

Automated External Defibrillators (AED) Frequently Asked Questions

What is an AED?

An AED, or automated external defibrillator, is a device that automatically analyzes heart rhythms and advises the operator to deliver a shock if the heart is in a fatal heart rhythm. AEDs are safe and will not shock anyone who is not in a fatal heart rhythm. Non-medical personnel can use AEDs safely and effectively with minimal training.

How does an AED work?

A computer inside the defibrillator analyzes the victim's heart rhythm. The device decides whether a shock is needed. Devices require that the operator press a button to deliver the shock. The shock is delivered through pads stuck to the victim's bare chest. The shock stuns the heart, stopping abnormal heart activity, and allowing a normal heart rhythm to resume.

Who can use an AED?

Modern AEDs are designed to be used by any motivated bystander, regardless of training. The devices are designed to advise the user about how to apply the device and whether or not to administer a shock. Training is important, however, particularly since almost all victims also need CPR (cardiopulmonary resuscitation). Most of the time, the AED will advise the user to administer CPR, depending on the needs of the victim, and in these cases, it is quite helpful to have CPR training. AEDs have been used successfully by police, firefighters, flight attendants, security guards and lay rescuers.

Can I accidentally hurt the victim with an AED?

No. Most SCA victims will die if they are not treated immediately. Your actions can only help. AEDs are designed in such a way that they will only shock victims who need to be shocked.

Can I hurt myself or others with an AED?

No, not if you use it properly. The electric shock is programmed to go from one pad to the other through the victim's chest. Basic precautions, such as not touching the victim during the shock, ensure the safety of rescuers and bystanders.

Can the AED be used safely if the victim is on a metal surface such as a bleacher or stretcher?

Yes. AEDs can be used safely as long as the electrode pads do not come into contact with the metal surface.

Are there special considerations when placing electrodes on a female victim?

If the victim is wearing a bra, remove it before placing electrodes.

What if the victim has a medication patch, such as nitroglycerin?

Never place electrodes directly on top of medication patches. If the patch is in the way of the AED pads, remove it and wipe off the area with the victim's shirt. Then apply the pads to the clean, bare skin.

What if the victim has an implantable pacemaker or defibrillator?

If the victim has a pacemaker or internal defibrillator with a battery pack (visible as a lump under the skin about two inches long), avoid placing pad directly on top of the implanted medical device.

Do AEDs always help SCA victims?

No. AEDs are designed to treat victims in SCA with irregular heart rhythms called ventricular fibrillation (VF) or ventricular tachycardia (VT). AEDs work best in these victims if they are used quickly and if the victim has received cardiopulmonary resuscitation (CPR). SCA victims who suffer from other irregular heart rhythms benefit from CPR, drug therapy and advanced treatments such as hypothermia.

What is the difference between AEDs and defibrillators commonly used on ambulances and in hospitals?

Defibrillators sometimes used on ambulances and in hospitals, and often seen on TV, are manual defibrillators. They are larger than AEDs and are designed to be used by qualified medical personnel with special training. In contrast, AEDs are smaller and computerized so that virtually any operator can use the device and simply follow the audio and visual prompts. The decision to shock or not to shock is determined by the device, not the operator.

Where should AEDs be deployed?

Logical locations for AED placement include police cars, airports, train and bus stations, highway rest stops, sports arenas, pharmacies, doctor and dentist offices, health clinics, fitness clubs, shopping malls, large grocery stores, theatres, workplaces, schools, churches and retirement communities. Increasingly, consumers are choosing to purchase AEDs for their homes and vehicles.

Do AEDs replace the use of CPR?

No. CPR is still very important and high-quality CPR can greatly improve the chances of survival.

After resuscitation, will the victim be able to resume a normal life?

More than 80 percent of SCA victims who are discharged home from the hospital live at least one year. More than half live another five years after resuscitation. Most people who survive SCA can return to their previous level of functioning. All survivors need follow-up care with physicians who specialize in heart conditions (cardiologists and electrophysiologists.)