



## SICKLE CELL TRAIT TESTING POLICY

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*The following information has been provided from the "NCAA Fact Sheet for Student-Athletes regarding Sickle Cell". For more information and resources, visit [www.NCAA.org/health-safety](http://www.NCAA.org/health-safety).*

Sickle cell trait is the inheritance of one gene for sickle hemoglobin and one for normal hemoglobin. Sickle cell trait is a life-long condition that will not change over time and will not turn into the disease. During intense exercise, red blood cells containing the sickle hemoglobin can change shape from round to quarter-moon or "sickle". Sickled red cells may accumulate in the bloodstream during intense exercise, blocking normal blood flow to the tissues and muscles. During intense exercise, athletes with sickle cell trait have experienced significant physical distress, collapsed and even died. Heat, dehydration, altitude and asthma can increase the risk for and worsen complications associated with sickle cell trait, even when exercise is not intense. Athletes with sickle cell trait should not be excluded from participation as precautions can be put into place. Sickle cell trait occurs in about 8% of the U.S. African-American population, and between one in 2,000 to one in 10,000 in the Caucasian population. Though sickle cell trait can occur in any ethnic group, studies show that it has a low incidence rate in persons with northern European ancestry and a slightly higher incidence rate in persons with Middle-Eastern and East Asian Indian ancestry.

A majority of States in the U.S. test at birth, but most athletes with sickle cell trait do not know they have it.

I am aware that participation in intercollegiate athletics at Clemson University involves the risk of personal injury. I am also aware that if I have sickle-cell trait, I am at an increased risk for serious illness or injury, including death - especially during physical exertion. I understand that, in order to participate in intercollegiate athletics, the NCAA and Clemson University require that **EVERY** student-athlete be tested for sickle-cell trait, show the results of a prior test.

In accordance with recent NCAA mandates, all incoming Clemson University Student-Athletes must be tested for the sickle cell trait prior to any participation, practice, or lifting.

Although persons of any race and ancestry may test positive for sickle cell trait, it predominantly affects African-Americans. Less than 1% of white Americans carry the sickle cell trait. Within the past ten (10) years, eight (8) college football players have died from acute rhabdomyolysis, possibly related to carrying the sickle cell trait. Some of these players were unaware that they had the trait.

If you have been previously tested for sickle cell trait, contact your family physician, pediatrician, or Health Department to obtain copies of these results. One test per lifetime is sufficient.

If you have never had a lab screening for sickle cell trait, or are unable to obtain prior results, then you should schedule one immediately. Typically, the blood test will take 48-72 hours to be finalized and documented results provided.

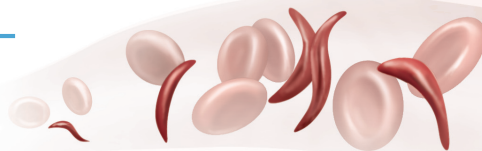
***Previous results OR current results MUST BE RETURNED with the Medical Health History and Insurance Forms that are submitted to CU Sports Medicine. Otherwise, the student-athlete will NOT be allowed to obtain a pre-participation physical exam from the CU Team Physician. He/she will be withheld from workouts, practice, and any other form of athletic participation. NO EXCEPTIONS.***

If a student-athlete tests positive for sickle cell trait, the Team Physician will discuss the inherent health risks and precautions to help avoid sickle cell trait-related problems during his/her pre-participation physical exam. Positive results may also mean adjustments in the student-athlete's initial conditioning and practice schedule.

Contact us immediately if you have any questions regarding this policy.

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# SICKLE CELL TRAIT



## WHAT IS SICKLE CELL TRAIT?

**Sickle cell trait** is not a disease. Sickle cell trait is the inheritance of one gene for sickle hemoglobin and one for normal hemoglobin. Sickle cell trait will not turn into the disease. Sickle cell trait is a life-long condition that will not change over time.

- ▶ During intense exercise, red blood cells containing the sickle hemoglobin can change shape from round to quarter-moon, or “sickle.”
- ▶ Sickled red cells may accumulate in the bloodstream during intense exercise, blocking normal blood flow to the tissues and muscles.
- ▶ During intense exercise, athletes with sickle cell trait have experienced significant physical distress, collapsed and even died.
- ▶ Heat, dehydration, altitude and asthma can increase the risk for and worsen complications associated with sickle cell trait, even when exercise is not intense.
- ▶ Athletes with sickle cell trait should not be excluded from participation as precautions can be put into place.

## DO YOU KNOW IF YOU HAVE SICKLE CELL TRAIT?

**People at high risk** for having sickle cell trait are those whose ancestors come from Africa, South or Central America, India, Saudi Arabia and Caribbean and Mediterranean countries.

- ▶ Sickle cell trait occurs in about 8 percent of the U.S. African-American population, and between one in 2,000 to one in 10,000 in the Caucasian population.
- ▶ Most U.S. states test at birth, but most athletes with sickle cell trait don't know they have it.
- ▶ The NCAA recommends that athletics departments confirm the sickle cell trait status in all student-athletes.
- ▶ Knowledge of sickle cell trait status can be a gateway to education and simple precautions that may prevent collapse among athletes with sickle cell trait, allowing you to thrive in your sport.

## HOW CAN I PREVENT A COLLAPSE?

- ▶ Know your sickle cell trait status.
- ▶ Engage in a slow and gradual preseason conditioning regimen.
- ▶ Build up your intensity slowly while training.
- ▶ Set your own pace. Use adequate rest and recovery between repetitions, especially during “gassers” and intense station or “mat” drills.
- ▶ Avoid pushing with all-out exertion longer than two to three minutes without a rest interval or a breather.
- ▶ If you experience symptoms such as muscle pain, abnormal weakness, undue fatigue or breathlessness, stop the activity immediately and notify your athletic trainer and/or coach.
- ▶ Stay well hydrated at all times, especially in hot and humid conditions.
- ▶ Avoid using high-caffeine energy drinks or supplements, or other stimulants, as they may contribute to dehydration.



- ▶ Maintain proper asthma management.
- ▶ Refrain from extreme exercise during acute illness, if feeling ill, or while experiencing a fever.
- ▶ Beware when adjusting to a change in altitude, e.g., a rise in altitude of as little as 2,000 feet. Modify your training and request that supplemental oxygen be available to you.
- ▶ Seek prompt medical care when experiencing unusual physical distress.

**For more information and resources, visit [www.NCAA.org/health-safety](http://www.NCAA.org/health-safety)**