Basic Life Support (BLS)

Study Reference / 2020 AHA Guidelines

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Summary Table - Components of High-Quality CPR

Component	Adults Including Adolescents	Children Age 1 year to Puberty	Infants Under 1 year except Newborns
Verifying Scene Safety	Make sure the environment is safe for rescuers and victim		
Recognizing Cardiac Arrest	1. Check for responsiveness (any purposeful response rules out a CPR situation) 2. Check for Normal Breathing (gasping is not normal breathing) 3. Check for a Pulse between 5 and 10 seconds (Pulse and Breathing can be done together)		
Activating Emergency Response System	**If a mobile device is available, phone emergency services (9-1-1)**		
	If you are alone with no mobile phone, leave the victim to activate the EMS and get the AED before starting CPR, Otherwise. send someone and begin CPR immediately; use the AED as soon as it is available	**Witnessed Collapse** and alone Follow the same steps for adults and adolescents on the left **Unwitnessed Collapse** and alone Do 2 minutes of CPR before activating EMS and getting AED Return to the child or infant and resume CPR; use the AED as soon as it is available Always multitask and call 911 on speaker if cell is available	
Compression to Ventilation Ratio <u>without</u> Advanced Airway	1 or 2 rescuers use a 30:2 ratio	**1 rescuer** always use a 30:2 ratio **2 or more rescuers** use a 15:2	
Compression to Ventilation Ratio <u>with</u> an Advanced Airway	Continuous compressions at a rate of 100-120/min, and 1 breath every 6 seconds No Pauses for ventilations	Continuous compressions (100-120/min) Give 1 breath every 2-3 seconds No Pauses for ventilations	
Compression Rate	100-120/min for all ages and situations / Use a song such as “Staying Alive” to keep tempo		
Compression Depth	At least 2 inches*	At least one third AP diameter of chest Approximately 2 Inches on children and 1.5 Inches on infants	
Hand Placement	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)	**1 rescuer** 2 fingers or 2 thumbs in the center of the chest. just below the nipple line **2 or more rescuers** 2 thumb-encircling hands If the rescuer is unable to achieve the recommended depth, it may be reasonable to use the heel of one hand
Chest Recoil	Allow complete recoil of chest after each compression to allow for blood to return to the heart between compressions; do not lean on the chest after each compression		
Minimizing Interruptions	Limit interruptions in chest compressions to less than 10 seconds with a CCF goal of 80%		

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High Quality CPR

General Concepts

- All Victims: Compress at a **rate** of 100 to 120/min
- Interruptions in Compressions: Should always be less than **10 seconds**
- Allow for **complete chest recoil** between compressions and avoid leaning on 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
- Gasps are not normal breathing

Compressions

- Ratio for compressions to breaths for 1-rescuer is always 30 compressions to 2 breaths for all ages
- Depth of compression for an INFANT, at least **one third the depth of the chest**, about 1 1/2 inches (4 cm)
- Depth of compression for a CHILD, 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 of chest compressions for **everyone** is 100 to 120 per minute
- **Complete chest recoil** is important when performing high quality CPR to allow the heart to adequately refill between compressions

Breaths

- Confirm breaths are effective **by observing for chest rise** with breath
- Breaths should be delivered gently, over **1 second each**

Two Rescuers

- Rescuers switch positions during CPR about every 2 minutes
- In a team-based resuscitation attempt, 2 rescuers alternate giving high quality chest compressions

Team Dynamics

- Clear Roles and Responsibilities is when all team members know their positions, functions and task
- Knowing your Limitations means team members know their boundaries and ask for help before the resuscitation attempt worsens
- Constructive Intervention:
    - If the person giving chest compressions is not allowing for complete chest recoil, tell the compressor you notice decreased chest recoil
    - If the person giving compressions rate begins to slow down, remind them the rate is between 100 and 120 compressions per minute

AED Use

- An AED cannot be used on anyone submerged in water
- If a victim has a hairy chest, the pads might not stick to the victim
- The purpose of an AED is to convert an irregular heart rhythm to a normal rhythm
- Make sure to turn it on as soon as it arrives
- Since all AEDs are different, always just follow the AED prompts

Choking (foreign body obstruction)

- **ANY** victim, any age, that becomes unresponsive due to choking (obstruction), immediately start CPR starting with compressions
- When preforming CPR on an unresponsive choking victim, make one modification, when giving breaths, check the airway for the obstructing item
- On a responsive choking adult or child, preform abdominal thrusts
- On a responsive choking infant, preform sets of 5 back slaps and 5 chest thrusts

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