

CPR for the Professional Rescuer with AED and Standard First Aid Review Sheet to ECC Guidelines 2010

The **American Red Cross (ARC)** program reflects the 2010 First Aid Guidelines and Consensus on Science for CPR and Emergency Cardiovascular Care (ECC). This summary sheet will assist you in preparing for your annual review in the Professional Rescuer (adult, child, infant CPR) with AED (*Automated External Defibrillator*) and Standard First Aid challenge program.

During an emergency, you will provide care based on the skills you are certified in. If another person is using different techniques to provide care to a victim it does not mean they are doing that skill wrong, they may be providing a certified different standard of care. Do not attempt to teach anyone the skills you are certified in.

Things to remember:

- For all victims one person CPR cycle is 30 compressions to 2 breaths
- Two person CPR for adult cycle is 30 compressions to 2 breaths
- Two person CPR for child and infant is 15 compressions to 2 breaths
- Pulse check for adult and child is carotid artery (*Neck*); for infant brachial artery (*Arm*)
- Child is 1yr to 12yrs; an Adult is 12 yrs. and over for rescue/care techniques
- Conscious Check of victim is guided by: S.A.M.P.L.E. (see FA)
- Cardiac Chain of Survival: Early Recognition, Access to 911, Early CPR, Early Defibrillation, Early Advanced Medical Care

Emergency Medical Services System

The emergency medical services (EMS) system is a network of community and medical personnel that provides care to victims in medical emergency situations. The system includes six resources:

1. Recognition, response and care by lay responders
2. Early activation of EMS system – call 911
3. Professional rescuer care
4. Pre-hospital care provided by advanced medical personnel
5. Hospital care
6. Rehabilitation

Preventing Disease Transmission

Rescuers will practice standard precautions while providing care to victims to prevent the transmission of blood born pathogens (BBP). Precautions include the use of personal protective equipment, hand washing and engineering and work practice controls. These practices are designed to break the chain of transmission (*Pathogen Present, Sufficient Quantity, Susceptible Host & Correct Entry Site*). If any of these conditions are not present or prevented the infection will not occur.

Checking the Unconscious Victim: Adult-Child-Infant

Size up the Scene

Check the scene: Is the scene safe? / How many victims are there? / How could the accident have happened? Are there bystanders who can assist?

- Before checking the victim, put on protective gloves; (PPE's) & get a breathing barrier if available.

Primary Assessment

Check the Victim: Do a tap and shout. If no response
Summons More Advanced Medical Personnel / CALL 911.

Airway... Open airway, (head tilt / chin lift)

Breathing... Look-Listen-Feel for breathing and movement for no more than 10 seconds.

Circulation... Pulse check and severe bleeding check for no more than 10 seconds; if victim has hypothermia, check for 30 to 45 seconds.

Provide care as needed.

Giving Ventilations (Rescue Breathing): Adult Child and Infant

- Open airway (head tilt / chin lift)
- If after you check a victim, there is a pulse but no breathing... begin giving ventilations
- For adult victim, ratio is 1 ventilation every 5 seconds
- For child and infant victim, ratio is 1 breath every 3 seconds
- Position & seal the resuscitation mask open the airway and ventilate into the mask.
- About every 2 minutes, remove breathing barrier & recheck for breathing and pulse for no more than 10 seconds
- If there is still a pulse but no breathing, continue ventilations
- If there is no breathing and no pulse, begin CPR

Conscious Choking: Adult & Child

- Size up the scene, check the victim
- For adult, obtain consent to treat. For child, get permission from parent / guardian
- If victim is coughing encourage them to continue coughing
- If they stop coughing forcefully, summon more advanced medical personnel - Call 911
- Stand beside the victim place your arm under victim's arm pit and across their chest to their opposite shoulder. Lean victim over; using other hand, perform 5 back blows between the victims shoulder blades using palm heel - separate and distinct attempts - (for small child you may need to kneel.)
- Stand / kneel behind the victim, slide one foot between the victim's feet.
- Locate the victim's belly button and place fist just above the belly button, thumb side in
- Grab your fist with your other hand
- Give 5 quick abdominal thrusts, inward & upward: repeat sequence of 5 back blows & 5 abdominal thrusts until the object is forced out, victim begins to cough forcefully or victim becomes unconscious.
- If victim falls unconscious, guide them to the floor and begin assessment for unconscious choking victim by checking mouth for foreign object.

Unconscious Choking: Adult, Child & Infant

- If the chest does not clearly rise with ventilations
- Re-position, retilt the head and reattempt 2 ventilations
- If the chest still does not rise, assume the airway is blocked; FOR ALL VICTIMS - DO 30 COMPRESSIONS. For adult, compress the chest to a depth of at least 2 inches. For a child, compress to a depth of about 2 inches. For an infant compress to a depth of 1 ½ inches.
- Compress at a rate of at least 100 chest compressions per minute; the 30 chest compressions should take about 18 seconds.
- Look for foreign object. Open the person's mouth. (*Remove Breathing Barrier.*)
- Look in the victim's mouth, if you see an object, remove it with a finger sweep (if you see nothing do nothing)

Attempt 2 ventilations:

- if ventilations do not go in, repeat cycle 30 Compressions - Check /Sweep- 2 Ventilations
- If ventilations go in; check the victim for breathing and pulse check

Provide the care required based on check (rescue breathing, CPR or re-positioning & monitoring)

Conscious Choking: Infant

- If possible, get permission from parent or caretaker to help
- While supporting the head & neck, position the infant face down on your forearm & support your arm on your thigh. Keep the head lower than the chest.
- Using the heel of your hand, do 5 back blows between the infants shoulder blades
- Position the infant between both of your forearms, supporting infant's head & neck. Turn the infant face-up & position on opposite thigh. Place two fingers on the center of the breastbone just below the nipple line
- Give 5 chest compressions about 1.5" deep
- Continue cycles of back blows and chest thrusts until the object is forced out or the infant becomes unconscious (*If This Happens, Begin Procedure For Unconscious Choking*)

Adult & Child CPR:

- If after you check, a victim has no breathing and no pulse, then begin CPR
- Find hand placement (*Place The Heel of Your Hand Just Above The Notch in The Center of The Breastbone*), only the heel of your hand should be touching the center breastbone; ALWAYS USE TWO HANDS
- Position your shoulders over your hand, keep elbow straight and compress straight down At Least 2 inches for the adult & about 2 inches for a child
- Give 30 compressions (*At a Rate of 100 Compressions Per Minute; Takes About 18 Seconds*)
- Push hard, push fast
- Give 2 breaths
- Continue CPR cycles of (*30 compressions and 2 breaths*)

Continue CPR For All Victims Until: the scene becomes unsafe, you see obvious signs of life (such as breathing), more advanced medical help or another trained rescuer takes over, you are too exhausted to continue, you are presented with a valid DNR order, an AED is ready for use.

Infant CPR:

- If after you check, a victim has no breathing and no pulse, then begin CPR
- Find hand placement (*Imagine a Line Between The Nipples of The Infant, Place Your Ring And Middle Finger Just Below The Line on The Center of The Breastbone*)
- The hand near the victim's head will be placed on the forehead to maintain an open airway
- Give 30 chest compressions (*Compression Depth 1 ½ Inches*) and give 2 rescue breaths. Repeat the cycles of 30 compression/2 breaths

Two-Person CPR

Two-person CPR for the adult victim will be 30 compressions to 2 breaths.

Two-person CPR ratio for the child and infant will be 15 compressions to 2 breaths. Finger placement for the Infant changes to Two-Thumb Technique.

Change positions about every two minutes with minimal time lost (less than 5 seconds) between changes. When performing two-person CPR, the rescuer doing the compressions will quickly review compression ratio and the rescuer doing the breathing will follow that cue.

Automated External Defibrillator (AED)

AED Precautions/ General Information

- Do not use alcohol to wipe/dry the victim's chest; it's flammable.
- Do not let electrodes touch the metal surface.
- Do not use an AED on a child (*Under Age of 8*) or a person under 55 pounds.
- Remove a nitroglycerin or any medication patch. Wear protective gloves.
- Do not use a cellular phone or radio transmitter within 6 feet of the AED.
- If someone has a pacemaker, the AED can be used. Do not place AED pads directly over the pacemaker unit.
- Pad placement is on the victim's Lower Left (LL) side and the Upper Right.
- Once the pads are placed on the chest, do not remove them unless advised to by AED Unit or emergency personnel.
- For every minute that defibrillation is delayed, the chance of survival is reduced by about 10%.

Using an AED

- An abnormal heart rhythm characterized by totally disorganized electrical activity is called **Ventricular Fibrillation**. The heart cannot pump blood in Ventricular Fibrillation.
- An abnormal heart rhythm characterized by very rapid contractions of the ventricles is called **Ventricular Tachycardia**. The heart cannot pump blood in Ventricular Tachycardia.
- As soon as the AED is available, confirm the absence of breathing and pulse.
- Place the AED on the same side as the rescuer and near the head of the victim.
- Turn the AED on. Turn the AED off only after being told to by emergency rescue personnel.
- Dry the victim's chest.
- Attach the pads to the victim's chest (*Lower Left and Upper Right*).
- Plug in the connector (*Electrode Cable*) into the AED near the flashing light.
- Listen to the prompts provided by the machine- do what the machine says to do.
- If prompted to provide a shock: say, "Stay Clear, shock advised", then provide shock (*After the Shock Button Light Begins to Flash*) by pushing the "Shock Button".
- If prompted, "No Shock Advised" then check for signs of life and pulse, if none are present, begin CPR and continue to listen for prompts from the AED.
- ECC guidelines recommends that there is 1 shock and 2 minutes of CPR (5 cycles)...1shock - 2 minutes of CPR (5 cycles)

Standard First Aid

Checking the Conscious Victim

Check the scene for safety. Then check the victim for any life threatening conditions (Unconscious, difficult or no breathing, no pulse and severe bleeding). If any of these are present, Call 911.

- For any conscious victim always get permission to help.
- Take precautions against the transmission of disease (wear gloves).
- Ask the victim (what happened, are you feeling pain, numbness or tingling anywhere, any allergies, are you taking any medications and when did you last eat or drink anything)
- Do a visual check of the victim from head to toe (note any bruises, bumps, look for bleeding, sweating, is the skin pale or red, look for signs of pain or trouble breathing)
- Look for signs of shock: rapid breathing and/or pulse, nausea or vomiting, skin color pale or sweating, restlessness and any blue tint to the skin.
- If present, treat for shock: call 911, monitor breathing and circulation, control any bleeding-common cause for shock, if possible get the victim to lay down –some may not want to–don't force the issue, if possible **keep the legs flat**, keep the victim from getting too warm or chilled, reassure the victim, do not give the victim anything to eat or drink.
- In emergencies when there is more than one victim, any victim who has a life threatening condition is the priority to receive care.

Use the mnemonic S.A.M.P.L.E.

Signs or symptoms

Allergies

Medications

Pertinent past history

Last oral intake (food or drink)

Events leading to emergency

Shock

Look for signs of shock: rapid breathing and/or pulse, nausea or vomiting, skin color pale or sweating, restlessness and any blue tint to the skin.

If present, treat for shock: call 911, monitor breathing and circulation, control any bleeding-common cause for shock, if possible get the victim to lay down –some may not want to–don't force the issue, **KEEP LEGS FLAT**, keep the victim from getting too warm or chilled, reassure the victim, do not give the victim anything to drink or eat.

Burns

For all burns, the wound should be cooled down with lots of cool water. This will reduce the continued burning of the skin. Cover the wound with dry sterile dressing to prevent infection. Do not use ice or ointments on the burn wound. Monitor the ABC's and monitor for signs of shock.

Controlling Bleeding

The two basic steps to controlling bleeding are listed below. Always watch victims of bleeding emergencies for signs of shock. Wear gloves to prevent disease transmission. These steps are done in order and you move onto the next step only if bleeding continues.

1. Direct Pressure- apply sterile dressing to the wound and press down firmly
2. Pressure bandage- apply additional dressing and wrap with a roller bandage. Tie a knot directly over the wound for additional pressure. If the bleeding continues, make certain 911 has been called, add additional dressing and wrap another roller bandage around the wound.

A victim without obvious injuries should be monitored for internal bleeding. The signals to watch for include:

Complaints of pain.

Tender, swollen & bruised body part.

Vomiting or coughing up blood.

Excessive thirst.

Faint, confused or drowsy.

If you suspect internal bleeding, do not move the victim. Call 911 immediately and provide care for any symptoms you observe.

Bone and Muscle Injuries

General care for injuries to muscles and joints include minimizing movement of the injured area & Rest, Immobilize, Cold, Elevate (RICE). Whenever you suspect an injury to a bone, joint or muscle you should treat the injury like a broken bone. Check the scene and victim. If the victim is unable to move a body part, or a life threatening condition is present, then call 911. Apply a splint only if you must move the victim and it causes no additional pain.

Steps to Apply a Sling

- Support the injured body part above and below the injured area
- Check for feeling, warmth and skin color below the injury
- Tie a slip knot to the short point of a triangular bandage
- Place the knot behind the elbow and spread the triangular bandage under the injured area (arm for example) and over the uninjured shoulder. Minimize movement of the injured area
- Bring the sling over the front of the injured arm and tie a knot at side the neck away from the injury. The hand should be higher than the elbow.
- Secure the arm to the chest with a folded bandage. Leave the uninjured arm free.
- Check for feeling, warmth and skin color below the injury

Steps for anatomic splint

- Bind a leg to a leg
- Using triangle bandage, weave under ankles and knees...tie one leg to the other at the ankles, above & below the knees
- Check of feeling – warmth - color

Head, Neck and Back Injuries

When you suspect a head, neck or back injury it is important to maintain the position of the victim. Your objective is to hold the affect body part in the same position that you find it. Do not try to straighten or align the position. The victim may complain of pain, pressure or severe headache.

- Minimize movement of the head, neck or back. Place your hands on both sides of the head and support the victim's head or preventing from moving. Once you begin, you must maintain the position until help arrives.

Sudden Illness

When people become suddenly ill they have common symptoms. They appear confused, dizzy, disoriented, may have trouble breathing, become pale or may sweat. We may know they are diabetic or have a seizure disorder. However we may not know the cause of the sudden illness but we can help.

The steps to take to help in sudden illness all begin with call 911, for a conscious victim-get permission to help, put on gloves to prevent disease transmission, monitor for breathing and signs of life and keep the victim comfortable.

Listed below are 4 specific sudden illnesses, included are the symptoms and First Aid care.

Sudden Illness	Care Provided
<p>Stroke</p> <p>Think Face-Arms-Speech-Time (FAST) Ask the person to say a simple sentence and smile: note slurred speech or any drooping of mouth or eye, ask to raise arms: note difficulties / headache. <u>Stroke is caused by a sudden blockage of blood flow to the brain.</u></p>	<p>Call 911 Keep the victim comfortable and do not give anything to drink or eat.</p>
<p>Seizure</p> <p>Convulsions, body stiffen, a blank stare, upward rolling of the eyes, when conscious - headache / tired.</p>	<p>Cushion head with pillow or clothing, move any objects away, loosen clothing from neck and waist Know conditions to call 911.</p>
<p>Diabetic Emergency</p> <p>Feel weak, confused, trouble breathing, sweating, can lose consciousness. <u>Diabetic Emergency results from too much or little sugar in the blood</u></p>	<p>If conscious, give something to eat or drink w/ sugar. Know conditions to call 911.</p>
<p>Poisoning/Allergic Reaction</p> <p>Pain, coughing, abnormal pulse rate, sweating, nausea.</p>	<p>Move the victim away from source of poisoning, call 911/poison control center (1-800-222-1222), do not induce vomiting unless directed.</p>

Environmental Emergencies

A victim of heat or cold related emergencies can develop a life threatening condition quickly if the condition is not recognized and care is delayed. A heat emergency victim can progress through the continuum rapidly.

HEAT EMERGENCIES:

Level / Signals	Care
Heat Cramps Painful muscle spasms.	Cool victim, give cool water to drink, gently massage muscle and stretch to relieve spasm.
Heat Exhaustion Cool moist skin, sweating, headache, dizzy, nausea, weakness.	Cool victim, circulate air around victim, give water if conscious, monitor, if victim does not improve, Call 911.
Heat Stroke Red - dry skin, trouble breathing, rapid breathing or pulse, confusion or change in level of consciousness. Can be life threatening if not treated.	Call 911, **cool victim, circulate air, loosen clothing, monitor breathing & pulse, if conscious provide small amount of cool water to drink. IF AVAILABLE PROVIDE CARBOHYDRATE-ELECTROLYTE DRINK ** Rapidly cool by immersing the victim in cold water, or bags of ice/ ice water-doused towels

COLD EMERGENCIES:

Signals	Care
Hypothermia Shivering, slow breathing - pulse, glassy stare, confusion, in late stages- no shivering, loss of conscious	Move the victim to a warm place, monitor breathing – pulse and for signs of shock, remove wet clothing, wrap in warm clothes or blankets, provide care as needed.
Frostbite Numbness, pins-n-needles, especially in feet, face or hands, waxy appearance to skin, severe frostbite might include blisters to the skin, blue tint to skin.	Remove wet clothing and jewelry: Minor conditions – SKIN TO SKIN CONTACT; I.E. HOLD AFFECTED AREA BETWEEN YOUR HANDS Large body areas or severe cases i.e. blisters; gradually warm the skin in warm water, cover with dry-sterile dressings, monitor breathing –pulse and for shock, provide care as needed.

BITES

Venomous Snake Bite: pressure immobilization bandage
Animal or Human Bite: clean with large amounts of water or saline solution