



Louis J. Acompora Memorial Foundation,
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Background

Sudden Cardiac Arrest in the Youth Population

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. According to statistics for the Centers for Disease Control, cardiovascular disease is second only to malignancy as the leading medical cause of death in individuals younger than 24 years old, accounting for over 2,400 fatalities per year in the U.S.

Although exercise and sport are widely encouraged to prevent illness and promote health for people of all ages, exercise and physical conditioning are also triggers for SCA in individuals with underlying cardiovascular disease. This “exercise paradox” is too often highlighted by the sudden cardiac death (SCD) of a young athlete during training or competition. Non-athletes are also subject to the same risks in everyday recreational and physical activities.

Cardiovascular Screening

The catastrophic death of a child or young adult during physical activity is a devastating event with compelling justification to implement effective preventive strategies. Cardiovascular screening in athletes is routinely practiced and endorsed by most major sporting and medical associations including the American Heart Association (AHA), European Society of Cardiology (ESC), and the International Olympic Committee (IOC). A substantial challenge to screening is that most apparently healthy individuals with unsuspected cardiovascular disease are asymptomatic, and SCA is the first clinical manifestation of cardiac disease in a significant percentage of athletes who suffer sudden death.

A comprehensive personal and family history and physical examination are recommended components of cardiovascular screening. However, history and physical examination alone offer limited sensitivity in identifying youths at risk for SCD. The inclusion of a resting 12-lead electrocardiogram (ECG) in the cardiovascular screening of youths greatly increases the sensitivity to detect potentially lethal cardiac conditions. Integrated screening programs utilizing ECG, echocardiogram, detailed physical evaluation form and family history offer an early opportunity to reliably identify youths at risk. Early detection can reduce the rate of SCD in youth through appropriate medical intervention.

In recent years, contemporary standards of ECG interpretation using modern criteria to distinguish physiologic cardiac adaptations in athletes from underlying pathology have substantially reduced false-positive results and the need for unnecessary diagnostic evaluations. There is an urgent need to study a contemporary model of cardiac screening in the young to assist in the development and implementation of improved cardiovascular screening guidelines in the U.S.

Mission

Heart Screen New York organizes free cardiovascular screening for adolescents and young adults. The goals of the screening are:

1. To detect cardiovascular conditions with the potential for sudden death in the young.
2. To reduce sudden cardiac death through early detection and appropriate medical interventions, activity modification, or withdrawal for athletic participation if recommended by a physician.
3. To provide a unique training opportunity for medical students, residents, fellows and practicing physicians to gain experience in cardiovascular screening and ECG interpretation.
4. To raise awareness and educate schools and communities about sudden cardiac arrest warning signs and symptoms, and the value of cardiac screening.

The screen consists of a Heart Health Survey investigating signs and symptoms and family history of cardiac conditions, blood pressure and physical examination, and ECG. An on-site echocardiogram is conducted in cases with a positive finding on history, physical examination or ECG. All results are reviewed by cardiologists and physicians experienced in cardiac screening.

Community Partners

Heart Screen New York is proud to partner with a core group of Medical professionals from several area hospitals, North Shore – LIJ Health system , Stony Brook University and Winthrop Hospital along with two leading New York based Foundations, the Louis J. Acompora Memorial Foundation, www.la12.org and the Dominic A. Murray 21 Memorial Foundation, www.domheart21.org . Heart Screen New York is a program that was developed by these two Foundations who have been the leading voice in AED (automatic external defibrillation) implementation in schools along with education and awareness of SCA in youth in the New York area. Both foundations are grass roots organizations founded after the tragic deaths of Louis and Dominic from SCA while playing in competitive sport.