

Prevent Sudden Cardiac Death

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Three steps to protect your family

- **Early Warning Signs**
- **Recognize Sudden Cardiac Arrest**
- **CPR**

Early Warning Signs

- **Fainting**
- **Chest pain or Shortness of breath**
- **Family member death before age 50**
- **Family member who have been diagnosed with a condition**
- **Seizure**

Recognize Sudden Cardiac Arrest

- **Respond Quickly**
- **Send for help**
- **CPR**

CPR

- **Save lives by circulation blood to the brain and other virtual organs**
- **Call 911 or ask someone to call 911 and get AED**
- **Push hard and fast in the center of the chest.**
- **Kneel at the victim's side**
- **Place your hands on the lower half of the breastbone and one on top of the other.**
- **Elbows straight and locked**
- **Push down 2 inches**
- **A rate of 100 times/minute**
- **AED: helps to lead you step by step the process**

Introduction

- **Why are we here?**
- **What is Sudden Cardiac Death (SCD)?**
- **Causes**
- **Prevention**
- **Recognition and actions**

Why are we here?

- **SB 60- Jeremy Nelson and Nick Blakely
Sudden Cardiac Arrest Prevention Act**
- **March, 2019**
- **Informational meeting about symptoms
and warning signs**

What is Sudden Cardiac Death (SCD)

- **Leading cause of death in young athletes**
- **Rare , previously healthy athlete dies suddenly**

Causes

- **Structural Abnormalities**
- **Electrical Abnormalities**
- **Trauma**
- **Infectious**

Various Mechanisms

- **Heart to beat out of control, called ventricular fibrillation (Vfib).**
- **Leads to the inability of the heart to pump blood the brain, lungs, and the heart causing hypoxic injury(lack of oxygen delivery)**
- **Ischemic injury (lack of blood flow)**
- **Death**

Structural Abnormalities

- **Hypertrophic Cardiomyopathy (HCM)**
- **Coronary Artery Abnormalities**
- **Marfan Syndrome**

Hypertrophic Cardiomyopathy (HCM)

- **Inherited condition, family member before age 50**
- **Heart muscle walls are thickened**
- **Flow of blood from the heart is obstructed**
- **Heart's electrical system is affected**
- **Ventricular Fibrillation (Vfib)**
- **Cardiac arrest**
- **Shortness of breath**
- **Chest pain**
- **Syncope (dizziness)**
- **Skilled physician in cardiac auscultation may detect a murmur.**

Coronary Artery Abnormalities

- **Arteries that supply the heart muscle are connected abnormally**
- **Compressed during exercise**
- **Not provide adequate blood flow to the heart muscle.**
- **Vfib**
- **Cardiac arrest**
- **History of chest pain or syncope with exercise**

Marfan Syndrome

- **Family history**
- **Abnormal collagen in the aorta may lead to rupture with exercise**
- **Tall**
- **Slender**
- **Long arms**
- **Legs**
- **Fingers**
- **Abnormal breastbone**
- **High arched palate**
- **Extreme nearsightedness**
- **Curved spine**
- **Flat feet**

Electrical Abnormalities

- **Wolff-Parkinson-White syndrome**
- **Long QT Syndrome**

Wolff-Parkinson-White Syndrome

- **Extra electrical pathway in the heart causes rapid heartbeat leading to Vfib.**
- **Born with the condition and can cause chest pain, syncope and shortness of breath**

Long QT Syndrome

- Inherited rhythm disorder causing fast
- Chaotic heartbeats often causing fainting
- Vfib
- Immersion into cold water as in swimming and diving
- History of drowning or near drowning in family member

Trauma

- **Commotio Cordis**

Commotio Cordis

- **Blunt trauma to the chest from a projectile(contact sports)**
- **Cardiac electric cycle**
- **Vfib**
- **Compliant with chest wall**

Infection

- **Myocarditis**

Myocarditis

- **Inflammation of the heart muscle usually from a virus**
- **Inflamed heart muscle can't tolerate the stress of strenuous exercise**
- **Vfib**
- **Viral illness (cold, flu symptoms), fever, or exercise intolerance**
- **Athletes with fever or recent febrile illness should not exercise until they are symptom-free and have completed a gradual return to exercise program**

Prevention Strategies

- **Primary prevention: recognize chest pain, shortness of breath or syncope with exercise.**
- **Fainting suddenly**
- **Chest pain or shortness of breath often due to asthma or being “out of shape”**
- **Sudden death in a family member before age 50**
- **Drowning or near-drowning in a family member could indicate Long QT**
- **Family history of known cardiac disorder, Marfan Syndrome or electrical abnormalities of the heart**

Prevention Strategies

- **Get a yearly physical examination by your primary care physician. Usually a pediatrician**
- **History and physical exam by a skilled physician is the primary screening tool in preventing SCD**
- **Primary physician have skilled in cardiac auscultation**
- **Previous health records unable to update immunizations**
- **Family history may not be reviewed by parents and possibly miss important family historic that may be causes of SCD**

Recognition and Actions

- **Recognize SCD, whether you see them collapse or not, you must assume SCD as a possible cause**
- **Act quickly**
- **Call for help**
- **Be trained and certified in CPR**
- **AED as early as possible and know how to use it.**
- **Every minute is critical**
- **Emergency action plan (EAP)**
- **Personal assignments**
- **Equipment location and accessibility**
- **Working phone**

Summary

- **Get pre-participation physical done by pediatrician 6 weeks before season starts**
- **Be familiar with family history with warning signs and symptoms**
- **Recognize warning signs**
- **CPR certified and AED trained**
- **Know where AED is**