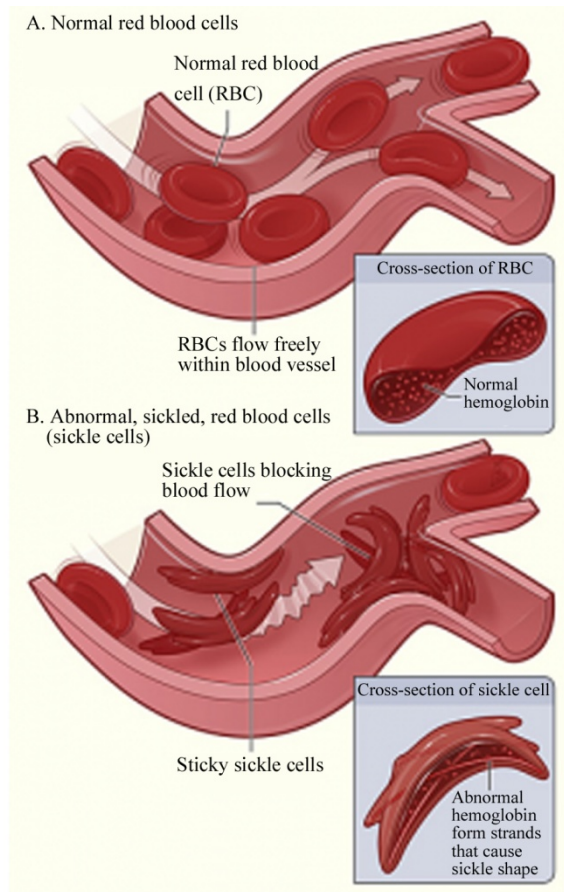


Figure A shows normal red blood cells flowing freely in a blood vessel. The inset image shows a cross-section of a normal blood cell with normal hemoglobin.

Figure B shows abnormal, sickled red blood cells clumping and blocking blood flow in a blood vessel. (Other cells also may play a role in this clumping process.) The inset image shows a cross-section of a sickle cell with abnormal hemoglobin.