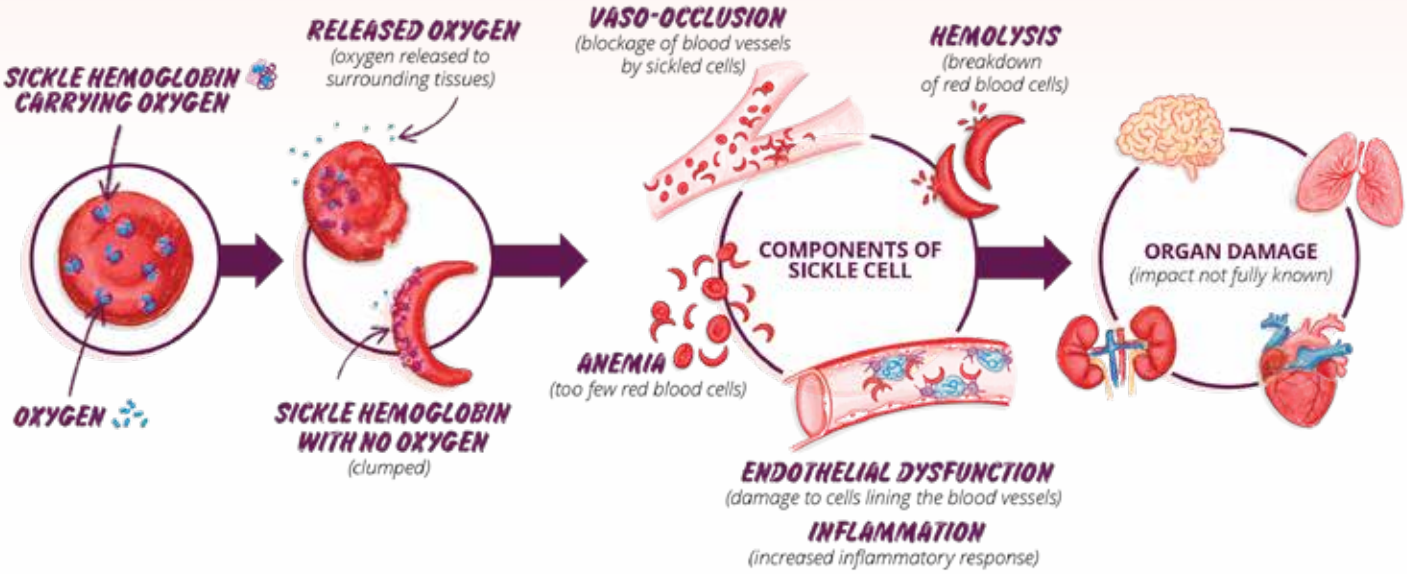
# LEARN ABOUT SICKLE CELL DISEASE

- Sickle cell is a genetic disease passed down from your parents the same way people get the color of their eyes, skin and hair.
- Sickle cell begins with hemoglobin, the part of the red blood cell that carries oxygen. People with sickle cell have an **abnormal hemoglobin called sickle hemoglobin**.
- When sickled hemoglobin releases oxygen, it clumps together forming a stiff rod. This causes the red blood cell to become sickled, or banana-shaped. This process of red blood cells changing shape, or sickling, is called polymerization.
- When red blood cells sickle, they can't do their job of carrying oxygen to tissues, organs and bones.
- The main components of sickle cell can be: **anemia** (too few red blood cells or RBCs), **hemolysis** (breakdown of RBCs), **vaso-occlusion or VOCs** (pain crises), **endothelial dysfunction** (damage to cells lining the blood vessels) and **inflammation** (increased inflammatory response) — it is not known how much each of these components of sickle cell may impact your overall health.
- Damage is happening in the body, even when pain may not be felt.

## THE RED BLOOD CELL SICKLING PROCESS




These components may lead to organ damage to parts of the body like the brain, lungs, heart and kidneys. It is not known, how much each of these components of sickle cell may impact your overall health.

*To learn more about sickle cell, visit sicklecellspeaks.com*


## KNOW YOUR NUMBERS

**In sickle cell, it's important to visit your doctor regularly so that they can review your lab values and monitor for changes in:**

- ***Hemoglobin***: this is the part of the red blood cell that delivers oxygen throughout the body. In people with sickle cell, hemoglobin numbers can often be low, which is a sign of anemia.
- ***Reticulocytes (Retics)***: these are baby red blood cells that are not fully developed. Your retic levels will go up when your body needs more red blood cells. High levels of retics may suggest that you have anemia.
- ***Bilirubin***: this is a yellowish substance made in the body when red blood cells break down. High levels of bilirubin mean that a lot of your red blood cells are breaking down at a fast rate, and can cause yellowing of your skin and eyes.

Having regular labs and screenings is an important part of knowing your numbers related to your sickle cell. Keep track of some of these common lab values your doctor may look at using the chart to the right.

## #SICKLECELLSPEAKS

***Hemoglobin***
*Standard Hemoglobin: adult men - 14 to 18 g/dL, adult women - 12 to 16 g/dL*

***Reticulocytes (Retic Count)***
*Standard Retic Count in Adults: 0.5% to 2.5%*

***Bilirubin***
*Standard Total Bilirubin Value for Adults: 0.3 to 1.9 mg/dL*

| *Date* | *Hemoglobin* | *Retic Count* | *Bilirubin* |
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