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Heart Screenings in Young Athletes Identify Risk Factors for Sudden Cardiac Arrest

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Et al.

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Background

Sudden Cardiac Arrest in the Young

Sudden cardiac arrest (SCA) is the leading cause of death in the U.S. afflicting over 300,000 individuals each year. SCA is also the leading cause of sudden death in young athletes during sports participation, and typically the result of undiagnosed structural or electrical cardiovascular disease.

Objectives

The purpose of cardiac screenings is to identify those individuals with undiagnosed structural or electrical cardiovascular disease so they may be referred for proper medical attention **BEFORE** a SCA occurs.

Materials and Methods

Cardiovascular screenings for adolescents and young adults consist of

1. Heart Health Survey investigating signs and symptoms and family history of a cardiac condition
2. Blood pressure
3. Physical examination – including height, weight, BMI, and heart sounds
4. ECG.
5. The use of echocardiogram is conducted in cases with a positive finding on history, physical examination, or ECG.

An electrocardiogram (ECG) and/or

echocardiogram (ECHO) as a baseline test can help detect approximately 60% of the heart conditions that can lead to SCA.

Population

Active youth and young adults between the ages of 14-26

Heart Conditions that can lead to SCA

•Hypertrophic cardiomyopathy (HCM)

•Wolff-Parkinson-White (WPW) or Arrhythmogenic Right Ventricular Dysplasia (ARVD).

•Long QT Syndrome (LQTS)

Discussion

U.S. has limited acceptance of youth heart screenings due to:

•Cost-effectiveness

•Physician availability

•False-positives

•Lack of uniform screening recommendations

Conclusions

•More data is necessary to make evidence-based recommendations

•SCA needs to be a reportable cause of death and a registry is needed to receive reports and track data

•Youth heart screenings are an effective way to collect data

•Public access defibrillation programs are important in reducing SCA deaths.

•Improved emergency response plans are necessary when organizing youth sports.

References

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