Automated External Defibrillators Safety Meeting Kit

WHAT'S AT STAKE

Cardiac Arrest

An automated external defibrillator (AED) is a medical device designed to analyze the heart rhythm and deliver an electric shock to victims of ventricular fibrillation to restore the heart rhythm to normal. Ventricular fibrillation is the uncoordinated heart rhythm most often responsible for sudden cardiac arrest. Sudden cardiac arrest occurs when ventricular fibrillation takes place or when the heart stops beating altogether. Without medical attention, the victim collapses, lose consciousness, becomes unresponsive, and dies. Many victims have no prior history of heart disease and are stricken without warning. Chances of survival from sudden cardiac death diminish by 7 – 10 percent for each minute without immediate CPR or defibrillation. After 10 minutes, resuscitation rarely succeeds.

More than 400 workplace fatalities each year are caused by cardiac arrest. Immediate CPR and use of an AED can double or triple survival rates.

WHAT' S THE DANGER

A SCENARIO

A worker collapses in the office from what may be cardiac arrest.

According to a common chain-of-survival process, someone should immediately call emergency medical services, and an employee trained in cardiopulmonary resuscitation (CPR) should assess the victim. If the worker shows no breathing and no pulse, the trained employee should start chest compressions and ventilations (i.e., CPR). CPR's purpose is to deliver oxygen to the blood and to manually pump the oxygenated blood to the brain and other organs. CPR provides basic life support until advanced-life-support providers can take over. However, if the victim is in cardiac arrest, performing CPR will not be enough.

When a person experiences a sudden cardiac emergency in which the heart goes into ventricular fibrillation—a sudden electrically abnormal state—the only way to try to prevent death, which will occur very quickly, is to use a defibrillator.

A fibrillating heart will not permit adequate circulation even if CPR is performed perfectly. The only recognized treatment for cardiac arrest is early defibrillation to electrically shock the heart back into a normal rhythm so it can effectively circulate blood. Once the defibrillation pads are applied to the victim's chest, the

AED analyzes the heart rhythm and prompts the rescuer to deliver a shock only when necessary. If either breathing or a heartbeat is present, an AED will not allow the rescuer to shock the victim.

Using electronic voice prompts, the newest generation of AEDs follows three steps. They electronically assess the patient and determine if the reason why no pulse is felt is that the heart has stopped or the rhythm is disorganized. They prepare to release an electric shock that can interrupt the poor rhythm. Finally, they deliver a defibrillating shock only when necessary.

HOW TO PROTECT YOURSELF

IMPLEMENT AN AED PROGRAM

The AHA encourages organizations to implement AED programs to increase the chances of survival of those who suffer sudden cardiac arrest.

All worksites are potential candidates for AED programs because of the possibility of sudden cardiac arrest and the need for timely defibrillation.

Five key steps to implementing an AED program

The Heart Association recommends these five steps to organizations wanting to initiate a workplace AED program:

1. **Get medical oversight**

The U.S. Food and Drug Administration (FDA) may require a physician’s prescription to purchase an AED. The responsibilities of the physician may include signing off on or making recommendations on training plans and policies and procedures, evaluating data recorded on an AED during a medical emergency and helping assess each use of an AED to recommend any improvements.

2. **Work with local EMS**

Working with your local EMS system is a key step to implementing an AED program. Most states require you to coordinate your AED program with local EMS and to provide follow-up data to EMS after any use of the AED. In states that require registration or application for AED programs, the physician or program coordinator completes this process.

3. **Choose an AED**

There are several AEDs on the market that are suitable for a company’s or organization’s AED program. The American Heart Association does not recommend one device over another. The AED you choose should be simple and easy to use.

4. **Contact technical support**

Make sure you have technical support when your AED device requires it. Call the manufacturer’s technical support number and see what kind of response you get.

5. **Make sure program support is available**

Some AED manufacturers provide help with program implementation and ongoing support. They can assist with placement, medical authorization, registration, training and supplies. Review your capabilities and determine if services like these would be helpful in deploying your AED program.

FINAL WORD

Most people are familiar with what an AED is and probably have them in their place of work, but may not understand how they function. It is critical that everyone is at least familiar with how they work and in what situations they should be used. AEDs are often the only chance that a victim of sudden cardiac arrest will survive.