BASIC LIFE SUPPORT FOR HEALTHCARE PROVIDERS STUDY GUIDE
2015 GUIDELINES
Kern CPR Basic Life Support for Healthcare Providers (BLS) Study Guide

Adult CPR

1. Ensure scene safety, look up, down, left and right at the scene. You don’t help if you become a victim yourself.
2. Check for responsiveness. Tap and shout at the person.
3. Once no response is determined shout for “Help!”
4. Perform a pulse check and look for breathing simultaneously. Look for the chest to rise for about 10 seconds while performing the pulse check. Signs of regular breathing include rhythmic breathing. Gasping or snoring sounds are not considered to be regular breathing.

5. Call for help, 911, AED etc.
6. If you do not feel a pulse, or are unsure if you do, begin giving 30 chest compressions at a rate of 100-120 per minute (Think BeeGee’s Staying Alive). Locate the center of the lower half of the breastbone making sure to stay off of the lower tip. Place the heal of your hand on the lower half of the breastbone and push straight down 2-2.4 inches (4 to 5 cm). Push hard and fast.

7. After the 30 compressions give 2 breaths while watching for chest rise. Chest rise is the most important sign of effective breaths. Make sure to tilt the head back and lift the chin. This will pull the tongue off the back of the throat (Head tilt chin lift should be used on victims without a suspected neck injury. Use a jaw thrust technique if one is suspected). Do not lift from behind the neck as this is not effective.
8. Continue 30 compressions to 2 breaths for 5 sets, this completes 1 full cycle of CPR.
9. When the AED (automated external defibrillator) arrives first turn it on. Closely listen to the prompts and follow them carefully. The person placing the AED will work around the
person doing compressions to minimize hands off time. One pad will go on the upper right chest and the other on the left side just below the armpit.

10. If AED says to deliver a shock, ensure no one is in contact with the person and push the shock button. After the AED delivers a shock you IMMEDIATELY begin chest compressions again.

Notes on AED:

- Ensure that you do not place the pads directly on an implanted pacemaker or medication patch. See first image below for what an implanted pacemaker looks like
- If the patient has been submerged in water, remove them from the water and quickly wipe the chest dry prior to applying the AED. Do NOT use the AED on someone who is still submerged.
- On a patient with a very hair chest the hair may impede the pads from sticking and therefore the AED may fail to accurately analyze and deliver a shock. If available and time allows the hair should be shaved or “waxed” using an extra set of AED pads (pediatric pads if available to not damage the adult ones.)

11. Switch rescuers and reevaluate the patient every 5 cycles, 2 minutes, when the AED instructs you to, or you are too tired to administer effective compressions. Continue until more advanced medical aid has arrived, you are too tired to continue or you get a pulse back.

12. The person in charge of breaths and use of the BVM (Bag Valve Mask “Ambu-Bag”) must ensure a tight seal using the “E-C” clamp technique while maintaining an open air way. They will deliver two breaths after the set of compressions about 1 second watching for chest rise.
What if my adult patient has a pulse but is not breathing????

If during patient assessment you find the patient is unresponsive, not breathing but DOES have a palpable carotid pulse you will perform Rescue Breathing. To perform rescue breathing to an adult you will administer one breath every 6 seconds. Make sure the chest rises to ensure adequate ventilation. See chart next page for child and infant information.

What if my adult patient has an advanced airway in place?

What is an advanced airway?.... An advanced airway is a type of managed airway in which you do not need to stop compressions to deliver a breath. Rescuer 1 (always in charge of compressions) will continue at a rate of 100-120 compressions a minute without stopping while Rescuer 2 (in charge of maintaining the open way, delivering ventilations and encouraging Rescuer 1 to perform proper CPR) will deliver one breath every 6-8 seconds.

Types of Advanced Airways

1) Stoma
2) Intubation

Child CPR

There are many similarities between adult CPR and child CPR with a few differences. A child is considered anyone between the ages of 1-8 years old. If in doubt treat as an adult.

CPR and AED is the same as previously stated for adult with these additional considerations:

1. If you witness the child collapse and become unresponsive go get help FIRST, then return to the child with the AED and perform CPR.
2. If there are 2 rescuers, the ventilation to compression ratio changes to 15:2 and a depth of about 2 inches.
3. Pediatric pads are preferred for use on a child, however if they are not present in the AED case adult pads may be used, making sure that they do not touch.
4. If a child or infant has a pulse of less than 60 and is not breathing or showing signs of poor perfusion (turning blue) give the child CPR. If they have a pulse of more than 60 and are not breathing give them one breath every 5 seconds, 3 seconds for an infant.

Infant CPR

An infant is any child from birth to 1 year old.

1. To check for responsiveness tap/flick the baby’s foot (do NOT shake the baby) and shout at it. If no cry or response is heard make sure baby is on a firm/flat surface (preferably above the ground, i.e. table).
2. Check the baby’s brachial pulse for 5-10 seconds.
3. If no pulse is felt locate the lower half of the breastbone making sure to stay off the very tip and the stomach area. Place the tips of 2 fingers here and press down 30 times about 1 ½ inches or 1/3rd the depth of the chest.

4. Giving breaths takes less air and effort. Deliver only until you see the chest rise. Do not tilt the head too far back. This can close the airway. Think of a straw. The infant should be in the “sniffing” position. Do not place towels behind the head.
5. If 2 rescuers are present you will use the “two thumbs encircling hands” technique where the rescuers face each other. The person doing compressions will place their thumbs side by side on the lower half of the breastbone for compressions. Rescuer 2 will again be at the head of the infant ensuring a tight “E-C” technique for use of the BVM and proper chest rise.
Choking

For an adult who is actively choking but cannot clear the object you will place your hands slightly above the belly button with the thumb side of one hand. Grasp the other hand and pull up and in. If the person stops responding you will need to preform CPR, checking for the object after delivering breaths. For a child you may need to kneel behind them to perform abdominal thrusts.

If the victim is an infant, place the infant (supporting the head and neck) in your forearm and deliver 5 backslaps between the shoulder blades, turn the infant over supporting the head and neck into the other forearm and preform 5 chest thrusts in the same location you would for CPR. Make sure the head of the infant is lower than the body. Let gravity help pull it out and ensure that the object does not get inhaled again if dislodged. If the infant stops responding you will need to preform CPR.
### Compression/Ventilations

<table>
<thead>
<tr>
<th></th>
<th>1 Rescuer</th>
<th>2 Rescuer</th>
<th>Depth</th>
<th>Rate</th>
<th>Ventilation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult</td>
<td>30-2</td>
<td>30-2</td>
<td>2-2.4&quot;</td>
<td>100-120 bpm</td>
<td>every 6 seconds</td>
</tr>
<tr>
<td>Child</td>
<td>30-2</td>
<td>15-2</td>
<td>About 2&quot;</td>
<td>100-120 bpm</td>
<td>every 5 seconds</td>
</tr>
<tr>
<td>Infant</td>
<td>30-2</td>
<td>15-2</td>
<td>About 1 1/2&quot;</td>
<td>100-120 bpm</td>
<td>every 3 seconds</td>
</tr>
</tbody>
</table>

- 1/3 the depth of the chest

### Principles of Effective Team Dynamics

- **Clear Roles and Responsibilities**: every person involved in the resuscitation effort needs to understand what their specific role is and the responsibilities required for that position.
- **Knowing Your Limitations**: Every member should be aware of his/her own limitations. If the role is something the person is not aware of, is not strong in or is uncomfortable with, they need to inform the team leader early enough to get the situation corrected.
- **Constructive Intervention**: If someone on the team is not performing the task correctly or is about to make a mistake, it is anyone’s job, not just the team leader to say something to them in a professional manner. If you see them about to make a mistake it is your role to inform them.
- **Knowledge Sharing**: Ask frequently for observations and feedback. These can be good or bad observations. Maybe something that needs to be done, wasn’t done well or was done exceptionally well.
- **Summarizing and Reevaluating**: Overviewing the information out loud provides an ongoing record of treatment, recognize a changing condition and summarizes the treatments and interventions performed.
- **Closed-Loop Communication**: Team Leader should call each member by their name while giving instruction and not assign new tasks until they confirm the member understands the instruction. The Team Member should confirm that they understand each task by verbally acknowledging it and inform the Team Leader when it has been completed.
- **Clear Messages**: Use concise, clear language to prevent misunderstanding.
- **Mutual Respect**: All team members should display mutual respect and professional attitude for their team members, regardless of their skill or training. The Team Leader needs to maintain a friendly, controlled voice and avoid shouting or aggression.
Positions for Six-Person High-Quality CPR Teams

Resuscitation Triangle Roles

**Position 1: Compressor**
- Assesses patient
- Does 5 cycles of chest compressions
- Rotates clockwise with Position 2 every 5 cycles

**Position 2: AED/Monitor / Defibrillator**
- Brings and operates AED/Monitor / Defibrillator
- Rotates clockwise with the Compressor every 5 cycles while AED/Monitor is analyzing rhythm
- If a monitor is present, place it in a position where it can be seen by entire team

**Position 3: Airway**
- Opens airway;
- Provides bag-mask ventilation
- Inserts airway adjuncts as appropriate

The team owns the code. No member leaves the triangle except to protect their safety

Leadership Roles

**Position 4: 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

**Position 5: Code Recorder**
- Records time of interventions and medications
- Records frequency and duration of interruptions in compressions
- Communicates these to the Team Leader

**Position 6: IV/Io / Meds**
- This is an ACLS provider role
- Initiates IV/Io access
- Administers medications