



Compressions: Push hard and fast on the center of the victim's chest

AirWay: Tilt the victim's head back and lift the chin to open the airway

Breathing: Give mouth-to-mouth rescue breaths









### **CPR GUIDELINES FOR ADULTS**

#### **ASSESS**

- Unresponsive: No breathing or no normal breathing (only gasping)
- Activate the EMS (call 911). Get the AED if available and return to the victim
- If second rescuer is available send them to get help and the AED
- Check Pulse: Check the victim's pulse at the carotid artery for no more than 10 seconds





#### **DELIVER HIGH QUALITY CPR**

- Start compressions within 10 seconds of identifying cardiac arrest
- Compress chest at least 2 inches, 30 times on the lower half of the breastbone
  - o Compress 2-handed, with one hand on top of the other
- Compress at a rate of at least 100 compressions per minute
  - Each set of 30 compressions should take 18 seconds or less
- Allow complete chest recoil after each compression
- Minimize interruptions in chest compressions to less than 10 seconds
- CPR ratio is 30 compressions to 2 breaths
  - o Ratio stays the same for one-person & two-person CPR
- In two-person CPR the rescuers should change positions after every 2 minutes





### **GUIDELINES FOR ADULTS**

#### PROVIDE EFFECTIVE BREATHS

- Open the victim's airway. Use the appropriate technique to open the airway
  - o Head Tilt-Chin Lift: tilt the head back and lift the chin
  - o Jaw Thrust: If a head or neck injury is suspected
- Deliver each rescue breath over 1 second
- The victim's chest should rise with each breath
- Avoid excessive ventilation
- Use bag-valve mask or barrier device if available
- Once an advanced airway is placed, continuous compressions are preformed without pause for ventilation. Ventilations are delivered at a rate of 1 breath every 6-8 seconds



#### If there is a pulse and the victim is not breathing:

Provide rescue breathing: 1 breath every 5-6 seconds (10-12 breaths/minute)

### **CONTINUE HIGH QUALITY CPR**

- Continue cycles of compressions and ventilation at a ratio of 30:2
- Healthcare Providers should rotate compressors every 2 minutes
- Attach and use AED as soon as available
- Minimize interruptions in chest compressions
  - o Limit to less than 10 seconds
- Health care providers continue effective chest compressions/CPR until return of spontaneous circulation (ROSC) or termination of resuscitative efforts





## **CPR GUIDELINES FOR CHILDREN**

(Age: 1 year to Puberty)

#### **ASSESS**

- **Unresponsive**: No breathing or no normal breathing (only gasping)
- Send second rescuer to activate the EMS (call 911) and get the AED
- If alone, remain with victim and provide 2 minutes of CPR before activating the EMS
- Check Pulse: Check the victim's pulse at the carotid artery for no more than 10 seconds
  - o If the victim's heart rate is less than 60 beats per minute with signs of poor perfusion, start CPR





#### **DELIVER HIGH QUALITY CPR**

- Compress chest at least 1/3 the depth of the chest (about 2 inches), 30 times just below the nipple line
  - o You may use either 1 or 2 hands for chest compressions
- Compress at a rate of at least 100 compressions per minute
  - Each set of 30 compressions should take 18 seconds or less
- Allow complete chest recoil between each compression
- Minimize interruptions in chest compressions to less than 10 seconds
- CPR ratio for one-person CPR is 30 compressions to 2 breaths
- CPR ratio for two-person CPR is 15 compressions to 2 breaths
  - Each set of 15 compressions should take 9 seconds or less
- In two-person CPR the rescuers should change positions after every 2 minutes
- After 2 minutes, activate the EMS (call 911) if not already done and get the AED





## **CPR GUIDELINES FOR CHILDREN**

(Age: 1 year to Puberty)

#### PROVIDE EFFECTIVE BREATHS

- Open the victim's airway. Use the appropriate technique to open the airway
  - o Head Tilt-Chin Lift: tilt the head back and lift the chin
  - o Jaw Thrust: If a head or neck injury is suspected
- Deliver each rescue breath over 1 second
- The victim's chest should rise with each breath
- Avoid excessive ventilation
- Use bag-valve mask or barrier device if available
- Once an advanced airway is placed, continuous compressions are preformed without pause for ventilation. Ventilations are delivered at a rate of 1 breath every 6-8 seconds



#### If there is a pulse >60 per minute and inadequate breathing:

Provide rescue breathing: 1 breath every 3-5 seconds (12-20 breaths/minute)

### **CONTINUE HIGH QUALITY CPR**

- Continue cycles of compressions and ventilation at a ratio of 30:2 for one-rescuer and ratio of 15:2 for two-rescuers
- Healthcare Providers should rotate compressors every 2 minute
- Attach and use AED as soon as available
- Minimize interruptions in chest compressions
  - o limit to less than 10 seconds







## **CPR GUIDELINES FOR INFANTS**

(Age: Birth to 1 year)

#### **ASSESS**

- **Unresponsive**: No breathing or no normal breathing (only gasping)
- Send second rescuer to activate the EMS (call 911) and get the AED
- If alone, remain with victim and provide 2 minutes of CPR before activating the EMS
- Check Pulse: Check the victim's pulse at the brachial artery for no more than 10 seconds
  - If the victim's heart rate is less than 60 beats per minute with signs of poor perfusion, start CPR





#### **DELIVER HIGH QUALITY CPR**

- Compress chest at least 1/3 the depth of the chest (about 1 ½ inches), 30 times just below the nipple line
  - Compress with the Two-Finger compression technique for infants
- Compress at a rate of at least 100 compressions per minute
  - o Each set of 30 compressions should take 18 seconds or less
- Allow complete chest recoil between each compression
- Minimize interruptions in chest compressions to less than 10 seconds
- CPR ratio for one-person CPR is 30 compressions to 2 breaths
- CPR ratio for two-person CPR is 15 compressions to 2 breaths
  - Each set of 15 compressions should take 9 seconds or less
  - Use the Two-Thumb Encircling Technique for compressions
- In two-person CPR the rescuers should change positions after every 2 minutes
- After 2 minutes, activate the EMS (call 911) if not already done and get the AED





## **CPR GUIDELINES FOR INFANTS**

(Age: Birth to 1 year)

#### **PROVIDE EFFECTIVE BREATHS**

- Open the victim's airway. Use the appropriate technique to open the airway
  - o Head Tilt-Chin Lift: tilt the head back and lift the chin
- Deliver each rescue breath over 1 second
- The victim's chest should rise with each breath
- Avoid excessive ventilation
- Use bag-valve mask or barrier device if available
- Once an advanced airway is placed, continuous compressions are preformed without pause for ventilation. Ventilations are delivered at a rate of 1 breath every 6-8 seconds



Provide rescue breathing: 1 breath every 3-5 seconds (12-20 breaths/minute)

### **CONTINUE HIGH QUALITY CPR**

- Continue cycles of compressions and ventilation at a ratio of 30:2
  for one rescuer and ratio of 15:2 for two rescuers
- Healthcare Providers should rotate compressors every 2 minute
- Attach and use AED as soon as available
- Minimize interruptions in chest compressions
  - limit to less than 10 seconds







## **AED GUIDELINES**

Early defibrillation is critical for victims of sudden cardiac arrest. The earlier defibrillation occurs, the higher the survival rate. For VF victims, survival rates are highest when immediate bystander CPR is provided and defibrillation occurs within 3 to 5 minutes of collapse.

Attach and use the AED as soon as it is available. Minimize interruptions in chest compressions before and after each shock.



**For children** from 1 to 8 years old, an AED with a pediatric doseattenuator system should be used if available. If an AED with a dose attenuator is not available, a standard AED may be used (including adult pads)

**For infants** <1 year of age, a manual defibrillator is preferred. If a manual defibrillator is not available, an AED with a pediatric dose-attenuator is desirable. If neither is available, a standard AED may be used (including adult pads)

### **COMMON STEPS TO OPERATE ALL AEDS**

- 1. Power ON the AED: this activates voice prompts for guidance in all steps
- 2. Attach electrode pads to victim's bare chest
  - Choose correct pads (adult vs child)
  - Do Not use child pads for victims 8 years and older (Adults)
  - Plug in the electrode pad connector
- 3. Clear the victim and the AED will analyze the rhythm
  - Be sure no one is touching the victim
  - The AED then tells you if a shock is needed
- 4. If the AED advises a shock
  - Make sure no one is in contact with the victim
  - Press the shock button
- 5. As soon as the AED gives the shock, **immediately** resume CPR, starting with chest compressions







## **AED GUIDELINES**

#### SPECIAL SITUATIONS WHEN USING AN AED

#### - Hairy Chest:

The AED pads may stick to the hair and not stick to the chest. Make sure to press firmly on each pad. If they do not stick to the chest, shave the area with the razor in the AED carrying case and put on a new set of pads.

#### – Water:

Do not use an AED in water. If the victim is in water, pull the victim out of the water. If the victim's chest is covered with water, wipe the chest before attaching the pads.

#### - Pacemaker:

You can identify pacemakers because they create a hard lump beneath the skin of the upper chest. Place the AED pad at least 1 inch to the side of the pacemaker.

#### – Medicinal Patches:

Do not place AED pads on top of a medication patch. Remove the patch and wipe the area clean before attaching the AED pads. Make sure not to touch the medicine with bare hands.

#### - Flammable Items:

Make sure the scene is safe and the victim is not near flammable items. If you find a victim in a garage with flammable items (e.g., gasoline, paint thinner, etc.) remove the victim from the area before attaching and using the AED.





## **GUIDELINES FOR THE CHOKING ADULT/CHILD**

#### CAN THE PERSON SPEAK, COUGH OR BREATHE

Are they using the universal choking sign? Ask the question "are you choking?"

#### **PERFORM ABDOMINAL THRUSTS**

(For Children and Adults)

- Standing or kneeling behind the victim, wrap your arms around the victim's waist
- With one hand, make a fist and place the thumb side (flat side) of your fist against the victim's abdomen, below the breastbone and slightly above the navel
- Grasp your fist with your other hand and press the victim's abdomen with quick upward thrusts. Do not squeeze the rib cage; confine the force of the thrust to your hands
- Repeat until object is expelled or victim goes unconscious
- If the victim is pregnant or obese, perform chest thrusts

### **FOR THE UNCONSCIOUS VICTIM**

- Activate the EMS (call 911) and get the AED if available, and return to the victim
- Open the airway and remove the object if you see it
- Do not do a blind finger sweep
- Begin CPR
- Every time you open the airway to give a breath, look for the object
  - o If you see the object, remove it
  - If you do not see the object, attempt 2 breaths, and continue CPR









## **GUIDELINES FOR THE CHOKING INFANT**

(Age: Birth - 1 year)

SIGNS OF CHOKING: Infant cannot cry, cough or breathe

#### PERFORM BACK BLOWS AND CHEST THRUSTS

- **Do Not** perform abdominal thrusts
- Hold infant face down. Keep head lower than the infant's trunk. Support jaw and neck with your hand and straddle the infant's body over your forearm. Rest your forearm on your lap or thigh to support the infant
- Give 5 back blows between the shoulder blades with the heel of your hand
- Turn the infant over and give 5 chest thrusts in the same location as chest compressions
- Repeat back blows and chest thrust until object is expelled or victim becomes unconscious
- If the victim becomes unconscious, stop back blows and chest thrust and start CPR

### **FOR THE UNCONSCIOUS VICTIM**

- Activate the EMS (call 911) and get the AED if available, and return to the victim
- Open the airway and remove the object if you see it
  - o Do not do a blind finger sweep
- Begin CPR
- Every time you open the airway to give a breath, look for the object
  - o If you see the object, remove it
  - If you do not see the object, attempt 2 breaths, and continue CPR





