## Core 2. Epidemiology and Prevention of CV Disease: Physiology, Pharmacology and Lifestyle

Session Title: Electrocardiography, Screening and Sudden Death

# Abstract 14167: Community Screening for Sudden Cardiac Death - Referral Results from the Texas Adolescent Athlete Heart Screening Registry (TAAHSR)

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**Introduction**: Cardiovascular screening of adolescent athletes is a controversial topic. Questions of sensitivity, specificity, practicality, costs as well as appropriate protocols remain unanswered. Perhaps more importantly, little is known about the natural history of factors that predispose young athletes to sudden cardiac death (SCD) once a diagnosis has been made. Beginning in 2010, the Texas (USA) Adolescent Athlete Heart Screening Registry (TAAHSR) project has conducted community-based cardiovascular screenings for adolescent athletes aged 14-18 years and of multiple ethnicities.

**Methods**: Between May 2010 and July 2011, 23 screening events were conducted (n=3,208). Routine data collected included demographics, cardiovascular-focused history, 12-lead ECG and limited 2D Echo.

**Results**: In this cohort, 80 possible cases of hypertrophic cardiomyopathy (HCM) (2.7%) and 198 possible cases of other abnormalities including conditions related to sudden cardiac death (Wolff Parkinson White, long QT syndrome, etc.) (6.3%) were identified and referred for follow-up. Prevalence of screening abnormalities was higher in males (10%) compared to females (5%) ($p<0.05$). Electrocardiographic abnormalities accounted for the largest proportion of screening referrals (80%; referral rate 7%). Follow up was completed in 55% of cases referred (39% of cases had confirmed abnormalities). Of cases referred for possible SCD-related conditions, 5 of 92 (5.4%) referred for ECG and 1 of 15 (6.7%) referred for Echo were confirmed. These represent 0.19% of the population screened identified with an SCD-related condition.

**Conclusions**: Large-scale community screening in high school athletes using both ECG and Echo identifies previously unknown SCD-related conditions. The natural history of athletes deemed free of such abnormalities at time of screening remains to be determined.

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