

Teaming Up to Save Athletes' Lives.

Boston Scientific and the Black Coaches Association

Sudden cardiac arrest is the leading cause of death in young athletes.¹ Most often, the death occurs during athletic training or competition.¹ You have the power to help save athletes' lives.



What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) occurs due to electrical problems in the heart, which cause a dangerously fast heart rate. If SCA is not treated immediately, it can lead to sudden cardiac death (SCD).

SCA is different than a heart attack. A heart attack happens when a blockage prevents blood from getting to heart muscle.

The most common cardiovascular cause of SCD in young athletes is hypertrophic cardiomyopathy (HCM).² HCM is a disease that causes thickening of the heart muscle.

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Who is at risk?

In the United States, a young competitive athlete dies suddenly **every three days**.¹

- ▶ **Young athletes** are more than twice as likely to experience SCD than young non-athletes.³
- ▶ Most victims are **male** (90%).^{4,5}
- ▶ HCM is the leading cardiovascular cause of SCD (36%).² More than half of HCM sudden death victims are **black athletes** (52%).^{2,4}
- ▶ The average age when SCD occurs in young athletes is **17.5 years**.⁴ The risk of SCD increases with age.¹
- ▶ More than two thirds of young athletes who die suddenly are **basketball** and **football** players (67%).²

What can you do?

As part of your physical screening, ask all athletes to answer the *Patient and Family History Questions* on the back of this handout. These questions help assess each athlete's risk of SCA.

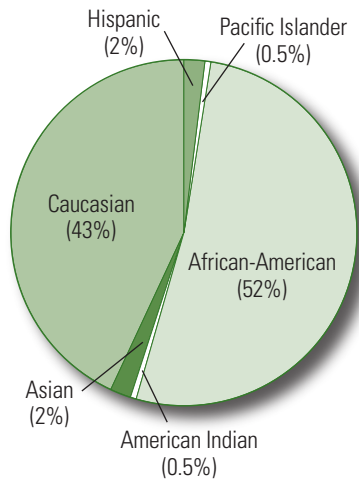
Know the SCA risk factors. If you become aware of an athlete who has any of the risk factors listed below, recommend cardiac testing.

SCA risk factors

Family history of unexpected, unexplained sudden death in a young person

Fainting (syncope) or seizure during exercise, excitement or startle

Consistent or unusual chest pain and/or shortness of breath during exercise



HCM is the leading cardiovascular cause of SCD in African-American athletes.⁴

More about cardiac testing

Cardiac testing has the potential to identify HCM and save athletes from sudden cardiac death. Cardiac testing often includes two simple tests:

An **electrocardiogram (ECG)** measures electrical activity in the heart.

An **echocardiogram (echo)**, an ultrasound of the heart, takes moving pictures of the heart.

- An ECG has the potential to detect heart conditions that account for up to 60% of sudden deaths in young competitive athletes.⁶
- In one long-term study, screening athletes with cardiac testing reduced the number of sudden cardiac deaths by 89%.³

Add these questions to your sports physical screening. You could save a life.

Athletes who answer “yes” to any of these questions should see a heart doctor.

Patient history questions	Yes	No
Have you ever passed out when startled, during exercise, or when feeling an emotion?		
Have you fainted or passed out after exercise?		
Have you had extreme fatigue associated with exercise?		
Have you ever had unusual or extreme shortness of breath during exercise?		
Have you ever had discomfort, pain or pressure in your chest during exercise?		
Have you ever been diagnosed with an unexplained seizure disorder?		

Family history questions	Yes	No
Have there been any unexpected, unexplained deaths before age 50 in your family? (includes SIDS, car accident, drowning, others)		
Has anyone in your family died of a heart problem before age 50?		
Does anyone in your family have unexplained fainting or seizures?		

This information is not a substitute for medical care. Please consult a doctor or health care provider.

CLOSE THE GAP

Addressing disparities in cardiovascular care

CLOSE THE GAP IS A BOSTON SCIENTIFIC EDUCATIONAL INITIATIVE.

References:

- ¹ Drezner, Jonathan, et al. Inter-Association Task Force Recommendations on Emergency Preparedness and Management of Sudden Cardiac Arrest in High School and College Athletic Programs: A Consensus Statement. *Heart Rhythm Society*. 2007;4:549-565.
- ² Maron, Barry J., et al. Relationship of Race to Sudden Cardiac Death in Competitive Athletes with Hypertrophic Cardiomyopathy. *Journal of the American College of Cardiology*. 2003;41:974-980.
- ³ Domenico Corrado, et. al. Trends in Sudden Cardiovascular Death in Young Competitive Athletes After Implementation of a Preparticipation Screening Program. *Journal of American Medical Association*. 2006;296:1593-1601.
- ⁴ Maron, Barry J., et al. Profile and Frequency of Sudden Deaths in 1,463 Young Competitive Athletes: From a 26-year U.S. National Registry, 1980-2005. *Minneapolis Heart Institute Foundation*. [poster];2006.
- ⁵ Maron, Barry J., et al. Recommendations and Considerations Related to Preparticipation Screening for Cardiovascular Abnormalities in Competitive Athletes: 2007 Update. *American Heart Association Journal*. 2007;115:1643-1655.
- ⁶ Domenico Corrado, et. al. Cardiovascular Pre-Participation Screening of Young Competitive Athletes for Prevention of Sudden Death: Proposal for a Common European Protocol. *European Heart Journal*. 2005;26:516-524.

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