

**WILLIAM PATERSON UNIVERSITY
COUNSELING, HEALTH AND WELLNESS CENTER
SICKLE CELL TRAIT AND ATHLETES**

Name: _____ **DOB:** _____ **Student ID# 855** _____

Sport _____

On June 25, 2009 the NCAA adopted the recommendation that athletic departments confirm Sickle Cell trait status in all student athletes, if it is not already known, during their required medical examinations.

Sickle Cell Trait is the inheritance of one gene for sickle hemoglobin and one for normal hemoglobin. During intense or extensive exertion, the sickle hemoglobin can change the shape of red blood cells from round to quarter-moon, or “sickle”. This change, also called exertional sickling, can pose a serious risk for some athletes.

The sickle gene is common in people whose origin is from areas where malaria is widespread. Over the millennia, carrying one sickle gene fended off death to malaria, leaving 1 in 12 African-Americans with sickle cell trait. The sickle gene is also present in those of Mediterranean, Middle Eastern, Indian, Caribbean, and South and Central American ancestry.

In the past several years, exertional sickling has killed young athletes. Participation in athletics is allowed as long as proper precautions are followed to prevent such instances from occurring.

All 50 states screen for Sickle Cell Trait at birth and the information should be available to you by your health care provider as part of your health information. If you are unsure if you were tested, or if you do not know the results of the test, please contact your health care provider prior to answering the following questions.

Please circle the correct response:

YES NO Have you ever been tested for Sickle Cell Trait that you are aware of?

Date _____ **Results** _____

YES NO Have you ever been advised that you carry the Sickle Cell Trait or have Sickle Anemia?

If yes, Please Describe _____

YES NO Do any members of your family carry the Sickle Cell Trait or have a Sickle Cell Anemia?

If yes, please describe _____

Signature _____ **Date:** _____

Signature of legal guardian if player is a minor _____

Relation to player: _____

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