

THE GENO ATKINS STORY

Geno Atkins, has been a powerhouse player for the Cincinnati Bengals. He set a record in 2012 for 53 tackles, 4 forced-fumbles, and 12.5 sacks in a season. He has now become one of the best defensive tackles in the NFL. He also has sickle cell trait

Geno uses his voice to raise awareness about sickle cell trait and the importance of knowing your trait status.

WHAT IS SICKLE CELL TRAIT?

Sickle cell trait (SCT) is an inherited condition that affects the hemoglobin in red blood cells. Hemoglobin is the part of the red blood cell that carries oxygen from the lungs to other parts of the body. There are many different types of hemoglobin. The type of hemoglobin a person has depends on the genes passed down from both parents. Genes can determine things like gender or eye color.

Normal hemoglobin is called hemoglobin A and one type of abnormal hemoglobin is hemoglobin S. A person with sickle cell trait has inherited a normal hemoglobin A gene from one parent, and an abnormal hemoglobin S gene from the other parent.

Sickle cell trait is not a disease. Most people with sickle cell trait do not have any health problems. However, there are rare cases where individuals with sickle cell trait have experienced physical problems at high altitudes or in places where oxygen levels are low, like scuba diving.

WHAT IS SICKLE CELL DISEASE?

Sickle cell disease (SCD) is the most common genetic, blood disorder in the United States. It is a serious, lifelong disease that can be life-threatening.

It is an inherited disorder that affects hemoglobin in red blood cells. Normal red blood cells are soft, round and can squeeze through blood vessels. Sickle cell disease causes the red blood cells to become stiff and sickle shaped (crescent shaped). This makes it difficult for the red blood cells to move through blood vessels. When sickled cells block blood vessels, less blood can reach that part of the body, and this can damage tissues and organs. This causes severe pain episodes.

Sickle cell disease is not contagious. You can only inherit it if both parents pass it on to you. If you were not born with sickle cell disease you cannot get it later in life.

Sickle cell disease can be found in people of African, Asian, Caribbean, Indian, Mediterranean, Middle Eastern, South and Central American descent.

In the United States, an estimated 100,000 people have sickle cell disease.

WHY IS SCT IMPORTANT?

If you have trait, you are at risk of having a child with sickle cell disease. Sickle cell disease is a constant,

painful, life-shortening illness.

WHO DOES SCT AFFECT?

Sickle cell trait can be found in people of African, Asian, Caribbean, Indian, Mediterranean, Middle Eastern, South and Central American descent. About 1 in 10 African Americans have sickle cell trait.

People with sickle cell trait will never get the disease, but they carry a gene that could result in having a child with sickle cell disease.

ATHLETES WITH SICKLE CELL TRAIT

If you are an athlete at a high school, college, or professional level and have sickle cell trait, your coach, athletic trainer, and teammates should be aware of your status.

Precautions

- Build up training slowly
- Allow longer periods of rest and recovery between bouts
- Participate in preseason strength and conditioning programs
- When symptoms as muscle cramping, pain, swelling, weakness, tenderness, and the inability to catch one's breath occur, stop the activity
- Practice longer recovery intervals when training or playing in extreme heat.
- Stay hydrated
- Report any symptoms such as fatigue, difficulty breathing, leg or lower back pain, or leg or low back cramping immediately

It is important for athletes with sickle cell trait to know your own physical limits. If you have any symptoms, do not push yourself.

HOW IS SICKLE CELL INHERITED?

There are several possibilities for children whose parents have sickle cell trait or sickle cell disease.

If one parent has sickle cell trait and the other parent has normal hemoglobin, the chances for each pregnancy are:

- 1 in 2 (50%) that the baby will have normal hemoglobin.
- 1 in 2 (50%) that the baby will have the sickle cell trait.

If both parents have sickle cell trait, the chances for each pregnancy are:

- 1 in 4 (25%) that the baby will have normal hemoglobin.
- 2 in 4 (50%) that the baby will have sickle cell trait.
- 1 in 4 (25%) that the baby will have sickle cell disease.

If one parent has sickle cell trait and the other parent has sickle cell disease, the chances for each pregnancy are:

- 1 in 2 (50%) that the baby will have sickle cell trait.
- 1 in 2 (50%) that the baby will have sickle cell disease.

If one parent has sickle cell disease and the other parent has normal hemoglobin, the chances for each pregnancy are:

- 4 in 4 (100%) that the baby will have sickle cell trait.

If both parents have sickle cell disease,

- 4 in 4 (100%) that the baby will have sickle cell trait.

HOW DO I GET TESTED?

Talk to your healthcare provider about being tested for sickle cell trait. It is a simple blood test called a hemoglobin electrophoresis. This is the best test for finding abnormal hemoglobin. There is a test called a sickle cell solubility test (Sickle DEX) which can give misleading results and should not be the only test used to tell if someone has sickle cell trait.