

# Master the Skills CPR

# BLS Provider

# Reference Guide Booklet



*Created by Master the Skills CPR of Staten Island*

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## Master the Skills CPR Study Guide



**CPR – Cardiopulmonary Resuscitation** -Cardio (refers to the heart), Pulmonary (refers to the lungs), Resuscitation (reviving of the heart and lungs).

**AHA – American Heart Association** – Nonprofit certification organization. They conduct extensive research on the best and most effective ways to perform CPR. They train and certify people in CPR with the goal of saving as many lives as possible. They also focus on education and prevention of heart disease.

**Good Samaritan Law** – Provides legal protection to those who act and provide reasonable assistance during CPR/First Aid emergencies.

### Steps of CPR:

1. **Assess the scene for safety** (your own safety) – examples: traffic, fire, smoke, falling debris. Do not put yourself in harm's way.
2. **Tap and Shout** – Tap the victims' shoulders firmly while shouting "Are you okay, are you okay"?
3. **Call 911 and get the AED** - If the victim is unresponsive (does not respond), send a specific person to call 911 and get the AED (if available).
4. **Look, Listen, Feel / Visual Scan** – With your ear next to the victim's mouth and nose, and your eyes facing their chest, you are looking for chest rise, listening, and feeling for breathing. You are also doing a visual scan looking for signs of circulation/signs of life. Ex: Breathing, talking, coughing, or moving. This technique should last between 5-10 seconds.
5. **Begin CPR – 30 Compression and 2 Rescue Breaths** - If the victim shows no signs of life/circulation, you will begin CPR with 30 compressions and 2 breaths.
  6. **You will continue cycles of CPR, 30 compressions and 2 breaths until:**
    - A. The ambulance / EMS arrives. EMS – Emergency Medical Service.
    - B. The AED machine arrives – You immediately power it on and use it.
    - C. The victim becomes responsive – Put them in the recovery position, monitor them, and have them transported to a hospital via ambulance.
    - D. You are too physically exhausted and can no longer continue.

- **Agonal Respiration or Abnormal Breathing** - insufficient breathing that often sounds like snoring, snorting, gasping, or labored breathing. The person will appear to be choking or having an involuntary gasp reflex. \*\*\* Act as if they are not breathing at all.

## Master the Skills CPR Quick Reference Guide

**Rate of compressions (speed) per minute:** 100-120 compressions per minute - for all, adult, child, and infant victims.

**Compression Depth for Adult victims** - At least 2 inches (using 2 hands)

**Compression depth for Child victims** - **About 2 inches**, or 1/3rd of the depth of the chest (using 1 hand).

**Compression depth for infant victims** - **1 ½ inches** (using 2 fingers)

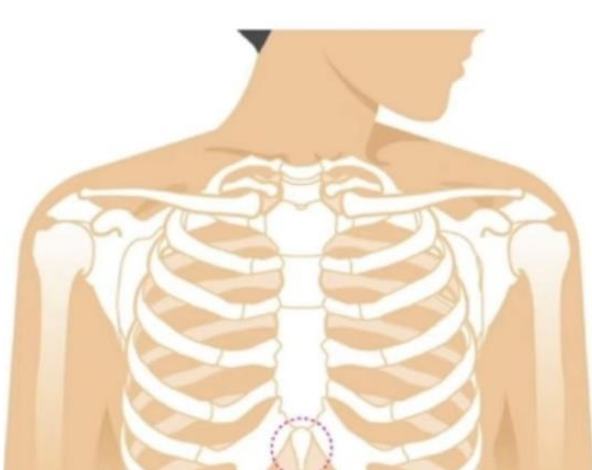
Ratio of chest compressions to rescue breaths -

**Single Rescuer CPR- 30/2** (30 compressions / 2 breaths) for adult, child, and infant victims.

**Dual (2) Rescuer CPR** - With one person performing breaths and the other performing compressions, you would then and only then use a ratio of **15/2** (15 compressions and 2 breaths) for **child and infant victims**. With adult victims, the ratio stays the same (30/2), even with two people performing CPR.

**Recovery Position** - If you are performing CPR and the victim becomes responsive, turn them on their side and put them in the recovery position. Keep monitoring them until EMS (Emergency Medical Service) arrives.

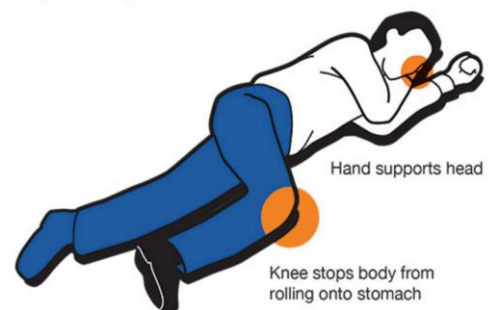
**Rescue Breathing** – If the victim has a pulse and/or signs of circulation but is not breathing on their own, rescue breathing is required. For an adult victim, you would give 1 breath every 6 seconds (10 breaths per minute). For a child or infant victim, provide 1 breath every 2-3 seconds (20-30 breaths per minute).



**The Sternum is CPR landmark**  
(the lower half of the breastbone)

### The Recovery Position

Keep the Airway Clear



Stay with person. If you must leave them alone at any point, or if they are unconscious, put them in this position to keep airway clear and prevent choking.

**Recovery Position**

## Age range for CPR (according to AHA)

**Adult** - 9 years old and above. If you don't know their age, use your best judgment. If the victim is a large child or shows signs of puberty, you can consider them an adult.

**Child** 1-8 years old.

**Infant** - Newborn to 1 year old.

## **AED - Automated External Defibrillator**

### **What is an AED?**

AED stands for Automated External Defibrillator. They are meant to detect an **abnormal heart rhythm** and administer an electrical shock to get the heart beating the way it should. AEDs were developed to enable non-medical personnel to administer life-saving electrical shocks to the heart of a person experiencing a heart attack. These devices are equipped with electrodes, pictorial instructions, a monitor, and a beep that alerts the user as to when to administer the shock. In cases where a bystander is able to effectively use an AED, the patient's likelihood of survival increases by 300 percent.

**The first thing you do when it arrives is: Power it on.**

**Then listen to the protocol and follow the prompts.**

The machine will say:

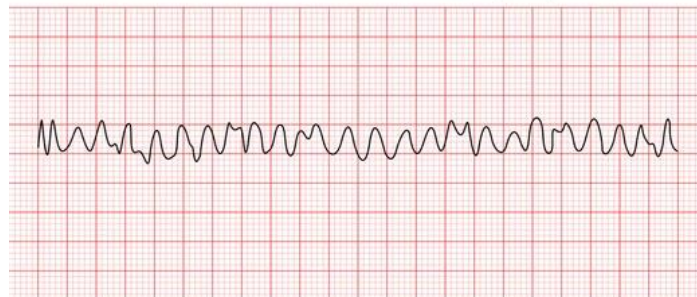
1. Attach pads to patients' bare chest. (you do so in the proper landmarks as shown on the pads).
2. Plug-in in connector. (you plug in the connector).
3. Analyzing heart rhythm - The machine is looking for a pulse/heartbeat.
4. Shock advised or no shock advised - the machine will tell you if you should deliver a shock or not. If it tells you to deliver a shock, the machine will say:
5. Charging.....Stand clear, do not touch the patient.
6. Deliver shock now - you press the blinking button to deliver the shock.
7. Perform CPR - the machine tells you to perform CPR, you do so by continuously delivering 30 compressions and 2 breaths.
8. Every 2 minutes, the machine will re analyze the heart rhythm and tell you if another shock is needed or not.
9. If you revive the victim, put them in the **recovery position** and keep the pads on. Wait for EMS to arrive and have them transferred to a hospital as soon as possible.

**Ventricular fibrillation** is an **abnormal** heart rhythm problem that occurs when the heart beats with rapid, erratic electrical impulses. This causes pumping chambers in your heart (the ventricles) to quiver uselessly, instead of pumping blood. The most effective treatment for this is **defibrillation**, which is **use of the AED machine** and can shock the heart back into a **normal rhythm**.

**Normal Rhythm (heartbeat)**

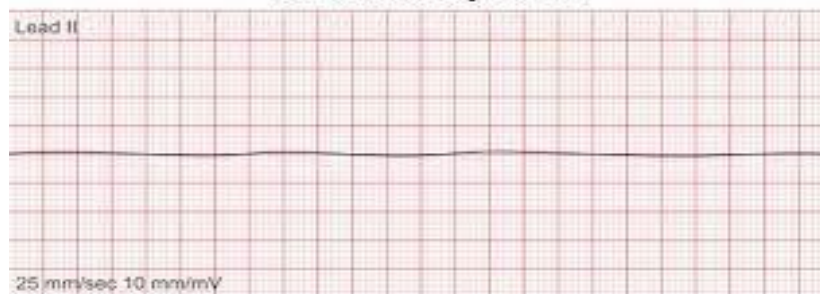


**Ventricular Fibrillation (VF)**



shutterstock.com · 1800602845

**Cardiac Asystole**



25 mm/sec 10 mm/mV

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## Special Situations or Precautions with the AED machine.

1. If the victim is lying in water, **remove them from the water** and **towel dry the chest**. You can then use the AED.
2. If the victim is wearing a **medical patch**, **remove it**. You can then use the AED machine.
3. If the victim visibly has a pacemaker, place the upper pad on the **opposite side of the pacemaker** and the lower pad in its usual position.
4. If the victim has an **excessively hairy chest**, you can either **shave their chest** with the **provided razor in the AED accessory kit/bag**. Another option is to use the extra set of pads to wax the hair off the victim. Then use the second set of pads as you normally would.



Victim has been removed from water.



Victim has a medical patch.



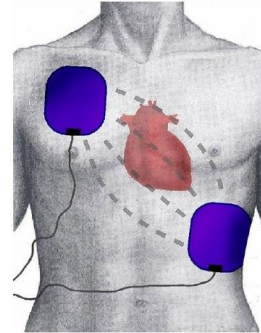
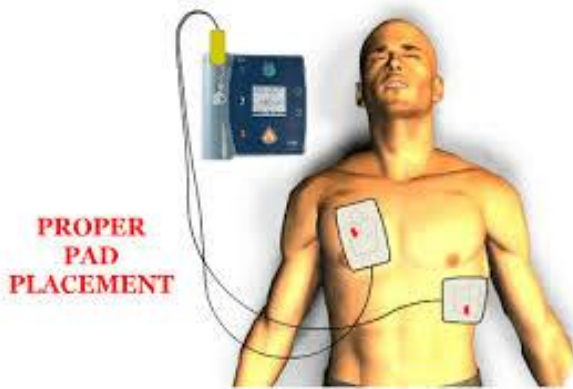
Victim has a pacemaker / internal defibrillator.



Victim has an excessively hairy chest.

## Placement of AED Pads

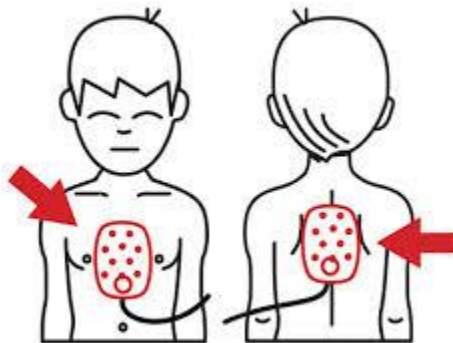
### Adult Victim



Path of shock from pad to pad

### Placement of AED Pads - Child / Infant Victim –

Use Pediatric (smaller pads)



## Choking - Foreign Body Airway Obstruction

**Partial Airway Obstruction** - **The victim can talk and cough.** This is not an emergency. They are still breathing, and air is coming in and out. You should closely monitor them and **encourage them to cough forcefully.** They can usually cough the object out. Closely monitor the victim just in case anything changes, and their condition worsens.

**Complete Airway Obstruction** - The victim **cannot talk and cannot cough.** There is no air exchange, no air is coming in or going out. This is an emergency, you can help them by performing the **Heimlich Maneuver**, as taught in class.

**Universal Choking Sign:** The victim grasps their throat. They cannot talk or cough. You need to help them with the Heimlich Maneuver. Do as many abdominal thrusts as it takes to force the object out. Once they talk or cough, you know they are now breathing.



**Universal Choking Sign**



Heimlich Maneuver

**Heimlich Maneuver**

**Heimlich maneuver for a choking child** (with a complete airway obstruction) - get down to their level, on one knee with a strong foundation. Everything else is the same. This was demonstrated in class and a video demo will be provided.



Heimlich Maneuver for Children

**Infant choking victim (complete airway obstruction)** - Perform **5 chest thrusts** and **5 back blows**. This was demonstrated in class and a video demo will be provided. If you see the object, do a finger sweep to remove the object.

If a **choking infant victim becomes unresponsive and collapses**, you perform regular CPR with **30 compressions and 2 breaths**. Each time, after doing the 30 compressions, check their mouth for the object and if you see it, remove it with a **finger sweep**. **\*Do not perform a blind finger sweep.**



Back Slaps



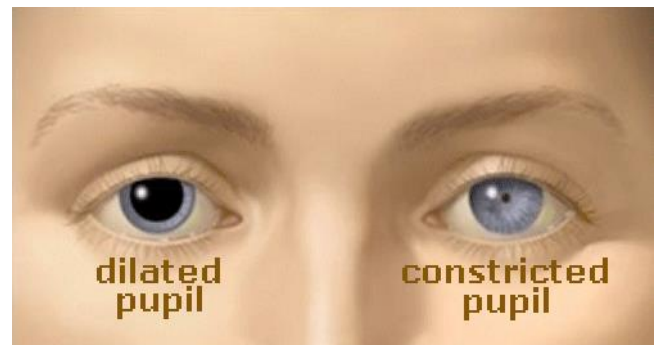
Chest Thrusts

## Anaphylaxis – Severe Allergic Reaction

Inject the full dose (0.3 mg for an adult & 0.15 mg for a child) of the auto-injector, intramuscularly into the victim's outer thigh. If they do not show signs of relief, you can administer a second dose after 5 minutes.



**Naloxone/Narcan** is a non-addictive, life-saving drug that can reverse the effects of an opioid overdose when it's given in time. The drug works by binding to opioid receptors in your body and reversing or blocking the effects of opioids like heroin, morphine, or hydrocodone, among others. Administer the whole dose (4 mg) intranasally to one or both nostrils.



**Cyanosis** - a bluish/purple discoloration of the skin resulting from tissues receiving a poor supply of oxygen. This results from poor circulation or inadequate oxygenation of the blood.



**Briefly describe what you see or what is happening in the following illustrations.**



**Briefly describe what you see and what is happening in the following illustrations.**



## \*AHA Chain of Survival\*




**\*Communication –** In the healthcare setting you will work with teams and a variety of professionals with different skills and personalities. You must always be professional, supportive, and respectful. If someone on your team is performing a skill incorrectly, correct them in a positive way and coach them through the process. For example, if a fellow nurse is performing chest compressions on a patient but is not compressing fast enough, you can say “Your depth is great but make sure you are compressing at a rate of at least 100-120 per minute.

**\*Knowing Your Limits -** In the Healthcare setting, you are only to perform rescue skills that you have been trained to do. You **may not** perform emergency rescue skills that you have not been trained to do. This would be a violation of protocol. For example, EMTs are not trained to intubate but Paramedics are. If a supervisor asked an EMT to intubate a patient during an emergency, the correct response from the EMT would be “I am not trained to intubate and must know that it is not in their protocols.


**\*Closed Loop Feedback –** This is the process of an instruction being given, it is repeated by the recipient and then confirmed. That is closed-loop communication as the information goes full circle. This type of communication is used in the healthcare setting to significantly decrease the risk of error. For example, a supervisor says “I want you to administer 0.3 mg of epinephrine. The nurse says “You want me to administer 0.3 mg of epinephrine? The supervisor confirms “That is correct”. That is closed-loop communication.

## Positions for 6-Person High-Performance Teams\*


### Resuscitation Triangle Roles

 **Compressor**

- Assesses the patient
- Does 5 cycles of chest compressions
- Alternates with AED/Monitor/Defibrillator every 5 cycles or 2 minutes (or earlier if signs of fatigue set in)

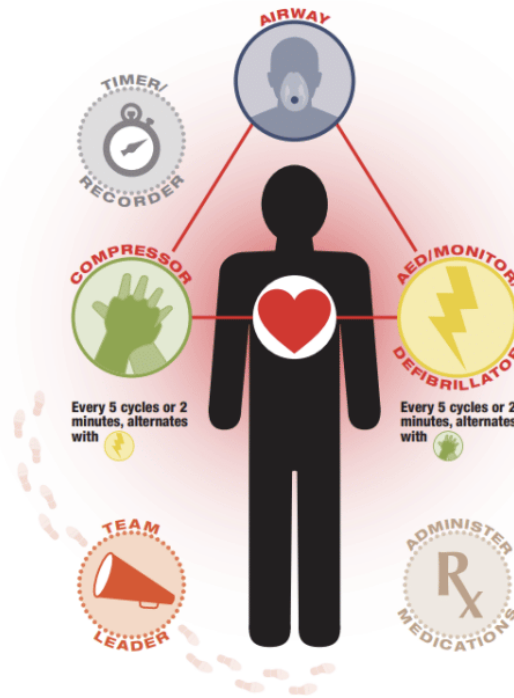
 **AED/Monitor/Defibrillator**

- Brings and operates the AED/monitor/defibrillator
- Alternates with Compressor every 5 cycles or 2 minutes (or earlier if signs of fatigue set in), ideally during rhythm analysis
- If a monitor is present, places it in a position where it can be seen by the Team Leader (and most of the team)


 **Airway**

- Opens and maintains the airway
- Provides ventilation


**The team owns the code. No team member leaves the triangle except to protect his or her safety.**




### Leadership Roles

 **Team Leader**

- Every resuscitation team must have a defined leader**
- Assigns roles to team members
- Makes treatment decisions
- Provides feedback to the rest of the team as needed
- Assumes responsibility for roles not assigned

 **Administer Medications**

- An ALS provider role
- Administers medications

 **Timer/Recorder**

- Records the time of interventions and medications (and announces when these are next due)
- Records the frequency and duration of interruptions in compressions
- Communicates these to the Team Leader (and the rest of the team)

\*This is a suggested team formation. Roles may be adapted to local protocol.

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**\*\ Return of spontaneous circulation (ROSC)** is the restart of a sustained heart rhythm that permeates the body after a cardiac arrest.

Congratulations and thank you for completing this course with us. You have mastered all the emergency skills and have earned your 2 year AHA certification. You will receive your eCard certification, today. A laminated wallet certification card and certificate will also be mailed out to you. I am confident that you are well prepared and would perform the learned skills effectively in a variety of emergency situations. If you ever do utilize these skills in a real-life emergency, be sure to share your story. Feel free to contact us if you ever have any questions or needs related to CPR, First Aid, or emergency medical skills. Please visit our website to see additional certification courses that we offer. I very much look forward to seeing you for your renewal/refresher course when the time comes. Thank you very much and we hope this was an enjoyable, engaging, and positive learning experience. Take care for now, I wish you abundant health and well-being in the upcoming year and beyond.

*Joe Perazzo*

**Licensed Teacher & Certified EMT**

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