



**Success Manual and Cheat Sheet Notes to
Pass Your Basic Life Support (BLS) Course**

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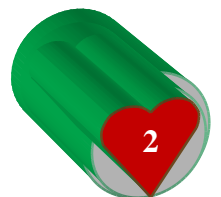
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Basic Life Support (BLS) for Healthcare Providers

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Introduction

This manual will help you learn the skills required to earn a Basic Life Support (BLS) for healthcare provider certificate. You will learn how to perform CPR for all ages including adult, child, and infant. You will also learn about performing Basic Life Support in a team setting, as well as how to use an automated external defibrillator (AED) machine and relieve a choking victim.

Basic Life Support (BLS) / CPR for Adults

Sequence:

1. First priority, make sure the **Scene is SAFE**.
2. Second, **Check for Responsiveness** by tapping the shoulder and asking “Are you okay?” At same time **Check for Breathing** by scanning the chest.
3. If no response and no breathing, **Activate Emergency Response System (ERS) and get Automated External Defibrillator (AED)**.
If there is no breathing or only gasps, then shout for help. If another rescuer responds, send them to activate the **Emergency Response System** (ERS, i.e. call 911), and to get an **Automated External Defibrillator (AED)**. If you are alone, you would call 911 and get an AED, if available.
4. Upon returning, **Check for Pulse and Begin CPR**.
Feel for carotid pulse **no longer than 10 seconds**. If no pulse is detected, start CPR immediately beginning with chest compressions.
5. Begin **Chest Compressions and Breaths**
Give 30 compressions followed by 2 breaths.

NOTE: How to locate carotid pulse: Use fingers to locate trachea and then slide fingers into groove between trachea and muscle on side of neck to feel pulse.

Use the C-A-B sequence

C = Chest Compressions

A = Airway

B = Breathing



How to give Chest Compressions

1. Kneel down at victim's side and make sure victim is lying face up on a firm surface. If you suspect the victim has a neck injury try to keep head and neck in line with torso as you roll them or move them.
2. Place heel of one hand on lower half of breastbone (sternum) and place heel of other hand on top of first hand.
3. Straighten arms and position shoulders over hands
4. Begin compressions Hard and Fast!

How Hard?

Make sure each compression is **at least 2 inches deep** and that after each compression the **chest fully recoils**. This ensures maximum blood flow.

How Fast?

Deliver **at least 100 compressions per minute**

****Remember:** Do everything you can to minimize interruptions of compressions. Interruptions in chest compressions should always **be less than 10 seconds**. You are acting as the pump to get blood to the victim's brain – keep it as continuous as possible.

Hard, Fast, Steady, Continuous Compressions

How to Open the Airway and Give Breaths with CPR

1. Head Tilt-Chin Lift – opens airway

Place palm of one hand on forehead and fingers of other hand on jaw and gently tilt head and jaw back to open airway. Make sure mouth does not close completely. Use a jaw thrust if you suspect neck injury

2. Give Breaths

Use face-mask (single rescuer) or bag-mask (2 rescuers) as a barrier for safety. Position yourself at victim's side. Place mask over face and form a seal. Perform a head tilt-chin lift and use E-C Clamp Technique (see below). Deliver air for 1 second and ensure that you see Chest Rise.

***E-C Clamp Technique:** Use thumb and index finger to make a “C” on mask, use remaining fingers on same hand to lift the jaw (using remaining 3 fingers to form an “E”).



How to Use a Bag Mask with CPR

Requires 2 rescuers

Position yourself directly above the head and place mask over face. Use the E-C clamp technique and perform head tilt. Squeeze bag to give 1 second breathes. Watch for **chest rise**. Only squeeze bag until you see visible chest rise to avoid excessive ventilation.

*E-C Clamp Technique: Use thumb and index finger to make a “C” on mask, use remaining fingers on same hand to lift the jaw (using remaining 3 fingers to form an “E”).

Avoid excessive ventilation – it could cause gastric (stomach) inflation which could lead to aspiration or vomiting.

2 Rescuer Adult Sequence

1. The second rescuer should activate the **Emergency Response System (ERS)** and get the **Automated External Defibrillator (AED)** while the first rescuer begins chest compressions.
2. When the second rescuer arrives with the AED, it should be utilized immediately.
3. One rescuer will provide compressions while other rescuer provides breathes. They will switch roles every 5 cycles (about every 2 minutes).

Remember:

- Compressions are always first (*Hard and Fast)
- 30 Compressions, then 2 Breathes
- Compress chest at least 2 inches and allow for full recoil
- Compress at a rate of at least 100 per minute
- Minimize interruptions in compressions less than 10 seconds at any time. The switch in roles between rescuers should be less than 5 seconds.
- Maintain open airway with head tilt-chin lift or jaw thrust
- Make sure to see chest rise when delivering rescue breaths
- Ensure team communication by counting out loud, encourage good chest compressions, and switch every 5 cycles (or 2 minutes with AED) to avoid fatigue



Keys to High Quality CPR

- Begin compressions within 10 seconds of cardiac arrest
- Push hard and fast! At least **100 compressions/minute** AND **at least 2 inches deep** with **complete chest recoil**.
- Minimize interruptions between compression to less than 10 seconds
- Make sure **chest rises** when giving breaths
- Avoid excessive ventilation – it could cause gastric (stomach) inflation which could lead to aspiration or vomiting.

Automated External Defibrillator (AED): Adults and Children over 8

An AED is a device that assesses heart rhythms. It determines if the victim needs a shock, and if so will direct the rescuer to administer the shock. Abnormal heart rhythms, such as ventricular fibrillation and pulseless ventricular tachycardia, can be shocked back into a normal rhythm. This allows for ROSC, Return of Spontaneous Circulation.

How to Use an AED after retrieving an AED yourself or receiving one from rescuer #2:

1. Turn the Power ON
2. Attach Pads to Bare Chest.
 - Place one pad on upper-right chest – just below collarbone
 - Place other pad to side of left nipple just below armpit
 - Make sure pads are plugged into AED machine
3. Allow AED to analyze victim
 - make sure there is no movement during analysis
4. If AED advises shock, then
 - Make sure no one is touching victim and say loudly *“I’m Clear, You’re Clear, We’re All Clear”*. Then when directed by AED machine, press SHOCK BUTTON.
 - If AED doesn’t advise shock, then continue CPR
5. After 2 minutes of CPR the AED will reanalyze.

**After AED is attached, it will direct you exactly what to do. JUST FOLLOW DIRECTIONS.

**Always limit time between last compression and shock delivery less than 10 seconds for maximum effectiveness.



Summary of 2 Rescuer BLS with an AED

- 1st rescuer: Checks for response “Are you Okay?”, then checks breathing.
- If nothing, then calls to 2nd rescuer to activate the Emergency Response System (ERS) and get an AED.
- 1st rescuer then checks for pulse for no more than 10 seconds, if nothing then immediately begins chest compressions.
- When 2nd rescuer arrives with AED he turns it on, applies pads, plugs in pads and then let AED machine analyze victim. If shock is advised, he says “*I’m clear, Your clear, We’re all clear*” and applies the shock. After shock, he will then immediately begin compressions. If no shock was advised, also begin compressions. Rescuer 1 then moves to victim’s head and manages airway.

Basic Life Support (BLS) / CPR for Children 1 Year to Puberty

Key Differences from Adult

- Compression to breaths with 2 rescuers is 15 compressions to 2 breaths. With 1 rescuer it is always 30 compressions to 2 breaths.

*Why more breathes in children/infants? Unlike adults, typically children will have respiratory failure before going into arrest which reduces blood oxygen levels. Therefore, breathes are more important in children/infants than in adults.
- Compress at least 1/3 the anterior-posterior depth of chest (about 2 inches)
- For very small children, use 1 or 2 handed compression technique
- If you find a child collapse, first administer 2 minutes of CPR (5 cycles) before activating the Emergency Response System (ERS). If you see child collapse, activate ERS and get AED first.



Sequence for 1 rescuer – Children 1 year to Puberty

1. Check for response. Check for breathing. If neither, then
2. Shout for help. If help arrives, send them to activate ERS and get AED.
*If no one responds and you saw child collapse, you go activate ERS and get AED.
3. Check carotid or femoral pulse for no more than 10 seconds.
4. If no pulse or **pulse less than 60**, begin CPR with compressions first
*If you are alone and you found child, first give 2 minutes of CPR then go activate ERS and get AED.

*After second rescuer activates ERS and brings AED, compression to breaths changed to 15 compressions to 2 breaths. This is only true for 2 rescuers. For one rescuer it is universally 30 compressions to 2 breaths.

Basic Life Support (BLS) / CPR for Infants (up to 1 year of age)

Key Differences from Adult/Child

- Check brachial pulse
- 2 finger compressions for 1 rescuer; 2 thumb-encircling hand technique for 2 rescuers
- Compressions at least 1/3 chest depth or about 1 ½ inches
- 15 compressions to 2 breaths with 2 rescuers. Always 30 compressions to 2 breaths with one rescuer – this is universal.

Activate ERS (same as for children) - If you found infant in arrest, first administer 2 minutes of CPR (5 cycles) before activating the Emergency Response System (ERS). If you see infant go into arrest, activate ERS and get AED first then return to infant.



Sequence for 1 rescuer – Infants

1. Check for response. Check for breathing. If neither, then
2. Shout for help. If help arrives, send them to activate ERS and get AED.
*If no one responds and you witnessed the arrest, you go activate ERS and get AED.
3. Check brachial pulse for no more than 10 seconds.
4. If no pulse or **pulse less than 60**, begin CPR with compressions first
*If you are alone and you found infant in arrest, first give 2 minutes of CPR then go activate ERS and get AED.

*After second rescuer activates ERS and brings AED, compression to breaths changed to 15 compressions to 2 breaths. This is only true for 2 rescuers. For one rescuer it is universally 30 compressions to 2 breaths.

AED for children and infants

As with adults, use as soon as possible

- For infants, a manual defibrillator is preferred over AED.
- If manual defibrillator is not available, use AED with pediatric dose attenuator
- If neither is available, use regular AED

Adult CPR with Advanced Airway

- Give 1 breath every 6-8 seconds
- Do not pause compressions as you would without an advanced airway



Rescue Breathing

- When pulse is present but victim is not breathing (respiratory arrest)
- Give breaths but no compressions
 - Give breath for 1 second
 - Watch for chest rise
 - Check pulse every 2 minutes
- For adults, 1 breath every 5-6 seconds
- For children/infants, 1 breath every 3-5 seconds **if pulse is greater than 60**. If pulse is less than 60 then begin compressions.

Choking – 1 year and older

- If person cannot talk or cough or clutches neck with hands, ask if they are choking
- If person is audibly coughing that means air is moving and you should not interfere at this point
- If person 1 year of age or older is choking, use Heimlich maneuver (abdominal thrusts) – not on infants
- If choking person becomes unresponsive, activate ERS and begin compressions immediately. When you give breaths open mouth wide and look for object. Remove the object if you see it, if not then continue CPR.

