

# AED



CPR & First Aid

AUTOMATED EXTERNAL DEFIBRILLATOR



**Implementing an AED Program**

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## MISSION

*The mission of the American Heart Association is to build healthier lives, free of cardiovascular diseases and stroke. That single purpose drives all we do. The need for our work is beyond question.*

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## Introduction

Sudden cardiac arrest (SCA) is a leading cause of death in the United States. Each year, emergency medical services (EMS) treats about 383,000 victims of SCA before they reach the hospital. Less than 12 percent of those victims survive. SCA can happen to anyone at any time. It is important for companies and organizations to implement AED programs so employees are prepared to respond to an SCA emergency.

Placing automated external defibrillators (AEDs) in key locations, and making sure employees are trained to use them, can mean the difference between life and death. Places such as offices, airports, schools, shopping malls, grocery stores, manufacturing plants and golf courses are being equipped with AEDs.

This brochure provides information on SCA, heart attacks and defibrillation. It also emphasizes the importance of AED programs and outlines key steps to implementing a program.

## Sudden Cardiac Arrest

SCA is the abrupt loss of heart function in a person who may or may not have heart disease. The time and mode of death are unexpected. SCA occurs instantly or shortly after symptoms appear.

Most SCAs are due to abnormal heart rhythms called arrhythmias. A common arrhythmia is ventricular fibrillation, in which the heart's electrical impulses suddenly become chaotic and ineffective. Blood flow to the brain stops abruptly; the victim then collapses and quickly loses consciousness. Death usually follows unless a normal heart rhythm is restored within minutes.

## Heart Attack

The term "heart attack" is often mistakenly used to describe SCA. Although a heart attack may cause cardiac arrest and sudden death, the terms don't mean the same thing. Heart attacks are caused by a blockage that stops blood flow to the heart. Heart attack refers to death of heart muscle tissue due to the loss of blood supply, not necessarily resulting in the death of the victim.

Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing or pain.

## The American Heart Association Chain of Survival

A strong Chain of Survival can improve chances of survival and recovery for victims of heart attack, stroke and other emergencies. The five links in the American Heart Association adult Chain of Survival are

- Immediate **recognition** of cardiac arrest and activation of the emergency response system
- Early **CPR** with an emphasis on chest compressions
- Rapid **defibrillation**
- Effective **advanced life support**
- Integrated **post-cardiac arrest care**



### Defibrillation

Defibrillation is a process in which an electronic device gives an electrical shock to the heart. Defibrillation stops ventricular fibrillation by using an electrical shock and allows the return of a normal heart rhythm. A victim's chance of survival decreases by 7 to 10 percent for every minute that passes without defibrillation.

In recent years, small portable defibrillators have become available. These devices are called automated external defibrillators, or AEDs. An AED is a device that analyzes a heart rhythm and prompts the user to deliver a shock when necessary. These devices only require the user to turn the AED on and follow the audio instructions when prompted.

### Importance of AED Programs

The American Heart Association strongly encourages companies and organizations to implement AED programs to increase the chances of survival for people who have heart-related emergencies. With an AED program, a person will be better prepared to save the life of a coworker, friend, family member or stranger. With a good implementation plan and proper training, one can help save more lives. The goal of every AED program is to deliver defibrillation to an SCA victim within three to five minutes after collapse.

## Legal Issues

Companies and organizations are concerned about their liability for getting and using AEDs. All 50 states and the District of Columbia now include using an AED as part of their Good Samaritan laws. The Cardiac Arrest Survival Act of 2000 encourages placement of AEDs in federal buildings and ensures federal liability protection for those who acquire or use an AED to help save a life. In addition, this act provides limited immunity to persons using the AED and the purchaser of the AED device.

These acts vary by state, but generally, they limit the liability of rescuers using AEDs and others involved in the AED program. Please read the Good Samaritan Act for your state for more specific information. Be sure to have your legal counsel and, if appropriate, your risk management or safety team review your program.

## Key Steps to Implementing an AED Program

### ***1. Get medical oversight.***

The U.S. Food and Drug Administration (FDA) may require a physician's prescription to purchase an AED. The role of the physician varies depending on the size and other characteristics of the program. The designated program coordinator should be responsible for day-to-day program implementation. The responsibilities of the physician may include signing off on or making recommendations on training plans and policies and procedures, evaluating data recorded on an AED during a medical emergency and helping assess each use of an AED to recommend any improvements.

### ***2. Work with local EMS.***

Working with your local EMS system is a key step to implementing an AED program. Most states require you to coordinate your AED program with local EMS and to provide follow-up data to EMS after any use of the AED. In states that require registration or application for AED programs, the physician or program coordinator completes this process.



### **3. Choose an AED.**

There are several AEDs on the market that are suitable for a company's or organization's AED program. The American Heart Association does not recommend one device over another. The AED you choose should be simple and easy to use. The following are manufacturers that have AED devices cleared by the FDA:

**Cardiac Science**

(800) 426-0337

[www.cardiacscience.com](http://www.cardiacscience.com)

**Defibtech**

(866) 333-4248

[www.defibtech.com](http://www.defibtech.com)

**HeartSine Technologies**

(866) 478-7463

[www.heartsine.com](http://www.heartsine.com)

**Philips Healthcare**

(800) 225-0230

[www.healthcare.philips.com/us](http://www.healthcare.philips.com/us)

**Physio-Control**

(800) 442-1142

[www.physio-control.com](http://www.physio-control.com)

**Welch Allyn**

(800) 535-6663

[www.welchallyn.com](http://www.welchallyn.com)

**ZOLL Medical Corporation**

(800) 348-9011

[www.zoll.com](http://www.zoll.com)

### **4. Contact technical support.**

Make sure you have technical support when your AED device requires it. Call the manufacturer's technical support number and see what kind of response you get. Is a representative available to help you right away? Are you on hold for a long time? Does your call go to voice mail? Also, be sure to research the history of the manufacturer from which you are considering purchasing the AED.

### **5. Make sure program support is available.**

Some AED manufacturers provide help with program implementation and ongoing support. They can assist with placement, medical authorization, registration, training and supplies. Review your capabilities and determine if services like these would be helpful in deploying your AED program.

### **6. Place your AEDs in visible and accessible locations.**

Effective AED programs are designed to deliver a shock to a victim within three to five minutes after the person collapses. Use a three-minute response time as a guideline to help you determine how many AEDs you need and where to place them. AEDs can be placed near elevators, cafeterias, main reception areas, in secured or restricted access areas and on walls in main corridors.



## ***7. Develop a training plan.***

AED users should be trained in CPR and the use of an AED. Training in the use of an AED can help increase the comfort and confidence level of responders. Some companies and organizations recruit and train employees as responders. Responders are trained in CPR and the use of an AED so someone is always available to respond to an emergency. The American Heart Association offers CPR AED training in a classroom setting and an eLearning format.

## ***8. Raise awareness of the AED program.***

After initial implementation of the AED program, provide information to all employees at your company about the AED program. You may want to use internal newsletters, posters, magnets, signage or other means to promote your AED program and identify where the devices are located. By continually raising awareness of the program, you reinforce to employees that your company or organization is committed to their safety.

## ***9. Implement an ongoing maintenance routine.***

It is important to do a weekly or monthly visual inspection of the AEDs to ensure they are in working order. The program coordinator or another designated person can do the inspections. This person develops a written checklist to assess the readiness of the AEDs and supplies. A checklist supplements regularly scheduled, more detailed inspections recommended by the manufacturer. Also, talk with your manufacturer regularly to get the latest information about software updates or upgrades.



Contact us about first aid, CPR AED  
and bloodborne pathogens training  
for your company or organization:  
**[www.heart.org/cpr](http://www.heart.org/cpr) 877-AHA-4CPR**



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