

# AED Fast Facts

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## An E-mail Promoting Awareness of Automated External Defibrillators Information presented to complement an established AED Program

### Effectiveness of Emergency Response Planning for Sudden Cardiac Arrest in United States High Schools with Automated External Defibrillators

(Jonathan A. Drezner, Ashwin L. Sao, Justin Heistand, Megan K. Bloomingdale and Kimberly G. Harmon) *Circulation, Journal of the American Heart Association, published online July 27, 2009.*

#### Excerpts

#### Statistics:

Letters sent to High Schools requesting participation in the study	18,974		
Responding High Schools	2,084 (11%)		
Responding High Schools with at least one AED	1,710 (82%)		
Established Emergency Response Plan	1,428 (83%)		
Sudden Cardiac Arrest (SCA) Event in Previous Six Months	36 (2%)	SCA Cases Witnessed	35 (97%)
High School Student Athletes (average age 16)	14	Bystander CPR Performed	34 (94%)
Student – Non Athletes	0	AED Shock Received	30 (83%)
Nonstudents (average age 57)	22		
SCA Victims Survived to Hospital Discharge	23 (64%)	Brief Seizure-Like Activity Reported in Student Athletes (7/ 12)	58%
High School Student Athletes Survived	9	Brief Seizure-Like Activity Reported in Nonstudents (5/17)	29%
Nonstudents	14		
Extrapolated annual incidence of SCA in high school athletes	4.4 in 100,000		

**“This study suggests that half of young athletes with SCA have brief myoclonic activity after collapse that could be mistaken for a seizure. In addition, athletes with SCA were perceived to have either ongoing respirations or a pulse for an average of 2 minutes after collapse in more than half of the cases. Although it is not possible to determine whether these reports are accurate, it is well established that rescuers may mistake agonal or occasional gasping for normal breathing or may falsely identify the presence of a pulse. Thus, a high suspicion of SCA must be maintained for any collapsed and unresponsive athlete and an AED applied as soon as possible for rhythm analysis and defibrillation if indicated.”**

**“Study Limitations:** ... This study involved a cross-sectional survey of US high schools with at least 1 onsite AED. Only schools with AEDs were included to investigate a cohort of schools most likely to have developed an emergency response plan for SCA. Although survey questions were carefully worded in an attempt to capture all cases of SCA (both deaths and survivors), it is possible that schools with an SCA event, or those with a good outcome from SCA, were more likely to respond to the survey.”

**“Conclusions: School-based AED programs provide a high survival rate for both student athletes and older nonstudents who suffer SCA on school grounds. High schools are strongly encouraged to implement onsite AED programs as part of a comprehensive emergency response plan to SCA.”**

(*Circulation*, 2009; 120:518-525)

#### Signs of Sudden Cardiac Arrest:

- Unconscious
- Not Responding
- Not Breathing or Not Breathing Normally
- Agonal Breathing or Gasping is Not Normal Breathing
- Seizures/Convulsions may occur when patient collapses

#### Combat Sudden Cardiac Arrest with

- Early 911
- Early CPR
- Early Defibrillation
- Early Advanced Life Support



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1551 E. Lincoln Ave. Ste 166 Madison Heights, MI. 48071  
800-228-3343 [www.heartaed.com](http://www.heartaed.com)

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