



# Sickle Cell Trait Fact Sheet

## What is Sickle Cell Trait?

Sickle Cell Trait means a person's body makes something different that shows up in the part of blood called hemoglobin ("he-mo-glow-bin"). **Sickle cell trait is NOT a sickness or a health problem.** Your child does **NOT** have sickle cell disease.

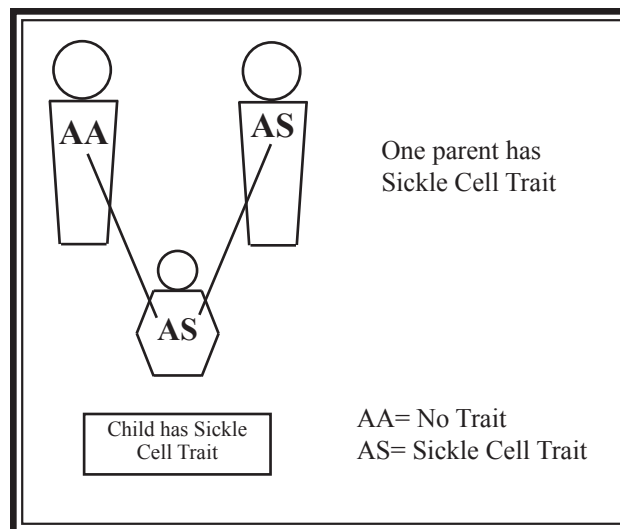
## What is Hemoglobin?

Hemoglobin is what makes your blood red. It delivers oxygen to all body parts. There are many different kinds of hemoglobin. The most common is called hemoglobin "A" (normal). Your child, with sickle cell trait, makes two kinds of hemoglobin: hemoglobin "A" (normal) and hemoglobin "S" (sickle). Your child was born with this difference. It will not change as he/she gets older.

## How Does a Person Get Sickle Cell Trait?

Sickle cell trait is inherited. This means it is passed down from parent to child through the genes. The type of hemoglobin people make depends on the kind that runs in their family.

Most likely, your child inherited a normal hemoglobin "A" gene from one parent and an "S," or sickle, gene from the other parent. This means that at least one parent (mother or father) also has the trait. Trait is another word for carrier. It means a person carries a gene for something different.



## What are Genes?

Genes are instructions for making all of our body parts and features. They are the blueprint for making a human. Genes come in pairs. Half of our genes come from our mother through the egg and half from our father through the sperm.

For hemoglobin, your child most likely has one "A" gene and one "S" gene. This causes sickle cell trait. As his/her parents, you could also have AS genes (Sickle Cell Trait). Children with sickle cell anemia have two "S" genes. Sickle cell trait cannot change into sickle cell anemia because the genes are different.

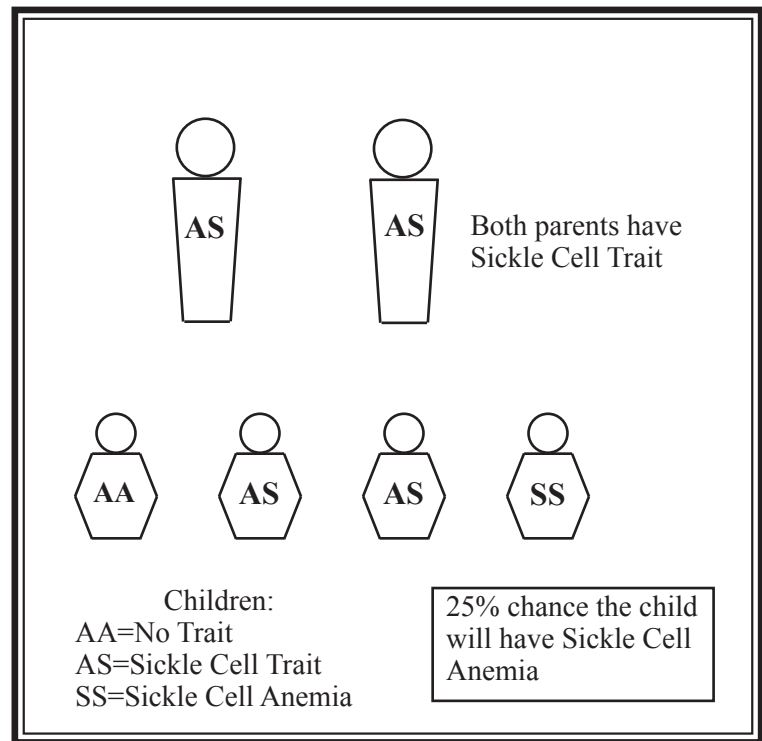
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## Why is Knowing Your Trait Status Important ?

### 1. It's inherited.

Most people who have a trait don't know it because it does not make them sick. If both parents have the Sickle Cell Trait (AS genes), a future child could get an "S" gene from each parent. When **both** parents have a trait (AS), every baby has a 25% chance of having **Sickle Cell Anemia**. If proper testing shows one parent has a trait and the other does not, there is **very little** chance of having a child with Sickle Cell Anemia.

Sickle Cell Anemia is a disease that causes the blood cells to change shape and cause blockages in the blood vessels. This blockage is painful and limits the amount of oxygen to body parts. This can lead to serious and sometimes life-threatening health problems.



### 2. In **rare** cases, people with sickle cell trait can have health complications.

Most people with sickle cell trait live normal, healthy lives. Rarely, some people with sickle cell trait have blood in their urine for which they should see their doctor. In **rare and extreme conditions** of very high altitude or intense physical activity at high heat, more serious complications have occurred.

These complications can be avoided by decreasing the amount and intensity of a workout, drinking more water, taking breaks and cooling down on hot, sticky days. More research is needed to find out why some people with sickle cell trait have complications and most others do not. As your child grows, it is important to ask your doctor for any new information.

## How do I Know if I Have a Trait?

A special blood test can be done to find out if **both** parents have any type of trait. This blood test is called electrophoresis ("ee-lek-tro-for-ee-sis") and is the only way to know for sure. You will not know if you have a trait unless you ask to have this test. Other tests (e.g., Sickledex) may not detect some traits. Do not assume this testing has been done before.

You may want to speak with a genetic counselor or your doctor about your test results or the risks to your children and your choices. Genetic counselors can also tell you about tests during a pregnancy that can find out if the baby has a sickle cell disease.

