

INTRODUCTION

During a medical emergency it may be necessary for someone to start CPR on a victim to help increase the chances of the individual's survival while professional medical assistance makes its way to the scene. Times where CPR may be needed include cardiac arrest, overdose, trauma, diabetic emergencies, respiratory failure, airway obstruction, or respiratory distress. In this lesson we will cover what cardiopulmonary resuscitation is, the types of CPR that may be used in an emergency situation, what should be done prior to applying CPR techniques, the ABCs and CABs of CPR, and automated external defibrillators.



Please note that this lesson is not a substitution for in person CPR training and certification. If you are interested in getting certified in CPR, please contact either the American Red Cross or similar organizations. If CPR training and certification is offered by your company, please speak to your supervisor about how to apply for those classes.

WHAT CARDIOPULMONARY RESUSCITATION (CPR) IS

So, what is cardiopulmonary resuscitation (i.e., CPR)? CPR is an emergency lifesaving procedure that is used to keep blood circulating through the body when the heart isn't pumping effectively, and to continue to get oxygen to the body and brain.

TYPES OF CPR

There are two types of CPR that an individual may use to help a victim until emergency medical services arrive. These types are:

- Hands only
- Hands and rescue breath

The type of CPR used should be a decision made by the individual initiating CPR and their comfort level with either technique.

BEFORE APPLYING CPR TECHNIQUES

Before assisting a victim, you should do the following to help assure that you will not become a secondary victim:

- Assess the situation
 - Visually assess the scene to see if there are any identifiable hazards or other potential dangers.
 - Identify how many victims there are and either contact or have someone else contact 9-1-1.
- Check the victim to see if they are conscious and alert.
 - Ask questions to see if the person responds.
 - See if the person responds to touch.
 - See if the person responds to pain.
- Determine the type of medical emergency that the person is experiencing as how you apply CPR may differ if the person is showing signs of respiratory distress, trauma, overdose, and so on, or if they are showing signs of cardiac arrest.

THE ABCs and CABs of CPR

If a person is showing signs that do not indicate cardiac arrest, but show signs of respiratory distress, trauma, overdose, airway obstruction, diabetic emergency, etc., you should apply the ABCs of CPR, which stand for:

- Airway
- Breathing
- Circulation

For more information on the ABCs, please refer to our "First Aid: Basics" lesson.

In situations where a victim is showing signs of cardiac arrest, you should apply CPR in the CAB order, which stands for:

- Circulation (also known as compression)
- Airway
- Breathing

The reason for the differences in procedure based on the situation, is because studies performed by the American Heart Association (AHA) tend to demonstrate that applying compressions earlier on in a cardiac arrest case helped increase the victim's survival.

When you perform the CABs of CPR, you should do the following:

- Make sure that the victim is on their back on a firm, flat surface.
- Kneel next to the victim.
 - Per the American Red Cross, your knees should be spread about a shoulder's width apart.
- Assure that the heel of one hand is in the center of the victim's chest, with the other hand on top.
 - Your fingers should be interlaced and up off the chest.
- When beginning compressions, your shoulders should be directly over your hands with your elbows locked to help keep your arms straight.
 - Per the American Red Cross, you should compress the chest to a depth of at least 2 inches.
- You should give about 30 compressions at the rate of 100 to 120 beats per minute.
 - For many people, you can help monitor the rate of the compressions, by compressing to the beat of "Stayin Alive" by the Bee Gees.
- After each compression allow the chest to return to its normal position.
- If you are performing hands-only CPR, then continue the cycle until either medical help arrives or an AED is provided.



In situations where rescuing breathing will be provided, you should do the following:

- Provide compression as previously mentioned in this lesson.
- After 30 compressions, check the victim's airway and open it by gently placing one hand on the victim's head forehead and gently tilting the head back with the chin raised.
- Visually check the chest for movement and listen for sounds of breathing. If there is no sound of breathing or chest movement, provide rescuing breathing.



ENTERTAINMENT: CARDIOPULMONARY RESUSCITATION (CPR)

- Give two rescue breaths and then continue with 30 compressions.
- Continue compressions and rescue breathes until either medical help arrives, or an AED is provided.

You should only perform rescue breathing CPR if you are trained and certified in CPR. Rescue breathing may be given via a CPR mouthpiece or mouth-to-mouth with you utilizing a face shield.

AUTOMATED EXTERNAL DEFIBRILLATORS (AED)

Many companies now provide automated external defibrillators (AEDs) to help victims of cardiac arrest. If you are providing CPR and know that your facility provides AEDs in easily accessible locations, ask another person to retrieve it for you. It is recommended that all employees become familiar with where AEDs are located if your company provides them.

These devices are medical devices that can provide an electrical shock to help the heart regain a normal beating rhythm.

When an AED has been brought to you, you should do the following:

- Remove the clothing from the person's chest.
- Choose the appropriate pads for the victim.
 - Some AEDs come with pads for both infant, children, and adults.
- Apply the pads in accordance with the AEDs instructions.
 - Many pads will have pictures showing which areas of the chest that the pad should be applied.
- Follow the automated voice directions.
- Start CPR when directed by AED.
 - Some AEDs contain a timer that will count CPR till the next advising of shock or further CPR.

Continue AED use until emergency medical services arrive or the machine indicates otherwise.

CONCLUSION

To conclude, cardiopulmonary resuscitation (CPR) can help increase a victim's survivability when they are experiencing cardiac arrest or other medical emergencies. The procedures for the ABCs or CABs will be dependent on the medical emergency that the victim is experiencing. CPR training and certification should be completed through either the American Red Cross or similar organizations. When applying CPR procedures, emergency medical services should be called as soon as possible. If you do not feel comfortable providing CPR, you should seek the assistance of someone who does feel comfortable. If you have questions about how to receive CPR training and certification and whether your company offers these courses, please speak with your supervisor.

