C-A-B of CPR for BLS Provider

Component	Adults and Adolescents (Puberty to Adulthood)	Children (Age 1 year to Puberty)	Infants (Age Less Than 1 year Excluding Newborns)
Scene Safety	Make sure the environment is safe for rescuers and victim		
Recognition of Cardiac Arrest	Check for responsiveness No breathing or only gasping (ie, no normal breathing) No definite pulse felt within 10 seconds (Breathing and pulse check can be performed simultaneously in less than 10 seconds)		
Activation of Emergency Response System	If you are alone with no mobile phone, leave the victim to activate the emergency response system and get the AED before beginning CPR Otherwise, send someone and begin CPR immediately; use the AED as soon as it is available	**Witnessed collapse** Follow steps for adults and adolescents on the left **Unwitnessed collapse** Give 2 minutes of CPR Leave the victim to activate the emergency response system and get the AED Return to the child or infant and resume CPR; use the AED as soon as it is available	
Compression-Ventilation Ratio *without* Advanced Airway	***1 or 2 Rescuers*** 30:2	***1 Rescuer*** 30:2 **2 or more Rescuers** 15:2	
Compression-Ventilation Ratio *with* Advanced Airway	Continuous compressions at a rate of 100-120/min Give 1 breath every 6 seconds (10 breaths/min)		
Compression Rate	100-120/min		
Compression Depth	At least 2 inches (5 cm)	At least one third AP diameter of chest About 2 inches (5 cm)	At least one third AP diameter of chest About 1 1/2 inches (4 cm)
Hand Placement	2 hands on the lower half of the breastbone (sternum)	2 hands or 1 hand (optimal for very small child) on the lower half of the breastbone (sternum)	***1 Rescuer*** 2 fingers in the center of the chest, just below the nipple line ***2 or more Rescuers*** 2 thumb-encircling hands in the center of the chest just below the nipple line
Chest Recoil	Allow full recoil of chest after each compression; do not lean on the chest after each compression		
Minimizing Interruptions	Limit interruption in chest compressions to less than 10 seconds		

Abbreviations: AED, Automated External Defibrillator; AP, Anterior-Posterior; CPR, CardioPulmonary Resuscitation

High Quality CPR

- Push hard (at least 2 inches [5cm])
- Push fast: Compress at a rate of 100 to 120/min
- Minimize interruptions in compressions to less than 10 seconds
- Allow for complete chest recoil between compressions
- Do not lean on the chest between compressions
- Switch rescuers about every 2 minutes or sooner to avoid fatigue
- Avoid excessive ventilation, delivering breaths over 1 second that produce visible chest rise
- Performing high quality CPR is most likely to positively impact victim's survival
- A victim who is unresponsive with no normal breathing and no pulse requires high-quality CPR
- You witness a sudden collapse. Victim is unresponsive, you hear gasping sounds, and there is no pulse-begin CPR. Gasps are not normal breathing

High Quality CPR

COMPRESSIONS:

RATIO

- Ratio for compressions to breaths for 1-rescuer **ADULT**, **CHILD** and **INFANT** CPR is 30 compressions to 2 breaths

DEPTH

- Depth of compression for an **INFANT** is at least one third the depth of the chest, about 1 1/2 inches (4 cm)
- Depth of compression for a **CHILD** is at least one third the depth of the chest, about 2 inches (5 cm)
- Depth of compression for an **ADULT** is at least 2 inches (5 cm)

RATE

- Rate of chest compressions for **ADULT**, **CHILD** and **INFANT** CPR is 100 to 120 per minute

RECOIL

- Complete chest recoil is important when performing high quality CPR to allow the heart to adequately refill between compressions

BREATHS:

- Rescuers ensure that they are providing effective breaths with a bag-mask device by observing chest rise with breath

TWO RESCUERS:

- Rescuers switch positions during CPR about every 2 minutes
- To support a team-based resuscitation attempt, 2 rescuers alternate giving high quality chest compressions
- Two rescuers begin high-quality CPR by alternating the compressor role every 2 minutes

Team Dynamics

TEAM DYNAMICS: 1.) Clear Roles and Responsibilities 2.) Knowing your Limitations 3.) Constructive Intervention

Match statement with appropriate element of team dynamics:

1. "The team functions smoothly when all team members know their positions, functions, and tasks"—Clear Roles and Responsibilities
2. "Members of the team know their boundaries and ask for help before the resuscitation attempt worsens"—Knowing your Limitations
3. If the person giving chest compressions is not allowing for complete chest recoil, tell the compressor you notice decreased chest recoil—Constructive Intervention

Automated External Defibrillator-AED 3 P's—**P**ower **P**ads **P**lug-in

- Defibrillation is important because it can restore a regular cardiac rhythm
- Rapid defibrillation is important to survival because it eliminates the abnormal heart rhythm
- When the AED arrives, the first step is to turn on the AED
- After the AED pads are attached to the victim's bare chest and the AED detects ventricular fibrillation, the next step is to follow the AED prompts
- A hairy chest is a consideration when using an AED, the pads may not stick and may fail to deliver a shock
- If you need to use an AED on someone who has been submerged in water, pull the victim out of water and wipe the chest before attaching the AED pads

Foreign Body Airway Obstruction - Choking

- The first course of action for a victim with a foreign-body airway obstruction who becomes unresponsive, start CPR, beginning with chest compressions
- When performing CPR on an unresponsive choking victim, each time you open the airway, look for the obstructing object
- An **INFANT** is responsive and choking with a severe airway obstruction, give sets of 5 back slaps and 5 chest thrusts
- When an **INFANT** becomes unresponsive, perform CPR and look in the mouth for the obstructing object

Chest Compression Fraction (CCF)

- Chest Compression Fraction is the amount of time during a cardiac arrest event that high-quality chest compressions are performed. Improving CCF to achieve the 80% threshold has been shown to increase survival by 200% to 300%
- For adults in cardiac arrest who received CPR without an advanced airway, perform CPR with the goal of a chest compression fraction as high as possible, with target of at least 60%
- (5 compression sets X seconds) + (5 breath sets X seconds) = 5 compression sets X seconds / SUM