

## BLS REVIEW

- C- circulation
- A- airway
- B- breathing  
defibrillation

Check for responsiveness, if unresponsive activate EMS

**CIRCULATION-** check for pulse, no longer than 5-10 seconds

Push hard, Push fast

Allow for full chest recoil

Minimize interruptions

Pulse check for child- carotid    pulse check for infant- brachial

Compression ratio 30:2    100-120/min

Compression ratio 2 rescuers 15:2

Compression depth- 2" children    1 1/2" infants

**AIRWAY-**            Open the airway!

**BREATHING-**      2 breaths

Only provide enough air to see chest rise

Agonal or gasping breaths ARE NOT NORMAL

**DEFIBRILLATION (AED)-**    Best chance for survival

Use on adults, children and infants

Can use adult pads on infants, any shock better than none

**REMEMBER-**    Turn on AED and follow the prompts

**WITNESSED ARREST-**    CALL EMS AND START CPR

**UNWITNESSED ARREST-**    TWO MINUTES OF CPR THEN CALL EMS

### 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:

- "The team functions smoothly when all team members know their positions, functions, and tasks"—Clear Roles and Responsibilities
- "Members of the team know their boundaries and ask for help before the resuscitation attempt worsens"—Knowing your Limitations
- 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—Power Pads Plug-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%
- $(5 \text{ compression sets} \times \text{seconds}) + (5 \text{ breath sets} \times \text{seconds}) = 5 \text{ compression sets} \times \text{seconds} / \text{SUM}$

## Summary of High-Quality CPR Components for BLS Providers

Component	Adults and Adolescents	Children (Age 1 Year to Puberty)	Infants (Age Less Than 1 Year, Excluding Newborns)
<b>Scene safety</b>	Make sure the environment is safe for rescuers and victim		
<b>Recognition of cardiac arrest</b>	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)		
<b>Activation of emergency response system</b>	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	<b>Witnessed collapse</b> Follow steps for adults and adolescents on the left <b>Unwitnessed collapse</b> 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	
<b>Compression-ventilation ratio without advanced airway</b>	<b>1 or 2 rescuers</b> 30:2	<b>1 rescuer</b> 30:2 <b>2 or more rescuers</b> 15:2	
<b>Compression-ventilation ratio with advanced airway</b>	Continuous compressions at a rate of 100-120/min Give 1 breath every 6 seconds (10 breaths/min)		
<b>Compression rate</b>	100-120/min		
<b>Compression depth</b>	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 1½ inches (4 cm)
<b>Hand placement</b>	2 hands on the lower half of the breastbone (sternum)	2 hands or 1 hand (optional for very small child) on the lower half of the breastbone (sternum)	<b>1 rescuer</b> 2 fingers in the center of the chest, just below the nipple line <b>2 or more rescuers</b> 2 thumb-encircling hands in the center of the chest, just below the nipple line
<b>Chest recoil</b>	Allow full recoil of chest after each compression; do not lean on the chest after each compression		
<b>Minimizing interruptions</b>	Limit interruptions in chest compressions to less than 10 seconds		

\*Compression depth should be no more than 2.4 inches (6 cm).

Abbreviations: AED, automated external defibrillator; AP, anteroposterior; CPR, cardiopulmonary resuscitation.