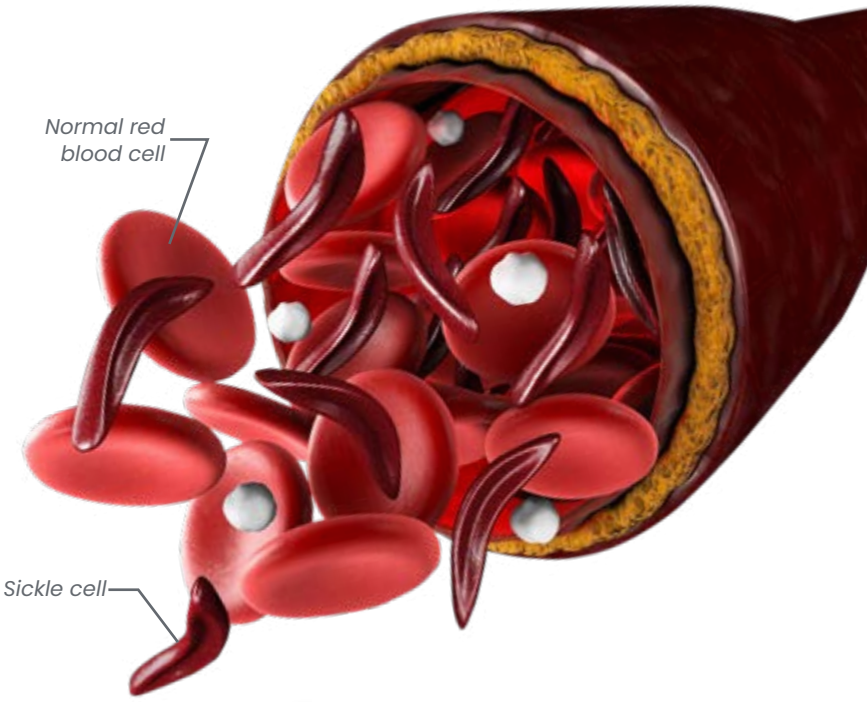
A Student-Athlete Fact Sheet

Sickle Cell Trait



About Sickle Cell Trait

Sickle cell trait is not a disease. It means inheriting one gene for sickle hemoglobin and one for normal hemoglobin. The trait cannot develop into sickle cell disease. It remains unchanged throughout life.

- During strenuous exercise, red blood cells with sickle hemoglobin may change from a round shape to a crescent, or "sickle."
- During vigorous exercise, sickled red blood cells can build up in the bloodstream and block normal blood flow to tissues and muscles.
- Athletes with sickle cell trait have had severe physical distress, collapse and even death during intense exercise.
- Heat, dehydration, altitude and asthma may raise the risk and severity of sickle cell trait complications, even during less intense exercise.
- Athletes with sickle cell trait should be allowed to participate because precautions can be put in place.

How Can I Avoid Collapse?

- Learn your sickle cell trait status.
- Start preseason conditioning slowly and progress gradually.
- Increase training intensity a little at a time.
- Train at your own pace, allowing enough rest and recovery between repetitions, especially with "gassers" or intense station or "mat" drills.
- Take a break or rest interval after no more than two to three minutes of all-out exertion.
- Stop activity at once if you have muscle pain, unusual weakness, excessive fatigue or breathlessness. Tell your athletic trainer and/or coach immediately.
- Keep well hydrated, especially in hot, humid weather.
- Avoid energy drinks or supplements high in caffeine, and other stimulants, because they may contribute to dehydration.
- Keep your asthma properly controlled.
- Avoid extreme exercise during an acute illness, when you feel unwell or when you have a fever.
- Use caution when adapting to an altitude change, even a rise of just 2,000 feet. Adjust your training and ask for supplemental oxygen to be available.
- Get medical help promptly for unusual physical distress.

More information and resources are at **ncaa.org/health-safety.**

Do You Know Your Sickle Cell Trait Status?

Sickle cell trait is more likely among people with ancestry from Africa, South or Central America, India, Saudi Arabia, and Caribbean or Mediterranean countries.

- About 8% of African Americans in the U.S. have sickle cell trait, compared with between one in 2,000 and one in 10,000 people in the Caucasian population.
- Every NCAA student-athlete must give their school documented results of an earlier sickle cell solubility test, or be tested during their preparticipation medical examination.
- Knowing your sickle cell trait status opens the door to education and simple precautions that may prevent collapse and help athletes with the trait thrive in their sport.
- In the United States and many other countries, newborns are all tested for sickle cell at birth.

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