



*Saving Lives with AEDs*



Leonard A. Steinberg, MD  
Children's Heart Center at St. Vincent

Sudden cardiac death occurs over 166,000 times per year in the United States. The overwhelming majority of these events are due to arrhythmias. In most cases, the critically needed therapy is the immediate restoration of a normal rhythm. This is performed by cardiac defibrillation—delivery of an electrical shock to the heart. Unfortunately we don't get to choose where and when a cardiac arrest will occur.

Medical personnel are rarely available at an out-of-hospital cardiac arrest. Survival drops by 7-10% for each one minute delay in receiving appropriate therapy. Overall survival from sudden cardiac death is only about 5%. Those who do survive may be plagued with brain injury resulting from delay in resuscitation. Thus the need for public access defibrillation has been increasingly recognized over the last 10 years.

Every year sudden cardiac death claims the life of 1/200,000 student athletes. These catastrophic events seem even more tragic in our students, because we generally perceive our children—and particularly our young athletes—to be the healthiest segment of our population. It exposes a vulnerability in all of us. As individuals we have to reassess our own perception of apparent health. As a society, we must confront our failure to appropriately recognize and treat life-threatening conditions. Beyond the devastation within the family, sudden death in a child or adolescent can rock a school and even an entire community to its core.

As an arrhythmia doctor, one of my jobs is to diagnose and treat those children who have had or are at risk for a cardiac arrest. Unfortunately, identification of those at risk is a difficult task. As many as 97% of patients suffering cardiac arrest have no prior signs or symptoms suggesting an underlying heart problem. Sudden death is often the first manifestation of heart disease. Under the current guidelines, screening protocols are minimally effective. New, more sophisticated screens have been proposed, but have not been widely adopted because they have a high rate of false positives and may be prohibitively expensive.

For additional information about **The Reviving Hearts Program**, supported by the Cardiovascular Research and Education Foundation or Indiana, Inc. please contact Margie Bryan at 317-338-6080, or [mbryan@thecaregroup.com](mailto:mbryan@thecaregroup.com) or log on to [TheCareGroup/RevivingHearts.com](http://TheCareGroup/RevivingHearts.com)



*Saving Lives with AEDs*

There is a relatively new weapon in our arsenal against sudden cardiac death—the automated external defibrillator (or AED). An AED is a device which can effectively diagnose and treat life threatening arrhythmias. The device is small enough to be easily portable, simple enough to be used by non-medical personnel, and safe enough to be accessed, responsibly, by the general public. With only minimal teaching a bystander can apply the device to a patient and execute life saving therapy. This is not simply an evolution of resuscitation but a revolution. The bystander's past role has generally been to perform CPR until medical services arrived to restore a normal rhythm. The AED allows the bystander to immediately restore a normal rhythm. This is public access defibrillation.

It is vital that those who could be asked to use an AED receive proper training to increase their comfort and efficiency when using the device. AEDs do require occasional maintenance, and they do NOT replace the need for appropriate resuscitation skills such as CPR.

Sudden death in children garners big media attention. I'm sure we all know of children right here in Indiana who might be alive today if public access defibrillation had been more readily available then. Several studies in prestigious medical journals have documented the dramatic increase in survival when AEDs are available in public settings such as airports, casino's and other highly public places. There is no data on the use of AEDs in schools, yet. This is partially related to the paucity of these devices in our public schools. This generous gift from the Cardiovascular Research and Education Foundation of Indiana will help to rectify this problem. AEDs in our schools have the ability to protect those children with known heart disease and those with unsuspected heart disease, our students and school staff, our schools visitors, our athletes, and sports spectators. Though the actual use of AEDs at school may be small compared to other public places, they will be there to protect the most important aspect of our community—our future.

For additional information about **The Reviving Hearts Program**, supported by the Cardiovascular Research and Education Foundation of Indiana, Inc. please contact Margie Bryan at 317-338-6080, or [mbryan@thecaregroup.com](mailto:mbryan@thecaregroup.com) or log on to [TheCareGroup/RevivingHearts.com](http://TheCareGroup/RevivingHearts.com)