ACADEMY OF A.R.T. RESUSCITATION TRAINING

CPR AED & FIRST AID MANUAL

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BASIC CPR/AED CONCEPTS

Chest compressions are the most important part of CPR. They create critical blood flow of oxygen and nutrients to the heart and brain, which keeps the victim alive until advanced care can take over.

The compression rate for all victims is at least 100-120/min. The depth of compressions is at least 2 inches (5 cm) for an adult and one-third the depth of the chest for children and infants. One-third the depth of a child's chest is about 2 inches (5 cm) and one third of an infant's chest is about 1.5 inches (4 cm)

Start chest compressions within 10 seconds of recognition of cardiac arrest

Don't stop CPR until advanced help takes over. Limit interruptions during CPR. Anytime you are not compressing circulation stops. Try to limit interruptions in compressions to less than 10 seconds.

Avoid excessive ventilation, causing gastric inflation (filling the victim's stomach with air) by giving slow and normal breaths that only make the chest rise

CIRCULATION (Chest Compressions)

KEY NOTES:

- *Compression rate for all victims is at least 100-120 compressions per minute. It's important to go FAST and PUSH HARD!!*

- *Allow full chest recoil (reload) to allow the heart to fill completely with blood. This will help to create maximum blood circulation*

WARNING!

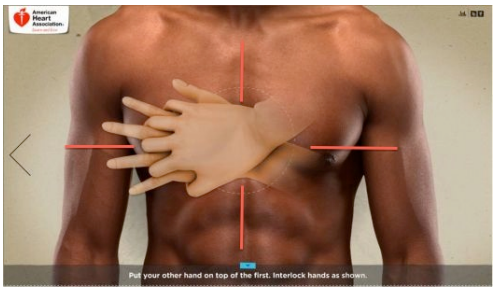
The first compressions on any adult's chest will cause cracking, snapping, and popping. You will hear and feel this as you are dislocating the victim's sternum. Breaking apart the

cartilage and connective tissue to separate the sternum is needed in order to achieve an effective compression depth for high quality CPR. If revived, a victim can heal from this.

ADULT and CHILD COMPRESSIONS (1 rescuer)

ADULT (8 Yrs of age and Older)
Depth: 2-2.4 inches (About 5 cm)
Rate: 100-120/min
Compressions: 30
Technique: Two Hands

CHILD (1-8 Yrs of age OR 1-55 lbs)
Depth: 2 inches
Rate: 100-120/min
Compressions: 30
Technique: Two Hands



Hands in BETWEEN nipples, on the lower half of the sternum

ADULT and CHILD CHEST COMPRESSIONS

1. Position yourself at the victim's side.
2. Make Sure the victim is lying face up on a firm, flat surface.
3. Place the heel of one hand on the center of the victim's chest on the lower half of the breastbone (nipple line and sternum line).
4. Place the heel of other hand on top of the first hand.
    - It's okay to use two hands on a child
5. Straighten your arms and position your shoulders directly over your hands.
6. Push HARD and FAST. Press straight down on the victim's breastbone.

- You can't measure inches when doing chest compressions so just hit the bottom of a victim's chest. The heart is like a sponge; the more you compress it, the more blood you will circulate. Deep compressions = a lot of blood flow!! BIGGEST MISTAKE made is doing shallow and slow compressions = little blood flow.

7. After each compression, allow the chest to fully reload for maximum circulation.
8. Perform 30 compression in a row. Minimize interruptions.

INFANT CHEST COMPRESSIONS (1 Rescuer)

INFANT (Birth – 1 yrs of age)
Depth: 1.5 inches (About 4 cm)
Rate: 100-120/min
Compressions: 30
Technique: Two fingers

Fingers BELOW the nipples, on the center of the chest

INFANT CHEST COMPRESSIONS

1. Place the infant on a firm, flat surface.
2. Position yourself at the infant's side.
3. Place 2 fingers in the center of the infant's chest just below the nipple line. Do not press on the bottom of the breastbone.
    - You can't measure inches when doing chest compressions so just hit the bottom or the resistance point on the infant's chest. BIGGEST MISTAKE made is not going deep enough and performing shallow compressions because you are fearful of hurting the infant. REMEMBER deep compressions = a lot of blood flow!

4. Push HARD and FAST. Press straight down on the infant's breastbone.
5. After each chest compression, allow the chest to fully reload for maximum circulation.
6. Perform 30 chest compressions. Minimizing interruptions

AIRWAY

KEY NOTES:

- *A victims airway must stay open or be opened in order for a person to breath*

- *Opening a victim's airway and keeping it open, allows the air given from breaths to fill the victim's lungs.*

- *Head-tilt-chin lift is the preferred method for opening a victims airway*

ADULT CHILD and INFANT **Head-Tilt-Chin lift**

1. Place one hand on the victim's forehead and push with your palm to tilt the head back.
2. Place the fingers of the other hand under the bony part of the chin.
3. Lift the chin to bring the jaw forward.

WARNING!

Don't place fingers into the soft tissue under the chin to lift. Only place fingers on the bony part of the chin to lift the jaw.

WARNING! *Don't lift infant's head beyond the neutral position. If you go beyond the neutral position you may hyperextend the infant's airway and it may become blocked.*

BREATHING (Breaths)

KEY NOTES:

- **IMPORTANT! Only give 2 breaths or two attempts at breaths. If both your attempts fail, return to chest compressions.**
    - If both attempts fail, the victim may have an obstructed airway. If something is obstructing the airway chest compressions can always help dislodge it.

- DO NOT PERFORM A "BLIND" FINGER SWEEP! Only remove objects that can be seen and removed.

- Chest rise determines a normal breath. Every person has a different size of lungs. The best way to give and determine a normal breath for every victim is to watch for his or her chest to rise. Once you see any movement in their chest, STOP and cut your breath off!

- Breaths should be given to any victim and especially to children and infants. If a barrier device isn't available and you don't feel safe, you can use chest compressions only. Once a barrier device does become available, give breaths.

WARNING!

Breaths that are too quick, too powerful, and too long, may cause gastric inflation (filling the victims stomach with air). THIS WILL CAUSE THE VICTIM TO VOMIT.

MOUTH-TO-MOUTH

WARNING!

Mouth-to-mouth breathing is a possible hazard to your health. Compressions only CPR can always be performed if a barrier device is not available.

1. Position yourself at the victim's side.
2. Make sure the victim's airway is open. (Head-tilt-chin lift)
3. Pinch the victim's nostrils closed with your thumb and index finger using the palm of the hand on the forehead.
4. Seal your mouth around the victim's mouth, creating an airtight seal.
5. Give **1** slow breath watching for the chest to rise. (Remember once you see the chest rise cut that breath off!)
6. If your breath fails and you can't see the chest rise, then reopen the airway by repositioning the head using the head-tilt-chin lift.
7. Give a **second** breath watching for the chest to rise. (Remember, regardless of whether your second breath works or fails you should immediately return to chest compressions!)

REMEMBER

INFANT MOUTH-TO-MOUTH

- You will place your mouth over the infant's mouth AND nose to create an airtight seal
- Blow into the infant's nose AND mouth while looking for chest rise

WARNING!

The amount of air usually needed to fill an infant's lungs is the amount of air you can fill in the cheeks of your mouth. The breaths are more like puffs.

MOUTH-TO-MASK (Barrier Device)

- When a barrier device is available the rescuer should always give breaths

- Masks have a 1-way valve that protects the rescuer by releasing exhaled air, blood, or bodily fluids away from the rescuer.

1. Position yourself at the victim's side.
2. Place the mask on the victim's face. Make sure the top of the mask is resting on the bridge of the nose.
3. Seal the mask against the face.
    a. Place one hand on the top of the mask. Using your thumb and index finger push on the edge of the mask to seal it against the face.
    b. Place your second hand on the bottom of the mask. Pinch your thumb against the edge of the mask and your index finger against the bony part of the victim's jaw.
4. With the mask securely sealed on the victim's face perform a head-tilt-chin lift to open the airway.
5. Give **1** slow breath watching for the chest to rise. (Remember once you see the chest rise cut that breath off!)
6. If your breath fails and you can't see the chest rise, then reopen the airway by repositioning the head using the head-tilt-chin lift.
8. Give a **second** breath watching for the chest to rise(Remember, regardless of whether your second breath works or fails you should immediately return to chest compressions!)

INITIAL CPR STEPS (When to start C-A-B)

Now lets go to the beginning…when to start your compressions and give breaths?

OVERVIEW (Quick Review)

1. **Assess** the victim for response. If there is no response, shout for help!

2. **Activate the emergency response system** (911) and get an AED (defibrillator) if available and return the victim.

3. **Look for normal breathing** (no longer than 10 seconds)

4. If the victim is not breathing or is only gasping start your chest compressions and breaths **(C-A-B sequence)**

ASSESS

WARNING!

If you are the first responder on the scene make sure the scene is safe. Do not allow yourself to become a victim as well. If the scene is not safe, stay away and activate the emergency response system (911). If you feel the victim is in a dangerous environment where more harm will come to them, you can move them out of the scene if it is safe for you to do so.

1. Make sure the scene is safe for you and the victim.
2. Tap the victim on the collarbones and shout **"ARE YOU OKAY?"**
3. Check to see if the victim is breathing NORMALLY

- ! *IF THE VICTIM DOES NOT WAKE UP* activate the emergency response system (911)
- ! *IF THE VICTIM IS NOT BREATHING* activate the emergency response system (911)
- ! *IF THE VICTIM **IS NOT** BREATHING NORMALLY OR ONLY GASPING* activate the emergency response system (911). A SNORT, SNORE, OR GROAN **IS NOT** normal breathing. This is a sign of cardiac arrest. Activate the emergency response system (911)

EMERGENCY RESPONSE SYSTEM

PEOPLE AROUND

1. If you find an unresponsive victim and you think there are other people around shout, "HELP!"

2. When another responder arrives tell them to activate the emergency response system (911) and get an AED (defibrillator) if available.

ALONE (cell phone)

1. If you are along and find an unresponsive victim and you have your cell phone, activate the emergency response system (911), set the phone down (if possible turn on the speaker phone), check the victim for breathing and begin your C-A-B sequence.

ALONE (NO cell phone)

1. If you find an unresponsive victim but are alone and think you can get help within 2 minutes, leave, activate the emergency response system (phone, cell phone, or person), grab the AED (if available)
2. Return to the victim and begin your C-A-B sequence.

WARNING!

If you think getting help it will take you longer than 2 minutes, activate the emergency response, DO NOT LEAVE. Check for breathing and begin your C-A-B sequence, perform 5 cycles of compressions and breaths FIRST before leaving.

WARNING!

If the victim is a CHILD or INFANT and you find them DO NOT LEAVE! Check for breathing and begin your C-A-B sequence, perform 5 cycles of compressions and breaths FIRST before leaving.

LOOK FOR BREATHING

ADULT, CHILD, AND INFANT

1. Look for breathing for no longer than 10 seconds. You do this by looking for "chest rise and fall"
2. If you do not see the victim breathing, or if they are only gasping, try to remove clothing from the chest and begin CPR.

WARNING!

Chest compressions, if needed, are always started within 10 seconds AFTER activating the emergency response system or calling 911.
You should take no more than 10 seconds to check for breathing

WARNING!

It can be difficult to determine the presence or absence of breathing. If there is any doubt in your mind on whether the victim is breathing normally or only gasping, START CPR!! Starting chest compressions on someone who was breathing will not hurt the heart or stop it!! Hopefully the victim will respond!

DEFIBRILLATION (AED)

AED is an automated external defibrillator. AED's can be located in hospitals, airports, malls, public schools, courthouses, libraries, hotels, churches, golf courses, and a variety of other locations. Each AED can be different by make, model, and color. The training and information you receive can be applied to the use of every AED. Make sure you become familiar with the proper use of the AED in your facility.

FIBRILLATION vs DEFIBRILLATION

When a person is unresponsive due to cardiac arrest or other possible issues, their heart can go into ventricular **fibrillation**. This is when the heart muscles quiver and do not contract together to pump blood; the heart is just shaking in their chest. An AED delivers an electric shock (**defibrillation**) to stop the heart from quivering, which can reset the heart back to its normal rhythm so it can pump blood.

i.e. When your computer freezes on you, you need to shut it down and reboot it for it to work properly again. This is the same concept for use of an AED on a person's heart.

OVERVIEW (Quick Review):

These steps apply to all make and models of AED's. There are slight differences between AED's but they all basically work the same.

1. POWER ON the AED
2. ATTACH PADS
3. SHOCK if Advised
4. Begin CPR

POWER ON

1. Turn the power on (some defibrillators will power on automatically when you open the lid or case).

- "A" in AED stands for Automated. When you power on the AED it will talk and guide you through all the steps. Be sure you listen to the AED so you don't forget anything.

ATTACH PADS

1. Peel backing away from the AED pads
2. Attach the adhesive AED pads to the victim's BARE chest
   - Look at the pictures on the pads to help guide you for pad placement. Pads have to be touching the skin to analyze and shock the victim.
   - Place one AED pad on the upper right chest (directly below collar bone)
   - Place one AED pad on the left side of chest (left of nipple, few inches below armpit)
3. Once the AED prompts you to "clear", stop CPR, clear the victim and be sure NO ONE is touching the victim.
   - You will know when the pads are attached correctly when the AED tells you to "clear for analyze"
   - Some AED's may take about 5 to 15 seconds to analyze

IMPORTANT!

Make sure NO ONE is touching the victim while the AED is ANALYZING, not even the rescuer in charge of holding the victim's airway and giving breaths. If any rescuer is touching the victim while the AED is analyzing it might pick up the rescuer's pulse rather than the victim's pulse. If any rescuer is performing CPR while analyzing it will give a false reading on the victim's heart rhythm.

REMINDER!

AED pads need to be placed in the proper areas on the chest. Two pads placed in the proper areas on a victim's chest will ensure the shock goes through the heart, even if the pads get "flip flopped", the AED will still work properly.

SHOCK (If the AED advises shock)

1. Clear the victim
   - Yell or state loudly "clear" or "clear the victim"
   - Look and double check to be sure no one is touching the victim
2. Press the **SHOCK** button
   - The shock will cause the victim's muscles to contract suddenly!! Don't be alarmed!
3. Immediately RESUME CPR, starting with chest compressions
   - After 2 minutes of CPR (about 5 cycles of compressions and breaths) the AED will re-analyze. Clear the victim and listen to the prompts from the AED

IMPORTANT!

An AED will only advise to shock a victim if needed and therefore should be attached to every victim regardless of the injury or illness.

NO SHOCK (If the AED advises NO shock)

1. Immediately RESUME CPR, starting with chest compressions
    a. After 2 minutes of CPR (about 5 cycles of compressions and breaths) the AED will re-analyze. Clear the victim and listen to the prompts from the AED

REMINDER!

AED pads should never come off the victim's chest. Once they are applied the AED will re-analyze every 2 minutes.

Special Situations

- Children and Infants
- Two rescuers
- Victim with a hairy chest
- Victim is in water or water is covering the victim's chest
- Victim has a medication patch
- Victim has an implanted defibrillator or pacemaker

Children and Infants (Less than 55LBS which is typically 8 years of age and younger)
If your AED includes a smaller size pad or pediatric dose attenuator, use it. If not, use the standard pads and AED. When placing the standard pads on the infant or child's chest make sure the pads do not touch or overlap. If the pads are touching or overlapping you will have to place one AED pad on the front (center of the chest) and one AED pad on the back (center of the back, between shoulder blades). Compressions will now have to be performed directly on top of the AED pad.

Two rescuers
If there is a second rescuer available during the use of the AED, one rescuer will continue performing CPR, chest compressions and breaths. The second rescuer will have to attach the AED pads while working around the first rescuer who is performing CPR. Tell them to stop CPR and clear the victim once the AED is ready to analyze.

Hairy chest
If the victim has hair on their chest it can create a barrier between the AED pad and the victim's skin. This will not allow the AED to analyze and shock the victim. The AED will then give a "check pads or electrodes" message. Try pressing the pads down firmly. If

this doesn't work you should remove the pads and do one of the following before putting the pads back on.

- Rip the hair off using Epilapad chest hair removal pads
- Shave the victim's hair with a razor
- Trim the hair down with scissors
- Press down firmly again on each pad

REMINDER!

If it is obvious that the amount of hair will be a problem you should try to remove the hair first before attaching the AED pads. This should be done while a second rescuer (if present) continues CPR, not interrupting compressions

Water

Water conducts electricity. Water can divert a shock through the water across the skin and around the heart.

-Pull the victim out of the water (Small puddle, damp ground, snow, and dew on grass is okay)
-If water is covering the victim's chest, quickly wipe the chest before attaching AED pads, making sure a MAJORITY of the water is removed. The chest does not have to be completely dry.

Medication patch (Only if its where the AED pad is placed)

It is okay to use an AED with a medication patch but a medication patch can block the defibrillation shock and can cause small burns to the skin

-Remove the patch and wipe the area clean before attaching the AED pad

Implanted defibrillator or pacemaker (Only if its where the AED pad is placed)

People with high risk for cardiac arrest might have an implanted defibrillator or pacemaker. It is okay to use an AED with a person that has an implanted defibrillator or pacemaker but the device may block the defibrillation shock. It will be a hard lump beneath the skin, which is round or square, and smaller than a deck of cards.

-Avoid placing the AED pad directly over the defibrillator or pacemaker
-Move the AED pad closer to the heart (if possible 1 inch away)

CHOKING

Properly trained rescuers can have the necessary skills for early detection or recognition for a person that is choking. A person that is actually choking will have a severe airway obstruction. There are a few main severe choking symptoms for an (Adult, Child, Infant)

Noise

- No coughing
- No noise or air exchange
- Cannot talk or cry
- May show the "Universal Sign" of choking by clutching the throat

Color

- Turning blue (cyanosis)
    - Lips
    - Cheeks

Eyes

- Person will be "wide eyed"
- Eyes will water
- They will look scared

IMPORTANT!

Coughing is NOT choking! That person has air exchange. Do not interfere with the person's (even an infant's) own attempt to expel the foreign object, but stay with them to monitor his or her condition.

Infant

1. Sit or kneel with the infant on your lap
2. Rest the infant facedown on your forearm with the head slightly lower than the chest
    - Support the head and jaw with your hand
    - Make sure your forearm is resting in your lap or on your thigh
3. Quickly deliver up to 5 backslaps forcefully between the infant's shoulder blades using the heel of your hand.
    - Deliver each slap firmly.
4. After delivering up to 5 backslaps place your hand on the back of the infant's head and forearm down their spine to support the back. One hand should be supporting the infants neck and jaw and the other supporting the back of the head, creating a sandwich effect with the infant and your forearms.
5. Turn or flip the infant to his or her back holding them face up.
    - Support the back of the head with your hand

- Make sure your forearm is resting in your lap or on your thigh

6. Quickly deliver up to 5 downward chest thrusts in the middle of the their chest, using two fingers (same placement as for chest compressions).
   - Deliver each chest thrust firmly, just like performing compressions.
7. Repeat! Continue preforming up to 5 back slaps and up to 5 chest compressions until the object is removed or the infant becomes unresponsive.

INFANT BECOMES UNRESPONSIVE!

1. Stop giving backslaps. Begin CPR starting with chest compressions!
2. Make sure you call for help and tell someone to get an AED!
3. Each time you finish compressions and BEFORE you give breaths look for the obstructing object. If you see an object and think it can be removed then you should remove it.

REMEMBER!

Breaths are helpful to dislodge or change the angle of the obstructing object

Adult/Child

1. Stand behind the victim and wrap your arms around the victim's abdomen.
2. Make a fist with one hand.
3. Place the thumb side of your fist against the victim's abdomen just slightly above the belly button (your knuckles should be facing upward).
   - Make sure your fist it not too high. You should be well below the breast bone
4. Grab your fist with your other free hand and pull quickly and forcefully up-and-into the victim's abdomen.
   - The motion of abdominal thrusts should look like a Nike swoosh symbol
5. Repeat! Continue performing thrusts until the object is removed from the airway or the victim becomes unresponsive.

ADULT/CHILD BECOMES UNRESPONSIVE!

1. Stop giving abdominal thrusts! Begin CPR starting with chest compressions!
2. Make sure you call for help and tell someone to get an AED!
3. Each time you finish compressions and BEFORE you give breaths look for the obstructing object. If you see an object and think it can be removed then you should remove it.

REMEMBER!

Breaths are helpful to dislodge or change the angle of the obstructing object

Special Situations

- Pregnant or Obese victim
- Children
- Tall victim
- Alone and you are choking

Pregnant or Obese

Move your fist to the center of the victim's chest and perform chest thrusts (pulling straight in) rather than abdominal thrusts. If you are unable to fit your arms around the victim's chest, push them up against a wall, tree, post, something firm, and use both hands pushing straight in on their chest.

Children

Kneel behind the child and perform abdominal thrusts

Tall

Have the victim kneel and you will stand or slightly squat behind them to perform abdominal thrusts. DO NOT stand on anything to perform abdominal thrusts. Having the victim kneel protects them and you if they pass out and become unresponsive.

Alone

If you are alone and begin to choke immediately call 911. Then perform your own abdominal thrusts or drop yourself over the back of a chair. You can even run your abdomen into the edge of a counter or table. Do something to get a firm thrust into your abdomen.

IMPORTANT!

If you are having trouble removing the obstruction you should go outside so someone may be able to see and help you or so advanced care will have access to you once they arrive!

FIRST AID SECTION

FIRST AID PROVIDER

Accidents and injuries can happen at anytime and anywhere so it is important to be prepared.

In this course you will learn to recognize, assess, and treat common first aid injuries.

You are the first link in the chain of survival so it is important you do what you can to help and that you make sure advanced care professionals are contacted.

With any serious injury or illness you must always call 911.This will allow advanced responders to take over the scene and relieve you of the situation.

ATTENDING TO VICTIMS

- Before you ever attempt to help a victim you must make sure the scene is safe.
- Check surroundings to make sure you are safe to proceed to the victim. Don't become a victim yourself.
- If the scene is unsafe you must call 911. DO NOT enter the scene unless it becomes safe to enter.
- Examples of unsafe scenes: fire, poisonous gasses, electrical hazards, traffic, sharp glass or objects, or an active shooter.

STANDARD PRECAUTIONS

- It is recommend to treat all bodily fluid as infectious. In order to help protect yourself, (PPE) Personal Protective Equipment should be used. Examples of PPE include goggles, gowns, face masks, etc.

- Gloves are the most common PPE available.
- To remove gloves: With one gloved hand grab the other glove at the palm and peel the glove off. Keep hold of that glove in the gloved hand. Use your clean finger or fingers of the exposed hand to slide under the edge of the glove at the wrist and peel that glove off.
- Gloves do fail so it is Very Important that you still wash your hands!

LIABILITY FOR HELPING

- All states have passed Good Samaritan Laws to help protect responders like you so that you can help a victim in need without the concern for legal liability.

- You must have consent to help a responsive victim. If a victim is unconscious or unresponsive to your request to offer help it is considered implied consent and you may help them.

- These laws help protect anyone who:

- Voluntarily provides assistance without expecting compensation
- Is reasonably careful
- Does not provide care beyond skill level
- Gains consent from the victim (written, implied, verbal)

PRIMARY ASSESSMENT

- You must initially check a victim to try to identify if it is a possible life threatening situation.

- Make sure the scene is safe and only if it is safe, proceed to the victim

- Check for response by gently tapping or shaking the victims shoulders or by forcefully rubbing your knuckles up and down on the sternum while yelling something like “are you okay?”. If no response, you must call 911.

- If the victim is unresponsive you should check for breathing for 5-10 seconds. If the victim is not breathing or only gasping or if you are uncertain, perform CPR. If you do not know CPR you should push down forcefully on the center of the victims chest between the nipples. On the first few compressions you will hear popping as you dislocate the sternum,

and gasping as you force air out of the victims body. Do not be alarmed as this is normal. Continue to push down until you cannot push any deeper and push fast at the rate of 100-120 compressions per minute.

- To help you can count 1 and 2 and 3 and 4 and....to set the pace! Attach an AED if you have access to one. The AED will walk you through the steps of using it when you turn it on.
- If the victim is breathing you may put them in the Recovery Position.

RECOVERY POSITION

- You may want to put a victim in the recovery position if they have fluid coming out of the mouth or nose. This will help eliminate fluid from blocking or entering the airway.
- You should put the victim in this position if you must leave them to activate EMS, and call 911.

PRIMARY ASSESSMENT FOR RESPONSIVE VICTIM

- Make sure the scene is safe and only if it is safe, proceed to the victim.
- Tell the person your name, that you are trained in first aid, and that you are going to help. If the person does not want your help you cannot legally help them, but if you are unsure about the severity of the situation you should call 911!

Check the victim for the following:

1- Altered mental status

2- Breathing Difficulty

3- Skin color (Pale, Hives, etc.)

4. Bleeding

5- Deformities (Broken Bones)

6- Swelling

*If bleeding is found you must immediately try to control it! We will cover bleeding control procedures later.

SECONDARY ASSESSMENT FOR RESPONSIVE VICTIM

- When your primary assessment does not find any life threatening issues you may perform a secondary assessment. A secondary assessment is a visual and physical assessment where you look and feel to locate injuries on the victims body.

- You must gain consent to perform a physical assessment. You should gently assess from head to toe on an adult, and for a child you should assess from toes to head in order to gain their trust.

Things to look for: D.O.T.S

- Deformities- limbs of the body that are bent or twisted
- Open Injuries- bleeding
- Tenderness- painful areas
- Swelling- swollen and discolored areas on the body

- Be very gentle with the victim as to not cause further damage to injuries that may be found during your physical assessment.

- Look around the area to see if you notice anything that might indicate what happened to the victim. Medication or drug bottles, alcohol bottles, a wrecked bicycle, etc. Look at the victims body to see if they have a medical alert bracelet or necklace.

S.A.M.P.L.E

If the victim is responsive you should try to gain information from them that can help **expedite the process** of advanced care. Use **S.A.M.P.L.E** to gain pertinent information to give dispatch and/or advanced responders.

S- Signs and Symptoms

A- Allergies

M- Medication

P- Past Medical Issues

L- Last Oral Intake

E- Events Leading to Issue

SHOCK

- Shock occurs when there is poor blood flow to body tissue. If untreated shock can become life threatening.

- Signs of shock include: confusion, and/or skin turning pale, cool, and sweaty.

- Treatment for shock includes keeping the victims airway open and controlling any bleeding. Keep the victim as comfortable and calm as possible, and keep them warm.

Shock can be caused by:

- Physical Trauma- injuries to the victims body
- Mental Trauma- hearing about or seeing a traumatic incident

  ***Children: If they are uninjured you should remove children from viewing a traumatic scene as it can cause mental trauma (PTSD post traumatic stress disorder).

BLEEDING CONTROL

- Most bleeding can be controlled with the standard method of direct pressure.

- In severe cases where bleeding cannot be controlled with direct pressure and elevation you may need to apply a tourniquet.

- Commercial tourniquets are very effective and recommended over a makeshift tourniquet.

- Tighten a tourniquet about 2 inches above the wound to get the wound to stop bleeding.

- You may need to use a tourniquet in a scene where you cannot stay with the victim. The tourniquet will apply pressure for them.

- Example: If a tourniquet is going to be used, try to document the time it was applied. Do not remove or loosen unless directed by a qualified medical professional.

AMPUTATION

What to do with an amputation:
• Control the bleeding with pressure and elevation. Apply a tourniquet if needed.
• Treat for shock
• Recover the amputated limb if possible and give it to emergency care providers

How to treat an amputated limb:
• Wrap with dry sterile gauze or clean cloth
• Put limb in plastic bag or other waterproof container
• Keep the amputated part cool by placing that bag in a container or in another bag with ice, but **DO NOT FREEZE**

Seek medical attention!

IMPALED OBJECT

- Do not remove an impaled object as it may cause further damage or it may be preventing or blocking serious bleeding.

- Immobilize the affected area of the body to hinder further damage. Provide gentle pressure around the object with gauze to help control movement of the object and bleeding from the area.

Impaled object in the eye:

- Do not remove the object
- Do not let the victim rub the eye
- Stabilize the object using something like a paper cup
- Cover both eyes (the eyes move together so covering both eyes creates a neutral gaze)

Get professional help.

Open Chest Wound:

- A puncture wound to the chest can hinder the lungs ability to draw in air
- Check to see if there is an exit wound. An exit wound is the location where a penetrating object has gone through the body and comes out.
- Treat the more serious wound first
- Do not seal both wounds
- If sealed there may be raised pressure in the chest which could quickly become life threatening
- If the victim stops breathing you must provide CPR

Open Abdominal Wound:

- If abdominal organs are protruding you must try to protect these functional organs
- Allow the person to carefully move into a position of most comfort
- Cover protruding organs with sterile dressing (dressing must be moist to avoid sticking to organs)
- Do not try to push the organs back into the body
- Do not apply pressure directly on the organs

NECK, SPINE, AND BACK INJURY

Neck, spine, and back injuries are often caused by impact to the body such as falls, car accidents, etc.

Signs of Back/Spine injuries include:

- Sensations of numbness
- Burning in the arms, hands, legs, or feet

**A lack of obvious symptoms does not mean there is not a serious injury.

- You should assume that the injury may be severe and try to stabilize the head to avoid spinal movement. Contact EMS!

Establishing an open airway for a victim with suspected head, neck, or spinal injury is of more importance than minimizing movement.

- This means if the victim is having trouble breathing or if they are in a position that can potentially hinder breathing and circulation you must move them to align the head, neck, and spine and open the airway!

Whenever you move a victim it is important to move them as carefully as possible to avoid further injury. Use teamwork if possible.

HEAD AND BRAIN INJURY

- Impact to the head can cause brain injury from bruising and swelling. Suspect serious brain injury when a blow to the head causes a diminished level in responsiveness.

- If there is blood or fluid coming from the nose or ears you should NOT stop that fluid from exiting.

- If the victim begins to seizure you should protect the head as best as you can. Cushion the head but do not hold it down as this can cause neck and spinal injury. Assess the victim for breathing after the seizure ends. Perform CPR if needed.

- Because of the progressive nature of a concussion it is best to have the person be evaluated by a healthcare professional or emergency responders immediately!

- WARNING! Do not let the person operate any heavy equipment such as a vehicle!

DEFORMITIES

Swollen, Painful, or Deformed Limbs:

- Immobilize the limb to avoid movement
- You should try to keep the victim still and treat for shock
- Call for EMS if needed.
- If the victim wants to move you should brace, bandage, or provide a sling to help keep the limb from moving
- Seek medical attention
- Do not try to straighten the limb as this could cause further injury. If there is a protruding bone you may gently apply gauze around the bone to help with bleeding.
- Do not apply firm pressure to the open wound and do not try to put the bone back in the body.

BURNS

Thermal burns are typically caused by hot liquid coming into contact with the skin or too much exposure to sunlight. Typically these are mild burns and require minimal care. Burns can be caused by heat, chemicals, or electricity.
If a victim has clothing on fire tell them to stop, drop, and roll. This will help smother the flames. You may pour or spray water on them to put out the fire and cool the burn. Carefully remove clothing to expose the burn.

**Do not remove clothing if it is stuck to the skin.
Cool the burn by using cool/cold running water for at least 10minutes.

Prevention is key!

Be careful to check the temperature of the water before bathing a child or infant.

Make sure they cannot reach handles of pots and pans on the stove, have covers over electrical outlets, etc.

Seek medical attention if you are uncertain concerning the seriousness of the burn. Area of skin burned, depth of burn, and degree of burn are all factors.

Chemical Burns

- If chemical powder is on the skin you should try to brush it off using gloved hands, cloth, or towel while making sure not to spread the chemical to other areas of the victims body or your body.
- As with other burns you should cool the burn with running cool/cold water. Do this for at least 15 minutes or longer to alleviate pain and burning.
- Cover with a dry/sterile dressing and seek medical attention.

Electrical Burns

- Make sure the scene is safe so you do not get shocked also. If the victim has stopped breathing you should perform CPR and attach an AED if you have one.
- If the victim is conscious you can look for areas they may be burned from the contact and cool the burn just as you would a thermal burn.
- Seek medical attention as there may be internal injuries from the shock.

CHEMICALS IN THE EYE

- Corrosive chemicals in the eye can damage eye tissue. Either you or someone nearby should call EMS.

- You should immediately hold open the affected eye or eyes and flush with water for 15 minutes or until help arrives.

- If only one eye is affected be careful not to flush chemicals from that eye into the other eye. If flushing under the faucet keep the affected eye below the non-affected eye.

NOSE BLEED

- Have the person sit down and pinch the soft tissue of the nose and tilt the head slightly forward.

- Have the person spit out any excess blood that starts to drain into the mouth or throat. Do not swallow the blood as this can cause nausea and vomiting.

- If the bleeding continues beyond 10 minutes it is recommended to seek medical attention.

- Use your judgment: If the victim is anemic, on blood thinners, or if the nosebleed seems very severe or you believe the nose may be broken, you should seek medical attention immediately!

TOOTH INJURY

- If a person receives a blow to the mouth and has a broken, dislocated, or knocked out tooth you should immediately contact your dentist, or an emergency dentist for care.

- Have the victim gently bite down on gauze over the bleeding socket.

- If the tooth has come out try not to touch the root.

- Have the victim spit in a cup and put the tooth in it to keep the tooth moist. This can help keep the tooth alive.

- Avoid rinsing or putting the tooth in water.

FAINTING

Fainting can be caused by many different things:

- Standing after bending, squatting, standing in place too long, pain, or stress.
- Fainting is not always serious or life threatening.
- If someone tells you they are light headed or they have narrowing vision you should quickly lay the person down on their back, and elevate their feet 6 to 12 inches.
- These feelings will typically pass quickly allowing the person to continue daily activities.
- If the situation worsens you must seek medical attention

HYPOGLYCEMIA/DIABETES

- Diabetes or Hypoglycemia is a very common medical condition. You may recognize symptoms such as odd behavior or confusion. They may have pale, cool, and sweaty skin.
- There may be more severe symptoms such as the victim becoming lethargic, dizzy, or losing consciousness. Make sure EMS has been activated.
- You may notice a medical bracelet or necklace notifying you of their condition. If they are able to ingest it you can give them a glucose tablet or sugar such as a non-diet soda or fruit juice which might help.
- Do not let this delay activating EMS as symptoms can quickly worsen.

HEART ATTACK

- Symptoms may include: shortness of breath, chest pain/pressure, arm pain,or back pain. Skin may become pale, cool, and sweaty. The victim may be fatigued, weak, or nauseous.

- Do not take the victim to the hospital yourself.

Activate EMS! Get an AED if possible to have on stand-bye.

If they are able to ingest it and are not allergic to aspirin you should have the victim chew and swallow one adult aspirin.

STROKE

Strokes can be caused by a blood clot or from a bursting blood vessel in the brain.

- If someone is having a stroke: activate EMS, stay with the victim and treat for shock, and be prepared to start CPR if needed.

- Do not give any blood thinning medication such as aspirin to a victim with a possible stroke as they may have bleeding in the brain and this would make it worse.

The FAST acronym that can help you identify the warning signs of a stroke is found below:

F- facial droop

A- arm paralysis

S- slurred speech

T- time sensitive. Seek medical attention!

SEIZURE

- Excessive electrical activity in the brain leads to involuntary muscle convulsions. The victim may lose bowel control or might vomit. Unless you know the victim and know their specific protocol for seizures you should have someone activate EMS and get an AED.

- Help the victim to the ground if possible. Make sure the head, neck, and spine are aligned to help maintain breathing. Move anything away from the victim that could cause further injury. Cushion the head to avoid further injury.

- If possible lay the victim on their side in the recovery position to allow saliva or fluid to drain from the mouth. If the victim begins to vomit you must roll them on their side to avoid aspiration (fluid entering the lungs).

- Do not pin the victim down.
- Do not put anything in the mouth.
- Do not try to force open the airway.
- Do not try to hold the tongue from blocking the airway.

SEVERE ALLERGIC REACTION

- Severe allergic reactions, also known as anaphylaxis can be caused by many things.

- Here are a few common allergens: bee stings, shell fish, or peanuts (or other common food allergies).

- Signs and symptoms may include swelling of the airway, face, eyelids, and the site of the sting or bite if the victim was stung or bitten. Severe allergic reactions can be life threatening if the airway becomes closed.

Treatment:

- Call 911.
- If available, give the victim Epinephrine using their prescription auto injector. If the initial dose of epinephrine wears off and help is still at least 5-10 minutes away, you may give a second dose if available.
- If the first dose of epinephrine is not effective you may give a second dose if available.

MARINE ANIMAL STINGS

Jellyfish stings cause severe pain for the victim.

- Treatment: rinse the area with vinegar for 30 seconds. Then shower or put the area in hot water for at least 20 minutes to reduce pain.

Stingrays have a venomous tail that can cause severe pain.

- Treatment: immersion of the area in hot water for 30-90 minutes can relieve the pain. Clean out the site of the wound with soap and water.

  WARNING: If severe reactions occur such as trouble breathing or heart palpitation you must CALL 911!

BEE STINGS

- If you are stung by a bee you should scrape the stinger away from the skin if it is still attached by using something like a credit card or finger nail.

- DO NOT pinch or grab the stinger as it may push more venom into the body. If the victim is allergic you must call 911 and give them their EpiPen.

POISONOUS SNAKE BITE

- If a person receives a poisonous snake bite or you are not sure if it is a poisonous snake bite you should do the following:

- Call 911.

- Keep the victim calm and comfortable and sit them down to slow down the heart rate and spread of the poison.

- Do not elevate the area but instead keep it below heart level.

- WARNING! Do not try to suck out the venom with your mouth!

POISONOUS SPIDER BITE

Symptoms:

- There may be small puncture marks at the site of the bite.
- There may be tenderness and swelling at the site of the bite.
- Cramping may occur.

Treatment:

- Keep the victim calm and comfortable.
- Keep the site of the bite below heart level.
- If the symptoms continue to worsen or the victim experiences weakness, nausea or vomiting, or has trouble breathing: CALL 911

ANIMAL BITES

- Wash the area with soap and water and treat for bleeding.

- Due to the high possibility of infection have the victim seek medical attention if the skin is punctured.

TICKS

Ticks can carry disease.

- To remove a tick you should grab the tick at the base of the skin with tweezers and pull with slow but continuous pressure. The skin may tense upward. Soon the tick should let go.
- Clean the area with soap and water.

- If the person begins to experience flu like symptoms you should seek medical attention.
- If you cannot get the tick out or part of the tick tears away and is left embedded in the body you should seek medical attention.

POISONING

- If you suspect someone has ingested or inhaled poison and they are displaying serious signs and symptoms call 911.

- Signs and symptoms can include stomach pain or trouble breathing. Suspect poisoning if there is poisonous gas being released, open containers of chemicals or medication, and/or signs of drug use such as needles or other drug paraphernalia near by.

- Do not administer anything orally and do not induce vomiting unless directed by the 911 dispatcher or poison control center dispatcher.

- Keep the person calm and still.

- Continue to monitor the victim and let dispatch know of any changes that occur for better or worse. If the victim is not displaying any serious signs or symptoms you may call Poison Control at 1-800-222-1222. If you do not remember this number call 911!

SEVERE ABDOMINAL PAIN

- Severe abdominal pain may be a sign of serious internal injury or illness.

- Suspect severe abdominal injury if the person received any sort of hard impact to the abdomen from something such as a fall or being hit in the abdomen.

- The victim may become nauseous and vomit.

- Call 911!

- Keep the person calm and in a comfortable position.

COLD RELATED EMERGENCIES

Hypothermia

- Signs and Symptoms: Feeling of being very cold or possibly not feeling cold any longer, shivering, loss of coordination, Heart rate may decrease as well as breathing.

Treatment:

- Remove wet clothing even if it is only base layers that are wet due to sweating.
- Provide dry blankets or clothing. Slowly move the victim to a warm environment.
- Give the victim something warm to drink.

WARNING! Do not give the victim warm liquids containing caffeine or alcohol.
Call 911 and get an AED incase cardiac arrest occurs

FROSTBITE

Signs and symptoms: Skin that is cold, pale, firm, or numb.
Treatment:

- Remove wet clothing, place dry sterile dressing between frostbitten fingers and/or toes.
- Wrap frostbitten area with clean cloth.
- WARNING! Do not rub the frostbitten area as it may damage the tissue
- Call 911

HEAT RELATED EMERGENCIES

Heat Exhaustion and Heat Stroke

- Signs and symptoms of heat exhaustion:
- Feeling of exhaustion, headache, nausea/vomiting, and heat cramps.
- Signs and symptoms of heat stroke: skin is very hot to the touch, heavy sweating, or the skin becomes dry and red. There might also be disorientation and confusion. The person may become unresponsive or have a seizure.

Treatment Guidelines for Overheating:

- Have the person rest in a cool/shaded area, remove excess clothing, put cold compresses on the back of the neck, armpits, groin and bottom of feet.
- Spray the person with water, and have a fan blow air on them. Have them drink cold liquids.
- For heat cramps you may stretch the effected area and apply pressure.
- WARNING! Do not have the victim drink liquids containing caffeine or alcohol. If the persons symptoms continue to get worse call 911.
- For any symptoms of Heat Stroke call 911 immediately!

ADULT OR CHILD SEVERE CHOKING

- To relieve a severe choking obstruction in a child or adult you should stand behind them and brace yourself with one leg between their legs.

- Put your fist just above their belly button and grab that fist with your other hand and forcefully pull the fist into their abdomen with a slight upward motion. Do this until the obstruction comes out.

- If the victim becomes unconscious you must slide them to the ground, call 911, have someone get an AED, and then begin CPR.

- If the victim is pregnant or you cannot reach around their abdomen you may perform chest thrusts. Brace yourself behind the victim with one leg between their legs. Put the fist of one hand between their nipple line on the center of their chest and pull straight in forcefully to expel the obstruction. If the victim becomes unconscious you must slide them to the ground, call 911, have someone get an AED, and then begin CPR.

NOTE: If an adult is hacking or coughing that is mild choking, and you will continue to let them work on that themselves. If they start choking severely and there is no air exchange you need to take action.

INFANT CHOKING

- To relieve severe choking in an infant you should perform 5 back blows followed by 5 chest thrusts until the object is expelled.

- If the infant becomes unconscious you should put them on a flat hard surface and begin CPR. Call 911 and have someone get an AED.

- NOTE: If an infant or child is hacking or coughing that is mild choking, and you will continue to let them work on that themselves. If they start choking severely and there is no air exchange you need to take action.