

How To Use an Automatic External Defibrillator to A Save Life

Brief Bystander Training for Adult Victims



UMass Memorial – Community Healthlink
UMass Memorial HealthAlliance-Clinton Hospital
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UMass Memorial Medical Center
UMass Memorial Medical Group
UMass Memorial Accountable Care Organization, Inc.

Facts About Sudden Cardiac Arrest

- Leading cause of death
- Usually occurs at home
- Victims are often 50 years old or older
- More than 400 cardiac arrests in Worcester County each year
- Survivors are among those who get bystander CPR (given by witnesses prior to EMS arriving).



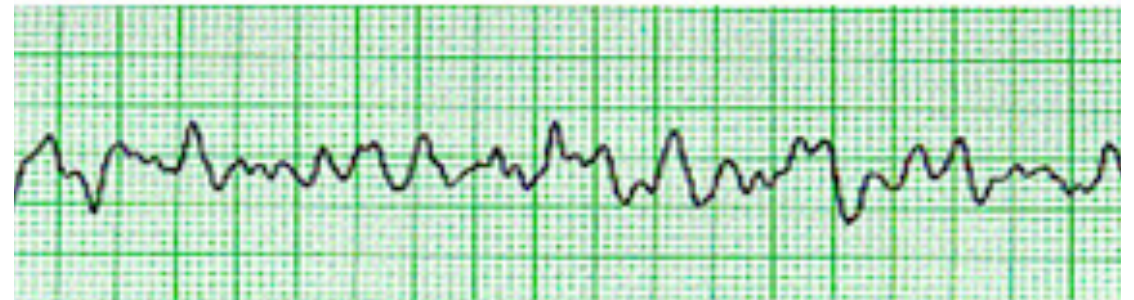
Cardiac Arrest and Heart Rhythms

A chaotic heart rhythm is the most common cause of cardiac arrest, indicated by:

- Problem with electrical impulses traveling through heart
- Heart muscle doesn't contract and pump
- No pulse, which can lead to death in just minutes

Chaotic heart rhythm is called ventricular (bottom chamber) fibrillation (twitching).

Ventricular Fibrillation



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AED's: How Do They Work?

An automated external defibrillator (AED) is a portable device that can detect and treat ventricular heart problems by applying electricity.

What can an AED do?

- Analyzes heart rhythm and determines if electrical shock is needed
- Sends an electrical shock (if needed) to the heart
 - ✓ Interrupts the chaotic heart rhythm
 - ✓ Coordinates the heart muscle contracting and restores normal pace
 - ✓ Returns the pulse within 30 to 45 seconds of being shocked (if successful)

Where are AEDs often located?

- Airports, shopping malls, sports venues, schools, gyms



Steps for How To Respond

When someone collapses and seems lifeless, follow these steps (further explained on the following slides):

1. Call 911.
2. Start hands-only CPR.
3. Ask if there is an AED nearby.
4. Set up the AED.
5. Follow AED instructions.
6. After the Shock: Resume CPR and continue to follow AED prompts.



Step 1 - Call 911

- When someone collapses, respond as quickly as possible.
- If using a cell phone, place it in speaker mode if possible.
- 911 operators can help guide you through performing CPR and keep you posted on when help will arrive.



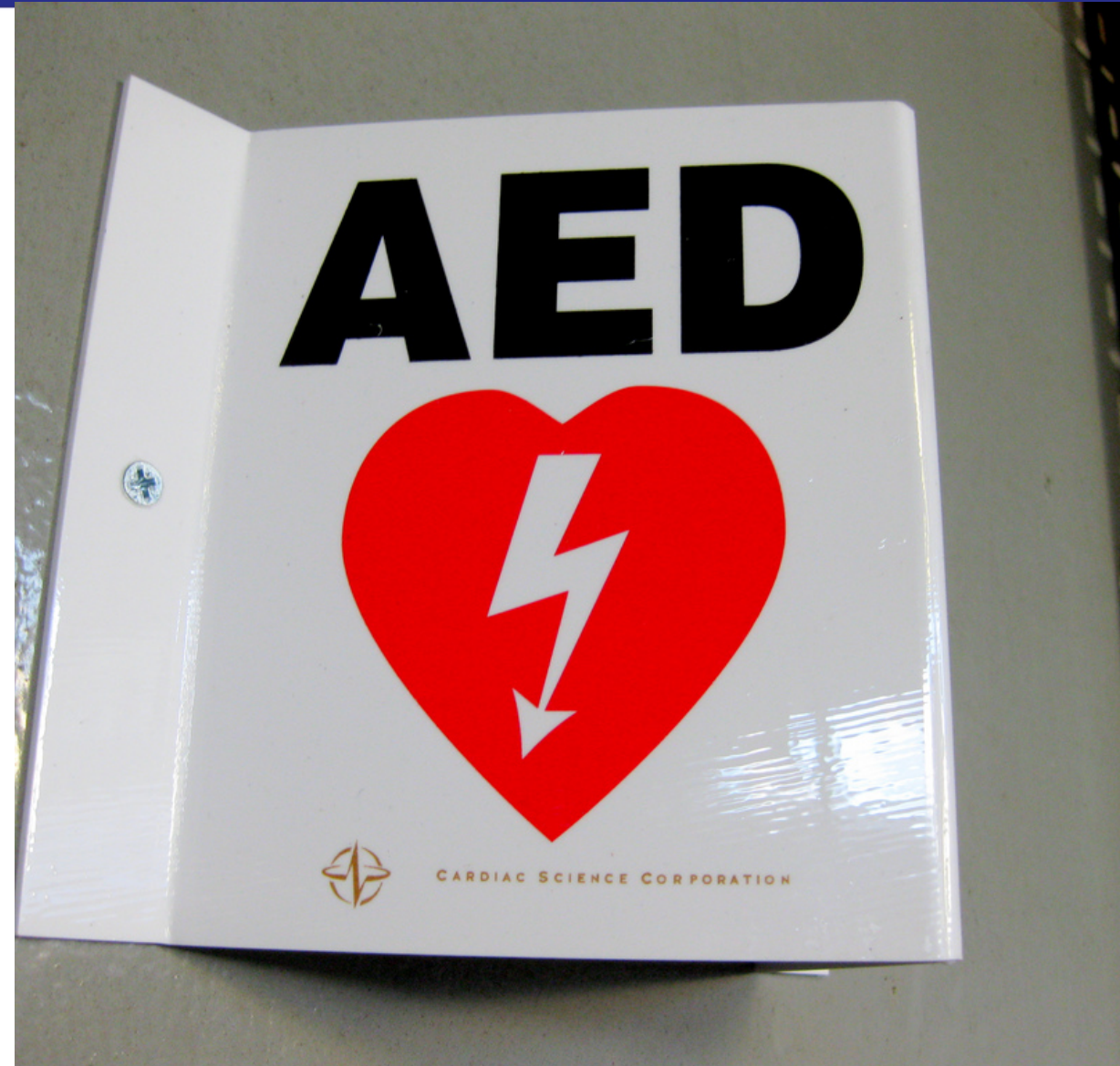
Step 2 - Start Hands-only CPR

- Place victim on flat surface if possible.
- Perform hands-only CPR.
 - ✓ Start CPR in the center of the chest.
 - ✓ With both hands, compress down two inches and release.
 - ✓ Compress at a rate of 100 to 120 times per minute.
 - ✓ You can use the song “Staying Alive” if you know it to time your compressions.



Step 3 - Ask if an AED Is Nearby

- Ask if an AED is nearby.
- Ask someone to get the AED while you administer CPR.



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Step 4 - Set up the Defibrillator

- When the defibrillator arrives, open it.
- Continue CPR
- Expose the skin to apply the pads.
- Wipe the chest of the victim to make it dry.
- Attach one pad to the skin of the victim's right shoulder and the other pad to the skin of the victim's left side of the chest.
- Connect the pads to the defibrillator.
- Turn the defibrillator on.



Step 5 - Follow AED Audio Instructions

- AED audio instructions will advise you not to touch or move the patient while it analyzes the heart rhythm.
- If the heart rhythm is determined to be ventricular fibrillation, the AED will advise the patient be shocked.
- When the AED is fully charged, it will ask you to press the shock button.
- Make sure that nobody is touching the patient's body; tell everyone to stand clear and then press the shock button.



Step 6 - After the Shock

- Continue CPR immediately after the shock.
- Even after a successful shock, it takes 45 seconds or more for the heart to contract.
- After two minutes of CPR, the AED will again ask you to stop CPR so it can analyze the heart rhythm.
- Continue this cycle of CPR and AED prompts until the person shows signs of life or EMS arrives.
- Afterwards, make sure someone returns the defibrillator to where they got it.



Good Samaritan Laws

- Massachusetts and most states have good samaritan statutes that protect and encourage bystanders to provide CPR and use a defibrillator to help save lives.



Review Steps for Responding

When someone collapses and seems lifeless, follow these steps:

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3. Ask if there is an AED nearby.
4. Set up the AED.
5. Follow AED instructions.
6. Resume CPR and continue to follow AED prompts.

