What Is an Automated External Defibrillator

An automated external defibrillator (AED) is a lightweight, portable device. It delivers an electric shock through the chest to the heart when it detects an abnormal rhythm and changes the rhythm back to normal.

AEDs help people who have a sudden cardiac arrest, which occurs when the heart suddenly stops beating regularly. This happens when the heart's natural electrical system doesn't work correctly. If not treated within minutes, cardiac arrest quickly leads to death.

Why are AEDs important?

AEDs save lives. They are an important part of responding to a cardiac arrest. A person's chance of surviving drops by 7% to 10% every minute a normal heartbeat isn't restored. So, immediate cardiopulmonary resuscitation, also known as CPR, and AED use can double, or even triple, the person's chance of survival.

CPR combined with using an AED provides the best chance of saving a life. If possible, use an AED every time you provide CPR.

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Who can use an AED?

AEDs are intended for use by the general public (or lay responders). They are portable, safe, accurate, and easy to use.

Nonmedical personnel, such as police, firefighters, flight attendants, and security guards, are trained to use AEDs. Other people who have been trained in CPR also can use them.

Although formal AED training isn't required, it's recommended to help you increase your level of confidence using it.

AEDs are accurate in detecting when (or when not) to deliver a shock. But even if an AED is used on a nonshockable rhythm, some research shows it may not lower the victim's chances of survival.

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How does an AED work?

The AED uses voice prompts, lights, and text to tell the rescuer the steps to take.

AEDs may have 2 sets of pads: adult pads and child pads. For CPR, anyone 1 year or older who hasn't gone through puberty is considered a child. However, for defibrillation, make sure you use the adult pads for anyone 8 years or older.

Follow these steps when using the AED:

1. Turn on the AED and follow the voice prompts.
2. Remove all clothing covering the chest. If necessary, wipe the chest dry.
3. Peel away the backing from the pads and attach the pads to the person's bare chest following the illustration on the pads.
4. Plug the pads connector into the AED, if necessary.
5. The AED will check to see if the person needs a shock and tell you when to give one. While the AED is analyzing, make sure no one is touching the person.
6. Resume CPR if no shock is needed. If a shock is needed, make sure no one is touching the person and press the Shock button, and then immediately resume CPR.
7. Continue CPR until emergency medical personnel arrive.

Where can AEDs be found?

Ambulances, law enforcement vehicles, many fire engines, and other first-response vehicles should have an AED.

In addition, AEDs may be placed in public areas, such as sports venues, shopping malls, airports, airplanes, businesses, convention centers, hotels, schools, swimming pools, and doctors' offices. They also may be found in any other public or private place where large numbers of people gather, such as near elevators, cafeterias, main reception areas, and on the walls in main corridors.

Where can I get CPR and 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 1-877-AHA-4CPR (1-877-242-4277). You may also visit **heart.org/CPR**.

Visit heart.org/AED to learn more.

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