

SUDDEN CARDIAC DEATH CARDIAC ARREST vs. HEART ATTACK THEY ARE NOT THE SAME

Sudden cardiac death is the leading cause of death in young athletes

What can be done to prevent this kind of tragedy?

What can I do to help prevent a sudden cardiac death from occurring?

- What is sudden cardiac death in the young athlete
 - Sudden cardiac death is the result of an unexpected failure of proper heart function, usually (about 60% of the time) during or immediately after exercise without trauma. Since the heart stops pumping adequately, the athlete quickly collapses, loses consciousness and ultimately dies unless normal heart rhythm is restored with an AED.
- How common is sudden cardiac death in young athletes?
 - Sudden cardiac death is relatively rare. About 100 deaths are reported in the U.S. every year. The chance of this occurring to any individual high school athlete is one in about 200,000 every year.
 - Sudden cardiac death is more common: in males than in females; in football and basketball than in other sports; and in African-Americans than in other races and ethnic groups.

ELECTRICAL

- Cardiac arrest occurs when the electrical system of the heart unexpectedly stops functioning.
- It happens to children, teens, young and old adults.
- Cardiac arrest can occur without warning, but may be preceded by palpitations, dizziness, chest pain or shortness of breath before collapse and loss of consciousness.
- Call 9-1-1
- Start CPR
- Use AED (defibrillator)
- Continue CPR and AED use until EMS arrives

PLUMBING

- A heart attack occurs when blockage in a coronary artery interrupts blood flow to the working heart.
- Occurs mostly in people over age 35.
- Victims usually remain conscious and may experience chest, neck or left arm pain. shortness of breath. sweating or nausea; but a heart attack can also lead to cardiac arrest.
- Call 9-1-1
- Start CPR and use AED, if person becomes unconscious
- EMS will begin treatment upon arrival
- Once at hospital, a medical procedure may be used to open the blocked artery

What are the common causes?

- Research suggests that the main cause is a loss of proper heart rhythm, causing the heart to quiver instead of pumping blood to the brain and body. This is called **ventricular fibrillation**. The problem is caused by one of several cardiovascular abnormalities and electrical diseases of the heart that go unnoticed in healthy-appearing athletes.
- The most common cause of sudden death in an athlete is **hypertrophic cardiomyopathy**, also called HCM. HCM is a disease of the heart; with abnormal thickening of the heart muscle, which can cause

serious heart rhythm problems, and cause blockages to blood flow. The disease is genetic and runs in families and develops over many years.

- The second most likely cause is **congenital abnormalities of the coronary arteries**. This means that these blood vessels are connected to the main blood vessel of the heart in an abnormal way. This differs from blockages that may occur when people get older (commonly called "coronary artery disease," which may lead to a heart attack).
- Other diseases of the heart that can lead to SCD:
 - **Myocarditis**: an acute inflammation of the heart, usually due to a virus.
 - **Dilated Cardiomyopathy**: an enlargement of the heart for unknown reasons.
 - **Marfan Syndrome**: An inherited disorder that affects heart valves, walls of major arteries, eyes and the skeleton. It is usually seen in unusually tall athletes, especially if being tall is not common in other family members.
 - **Long QT syndrome and other electrical abnormalities of the heart**: these can cause abnormal fast heart rhythms that can also run in families.

Warning Signs

- Unfortunately there may or may not be any noticeable symptoms before a person experiences loss of consciousness and a full cardiac arrest (no pulse and no breathing). Only one-third of these sudden cardiac deaths are warning signs reported. Signs can include:
 - Chest discomfort or pain
 - Unusual shortness of breath
 - Fatigue or tiring more quickly than peers
 - Dizziness or lightheadedness, especially during exertion
 - Palpitations, awareness of the heart beating unusually (skipping a beat or fluttering)
 - Fainting or passing out; seizures or convulsions during activity
 - Fainting or a seizure from emotional excitement, emotional distress or being startled

Emergency Signs - Call EMS (911)

- If a person experiences any of the following signs, call EMS (911) immediately:
 - If an athlete collapses or faints suddenly during competition
 - If a blow to the chest from a ball, puck, or another player precedes an athlete's complaints of any of the warning signs of sudden cardiac arrest
 - if an athlete does not look or feel right and you are just not sure

Sudden Cardiac Death Prevention

- Annual Health Screening or Physical
 - Possible diagnostic testing if physician recommended
- Knowledge of Personal and Family History
 - Onset of heart disease in a family member before age 50
 - Sudden unexplained death at an early age
- Personal accountability
 - Ensuring athletes are not using any non-prescribed stimulants or performance enhancing drugs
 - Awareness that the inappropriate use of prescription medications or energy drinks can increase risk of event
 - Encouraging athletes to report symptoms of SCD
- Access to an AED for sites of physical activity and competition
- Improved education for athletes, coaches and healthcare professionals
 - Recognition of symptoms

- Recognition of SCD event
- Providing care for the athlete during the event