

Youth Heart Screenings

Protecting Hearts, Saving Lives

April 22, 2020



Look Who's Talking



Simon's Heart was started following the sudden and unexplained death of Simon January 24, 2005. A pediatrician told the family to their hearts checked and mom discovered a heart condition, Long QT Syndrome. Research shows that LQTS is linked to SIDS and sudden death of student athletes.



SafeBeat was founded by Jayne Vining in memory of her son Marc who died suddenly from sudden cardiac arrest. Sheldon Hill, a 24 year veteran in the cardiovascular field, serves as a the Executive Director.



Sycamore High student dies during swim practice

Recommend

43 people recommend this.

Posted: Oct 26, 2010 8:56 PM EDT
Updated: Oct 27, 2010 8:39 AM EDT

Teen Collapses, Dies On High School Track

By [Name] On High School Track - News
CINCINNATI (AP) — Paramedics Assist Victim, Call 911

Bradley student dies suddenly

Phil Kaiser pronounced dead in Methodist ER



By STEPHANIE H. [Name]
Journalist

Runner Collapses, Dies After Track Tryout

11:10 pm ET
A sophomore walk-on, collapsed and died following a tryout for the North Carolina State University track team last week, the website DigTriad.com reported.

Officials said Milandu died of complications from an elevated heart rate.

Wheeler Brown said that Milandu was at a supervised open try-out. Brown said Milandu was attended by emergency medical personnel and was transported to Moses H. Cone Memorial Hospital.

He wedged that no athletic trainer was present during the workout, a violation of NCAA rules. He also said he did not see a required physical before the workout. The university official said the athlete's records were violated.

Lakeside athlete dies at Family Y

Center on school basketball team

We don't want other parents to lose their child to a detectable and treatable heart condition.

WHILE COACH Dan Brinkley, of Prep Charter School, have played basketball at the Division I level. "I'm much more fortunate to have met him than I said yesterday. "This was one great kid. For me like 9/11."



College Basketball Player Dies

Filed under: Another Death - darren @ 3:15 pm Edit This



Devonte Bundley

BEL AIR, Md. —

A student athlete at Harford Community College has died after suffering a medical emergency while at the first day of basketball practice.

College officials said Devonte Bundley, 18, of Aberdeen, died on Friday. Bundley was a first-year student at the school and was a



Columbia College High School athlete collapsed and died Monday with friends.
The Columbia College High senior was away from a game at the Family Y on...
"Mr. King... he lay down on the court and g...



Sudden Cardiac Arrest



- It is when the heart stops beating, sudden and unexpectedly. Someone is upright one second, and collapses the next.
- It is the leading cause of death of adults in the United States.
- SCA is the #1 cause of death of student athletes. Thousands of children die every year.
- Heart conditions are the leading birth defect.

What Are the Odds?



Winning MegaMillions: 1:176 M

Becoming President: 1:10 M

Struck by Lightning: 1:1 M

Dying from sudden cardiac arrest:

NCAA Athlete: 1/44,000*

Division I Basketball: 1/3,100*

* <https://doi.org/10.1161/CIRCULATIONAHA.110.004622> Circulation. 2011;123:1594-1600

Standards of Care

States require health screenings in schools.



Hearing



BMI



Sight

Cardiac Standard of Care

Medical history*

Personal history

1. Chest pain/discomfort/tightness/pressure related to exercise
2. Unexplained syncope/near-syncope†
3. Excessive and unexplained dyspnea/fatigue or palpitations
4. Prior recognition of a heart murmur
5. Elevated systemic blood pressure
6. Prior restriction from participation in sports
7. Prior testing for the heart, ordered by a physician

Family history

8. Premature death (sudden and unexpected, or otherwise cardiovascular) in first-degree relative <50 y of age
9. Disability from heart disease in close relative <50 y of age
10. Hypertrophic or dilated cardiomyopathy, long-QT syndrome, or clinically significant arrhythmias; specific knowledge of family history

Physical examination

11. Heart murmur†
12. Femoral pulses to exclude aortic coarctation
13. Physical stigmata of Marfan syndrome
14. Brachial artery blood pressure (sitting position)§



French physician

Rene Laennec

(1781-1826) invented the **stethoscope** when he felt it was inappropriate to place his ear on his female patient's chests.

Source: http://www.preventheartattack.in/heart_facts.php

Get smart
IAFIB™

What Do the Stories Tell Us?



Claire Crawford was a seemingly healthy 17 year old volleyball player.

She had numerous annual wellness checks and sports physicals.

She collapsed from sudden cardiac arrest.

How many questions did she answer? How many people listened to her heart?

What Does the Research Tell Us?

COPY PROVIDED BY SIMONS FUND

Electrocardiographic Screening in National Collegiate Athletic Association Athletes



Jonathan A. Drezner, MD^{1*}, David S. Owens, MD, MS², Jordan M. Prutkin, MD, MHS³, Jack C. Salerno, MD⁴, Kimberly G. Harmon, MD⁵, Shelley Prossie, BS⁴, Alana Clark, BA⁴, and Irfan M. Asif, MD⁶

The most effective protocol for cardiovascular screening of competitive athletes remains highly controversial. This study was a prospective, multicenter trial of cardiovascular screening at 35 National Collegiate Athletic Association institutions. Screening included a standardized history and physical examination (PE) as recommended by the American Heart Association and a 12-lead electrocardiogram (ECG) at rest. Centralized electrocardiographic interpretation was provided using the Seattle criteria. Athletes with screening abnormalities underwent additional evaluation directed by the host institution medical team. Primary outcomes included the proportion of total and false-positive screens; the sensitivity, specificity, and positive predictive value of history, PE, and ECG; and the prevalence of serious cardiovascular disorders associated with severe morbidity or sudden cardiac death. From August 2012 to June 2014, 5,258 athletes from 17 intercollegiate sports were screened; 55% men (mean age 20.1 years), 73% Caucasian, 16% African-American, and 11% other/race. At least 1 positive cardiac symptom or family history response was reported by 1,750 athletes (33.3%). PE was abnormal in 108 athletes (2.1%), and electrocardiographic abnormalities were present in 192 athletes (3.7%). Thirteen athletes (0.25%) were identified with serious cardiac conditions including hypertrophic cardiomyopathy (1), large atrial septal defect with right ventricular dilation (1), and ventricular pre-excitation (1). The false-positive rate for history was 33.3%, PE 2.0%, and ECG 3.4%. The sensitivity/specificity/positive predictive value for history was 15.4%/66.9%/0.1%, PE 7.7%/98.2%/0.9%, and ECG 100%/96.6%/6.8%. In conclusion, electrocardiographic screening in National Collegiate Athletic Association athletes has a low false-positive rate and provides superior accuracy compared with a standardized history and PE to detect athletes with potentially dangerous cardiovascular conditions. © 2016 Elsevier Inc. All rights reserved. (Am J Cardiol 2016;118:754–759)

Sudden cardiac death (SCD) is a devastating event and the leading cause of death in college athletes during sports.^{1–3} A 10-year analysis of all-cause mortality in National Collegiate Athletic Association (NCAA) athletes indicates that the annual risk of SCD is substantially higher than initial estimates, with the highest risk found in men (2.65/100,000), black athletes (4.65/100,000), and Division I men's basketball (19.2/100,000).² These rates occur despite each of the nearly 500,000 NCAA athletes receiving a required pre-participation evaluation consisting at

minimum of a history and physical examination (PE). The most effective strategy for cardiovascular screening of young competitive athletes remains highly controversial. The American Heart Association (AHA) and American College of Cardiology (ACC) define cardiovascular screening as an initiative intended to prospectively identify or raise suspicion of previously unrecognized and largely genetic/congenital cardiovascular diseases known to cause sudden cardiac arrest and sudden death in young people.⁴ The AHA/ACC promote use of a comprehensive personal and family history and PE as a potentially effective method to detect cardiovascular disease in athletes. Although mandatory screening with an electrocardiogram (ECG) is not recommended, the AHA/ACC support electrocardiographic screening where physician interest and local resources are in place to achieve sufficient quality control.⁵ The purpose of this study was to evaluate and compare the accuracy of cardiovascular screening in NCAA athletes using a standardized history, PE, and ECG.

Methods

This study was a prospective, multicenter study of cardiovascular screening in NCAA athletes from August 2012 to June 2014. A total of 35 different NCAA

A questionnaire and stethoscope are not the most effective methods to discover underlying heart conditions.

- Thirty-five NCAA institutions participated.
- 5,258 student athletes screened.
- All received an electrocardiogram (ECG), physical exam and asked about medical history.

Thirteen discovered heart conditions.

- One had abnormal physical exam.
- Two had abnormal medical history.
- All had abnormal ECG.

¹Sports Medicine Section, Department of Family Medicine, ²Division of Cardiology, Department of Medicine, and ³Division of Cardiology, Department of Pediatrics, University of Washington, Seattle, Washington; ⁴Institute of Translational Health Sciences, University of Washington School of Medicine, Seattle, Washington; and ⁵Department of Family Medicine, University of South Carolina Greenville School of Medicine, Greenville, South Carolina. Manuscript received January 12, 2016; revised manuscript received and accepted June 3, 2016.

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See page 758 for disclosure information.
*Corresponding author: Tel: (206) 598-3294; fax: (206) 598-3140.
E-mail address: jdrezner@u.washington.edu (J.A. Drezner).

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www.ajonline.org

Am J Cardiol 2016;118:754 – 759)



What's Our Solution?



Free heart screenings for seemingly healthy students:

- Medical and family history
- Physical exam
- Electrocardiogram
- Limited Echocardiogram

What is ECG and Echo

The Components

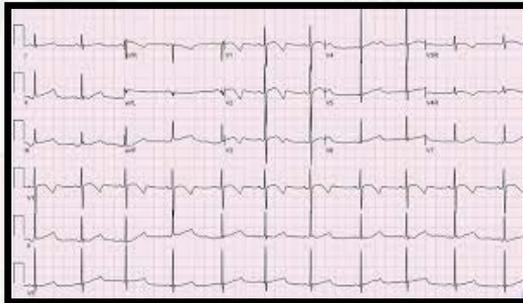
History

- Has anyone in your family died suddenly or expectedly under the age of 50?
- Have you ever passed out during or right after exercise?

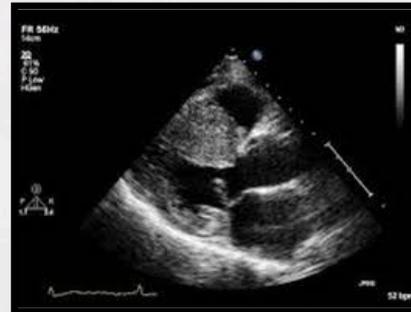
Physical Exam

Blood pressure, height, weight and blood pressure.

Electrocardiogram (ECG)



Echocardiogram (echo)



Who Should Get Screened?

We think everyone.

We think students who are about to become adolescents.

There is not enough research to establish the ideal age, frequency or most effective method for a heart screening.

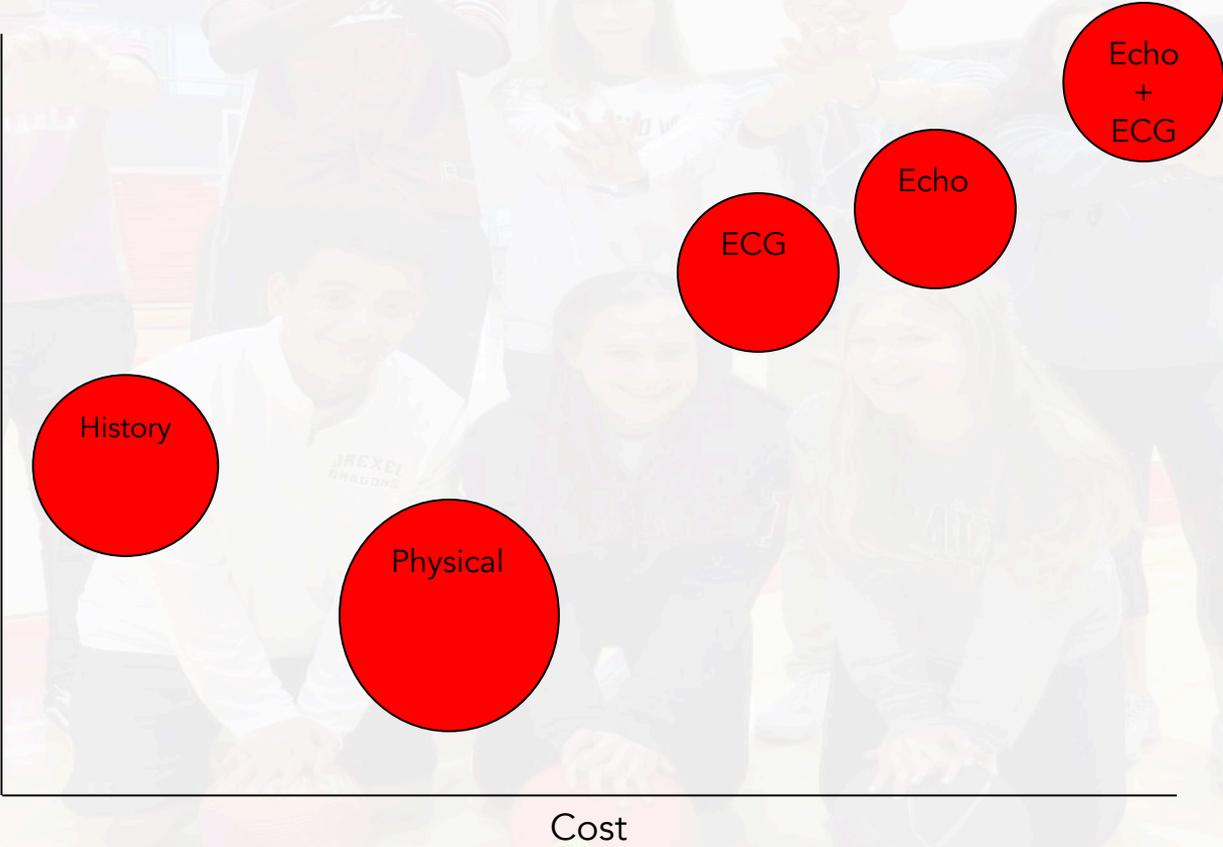
The majority of those conducting screenings, and those who believe that heart screenings should become a standard of care, evaluate students between the ages of 14 – 25.



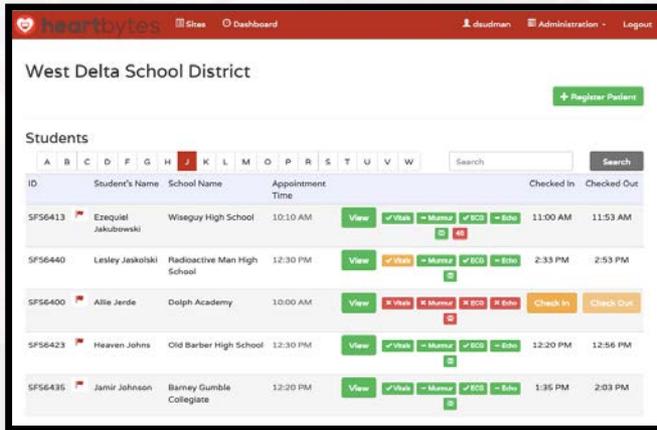
The Screening Models

(unscientific graph)

What is the most effective?



Promoting Research



West Delta School District

Students

ID	Student's Name	School Name	Appointment Time	Checked In	Checked Out
SFS6413	Ezequiel Jakubowski	Wisegay High School	10:10 AM	11:00 AM	11:53 AM
SFS6440	Lesley Javokski	Radioactive Man High School	12:30 PM	2:33 PM	2:53 PM
SFS6400	Allia Jerde	Dolph Academy	10:00 AM		
SFS6423	Heaven Johns	Old Barber High School	12:30 PM	12:20 PM	12:56 PM
SFS6435	Jamir Johnson	Barney Gumble Collegiate	12:20 PM	1:35 PM	2:03 PM



Data will change the standard of care. Heart screenings are the vehicle to gather the data and improve lives along the way.

Preparing Students



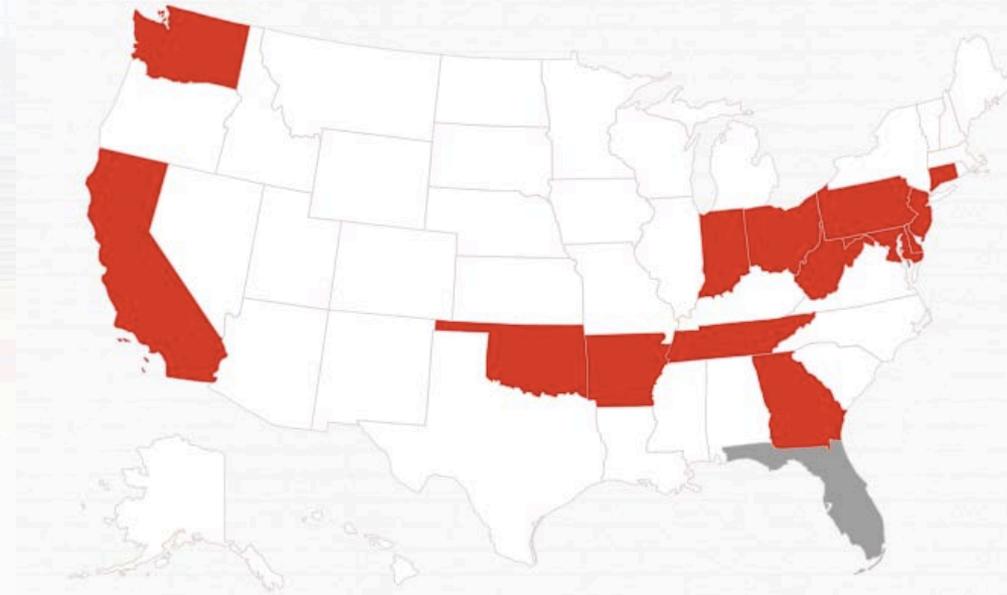
Heart screenings WILL NOT detect every condition and prevent every cardiac arrest. Our kids (and adults) need to know CPR and our venues need to be equipped with AEDs (see www.gotaed.org)

Sudden Cardiac Arrest Prevention Act

Parents read and sign a form about the warning signs of sudden cardiac arrest.

Coaches watch a training video about the same.

Players who pass out are removed and may not return until cleared by a licensed medical professional.



Thank you for helping us protect hearts and
save lives.

simonsheart.org

safebeat.org

screenacrossamerica.org

parentheartwatch.org



SIMON'S Heart