

# **INFORMATION FOR PARENTS AND STUDENTS CONCERNING SPORTS AND SICKLE CELL TRAIT**

Provided by the NC Council on Sickle Cell Syndrome and Related Genetic Disorders<sup>1</sup>

The NC Council on Sickle Cell Syndrome and Related Genetic Disorders supports the idea that everyone should know if they have sickle cell trait. In regards to sports participation, the National Collegiate Athletic Association (NCAA) recently required that all incoming Division I student-athletes must be tested for sickle cell trait, show proof of a prior test or sign a waiver releasing an institution from liability if they decline to be tested. This requirement applies to student-athletes who are beginning their initial season of eligibility or transferring from another institution and students who are trying out for the team. The NCAA requirements pertains only to Division I schools. Screening and education should go hand in hand. **Sickle cell trait is not a reason to exclude anyone from sports participation.**

## **Why screen for sickle cell trait?**

For athletes with sickle cell trait there is an increased risk, although small, of serious heat related illness due to over-exertion. While there are hundreds of thousands of athletes with sickle cell trait engaged in sports, there are few cases of serious illness. It is clear that such illness is a rare event. However, when it does occur, it can be life threatening. Yet it can be prevented if all athletes take certain precautions—see below.

## **What is sickle cell trait?**

Sickle cell trait occurs when a person inherits one normal gene from one parent and one sickle gene from the other parent. A person who has sickle cell trait 1) is a carrier of the sickle gene; 2) does not have the disease; and 3) is generally not affected by the sickle blood disorder. Most people with sickle cell trait do not have medical problems. Sickle cell trait is not the same as sickle cell disease. People with sickle cell trait live normal lives. Rarely, sickle cell trait may be a problem for athletes when they are subjected to extreme or very stressful training or game conditions.

## **How can you find out if your child has sickle cell trait?**

To learn if your child has sickle cell trait, follow up with your child's health care provider. The health department in the county where your child was born may also have the newborn test results. Today all children are tested at birth because children of any racial or ethnic background can have sickle cell trait. If you are unable to get the results of your child's newborn test, your provider can arrange for the testing to be done.

## **What is the heat-related illness that can occur in individuals with sickle cell trait?**

It is the quick breakdown of muscle tissues that causes severe changes in metabolism throughout the body. This may lead to the following symptoms:

- Muscle cramping
- Pain
- Weakness
- Fatigue

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<sup>1</sup> Created by NC General Statute 130A-131, The Council on Sickle Cell Syndrome and Related Genetics Disorders advises the NC Department of Health and Human Services regarding the needs of persons with these conditions and makes recommendations to meet these needs.

These symptoms are serious. If these symptoms occur, exercise must be stopped and treatment given. Without treatment the illness can lead to fainting, kidney failure, and possibly death.

### **What factors can increase the risk for heat-related illness?**

Personal and environmental factors can increase the risk of heat-related illness. For example:

- Dehydration (e.g. lack of water, vomiting, diarrhea)
- Poorly controlled asthma
- Exercising in extreme high temperatures, especially for two or more days in a row
- Training at high altitudes
- Intense exercise for athletes who are not yet in shape

### **How can heat-related illness be prevented?**

- Drink plenty of water and sports drinks all day on practice and game days—before, during and after the event
- Do not practice or play on game day if sick
- Report to coaches immediately any symptoms of muscle pain, muscle weakness, cramping, excess fatigue or difficulty breathing
- Stop for drinks, rest and recovery should any of these symptoms occur
- At the beginning of the season, begin sports training gradually with time for rest between drills (especially high speed sprints or intervals)
- Maintain a good level of conditioning throughout the year to improve fitness for practice
- All athletes should follow these guidelines

### **Who should I share this with?**

- Any athlete or friend who is interested in sports
- Your family
- Your coaches and trainers

### **Where can I learn more?**

To find out more information, contact the North Carolina Sickle Cell Syndrome Program at (919) 707-5700 or visit <http://www.ncsicklecellprogram.org>.

The websites of the NCAA (2009-2010 Sports Medicine Handbook)<sup>2</sup>, National Athletic Trainer's Association (NATA)<sup>3</sup>, and NCAA (Sickle Cell Trait Educational Materials and Resources)<sup>4</sup> also have more information on the topic of Sickle Cell Trait and Sports.

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<sup>2</sup> NCAA 2009-2010 Sports Medicine Handbook, pages 86-89 [http://www.ncaapublications.com/Uploads/PDF/Sports\\_Medicine\\_Handbook8cd2dbe-6aa9-4d9a-bbee-2e426d0759a2.pdf](http://www.ncaapublications.com/Uploads/PDF/Sports_Medicine_Handbook8cd2dbe-6aa9-4d9a-bbee-2e426d0759a2.pdf)

<sup>3</sup> 2007 NATA Consensus Statement on Sickle Cell Trait and the Athlete <http://www.nata.org/statements/consensus/sicklecell.pdf>

<sup>4</sup> NCAA Sickle Cell Trait Educational Materials and Resources

[http://www.ncaa.org/wps/portal/ncaahome?WCM\\_GLOBAL\\_CONTEXT=/ncaa/NCAA/Academics+and+Athletes/Personal+Welfare/Health+and+Safety/SickleCellTrait](http://www.ncaa.org/wps/portal/ncaahome?WCM_GLOBAL_CONTEXT=/ncaa/NCAA/Academics+and+Athletes/Personal+Welfare/Health+and+Safety/SickleCellTrait)