

Automatic External Defibrillators

Did you know...

- That sudden cardiac arrest is one of the leading causes of death in the U.S., taking more than 250,000 lives each year?
- That for each minute that passes after cardiac arrest there is a 10% reduction in the chance of survival?
- That ventricular fibrillation is the most common arrhythmia that causes cardiac arrest?
- That there is a new device that allows rescuers and bystanders to treat ventricular fibrillation?
- That the American Heart Association estimates that, with increased availability of these new devices, 50,000 or more of the annual cardiac arrest deaths *could be prevented*?

Background

Fibrillation is a condition in which the heart muscle “twitches” irregularly and rapidly instead of beating in its normal regular rhythmic contractions. Since the heart cannot pump blood effectively during fibrillation, cardiac arrest can occur. Victims often die quickly unless the fibrillation is controlled within 5-7 minutes.

The process used to electrically reset the heart, stop fibrillation, and allow the resumption of a normal rhythm is called *defibrillation*. This medical technology has existed for some time, but has been possible only with the educated interpretation of the heartbeat as shown in the cardiac waveform (ECG/EKG), and the manual use of a defibrillator (internally or externally) by a physician or by specially trained advanced life support personnel.

About Automatic External Defibrillators

With the development of fast, high capacity microprocessors, a new automated form of defibrillator has become available. Called an *Automatic (or Automated) External Defibrillator (AED)*, this hybrid device applies a sophisticated algorithm to analyze the cardiac waveform and detects the state of fibrillation, then recommends a defibrillation counter shock, and actually delivers the counter shock through electrode pads applied to the victim.

Combined with early activation of the emergency medical system and effective cardiopulmonary resuscitation (CPR), the AED is a powerful new tool to increase the survivability of cardiac arrest victims.

LOSS CONTROL TIPS

The Hartford supports the acquisition, placement, and use of Automatic External Defibrillators in appropriate circumstances, provided that:

- Their use is permitted by state law
- The individual using the AED has been suitably trained
- The AED has been maintained according to the manufacturer's requirements
- Appropriate CPR and EMS resources are available and utilized

Using an AED

The use of an AED generally involves placing two self-adhesive pads on the victim's chest and then activating the unit. The AED unit will prompt the rescuer for any additional actions that are required. These prompts may be communicated through a screen display and/or through audio instruction from the AED.

Although the actual use of an AED is extremely simple, it requires a small amount of special training. The American Red Cross, The American Heart Association, and many state EMS training programs now offer training and certification in the use of AEDs. Training requirements to use an AED vary from state to state, so it's best to check with your state's health department.

Acquiring an AED

Since an AED is a medical device, a physician must order it, and a physician must authorize its use. To date, more than 100,000 AEDs have been purchased and placed in workplaces, transportation systems, and places of public assembly. In addition:

- The Federal Cardiac Arrest Survival Act (HR 2498) was signed into law on November 15, 2000. It mandates the development of a plan for AED placement in all federal buildings.
- Although many airlines have already voluntarily complied, the Federal Aviation Administration has proposed rule-making to require AEDs on all aircraft.

The cost to acquire an approved Automatic External Defibrillator is currently between \$3000 and \$5000. However, as production increases to meet demand, it is likely that these prices will drop over time. The costs associated with maintenance are unknown, as this technology is so new.

Liability Issues

As of late 2000, all states had approved extension of existing "Good Samaritan" laws to cover the layperson or rescuer who uses an AED. Liability for medical directors and AED trainers was not universally covered; however, the Federal Cardiac Arrest Survival Act extends federal immunity for civil liability to the user, the acquirer, and the physician.

This protection is conditioned on:

1. Notification of the EMS provider in the location of the AED
2. Appropriate maintenance of the device; and
3. Appropriate training of employees and agents

Like virtually all 'Good Samaritan' statutes, the Federal Cardiac Arrest Survival Act withholds protection in instances of gross negligence, willful, or wanton misconduct.

For Additional Information

American Heart Association www.americanheart.org
American Red Cross www.redcross.org

For more information, contact your local Hartford agent or your Hartford Loss Control Consultant. Visit The Hartford's Loss Control web site at <http://www.thehartford.com/corporate/losscontrol/>

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