



Sudden Cardiac Arrest (SCA) Information for Parents and Student Athletes

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 doesn't just happen to adults; it takes the lives of students, too. However, the causes of sudden cardiac arrest in students and adults can be different. A student's SCA will likely result from an inherited condition, while an adult's SCA may be caused by either inherited or lifestyle issues.

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.

Causes: SCA is caused by several structural and electrical diseases of the heart. These conditions predispose an individual to have an abnormal rhythm that can be fatal if not treated within a few minutes. Most conditions responsible for SCA in children are inherited, which means the tendency to have these conditions is passed from parents to children through the genes. Other possible causes of SCA are a sudden blunt non-penetrating blow to the chest and the use of recreational or performance-enhancing drugs and/or energy drinks.

How common is sudden cardiac arrest in the United States? SCA is the #1 cause of death for adults in this country. There are about 300,000 cardiac arrests outside hospitals each year. About 2,000 students die of SCA each year. It is the #1 cause of death for student athletes.

Warning Signs of SCA	Emergency Response to SCA
Fainting or seizures during exercise; Unexplained shortness of breath; Dizziness; Extreme fatigue; Chest pains; or Racing heart SCA should be suspected in any athlete who has collapsed and is unresponsive	Act immediately; time is most critical to increase survival rates Recognize SCA Call 911 immediately and activate EMS Administer CPR Use Automatic External Defibrillator (AED)

Warning signs of potential heart issues: The following need to be further evaluated by your primary care provider:

- Family history of heart disease/cardiac arrest
- Fainting, a seizure, or convulsions during physical activity
- Fainting or a seizure from emotional excitement, emotional distress, or being startled
- Dizziness or lightheadedness, especially during exertion
- Exercise-induced chest pain
- Palpitations: awareness of the heart beating, especially if associated with other symptoms such as dizziness
- Extreme tiredness or shortness of breath associated with exercise
- History of high blood pressure

Risk of Inaction: Ignoring such symptoms and continuing to play could be catastrophic and result in sudden cardiac death. Taking these warning symptoms seriously and seeking timely appropriate medical care can prevent serious and possibly fatal consequences.

These symptoms can be unclear in athletes, since people often 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 experience SCA die from it.

House Bill 427 – Maryland Sudden Cardiac Arrest Prevention Act (the Act)

The act is intended to keep student-athletes safe while practicing or playing. The requirements of the act are:

- All student-athletes and their parents or guardians must read and sign this form. It must be returned to the school before participation in any athletic activity. A new form must be signed and returned each school year.
- Schools may also hold informational meetings. The meetings can occur before each athletic season. Meetings may include student-athletes, parents, coaches and school officials. Schools may also want to include doctors, nurses and athletic trainers.

Removal from play/return to play

- Any student athlete who shows signs or symptoms of SCA before, during or after activity must be removed from play. Play includes all athletic activity. Before returning to play, the athlete must be evaluated by a licensed physician, certified registered nurse practitioner or cardiologist (heart doctor). Clearance for the student-athlete to return to play must be provided in writing.

How can we minimize the risk of SCA and improve outcomes?

The risk of SCA in student athletes can be minimized by providing appropriate prevention, recognition, and treatment strategies. One important strategy is the requirement for a yearly pre-participation screening evaluation, often called sports physical, performed by the athlete's medical provider.

1. It is very important that you **carefully and accurately complete the personal history and family history section** of the "Pre-Participation Physical Evaluation Form" available at <http://www.mpssaa.org/HealthandSafety/Forms.asp>.
2. Since the majority of these conditions are inherited, **be aware of your family history**, especially if any close family member:
 - a. Had sudden unexplained and unexpected death before the age of 50.
 - b. Was diagnosed with any of the heart conditions listed above.
 - c. Died suddenly /unexpectedly during physical activity, during a seizure, from Sudden Infant Death Syndrome (SIDS) or from drowning.