<table>
<thead>
<tr>
<th>Skill</th>
<th>Adult</th>
<th>Child</th>
<th>Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adolescent and older</td>
<td>1 year to adolescent</td>
<td>Under 1 year old</td>
</tr>
<tr>
<td>Check the scene</td>
<td>Do not enter an unsafe</td>
<td>Do not enter an unsafe</td>
<td>Do not enter an unsafe</td>
</tr>
<tr>
<td></td>
<td>scene</td>
<td>scene</td>
<td>scene</td>
</tr>
<tr>
<td>Check the patient</td>
<td>Tap on the collar bones</td>
<td>Tap on the collar bones</td>
<td>Tap the shoulders or</td>
</tr>
<tr>
<td></td>
<td>and shout</td>
<td>and shout</td>
<td>flick the feet and shout</td>
</tr>
<tr>
<td>Activate EMS</td>
<td>If completely alone:</td>
<td>If completely alone:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Activate EMS after</td>
<td>Go activate EMS after 5 cycles or 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>unresponsiveness is found.</td>
<td>minutes of CPR.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Activate back to provide</td>
<td>For a sudden witnessed collapse, activate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>care.</td>
<td>EMS after unresponsiveness is found.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If asphyxial arrest is</td>
<td>Come back to provide care.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>likely, call after 2</td>
<td>If completely alone:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>minutes or 5 cycles of</td>
<td>Go activate EMS after 5 cycles or 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPR.</td>
<td>minutes of CPR.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airway</td>
<td>Head tilt chin lift. Look</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in the mouth for any</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>foreign objects. For</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>suspected head, neck or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>back injuries use a jaw</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>thrust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breathing</td>
<td>Look, Listen, and Feel for</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>about 5 seconds. If not</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>breathing give 2 breaths</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>lasting about 1 second</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>each.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconscious Choking:</td>
<td>Reposition airway, tilt</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>After attempting initial</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 breaths, they will not</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>go in and make chest rise.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circulation</td>
<td>Carotid Artery in the Neck</td>
<td>Brachial artery in the upper arm: Check</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Check for no more than 10</td>
<td>for no more than 10 sec.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>seconds.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rescue Breathing:</td>
<td>1 breath every 5 seconds;</td>
<td>1 breath every 3 seconds; recheck ABC every</td>
<td></td>
</tr>
<tr>
<td></td>
<td>recheck ABC every 1-2</td>
<td>1-2 minutes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPR</td>
<td>Push hard and fast</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 or 2 rescuers: 30:2 at a</td>
<td>1 rescuer: 30:2</td>
<td>1 rescuer: 30:2</td>
</tr>
<tr>
<td></td>
<td>rate of 100 per minute.</td>
<td>2 rescuers: 15:2 at a rate of 100 per</td>
<td>2 rescuers: 15:2 at a</td>
</tr>
<tr>
<td></td>
<td>Use 2 hands: Place the</td>
<td>minute.</td>
<td>rate of 100 per minute.</td>
</tr>
<tr>
<td></td>
<td>heel of 1 hand in the</td>
<td>Use 1 or 2 hands: Place the heel of 1</td>
<td>Use 2 fingers on the</td>
</tr>
<tr>
<td></td>
<td>center of the chest, place</td>
<td>hand in the center of the chest, if</td>
<td>breastbone just below the</td>
</tr>
<tr>
<td></td>
<td>other hand on top.</td>
<td>needed place other hand on top.</td>
<td>nipple line.</td>
</tr>
<tr>
<td></td>
<td>Depth: 1 1/2—2 inches</td>
<td>Depth: 1/3 to 1/2 the depth of the chest.</td>
<td>Alternate or 2 rescuer: Use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 thumbs encircling hands</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>technique.</td>
</tr>
<tr>
<td>AED</td>
<td>If unwitnessed, provide 2</td>
<td>Child pad preferred for ages 1-8. If not</td>
<td>Not recommended for infants</td>
</tr>
<tr>
<td></td>
<td>minutes of CPR before</td>
<td>available, use adult pads. Don’t let pads</td>
<td>&lt;1 year</td>
</tr>
<tr>
<td></td>
<td>shock.</td>
<td>touch together.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide sequence of 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>shock, 2 minutes or 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cycles of CPR. 1 shock, 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>minutes of CPR, etc...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Course Objectives

- Overcome the 5 fears that prevent rescue efforts
- Identify basic anatomy of the heart and lung
- Know prudent heart living, controllable and uncontrollable risk factors
- Identify the signs and symptoms of a heart attack
- Action steps for suspected heart attack
- Rescue breathing
- Foreign body airway obstruction management
- CPR for Adult, Child and Infant
- Setup and use of an AED
- 2 rescuer CPR
- Use of a resuscitation mask
- Use of a Bag Valve Mask

The purpose of this booklet is to provide a source for review and assistance with the ProCPR curriculum. Participants desiring CPR certification need to use www.procpr.org to view the videos, receive instruction, and complete testing.

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

- **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.

- **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.

- **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.

- **Fear of Hurting a Patient**  
  **Solution:** Patients who are clinically dead can only be helped, not made worse with resuscitation efforts.

- **Fear of Unsafe Scene**  
  **Solution:** Never enter an unsafe scene! Rescuers are no use to patients if they become patients themselves.
Heart
- Consists of four chambers, about the size of your fist, located under the breastbone.
- Function of the heart is to pump the blood to the brain, lungs and body. Your body has about 5.6 liters (6 quarts) of blood which circulates through the body three times every minute.
- The cardiovascular system comprises the heart, arteries, capillaries, and veins.

Lungs
- There are two lungs that function to take in oxygen and release carbon dioxide.
- Room air contains 21% oxygen. Our bodies use about 4-6 percent. When we breathe out we expire carbon dioxide and about 16% oxygen.

Brain
- Tells the rest of the body what to do and needs oxygen on a regular basis. Brain cells will begin to die in 4 to 6 minutes.
- The average human brain weighs three pounds and uses 20% of the body's oxygen.
- The medulla oblongata is the lower portion of the brainstem which controls several major body functions including respiration and circulation.

Cells
- All cells of the body require oxygen continuously to carry out normal functions. Carbon dioxide is produced as a waste product and must be eliminated from the body through the lungs.
- Red blood cells transport the oxygen to the tissues.
**The ProCPR Method**

**Protect yourself**
Safety first! Make sure the scene is safe. Do not enter an unsafe scene! If it is unsafe, stay at a safe distance and activate EMS (call 911). Prepare and apply appropriate personal protective equipment.

**Respond**
Is the scene safe or can the scene be made safe for the rescuer? Is there a true medical emergency?

**Observe signs and symptoms**
Shout to the patient first then tap and shout to determine the level of responsiveness. Ask what happened? Are there any life threatening conditions?

**Call**
If no response or a life threatening condition exists, activate EMS (call 911).

**Provide proper care**
Care for the patient based on present medical conditions.

**Relinquish** care to the provider of the next level of care.
Heart Attack

Signs and Symptoms may include
- Chest discomfort-pressure, tightness, that lasts longer than 2 min.
- 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, give nothing to drink or eat, and keep the patient calm and quiet.

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

Centers for Disease Control and Prevention estimates that in the United States approximately 330,000 people die each year from sudden cardiac arrest due to coronary heart disease.
The ProCPR Method

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

- Early Activation of EMS
- Early CPR
- Early Defibrillation
- Early Advanced Care

Using personal Protective Equipment

Putting Gloves on:
Always 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 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 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.
Initial Assessment

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 on and ready to use?

Check the patient if safe to help
• Tap and shout. Is there any response? If no response, activate EMS.
  4 basic levels of responsiveness:
  - Alert and responds appropriately
  - Responsive to voice
  - Responsive to painful stimuli only
  - Unresponsive

Activate EMS – Call 911
• If alone —
  • PHONE FIRST and get the AED and return to start CPR and use the AED for all ages of a sudden witnessed collapse.
  • CARE FIRST by providing about 5 cycles or 2 minutes of CPR before activating the emergency response number for unresponsive infants and children (except infants and children of a sudden, witnessed collapse) and for all patients of hypoxic (asphyxial) arrest (e.g., drowning, injury, drug overdose).

• If not alone —
  • Send someone to call. Give your location, the patient’s location, what happened, how many people are injured, what is being done, and make sure you hang up last, return to the rescuer and patient to provide help as needed.
Airway
- **Open Airway using head tilt chin lift**
  Look in the mouth. If you see any foreign object, sweep it out right away.

Breathing
- **Check for signs of life. Look, Listen and feel for Breathing for 5-10 seconds**:
  Look at the patient's chest to observe any chest rise, listen with your ear to hear any air movement, and your cheek should be close enough to the patient's mouth to feel any air movement.

- **If no breathing, give 2 breaths** lasting 1 second each. Watch for chest rise.
  **Note**: If not using a mask, make sure you make a seal around 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.

Circulation
- **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.
Respiratory Arrest & Cardiac Arrest

Respiratory Arrest
• Unconscious
• No signs of life. Absent breathing but pulse is present.

Treatment:
• If there is a pulse but no breathing, start rescue breathing
  Adult – 1 breath every 5 seconds
  Child and Infant– 1 breath every 3 seconds
• Reassess Airway, Breathing, and Circulation every minute

Cardiac Arrest
• Unconscious
• No signs of life. Absent breathing and absent pulse

Treatment:
• If no pulse and no breathing – give 30 chest compressions and 2 breaths at a rate of about 100 compressions per minute. Continue cycles of 30 compressions to 2 breaths until an AED arrives, advanced medical personnel take over, the patient shows signs of life, or you are too exhausted to continue.

• 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.
  Child— Place heel of one hand in the center of the chest between the nipples. Use the second hand if necessary.
  Infant— Place two thumbs or fingers on the center of the chest just below the nipples.
AED- Automated External Defibrillator

AED’s are designed to shock the heart, in order for the heart to restart under a normal rhythm. The AED analyzes the heart’s rhythm, advises 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%.

For sudden witnessed collapse, use the AED as soon as it is available. For unwitnessed cardiac arrest use the AED after about 5 cycles (about 2 minutes) of CPR.

If you are giving CPR to a child (older than 1 year) and the available AED does not have child pads or a way to deliver a smaller dose, go ahead and use a regular AED with adult pads.

AED Considerations:

- Remove a patient from standing water, such as in a puddle, before AED use. Rain, snow, or a wet 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.
**Treatment:**

- Bare the chest. Dry it off if it is wet. If there is excessive hair you may need to shave it off.
- Turn the machine on.
- Place one pad on the patient's upper right chest just below the collarbone and above the nipple. Place the other pad on the patient's lower left ribs below the armpit. **Make sure to follow the directions shown on the pads for the AED pad placement. Manufacturers will vary slightly.**
- Make sure pads are pressed down firmly. Do not try to lift up and adjust pads or they will not stick.
- Follow the directions the AED gives.
- Make sure to shout, “Stand Clear” before pushing the shock button.
- The normal cycle is 1 shock, 2 minutes of CPR, 1 shock, 2 minutes of CPR, etc...
- Be aware that many AED's will not be programmed with the new 2005 ECC recommendations and may give up to 3 shocks and require 1 minute of CPR before giving another set of 3 shocks.
- The AED should be kept still while in operation. It is not designed for movement, such as in a vehicle.
Choking

Conscious Choking
- ask, “Are you choking?
- If a person is unable to breath or speak, treat the patient.

Treatment:
- 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 until the object comes out or the patient becomes unconscious.

  **Infant**
  - Administer 5 back blows and 5 chest thrusts until the object comes out or the patient becomes unconscious.

Special Circumstances:
- If the patient is pregnant or too large to reach around, instead of placing your fist in the abdomen, place it in the middle of the chest to give chest thrusts.
**Unconscious Choking**

- Unconscious
- No signs of life. Absent breathing
- Attempted rescue breaths will not go in

**Treatment:**

- Check responsiveness
- Activate EMS
- Open Airway using head tilt chin lift
- Check for signs of life. Look, Listen and feel for Breathing for 5-10 seconds
- If no breathing, give 2 breaths lasting 1 second each. Watch for chest rise
- If first breath does not make the chest rise, reposition head and reattempt rescue breaths. If first breath still does not make the chest rise, assume there is a foreign body airway obstruction.
  
  **Adult, Child, and Infant-**
  
  - Give 30 chest compressions
  - Check the mouth for a foreign body. If something is seen sweep it out with a finger.
  - Attempt rescue breaths. If first breath does not make the chest rise, reposition head and reattempt rescue breaths. If first breath still does not make the chest rise, repeat cycles of compressions, foreign body check, and breathing attempts until breaths make the chest rise.
  - After breaths make the chest rise, check the Circulation for no more than 10 seconds
  - If pulse is present start rescue breathing. If no pulse, start CPR.
Two Rescuer Skills

Adult 2 rescuer CPR:
- First rescuer performs initial assessment and ventilations. Second rescuer performs 30 compressions at a rate of 100 compressions per minute.
- After every 5 cycles of 30:2, rescuers should switch positions. The switch should take less than 10 seconds.

Child and Infant 2 rescuer CPR:
- Rescuers should use a compression to ventilation ratio of 15:2.
- For infants, rescuers should use the 2 thumb encircling hands chest compression technique.
- After cycles rescuers should switch positions. The switch should take less than 10 seconds.
Bag Valve Mask

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.

- In some cases, the infant will benefit from turning the mask upside down so that the small point covers the patient’s chin and the broad part of the mask is covering the mouth and nose.

- Ventilate at 1 breath every 5 seconds for an adult and 1 breath every 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 hyper-ventilcate the patient.
Secondary Survey

Control Severe Bleeding
- Inspect the wound. Look for the exact point 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.
- You may consider using a pressure bandage by wrapping a roller gauze or elastic bandage around the wound to maintain bleeding control.

Manage Shock
- **Signs & Symptoms** restlessness, dizziness, confusion, cool moist skin, anxiety, delayed capillary refill time, and weakness.
- **Treatment**: Recognize, Activate EMS, keep calm, Nothing to eat or drink, maintain body heat, raise the legs if no spinal injury or fracture of the legs.

Perform Ongoing Assessments
- Check for and correct conditions which may not be immediately life threatening but may become so if not corrected.

SAMPLE (if time permits) ask patient about:
- Signs and symptoms
- Allergies
- Medications
- Past Medical History
- Last meal eaten
- Events leading up to need for help

Look from head to toe for:
- Deformities
- Contusions
- Abrasions
- Penetrations
- Burns
- Tenderness
- Lacerations
- Swelling