

American Heart
Association®



Learn and Live™

Working Against Time

The importance of an AED program

Mission

The mission of the American Heart Association
Emergency Cardiovascular Care Programs
is to reduce disability and death from cardiac
and respiratory emergencies and stroke.

Heart Attack — A heart attack occurs when one of the heart's major blood vessels becomes blocked so that blood (and thus oxygen) is not delivered to the heart muscle. Without oxygen the heart muscle starts to die, producing pain and other symptoms. A heart attack may lead to a cardiac arrest.

PAD — Public access to defibrillation (PAD) is the concept of placing AEDs in public and/or private settings where large numbers of people work, live, or congregate.

Medical Oversight — A designated licensed medical professional provides oversight to an AED program. He or she oversees medical control, program development, and implementation. The medical professional also establishes response procedures and a quality improvement plan. Some state legislation requires a licensed physician to provide medical oversight.

Sudden Cardiac Arrest — SCA is a sudden or unexpected cessation of heart function, most often caused by a sudden arrhythmia, such as ventricular fibrillation (VF). When this occurs, the heart's electrical impulses suddenly become chaotic and ineffective. Blood flow to the brain abruptly stops and the victim collapses and quickly loses consciousness. Death usually follows unless a normal heart rhythm is restored within minutes.

VF — Ventricular fibrillation is the most common arrhythmia among cardiac arrest victims; during VF the heart's electrical impulses suddenly become chaotic and ineffective.

Additional Information

For more information on implementing an AED Program contact:

or go to www.americanheart.org/cpr.

Glossary of Terms

AED — An automated external defibrillator (AED) administers an electric shock through the chest wall to the heart. Built-in computers assess the patient's heart rhythm. From this information, the AED determines if defibrillation is needed, it then advises if the administering of shock is necessary. Audible and/or visual prompts guide the user through the process.

Cardiac Arrest Survival Act (CASA) — This act instructs the Secretary of Health and Human Services to make recommendations to promote public access to defibrillation programs in federal and other public buildings. The act also extends Good Samaritan protections to AED users and the purchasers of the devices in all states.

Chain of Survival — A sequence of four events that must happen as quickly as possible in response to a cardiac emergency. The four links are early access, early CPR, early defibrillation, and early advanced care.

Defibrillation — Defibrillation stops ventricular fibrillation (VF) using an electrical shock and allows the return of a normal heart rhythm. It is the only known treatment for ventricular fibrillation. An AED is a device that analyzes a heart rhythm and prompts a user to deliver a shock when necessary.

Good Samaritan Act — Good Samaritan laws grant immunity or limited immunity to volunteers who help strangers in emergencies. Good Samaritan laws vary by state. A typical example of the wording appears below.

“... a person, who, in good faith, lends emergency care or assistance without compensation at the place of an emergency or accident, and who was acting as a reasonable and prudent person would have acted under the circumstances present at the scene at the time the services were rendered, shall not be liable for any civil damages for acts or omissions performed in good faith.”



Working Against Time

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Sudden cardiac arrest strikes people of all ages and fitness levels, usually without warning. Many of these lives could be saved if:

- bystanders act promptly to phone 911 and begin CPR, and
- trained personnel provide defibrillation within 3 to 5 minutes.

Working Against Time

Introduction

The American Heart Association is dedicated to helping businesses and other facilities establish AED (automated external defibrillator) programs to increase survival rates for victims of sudden cardiac arrest. Each year sudden cardiac arrest claims the lives of some 250,000 Americans before they reach a hospital. Today the chance of survival from sudden cardiac arrest is less than 5 percent.

The following information briefly summarizes the importance of AEDs and training in saving lives, as well as an overview of the steps necessary to implement an AED program. American Heart Association staff are available to help throughout the decision-making process and to help develop training solutions for meeting specific needs. For more information, please call 1-877-AHA-4-CPR (1-877-242-4277).

Sudden Cardiac Arrest and Heart Attack

Most sudden cardiac arrests are due to abnormal heart rhythms called arrhythmias. The most common arrhythmia is ventricular fibrillation (VF), in which the heart's electrical impulses suddenly become chaotic and ineffective. Blood flow to the brain abruptly stops; the victim then collapses and quickly loses consciousness. Death usually follows unless a normal heart rhythm is restored within minutes.

A heart attack is different from sudden cardiac arrest although sometimes a heart attack can trigger SCA. A heart attack occurs when one of the heart's major blood vessels becomes blocked, shutting off blood flow and oxygen to the heart muscle. Without oxygen the heart muscle starts to die, producing pain and other symptoms. A heart attack may lead to a cardiac arrest.

In simple terms, a heart attack is a "plumbing" problem caused when a vessel becomes clogged. Sudden cardiac arrest is an electrical problem. Unlike a sudden cardiac arrest victim, a heart attack victim is often awake and can talk despite having chest pain or pressure. The most common symptom of a heart attack is severe pain or pressure in the center of the chest.



As the world leader in Emergency Cardiovascular Care (ECC) and CPR training, the American Heart Association offers high quality courses and training materials. Quality begins with the course content and extends through the design of the materials.

Today, anyone with proper training can learn how to respond to a medical emergency with an AED. The American Heart Association Heartsaver AED Course combines hands-on, scenario-based AED instruction with adult CPR training in 3½ to 4 hours. Through the network of Training Centers the American Heart Association provides local and national training solutions. Each training solution is tailored to meet specific needs.

American Heart Association national training solutions feature:

- One point of contact with an agency that will coordinate training in each company's sites or facilities for its employees
- Consistent high-quality training throughout the country
- Convenient training times at needed location(s)
- Uniform pricing to train employees at each site

The American Heart Association can also support global implementation efforts through its international training organizations.



Implementation Process

A successful AED program has several key elements. To receive a copy of the American Heart Association AED Program Implementation Guide, please call, 1-877-AHA-4-CPR (1-877-242-4277).

Four Key Elements in a Successful AED Program



1. Having a medical professional oversee the program and quality improvement



2. Notifying the Local EMS Agency



3. Selecting, Placing and Maintaining AEDs



4. Training

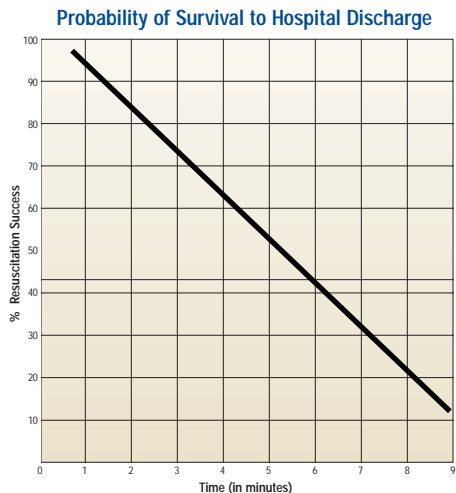
More people survive sudden cardiac arrest when a certain sequence of events happens as quickly as possible. This series of steps is called the Chain of Survival.

- **Early Access:** Recognizing that a cardiovascular emergency exists and immediately notifying the EMS (Emergency Medical Services) system is a key element. In most communities, phoning 911 accesses the EMS system.
- **Early CPR:** Starting CPR immediately after cardiac arrest to circulate oxygen-rich blood to vital organs buys time for the victim until defibrillation can be given.
- **Early Defibrillation:** Defibrillation of the victim as soon as equipment arrives.
- **Early Advanced Care:** Trained healthcare providers arriving quickly to administer advanced lifesaving interventions.



Defibrillation

Defibrillation stops ventricular fibrillation (VF) using an electrical shock and allows the return of a normal heart rhythm. It is the only known treatment for ventricular fibrillation. An AED is a device that analyzes a heart rhythm and prompts a user to deliver a shock when necessary. These devices only require the user to attach pads to a patient's chest, turn the device on, and follow audio instructions. They do not require the user to make decisions or interpret symptoms. Anyone can learn how to respond to a life-threatening emergency and use an AED by taking a course that lasts less than 4 hours, such as the American Heart Association Heartsaver AED Course.



For every minute that passes without defibrillation, the victim's chance of survival decreases by about 7–10 percent.

Commit to Saving Lives

Importance of AED Programs

Unfortunately, quick EMS system response is not always possible. Even the best EMS systems experience delays from heavy traffic, secured buildings, large complexes, and high rises. The national average response time is 10 to 12 minutes. So even the best EMS responders may have difficulty arriving in the first 3 to 5 minutes when the chance of successful defibrillation is the greatest.

“...even the best EMS responders may have difficulty arriving in the first 3 to 5 minutes when the chance of successful defibrillation is the greatest.”



The American Heart Association strongly encourages large businesses and public facilities to establish AED programs to increase the chances of survival for people with heart-related emergencies. With an AED program a person will be better prepared to save the life of a co-worker, friend, family member, or stranger. AEDs have helped save many lives. With a good implementation plan and proper training, one can help save more lives. The goal of every AED program is to deliver defibrillation to a sudden cardiac arrest victim within 3 to 5 minutes of collapse.



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Legal Issues

The Food and Drug Administration (FDA) requires a physician's prescription to buy an AED, and each state has its own training requirements. For example, almost every state requires an individual to complete basic CPR and AED courses from a nationally recognized organization such as the American Heart Association. Many states require a licensed medical professional — often the medical director of the EMS system or the medical advisor to the workplace — to oversee the program to ensure quality.

All 50 states and the District of Columbia now include using an AED as part of their Good Samaritan acts. These acts vary by state, but generally they limit the liability of rescuers using AEDs and others involved with an AED program. Please read the Good Samaritan Act for the state for specifics. In addition, the Cardiac Arrest Survival Act (CASA) provides limited immunity to persons using the AED and the purchaser of the AED unit. CASA is a “gap-filling” federal measure that does not supercede existing state law which provides immunity.

*“...The benefits associated with widespread early defibrillation far outweigh liability risk.”**



CASA

GOOD SAMARITAN ACT

Training materials for American Heart Association courses can be obtained through your local training center or through the following distributors.

Channing Bete Company

One Community Place
South Deerfield, MA 01373-0200
Phone: 1-800-611-6083
Fax: 1-800-499-6464
www.channing-bete.com

Laerdal Medical Corporation

167 Myers Corners Road
PO Box 1840
Wappingers Falls, NY 12590-8840
Phone: 1-888-LMC-4AHA
(562-4242)
Fax: 1-800-227-1143 or
1-845-298-4545
www.laerdal.com

WorldPoint ECC, Inc.

151 S. Pfingsten Road, Suite E
Deerfield, IL 60015
Phone: 1-888-322-8350
Fax: 1-888-281-2627
www.worldpoint-ecc.com



National Center
7272 Greenville Avenue
Dallas, Texas 75231-4596
www.americanheart.org/cpr