The Mission of the Ohio Athletic Trainers’ Association is to advance and strengthen the profession of Athletic Training while delivering and advocating for high quality healthcare.

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Sickle Cell Trait and Athletes

Complications of Sickle Cell Trait is one of the causes of sudden death in athletes. Sickle Cell Trait is an inherited gene disorder that affects athletes of all races. During bouts of intense exercise, the athlete’s red blood cells can change form, “sickle”, and accumulate in the blood vessels. This creates a situation where the muscles are not getting good blood flow and can lead to severe muscle cramping or in some cases death. Sickling is more common early on in high intensity exercise, during sprint type activities, at high altitudes and on hot days. Therefore, athletes with sickle cell trait need to take caution during the summer months, in high altitude areas and when performing intense or prolonged exercise. Exclusion from activity is not the answer. Education, gradual progression of exercise, hydration and proper medical care can all allow an athlete with Sickle Cell Trait to lead a long athletic career. All babies are screened for Sickle Cell Trait at birth and athletes with sickle cell trait should make note of their sickle cell status on their pre-participation physical form. Identifying those athletes, by thoroughly reviewing all physicals is the first step in preventing sudden death. Athletes with Sickle Cell Trait should be taught to recognize signs: muscle cramping with weakness in the early stages of sprints, unusual fatigue and/or difficulty catching their breath. Signs should be immediately reported to the Athletic Trainer. When caught early, rest will alleviate the muscle cramping and return the athlete to a normal status. If the athlete collapses, initiate your emergency action plan and seek medical attention immediately. Make sure the EMS knows the athlete has Sickle Cell Trait and is treated accordingly. Preventative measures can be put in place to help athletes with Sickle Cell Trait avoid complications. Athletes should try to stay conditioned all year long and should always be encouraged to go at their own pace. More frequent breaks and prolonged rest should always be offered to those with Sickle Cell Trait. Asthmatic athletes with Sickle Cell Trait should be monitored closely and should always use their medications as indicated. Hydration should also be monitored and proper hydration strictly enforced. Modify workouts in high heat or higher altitude for those with Sickle Cell Trait. Allow for increased acclimatization times for these two environments as well. Since most emergency situations occur during testing or conditioning type activities, proper supervision and medical care needs to be in place before these begin. Sickle Cell Trait can be managed with simple preventive measures, education and proper medical care. Identify athletes at risk, confer with the athletic trainer and make sure your athletes are aware of the risks. These steps can help save lives and decrease your athlete’s risk of complications.

Resources

National Athletic Trainers’ Association Consensus Statement: Sickle Cell Trait and the Athlete
NCAA: Sickle Cell Trait- A Fact Sheet for Student-Athletes
ACSM Current Comment: Sickle Cell Trait

The American Medical Association recognizes Athletic Trainers as Allied Healthcare Professionals. Athletic trainers in Ohio are licensed by The Ohio Occupational Therapy, Physical Therapy and Athletic Trainers’ Board. Athletic Trainers specialize in evaluation, treatment and rehabilitation and acute care of injuries. They are trained in therapeutic exercise and rehabilitation, risk management and injury prevention. Visit www.oata.org to learn more.