SECTION 4: UNDERSTANDING OF SUDDEN CARDIAC ARREST SYMPTOMS AND WARNING SIGNS

What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) occurs when the heart suddenly and unexpectedly stops beating. 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.

How common is sudden cardiac arrest in the United States?

There are about 350,000 cardiac arrests that occur outside of hospitals each year. More than 10,000 individuals under the age of 25 die of SCA each year. SCA is the number one killer of student athletes and the leading cause of death on school campuses.

Are there warning signs?

Although SCA happens unexpectedly, some people may have signs or symptoms, such as

- Dizziness or lightheadedness when exercising;
- Fainting or passing out during or after exercising;
- Shortness of breath or difficulty breathing with exercise, that is not asthma related;
- Racing, skipped beats or fluttering heartbeat (palpitations)
- Fatigue (extreme or recent onset of tiredness)
- Weakness;
- Chest pains/pressure or tightness during or after exercise.

These symptoms can be unclear and confusing in athletes. Some may ignore the signs or think they are normal results off physical exhaustion. If the conditions that cause SCA are diagnosed and treated before a life-threatening event, sudden cardiac death can be prevented in many young athletes.

What are the risks of practicing or playing after experiencing these symptoms?

There are significant risks associated with continuing to practice or play after experiencing these symptoms. The symptoms might mean something is wrong and the athlete should be checked before returning to play. When the heart stops due to cardiac arrest, 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 a SCA die from it; survival rates are below 10%.

Act 73 – Peyton's Law - Electrocardiogram testing for student athletes

The Act is intended to help keep student-athletes safe while practicing or playing by providing education about SCA and by requiring notification to parents that you can request, at your expense, an electrocardiogram (EKG or ECG) as part of the physical examination to help uncover hidden heart issues that can lead to SCA.

Why do heart conditions that put youth at risk go undetected?

- Up to 90 percent of underlying heart issues are missed when using only the history and physical exam;
- Most heart conditions that can lead to SCA are not detectable by listening to the heart with a stethoscope during a routine physical; and
- Often, youth don't report or recognize symptoms of a potential heart condition.

What is an electrocardiogram (EKG or ECG)?

An ECG/EKG is a quick, painless and noninvasive test that measures and records a moment in time of the heart's electrical activity. Small electrode patches are attached to the skin of your chest, arms and legs by a technician. An ECG/EKG provides information about the structure, function, rate and rhythm of the heart.

Why add an ECG/EKG to the physical examination?

Adding an ECG/EKG to the history and physical exam can suggest further testing or help identify up to two-thirds of heart conditions that can lead to SCA. An ECG/EKG can be ordered by your physician for screening for cardiovascular disease or for a variety of symptoms such as chest pain, palpitations, dizziness, fainting, or family history of heart disease.

- ECG/EKG screenings should be considered every 1-2 years because young hearts grow and change.
- ECG/EKG screenings may increase sensitivity for detection of undiagnosed cardiac disease but may not prevent SCA.
- ECG/EKG screenings with abnormal findings should be evaluated by trained physicians.
- If the ECG/EKG screening has abnormal findings, additional testing may need to be done (with associated cost and risk) before a diagnosis can be made, and may prevent the student from participating in sports for a short period of time until the testing is completed and more specific recommendations can be made.
- The ECG/EKG can have false positive findings, suggesting an abnormality that does not really exist (false positive findings occur less when ECG/EKGs are read by a medical practitioner proficient in ECG/EKG interpretation of children, adolescents and young athletes).
- ECGs/EKGs result in fewer false positives than simply using the current history and physical exam.

The American College of Cardiology/American Heart Association guidelines do not recommend an ECG or EKG in asymptomatic patients but do support local programs in which ECG or EKG can be applied with high-quality resources.

Removal from play/return to play

Any student-athlete who has signs or symptoms of SCA must be removed from play (which includes all athletic activity). The symptoms can happen before, during, or after activity.

Before returning to play, the athlete must be evaluated and cleared. Clearance to return to play must be in writing. The evaluation must be performed by a licensed physician, certified registered nurse practitioner, or cardiologist (heart doctor). The licensed physician or certified registered nurse practitioner may consult any other licensed or certified medical professionals.

I have reviewed this form and understand the symptoms and warning signs of SCA. I have also read the information about the electrocardiogram testing and how it may help to detect hidden heart issues.

Signature of Student-Athlete	Print Student-Athlete's Name	Date___/___/_____
Signature of Parent/Guardian	Print Parent/Guardian's Name	Date___/___/_____