Sudden Cardiac Arrest Education and Information

What is sudden cardiac arrest?
Sudden cardiac arrest (SCA) is when the heart stops beating, suddenly and unexpectedly. When this happens, blood stops flowing to the brain and other vital organs. SCA is NOT a heart attack. A heart attack may cause SCA, but they are not the same. A heart attack is caused by a blockage that stops the flow of blood to the heart. SCA is a malfunction in the heart's electrical system, causing the heart to suddenly stop beating. If not treated within minutes, SCA results in death. The normal rhythm of the heart can only be restored with defibrillation, an electrical shock that is safely delivered to the chest by an automated external defibrillator (AED).

How common is sudden cardiac arrest?
The Centers for Disease Control and Prevention estimate that every year there are about 300,000 cardiac arrests outside hospitals. About 2,000 patients under 25 die of SCA each year.

Are there warning signs?
Although SCA happens unexpectedly, some people may have signs or symptoms, such as:

- dizziness;
- lightheadedness;
- shortness of breath;
- difficulty breathing;
- racing or fluttering heartbeat (palpitations);
- syncope (fainting);
- fatigue (extreme tiredness);
- weakness;
- nausea;
- vomiting; and
- chest pains.

These symptoms can be unclear and confusing in athletes. Often, people confuse these warning signs with physical exhaustion. SCA can be prevented if the underlying causes can be diagnosed and treated.

What are the risks of practicing or playing after experiencing these symptoms?
There are risks associated with continuing to practice or play after experiencing these symptoms. When the heart stops, so does the blood that flows to the brain and other vital organs. Death or permanent brain damage can occur in just a few minutes. Most people who have SCA die from it. Symptoms are the body's way of indicating that something might be wrong. Athletes who experience one or more symptoms should get checked out.
Adapted from PA Department of Health: Sudden Cardiac Arrest Symptoms and Warning Signs Information Sheet 7/2012

What is the best way to treat Sudden Cardiac Arrest?

- Early Recognition of SCA
- Early 9-1-1 access
- Early CPR
- Early Defibrillation
- Early Advance Care

Public Chapter 325 – the Sudden Cardiac Arrest Prevention Act
The Act is intended to keep youth athletes safe while practicing or playing in an athletic activity. The Act requires:

- Require that, on a yearly basis, a sudden cardiac arrest information sheet be signed and returned by each coach and athletic director
- The immediate removal of any youth athlete who passes out or faints while participating in an athletic activity, or who exhibits any of the following symptoms:
  (i) Unexplained shortness of breath;
  (ii) Chest pains;
  (iii) Dizziness
  (iv) Racing heart rate; or
  (v) Extreme fatigue; and
- Establish as policy that a youth athlete who has been removed from play shall not return to the practice or competition during which the youth athlete experienced symptoms consistent with sudden cardiac arrest.
- Before returning to practice or play in an athletic activity, the athlete must be evaluated by a Tennessee licensed medical doctor or an osteopathic physician. Clearance to return to full or graduated practice or play must be in writing.

I acknowledge that I have reviewed and understand the symptoms and warning signs of SCA.

_____ _____

Signature Date

CONCUSSION INFORMATION AND SIGNATURE FORM FOR COACHES

THE FACTS:

A concussion is a brain injury, all concussions are serious, concussions can occur without loss of consciousness, concussion can occur in any sport, recognition and proper management of concussions when they first occur can help prevent further injury or even death.

WHAT IS A CONCUSSION?

Concussion is a type of traumatic brain injury caused by a bump, blow, or jolt to the head. Concussions can also occur from a blow to the body that causes the head and brain to move quickly back and forth, causing the brain to bounce around or twist within the skull. This sudden movement of the brain can cause stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain.

HOW CANN I RECOGNIZE A POSSIBLE CONCUSSION?

To help spot a concussion, you should watch for and ask others to report the following two things:

(1) A forceful bump, blow or jolt to the head or body that results in rapid movement of the head. (2) Any concussion signs or symptoms such as a change in the athlete's behavior, thinking or physical functioning.

Signs and symptoms of concussion generally show up soon after the injury. But the full effect of the injury may not be noticeable at first. For example, in the first few minutes the athlete might be slightly confused or appear a little bit dazed, but an hour later he or she can't recall coming to the practice or game. You should repeatedly check for signs of concussion and also tell parents what to watch out for at home. Any worsening of concussion signs or symptoms indicates a medical emergency.

SIGNS OBSERVED BY COACHING STAFF

Appears dazed or stunned, is confused about assignment or position, forgets an instruction, is unsure of game, score or opponent, moves clumsily, answers questions slowly, loses consciousness, even briefly, shows mood behavior or personality changes, can't recall events prior to hit or fall, can't recall events after hit or fall.

SYMPTOMS REPORTED BY ATHLETE

Headache or pressure in head, nausea or vomiting, balance problems or dizziness, double or blurry vision, sensitivity to light, sensitivity to noise, feeling sluggish, hazy, foggy, or groggy, concentration or memory problems, confusion, just "not feeling right" or "feeling down".

WHAT ARE CONCUSSION DANGER SIGNS?

In rare cases, a dangerous blood clot may form on the brain in an athlete with a concussion and crowd the brain against the skull. Call 9-1-1 or take the athlete to the emergency department right away if after a bump, blow or jolt to the head or body the athlete exhibits one or more of the following danger signs:

One pupil larger than the other, is drowsy or can't be awakened, a headache that gets worse, weakness, numbness or decreased coordination, repeated vomiting or nausea, slurred speech, convulsions or seizures, cannot recognize people or places, becomes increasingly confused, restless or agitated, has unusual behavior, loses consciousness (even brief loss of consciousness should be taken seriously).

WHY SHOULD I BE CONCERNED ABOUT CONCUSSIONS?

Most athletes with a concussion will recover quickly and fully. But for some athletes, signs and symptoms of concussion can last for days, weeks or longer. If an athlete has a concussion, his or her brain needs time to heal. A repeat concussion that occurs before the brain recovers from the first—usually within a short time period (hours, days, weeks)—can slow recovery or increase the chances for long-term problems. In rare cases, repeat concussion can result in brain damage. It can even be fatal.

HOW CAN I HELP ATHLETES TO RETURN TO PLAY GRADUALLY?

An athlete should return to sports practices under the supervision of an appropriate health care professional. When available, be sure to work closely with your team's certified athletic trainer. Below are five gradual steps you and the health care professional should follow to help safely return an athlete to play. Remember, this is a gradual process. These steps should not be completed in one day, but instead over days, weeks or months:

BASELINE: Athletes should not have any concussion symptoms. Athletes should only progress to the next step if they do not have any symptoms at the current step.

STEP 1: Begin with light aerobic exercise only to increase an athlete's heart rate. This means about five to ten minutes on an exercise bike, walking or light jogging. No weightlifting at this point.

STEP 2: Continue with activities to increase an athlete's heart rate with body or head movement. This includes moderate jogging, brief running, moderate-intensity stationary biking, moderate-intensity weightlifting (reduced time and/or reduced weight from your typical routine).

STEP 3: Add heavy non-contact physical activity such as sprinting/running, high-intensity stationary biking, regular weightlifting routine and/or non-contact sport-specific drills (in three planes of movement).

STEP 4: Athlete may return to practice and full contact (if appropriate for the sport) in controlled practice.

STEP 5: Athlete may return to competition.

If an athlete's symptoms come back or she or he gets new symptoms when becoming more active at any step, this is a sign that the athlete is pushing himself or herself to hard. The athlete should stop these activities and the athlete's health care provider should be contacted. After more rest and no concussion symptoms, the athlete should begin at the previous step.

PREVENTION AND PREPARATION

Insist that safety comes first. To help minimize the risks for concussion or other serious brain injuries:

Ensure athletes follow the rules for safety and the rules of the sport, encourage them to practice good sportsmanship at all times, wearing a helmet is a must to reduce the risk of severe brain injury and skull fracture. However, helmets are not designed to prevent concussion. There is no "concussion-proof" helmet. So even with a helmet, it is important for kids and teens to avoid hits to the head.

Check with your league, school or district about concussion policies. Concussion policy statements can be developed to include:

The school or league's commitment to safety, a brief description of concussion, information on when athletes can safely return to school and play. Parents and athletes should sign the parent information and signature form at the beginning of the season.

ACTION PLAN

WHAT SHOULD I DO WHEN A CONCUSSION IS SUSPECTED?

No matter whether the athlete is a key member of the team or the game is about to end, an athlete with a suspected concussion should be immediately removed from play. To help you know how to respond, follow the Heads Up four-step action plan:

1. **REMOVE THE ATHLETE FROM PLAY**
   Look for signs and symptoms of a concussion if your athlete has experienced a bump or blow to the head or body. When in doubt, sit them out!
2. **ENSURE THE ATHLETE IS EVALUATED BY AN APPROPRIATE HEALTH CARE PROFESSIONAL**
   Do not try to judge the severity of the injury yourself. Health care professionals have a number of methods they can use to assess the severity of concussions. As a coach, recording the following information can help health care professionals in assessing the athlete after injury:
   - Cause of the injury and force of the hit or blow to the head or body, any loss of consciousness (passed out/knocked out) and if so, for how long, any memory loss immediately following the injury, any seizures immediately following the injury, number of previous concussions (if any).
3. **INFORM THE ATHLETE'S PARENTS OR GUARDIANS**
   Let them know about the possible concussion and give them the Heads Up fact sheet for parents. This fact sheet can help parents monitor the athlete for signs or symptoms that appear or get worse once the athlete is at home or returns to school.
4. **KEEP THE ATHLETE OUT OF PLAY**
   An athlete should be removed from play the day of the injury and until an appropriate health care provider* says he or she is symptom-free and it's ok to return to play. After you remove an athlete with a suspected concussion from practice or play, the decision about return to practice or play is a medical decision.

***Health care provider means a Tennessee licensed medical doctor, osteopathic physician or a clinical neuropsychologist with concussion training.**

For more information, visit www.cdc.gov/Concussion

INFORMATION AND SIGNATURE FORM FOR COACHES

Please read and sign acknowledging that you agree with the below statements and have read all of the above information.

1. **I have read the concussion information and signature form for coaches**
2. **I should not allow any youth athlete exhibiting signs and symptoms consistent with concussion to return to play or practice on the same day.**
3. **After reading the information sheet, I am aware of the following information:**
4. **A concussion is a brain injury.**
5. **I realize I cannot see a concussion, but I might notice some of the signs in a youth athlete right away. Other signs/symptoms can show up hours or days after injury.**
6. **If I suspect a youth athlete has a concussion, I am responsible for removing him/her from activity and referring him/her to a medical professional trained in concussion management.**
7. **Youth athletes need written clearance from a health care provider* to return to play or practice after a concussion.**
8. **I will not allow any youth athlete to return to play or practice if I suspect that he/she has received a blow to the head or body that resulted in signs or symptoms consistent with concussion.**
9. **Following concussion the brain needs time to heal. I understand that youth athletes are much more likely to sustain another concussion or more serious brain injury if they return to play or practice before symptoms resolve.**
10. **In rare cases, repeat concussion can cause serious and long-lasting problems.**
11. **I have read the signs/symptoms listed on the concussion information and signature form of coaches.**

Signature of Coach _____ **Date** _____

Printed name of Coach _____ **Date** _____