
AED Frequently Asked Questions (External Audiences)

Q What is sudden cardiac arrest?

A Sudden cardiac arrest (SCA), one of the leading causes of death in the United States, strikes over 300,000 victims each year, of which about five percent survive. Sudden cardiac arrest cases are usually due to abnormal heart rhythms called arrhythmias, the vast majority of which are ventricular fibrillation. Ventricular fibrillation is a condition in which the heart's electrical impulses suddenly become chaotic; causing the heart's pumping action to stop abruptly. Victims collapse and quickly lose consciousness, often without warning. Unless a normal heart rhythm is restored, death follows within a matter of minutes. The cause of sudden cardiac arrest is not well understood. Many victims have no history of heart disease, or if heart disease is present, it has not functionally impaired the victim. Unlike a heart attack, which is the death of muscle tissue from loss of blood supply, many victims of SCA have no prior symptoms. SCA can strike anyone, at any time, anywhere.

Q What is the current treatment for SCA?

A A series of four critical steps, called the "Cardiac Chain of Survival," have been identified for the treatment of SCA:

- Early access to care (i.e., calling 911 or another emergency number);
- Early cardiopulmonary resuscitation (CPR);
- Early defibrillation; and
- Early institution of advanced cardiac life support.

A break in any of the four links in the chain can compromise the victim's chance for survival; however, early defibrillation is recognized as the most critical step in restoring cardiac rhythm and resuscitating a victim of SCA.

Q What is defibrillation?

A Defibrillation is the treatment of irregular, sporadic or absent heart rhythms by an electrical current to the heart. It is the only definitive treatment for SCA. Defibrillation administered within four minutes after collapse is most successful. Every minute a victim is unconscious translates to approximately a ten percent decrease in the likelihood of resuscitation. After ten minutes, very few resuscitation attempts are successful. Thus, the most important element in the treatment of SCA is providing rapid defibrillation therapy. CPR may help prolong the window of survival, but it cannot reverse SCA.

Q What is the American Red Cross doing to increase public access to AEDs?

A In addition to being the leading training agency for first aid, CPR and AED information and skills, the Red Cross is committed to strengthening existing state and federal legislation that extends the reach of AEDs into the community. For the last several years, the American Red Cross has championed legislation to increase public access to defibrillation.

Q If treatment for SCA exists, why are survival rates low?

A Time. Only one out of every 20 SCA victims survives - though many of these lives

could be saved through early defibrillation. With a brief window of opportunity for effective treatment, it is vital that responders reach the victim and defibrillate within the first ten minutes of SCA.

Despite announcements from the American Red Cross, the American Heart Association and others calling for the broad deployment of AEDs, the penetration of AEDs among emergency responders is remarkably low. Because of other outside influences, response times and survival rates vary from one location to another. Metropolitan and rural areas are the hardest hit. Improved access to early defibrillation will greatly improve the national survival rate, which is presently about five percent.

Q Why do we need AEDs in the workplace? Do my employees need to be trained to use an AED?

A Approximately 150 million Americans go to work every day where they spend more than half of their waking hours. The American Red Cross advocates CPR and AED training in the workplace to help keep American workers safe. The Red Cross believes that proper training in CPR and AED and quick activation of the EMS system combined can help to save more lives. When CPR and defibrillation are used together, as outlined in the Cardiac Chain of Survival, a better outcome can be obtained. The Red Cross also advocates increased public access to AEDs in places such as corporate offices, shopping malls, airports, sports stadiums and other places where large groups of people gather and the risk of an SCA incident is very likely.

Q: Do all AEDs work the same?

A: All AEDs direct the rescuer to either give a shock or perform CPR. However, each device has its own method of communicating with the potential rescuer. The potential rescuer should follow the manufacturer's directions and device prompts when operating an AED.

Q Is a prescription from a physician necessary to purchase an AED in a workplace environment?

A According to FDA rules, a physician prescription is needed in order to purchase an AED.

Q Is a medical director needed to purchase an AED?

A It varies by state. The majority of states have a requirement for a medical director or medical oversight.

Q What is the relationship between the American Red Cross and AED manufacturers?

A To help the Red Cross meet its mission of saving lives, agreements have been established with AED manufacturers to allow Red Cross chapters the opportunity to facilitate the purchase of AED units and provide CPR and AED training to customers. Many chapters have taken advantage of the opportunity. If a chapter is not eligible to coordinate the purchase of AEDs, it can provide the customer with information on how to obtain a device.

Q Why not rely on traditional emergency caregivers?

A Outside of a controlled medical environment, paramedics and EMTs are traditionally the first to arrive on the scene of a sudden cardiac arrest. Both groups are trained in basic first aid and emergency care, but they may or may not be equipped with and trained to use AEDs. Congested urban streets, high-rise office buildings and remote or heavily secured worksites can all slow traditional emergency medical responders from reaching SCA victims within the critical first ten minutes after SCA occurs.

Q Why are so few emergency responders equipped with AEDs?

A Older generations of defibrillation technology made the deployment of AEDs among many groups of potential responders impractical. Older devices were large, heavy (weighing as much as 20 lbs.), expensive and it was necessary for the operator to perform daily maintenance checks. These devices also required highly skilled operators, who needed frequent retraining to maintain skills. Taken together, these factors have prevented this lifesaving technology from being broadly deployed.

Q Could a responder deliver an unnecessary shock?

A An AED is designed to allow the operator to deliver a shock only when the device has detected the presence of a life-threatening arrhythmia, and with some AEDs, the device will detect the need to provide a shock and then proceed to administer it. If it does not detect a shockable rhythm, it will instruct the rescuer to perform chest compressions and rescue breaths as needed.

Q Is it safe to use an AED on a metal surface?

A Recent research findings released by AED manufacturers support that it is indeed safe to defibrillate a victim on a metal surface as long as the appropriate safety precautions are taken. Specifically, care should be taken that the defibrillation electrodes do not contact the conductive surface and that no one is touching the victim when the discharge button is pressed.

Q Is it safe to use AEDs around water?

A Generally, the victim should not be in a puddle of water, nor should the rescuer be kneeling in a puddle of water when operating an AED. AEDs can be used in a variety of environments including rain and snow. Always use common sense when using an AED and follow the manufacturer's recommendations.

Q Are AEDs easily portable?

A Yes. An AED is about the size of a laptop computer or smaller. It is light and easy to carry.

Q How much does an AED cost?

A A defibrillator costs approximately \$3,000 in the United States.