



What Is an Automated External Defibrillator?

An automated external defibrillator (AED) is a lightweight, portable device that delivers an electric shock through the chest to the heart. The shock can potentially stop an irregular heart beat (arrhythmia) and allow a normal rhythm to resume following sudden cardiac arrest (SCA). SCA occurs when the heart malfunctions and stops beating unexpectedly. If not treated within minutes, it quickly leads to death.

Most SCAs result from ventricular fibrillation (VF). VF is a rapid and unsynchronized heart rhythm that originates in the heart's lower chambers (the ventricles). The heart must be "defibrillated" quickly, because a victim's chance of surviving drops by seven to 10 percent for every minute a normal heartbeat isn't restored.



Why are AEDs important?

AEDs make it possible for more people to respond to a medical emergency where defibrillation is required. Because AEDs are portable, they can be used by nonmedical people (lay-rescuers). They can be made part of emergency response programs that also include rapid use of 9-1-1 and prompt delivery of cardio pulmonary resuscitation (CPR). All three of these activities are vital to improving survival from SCA.

How does an AED work?

A built-in computer checks a victim's heart rhythm through adhesive electrodes. The computer calculates whether defibrillation is needed. If it is, a recorded voice prompts the rescuer to press the shock button on the AED. This shock momentarily stuns the heart and stops all activity. It gives the heart the chance to resume beating effectively. Audible prompts guide the

user through the process. AEDs advise a shock only for ventricular fibrillation or another life-threatening condition called pulseless ventricular tachycardia.

Who can use an AED?

Non-medical personnel such as police, fire service personnel, flight attendants, security guards and other lay rescuers who have been trained in CPR can use AEDs.

Although formal training in the use of an AED is not required, it is recommended to help the rescuer increase their comfort and level of confidence. However, AEDs are intended for use by the general public. Most AEDs use audible voice prompts to guide the user through the process.

Are AEDs safe to use?

AEDs are safe to use by anyone. Some studies have shown that 90 percent of the time AEDs are able to

(continued)



detect a rhythm that should be defibrillated. This data suggests that AEDs are highly effective in detecting when (or when not) to deliver a shock.

Where should AEDs be placed?

All first-response vehicles, including ambulances, law-enforcement vehicles and many fire engines should have an AED.

AEDs also should be placed in public areas such as sports venues, shopping malls, airports, airplanes, businesses, convention centers, hotels, schools and doctors' offices. They should also be in any other public or private place where large numbers of people gather or where people at high risk for heart attacks live. They should be placed near elevators, cafeterias, main reception areas, and on walls in main corridors.

Where can I get AED training?

The American Heart Association offers CPR and AED training through training centers. To locate a training center near you, call your nearest AHA office or **1-888-AHA-4CPR**. You may also visit heart.org/cpr. Type in your ZIP code where requested on the home page to access information on training sites near you.



AEDs are typically placed in public areas where large numbers of people gather. Their locations should be clearly marked for quick access.

HOW CAN I LEARN MORE?

- 1 Call **1-800-AHA-USA1** (1-800-242-8721), or visit heart.org to learn more about heart disease and stroke.
- 2 Sign up to get *Heart Insight*, a free magazine for heart patients and their families, at heartinsight.org.
- 3 Connect with others sharing similar journeys with heart disease and stroke by joining our Support Network at heart.org/supportnetwork.

Do you have questions for the doctor or nurse?

Take a few minutes to write your questions for the next time you see your healthcare provider.

For example:

Should I take a CPR AED training course?

Are there different types of classes?

My Questions:

We have many other fact sheets to help you make healthier choices to reduce your risk, manage disease or care for a loved one. Visit heart.org/answersbyheart to learn more.