



# 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 stop an irregular rhythm and allow a normal rhythm to resume in a heart in sudden cardiac arrest. Sudden cardiac arrest is an abrupt loss of heart function. If it's not treated within minutes, it quickly leads to death.

Most sudden cardiac arrests result from ventricular fibrillation. This is a rapid and unsynchronized heart rhythm starting in the heart's lower pumping chambers (the ventricles). The heart must be "defibrillated" quickly, because a victim's chance of surviving drops by 7 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. 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 cardiac arrest.

## 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 tells 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. Instructions 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 properly trained can use AEDs.

## Are AEDs safe to use?

AEDs are safe to use by anyone who's been trained to operate them. Studies have shown that 90 percent of the time AEDs are able to detect a rhythm that should be defibrillated. And 95 percent of the time they are able to recommend NOT shocking when the computer shows defibrillation is not indicated.

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### 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 arenas, gated communities, airports, office complexes, doctors' offices and any other public or private place where large numbers of people gather or where people at high risk for heart attacks live.

### 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-CPRLINE**. 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 such as airports, where large numbers of people gather. Their locations should be clearly marked for quick access.

### HOW CAN I LEARN MORE?

- 1** Talk to your doctor, nurse or other healthcare professionals. If you have heart disease or have had a stroke, members of your family also may be at higher risk. It's very important for them to make changes now to lower their risk.
- 2** Call **1-800-AHA-USA1** (1-800-242-8721), or visit **heart.org** to learn more about heart disease.
- 3** For information on stroke, call **1-888-4-STROKE** (1-888-478-7653) or visit us at **StrokeAssociation.org**.

### 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:

**How long is a CPR training course?**

**Are there different types of CPR 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.

**Knowledge is power, so Learn and Live!**

