

MATTERS OF THE HEART

SUDDEN CARDIAC ARREST (SCA)

- The leading cause of sudden death in sports, **SCA is a condition in which the heart unexpectedly stops beating**, halting blood flow to the brain and vital organs.

- SCA is usually caused by an electrical disturbance in the heart that disrupts pumping, while a heart attack is caused by a blockage of blood flow to the heart.
- SCA survival is **decreased by 10%** for each minute that AED application is delayed.
- 2,000 patients under age 25 die of SCA every year in the U.S., the Center for Disease Control estimates.

COMMOTIO CORDIS

- **Commotio cordis** is caused by a blunt, nonpenetrating blow to the chest. It induces ventricular arrhythmia in an otherwise structurally normal heart.
- Likely due to improved recognition and early treatment, recently reported survival rates **exceed 50%**.

- Although, commotio cordis is less common as a cause of SCA and occurs more often in certain sports such as baseball, lacrosse, hockey and martial arts, **it can occur in any sport**.

PREPARING FOR CARDIAC EMERGENCIES

- Schools, clubs and sports facilities should have venue-specific emergency action plans and policies and procedures for SCA events.
- Schools, clubs and sports facilities should have someone on staff trained in CPR and AED use, including an athletic trainer and coaching staff.

- When CPR is provided and an AED shock is administered within the first 3 to 5 minutes after a collapse, reported survival rates from cardiac arrest are **as high as 74%**.

SCREENING ATHLETES FOR CARDIOVASCULAR ISSUES

- Athletes should undergo cardiovascular screening before athletic participation.
- A minimum standard of cardiovascular screening should include a comprehensive medical history, family history and physical exam.

SIGNS AND SYMPTOMS OF CARDIAC ARREST IN ATHLETES

Chest, ear or neck pain	Center chest pain that comes and goes
Severe headache	Lightheadedness
Excessive breathlessness	Shortness of breath with or without discomfort
Vague discomfort	Pressure, squeezing, fullness
Dizziness, palpitations	Nausea, vomiting
Abnormal fatigue	Cold sweat
Indigestion, heartburn	Pain or discomfort in arms, back, neck, jaw or stomach

Sources: National Athletic Trainers' Association, Korey Stringer Institute, American Heart Association, National Center for Catastrophic Sport Injury Research, National Library of Medicine. Infographic provided by the National Athletic Trainers' Association (Updated 2023)

NOTE: Many young cardiac arrest victims have no symptoms until the cardiac arrest occurs.