



CPR and Operating an AED

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Introduction

- ▶ Cardiopulmonary Resuscitation (CPR)
 - ▶ Lifesaving system used in emergencies in which someone's breathing or heartbeat has ceased
 - ▶ Comprises the use of chest compressions and synthetic ventilation to preserve the flow of blood and oxygen during cardiac arrest



Introduction Cont'd

- ▶ Automatic External Defibrillator (AED)
 - ▶ Is lightweight, battery-operated, and portable unit
 - ▶ Comes with a set of instructions
 - ▶ Gives voice prompts



Introduction Cont'd

▶ AED

- ▶ Used on an individual who is having sudden cardiac arrest (SCA)
- ▶ Administers an electric shock to reestablish a normal rhythm of the heart



Facts and Figures

383,000 out-of-hospital sudden cardiac arrests occur annually.

Many victims appear healthy with no known heart disease or other risk factors

CPR provided immediately after sudden cardiac arrest can **double** or **triple** a victim's chance of survival.

32 percent of cardiac arrest victims get CPR from a bystander.



Certification Process

The American Heart Association trains more than 12 million people in CPR annually, to equip Americans with the skills they need to perform bystander CPR

- ▶ Certificate valid for 2 years
- ▶ Online and classroom settings
- ▶ Learn how to respond to cardiac and breathing emergencies in adults and children, including the use of automated external defibrillators (AED)
- ▶ CPR/AED Certification available at CoRec Center, Purdue University

CPR in General

- ▶ Use the acronym CAB (Compressions, Airway, Breathing)
- ▶ Providing rescue breaths is no longer required to administer CPR
- ▶ There are three major types of CPR
 - ▶ Adult: ages 9 and up
 - ▶ Child: ages 1-8
 - ▶ Infant: under one year
- ▶ Keep in mind the size of the person matters

CPR is as easy as

C - A - B



Compressions
Push hard and fast on the center of the victim's chest

Airway
Tilt the victim's head back and lift the chin to open the airway

Breathing
Give mouth-to-mouth rescue breaths

Early chest compression can immediately circulate oxygen that is still in the bloodstream. By changing the sequence, chest compressions are initiated sooner and the delay in ventilation should be minimal.

2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations

CPR Procedure: Before You Begin

1. Check to see if the person is responsive by tapping them and asking 'Are you okay?'
2. If they do not respond, call 911
3. Also obtain an AED. If there is one available, administer one shock before starting CPR

CPR Procedure: C-Compressions

1. Make sure the person is on their back on a flat surface
2. Kneel next to them and place the heel of your hand on their chest (between the nipples). Place your other hand on top of the first
3. Push hard into their chest (about 2 inches)
4. Do this 30 times at a rate of 100 compressions a minute before giving rescue breaths

CPR Procedure: A-Airway

1. Put your palm on their forehead and gently tilt the head back
2. Use your other hand to tilt the chin forward, opening the airway



CPR Procedure: B-Breathing

1. Put your mouth on the victim's, creating a seal (not necessary for citizen CPR)
2. Give the first rescue breath and watch to see if their chest rises.
3. If it does not, give the second rescue breath and check for a response before starting the chest compressions again



Adult CPR vs Child/Infant CPR

- ▶ Use the same cycle (30 compressions and 2 breaths) for all age groups but:
 - ▶ Use only one hand instead of two when doing CPR on a child and two fingers on an infant
 - ▶ Do not press down on the chest as hard
 - ▶ Give more gentle breaths (if you chose to give rescue breaths)
- ▶ When using an AED, use the pediatric pads on a child or infant if they are available

When and how to use an AED

- ▶ An AED is used on someone who you believe is suffering sudden cardiac arrest (SCA)
- ▶ The AED is a user-friendly device and will give you verbal and visual instructions



When and How to use an AED

- ▶ <https://www.youtube.com/watch?v=NI-P3ysiQSk>

How to use an AED

- ▶ Expose the victim's chest
- ▶ An AED comes with two electrodes that are to be placed on the victim's chest
- ▶ Place the pads that contain the electrodes on the chest as instructed
- ▶ Make sure everyone is clear and use the AED to deliver the shock when prompted



Conclusion

- ▶ Cardiopulmonary Resuscitation (CPR)
 - ▶ A set of steps to be used in any circumstance in which someone's breathing or heartbeat has ceased
 - ▶ Consists of chest compressions and ventilation to maintain blood and oxygen flow during cardiac arrest

Conclusion Cont'd

- ▶ Automatic External Defibrillator (AED)
 - ▶ Is light, battery-operated, and portable device
 - ▶ Come with Instructions
 - ▶ Uses voice prompts to tell the user instructions and when to administer the shock
 - ▶ Shock will work on a heart of someone who is having sudden cardiac arrest (SCA)
 - ▶ Regenerates a normal rhythm of the heart

Q & A

- ▶ [Link to bring to google doc](#)

Post Test

- ▶ Please take 1 – 2 minutes to complete the post test