Sickle Cell Trait in Football: Educating Coaches
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In the past 10 years, 20 NCAA football players have lost their lives to non-traumatic football deaths.

Of those 20, 16 deaths occurred in conditioning activities while the other four occurred in day one or day two of preseason football practice.

The question has to be asked: Are we training our football players to death?
Out of the 20 players who have died, eight of those deaths were caused by exertional sickling; complications related to having the sickle cell trait.

Exertional sickling is the leading cause of death of college football players in this decade and all cases have occurred during conditioning sessions.

Sickle cell trait related deaths are certainly preventable. In order to prevent this from happening, one needs to know the signs and symptoms of a sickling episode.

Scott Anderson, Athletic Trainer at the University of Oklahoma, presented the following information during the 2010 American Football Coaches Association (AFCA) national convention in Orlando, Florida.

His purpose was to educate football coaches about sickle cell trait, exertional sickling and how to recognize the symptoms of a sickling episode:

> *When someone with sickle cell trait is involved in strenuous activities, such as conditioning practices, it could drive their blood oxygen low enough to sickle.*
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> *As the blood cell loses oxygen, its shape alters to an elongated sickle (crescent) shape and "log-jams" within the blood vessel. This restricts blood flow to various body tissues.*
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> *The symptoms of sickling are fatigue, difficulty breathing, lower extremity weakness, cramping or spasms. If the athlete, coach, and the athletic trainer are educated to recognize the symptoms, the athlete can be withdrawn from the exercise and be allowed the opportunity to recover without likelihood of any harm.*
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> *However, if the athlete continues to be pushed through these symptoms, the restricted blood flow will result in a breakdown in skeletal muscle, called rhabdomyolysis. This releases toxins into the bloodstream that can affect the kidneys and heart. If the rhabdomyolysis is explosive, the toxins can stop the heart even before the kidneys fail, causing death in an hour or less.*
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> *If the rhabdomyolysis isn't explosive, there can still be kidney failure, an increase in the level of potassium in the blood, followed by cardiac arrhythmia and ultimately death.*

Learning from the Past

Dick Tomey, 2009 AFCA President and former head coach at San Jose State, Arizona, and Hawaii, was shocked when he learned that there isn't very much recognition of the fact that this is a huge problem for the entire football coaching community and college football as a whole.

In 1995, during preseason training, one of Tomey's players collapsed during a workout. The player had the sickle cell trait. He was recovering, but later died due to a hospital error. "All of this happened because he had sickle cell trait," Tomey said.

"There was very little recognition of this in the athletic community at that time. What disturbs me is that Scott [Anderson] is saying that nothing has been done since then.

"This is still a huge problem that we all face because of the line of work we're in."

After expressing disappointment that this issue has taken so long to come to the forefront of the athletic community, Tomey jumped at the opportunity to introduce Scott Anderson and put Sickle Cell Trait awareness at the forefront of the AFCA convention.

"I was thrilled that during the 2010 national convention, as I completed my term as 2009 AFCA President, Scott Anderson would present this topic to our membership," Tomey said.

"Practice" Good Medicine

"My personal philosophy is that we 'practice' good medicine," Grant Teaff, AFCA Executive Director, said. "For coaches to 'practice' good medicine, it means that all medical decisions have to be left up to those who are prepared in that field, whether it's the trainers or doctors."

"There are many steps that coaches, athletic trainers and strength coaches can take to protect our athletes," Anderson said. "One step is identifying players who have sickle cell trait.

"The next step is education. Athletes, position coaches, the head coach and everyone involved should be educated. There needs to be understanding about precautions that can be taken.

"Precautions such as granting extended periods of rest and recovery between reps and limiting the number of reps can prevent an episode. Sickling can be caused by intensity, so it's just a matter of managing the intensity in a safe fashion."

David Weir is the head athletic trainer for football at Texas A&M University. He also serves as the National Athletic Trainers' Association (NATA) liaison to the AFCA. "As an athletic trainer, we're not asking the athlete to do any less work that is expected of the other athletes," Weir said.

"They simply might need a little more time to do that same work. It requires both the understanding of a coach and the strength coach that this athlete isn't trying to take a drill off or get out of work.

"They have to understand the circumstances, the underlying condition, what is occurring and how to intervene in those particular situations. That individual doesn't need to be singled out and punished because of a condition."

Education and Awareness

As the only national association dedicated to the football coaching profession, the AFCA has a responsibility to make football coaches aware of the issues that student-athletes are confronted with in terms of health issues. "AFCA is not a medical organization and does not profess to be," Teaff said. "We are an organization that emphasizes education and cares about the physical and mental well being of our players."

Through its many educational vehicles, the AFCA makes a concerted effort to educate coaches to be aware of the things that they can do, within their own environment, that lead toward athlete safety and well being.

Things such as emergency response procedures and identifying players who have medical conditions can make a difference between life and death.

One of the major venues for educating coaches was at the national convention. In front of an audience of over 4,000 football coaches from all levels of the profession, Anderson explained that screening players for the sickle trait is imperative to preventing deaths.

"Screening is fast becoming a standard practice," Anderson said. "There is legislation before the NCAA that could make it a requirement to screen. I can't predict the actions of the NCAA or when they are going to act, but I think there's some optimism that it will occur within this year."

David Weir points out that early intervention and recognition is paramount to dealing with the issue. Weir explains the importance of being involved with the AFCA as the NATA liaison.

"The NATA appreciates the American Football Coaches Association's effort in supporting this cause," Weir said.

"Continuing to stress the need to educate all coaches about how to properly train and manage student-athletes with pre-existing medical conditions is the biggest thing that can be done.

"We appreciate Grant Teaff and the AFCA for extending their hand to work with us in trying to provide the best medical care that we can for the student-athletes that we all work with."

For more information on Sickle Cell Trait in athletics please visit www.nata.org