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 thing. 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 300,000 cardiac arrests outside hospitals each year. About 2,000 patients under the age of 25 die of SCA each year. It is the leading cause of death in exercising athletes.

As many as 80% of patients with SCD are asymptomatic until sudden cardiac arrest occurs, suggesting that screening by history and physical examination alone may have limited sensitivity to identify athletes with at-risk conditions.

What are the 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
- 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.

Removal from play

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

The athlete must be evaluated and cleared by a licensed physician, certified registered nurse practitioner, or cardiologist (heart doctor) to return to play.

The 12-Element American Heart Association Recommendations for Preparticipation Cardiovascular Screening of Athletes include:

Personal History of:

- Chest pain/discomfort caused by exercise
- Unexplained fainting/near-fainting
- Excessive and unexplained fatigue associated with exercise
- Prior recognition of a heart murmur
- Elevated systemic blood pressure

Family History:

- Premature death (sudden and unexpected) befo0re age 50 years due to heart disease in 1 or more relatives
- Disability from heart disease in a close relative under 50 years of age
- Specific knowledge of certain cardiac conditions in family members such as: hypertrophic or dilated cardiomyopathy, long-QT syndrome or other ion channelopathies, Marfan syndrome or clinically important arrhythmias

Physical Examination:

- Heart Murmur
- Femoral pulses to exclude aortic coarctation
- Physical stigmata of Marfan syndrome
- Brachial artery blood pressure

For more information:

http://www.mayoclinic.com/health/sudden-cardiac-arrest/DS00764

http://www.sca-aware.org/sudden-cardiac-arrest-treatment

http://www.webmd.com/heart-disease/guide/sudden-cardiac-death