

**A NOVEL APPROACH TO SCREENING FOR SUDDEN CARDIAC DEATH  
IN YOUNG ADULTS UTILIZING A STRATIFIED METHOD WITH ECG  
AND ECHO**

Joseph C. Marek, Sarah A. Marek, Kathleen A. Marek, Frank Zimmerman, and  
Johneen Davis

*J. Am. Coll. Cardiol.* 2010;55:A197.E1850

doi:10.1016/S0735-1097(10)61851-7

**This information is current as of May 13, 2011**

The online version of this article, along with updated information and services, is  
located on the World Wide Web at:

<http://content.onlinejacc.org>

**JACC**

*JOURNAL of the AMERICAN COLLEGE of CARDIOLOGY*



## A NOVEL APPROACH TO SCREENING FOR SUDDEN CARDIAC DEATH IN YOUNG ADULTS UTILIZING A STRATIFIED METHOD WITH ECG AND ECHO

i2 Poster Contributions

Georgia World Congress Center, Hall B5

Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: DES II, Restenosis, Left Main and Outcomes

Abstract Category: Outcomes/Operator Volume/Public Reporting/Misc. Topics/Guidelines

Presentation Number: 2502-508

Authors: *Joseph C. Marek, Sarah A. Marek, Kathleen A. Marek, Frank Zimmerman, Johnneen Davis, Midwest Heart Foundation, Lombard, IL*

**Background:** The occurrence of sudden cardiac death (SCD) in young adults is tragic. It is estimated that over 1,000 deaths occur annually in the USA with hypertrophic cardiomyopathy (HCM) being the most common cause. National ECG screening in Italy demonstrated an 89% reduction in SCD in young athletes.

A major criticism of ECG screening is that a presumed large number of abnormal ECGs requiring further medical evaluation (RFME) could result in unnecessary anxiety and cost. Over a 3 yr period we have screened over 32,000 high school students and encountered a rate of ECGs RFME ranging from 2 to 4%. To further diminish this rate we recently employed a stratified approach that employs a limited echocardiogram when the ECG suggests HCM.

**Methods:** From May 2008 to Feb 2009, we employed the stratified approach to screening for 4,688 students at 9 schools. Those with abnormal ECGs suggesting possible HCM undergo a limited echo consisting of 2D parasternal long axis, short axis and 4 chambered views.

**Results:** 209 ECGs were abnormal. 91 of these were suspicious for HCM and underwent echo testing. All echos were negative for HCM. The 118 remaining abnormal ECGs had changes compatible with other conditions ie long QT syndrome, WPW, etc. The stratified approach reduced the # RFME from 209 to 118; a 44% reduction.

**Conclusions:** In screening young adults for risk for SCD, stratified screening with ECG and echo reduces the number requiring further medical evaluation by 44%. This reduces anxiety and expense for the young adult and the parents.

Impact of Stratified Screening with ECG and Echo on 4,688 Students

	# RFME	%
ECG screen only	209	4.5%
Stratified approach	118	2.5%
% difference	91 (1.9%)	-44%

**A NOVEL APPROACH TO SCREENING FOR SUDDEN CARDIAC DEATH  
IN YOUNG ADULTS UTILIZING A STRATIFIED METHOD WITH ECG  
AND ECHO**

Joseph C. Marek, Sarah A. Marek, Kathleen A. Marek, Frank Zimmerman, and  
Johneen Davis

*J. Am. Coll. Cardiol.* 2010;55:A197.E1850

doi:10.1016/S0735-1097(10)61851-7

**This information is current as of May 13, 2011**

<b>Rights &amp; Permissions</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://content.onlinejacc.org/misc/permissions.dtl">http://content.onlinejacc.org/misc/permissions.dtl</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="http://content.onlinejacc.org/misc/reprints.dtl">http://content.onlinejacc.org/misc/reprints.dtl</a>