Website Resources

- athletes Sudden Death in Athlete www.cardiachealth.org/sudden-death-in-
- Hypertrophic Cardiomyopathy Association ww.4hcm.org
- American Heart Association www.heart.org

oliaborating Is gencies:

American Academy of Pediatrics Jersey Chapter

(p) 609-842-0014 (f) 609-842-0015 Hamilton, NJ 08619 3836 Quakerbridge Road, Suite 108



www.aapnj.org

American Heart Association Union Street, Suite 301

www.heart.org (p) 609-Robbinsville, NJ, New Jersey Department of Education Trenton, NJ 08625-0500 PO Box 500 208-0020 08691

www.state.nj.us/education/

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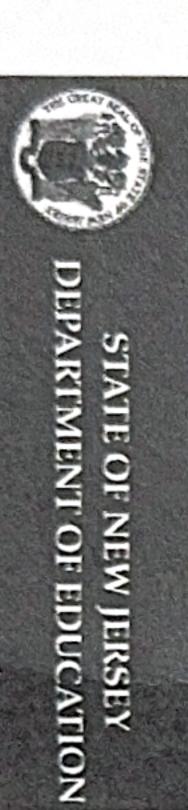
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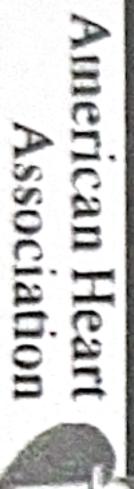
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Sudden Young Athletes Basic Facts Cardiac 20 Death





Learn and Live



done to prevent this kind of tragedy? What, if anything, can be udden death in young athletes between the ages of 10 and 19 is very rare.

What is sudden cardiac death in the young athlete?

result of an unexpected failure of proper without trauma. Since the heart stops time) during or immediately after exercise is restored using an automated external collapses, loses consciousness, and pumping adequately, the athlete quickly heart function, usually (about Sudden cardiac death is the defibrillator (AED). ultimately dies unless normal heart rhythm 60% of the

How common is sudden death in young athletes?

Sudden cardiac death in young athletes is very rare. about one in 200,000 per year. to any individual high school athlete is reported in the United States per year. The chance of sudden death About 100 such deaths are occurring

in other races and ethnic groups. in football and basketball than in common: in males than in females; other sports; and in African-Americans than Sudden cardiac death is more

What are the most common causes?

roo-LAY-shun). The problem is usually caused loss of proper heart rhythm, causing the Research suggests that the main cause is a and electrical diseases of the heart that go ventricular fibrillation (ven-TRICK-you-lar fib heart to quiver instead of pumping blood to the brain and body. This is called unnoticed in healthy-appearing athletes by one of several cardiovascular abnormalities

an athlete is hypertrophic cardiomyopathy (hi-per-TRO-fic CAR- dee-oh-my-OP-a-thee) also called HCM. HCM is a disease of the heart, The most common cause of sudden death in muscle, which can cause serious heart rhythm with abnormal thickening of the heart genetic disease runs in families and usually problems and blockages to blood flow. This develops gradually over many years.

(con-JEN-it-al) (i.e., present from birth) The second most likely cause is congenital attack). abnormalities of the coronary disease," which may lead to a heart (commonly called "coronary artery occur when people get older differs from blockages that may heart in an abnormal way. the main blood vessel of the blood vessels are connected to arteries. This means that these

SUDDEN CARDIAC DEATH IN YOUNG ATHLETES

Other diseases of the heart that can lead to sudden death in young people include:

- Myocarditis (my-oh-car-DIE-tis), an acute inflammation of the heart muscle (usually due to a virus).
- Dilated cardiomyopathy, an enlargement of the heart for unknown reasons.
- Long QT syndrome and other electrical abnormalities of the heart which cause abnormal fast heart rhythms that can also run in families.
- Marfan syndrome, an inherited disorder that affects heart valves, walls of major arteries, eyes and the skeleton. It is generally seen in unusually tall athletes, especially if being tall is not common in other family members.

Are there warning signs to watch for?

In more than a third of these sudden cardiac deaths, there were warning signs that were not reported or taken seriously. Warning signs are:

- Fainting, a seizure or convulsions during physical activity;
- Fainting or a seizure from emotional excitement, emotional distress or being startled;
- Dizziness or lightheadedness, especially during exertion;
- Chest pains, at rest or during exertion;

- Palpitations awareness of the heart beating unusually (skipping, irregular or extra beats) during athletics or during cool down periods after athletic participation;
- Fatigue or tiring more quickly than peers; or
- Being unable to keep up with friends due to shortness of breath.

What are the current recommendations for screening young athletes?

New Jersey requires all school athletes to be examined by their primary care physician ("medical home") or school physician at least once per year. The New Jersey Department of Education requires use of the specific Annual Athletic Pre-Participation Physical Examination Form.

This process begins with the parents and student-athletes answering questions about symptoms during exercise (such as chest pain, dizziness, fainting, palpitations or shortness of breath); and questions about family health history.

The primary healthcare provider needs to know if any family member died suddenly during physical activity or during a seizure. They also need to know if anyone in the family under the age of 50 had an unexplained sudden death such as drowning or car accidents. This information must be provided annually for each exam because it is so essential to identify those at risk for sudden cardiac death.

The required physical exam includes measurement of blood pressure and a careful listening examination of the heart, especially for murmurs and rhythm abnormalities. If there are no warning signs reported on the health history and no abnormalities discovered on exam, no further evaluation or testing is recommended.

When should a student athlete see a heart specialist?

If the primary healthcare provider or school physician has concerns, a referral to a child heart specialist, a pediatric cardiologist, is recommended. This specialist will perform a more thorough evaluation, including an electrocardiogram (ECG), which is a graph of the electrical activity of the heart. An echocardiogram, which is an ultrasound test to allow for direct visualization of the heart structure, will likely also be done. The specialist may also order a treadmill exercise test and a monitor to enable a longer recording of the heart rhythm. None of the testing is invasive or uncomfortable.

Can sudden cardiac death be prevented just through proper screening?

A proper evaluation should find most, but not all, conditions that would cause sudden death in the athlete. This is because some diseases are difficult to uncover and may only develop later in life. Others can develop following a normal screening evaluation, such as an infection of the heart muscle from a virus.

This is why screening evaluations and a review of the family health history need to be performed on a yearly basis by the athlete's primary healthcare provider. With proper screening and evaluation, most cases can be identified and prevented.

Why have an AED on site during sporting events?

The only effective treatment for ventricular fibrillation is immediate use of an automated external defibrillator (AED). An AED can restore the heart back into a normal rhythm. An AED is also life-saving for ventricular fibrillation caused by a blow to the chest over the heart (commotio cordis).

Effective September 1, 2014, the New Jersey Department of Education requires that all public and nonpublic schools grades K through 12 shall:

- Have an AED available at every sports event (three minutes total time to reach and return with the AED);
- Have adequate personnel who are trained in AED use present at practices and games;
- Have coaches and athletic trainers trained in basic life support techniques (CPR); and
- Call 911 immediately while someone is retrieving the AED.