# BLS Provider Study Guide (updated 8/15/25)

## CARDIAC CHAINS OF SURVIVAL

| Pre-Hospital | In-Hospital |
|---|---|
| Recognition and activation of Emergency Response | Early Recognition & Prevention |
| Quality CPR (Cardiopulmonary Resuscitation) | Activation of Emergency Response |
| Rapid Defibrillation | High Quality CPR |
| Advanced Resuscitation | Defibrillation |
| Post Cardiac Care | Post Cardiac Arrest Care |
| Recovery | Recovery |

### CHEST COMPRESSIONS

- Push hard and fast
- Heel of hand should be centered over the sternum
- Allow chest recoil and heart will refill
- Minimize interruption of chest compressions to less than 10 seconds
- Switch every two minutes or 5 cycles (ideally when AED is analyzing)
- Avoid excessive ventilations and use an airway adjunct if available and not contraindicated
- Ratio of Compressions to Ventilations
    - Adults (1 or multiple rescuers) 30 compressions: 2 ventilations
    - Pediatrics (1 rescuer) 30 compressions: 2 ventilations
    - Pediatrics (2+ rescuers) 15 compressions: 2 ventilations
- Rate of Compressions for Adult and PEDS: 100 to 120 Compressions per minute
- Adult Compression Depth: at least 2 – 2.4 inches (5 cm)
- Child (1 yr – puberty) Compression Depth: 1/3 depth of chest and approximately 2 inches (5cm)
- Infant (0-1 yr) Compression Depth: 1/3 dept of the chest approx 1½ inch (4 cm)

### AIRWAY & VENTILATIONS

- Open airway with a head tilt chin lift for non-trauma ADULT patients
- Open airway with a jaw thrust if trauma is suspected, present or unknown
- OPA = Oropharyngeal Adjuncts – contraindication is gag reflex
- NPA = Nasopharyngeal Adjuncts – contraindication is facial injury and/or head injury
- Each breath should take approximately one second to deliver.
- For apneic adults with a pulse, provide rescue breathing at a rate of 1 breath every 5-6 sec
- For apneic PEDs with a pulse, provide rescue breathing at a rate of 1 breath every 2-3 sec
- Look for chest rise and fall to ensure proper tidal volume is being delivered
- Gasping/Agonal breaths are not considered breathing

### AED (Automated External Defibrillators)

- Eliminates Ventricular Fibrillation (V-Fib) and Ventricular Tachycardia (V-Fib and V-Tach)
- Will not advise shock for PEA (pulseless electrical activity) or Asystole (flatline)
- Follow the AED prompts
- Manual defibrillation is preferred for Pediatric patients under 1 year
- Do not use while patient is in water, remove patient clothing and dry patient off, remove medication patches, do not place pads on pacemakers or internal cardiac defibrillators.

- AEDs can be used when patient is on snow
- Remove any objects that contain metal from patient's chest (Do not let necklace charms sit on the chest, move them behind the neck)

**AED Steps:**

- 1.) Turn on the AED or lift the lid
- 2.) Place the pads and plug in pad connector if necessary while your partner continues CPR
- 3.) Do not touch when AED is analyzing
- 4.) If AED prompts "shock advised, "rescuer can briefly continue compressions until shock alarm flashes.
- 5.) CLEAR patient of all hands (be sure to look up at your crew!) then hit shock
- 6.) Be ready to immediately begin CPR again if ROSC is not achieved

**INFANT/CHILDREN**

- Review anatomic differences between PEDS vs Adults (larger heads, smaller airway etc.)
- The most common reason a pediatric patient has a cardiac arrest is respiratory distress/arrest.

**FOREIGN BODY OBSTRUCTION**

- Conscious Adults - abdominal thrusts and back blows
- Conscious pregnant or obese adults – chest thrusts
- Unconscious Adults- do CPR but look in the airway regularly for obstruction before breaths
- Conscious Pediatric Patient under 1 yr - 5 back blows and 5 chest thrusts with heel of hand
- Unconscious Pediatric Patient do CPR but look in the airway regularly for obstruction

**TEAM DYNAMICS**

- **Clear roles and responsibilities** allow the team to function smoothly
- **Closed Loop Communication** – verbally repeat the task you have been assigned to acknowledge
- **Effective Communication** using **Closed Loop Communication** (repeating back orders)
- **Knowing your limitations** - knowing when to ask for help or when you are not qualified to do a certain skill.
- **Resource Management** – ex. knowing what team roles require multiple rescuers
- **Continuous Feedback** (Be tactful, but immediately tell a team member to make a correction if needed (Ex. "Remember to allow for recoil or go faster.")

- **Regular Training** – CPR is a low frequency but high acuity call that is very stressful and dynamic so regular training is crucial for successful patient outcome.

BLS Provider License renewal is required every two years
Hands on practice is the best way to maintain CPR skills