**YIELD OF SPORTS PREPARTICIPATION CARDIOVASCULAR SCREENING IN MIDDLE AND HIGH SCHOOL STUDENTS**

**A. Sinha,** K.A Nguyen, A. Singh, A. Fedor, K. Mousely, S. Agrawal, M. Vikram,

S. Stevens, D. Traub, S. Nanda, J. Shirani

St. Luke’s University Health Network, Bethlehem, PA, USA

*Background.*Comprehensive initial pre-participation physical evaluation (CIPPE) is mandated for junior, middle and high schools by Pennsylvania Interscholastic Athletic Association (PIAA) primarily for reducing potential sports injuries and sudden cardiac death. Those with positive screening for cardiac disease (including findings on 12-element AHA screening questionnaire) are referred for cardiac evaluation. We aimed to evaluate the yield of pre-participation cardiac screening in this group of students.

*Methods and Results.*Among 3174 students from 13 schools undergoing CIPPE between 6-2015 and 2-2016, 100 (3%) [51 male, 53 white, age 14.8±2.2 years, height 166±12 cm, weight 62±17 kg] were referred for cardiac evaluation. Overall, 98 were engaged in moderate to high intensity sports. Marfanoid phenotype was present in 6 and 6 were overweight. A heart murmur was present in 58 and 1 had systemic hypertension. The following tests were performed: ECG with rhythm strip (100), echocardiogram (93), stress test (13), tilt-table test (1) and cardiac magnetic resonance (CMR) imaging (2). ECG showed minor abnormalities (likely normal variant) in 47 and no major abnormality. Echocardiogram showed 1 with bicuspid aortic valve with dilated root and another 1 with hypertrophic cardiomyopathy (both confirmed by CMR).

*Conclusion.* A systematic approach to screening in junior, middle and high school sports participants can lead to identification of serious, primarily unsuspected genetic cardiovascular conditions in a small minority. Appropriate screening of 1st degree relatives may enhance the general benefits of such programs.