SPECTRUM HEALTH

Student Athlete Screening Guide

Facts and Recommendations for Physicians

1. According to the American Heart Association, about 100 young athletes in the U.S. die from sudden cardiac arrest (SCA) each year. The chance of a high school athlete dying from SCA is about one in 200,000 per year.
2. SCA can be attributed to a number of causes. In athletes, the primary cause is a genetic disorder called hypertrophic cardiomyopathy. This is an enlargement of the heart muscle that can lead to rhythm problems. Other causes of SCA include coronary anomalies, myocarditis, Marfan syndrome and Long QT syndrome, to name a few.
3. The questions on the right help screen athletes who may be at risk for SCA. The Michigan High School Athletic Association requires an annual preparticipation physical examination.
4. If the patient answers "Yes" to any of these questions, an electrocardiogram (EKG), echocardiogram or a referral to a specialist may be suggested.
5. If the patient answers "No" to all of the questions, he or she most likely will not require further screening beyond the standard exam.
6. Currently, routine cardiac imaging and EKGs are not recommended in the United States.
7. Not every SCA can be prevented by risk screening. The best defense and prevention of SCA is having an automated external defibrillator, or AED, at all public events and encouraging appropriate employees to complete basic life support training.

Screening Questionnaire

Personal history: Parental verification is recommended for high school and middle school athletes.

1. Have you ever passed out or nearly passed out during exercise?
2. Have you ever passed out or nearly passed out after exercise?
3. Have you ever had discomfort, pain or pressure in your chest during exercise?
4. Have you experienced excessive and unexplained dyspnea or fatigue when you exercise?
5. Does your heart race or skip beats during exercise?

Family history

6. Has anyone in your family died suddenly due to heart disease or an unexplained reason before they were 50 years old?
7. Do you have any close relatives who have heart disease and are younger than 50 years old?
8. Is there anyone in your family who has hypertrophic or dilated cardiomyopathy, Marfan syndrome, Long QT syndrome, clinically significant arrhythmias or an implantable defibrillator?

Physical Examination

9. Assess for a heart murmur while in the supine position and while standing.
10. Check the femoral pulse to exclude aortic coarctation.
11. Assess for physical symptoms of Marfan syndrome.
12. Check the brachial artery blood pressure, preferably in both arms, while sitting.