Sickle Cell Trait

The debate continues on the role of recommended or mandatory testing of student athletes as a part of their pre-participation evaluation. The American Society of Hematology (ASH) issued a policy statement in January 2012 against testing and disclosure of sickle cell trait status in division I collegiate athletes. Shortly thereafter the American Medical Society of Sports Medicine (AMSSM) issued their statement in response. The NCAA has announced that division II will now have a sickle cell testing policy similar to the division I policy. What implications does this have for our scholastic athletes in the Commonwealth?

Why the concern?

Sickle cell disease and trait are inherited blood disorders. They can be handed down from either the mother or father. When it is inherited from both the mother and father, it is called sickle cell disease and is symptomatic from an early age. Sickle cell trait is an inherited carrier state when only one parent passed along the gene. Most people with sickle cell trait live full and normal lives without any signs or symptoms of complications. But there is some evidence that athletes may have complications from their sickle cell trait when they exercise at extreme levels of exertion, in heat or at high altitude, or when sick and running a fever. In these conditions, the abnormal blood will temporarily sludge or block the blood flow to certain organs. This could include blockages in a kidney, blockages in the spleen, or blockages in the muscles causing exertional rhabdomyolysis and sudden death. While these events are thankfully very rare, they can be potentially life threatening.

There is agreement in the consensus points amongst the ASH, AMSSM, American College of Sports Medicine and the National Athletic Trainers Association about sickle cell trait and athletes:

1. Sickle cell status in itself should not be a reason to preclude participation.
2. Universal precautions can reduce the risk of heat/exertion related injuries and death. These precautions include: modified intensity, duration and time of day of workouts given the ambient heat stress; encouraged proper nutrition and hydration; gradual build up in preseason training and maintaining year round fitness. (Unfortunately, these precautions do not address all of the situations associated with sickle cell trait crises.)
3. Continued study and research is needed to assess what additional factors and conditions place athletes with sickle cell trait at higher risk of complications and sudden death.

How does this discussion affect the scholastic athletes in Virginia?

It is overall important for parents and athletes to accurately report their medical history on the pre-participation physical form. All newborns in the Commonwealth are tested for sickle cell disease and trait at the time of birth. We recommend that all individuals make an effort to know their status based off of this newborn screening and report this on their athletic pre-participation form. It is equally important to confidentially share this information with the student-athlete's athletic trainer, team physician and potentially their coach. This will allow for proper accommodations to be made in training. It will also enhance the likelihood that timely safety measures will be taken in case of an emergency. This applies not only to sickle cell trait but also to any underlying medical condition such as diabetes mellitus, seizure disorder, or even asthma.

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