**What is sudden cardiac arrest?** Sudden Cardiac Arrest (SCA) is the sudden onset of an abnormal and lethal heart rhythm, causing the heart to stop beating and the individual to collapse. SCA is the leading cause of death in the U.S. afflicting over 300,000 individuals per year.

*SCA is also the leading cause of sudden death in young athletes during sports*

**What causes sudden cardiac arrest?** SCA in young athletes is usually caused by a structural or electrical disorder of the heart. Many of these conditions are inherited (genetic) and can develop as an adolescent or young adult. SCA is more likely during exercise or physical activity, placing student-athletes with undiagnosed heart conditions at greater risk. SCA also can occur from a direct blow to the chest by a firm projectile (baseball, softball, lacrosse ball, or hockey puck) or by chest contact from another player (called “commotio cordis”).

While a heart condition may have no warning signs, some young athletes may have symptoms but neglect to tell an adult. If any of the following symptoms are present, a cardiac evaluation by a physician is recommended:

- Passing out during exercise
- Chest pain with exercise
- Excessive shortness of breath with exercise
- Palpitations (heart racing for no reason)
- Unexplained seizures
- A family member with early onset heart disease or sudden death from a heart condition before the age of 40

**How to prevent and treat sudden cardiac arrest?** Some heart conditions at risk for SCA can be detected by a thorough heart screening evaluation. However, all schools and teams should be prepared to respond to a cardiac emergency. Young athletes who suffer SCA are collapsed and unresponsive and may appear to have brief seizure-like activity or abnormal breathing (gasing). SCA can be effectively treated by immediate recognition, prompt CPR, and quick access to a defibrillator (AED). AEDs are safe, portable devices that read and analyze the heart rhythm and provide an electric shock (if necessary) to restore a normal heart rhythm.

*Remember, to save a life: recognize SCA, call 9-1-1, begin CPR, and use an AED as soon as possible!*
A concussion is a brain injury and all brain injuries are serious. They are caused by a bump, blow, or jolt to the head, or by a blow to another part of the body with the force transmitted to the head. They can range from mild to severe and can disrupt the way the brain normally works. Even though most concussions are mild, all concussions are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly. In other words, even a “ding” or a bump on the head can be serious. You can’t see a concussion and most sports concussions occur without loss of consciousness. Signs and symptoms of concussion may show up right after the injury or can take hours or days to fully appear. If your child reports any symptoms of concussion, or if you notice the symptoms or signs of concussion yourself, seek medical attention right away.

**Symptoms may include one or more of the following:**

- Headaches
- “Pressure in head”
- Nausea or vomiting
- Neck pain
- Balance problems or dizziness
- Blurred, double, or fuzzy vision
- Sensitivity to light or noise
- Feeling sluggish or slowed down
- Feeling foggy or groggy
- Drowsiness
- Change in sleep patterns
- Amnesia
- “Don’t feel right”
- Fatigue or low energy
- Sadness
- Nervousness or anxiety
- Irritability
- More emotional
- Confusion
- Concentration or memory problems (forgetting game plays)
- Repeating the same question/comment

**Signs observed by teammates, parents and coaches include:**

- Appears dazed
- Vacant facial expression
- Confused about assignment
- Forgets plays
- Is unsure of game, score, or opponent
- Moves clumsily or displays incoordination
- Answers questions slowly
- Slurred speech
- Shows behavior or personality changes
- Can’t recall events prior to hit
- Can’t recall events after hit
- Seizures or convulsions
- Any change in typical behavior or personality
- Loses consciousness

**What can happen if my child keeps on playing with a concussion or returns too soon?**

Athletes with the signs and symptoms of concussion should be removed from play immediately. Continuing to play with the signs and symptoms of a concussion leaves the young athlete especially vulnerable to greater injury. There is an increased risk of significant damage from a concussion for a period of time after that concussion occurs, particularly if the athlete suffers another concussion before completely recovering from the first one. This can lead to prolonged recovery, or even to severe brain swelling (second impact syndrome) with devastating and even fatal consequences. It is well known that adolescent or teenage athletes will often fail to report
symptoms of injuries. Concussions are no different. As a result, education of administrators, coaches, parents and students is the key to student-athlete’s safety.

If you think your child has suffered a concussion

Any athlete even suspected of suffering a concussion should be removed from the game or practice immediately. No athlete may return to activity after an apparent head injury or concussion, regardless of how mild it seems or how quickly symptoms clear, without medical clearance. Close observation of the athlete should continue for several hours. The new “Zackery Lystedt Law” in Washington now requires the consistent and uniform implementation of long and well-established return-to-play concussion guidelines that have been recommended for several years:

“a youth athlete who is suspected of sustaining a concussion or head injury in a practice or game shall be removed from competition at that time”

and

“…may not return to play until the athlete is evaluated by a licensed heath care provider trained in the evaluation and management of concussion and received written clearance to return to play from that health care provider”.

You should also inform your child’s coach if you think that your child may have a concussion. Remember it’s better to miss one game than miss the whole season. And when in doubt, the athlete sits out.

For current and up-to-date information on concussions you can go to: [http://www.cdc.gov/ConcussionInYouthSports/](http://www.cdc.gov/ConcussionInYouthSports/)