ProTrainings
Because Life Matters

Healthcare Provider (BLS)

Adult, Child and Infant
CPR/AED & First Aid

The purpose of this booklet is to provide a brief review of course content for a specific ProTrainings course.
Visit www.protraininings.com to view the full course curriculum.

Revised: May 2021

COURSE **CONTENT**

BASIC TERMS

Good Samaritan Law | states that a person acting in good faith, rendering reasonable first aid, will not be held accountable for damages to that person unless gross willful misconduct is used. This person must not have a legal duty to respond or complete the first aid.

Consent | a patient allowing you to give first aid

Informed consent | you informing the patient of consequences, and then the patient giving permission for you to give first aid.

Implied consent | when a patient is unconscious, it is given that if the person were conscious, they would request care.

Abandonment | initiating care and then stopping without ensuring that the person has same level or higher care being rendered.

Negligence | When you have a duty to respond and you fail to provide care or give inappropriate care, and your failure to provide care or inappropriate care causes injury or harm.

Universal Precautions | Using gloves, masks, gowns, etc. for every patient every time when there is a possibility of coming in contact with any body fluids.

Clinical Death | The moment breathing and heartbeat stop. Typically, a person has a high likelihood of being revived without much cellular damage when clinically dead for approximately 0-6 minutes. Within 6-10 minutes, brain cell damage is highly likely.

Biological Death | Irreversible damage to brains cells and tissues. If a person has been clinically dead for 10 minutes or more, there will be irreversible cell damage. Resuscitation is unlikely but not impossible.

THE FIVE FEARS

1 | FEAR OF DISEASE

Solution: Universal precautions. Whenever the possibility of coming in contact with bodily fluids exists, wear personal protective equipment for every patient, every time.

2 | FEAR OF LAWSUITS

Solution: Good Samaritan laws. States have laws that protect people from legal action who act in good faith to provide reasonable First Aid when the rescuer does not have a legal duty to respond.

3 | FEAR OF UNCERTAINTY

Solution: Emphasis is placed on the role of CPR not merely on the number sequences. Even if numbers are forgotten, remember to push hard and push fast. This emphasizes the simplicity of basic life support.

4 | FEAR OF HURTING A PATIENT

Solution: Patients who are clinically dead can only be helped, not made worse with resuscitation efforts.

5 | FEAR OF UNSAFE SCENE

Solution: Never enter an unsafe scene! Rescuers are no use to patients if they become patients themselves.

CARDIOVASCULAR DISEASE

Cardiovascular disease is the number one killer in the United States. The Center for Disease Control reports that in the United States over 650,000 people die each year from cardiovascular disease.

CONTROLLABLE RISK FACTORS

- cigarette smoking
- high blood pressure
- obesity
- lack of exercise
- high blood cholesterol levels
- uncontrolled diabetes
- high fat diet
- high stress

UNCONTROLLABLE RISK FACTORS

- race
- heredity
- sex
- age

Cardiovascular disease causes damage to the heart and blood vessels. Cardiovascular disease often leads to heart attack or stroke. The best way to survive a heart attack or stroke is to never have one. The key for cardiovascular disease is to focus on prevention.

You can give yourself the best chance of preventing cardiovascular disease with proper nutrition, consistent physical activity, weight management, stress management, eating proper fats and oils, and quitting smoking.

HEART ATTACK

SIGNS AND SYMPTOMS MAY INCLUDE

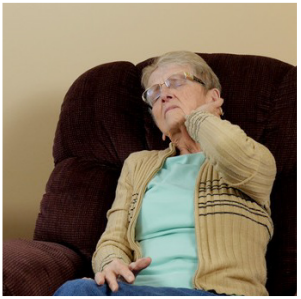
- Chest discomfort-pressure, tightness, that may radiate to jaw and arms.
- Nausea
- Sweating
- Shortness of breath
- Denial
- Feeling of weakness

Women present more with shortness of breath, extreme fatigue, or flu-like symptoms.
About a third of women experience no chest pain.

TREATMENT

Recognize the signs and symptoms of a heart attack, activate EMS, have patient remain in a position of comfort, offer 1 adult dose aspirin, and keep the patient calm and quiet.

STROKE



Stroke is the 3rd leading cause of death in the United States. Strokes can be one of two types:
ischemic | a clot in a blood vessel that restricts or obstructs blood flow to the brain.
hemorrhagic | a blood vessel that ruptures and prevents blood flow to the brain. In either case, the brain is deprived of oxygen and tissue starts to die. The longer the stroke goes unrecognized and untreated, the more damage is done.

SIGNS AND SYMPTOMS MAY INCLUDE

- Numbness or weakness of the face, arm or leg, especially on one side of the body. The acronym FAST helps in assessing a stroke:
  F– facial droop, A– Arm drift, S– Speech, T– Time
- Confusion, trouble speaking or understanding
- Trouble seeing in one or both eyes
- Trouble walking, dizziness, loss of balance or coordination
- Severe headache with no known cause

TREATMENT

Recognize the signs and symptoms of a stroke, activate EMS, give nothing to drink or eat, and keep the patient calm and quiet. Monitor patient and be prepared to start CPR if necessary.

CHAIN OF SURVIVAL

The earlier these steps take place in an emergency, the better the chance of a patient's survival.

Recognition and Activation of EMS | **High Quality CPR** | **Defibrillation** | **Advanced Care** | **Post Cardiac Arrest Care and Recovery**

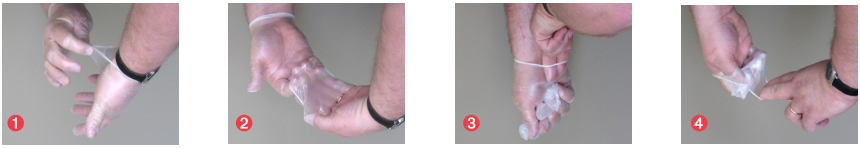
UNIVERSAL PRECAUTIONS

PUTTING GLOVES ON:

Use disposable gloves when providing first aid care. If you have a latex allergy use a latex alternative such as nitrile or vinyl. Before providing care, make sure the gloves are not ripped or damaged. You make need to remove rings or other jewelry that may rip the gloves.

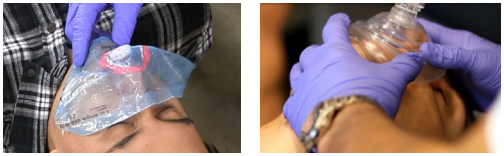
REMOVING GLOVES:

Remember to use skin to skin and glove to glove. ❶ Pinch the outside wrist of the other gloved hand. ❷ Pull the glove off turning the glove inside-out as you remove it. ❸ Hold it in the gloved hand. ❹ Use the bare hand to reach inside the other glove at the wrist to turn it inside out trapping the other glove inside. Dispose of gloves properly. If you did it correctly, the outside of either glove never touched your exposed skin.



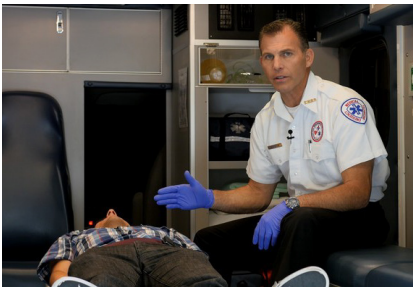
USE A RESCUE MASK OR FACE SHIELD:

If you have to provide rescue ventilations, use a rescue mask or face shield that has a one way valve. To prevent exposure, avoid giving direct mouth to mouth ventilations.



RESCUE BREATHING

CHECK THE SCENE



Key Questions to ask:

- → Is it safe for me to help?
- → What happened?
- → How many patients are there?
- → Am I going to need assistance from EMS?
- → Do I have my personal protective equipment ready to use?

CHECK THE PATIENT

Tap and shout. Is there any response?

ACTIVATE EMS – CALL 911

Send someone to call and tell them to come back. The caller should give dispatch the patient's location, what happened, how many people are injured, and what is being done.

If alone and no one is available:

- → **PHONE FIRST** for adults and get the AED. Return to start CPR and use the AED for all ages.
- → **CARE FIRST** for children and infants by providing about 5 cycles or 2 minutes of CPR before activating the emergency response number.
- → **CARE FIRST** for all age patients of hypoxic (asphyxial) arrest (ei., drowning, injury, drug overdose).

RESCUE BREATHING

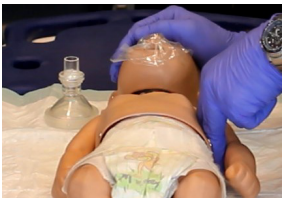
CHECK PULSE

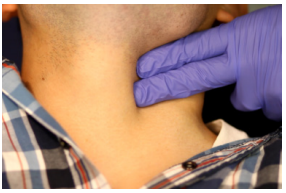
Check the Circulation for no more than 10 seconds

Adult and Child– Check the carotid artery in the neck.

Infant– Check the brachial artery on the inside of the upper arm.

If unsure a pulse exists, start CPR. Don't waste critical time searching for a pulse.



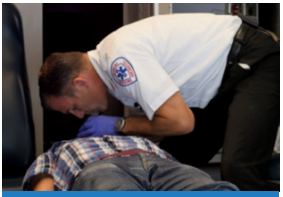


While checking the pulse, look for normal breathing by looking at the person's chest and face. Is the patient breathing normally?

Agonal respirations are not normal breathing. They would be characterized as occasional gasps. The chest does not rise.

BEGIN RESCUE BREATHING

If there is a pulse but no breathing, apply face shield and start rescue breathing. Each breath should last 1 second.



ADULT

1 breath every 6 seconds

CHILD

1 breath every 2-3 seconds
(Breaths can be given every 2-3 seconds, or about 20-30 breaths per minute.)

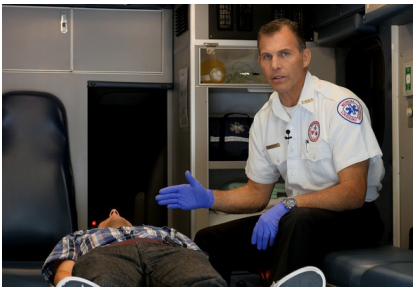
INFANT

1 breath every 2-3 seconds
(Breaths can be given every 2-3 seconds, or about 20-30 breaths per minute.)

Reassess circulation every 2 minutes. If unsure a pulse exists, start CPR.
Don't waste critical time searching for a pulse.

CPR

CHECK THE SCENE



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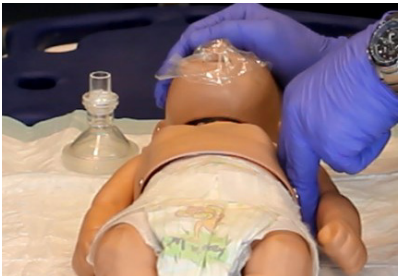

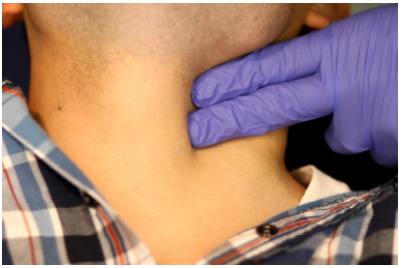

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COMPRESSIONS

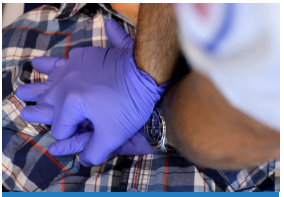
If the victim is unconscious with no normal breathing and no pulse, begin chest compressions.

Give 30 chest compressions at a rate of 100-120 compressions per minute for all ages.

CPR

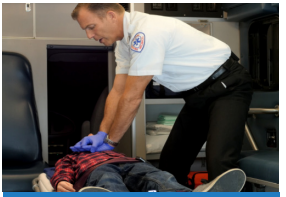
COMPRESSIONS

Hand placement for compressions:



ADULT

Place heel of hand of the dominant hand on the center of the chest between the nipples. The second hand should be placed on top. Compress 2-2.4 inches deep.



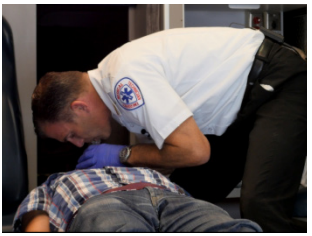
CHILD

Hand placement is the same as adult. You may use one hand in the center of the chest between the nipples or a very small child. Compress at least 1/3 the depth of the chest.

INFANT

Place two fingers on the center of the chest between the nipples. Compress at least 1/3 the depth of the chest.

AIRWAY

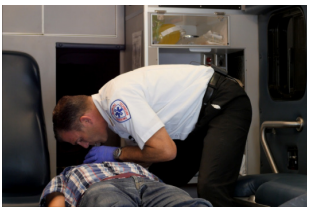


Open Airway using head tilt chin lift Look in the mouth to make sure the airway is clear. If you see any foreign object, sweep it out right away.

BREATHING

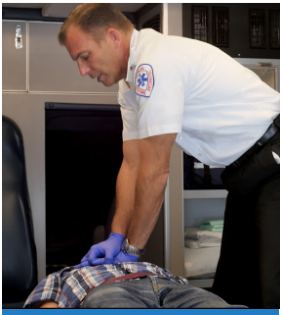
Give 2 breaths lasting 1 second each. Watch for chest rise and fall.

Note: If not using a rescue mask, make sure you make a seal over the mouth on an adult or child and pinch the nose closed each time you give a breath. On an infant, make sure to cover the mouth and nose with your mouth.

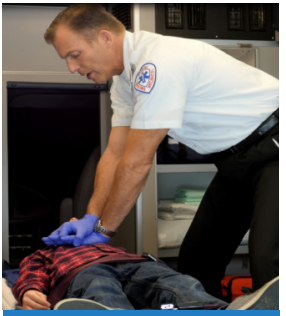


Continue cycles of 30 compressions to 2 breaths until an AED arrives, advanced medical personnel take over, the patient shows signs of life, the scene becomes unsafe, or you are too exhausted to continue.

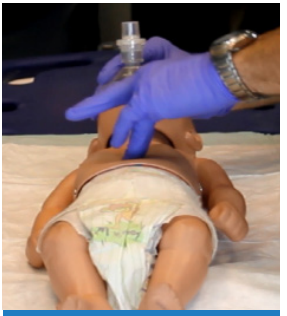
CPR SUMMARY



ADULT



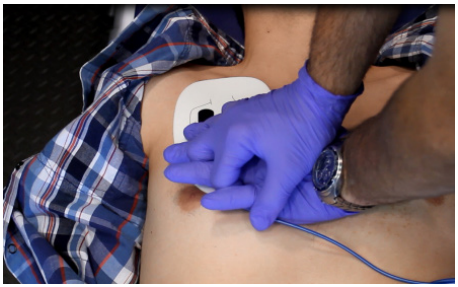
CHILD

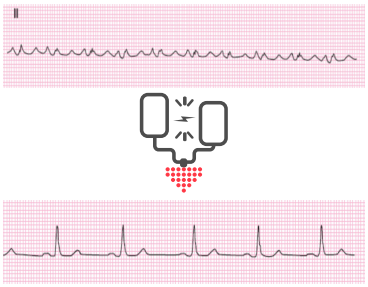


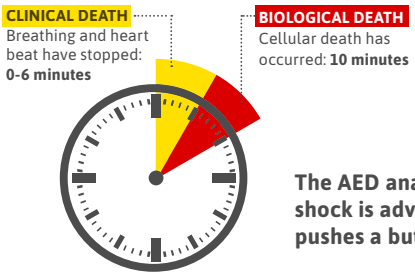
INFANT

- Check the Scene for Safety
- Check the person for responsiveness
- Call 911
- Check Pulse and normal breathing
- Give 30 Chest **Compressions**
  ADULT | rate of 100-120 per minute, 2-2.4 inches deep
  CHILD OR INFANT | rate of 100-120 per minute, 1/3 depth of chest)
- Open the **Airway**
- Give 2 **Breaths**
- Continue cycles of 30 compressions to 2 breaths.

AED- AUTOMATED EXTERNAL DEFIBRILLATOR







The AED analyzes the heart's rhythm, states whether a shock is advised and then powers up, the operator then pushes a button that will deliver the shock.

- Each minute that defibrillation is delayed the chance of survival is reduced by 10 percent. After 10 minutes few people are resuscitated.
- Early defibrillation increases survival rates to greater than 50%.
- Rescuers should begin chest compressions as soon as possible, and use the AED as soon as it is available and ready.
- If you are giving CPR to a child or infant and the available AED does not have child pads or a way to deliver a smaller dose, it is still recommended to use the AED even with adult pads. With adult pads for a small child or infant, you would place one pad on the center of the chest and the other on the center of the back between the shoulder blades.

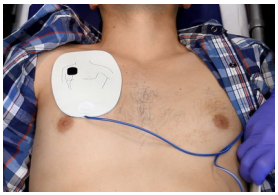
AED CONSIDERATIONS:

- ✔ Remove a patient from standing water, such as in a puddle, before AED use. Rain, snow, or a damp surface is not a concern.
- ✔ Patient should be removed from a metal surface if possible.
- ✔ Slightly adjust pad placement so as not to directly cover the area if the patient has an obvious bump or scar for a pacemaker.
- ✔ Remove medication patches found on the patient's chest with a gloved hand.
- ✔ Never remove the pads from the patient or turn the machine off.

AED | AUTOMATED EXTERNAL DEFIBRILLATOR

→ Turn the machine on.

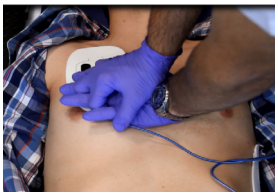
→ Bare the chest. Dry it off if it is wet. If there is excessive hair you may need to shave it off.



→ Place one pad on the patients upper right chest above the nipple. Place the other pad on the patients lower left ribs below the armpit.
****Follow the directions shown on the pads for the AED pad placement.** Make sure pads are pressed down firmly. Follow AED prompts.

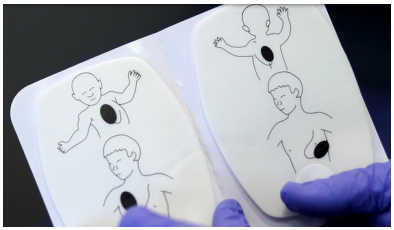
→ Stand Clear. Do not touch the patient while the AED analyzes

→ If the AED says, "Shock advised, charging...," shout, "Clear" and make sure no one is touching the patient. Push the shock button when the AED tells you to.
If no shock is advised give CPR if the patient is not moving and not breathing.

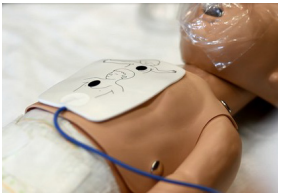


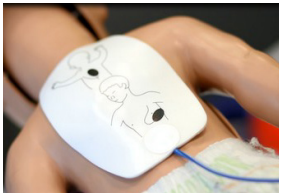
→ As soon as the shock has been delivered, give 30 chest compressions followed by 2 breaths. Continue cycles of 30:2 until you see signs of life.
The AED will reanalyze every 2 minutes and prompt for a shock if needed.

AED | CHILD AND INFANT PAD PLACEMENT



- For children 8 years old and younger, or under 55 lbs, and for infants, an AED with pediatric pads is preferred. If only a standard AED with adult pads is available, it should still be used for children and infants in cardiac arrest. When placing the pads on a child, the pads should not touch.





- For a small child or infant, the pads should be placed one in the center of the chest and one in the center of the back between the shoulder blades.

SPINAL INJURY | JAW THRUST

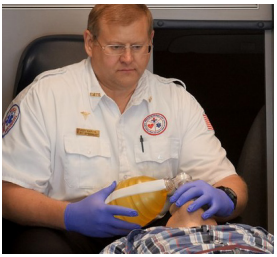
If you suspect a head, Neck or back injury, do not move the person unless it is necessary to provide care for life threatening conditions. A jaw thrust can be used to open the airway.

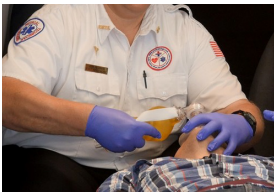
If you are not able to open the airway adequately with the jaw thrust, use a head-tilt chin-lift to open the airway. For an unconscious, non-breathing person it is more important to have an open airway rather than consideration of a potential spinal injury.

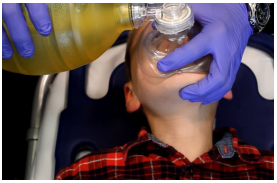
To perform a Jaw Thrust:

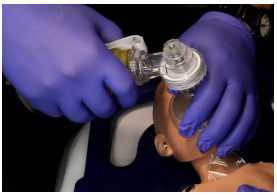
- Place hands firmly along the side of the victim's face
- The fingers are placed on the bottom of the jawbone
- The thumbs are placed on the cheekbones
- To open the airway, lift up on the bottom of the jawbone while the thumbs stay firmly on the cheekbones

BAG VALVE MASK









- If a bag-valve mask is available attach the bag-valve mask to a source of oxygen set at 12-15 L/min. If no O2 is available remove the residual bag reservoir at the end of the bag-valve mask and use room air.

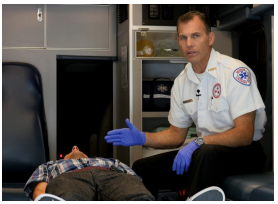
- Using the "C-E" method for sealing the bag-valve mask to the patient's face, prepare to ventilate the patient. Please note that if for any reason the bag-valve ventilations are ineffective, revert to mouth-to-mask or face shield delivery method for rescue breaths.

- Ensure that thumb and forefinger are sealing the mask at the face of the patient. With middle, ring, and pinky fingers, grab the mandible (jaw) of the patient and pull the patient's face into the mask seal. If the mask is sealed well, there should be minimum to no air leakage on ventilation. Squeeze the bag fully so that the patient's chest rises. When the chest rises stop squeezing the bag so to avoid over-inflation which may force the air into the stomach.

- Ventilate at 1 breath every 6 seconds for and adult and 1 breath every 2-3 seconds for a child or infant, to perform rescue breathing. If an advanced airway is in place, perform 1 breath every 6-8 seconds. Take care not to hyperventilate the patient.

- A proper size mask that fits the patient needs to be used. In other words, an infant size mask would be used on an infant and an adult size mask would be used on and adult. The mask covers the mouth and nose, and needs to create a seal that does not allow air to escape around the edges of the mask.

TWO RESCUER CPR



CHECK THE SCENE

Key Questions to ask:

- → Is it safe for me to help?
- → What happened?
- → How many patients are there?
- → Do I have my personal protective equipment ready to use?

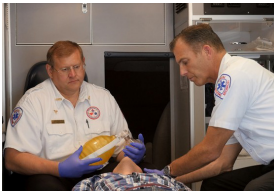
CHECK THE PATIENT

Tap and shout. Is there any response? Look at the person's chest and face. Is the patient breathing normally?

Agonal respirations are not normal breathing. They would be characterized as occasional gasps with no chest rise.

ACTIVATE EMS – CALL 911

Send someone to call and tell them to come back. The caller should give dispatch the patient's location, what happened, how many people are injured, and what is being done.

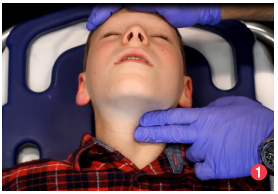


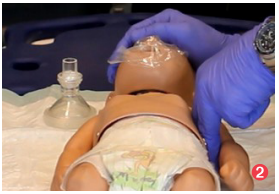
CHECK PULSE

Check the pulse for no more than 10 seconds.

❶ **Adult and Child** | Check the carotid artery in the neck.

❷ **Infant** | Check the brachial artery on the inside of the upper arm.



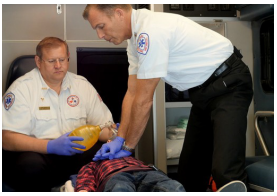


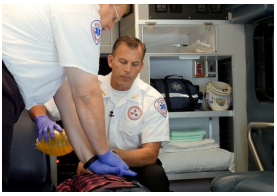
TWO RESCUER CPR

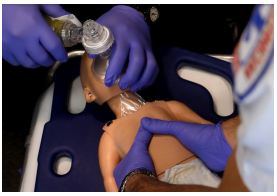
ADULT 2 RESCUER CPR:

GIVE 30 COMPRESSIONS TO 2 BREATHS

- → If starting together, the second rescuer can get into position to provide respirations while the primary rescuer begins compressions.
- → If primary rescuer starts CPR alone, the second rescuer should take over compressions when or she arrives.
- → After every 5 cycles of 30:2, or every 2 minutes, the compressor should call for a switch.
- → Rescuer at the head should finish 2 breaths. Then, move into position and begin compressions. The switch should take less than 10 seconds.







CHILD AND INFANT 2 RESCUER CPR

GIVE 15 COMPRESSIONS TO 2 BREATHS

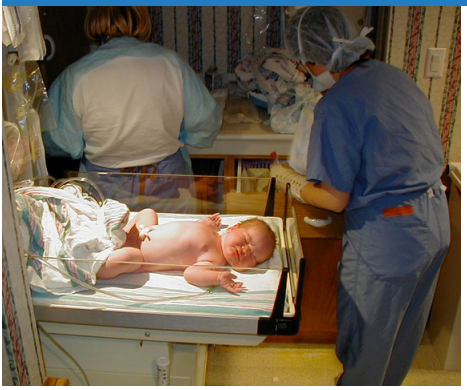
- → If starting together, the second rescuer can get into position to provide respirations while the primary rescuer begins compressions. For a child (age 1 to approx. 12-14 years old) use 1 or 2 hands as needed for the size of child.
- → If primary rescuer starts CPR alone, the second rescuer should take over compressions when or she arrives.
- → After every 10 cycles of 15:2, or every 2 minutes, the compressor should call for a switch.
- → Rescuer at the head should finish 2 breaths. Then, move into position and begin compressions. The switch should take less than 10 seconds.
- → For infants, compressor should use the 2 thumbs hands encircling chest compression technique.

TEAM APPROACH

In some rescue situations there may only be one rescuer who can give care in the normal sequence of assessments and actions: check the scene, check the person, call 911, check pulse, give 30 compressions, give 2 breaths, prepare and use and AED.

In many situations there is often more than one rescuer trained and willing to help. This is when the team approach should be used. This allows multiple rescuers to perform several actions simultaneously. One rescuer can be providing compressions, at the same time another is preparing the AED, at the same time another is getting ready to give breaths with a Bag Valve Mask. The primary or initial rescuer should take on the role as team leader and delegate the tasks that need to be done. With rescuers working together in this fashion, the most efficient and beneficial care will be given to the patient.

NEONATAL CPR



A neonate is defined as a baby under 1 month old. The most common reason for neonate cardiac arrest is ashpyxial. For this reason, the priority of assessment and care is different: Airway, Breathing, and Circulation. A ratio of 3 compressions to 1 breath is recommended. This allows adequate ventilation and oxygenation that a newborn needs.

CONSCIOUS CHOKING

CONSCIOUS CHOKING

- ask, “Are you choking?
- If a person is unable to cough, breath or speak, activate EMS

ADULT AND CHILD

- Stand behind the victim with one foot in-between the victims feet and your other foot behind you.
- Place the flat side of your fist just above the patients belly button. Grab the back of your fist with your other hand.
- Administer abdominal thrusts, pulling inward and upward, until the object comes out or the patient becomes unconscious.

INFANT

- Support the infant’s face and place body on your forearm.
- Keep the infants head lower than the feet.
- Administer 5 back blows between the shoulder blades with the palm of your hand.
- Support the infant’s head. Turn the baby over onto your other forearm. Give 5 chest thrusts.
- Continue back blows and chest thrusts until object comes out or infant becomes unconscious.

SPECIAL CIRCUMSTANCES:

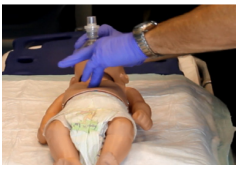
- If the patient is pregnant or too large to reach around, give chest thrusts instead.

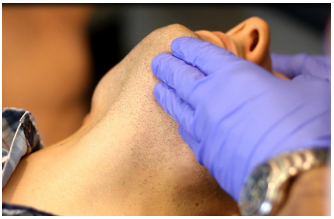
UNCONSCIOUS CHOKING

- If you are giving someone abdominal thrusts and the person goes unconscious, lower the patient safely to the ground.
- Activate EMS, send someone to call 911

ADULT, CHILD AND INFANT

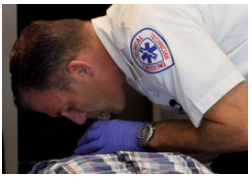
- Give 30 chest compressions





- Open the airway and check the mouth for a foreign body. If something is seen sweep it out with a finger. Use the pinky finger for an infant.

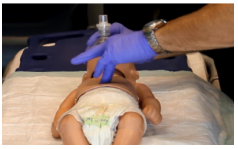
- Attempt rescue breaths. If breaths do not make the chest rise, reposition head and reattempt rescue breaths.



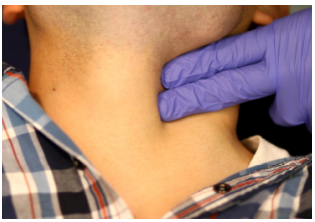
UNCONSCIOUS CHOKING

ADULT, CHILD AND INFANT

→ Give 30 chest compressions.



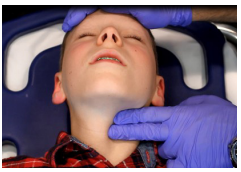
→ Open the airway and check the mouth for a foreign body. If something is seen sweep it out with a finger. Use the pinky finger for an infant.

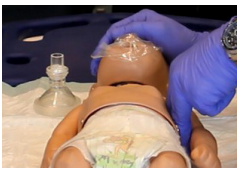


→ Give 2 breaths.

→ If breaths do not make the chest rise, reposition head and reattempt rescue breaths. Continue compressions, foreign body check, breathing attempts until air goes in and chest rises.

→ If air goes in and makes chest rise, check pulse.





→ If victim has no pulse and is still not breathing normally, continue CPR with cycles of 30 compressions to 2 breaths.

→ If pulse is present, but no normal breathing, start rescue breathing.

FIRST AID CARE

BLEEDING CONTROL

Capillary bleeding is usually not serious and is characterized by oozing blood that is easily stopped. **Venous bleeding** steadily gushes larger amounts of blood, but can usually be stopped with direct pressure. **Arterial bleeding** is usually spurting and is the most serious because a large amount of blood can be lost quickly.

- → Inspect the wound. Look for the area were the bleeding is coming from. Apply gloves.
- → Use direct pressure on the wound using an absorbent pad or gauze. Add more gauze or padding if necessary.
- → Make a pressure bandage by wrapping a roller gauze or elastic bandage around the wound to maintain bleeding control.
- → If severe bleeding is not controlled, consider using a tourniquet.
- → Activate EMS if severe bleeding is present, use direct pressure and apply pressure bandage. *If wound is minor, wash and apply an antibiotic ointment, then bandage as needed.*

NOSE BLEEDS (EPISTAXIS)

- → **Treatment:** Pinch nose, tilt the head forward, and apply a cold pack to bridge of nose.

EVISCERATION (DISEMBOWELMENT)

- → **Treatment:** Activate EMS, cover with sterile or clean moist dressing. Do not attempt to push bowl or organs back into place. Keep patient warm, care for shock, check and correct ABC.

AMPUTATION

- → **Treatment:** Activate EMS, control bleeding with direct pressure with bulky dressing. If amputated part can be found wrap in clean or sterile dressing and place in plastic bag. Put bag in container of ice and water. Care for shock, check and correct ABC. Do not soak amputated part in water or allow it to freeze by putting it directly on ice.

DENTAL EMERGENCIES

- → **Treatment:** For bleeding, apply a moistened piece of gauze with direct pressure to the area. Be careful not to block the airway or cause a choking hazard. If teeth are knocked out, avoid handling by the root end, store in coconut water or milk. Apply a cold compress to the outside of the mouth, cheek, or lip near the injury to keep any swelling down and relieve pain. If life threatening conditions exist, call 911 and provide appropriate care. Otherwise, seek medical treatment and dental care as soon as possible.

FIRST AID CARE

SHOCK

- Shock is the body's inability to circulate oxygen to the vital organs.
- **Signs & Symptoms:** restlessness, dizziness, confusion, cool moist skin, anxiety, delayed capillary refill time, and weakness.
- **Treatment:** Recognize, Activate EMS, keep calm, give nothing to eat or drink, maintain body heat, raise the legs if no spinal injury or fracture of the legs.

SECONDARY SURVEY

The secondary survey is an organized way to check a conscious person for conditions which may not be visible or immediately life threatening, but may become so if not cared for. Call 911 for any altered level of consciousness, signs of shock, or potential head, neck or back injuries. Perform a head to toe exam:

Look from head to toe for:

- ✔ Deformities
- ✔ Contusions
- ✔ Abrasions
- ✔ Penetrations
- ✔ Burns
- ✔ Tenderness
- ✔ Lacerations
- ✔ Swelling

Head | soft spots, blood, look at the eyes, blood or loose teeth in the mouth, blood or fluid from nose or ears, bruising of the eyes and behind the ears

Neck | bleeding, pain, tenderness, bruising, open wounds

Chest | blood, accessory muscle breathing, broken ribs, or open wounds

Abdomen | bleeding, abdominal evisceration, guarding, tenderness, bruising

Pelvis | bleeding, instability

Legs | bleeding, bruising, deformity, open wounds, sensation and movement

Arms | bleeding, bruising, deformity, open wounds, distal sensation and movement

SPECIAL CONSIDERATIONS

SPECIAL CONSIDERATIONS FOR HYPOTHERMIA

If the victim is unresponsive, not breathing, and suspected to be in hypothermia, follow the normal steps for CPR and take a few extra steps.

- Activate EMS and begin CPR without delay if there is no pulse
- AED should be used as normal
- Do not wait to check the victim's temperature
- Do not wait until the victim is rewarmed to start CPR
- Wet clothes should be removed from the victim to prevent further heat loss
- Shield the victim from wind or cold
- If the person is breathing, rewarm and monitor the person until EMS arrives. Avoid rough movement and handle person gently.
- Passive warming, such as warm blankets and heat packs, can be used until active warming is available with advanced medical care.

SPECIAL CONSIDERATIONS FOR PREGNANCY

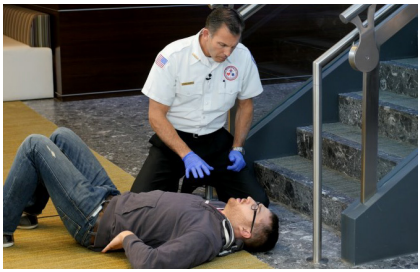
- The same skills and techniques for Adult CPR need be followed. The focus needs to be on providing high quality CPR for mother. Because of potential interference with maternal resuscitation, fetal monitoring should not be undertaken during cardiac arrest in pregnancy.
- Because pregnant patients are more prone to hypoxia, oxygenation and airway management should be prioritized during resuscitation from cardiac arrest in pregnancy.

FIRST AID CARE

HEAD, NECK AND BACK INJURIES

Common Causes are:

- Motor Vehicle accidents
- Pedestrian-vehicle collisions
- Falls
- Blunt trauma
- Diving accidents
- Any trauma leaving the patient unresponsive



Signs and symptoms include:

- Bruising around the eyes and behind the ears
- Irregular or abnormal breathing patterns
- Altered mental status
- Unconsciousness
- Headache
- Pain, pressure, stiffness in the back or neck area
- Inability to move the arms or legs
- Numbness or tingling in the extremities

Treatment: Activate EMS, do not move the patient unless life threatening danger arises, minimize movement, check and correct ABC.

CONCUSSIONS

Signs and Symptoms include:

- Dizziness
- Inability to track movement with eyes
- Blurred vision
- Loss of balance
- Confusion
- Acute memory loss
- Dazed look
- Nausea

Treatment: Activate EMS, let patient sit in position of comfort, monitor patient for life threatening issues, check and correct ABC.

Concussion in sports: If a player shows signs of having a concussion, the player is not allowed to go back to play until cleared by a physician.

FIRST AID CARE

MUSCULOSKELETAL INJURIES

Sprains and strains:

A sprain is an overextended ligament. A strain is an overextended muscle. In either case, a minor sprain or strain is usually not serious. A more serious strain or sprain may show the same signs as a fracture and require medical attention. Sprain or strain signs include:

- Pain upon movement
- Tenderness
- Minor swelling or bruising

Treatment: RICE - **R**est the injured area, **I**ce for 10-15 minutes every hour, **C**ompress by wrapping with an ACE or elastic bandage, **E**levate the injured area above the person's heart level.

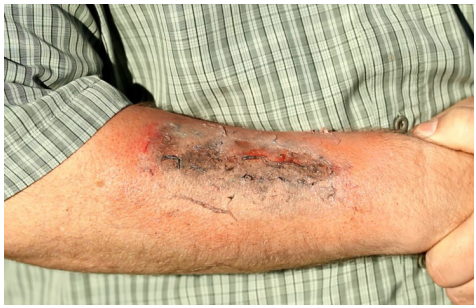
Fractures:

- If patient is not to able to move the body part, treat as a fracture.
- Consider the mechanism that caused the injury.
- Look for deformity, open wounds, tenderness, significant swelling, discoloration, bruising, crepitus (a grating sensation), and loss of movement.
- Cover any open wounds with dry clean dressings, but do not apply pressure over possible fracture.
- General splinting is not recommended. Stabilize fractures in the position found. Splinting may be appropriate if there will be an extended time for EMS response, EMS is not available, or an individual will be transporting the patient to a hospital.

Treatment: Activate EMS if necessary, manually stabilize the affected body part, do not attempt to straighten, use ice to minimize swelling.

FIRST AID CARE

BURNS



First Degree

- Pain
- Red Skin
- Swelling

Second Degree

- Pain
- Blistering
- White or Red Skin
- Body fluids leaking from the burn site

Third Degree

- Both numbness is burned area and severe pain in surrounding area
- Multicolored skin, black, white, gray, and red
- Severe body fluid loss

Treatment: Stop the burning. Cool burn with water, cover with dry sterile dressing (for chemical burns, flush with water for 15-20 minutes). For 1st and 2nd degree burns, activate EMS if severe conditions exist. For 3rd degree burns, electrical burns, and chemical burns activate EMS immediately. For electrical burns, look for entrance and exit burns. Care for shock, check and correct ABC.

EYE INJURIES

- **Burns |** stop the burning, bandage both eyes
- **Chemical |** flush with warm water for 15-20 minutes and bandage both eyes
- **Penetrating Trauma |** Do not remove. Bandage the object into place, place a cup over object, and cover both eyes.

Treatment: Activate EMS if severe conditions exist. Seek professional medical treatment for all forms of eye injuries.

FIRST AID CARE

DIABETIC EMERGENCIES

Signs & Symptoms :

- Altered level of consciousness
- Personality changes
- Irritability
- Weakness
- Dizziness
- Difficulty breathing
- Cool, clammy skin

Treatment: Give sugar if conscious. If unconscious or condition does not improve, activate EMS, check and correct ABC.

SEIZURES

Signs & Symptoms :

- Altered level of consciousness
- Uncontrollable shaking
- Stiffness

Treatment: Activate EMS if the reason for the seizure is unknown or it lasts for more than 5 minutes. Protect patient from further harm, place nothing in the mouth, and do not try to restrain the patient. After seizure ends, open the airway, check and correct ABC, and consider moving patient into the recovery position if patient is unconscious and breathing.

POISON CONTROL

The most important point for poisoning is to prevent it from happening. Store poisons, like cleaning products and medications, out of reach of children. Use cabinet and drawer safety locks.

Signs & Symptoms

- Open bottles of medication or cleaning products near the victim
- Altered level of consciousness
- Hallucinations
- Burning sensation in the chest and throat
- Headache
- Excessive sweating
- Burns, stains, or blue tint around the mouth
- Difficulty breathing
- Nausea and vomiting
- Severe abdominal cramping

Treatment: Activate EMS and call Poison Control Services, 1-800-222-1222. Follow their directions.

FIRST AID CARE

SNAKEBITES

Bites from poisonous snakes can be deadly if not treated quickly. Because children have a smaller body size, they are at higher risk for death or serious complications.

Getting the victim advanced medical care and into an emergency room as quickly as possible is most important. A person's life can be saved and serious effects avoided with the right antivenom and quick action.

Signs & Symptoms

Bleeding from wound, Blurred vision, Burning of the skin, Convulsions, Dizziness, Excessive sweating, Fainting, Fang marks in the skin, Loss of muscle coordination, Nausea and vomiting, Numbness and tingling, Severe pain, Skin discoloration, Swelling at the site of the bite, Weakness

Treatment: Activate EMS, apply a pressure immobilization bandage, keep injured area still and below the level of the heart.

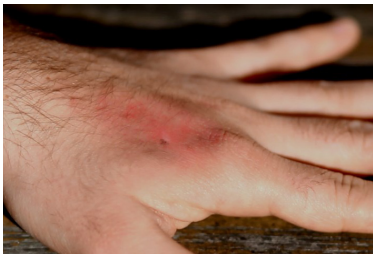
JELLYFISH STINGS

- Jellyfish stings should be washed with vinegar as soon as possible for at least 30 seconds, to inactivate the venom
- After washing well with vinegar, immerse affected area in hot water to help reduce pain

ALLERGIC REACTIONS

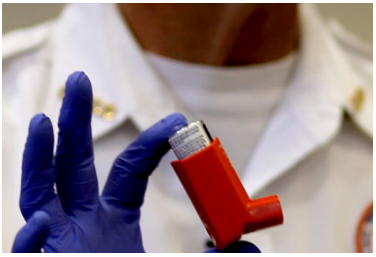
Allergic reaction can happen because of food, drugs, poisons, plants, inhalation or insect stings.

- Altered level of consciousness
- Burning sensation in the chest and throat
- Difficulty breathing
- Nausea and vomiting
- Severe abdominal cramping
- Rashes/Hives



Treatment: Activate EMS, place in position of comfort. Look for obvious bites and stings. If the patient has a prescribed Epi-pen, assist patient to utilize the device.

FIRST AID CARE



ASTHMA

Signs & Symptoms

- Shortness of breath or wheezing
- Leaning forward to breath
- Unable to make noise or speak
- Blue lips and fingernails
- Moist skin
- Rapid, shallow breathing

Treatment: Activate EMS and keep patient calm. Place in position of comfort. Ask about allergies, asthma, COPD or other medical conditions. If the patient has a prescribed inhaler, assist patient to utilize the device. Check and correct ABC.

EPINEPHRINE INJECTION

Epinephrine is the first line of defense when it comes to treating anaphylaxis. The sooner it's administered, the less severe the allergic reaction will typically become. Anytime an EpiPen or other auto injectable brand device is used, 911 must be called. A first Aid provider can only assist a person in using their own prescribed EpiPen. There may be exceptions, such as at a camp or school, where a first a provider may have authorization to use an EpiPen that is part of the First Aid equipment.

To administer an epi-pen:

- Remove the safety cap.
- Grip the epi-pen in your hand with the tip pointing downward. Never put your thumb, fingers or hand over the tip.
- Firmly push the tip into the person's outer thigh until the pen clicks. The needle will go through clothing. Keep the auto-injector firmly pushed against the thigh at a 90° angle.
- Hold it there for three seconds.
- Pull the EpiPen straight out of the leg. Make sure not to pull out at an angle as this could cause a lot of pain and bleeding. If blood comes out, the drug may also come out and reduce its effectiveness.
- Rub the area for about 10 seconds just to help drug absorption within the muscle of the leg.
- A second EpiPen may be administered if the symptoms continue or recur and there is a delay in EMS response of more than 5-10 minutes.

FIRST AID CARE

HEAT RELATED EMERGENCIES

HEAT CRAMPS

- Faintness, dizziness
- Exhaustion
- Possible nausea and vomiting
- Normal mental status
- Severe muscle cramps/pain

Treatment: Get patient out of the hot environment, cool the patient, remove tight clothing, and give water if tolerated.

HEAT EXHAUSTION

- Moist and clammy skin
- Pale
- Weak, dizzy or faint
- Headache
- Nausea and vomiting

Treatment: Get patient out of the hot environment, remove clothing as necessary, gently cool the patient, give water if tolerated. Immerse the persons full body in cool water if it can be done safely, keeping the head above water. If patient does not improve or becomes unconscious, activate EMS, check and correct ABC.

HEAT STROKE

- Unconscious or nearly unconscious
- Dry or wet skin, usually red
- Very high body temperature

Treatment: Activate EMS immediately, get patient out of the hot environment, check and correct ABC, remove clothing as necessary, gently cool the patient, give nothing to drink or eat. Immerse the persons full body in cool water if it can be done safely, keeping the head above water.

FIRST AID CARE

COLD RELATED EMERGENCIES

Factors that affect onset

- Weather severity
- Age
- Pre-existing medical condition
- Alcohol or drug consumption
- Clothing

HYPOTHERMIA

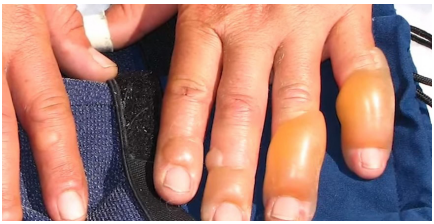
Hypothermia tends to progress in stages starting from mild signs to severe. The earlier signs are recognized and treated, the better the outcome.

- Shivering
- Feeling of numbness
- Slow breathing
- Slow pulse
- Slurred speech
- Decreased levels of consciousness
- Hard, cold, painless body parts
- Death

Treatment: Get patient out of cold environment. Gently rewarm by removing wet clothing and covering patient with a dry blanket. If patient does not improve, shows decreased level of consciousness or becomes unconscious, activate EMS.

FROST-BITE

- Waxy looking, discolored, numb, swollen extremities (usually fingers and toes) after prolonged exposure to cold.
- Blisters may occur in severe cases.



Treatment: Seek immediate professional medical help. Do not rub the affected area. Do not rewarm area if chance of refreezing exists. Rewarm with warm water, not hot.

SPECIAL CONSIDERATIONS

SPECIAL CONSIDERATIONS FOR HYPOTHERMIA

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- Wet clothes should be removed from the victim to prevent further heat loss
- Shield the victim from wind or cold
- If the person is breathing, rewarm and monitor the person until EMS arrives. Avoid rough movement and handle person gently.
- Passive warming, such as warm blankets and heat packs, can be used until active warming is available with advanced medical care.

SPECIAL CONSIDERATIONS FOR PREGNANCY

- The same skills and techniques for Adult CPR need be followed. The focus needs to be on providing high quality CPR for mother. Because of potential interference with maternal resuscitation, fetal monitoring should not be undertaken during cardiac arrest in pregnancy.
- Because pregnant patients are more prone to hypoxia, oxygenation and airway management should be prioritized during resuscitation from cardiac arrest in pregnancy.

SPECIAL CONSIDERATIONS

SPECIAL CONSIDERATIONS FOR DROWNING

Water does not need to be "pumped out" of the lungs or stomach of a drowning victim. The routine use of abdominal thrusts or other techniques to remove water from drowning victims is unnecessary, potentially dangerous, and not recommended.

Most victims do not get large amounts of water in their lungs, ie. aspirate water. This is because of the body's natural defense of keeping water out of the lungs with a laryngospasm (breath holding). Even if water is aspirated, there is no need to clear the airway of aspirated water, because only a small amount of water is aspirated by the majority of drowning victims. Aspirated water is rapidly absorbed into the central circulation.

- → The number one priority is the rescuer's safety. The rescuer must not put himself or herself in danger to rescue a drowning victim. Do not swim out to a drowning victim. Reach out with a long object, throw something that floats, but don't go.
- → The first and most important treatment of the drowning victim is ventilation. Prompt initiation of rescue breathing increases the victim's chance of survival. Victims with only respiratory arrest usually respond after a few artificial breaths are given.
- → For an unresponsive, non-breathing victim, immediate bystander CPR plus early activation of the EMS system is crucial .
- → CPR normally begins with chest compressions in a C-A-B sequence. However, the guidelines recommend CPR for drowning victims should use the traditional A-B-C approach in view of the lack of oxygen, ie. hypoxic nature of the arrest. It would be appropriate to open the airway and give 2 breaths before starting compressions.
- → To use the AED, the victim needs to be out of the water. However, it is only necessary to dry the chest area before applying the defibrillation pads and using the AED.
- → Vomiting is common in drowning victims. If vomiting occurs, turn the victim to the side and remove the vomit using your finger. Continue care after airway is cleared.
- → Passive warming, such as warm blankets and heat packs, can be used until active warming is available with advanced medical care If severe bleeding is not controlled, consider using a tourniquet.
- → Activate EMS if severe bleeding is present, use direct pressure and apply pressure bandage. If wound is minor, wash and apply an antibiotic ointment, then bandage as needed.

SPECIAL CONSIDERATIONS

OPIOID OVERDOSE

Opiates and opioids are Central Nervous System (CNS) depressants that can slow down breathing, eventually causing it to stop.

Anyone taking opiates can suffer opiate or opioid overdose, especially when a person takes more than was prescribed by the doctor, combines opiates or opioids with other CNS depressants or has an unknown condition that makes them more sensitive to overdose.

Common opiates and opioids:

- Heroin
- Morphine
- Codeine
- Methadone
- Hydrocodone known as Vicodin or Lortab
- Oxycodone otherwise known as Percocet

Common drugs that may cause similar signs, but are not opioids or opiates: (Naloxone has no effect on these drugs)

- Cocaine
- LSD
- Ecstasy
- Tranquilizers
- Marijuana

Common opioid overdose signs:

- Bottles of drugs or drug paraphernalia nearby the patient
- A very slow respiration rate or not breathing
- Pinpoint pupils

→ For a patient with a suspected opioid overdose, appropriately trained lay rescuers or healthcare providers should administer intramuscular or intranasal naloxone, if available.

→ A naloxone dose of 2 mg is recommended for rapid reversal when res-piratory compromise is present. Naloxone typically takes 3-5 minutes for full effect.

→ For patients suspected to be in cardiac arrest, standard resuscitative measures should take priority over naloxone administration, with a fo-cus on high-quality CPR.

→ If there is no change in 3-5 minutes after the first dose of naloxone, one can administer another dose and continue CPR .

MOVING PEOPLE

RECOVERY POSITION

- Used when a person is breathing and unconscious
- Helps keep airway open
- Allows fluid to drain from mouth
- Prevents aspiration

- Extend victim's arm closest to you above victim's head
- Place victim's leg farthest from you, over his other leg
- Support head and neck
- Place victim's arm farthest from you across his chest

- Roll victim towards you
- Position victims top leg so the knee acts as a prop for the body
- Place victim's hand under chin to keep airway open

EMERGENCY RESCUE MOVES

In general a rescuer should not move a person unless it is necessary to provide care or there is a direct danger to the person's life. Remember to protect the head, neck and back.

Clothing Drag

Grasp the shirt near the shoulders. Lift up and walk backwards dragging the patient.

Blanket Drag

Place the patient on blanket or sheet. Grasp at head end, lift up and walk backwards or crawl while dragging the patient.

Extremity drag

If necessary simply drag by holding the legs or forearms and pulling.

HEALTHCARE PROVIDER SKILL CHART

SKILL	ADULT adolescent and older (approx 12 years or older)	CHILD 1 year to adolescent	INFANT under 1 year old
Check the scene	Do not enter an unsafe scene	Do not enter an unsafe scene	Do not enter an unsafe scene
Check the patient for unresponsiveness	Tap on the collar bones and shout	Tap on the collar bones and shout	Tap the shoulders or flick the feet and shout
Activate EMS	**If completely alone:** Activate EMS after unresponsiveness is found. Come back to provide care. If asphyxial arrest is likely, call after 2 minutes or 5 cycles of CPR	**If completely alone:** Go activate EMS after 5 cycles or 2 minutes of CPR. For a sudden witnessed collapse, activate EMS after unresponsiveness is found. Come back to provide care	
Check pulse and check for normal breathing	Carotid Artery in the Neck **Check for no more than 10 seconds.** Look at face and chest for breathing.		Brachial artery in the upper arm: **Check for no more than 10 sec.** Look at face and chest for breathing.
Compressions Push hard and fast	**1 or 2 rescuer:** 30 at a rate of 100-120 per minute. **Use 2 hands:** Place the heel of 1 hand in the center of the chest, place other hand on top. **Depth:** 2—2.4 inches	**1 rescuer:** 30 **2 rescuer:** 15 at a rate of 100-120 per minute. **Use 1 or 2 hands:** Place the heel of 1 hand in the center of the chest, if needed place other hand on top. **Depth:** At least 1/3 the depth of the chest	**1 rescuer:** 30 **2 rescuer:** 15 at a rate of 100-120 per minute. Use 2 fingers on the breastbone between the nipples. **2 rescuer:** Use 2 thumbs hands encircling chest technique. **Depth:** At least 1/3 the depth of the chest
Airway	Head tilt chin lift. Look in the mouth for any foreign objects.		
Breathing	Give 2 breaths lasting about 1 second each.		
Unconscious Choking: After attempting 2 breaths, they will not go in and make chest rise.	Reposition airway, tilt head back further and try again. If air still does not go in and make the chest rise, begin 30 chest compressions, open the airway and look in the mouth for a foreign object. If one is seen, sweep it out, attempt 2 breaths. If air does not go in, reposition airway, tilt head back further and try again. Continue cycles of 30 chest compressions, foreign body check, 2 breaths, reposition attempt 2 breaths again until air goes in and makes chest rise. After breaths go in, check patient and provide appropriate care.		
Rescue Breathing: Patient has a pulse but is not breathing	**1 breath every 6 seconds:** recheck ABC every 2 minutes.	**1 breath every 2-3 seconds:** recheck ABC every 2 minutes.	
AED	CPR should be provided immediately until an AED is available and ready to use.	Child pads with attenuator should be used for Infants to 8 years old. If not available, use adult pads. Don't let pads touch together.	

ProTrainings is a nationally recognized CPR & First Aid Training provider offering healthcare CPR, lay rescuer/ general workplace CPR, and first aid certification. All courses follow the latest scientifically backed and nationally recognized guidelines developed by the International Liaison Committee on Resuscitation (ILCOR) and the AHA/ECC.

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