



# Online **CPR** Skills

You Can Save Lives



**CPR | AED | FIRST AID**

**MANUAL**



# Course Content

- Chain of survival / Personal protection
- Scene safety/ Victim assessment
- Call 91-1
- CPR for adult, child & infant
- Use of a mouth barrier/face shield
- AED use
- Recovery position
- Laws/ Good Samaritan
- Prevention of cardiovascular disease
- Recognition and action steps for suspected heart attack and stroke
- Choking
- Bleeding & Shock
- Asthma
- Anaphylactic shock/ epi pen
- Seizures
- Hypothermia/ Heat exhaustion
- Moving victims

The purpose of this booklet is to provide a source for review and assistance with the CPR/AED/FIRST AID curriculum. Participants desiring CPR certification need to use [www.onlinecprskills.com](http://www.onlinecprskills.com) to view the videos, receive instruction, and complete testing.

## Terminology

- 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 are informing the patient of the consequences, and then the patient giving you permission to provide 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 the 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 encountering any body fluids.

# Chain of Survival

## The 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
- Immediate CPR
- Rapid Defibrillation
- Basic or Advanced Care
- Hospital Care

## Personal Protection

### 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 may need to remove rings or other jewelry that may rip the gloves.



**Removing Gloves:** Remember to use skin to skin and glove to glove. Pinch the outside wrist of the other gloved hand. Pull the glove off turning the glove inside-out as you remove it. Hold it in the gloved hand. 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 Mouth Barrier or Face Shield:

If you are going to provide rescue ventilations, use a mouth barrier or face shield that has a one-way valve to prevent exposure

# Scene Safety



## 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?

# Assess the Victim



## Check the victim

Tap and shout. Is there any response?

**look for normal breathing** by looking at the person's chest and diaphragm. Is the patient breathing normally?

Agonal respirations are not normal breathing. They would be characterized as occasional gasps. There is no rise and fall of the chest or abdomen.



**Rookie Mistake;** rushing into the scene and becoming part of the problem rather than the solution. Take your time and get the big picture.

# Call 9-1-1



If they are not breathing, we immediately have someone call 9-1-1 and have someone else retrieve the AED if available.

Now, if you are by yourself, you must call 9-1-1 first before beginning CPR. Get the Paramedics on the way.

## Information you need for the 9-1-1 dispatcher

- What is the nature of the emergency, and is it clear and concise? In other words what happened.
- Your name, phone # and location
- What happened or any special circumstances?
- Are they breathing?
- Are they bleeding?
- Are they responsive?
- What is being done for the victim? Have you begun CPR?

Be calm and answer their questions. Arguing or trying to rush the dispatcher only delays the response.

Then grab an AED if available and head back quickly to do CPR.



**Rookie Mistake;** calling 9-1-1 before assessing the victim and getting all the facts.

# Recovery Position



## Recovery Position

- Used when a person is breathing and unconscious
- Helps keep airway open
- Allows fluid to drain from mouth
- Helps prevent aspiration
- Improves blood flow
- Extend victim's arm farthest from you above victim's head
- Place the victim's leg nearest to you, over his other leg.
- Support head and neck on arm
- Place victim's arm nearest to you across his chest
- Roll victim away from 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

# Compressions



If the victim is unresponsive with no normal breathing, begin chest compressions.

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



## Hand placement for compressions:

**Adult**— Place the heel of your hand at the center of the chest with your middle finger in line with the nipple. The second hand should be placed on top, with your fingers interlaced. Compress 2-2.4 inches deep.



**Child**— Hand placement is the same as adult. You may use one or two hands in the center of the chest between the nipples. Compress at least 1/3 the depth of the chest or about 2 inches.



**Infant**— Place two fingers on the center of the chest one finger below the nipple line. Compress at least 1/3 the depth of the chest which is about 1 ½ inches.



# 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 with your 2 fingers for an adult and one finger for a child and infant.

# Breathing



**Note:** If not using a rescue mask, make sure you make a tight seal over the mouth on an adult and child and pinch the nostrils closed each time you give a breath.



On an infant, make sure to cover the mouth and nose with your mouth.

Give 2 gentle puffs of breath for the infant.

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

**Rookie Mistake:** Not pinching the nostrils of the adult and child when delivering 2 breaths or rescue breathing.

# CPR SUMMARY

1

## Check for breathing and unconsciousness



Attempt to wake the victim by gently shaking the shoulder while checking for breathing. Look for rise and fall of the abdomen (diaphragm) If not breathing, yell for help and call 9-1-1 immediately. Then **Perform CAB.**



C

## Compressions



Place the heel of your hand in the middle of the victim's chest. Put your other hand on top of the first with your fingers interlaced. Compress the chest at least 2 inches. Perform 30 compressions at a rate of 100-120 pushes per minute.



A

## Airway



After 30 compressions, open the victim's airway using the head-tilt, chin-lift method. Pinch the victim's nose and make a seal over the victim's mouth with yours. Use a CPR mask if available to access quickly. **DO NOT** delay CPR by searching for it!



B

## Breathing



Give the victim a breath, blow for one second, just enough to make the chest rise. Remove your mouth, let the chest fall and then deliver second breath. Then continue cycles of 30-2

# CPR SUMMARY

When you start CPR, we want you to continue until help arrives. But there are times you can quit prior to first responders arriving.

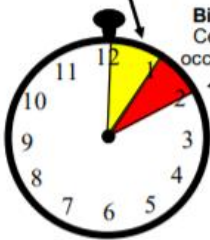
## **When to stop CPR:**

- If the patient begins breathing
- When the fire dept or ambulance arrives
- Someone of equal or higher training can take over
- You, the rescuer becomes too tired to continue, you are exhausted
- If the situation becomes too dangerous. Civil unrest, uncontrolled traffic, lightning strikes, etc.
- And last, if you have been performing CPR for 30 minutes and no Advanced Life Support (Paramedics) have arrived on scene. They have been down too long to survive. The exception to this rule is a cold water drowning or an ice or snow rescue.

# AED- Automated External Defibrillator



**Clinical Death-**  
Breathing and heart beat  
have stopped: 0-6 minutes



**Biological Death-**  
Cellular death has  
occurred: 10 minutes

- AEDs are designed to shock the heart, for the heart to restart under a normal rhythm. 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. 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 the available AED does not have child pads or a way to deliver a smaller dose, it is still recommended to use the AED 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.
- 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. Place near the head of the victim opposite side of the rescuer performing CPR.
- Bare the chest. Dry it off if it is wet. Shave any chest hair. A towel and razor are stored in the kit.
- Place one pad on the victim's upper right chest above the nipple. Place the other pad on the victim's lower left ribs below the nipple.

**\*\*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 heart rhythm
- 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. The AED will deliver 3 shocks in total.

## AED– Child and Infant Pad Placement



- For children under 8 years old and 55 lbs. and 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.

# Hands-only CPR

Hands-Only CPR has received a lot of press in recent years, so much so, most people think this is the new way to perform CPR. It came about as a result when the American Heart Association updated their new CPR guidelines in 2010. It was stated as an alternative to the CPR norm of the time which included breaths along with compressions, but in certain situations you may be unable or unwilling to perform mouth to mouth ventilations. The American Heart Association wanted to be sure you had an alternative, which is Hands-Only.

This also became a great option for the untrained civilian who wanted to help but never had any formal training. In fact, it is now promoted as a way for the public to help. What most people do not realize, is that hands-only CPR does not apply to children or infants. It also does not apply to drowning victims, drug overdoses, or the unwitnessed collapse of any age victim. All these victims need oxygen. **So, the preferred method is still CPR with compressions and breathing. But if you are unable or unwilling to perform breaths, you have the option of compressions only.**

# Legal Issues

**Consent** can be expressed or implied. *Expressed* is when the victim acknowledges your request to help. *Implied* is when an unresponsive victim is in a life-threatening situation and cannot answer for themselves. The law assumes that a victim would want lifesaving help, implying consent.

**Abandonment** means leaving the victim once you have started care without ensuring someone else will continue equal or higher care.

**Negligence** means not following standard practices of care when you have a duty to act (i.e. teachers, firefighters, police, athletic trainers, lifeguards, etc.) that would cause harm or injuries.

**Breach of Duty** caused by omission or commission. Forgetting to put a dressing over the wound is an Omission. Cutting a snake bite is an act of Commission.

For those who are not professional responders your expected level of care is equal to your level of training.



# Cardiovascular Disease

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.

**Cardiovascular disease is the #1 killer in the U.S. The center for Disease Control reports that in the U.S. over 650,000 people die each year from heart disease.**

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 chewable 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 the victim and be prepared to start CPR if necessary.

# Conscious Choking



## Conscious Choking

- Ask, "Are you choking?"
- If a person is unable to cough, breathe or speak, Activate EMS

### Adult and Child

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



### Infant

- Support the infant's face and place the torso on your forearm.
- Keep the infant's 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 (Heimlich maneuver) and the person goes unconscious, lower the victim safely to the ground.
- Activate EMS, send someone to call 9-1-1
- **Adult, Child, and Infant** - Give 30 chest compressions



- Open the airway and check the mouth for a foreign object. 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.
- Give 2 breaths.
- Do Not perform a blind finger sweep.

- Continue compressions, foreign body check, breathing attempts until air goes in and chest rises.
- If air goes in and makes the chest rise
- If the victim is still not breathing normally, continue CPR with cycles of 30 compressions to 2 breaths.

# Bleeding and Shock



## Bleeding Control

- Capillary bleeding is usually not serious and is characterized by oozing blood that is easily stopped. Venous Bleeding steadily gushes large 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 where the bleeding is coming from. Put on gloves.
- Use direct pressure on the wound using an absorbent pad or gauze. Add more gauze or padding if the first gauze becomes soaked.
  - Once more gauze is applied, elevate the arm above the heart to slow blood flow and allow for clotting.
  - If still bleeding, add more gauze and apply pressure to the brachial artery pressure point for another 5 minutes.
  - If you cannot control severe bleeding, consider using a tourniquet.



## 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 by covering victim with a thermal blanket. Raise the legs if no spinal injury or fracture of the legs is suspected.

# Asthma

An asthma attack causes the airway to narrow and makes breathing difficult. Asthma attacks can be caused by environmental factors.

## Some common triggers are.

- Respiratory infections like the common cold
- Allergic reaction to pollen, mold, pet dander
- Exercise can also cause an attack
- Certain foods nuts, milk and eggs can bring on attacks
- Air pollution, cigarette smoke, fumes from cleaning products

Knowing these triggers in advance can help you prevent an asthma attack.

## Signs and symptoms.

- Wheezing and difficulty breathing and speaking
- Dry persistent cough, fear or anxious
- Gray-blue or ashen skin you need to take immediate action.

**Call 9-1-1** first, then if the victim is known to have asthma, help the victim use their prescribed medication, usually an **inhaler**.

Help them into a position of comfort for breathing which is usually sitting up.



## Anaphylactic Shock / Epi pen use



Anaphylaxis is a severe allergic reaction to a substance causing your blood pressure to drop and the narrowing of your airway, making it difficult to breathe. Some things that might cause this include certain foods, insect venom, medications and latex.

**Symptoms** include shortness of breath, a rapid weak pulse, skin rash and nausea. Any rash or swelling of the face or neck should be taken seriously as this could mean the airway is swelling also affecting the victim's breathing.

**Immediately call 9-1-1** and locate an Epi-pen. While the victim is in the seated position, remove the cap to the Epi-pen, and with your dominant hand, grasp the pen and place the orange tip of the pen against the victim's upper thigh, pushing until you hear or feel the click. Hold the pen in place for 3-10 seconds depending on the instructions on the Epi-pen.

Keep the victim in a seated position for easier breathing. If the victim is unconscious, place them into the Recovery Position.

## Seizure



Seizures could be described as a short circuit in the brain resulting in convulsions caused by different conditions including epilepsy. When confronted with a seizure there are some simple steps you can take to ensure the safety of the victim.

**Try to protect them as they go to the ground.** Once on the ground, move any furniture that may injure them as they are convulsing. Protect the head by sliding something soft underneath.

**Time the seizure.** It is especially important to know how long the seizure lasts. Since breathing is compromised during the seizure it is important to know how long the brain was deprived of oxygen. Also, this will be one of the questions from the 9-1-1 dispatcher as well as the paramedics when they arrive on the scene.

Do not attempt to move them during the seizure. Wait till the seizure ends.

The moment the seizure ends, check the victim's breathing. If the victim is breathing, roll them into the Recovery position. If they are not breathing, quickly perform a head tilt chin, if they still do not start breathing, begin CPR immediately.

# Moving People

## 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 back-wards dragging the patient.



- **Blanket Drag**

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

- **Extremity Drags**

If necessary, simply drag by grabbing the legs or forearms (based on any injuries to the limbs) and pulling

# Hypothermia

## Special Considerations for Hypothermia

If the victim is unresponsive with no breathing or no normal breathing, and suspected to be in hypothermia, first aiders would follow the normal steps for CPR and take a few extra steps.

- Quickly move the victim out of the cold
- Shield the victim from the wind or cold
- Do not give any alcohol to drink
- Wet clothes should be removed from the victim to prevent further heat loss
- Do not rub or massage the skin to warm
- 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.

# Heat Exhaustion

Heavy sweating, thirst, fatigue and heat cramps. Advanced heat exhaustion includes headache, dizziness, nausea and vomiting.

## Treatment includes.

- Move the victim out of the heat to rest in a cool place and loosen or remove their outer clothing.
- Raise the legs 6-12 inches.
- Give the victim a carbohydrate-electrolyte drink, like a sports drink to support rehydration.
- Cool the victim by placing a wet cloth on the forehead and applying cool water spray to the skin or clothing.







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The logo features a circular icon with a red border, containing a blue cross and a red heart. To the right of the icon, the text "Online CPR Skills" is displayed in a sans-serif font, with "Online" in black, "CPR" in orange, and "Skills" in black.

# Online CPR Skills

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