

What You Should Know About Sickle Cell Trait



What Is Sickle Cell Trait?

Sickle cell trait (SCT) is not a disease, but having it means that a person has inherited the sickle cell gene from one of his or her parents. People with SCT usually do not have any of the symptoms of sickle cell disease (SCD) and live a normal life.

What Is Sickle Cell Disease?

SCD is a genetic condition that is present at birth. In SCD, the red blood cells become hard and sticky and look like a C-shaped farm tool called a “sickle.” The sickle cells die early, which causes a constant shortage of red blood cells. Also, when they travel through small blood vessels, they get stuck and clog the blood flow. This can cause pain and other serious problems. It is inherited when a child receives two sickle cell genes—one from each parent. A person with SCD can pass the disease or SCT on to his or her children.

How Does Someone Get Sickle Cell Trait?

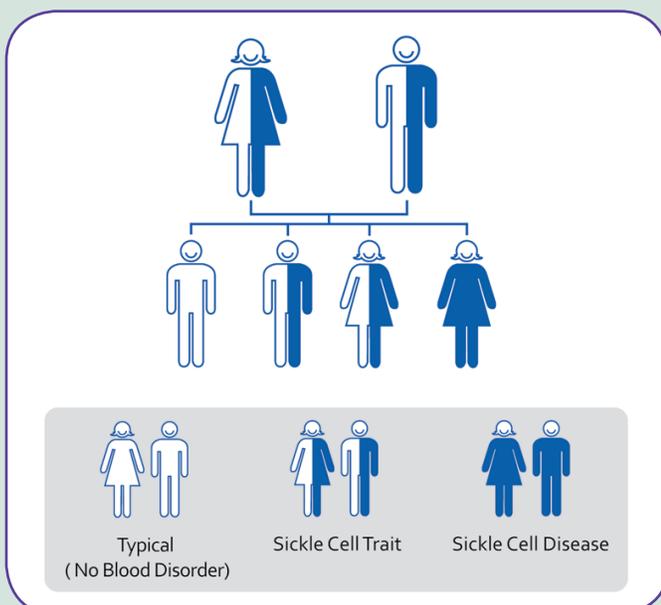
People who have inherited one sickle cell gene and one normal gene have SCT. This means the person won't have the disease, but will be a trait “carrier” and can pass it on to his or her children.

Who Is Affected By Sickle Cell Trait?

SCT affects 1 in 12 Blacks or African Americans in the United States.

- SCT is most common among Blacks or African Americans, but can be found among people whose ancestors come from sub-Saharan Africa; the Western Hemisphere (South America, the Caribbean, and Central America); Saudi Arabia; India; and Mediterranean countries such as Turkey, Greece, and Italy.
- Approximately 3 million people living in the United States have SCT and many are unaware of their status.

What Are The Chances That A Baby Will Have Sickle Cell Trait



- If both parents have SCT, there is a 50% (or 1 in 2) chance that the child also will have SCT if the child inherits the sickle cell gene from one of the parents. Such children will not have symptoms of SCD, but they can pass SCT on to their children.
- If both parents have SCT, there is a 25% (or 1 in 4) chance that the child will have SCD.
- There is the same 25% (or 1 in 4) chance that the child will not have SCD or SCT.
- If one parent has SCT, there is a 50% (or 1 in 2) chance that the child will have SCT and an equal 50% chance that the child will not have SCT.

What Health Complications Are Associated With Sickle Cell Trait?

Most people with SCT do not have any symptoms of SCD, although — in rare cases — people with SCT might experience complications of SCD, such as “pain crises” and, in extreme circumstances, sudden death. More research is needed to find out why some people with SCT have complications and others do not.

In their extreme form and in rare cases, the following conditions could be harmful for people with SCT:

- Increased pressure in the atmosphere (e.g., while scuba diving).
- Low oxygen levels in the air (e.g., when mountain climbing, exercising extremely hard in military boot camp, or training for an athletic competition).
- Dehydration (e.g., too little water in the body).
- High altitudes (e.g., flying, mountain climbing, or visiting a city at a high altitude).

How Will A Person Know If He Or She Has Sickle Cell Trait?

- A person can find out if they have sickle cell trait by having a blood test done called hemoglobin electrophoresis (e-lek-tro-for-e-sis). This is the best type of blood test to detect sickle cell trait.
- Testing is available at most hospitals or medical centers, from SCD community-based organizations, or at local health departments.
- A small sample of blood is taken from the finger (a “needle prick”) and evaluated in a laboratory.
- If the results of the test reveal that someone has SCT, it is important that he or she know what SCT is, how it can affect him or her, and if and how SCD runs in his or her family.

The best way to find out if and how SCD runs in a person’s family is for the person to see a genetic counselor. These professionals have experience with genetic blood disorders. The genetic counselor will look at the person’s family history and discuss with him or her what is known about SCD in the person’s family. It is best for a person with SCD to learn all he or she can about this disease before deciding to have children.

For more information visit: www.cdc.gov/sicklecell

