

## SUDDEN DEATH IN HIGH SCHOOL FOOTBALL

On any given Friday night in the fall, many communities in Oklahoma turn out at local high school football stadiums to cheer on their team. Unlike college or professional athletics, the athletes on the field are long-term members of the community where they compete. They're known not only for their ability to catch a pass, but also for what car they drive, where they work in the summer, and for where they go to church. These aren't just cities; they are communities.



When an athlete dies during competition in a sport like football, the saddening ripple effect is felt throughout the entire community. Even though deaths in high school football are quite rare, as of the time of this newsletter there have been 7 high school football athletes who have died in the United States this season. According to data collected by the National Center for Catastrophic Sport Injury Research, over the last 10 years there is an average of 4.3 fatalities each year as a direct result of a football-related activity and an average of 12.4 fatalities each year as an indirect result of football-related activity.

\*Directly-Related Football Fatality: Defined as resulting from participating in a fundamental skill of football such as tackling. These injuries often include head and neck trauma.

\*Indirectly-Related Football Fatality: Defined as resulting from systemic failure as a result of participation. These injuries often include heat stroke or exertional sickling.

Therefore, it is the purpose of this newsletter that many may be made aware of the most common causes of sports-related fatalities so that the rates and the risks of such may be lessened.

*Volume 7, Issue 4, November 2015*

## Catastrophic Brain Injuries

Of all the direct fatalities occurring during football competition in 2014, 83.3% were brain injuries. To-date, of the 7 recorded deaths in high school football this season, current reports list that 3 occurred as a result of blunt-force trauma to the head.

### **Prevention:**

In Oklahoma, coaches, parents, and student athletes who participate in the OSSAA must receive and sign a Concussion Information Sheet prior to competition.

### **Recognition:**

This is perhaps the most challenging portion of the management of sport-related concussion. Simply put, head trauma:

- \*Is still grossly underreported by the patient,
- \*Does not always require a "massive hit" that is easily recognizable to others,
- \*Can be very easily missed by coaches or lay-staff during the intensity of the event,

As a result, these patients were never referred for a full medical evaluation by an athletic trainer or physician.

### **Treatment:**

Although treatment of concussion is an evolving science, it is exceedingly effective in the hands of an appropriate clinician. Athletic Trainers and those physicians who are fellowship-trained in sports medicine are not only protecting young athletes during recovery, they are likewise maximizing the effectiveness of their recovery as well.

### **Return to Play:**

Returning to competition is a progression and not a "one-time clearance." For more information contact your Athletic Trainer or Team Physician.

• *Call us first.*

• *Accepting new patients and all insurance.*

### Central States Orthopedics Physicians

R. Clio Robertson, MD  
Don L. Hawkins, MD  
David R. Hicks, MD  
James D. Cash, MD

David E. Nonweiler, MD  
Randall L. Hendricks, MD  
David K. Wong, MD  
Bryan J. Hawkins, MD

Thomas G. Craven, MD  
Jeffrey R. Morris, DO  
Ronald S. LaButti, DO  
Jeff A. Fox, MD

Blake E. Shockley, MD  
Brent C. Nossaman, DO  
Kathleen M. Sisler, MD  
Troy A. Glaser, DO

Bradley J. Lawson, MD  
Debbie A. Gladd, DO  
Casey L. Smith, MD  
Wendy B. Emerson, MD

## Sudden Cardiac Arrest

As the most common cause of death in athletics, sudden cardiac arrest is usually the first sign of a previously unknown heart pathology. Irregularities in heart rhythm, heart valve pathologies, and an enlarged heart are all just a few of the underlying conditions that are very difficult, if not impossible, to be assessed adequately during a standard athletic physical.

### **Prevention:**

Accurate diagnosis of an underlying and previously unknown heart pathology should first be assessed by the parent and the athlete themselves when completing the athlete's detailed health history information. Afterward, an in-depth physical examination is ideal; sometimes calling for a 12-lead EKG and/or an echocardiogram.

### **Recognition:**

Any collapsed athlete should be treated as a sudden cardiac arrest until either spontaneous breathing and a pulse are documented or a cardiac rhythm can be analyzed by an AED. Although many underlying conditions can cause an athlete to collapse, the short response window prevalent in the management of a cardiac-related collapse requires Early Recognition, Early CPR, Early AED, Early EMS, and Early Advanced Care.

### **Treatment:**

1. Early Activation of EMS: Goal <1min
2. Early CPR: AHA Guidelines
  - \*30 breaths to 2 Compressions
  - \*100 Compressions per minute, 1.5 - 2" deep
3. Early Defibrillation: Goal <3min
4. Early Transport

### **Return to Play:**

The decision to return to participation after surviving a sudden cardiac arrest is contingent on the nature of the underlying pathology, the direction of medical advice, the completion of extensive cardiovascular testing, and individual patient and family discretion.

Central States Orthopedics does not endorse any of the organizations or research groups whose information has been published herein. Furthermore, information in this publication is provided for informational purposes only and not as medical advice, or as a substitute for the advice provided by your physician or other healthcare professional, or for diagnosing or treating a health problem or disease. This publication is designed to provide you, the reader, with information only. It is your choice how to apply the information given herein, and not a directive from Central States Orthopedics. It is simply an informative resource for you, the reader.

For our entire newsletter disclaimer, visit the Sports Medicine Newsletter page on our website: <http://www.csosortho.com/sports-medicine-monthly.html>

Volume 7, Issue 4, November 2015

## Cervical Spine Injuries

On Sunday, October 25th, 2015, the American Academy of Pediatrics released a statement regarding youth football injuries in America. In the statement, the AAP listed the following recommendations to improve the safety of players while on the field:

- \*Officials and Coaches must enforce the rules of proper tackling, including zero tolerance for illegal and/or spearing (aka: head-first) hits;
- \*Players must decide whether the benefits of playing outweigh the risk of possible injury;
- \*Non-tackling leagues should be expanded so younger athletes can choose to participate without the injury risks associated with tackling;
- \*Skilled Athletic Trainers should be available on the side lines as medical staffing, as evidence shows they can reduce the number of injuries.

Other information provided by the statement included:

- \*With 1.1 million high school players plus 250,000 youth football players ages 5 to 15 years in Pop Warner leagues alone, American football remains one of the most popular sports for young athletes.
- \*Although banned in 1976, the utilization of spear or head-first tackling, through reduced, continues to persist and cervical spine injuries continue to occur. In fact, spear tackling continues to be the predominant cause of quadriplegia.
- \*Tackling or being tackled accounts for nearly half (46.2%) of all injuries and 64.3% of all concussions.
- \*If contact practices are to be reduced as a means of head and neck injury prevention, then extra emphasis should be placed on consistently teaching appropriate tackling techniques to avoid injuries during games.

#### Main Clinic

6585 S. Yale Ave., Ste. 200  
Tulsa, Oklahoma 74136  
918-481-2767

#### Bixby Clinic

12800 S. Memorial, Ste. D  
Bixby, Oklahoma 74008  
918-394-2767

#### South Tulsa Clinic

9716 S. Riverside Dr., Ste. 110  
Tulsa, Oklahoma 74137  
918-528-3300

#### Owasso Clinic

13616 E. 103rd St. N., Ste. B  
Owasso, Oklahoma 74055  
918-272-4488

#### Downtown Clinic

802 S. Jackson, Ste. 405  
Tulsa, Oklahoma 74127  
918-583-4400

#### Hillcrest South Medical Plaza

8803 S. 101st E. Ave, Ste. 300  
Tulsa, OK 74133  
918-994-6277