

Debunking Arguments Against ECG Screening in Asymptomatic Youth

MYTH VS. FACT

Myth: *Sudden Cardiac Arrest (SCA) / Sudden Cardiac Death (SCD) in youth is “rare”.*

Fact: *The actual incidence of SCA/SCD in youth is unknown in the United States as there is no national, systematic and mandatory registry. Hence, the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC) funded the Sudden Death in the Young Case Registry, an ongoing pilot project that works with medical examiners, coroners and others to gather information about children (up to age 20) who die suddenly and unexpectedly in order to better understand if a cardiac abnormality caused the cardiac arrest and to inform new prevention strategies to protect young hearts. Data from the registry is forthcoming with the hope for more specific answers to this very question.*

Myth: *Electrocardiogram (ECG) screening in youth results in too many false positives/negatives.*

Fact: *The rate of false-positive findings is less than 3% when ECG screenings are carefully planned and executed with physicians knowledgeable in ECG interpretation in the population being screened, which could include children, adolescents, young adults, or young athletes. Further, it has been shown that ECGs out-perform history and physical examination (H&P) alone in identifying heart conditions that put youth at risk, with H&P eliciting at least a 10% false positive response rate with some studies reporting up to 60%! ECGs can identify over two-thirds of conditions that put youth at risk for SCA. ECGs capture a moment in time, so ECGs performed at regular intervals [1] combined with cardiac risk assessments for new symptoms or relevant family history [2] can decrease false negatives.*

Myth: *ECG screening has an adverse psychological impact...it hurts kids.*

Fact: *ECG screening is quick, painless and non-invasive. There is no evidence that it hurts kids. A study on the Psychological Impact of Cardiovascular Screening in Young Athletes: Perspectives Across Age, Race, and Gender concluded that ECG screening does not cause excessive anxiety in US high school athletes across spectrums of age, race, and gender. Recognition of age, race, and gender-specific perspectives could improve physician-patient dialogue and support mechanisms for those diagnosed with potentially lethal cardiac disorders. This study provided evidence that undue anxiety should not be used as an argument against the implementation of ECG screening. Rapid referral and assessment will diminish anxiety and provide appropriate answers for families.*

Myth: *If something is wrong with your heart, your doctor would tell you.*

Fact: *For decades studies have shown that SCD might be prevented if patients reported symptoms and risk factors to their medical practitioner. Yet, the American Academy of Pediatrics acknowledged in their 2012 policy statement on Pediatric Sudden Cardiac Arrest that warning signs and symptoms are being missed by both patients and medical personnel. We know that in at least 50% of SCA cases, warning signs or symptoms were present. Yet, fewer than half of people who die from SCA and who experienced symptoms before their death sought medical attention. Further, 49% of SCA victims had a significant family history of heart problems. And still, only 15% of practitioners update family history annually. It is important to educate patients and their families about symptoms associated with sudden death and encourage them to seek appropriate medical attention.*

Myth: *Sudden Cardiac Arrest only affects athletes.*

Fact: *While much research has focused on SCA in athletes, resulting in data that shows it is the #1 killer of student athletes during exercise (and athletes at all levels of sport), the fact is that only 5%-25% of all SCA in youth occurs during sports or exercise. SCA occurs in all types of youth, athletic or not, whether active or at rest. While there is much emphasis placed on pre-participation physical evaluations for youth who play sports, given SCA occurs more often outside of physical activity, all youth should undergo a thorough cardiac risk assessment.*

