PRISM CPR

ADULT CHILD INFANT

CPR ● AED ● FIRST AID

TRAINING MANUAL

Updated AHA Guidelines

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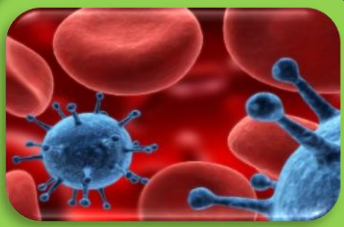


Diseases/Pathogens

Solution

Personal Protective Equipment

Lawsuits

Solution

Good Samaritan Laws:

State laws protect first responders from liability and legal issues as long as they act in good faith.

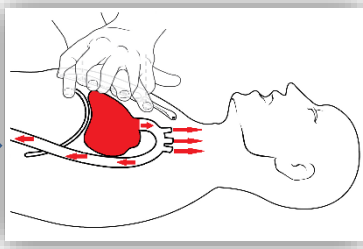
Hurting Victim

Solution

Victims needing CPR are considered clinically "**dead**." Performing chest compressions will only ***save*** their lives!

Making a Mistake

Solution



Emphasis is on pushing "**hard**" and "**fast**" for CPR.

EMERGENCY ACTIONS STEPS & SCENE ASSESSMENT

Emergency Action Steps:

1. Check Scene for Safety

2. Approach & Check Victim

3. Call 911

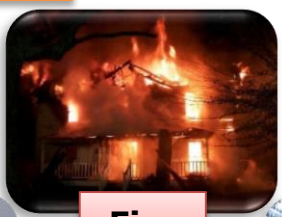
4. Provide Proper Care

5. Wait Until Help Arrives

Always check the **scene** for **safety** before approaching!

Remember

"Look Up, Look Down, Look All Around!"



Fire

Odors

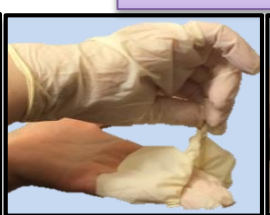
Dangers

Accidents

Blood

Electrical

Glove Removal:



CHECKING AN UNCONSCIOUS PERSON

Check the **scene** for **safety** and apply **personal protective equipment**.

Remember:
"**Look up, Look down, Look all around**."

Do **not** enter an unsafe scene!

Approach the victim and check for **responsiveness**.

Tap and **shout**, "Are you okay?"

If there is **no response**, quickly check for **breathing** for no more than **10 seconds**.

Look to see if the chest rises and falls.

If breathing is **not present**, immediately **call 911** or tell someone to go get help.

*Note the **location** of the call, the **type** of help needed, the **number** of victims involved and any other relevant information.*

Immediately begin **CPR** (**chest compressions**).

CPR will be covered in the next section (starting on page 9).

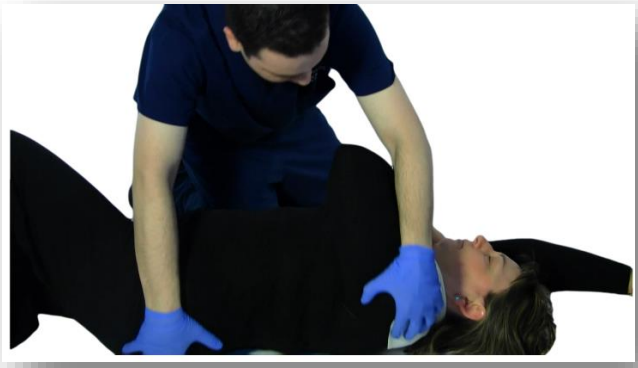
If the victim is **unconscious** but is **breathing normally**, place them in the **recovery position**. Carefully roll the victim on their side and angle the head and mouth towards the ground to prevent aspiration (*next page*).

RECOVERY POSITION

If a victim is **unconscious** but is **breathing normally** and has no other life-threatening conditions, they should be placed in the **recovery position** (put them on their side). This will ensure that their airway remains clear and open in the case they start to vomit.

The **recovery position** should also be used if you need to leave the victim alone for any amount of time to go call for or get additional help.

STEPS:



- Bring the victim's arm **closest** to you **upwards**.
- Lift the victim's leg **farthest** from you **straight up**.

- Place one hand on the victim's **shoulder** and the other hand at the **waist**.
- Gently roll the victim **towards you** and try to keep the head stabilized if possible.

- **Adjust** their body to keep it **stable**.
- Position the victim's **head** and **mouth** towards the **ground** to prevent them from **aspirating** (vomiting into their lungs).

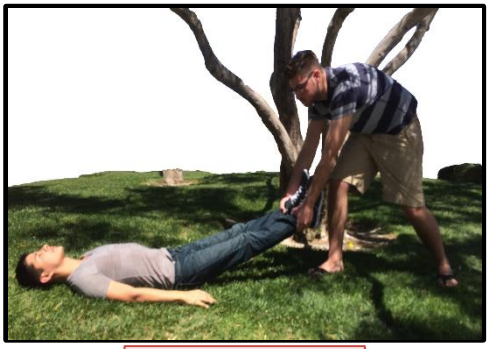
REMOVING VICTIMS FROM UNSAFE SCENES

If a victim is found in an unsafe environment or is in imminent danger, it may be necessary to remove them from that environment as soon as possible. Below are a few common types of emergency moves.

Be sure to take extra precaution if you suspect the victim is suffering from a spinal cord injury! *(See page 28 for more information)*

Walking Assist

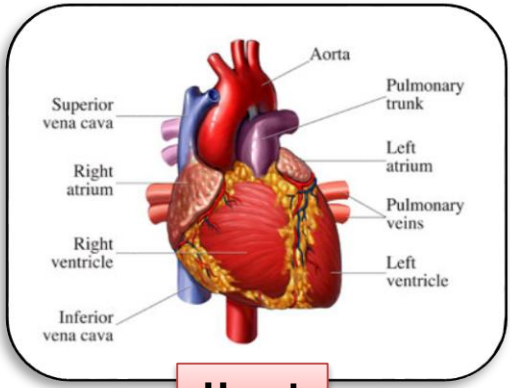
Clothes Drag



Ankle Drag

Blanket Drag

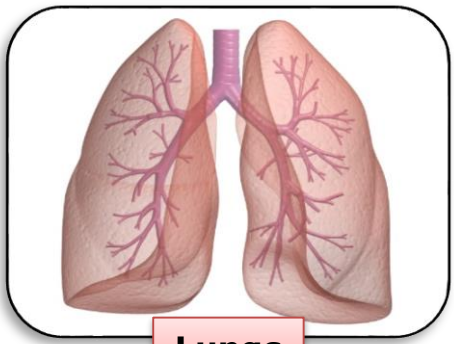
ANATOMY & PHYSIOLOGY FUNDAMENTALS



Heart

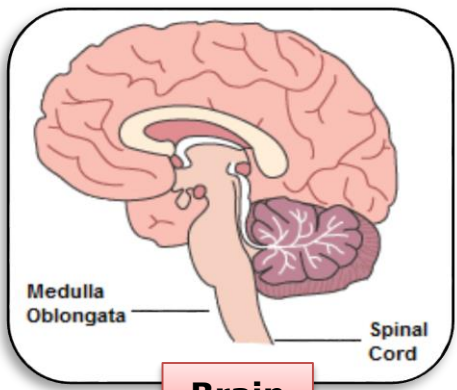
The **heart** consists of two upper chambers (**atria**) and two lower chambers (**ventricles**).

Its function is to pump blood (containing **oxygen**) to the rest of the body.



Lungs

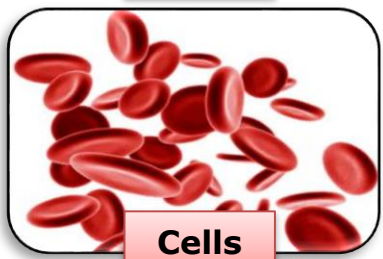
The **lungs** function by transporting **oxygen** (O_2) from the atmosphere into the bloodstream, and releasing **carbon dioxide** (CO_2) from the bloodstream back into the atmosphere as a waste product.



Brain

The **brain** is the control center of the body and regulates senses such as vision, hearing, balance, taste and smell. It requires a constant supply of **oxygen** to carry out all of its functions.

The **medulla oblongata** controls breathing, heart rate, swallowing, vomiting, blood pressure and coughing.



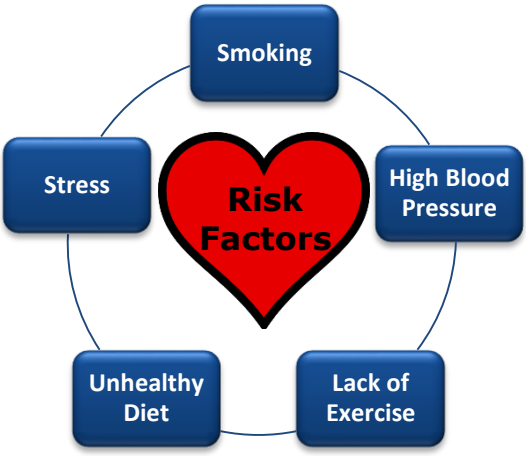
Cells

Cells require oxygen to carry out their daily activities.

Red blood cells (RBCs) are rich in **hemoglobin**, which binds to and transports oxygen throughout the body.

CARDIOVASCULAR DISEASE

Cardiovascular (heart) disease is the **number one** killer in the United States. Almost 800,000 people die each year from heart disease and over an estimated 80 million people suffer from other cardiac problems.

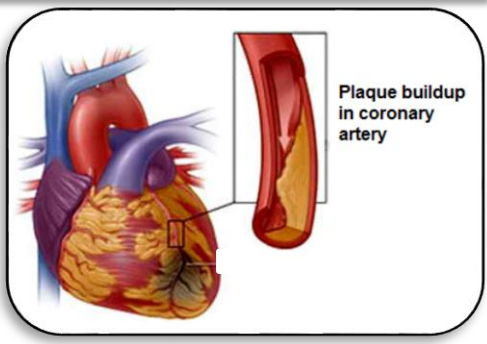


Heart Disease Prevention:
Healthy diet (more fruits & vegetables), consistent physical activity, weight management, stress management, maintaining proper blood pressure, not smoking or drinking alcohol excessively, etc.

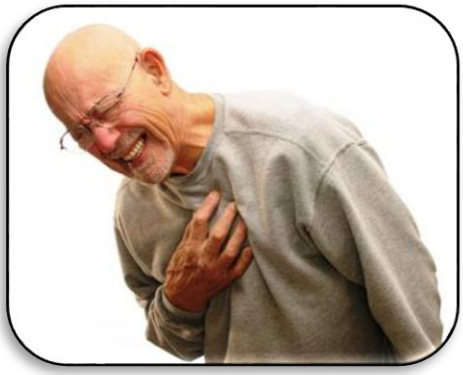
HEART ATTACK OVERVIEW

A **heart attack** is caused when blood flow is restricted from entering a part of the heart muscle.

If oxygen-rich blood becomes blocked for too long, the heart tissue begins to die.



HEART ATTACK RECOGNITION & TREATMENT



Signs & Symptoms:

- Chest tightness & discomfort
- Severe pressure, squeezing
- Aching pain or heaviness
- Numbness or tingling in the arms
- Shoulder, jaw, neck, or back pain
- Nausea, sweating, dizziness
- Shortness of breath

Treatment:

Recognize Heart Attack Signs & Symptoms → Call 911 → Keep Victim Comfortable → Give 1 adult aspirin (325 mg) or 2 low dose chewable aspirins (81 mg) if available → Monitor condition and prepare to perform CPR if victim collapses

Note: *When providing aspirin medication to a victim, be sure he or she is* ***not allergic*** *to aspirin, does not have a* ***stomach ulcer*** *or* ***stomach disease****, and is not taking any* ***blood thinners*** *such as* ***Warfarin (Coumadin™)****.*

CARDIAC ARREST

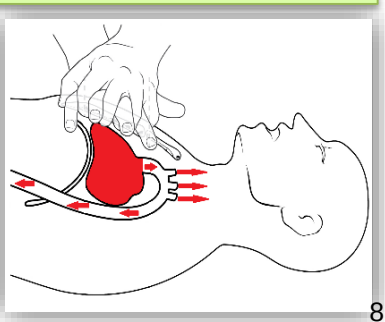
Cardiac arrest occurs when the heart **stops** beating and circulating blood completely. In adults, it is primarily due to heart disease while in infants and children it may occur due to breathing and other underlying problems. Additional causes of cardiac arrest include **drowning**, **untreated choking**, **electric shock** and **drug abuse/overdose**.

Sudden cardiac arrest (SCA) is a deadly condition in which the heart stops beating unexpectedly.

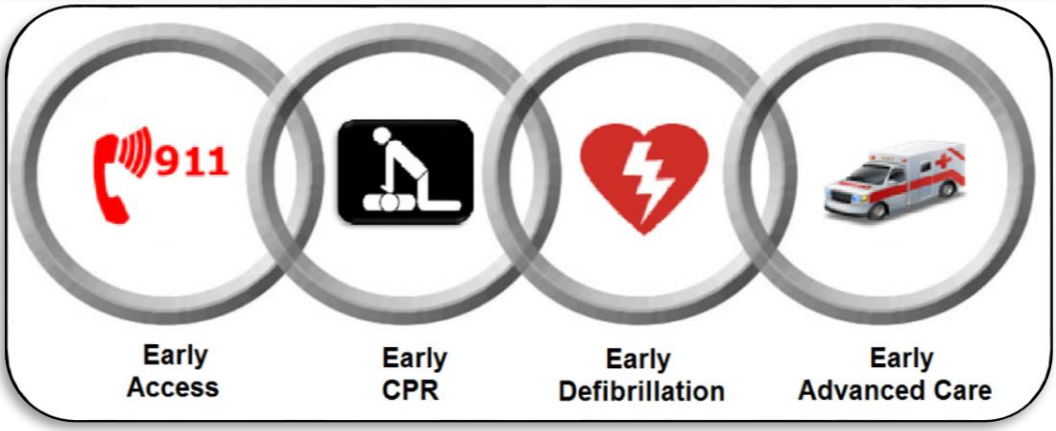
It can happen to ***any*** person, in ***any*** place, and at ***any*** time!

Purpose of CPR (Cardiopulmonary Resuscitation)

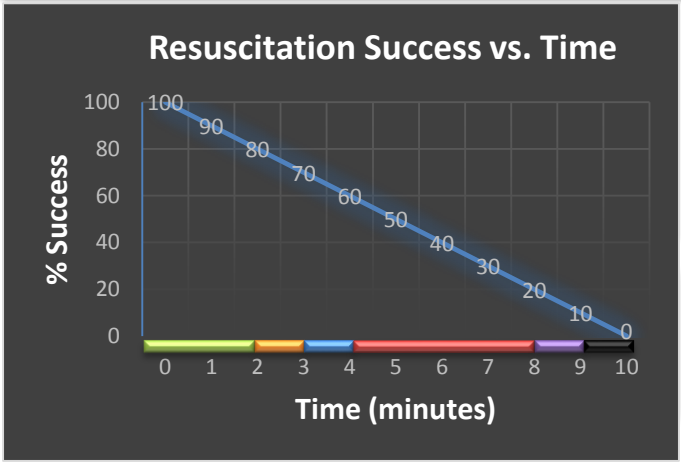
CPR helps restore partial flow of oxygenated blood to the **brain** and **heart**, thus delaying tissue death in the brain.



CARDIAC ARREST CHAIN OF SURVIVAL



The **Cardiac Chain of Survival** illustrates the immediate actions that must be taken for a person to have a chance of surviving cardiac arrest. The chain begins with **recognizing** and **calling 911** as soon as a person goes down, followed by immediately starting **CPR** and using an **AED** to **defibrillate**. Finally, **early advanced medical care** by healthcare professionals is necessary to treat the victim.



- Recognition/Decision
- 911 Call
- Dispatch to Unit
- Unit Travel Time
- Time to Victim
- Time of CPR & AED

Every minute that **CPR** and **defibrillation** are delayed, the victim's chance of survival is **reduced** by almost **10%**!

Brain cells begin to die within **4-6 minutes** of not receiving **oxygen**.

Hand Placement for Chest Compressions

Chest compressions are performed on the **sternum** (breastbone) between the two nipples.

The rate is **100-120 compressions/minute**

Place the **heel** of your dominant hand on the lower part of the **sternum** and your other hand on top of it, locking your fingers.

ADULT CPR
(About 12 years or older)

Check the **scene** for **safety** and apply **personal protective equipment**.

Remember:
"**Look up, Look down, Look all around**."

Approach the victim and check for **responsiveness**.

Tap and **shout**, "Are you okay?"

If there is **no response,** quickly check for **breathing** for no more than **10 seconds**.

Look to see if the chest rises and falls.

If breathing is **not present**, immediately **call 911** or tell someone to go get help.

*Note the **location** of the call, the **type** of help needed, the **number** of victims involved and any other relevant information.*

Give **<u>30 compressions</u>** using **<u>2 hands</u>**.

Push **hard** and **fast** on the center of the chest *at least* **<u>2 inches deep</u>** at a rate of **100-120 compressions/minute**.

After giving compressions, open the **airway** using the **head-tilt/chin-lift technique**, pinch the nose shut and give **<u>2 breaths</u>**, one second each. Make sure the chest fully rises.

Repeat cycles: 30 compressions: 2 breaths

CHILD CPR
(Between ages 1 and 12 years)

Check the **scene** for **safety** and apply **personal protective equipment**.

Remember:
"**Look up, Look down, Look all around**."

Approach the child and check for **responsiveness**.

Tap and **shout**, "Are you okay?"

If there is **no response,** quickly check for **breathing** for no more than **10 seconds**.

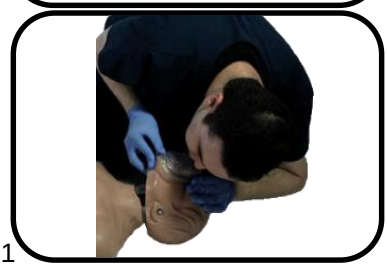
Look to see if the chest rises and falls.

If breathing is **not present**, immediately **call 911** or tell someone to go get help.

*Note the **location** of the call, the **type** of help needed, the **number** of victims involved and any other relevant information.*

Give **<u>30 compressions</u>** using **<u>1 or 2 hands</u>**.

Push **hard** and **fast** on the center of the chest *about* **<u>2 inches deep</u>** at a rate of **100-120 compressions/minute**.



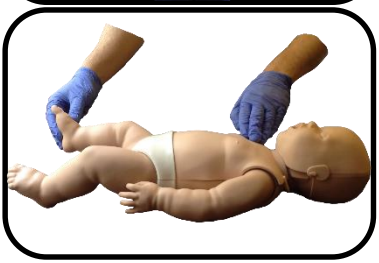
After compressions, open the **airway** using the **head-tilt/chin-lift technique**, pinch the nose shut and give **<u>2 breaths</u>**, one second each. Make sure the chest fully rises.

Repeat cycles: 30 compressions: 2 breaths

INFANT CPR
(Younger than 1 year)

Check the **scene** for **safety** and apply **personal protective equipment**.

Remember:
"**Look up, Look down, Look all around**."



Approach the infant and check for **responsiveness**.

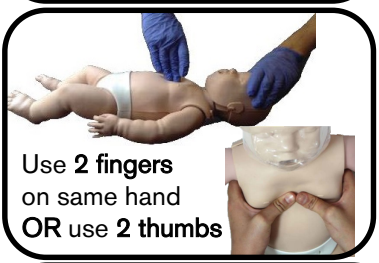
Tap shoulders or **flick feet** of infant and **shout**, "Are you okay?"

If there is **no response,** quickly check for **breathing** for no more than **10 seconds**.

Look to see if the chest rises and falls.

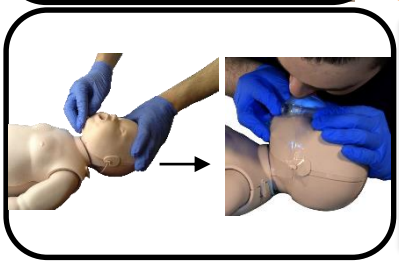
If breathing is not present, immediately **call 911** or tell someone to go get help.

*Note the **location** of the call, the **type** of help needed, the **number** of victims involved and any other relevant information.*



Give **<u>30 compressions</u>** using **<u>2 fingers</u>** with the same hand; **OR** you may use **<u>2 thumbs</u>**.

Push **hard** and **fast** on the center of the chest *about* **<u>1½ inches deep</u>** at a rate of **100-120 compressions/minute**.



After compressions open the **airway** using the **head-tilt/chin-lift technique** and give **<u>2 breaths</u>**, one second each. Make sure to **seal** both the infant's **mouth** and **nose**.

Repeat cycles: 30 compressions: 2 breaths

ADULT, CHILD & INFANT CPR SUMMARY

Adult

- **Two hands** in center of chest
- *At least* **2 inches** deep (≤2.4 inches)
- 30 compressions: 2 breaths

Child

- **One** or **two hands** in center of chest
- *About* **2 inches** deep
- 30 compressions: 2 breaths

Infant

- **2 fingers** in center of chest
- *About* **1½ inches** deep
- 30 compressions: 2 breaths

CPR should only be stopped if:

- The victim regains consciousness or starts breathing
- The scene becomes unsafe
- An AED becomes available and is ready to analyze
- Medical professionals arrive and take over
- You are too exhausted to continue compressions

ALTERNATIVE METHOD OF CPR (HANDS-ONLY)

If for any reason you do not feel comfortable giving mouth-to-mouth rescue breathing (i.e. no barrier device present, or blood or vomit is found in victim's mouth), resort to the **hands-only chest compressions** method:

Push **hard** and **fast** at a rate of **100-120 compressions/minute**.

♫ Push to the beat of the song ***Stayin' Alive*** by the Bee Gees ♫

AUTOMATED EXTERNAL DEFIBRILLATOR (AED)

An **automated external defibrillator** (or **AED**) is used to shock the heart back into its normal rhythm. Typically, CPR alone will not revive a victim. A shock is necessary *in addition* to high-quality CPR in order to give someone a chance of survival.

An AED is designed to detect two life-threatening heart rhythms (**ventricular fibrillation** or **ventricular tachycardia**). If either one of these two rhythms is present, the AED will advise to shock the heart.

Every **minute** that **defibrillation** is **delayed**, the victim's chance of survival is reduced by **10%! Early defibrillation** increases survival rates to greater than **50%**.

If an **AED** is **available**, it should be used **immediately** when a person collapses and goes into cardiac arrest.

One rescuer should perform high-quality **chest compressions** (ratio 30:2) while another rescuer brings and sets up the **AED** machine on the victim.

AEDs are found everywhere:

- airports & on planes
- libraries, movie theaters
- gyms, recreation centers
- hotels, schools and more!

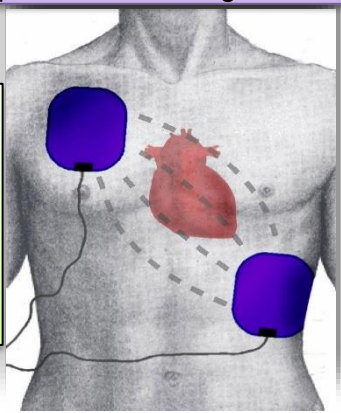
AED PRECAUTIONS

• Remove the victim from any **wet areas** such as **puddles** or **standing water** before applying the AED. If the victim is sweating or wet, wipe the chest dry with a towel or other type of material (**do not** use an alcohol wipe as it is flammable).
• Remove or **cut away** clothing to expose the victim's bare chest.
• An AED can be used on metal surfaces as long as pads do not touch the metal.
• Remove any **medication patches** on the victim's chest with **gloves**.
• **Jewelry** or **body piercings** do not need to be removed unless they are either touching the pads or obstructing the chest area from firmly attaching the pads.

Pad Placement

Upper Right

Lower Left



Special Considerations:

Pregnancy: It is safe to use an AED on a pregnant woman.

Pacemakers: AED pads should still be used on a victim with a pacemaker; however, do not place the pads directly over the pacemaker area.

Chest Hair: Chest hair should not be shaved unless it directly interferes with pad-to-skin contact.

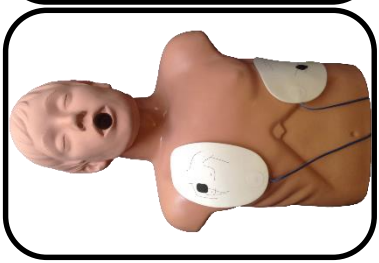
ADULT & CHILD AED (>8 years old or >55 lbs)

Turn the AED <u>on</u>.

Be sure the scene is safe and the victim is not surrounded in a wet environment, metal surface, or flammable gas.

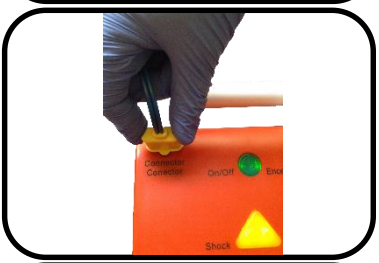
Bare the chest and dry it off.

Use scissors to cut the shirt or take it off quickly. Wipe the chest with a towel or piece of clothing.



Attach pads.

Follow the images on the pads and place one on the victim's **upper right** chest and the other one on the **lower left.** Press pads firmly so that they stick.



Plug in the connector and stand clear.

Some connectors will already come plugged in and ready to analyze once the pads are applied to the chest.

Be sure no one is touching the victim while the AED analyzes the heart rhythm.

Push the <u>shock</u> button.

If a shock is advised, raise your hands up and shout, "**Everyone Stand Clear!**"

Make sure no one is touching the victim and then push the **shock** button.

Immediately resume CPR.

After a shock is delivered or no shock is advised, immediately resume CPR cycles of **30 compressions: 2 breaths**.

The AED will re-analyze every 2 minutes.

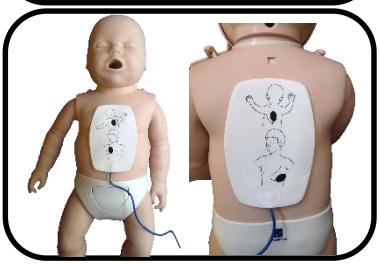
CHILD & INFANT AED (<8 years old or <55 lbs)

Turn the AED <u>on</u>.

Be sure the scene is safe and the victim is not surrounded in a wet environment, metal surface, or flammable gas.

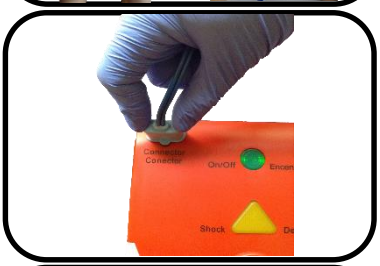
Bare the chest and dry it off.

Use scissors to cut the shirt or take it off quickly. Wipe the chest with a towel or piece of clothing.



Attach infant/pediatric pads if available.

For an **infant**, place one pediatric pad in the **front** of the chest and the other pad in the **back**. For a **smaller child**, place one pediatric pad in the **upper right** and the other pad in the **lower left** as long as they do not touch each other.



Plug in the connector and stand clear.

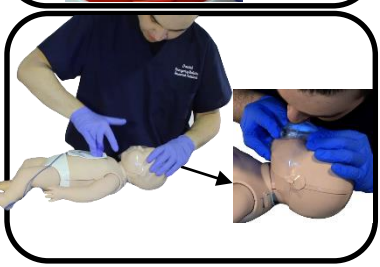
Some connectors will already come plugged in and ready to analyze once the pads are applied to the chest.

Be sure no one is touching the child or infant while the AED analyzes the heart rhythm.

Push the <u>shock</u> button.

If a shock is advised, raise your hands up and shout, "**Everyone Stand Clear!**"

Make sure no one is touching the victim and then push the **shock** button.



Immediately resume CPR.

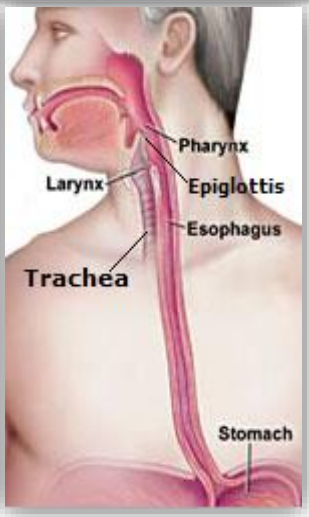
After a shock is delivered or no shock is advised, immediately resume CPR cycles of **30 compressions: 2 breaths**.

The AED will re-analyze every 2 minutes.

CHOKING EMERGENCIES

Choking emergencies occur when air cannot travel freely and easily into the lungs.

Normally, **air** goes through the **trachea** (**windpipe**) into the lungs. **Food** goes into the **esophagus** which is directly behind the trachea. When a person swallows, the **epiglottis** covers the trachea, enabling food to only enter the esophagus. If the epiglottis does not completely close, food can enter and obstruct the trachea, causing a person to **choke**.



Breathing and **heart circulation** are directly related. If breathing stops, the heart will soon stop too. One cannot work without the other!

Mild Choking

- Victim can **cough** and make **sounds**
- The airway is **partially** obstructed

Severe Choking

- Victim **cannot** speak or make any noises
- The airway is **fully** obstructed

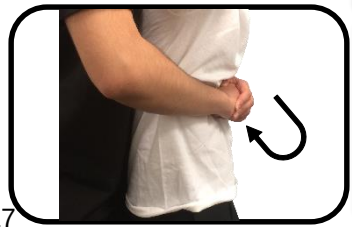
ADULT CHOKING — CONSCIOUS

Ask victim, "Are you choking? Can I help you?"

A choking person will usually have two hands over his or her throat. Acknowledge that you are trained and are going to help him or her.

Call 911 & Position Hands.

Immediately call **911** or have someone call for help. Then quickly get behind the victim and make a **fist** slightly above the belly button with the thumb pointing inward.

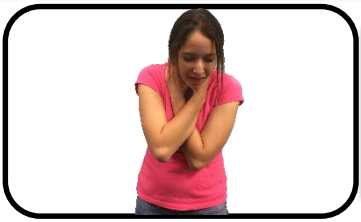


Give Abdominal Thrusts.

Using an upward "J"-motion, perform abdominal thrusts until the object comes out.

Push <u>inwards</u> and <u>upwards</u>.

CHILD CHOKING – CONSCIOUS

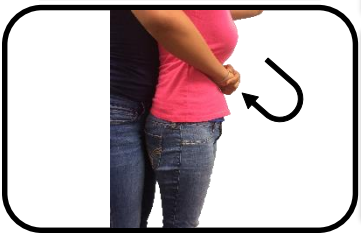


Ask child, "Are you choking? Can I help you?"

If the child's parents are present, be sure to ask for their consent before providing care.

Call 911 & Position Hands.

Immediately call **911** or have someone call for help. Then quickly get behind the child and make a **fist** right above the belly button with the thumb pointing inward. You may need to **kneel down.**

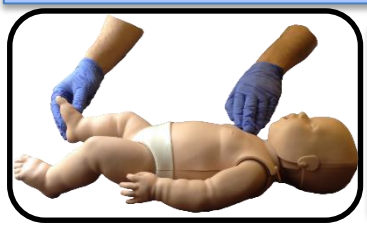


Give Abdominal Thrusts.

Using an upward "J"-motion, perform abdominal thrusts until the object comes out.

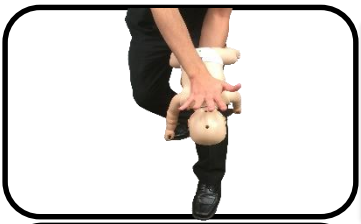
Push <u>inwards</u> and <u>upwards</u>.

INFANT CHOKING – CONSCIOUS



Check infant & call 911.

If an infant chokes on something, cannot breathe, cough, or cry, or is turning blue, immediately call 911.



Give 5 back blows.

Carefully turn the infant onto its belly and place it on your leg. Angle the head downwards and give 5 strong back blows.

Give 5 chest thrusts.

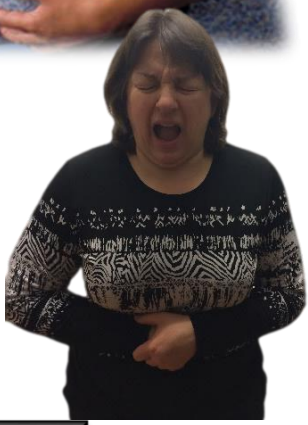
Carefully turn the infant onto your other leg while supporting its body and give 5 strong upward chest thrusts.

Continue repeating sets of **5 back blows** and **5 chest thrusts** until the object comes out or until help arrives and takes over.

CHOKING — SPECIAL CIRCUMSTANCES

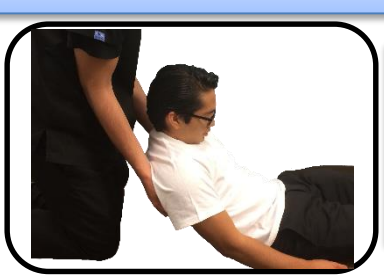
In the event that you cannot completely reach around a person's body to perform abdominal thrusts (i.e. the person is too **large**, in a **wheel chair** or is **pregnant**), get behind the person and perform continuous **chest thrusts** in an **inward** and **upward** "J"-motion until the object comes out.

If you are **alone** and choking, perform abdominal thrusts to yourself until the object comes out or you can press your abdomen against a firm object such as a **chair** or **table**. This will require you to use excessive force and almost "free fall" onto the chair or table in order to remove the obstruction.



Other Techniques if Choking Alone:

ADULT & CHILD CHOKING — UNCONSCIOUS



Lay the victim down and call 911.

If the victim goes unconscious after choking, gently lay him or her down on a flat surface and be sure 911 is called.

Give 30 chest compressions.

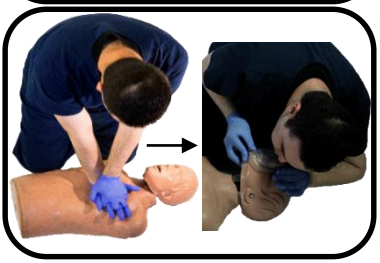
Immediately begin CPR on the unconscious choking victim.

Open airway and check for object.

Quickly open the victim's mouth using the **head-tilt/chin-lift technique** and scan for any obstructions. If you see anything, sweep it out with your finger.

Give 2 rescue breaths.

After removing the object or not seeing one, immediately give 2 rescue breaths.



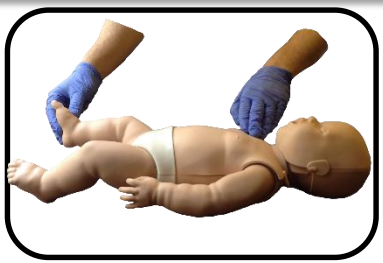
Continue cycles of 30 compressions: 2 breaths.

If the chest **does not rise** with breaths, continue cycles of 30 compressions: 2 breaths.

Check for object again.

Continue checking for any obstruction when opening up the airway. If the victim begins breathing, monitor the airway and keep him or her comfortable until help arrives.

INFANT CHOKING — UNCONSCIOUS



Lay the infant down and call 911.

If the infant goes unconscious after choking, gently lay him or her down on a flat surface (such as a table).

Give 30 chest compressions.

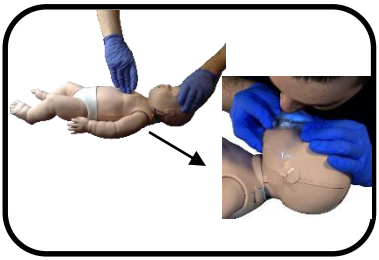
Immediately begin CPR on the unconscious choking infant.

Open airway and check for object.

Quickly open the infant's mouth using the **head-tilt/chin-lift technique** and scan for any obstructions. If you see anything, sweep it out with your finger.

Give 2 rescue breaths.

After removing the object or not seeing one, immediately give 2 rescue breaths.



Continue cycles of 30 compressions: 2 breaths.

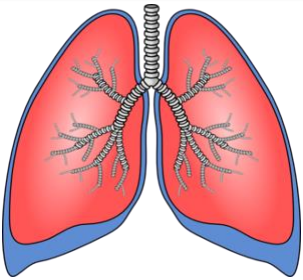
If the chest **does not rise** with breaths, continue cycles of 30 compressions: 2 breaths.

Check for object again.

Continue checking for any obstruction when opening up the airway. If the infant begins breathing, monitor the airway and keep him or her comfortable until help arrives.

BREATHING EMERGENCIES

Breathing emergencies can occur for many reasons. They can be caused by choking, chronic conditions (such as asthma), heart attacks, injuries to the head, spinal cord, chest, lungs or abdomen, allergic reactions, poisonings, drug overdoses, emotional distresses (such as anxiety) and more.



Signs & Symptoms:

Gasping for air, difficulty catching breath, breathing too fast, *not* breathing, wheezing, high-pitched noises, cool skin, dizziness, sweating, chest pain, etc.

Asthma

- Caused by inflammation of air passages, thus reducing the amount of oxygen that can enter the lungs. It can be triggered from **exercise**, **cold air**, **allergens**, **mold**, **pollen**, **smoke** and **stress**.
- **Symptoms**: wheezing, difficulty breathing, chest tightness, distress and anxiety.
- **Treatment**: call 911 if asthma is severe and assist person with his or her inhaler.

Allergic Reactions (Anaphylaxis)

- Allergic reactions occur when the body is exposed to certain allergens. Some can be life-threatening.
- Allergens include: **pet dander**, **bee stings** or other **bites**, **foods** (such as **peanuts** or **shellfish**), **medications** (such as **penicillin** or **aspirin**) and certain **plants** (poison **ivy**, poison **oak**, and **sumac**).
- **Signs:** difficulty breathing, wheezing, chest and throat tightness, rash or hives, severe sweating, facial swelling and weakeness.
- **Treatment**: Call 911 and assit victim with **Epipen** if prescribed *(remove cap, press into thigh and hold*).

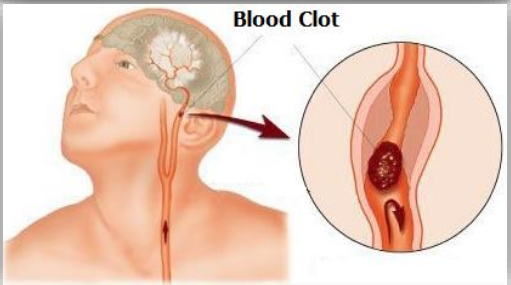
Oxygen Deprivation

- **Signs**: shortness of breath or wheezing, difficulty speaking, blue or pale lips and fingernails, moist skin.
- **Treatment:** call 911, keep victim calm and in a position of comfort, find out about any medical conditions such as allergies, asthma, etc.
- Assist with Epipen if allergic reaction is present and medication is prescribed to victim.
- Prepare to begin CPR if victim goes unconcious.

STROKE

Stroke is the **3rd** leading cause of death in the United States, affecting nearly 800,000 people every year.

It is caused when either a blockage occurs in an artery, preventing blood and oxygen from entering the brain (**ischemic stroke**), or when a blood vessel ruptures (**hemorrhagic stroke**).



A **transient ischemic attack** (**TIA**) is a "mini stroke" which only temporarily blocks blood flow from entering the brain.

When the brain does not receive adequate blood flow and oxygen, tissues begin to die. This damage is irreversible and can cause lifelong disability!

Signs & Symptoms:
Sudden numbness or weakness in the face, arm or leg on one side of the body, confusion, trouble speaking or understanding, blurry vision and dizziness, loss of coordination, and headache for no reason.

Perform the **Quick Stroke Test** & **Call 911**:

Smile

- Ask the person to smile.
- *Stroke symptoms*: facial weakness, numbness, or droop on one side.

Talk

- Ask the person to repeat a simple sentence.
- *Stroke symptoms*: slurred speech, unable to speak, mumbling, incoherent words.

Raise Arms

- Ask the person to raise his or her arms.
- *Stroke symptoms:* weakness, numbness or drifting downward of one arm.

SEIZURES

A **seizure** happens when abnormal electrical activity occurs in the brain. The most common visible sign is **uncontrollable shaking (convulsions)**.

Seizures can be caused by **epilepsy**, a chronic condition, as well as from other medical problems including **low blood sugar**, **head injuries**, **heat emergencies** and **poisons**.

Febrile seizures occur in small children and infants, which are caused by rapid increases in body temperature due to ear, throat and digestive infections.

Signs & Symptoms:

Sudden jerking and twitching of arms and legs, clenched jaw, abnormal eye and facial movements, loss of consciousness or awareness, and possible loss of bladder or bowel control.

Treatment:

1. Recognize Seizure Signs & Symptoms
2. Call 911
3. Remove any objects in victim's way
4. Do not hold down the victim or put anything in his or her mouth
5. After victim stops seizing, monitor airway and breathing

SHOCK

Shock occurs when the body cannot circulate oxygenated blood adequately to the vital organs. In essence, it starts to shut itself down.

Signs & Symptoms:

Dizziness, restlessness, fainting, weakness, nausea, vomiting, pale, grayish and moist skin, and rapid breathing and heart rate.

It can be caused by significant **blood loss**, an **allergic reaction**, **heart failure**, a **traumatic injury** and more.

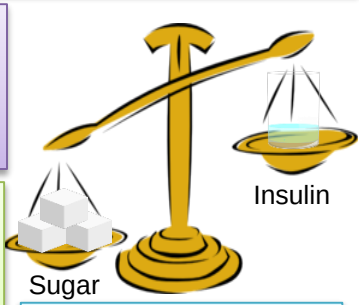
Have person lie **flat** on his or her **back**.

Treatment: Call 911, keep victim warm and lie flat on back; control bleeding. Do not give food/drinks.

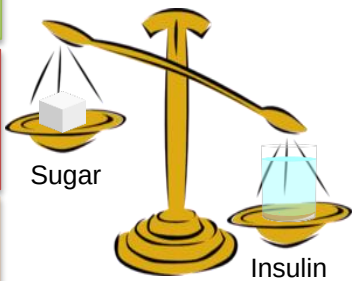
DIABETIC/SUGAR EMERGENCIES

According to the *American Diabetes Association*, nearly **26 million** Americans have **diabetes**. It is the **7th** leading cause of death in the United States.

People with **diabetes** are not able to convert the sugar they eat (**glucose**) into energy. **Insulin**, a hormone produced in the pancreas, helps regulate the process of converting sugar into energy. **Sugar** and **insulin** have to be balanced for the body to function properly.



Hyperglycemia



Hypoglycemia

Diabetics typically suffer from either **high blood sugar** (*hyperglycemia*), or **low blood sugar** (*hypoglycemia*).

The two major types of diabetes are **Type I Diabetes**, where the pancreas is not able to produce any insulin, and **Type II Diabetes**, where the body is not able to use all the excess insulin that is produced – much more common.

Hypoglycemia (Low Blood Sugar):

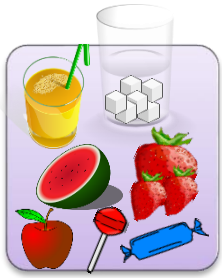
Altered level of consciousness, confusion, dizziness, weakness, headache, cool and clammy skin, and irritability and mood changes

Hyperglycemia (High Blood Sugar):

Increased thirst and urination, agitation, confusion, fruity odor in mouth, fatigue, headache, and blurry vision

Low Blood Sugar Treatment:

Recognize Diabetic Emergency → **Call 911** → **Give victim <u>sugar</u> (orange juice, candy bar, fruit, milk, or table sugar dissolved in water) if he or she is <u>conscious</u> and able to <u>swallow</u>**



Note**: A person suffering from low blood sugar or high blood sugar may display similar symptoms. Low blood sugar is much more life-threatening. When in doubt, **always give sugar!

POISONING & OVERDOSES

Poisons can be **swallowed, breathed in (inhaled), absorbed** through the skin, and **injected** into the body.

Swallowed poisons include:
- Shellfish, certain mushrooms
- Sleeping pills, tranquilizers and alcohol
- Cleaning products, pesticides

Inhaled poisons include:
- Carbon monoxide gases from car engines
- Chlorine chemicals in swimming pools
- Glue and paint fumes
- Illegal drugs

Absorbed poisons include:
- Poison ivy, poison oak, poison sumac
- Fertilizers and pesticides

Injected poisons include:
- Bites/stings from insects, spiders, ticks, snakes, jellyfish
- Drugs injected through needles

Signs & Symptoms:

Nausea, vomiting, diarrhea, chest or abdominal pain, shallow or slow breathing or only gasping, sweating, altered level of consciousness, headache, seizures, dizziness, weakness, burning or watery eyes, altered skin color, and change in pupil sizes

Treatment:

Note: If you suspect an **opioid drug overdose**, the medication **Naloxone (NARCAN®)** may be given using a **nasal spray** or **muscle autoinjector**.

1. Remove poison from victim
2. Call 911 and Poison Control
3. Retain poison and give to professionals (if possible)

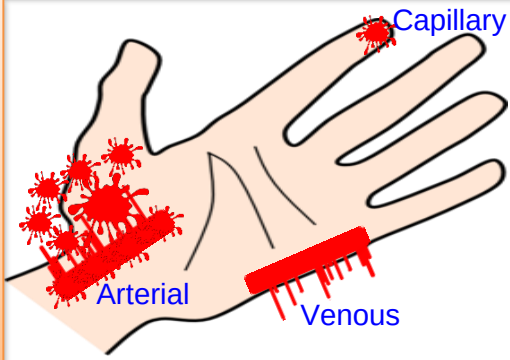
Poison Control Number: 1-800-222-1222

Note: *When assisting a poisoning victim, try to determine the* ***type*** *of poison that was present, the* ***quantity*** *that was taken, the* ***time*** *it was taken, and how much the person* ***weighs****. Poison control will give additional treatment steps, as necessary. Provide any necessary care.*

BLEEDING EMERGENCIES

There are three main types of external bleeding:

- **Capillary bleeding**:
  - slow, even blood flow
- **Venous bleeding**:
  - steady, slow flow, dark red in color
- **Arterial bleeding**:
  - spurting blood, bright red in color (life-threatening)



Wear gloves and apply DIRECT PRESSURE to the wound with a sterile gauze pad

Treatment:

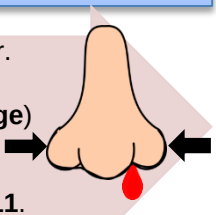
If bleeding has not stopped, apply more gauze pads or wrap the wound with an elastic bandage or wrap

Check for pulse, movement, and feeling in the injured extremity

Note: *If bleeding has not stopped with direct pressure and wrapping, call* ***911*** *immediately. Large amounts of blood loss may result in shock or even death. A* ***tourniquet*** *should only be applied to the wound if advanced medical care is out of reach and the victim is deteriorating rapidly from blood loss.*

Nosebleeds (Epistaxis)

- **Pinch** the **soft part** of the nostrils tightly together.
- **Tilt** the head **forward**.
- A **cold pack** can be applied to the top part (**bridge**) of the nose, which will cause blood vessels to constrict and slow down the bleeding.
- If bleeding has not stopped in 15 minutes, call **911**.



Mouth or Tooth Injury

- For **bleeding** that is from the **tongue**, **lips**, or **cheek**, apply **pressure** with a **sterile gauze pad** over the affected area. For a **broken tooth**, put it in **egg whites**, **coconut water**, or **whole milk**.

Abdominal Injury (Evisceration)

- Organs that are found protruding outside the body should be covered up with a **moist sterile dressing**.
- **Do not** attempt to place them back inside the victim.

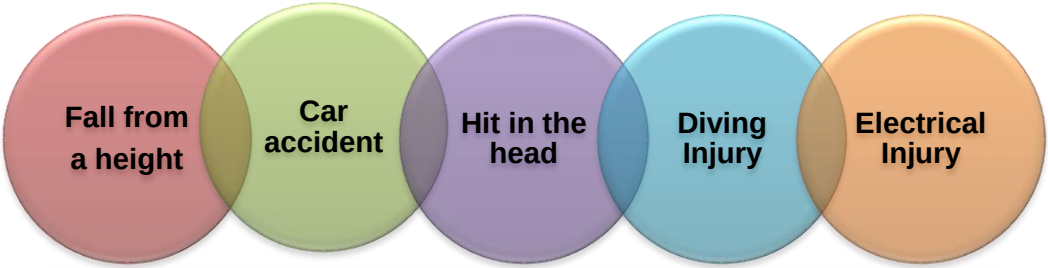
Amputations

- Wrap an amputated body part in a small bag and then place it in a bag of **ice** and have it transported with the ambulance to the hospital.

HEAD, NECK & SPINAL INJURIES

Most head, neck and spinal injuries are caused from **motor vehicle accidents**, **falls** (from large heights or diving), **sports-related trauma** and **assaults**.

Head, Neck or Spinal injury causes:



Signs & Symptoms:

Unconscious and unresponsive, may moan or slightly move, headache, double or blurry vision, difficulty speaking or breathing, paralysis on one side of the body, weakness, numbness and tingling, nausea, vomiting and loss of bowel or bladder control

Injury to the spinal cord may cause permanent neurological damage, including **paralysis** and **quadriplegia**. If you suspect a victim of having a **head**, **neck**, or **spinal cord injury**, take extra precaution to prevent any further harm.

The victim's head and neck should remain as **still as possible** in the **position found**. Notify emergency help immediately. Tell victim to respond verbally to your questions; **no nodding** or **shaking** of his or her head.

Stabilize the victim's head and neck in the position found and prevent any movement.

A victim suffering from a **head injury** may display signs of **bruising** around the **eyes** or **blood leaking** out of the **ears**.

Additional symptoms may include: dizziness, confusion, headache, nausea and vomiting, double vision and memory loss.

EYE INJURIES

Chemical Burns

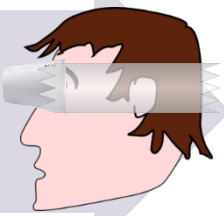
- If a chemical gets into the eyes, flush the affected eye with **water** for **20 minutes** or until advanced medical care takes over.
- Be sure to **tilt** the **head** with the affected eye **toward** the **sink** so that chemicals do not flush into the unaffected eye.

Thermal Burns

- For thermal eye burns, **remove** the victim from the burning source and wash the affected eye(s) with copious amounts of water for at least **20 minutes** and call **911.**

Impaled Objects

- If an object gets stuck in the eye, **do not** try to remove it. That may cause more harm. Instead, stabilize the object by putting a **cup** over it and wrapping it with gauze around the head.
- Be sure to also cover the unaffected eye so that both eyes remain closed and stabilized.
- Call **911** and wait for advanced help to arrive.



BURNS & ELECTRICAL INJURIES

Burns are caused by **heat** (such as flames, hot objects and liquids), **chemicals** (such as acids, alkalis or other corrosive materials), and **electricity** (such as electrocution and shock).

Superficial	Partial-Thickness	Full-Thickness
First Degree	Second Degree	Third Degree

Superficial Burn: Only top (outer) layer of skin is burned. Skin is red and dry and can be painful. Will usually heal in a couple of days.

- **Treatment:** cool the burn with **cold running water** and **bandage** to protect.

Partial-Thickness Burn: Both the outer layer of the skin as well as the second layer (dermis) is burned. Blisters form and the skin is severely reddened and splotchy in appearance. Swelling and severe pain are present.

- **Treatment:** cool the burn with **cold running water**, **bandage**, and call **911**.

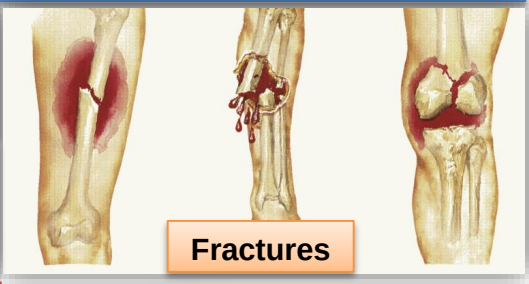
Full-Thickness Burn: The most serious burn where all layers of the skin are damaged (fat, muscle, bone). Skin will appear charred black or grayish/white.

- **Treatment:** remove victim from burn site and call **911** immediately.

Electrical Injury: Look for **entry** and **exit** wounds. **Do not touch** victim if danger is still present (i.e. electrical wires, etc.). Call **911** and monitor victim's condition.

BROKEN BONES/MUSCULOSKELETAL INJURIES

Muscles, bones and joints can be injured by **fractures**, **dislocations**, **sprains** and **strains.**



Fractures

Fractures are breaks, chips or cracks in a bone. They can be *open* (come outside of the skin) or *closed*.

Dislocations are caused when bones or joints are moved out of their normal position.

Dislocation

Sprains are caused by the stretching and tearing of **ligaments** (which connect bones to other bones).

Sprain

Strains are caused by the stretching and tearing of muscles or **tendons** (which connect muscles to bones).

Strain

What to look for (DCAP-BTLS):

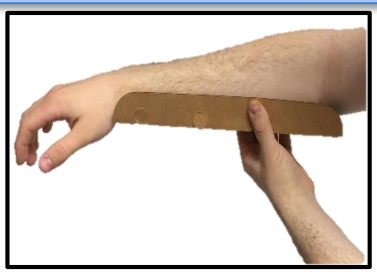
- **D**eformities
- **C**ontusions (bruises)
- **A**brasions (scrapes)
- **P**unctures & Penetrations
- **B**urns
- **T**enderness to palpation
- **L**acerations (cuts)
- **S**welling

R **Rest**
- Do not move the injured area.

I **Immobilize**
- Stabilize/splint the injury.

C **Cool**
- Apply ice to the injury.

E **Elevate**
- Slightly raise the injured part.



Immobilize the injured area with a **splint** to prevent further damage.

Cool the injury with a bag of **ice** and **water** or apply an **ice pack** to help reduce the swelling.

BITES & STINGS

Human and Animal Bites:

- Wash affected area(s) with copious amounts of **water**.
- Control any bleeding with **direct pressure** and **dressings**.
- Seek medical care if wound is severe or appears infected.

Snake Bites:

• Contact **medical care** immediately.

• **Elastic pressure immobilization bandages** should **ONLY** be used for **coral snake bites**.

*Bandages should **NOT** be used on bites from pit viper snakes (such as rattlesnakes, cottonmouths, and copperheads).*

• Keep the injured area **lower** than the heart and remain **still**.

• **DO NOT:** put ice on the wound; cut the wound; or apply suction to the wound! These are ineffective.

Coral Snake

Elastic Pressure Bandage

Spider Bites & Scorpion Stings:

- Immediately seek medical care.
- Carefully remove the stinger and wash the wound thoroughly with lots of **water**.
- Apply an **antibiotic ointment** (if not allergic).
- **Bandage** the wound with a wrap or Band-Aid.
- Place **ice** or an **ice pack** on the area to reduce pain and swelling.

Black Widow

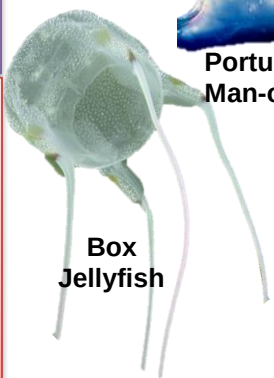
Brown Recluse

Scorpion

Jellyfish stings:

- Immediately pour **vinegar** on the injured site to inactivate the venom. If it is not available, use a **baking soda paste**.
- Wash the affected area with **warm/hot water** for 20 minutes or use **sea water** if available.

Portuguese Man-of-War



Box Jellyfish

HEAT-RELATED EMERGENCIES

Heat-related emergencies may be brought on by hot temperatures, vigorous exercise activities, poor indoor ventilations/insulations and much more. The three levels of heat emergencies include: **heat cramps**, **heat exhaustion** and **heat stroke**.

Heat Cramps

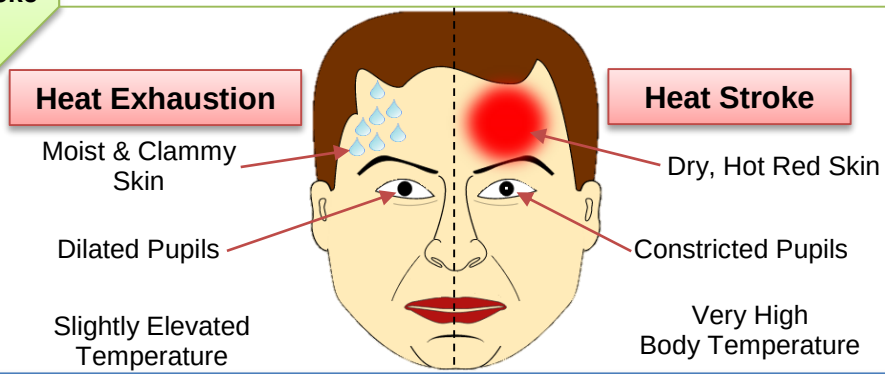
- Painful muscle cramps in legs and abdomen.
- **Treatment:** cool victim, give water and electrolytes.

Heat Exhaust-ion

- Pale, moist and clammy skin, headache, exhaustion.
- **Treatment:** cool victim, give water and electrolytes.

Heat Stroke

- High body temp, dry or moist red skin, near coma.
- **Treatment:** call 911, rapidly cool with cold water.



COLD-RELATED EMERGENCIES

The two main types of cold-related emergencies are **frostbite** and **hypothermia.**

Frostbite occurs when *body parts* start to freeze from extremely cold temperatures.

Waxy looking, discoloration, numbness, swelling, blisters
Areas: fingers, hands, toes, feet

Gently soak area in **warm water** and then bandage.

Hypothermia occurs when the *entire body* cools due to extreme conditions.

Shivering, numbness, slow breathing, slurred speech, blue/pale skin, altered consciousness

Gradually **re-warm** the victim with fresh clothing and blankets.