



CPR SOCIETY®

HEALTH & WELLNESS EDUCATION

+ CPR ● AED ● FIRST AID



TRAINING MANUAL

Follows the latest American Heart Association® Guidelines

This **CPR Society®** training program follows and is consistent with the most current **2010 American Heart Association** scientific guidelines and treatment recommendations from the **International Liaison Committee on Resuscitation (ILCOR)** and **Emergency Cardiac Care (ECC)**.

The course meets or exceeds national standards and federal regulation guidelines for providing pre-hospital first aid and emergency care.

For more information, visit CPRSociety.org.



Daniel J. Kipnis

Our curriculum was specifically developed with **YOU** in mind!

This program includes **colorful pictures, engaging videos, and straight-to-the point instructions** to give you the knowledge and skills necessary to live a healthier life and also respond to a variety of emergencies that may arise with confidence.

Congratulations on taking the first step to become a healthier **YOU!**

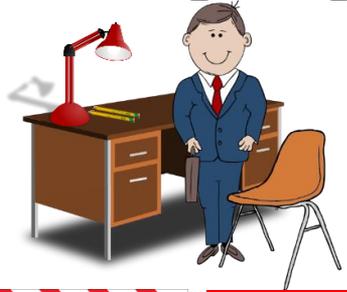
To Great Health,
Daniel J. Kipnis
CEO, CPR Society®

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WORKPLACE SAFETY TECHNIQUES

Design a Safe Work Area



Always Keep Work Area Clean



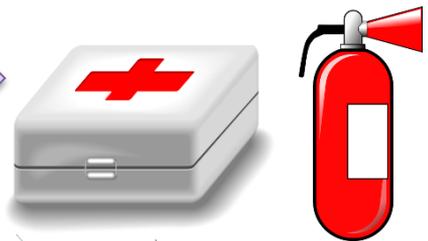
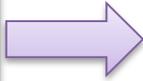
Create Safety Plan and Locate Emergency Exits Routes



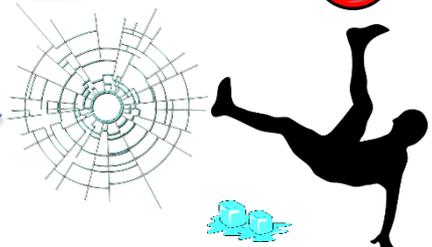
Follow and Abide By All Signs Displayed



Know Location of First Aid Station(s) and Other Equipment



Report Any Broken Equipment or Injuries *Immediately* to the On-duty Supervisor



LIFTING SAFETY

Lifting of heavy objects is one of the **leading** causes of injury in the workplace.

According to the *Bureau of Labor Statistics*, nearly **40%** of injuries were the result of **shoulder** and **back injuries** due to **improper lifting practices**.

Injuries Due to Improper Lifting:

- Back sprains
- Muscle pulls
- Wrist injuries
- Elbow injuries
- Spinal injuries

Steps To Take Before Lifting:

First **stop** and **think** about what you are about to lift.

Locate any sharp corners, slippery areas and other hazards.

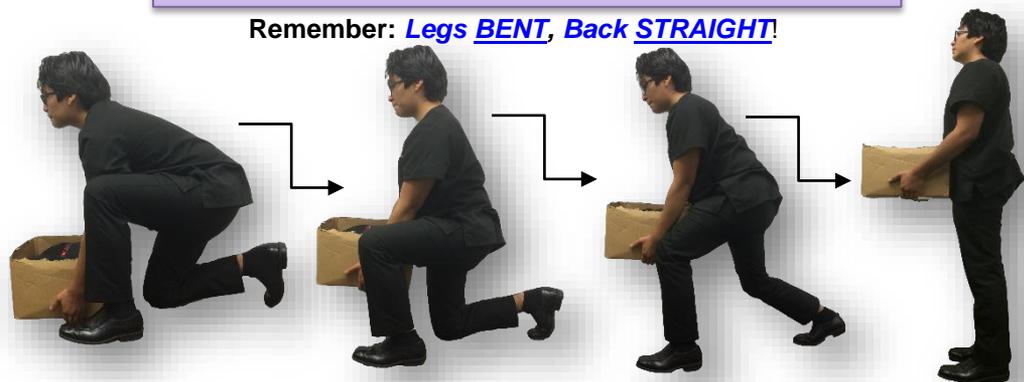
Do not attempt to exceed your lifting limits!

Always ask for **additional help** and **divide** the load if possible.



Proper Lifting Technique:

Remember: **Legs BENT**, **Back STRAIGHT**!



Squat down and position yourself close to the object with feet **shoulder-width apart**.

Place one foot in front of the other for balance and **bend your knees**.

Grasp the object firmly and then slowly start to lift straight up, **straightening** your legs.

Don't twist your body!

Continue lifting straight up using only your **legs**.

Keep your **back straight**.

Once up, keep the object **close** to your body at all times and walk **forward**.

SEATING ERGONOMICS & PROPER POSTURE

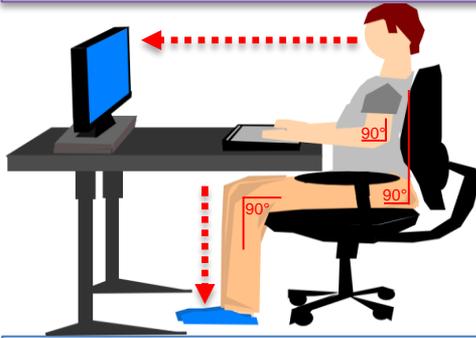
Employees who **sit** for long periods of time and use the **computer** regularly at work are at higher risk for **nerve, muscle, tendon and ligament damage**.

Injuries from incorrect posture and long-term sitting may include:

- Numbness in the fingers
- Sore wrists & lower back pain
- Eye strain (redness, dryness, blurriness)
- Headaches
- Neck, shoulder, arm, leg pain

Proper Sitting Posture:

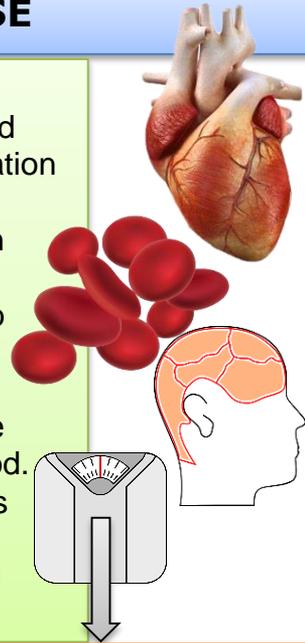
- Back straight against the seat
- Elbows close to the body
- Wrists placed straight forward
- Monitor located at eye level



BENEFITS OF EXERCISE

Exercise Has Many Benefits...

- **Strengthens heart** – muscle is strengthened and enlarged; improves pumping of blood and circulation to all the vessels and organs.
- **Increases red blood cell count** – better oxygen transport throughout the body.
- **Improves immune system** – less susceptible to viral infections such as cold and flu.
- **Improves mental health** – exercise releases *endorphins*, or natural “painkillers,” which reduce stress, depression and anxiety and improve mood.
- **Promotes weight loss** – exercise burns calories and thus promotes weight loss.
- **Better sleep** – regular exercise can help you fall asleep faster and deepen your sleep cycle.



Exercise Statistics:

- 1 ½ hours per week reduces premature death by **20%**.
- 3 hours per week reduces death by **28%**.
- 5 hours per week reduces death by **34%**.
- Exercise reduces **stroke** risk by **27%**.
- Exercise reduces **diabetes** risk by **50%**.
- Exercise reduces **high blood pressure** risk by **40%**.
- Exercise reduces the risk of **breast cancer** by **50%**.

Target Heart Rate

During Exercise:

Resting: 60-100 bpm

20 years: 100-170 bpm

30 years: 95-162 bpm

40 years: 90-153 bpm

50 years: 85-145 bpm

60 years: 80-136 bpm

70+ years: 75-128 bpm

EXERCISE & FITNESS ACTIVITIES

ENDURANCE

Increases breathing & heart rate

Brisk walking, jogging, dancing, swimming, biking, climbing stairs, hiking, playing tennis, basketball, etc.



STRENGTH

Makes muscles & bones stronger

Strength and resistance training using weights (dumbbells, bar bells, kettle bells), cable machines, push-ups, carrying groceries and other heavy objects, etc.



Types of Exercise

Increases stamina & prevents falls

Standing on one foot, walking heel-to-toe, practicing Tai Chi, etc.



BALANCE

Stretches muscles & increases movement

Stretching shoulders, upper arms, calf stretches, yoga, etc.



FLEXIBILITY

EXERCISING WHILE HAVING FUN!

Go **walking** or **jogging** with your dog.
Can burn up to **200 calories** an hour!



Go for a nice **hike** with your friends.
Can burn up to **600 calories** an hour!



Go **biking** around your neighborhood.
Can burn up to **300-600 calories** an hour!



Go **dancing** with your friends.
Can burn up to **400 calories** an hour!



OFFICE EXERCISE TECHNIQUES



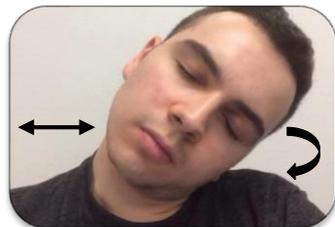
Walk or ride the **bike** to work instead of driving.



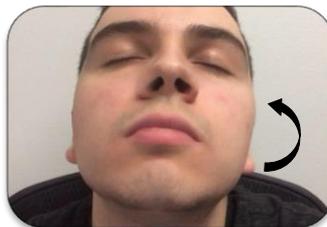
Take the **stairs** instead of using the elevator.



If making copies at the printer, perform **calf raises**.



Tilt your head to each side and hold for **10 seconds**, then roll in a **circle**.



Lift your head back and hold it there for **10 seconds**, then **tilt forward & hold**.



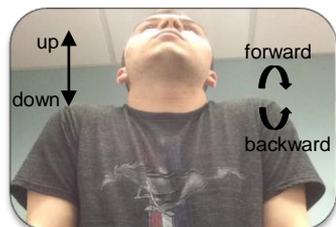
Put your arms **straight forward**, lock fingers and **hold** for **10 secs**.



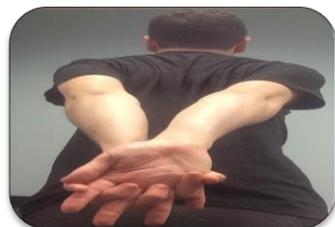
Lift your arms straight **up** and hold them there for at least **10 seconds**.



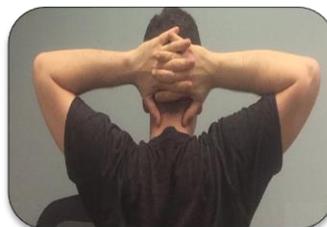
Bend one arm above the head and hold for **10 secs**. Then **switch** arms.



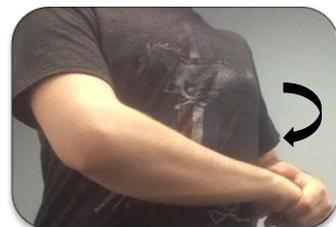
Perform shoulder raises going **up** and **down**. Then roll **front** and **back**.



Lock both arms **behind the back** and **hold** them for **10 seconds**.



Lock both arms **behind the head** and **hold** them for **10 seconds**.



Hold both hands together and **twist** **side to side** to stretch the muscles.

STRESS MANAGEMENT

High levels of stress can be detrimental to your health and cause life-long injury.

Stress can cause headaches, backaches, stomach aches, anxiety, anger, depression, helplessness, tension, trouble sleeping, impatience, memory problems and lots more.



Bad ways of dealing with stress:

- Smoking or drinking excessively
- Overeating to calm down or under-eating
- Using pills or drugs to relax
- Withdrawing from friends, family and activities
- Yelling or verbally abusing others
- Sleeping too much or too little

How emotions harm the body:

- ⇒ **Anger:** weakens **liver**
- ⇒ **Grief:** weakens **lungs**
- ⇒ **Worry:** weakens **stomach**
- ⇒ **Stress:** weakens **heart/brain**
- ⇒ **Fear:** weakens **kidneys**

AVOID

- ⇒ **Avoid unnecessary stress in your life.**
- ⇒ Don't "bite" more than you can chew – learn to say "NO."
- ⇒ Remove people from your life that cause you stress.

ALTER

- ⇒ **Alter the situation if you cannot avoid it.**
- ⇒ Express how you feel and what frustrates you.
- ⇒ Be **proactive** and **change** the situation and make it better.

ADAPT

- ⇒ **Adapt to a stressful situation you cannot change.**
- ⇒ Try to make a difficult situation into a **positive** situation.
- ⇒ Change your perspective and try to remain optimistic.

ACCEPT

- ⇒ **Accept the stressors you cannot change and move on.**
- ⇒ Accepting the uncontrollable is difficult but necessary.
- ⇒ Remain hopeful, share your feelings, learn to forgive.

Relaxation Techniques:



Do gardening Play with your pet

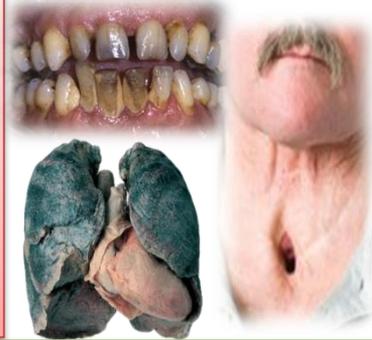
SMOKING CESSATION & PREVENTION

According to the *American Lung Association*, cigarette smoking is the **number one** cause of **preventable disease** and **death** around the world. Almost **500,000** Americans die each year from smoking-related causes.



Smoking complications:

- Emphysema (difficulty catching breath) & COPD
- Coronary artery disease (blocked arteries)
- Stroke, abdominal aortic aneurysm, acute myeloid leukemia, cataracts, pneumonia, and periodontitis (gum infection in mouth).
- Bladder, esophageal, laryngeal, lung, oral, throat, cervical, kidney, stomach, and pancreatic cancers.
- Infertility and peptic (stomach) ulcers, and more.



Secondhand smoke exposure kills over **50,000** adults every year. **46,000** adults die from heart disease, **3,500** develop lung cancer, **300,000** children under 18 months develop lower respiratory tract infections and **40%** of children who go to the ER with **severe asthma attacks** live with smokers.

Ways to Quit Smoking:

- Try nicotine patches, gum, or nasal spray
- Chew on snacks or vegetables that are crunchy and satisfying (carrots, seeds, etc.)
- Avoid triggers or situations that promote smoking (i.e. bars, parties, smoke lounges)
- Practice physical activities to avoid the cravings (sports, exercise, walks, etc.)
- Have a strong support system to rely on (friends, family, doctors, counselors, etc.)

Benefits of Quitting Smoking:

- ⇒ After **20 minutes**:
 - Heart rate & blood pressure drop
- ⇒ After **8 hours**:
 - CO & O₂ levels return to normal
- ⇒ After **48 hours**:
 - Nerve endings start re-growing
- ⇒ After **1 year**:
 - Heart attack/stroke risk ↓ by 50%
- ⇒ After **10-15 years**:
 - Cancer risk/heart disease drops

DRINKING PREVENTION

Excessive alcohol use is harmful to a person's health and has led to approximately **88,000 deaths** every year in the United States. It has shortened lives by an average of **30 years** and was responsible for **1 in 10 deaths** among working-age adults **20-64 years**.



Short-Term Health Risks

- Car accidents, falls, drownings, burns, violence (homicide, suicide, sexual assault), alcohol poisoning, risky sexual behaviors, and miscarriage and stillbirths in pregnant women.

Long-Term Health Risks

- High blood pressure, heart disease, stroke, liver disease (cirrhosis), and digestive problems.
- Breast, mouth, throat, esophagus, liver, colon cancer. Memory problems (dementia), depression & anxiety.

Benefits of Quitting:

- Brain & liver start to heal
- More energy
- Appearance & attitude improve, etc.

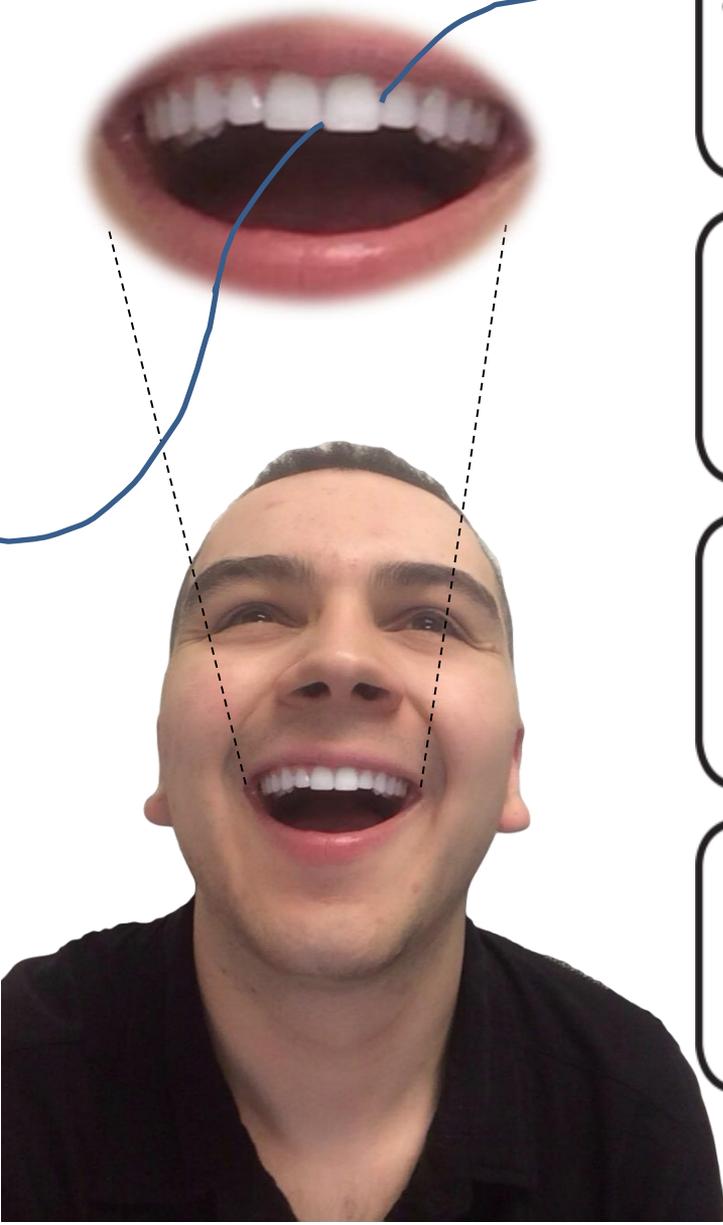
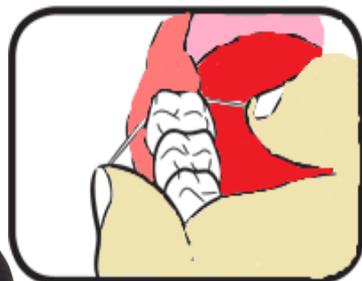
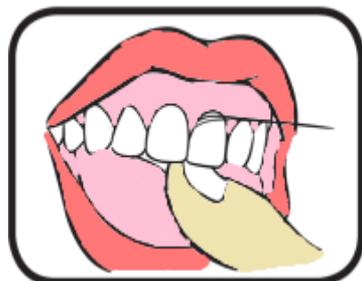
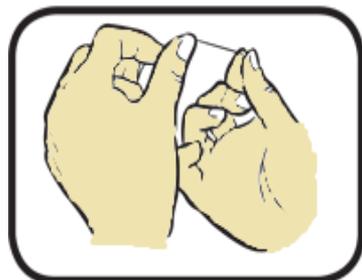
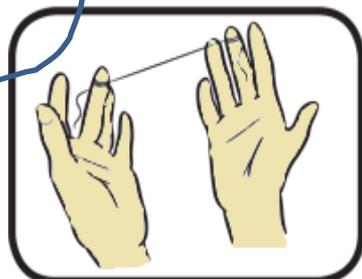
IMPORTANCE OF TEETH FLOSSING

Teeth flossing is an important part of a healthy lifestyle. A toothbrush alone will not remove all of the plaque and bacteria that is built up in the teeth. Flossing is essential *in addition* to brushing to help prevent **gingivitis** (gum disease), **tooth decay**, **bad breath**, and even **cardiovascular disease**!

Brush at least **twice** a day.

Floss at least **once** a day.

Flossing Technique:



Source:
American Dental Association

NUTRITION BASICS & OBESITY PREVENTION

Obesity has become a worldwide health epidemic. **1 in 3 people** (>30%) are **overweight** or **obese** in the United States. Preventing obesity begins with **exercising regularly**, managing **stress**, monitoring **weight** regularly, controlling **blood pressure** and **cholesterol levels**, and eating a **healthy and balanced diet**.



Nutrition Facts

Serving Size 2 tablespoons (37g)
Servings Per Jar 10

Amount Per Serving	
Calories 200	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 20mg	1%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	4%
Sugars 21g	
Protein 3g	
Vitamin A 0%	Vitamin C 2%
Calcium 4%	Iron 8%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

How to Read a Nutrition Label:

Serving Size – amount of food for 1 serving.

Calories – amount in 1 serving; try to limit calories to lose weight.

Total Fat, Cholesterol, Sodium – select foods with smallest amount of values in each of these categories. **Trans fat** increases risk of heart disease.

Sodium causes high blood pressure.

Carbohydrates – healthy carbs come from fruits, vegetables, beans and whole grains, which reduce risk of heart disease.

Try to limit amount of **sugar** present. Unhealthy added sugars include **high fructose corn syrup, glucose, corn or maple syrup**.



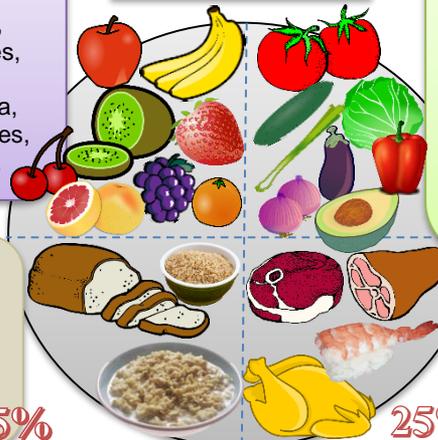
Chocolate hazelnut spread nutrition facts

Protein: it is important to get protein from healthy foods such as meat, poultry, beans, milk and other dairy products, etc. that are **lean, low-fat, or fat free**.

Fruits: apples, apricots, bananas, cherries, grapefruit, grapes, kiwi, lemons, limes, mangoes, nectarines, oranges, peaches, pears, papaya, pineapple, plums, prunes, raisins, tangerines, etc.

Plate Portions:

Vegetables: broccoli, collard greens, kale, lettuce, spinach, corn, potatoes, squash, peppers, artichokes, asparagus, avocado, beets, celery, cucumbers, mushrooms, cauliflower, Brussels sprouts, cabbage, etc.



Whole Grains: whole-wheat bread, oatmeal, bulgur (cracked wheat), whole cornmeal, brown rice, etc.

Meat/Protein: chicken, beef, fish, ham, pork, lamb, turkey, beans, eggs, seafood, nuts/seeds, etc.

HEALTHY MEAL OPTIONS & FOOD PYRAMID

Low-Calorie Foods

- Asparagus, apple, cucumber, blueberries, broccoli, cranberry, cantaloupe, carrots, celery, chicory, cauliflower, beet, dandelion, endive, garden cress, garlic, grapefruit, onion, honeydew, hot chili peppers, lemon, lime, lettuce, mango, orange, papaya, peach, pineapple, radish, watermelon, turnip, raspberries, tomato, strawberries, tangerine, spinach, zucchini.

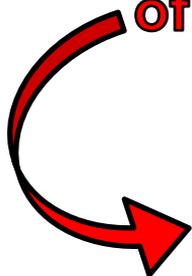


Metabolism-Accelerating Foods

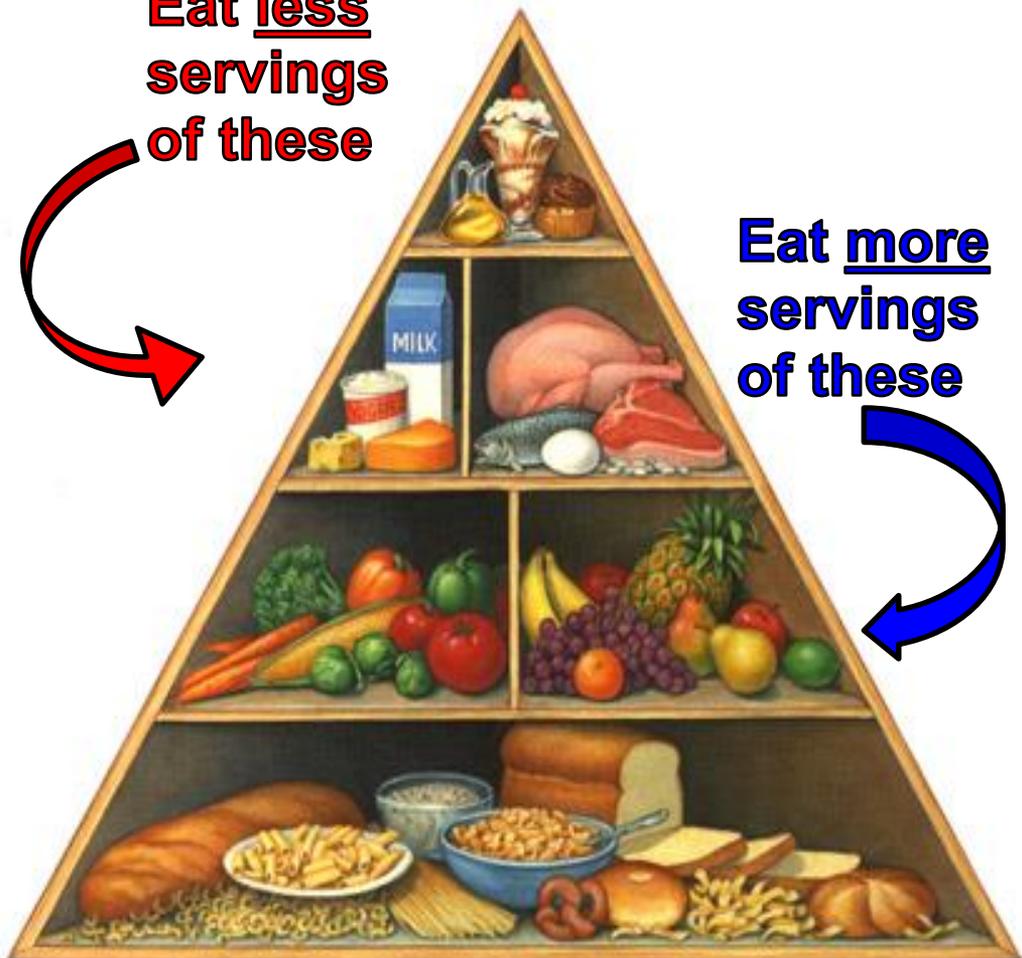
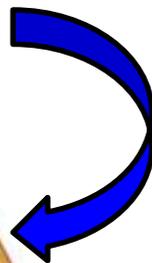
- Herbal green tea, purified water, jalapeño pepper, dark leafy greens, poppy seeds, cinnamon, oregano, grapefruit, parsley, mustard seeds, garlic, marjoram, broccoli, spinach, mint, ginger, cayenne pepper, dill.



Eat less servings of these



Eat more servings of these



BLOOD PRESSURE MANAGEMENT

According to the *American Heart Association*, **1 in 3 Americans** (over **67 million**) have **high blood pressure** yet many do not even know they have it!

High blood pressure (or **hypertension**) is referred to as the **“SILENT KILLER”** because there are oftentimes no warning signs or symptoms.



Normal Blood Pressure:

120/80 mmHg
(systolic/diastolic)

Pre-hypertension:

140/90 mmHg

High BP (Stage 1):

160/100 mmHg

High BP (Stage 2):

170/110 mmHg

Crisis BP:

180/120+ mmHg

High Blood Pressure Dangers

Artery Damage

- Artery narrowing (cells damage)
- Arteriosclerosis (artery hardening)

Heart Damage

- Coronary artery disease
- Enlarged left heart (has to work harder)
- Heart attacks and cardiac arrest

Brain Damage

- Transient ischemic attack (TIA) - temporary blood clot
- Stroke
- Dementia

Kidney Damage

- Kidney failure (fluid and waste accumulate)
- Kidney scarring (unable to filter waste)
- Kidney artery aneurysms (can rupture and cause life-threatening bleeding)

Managing Blood Pressure:

Eat Healthy

Stay Active

Maintain Proper Weight

Quit Smoking

Monitor Blood Pressure Regularly

EMERGENCY TRAINING



CPR

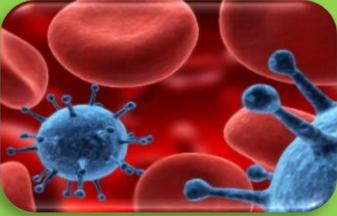
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AED

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FIRST AID

CONCERNS OF PROVIDING EMERGENCY CARE



Catching a Disease

Solution



Personal Protective Equipment

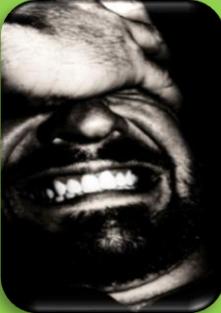


Lawsuits

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

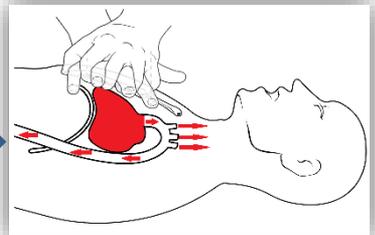


Victims needing CPR are considered clinically **“dead.”** Performing chest compressions will only **save** their lives!



Making a Mistake

Solution



Emphasis is on pushing **“hard”** and **“fast”** for CPR.

EMERGENCY ACTION 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!



*“Look Up,
Look Down,
Look All Around!”*



Fire



Odors

Dangers



Accidents



Blood



Electrical

Glove Removal:



CHECKING AN UNCONSCIOUS ADULT



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 19).

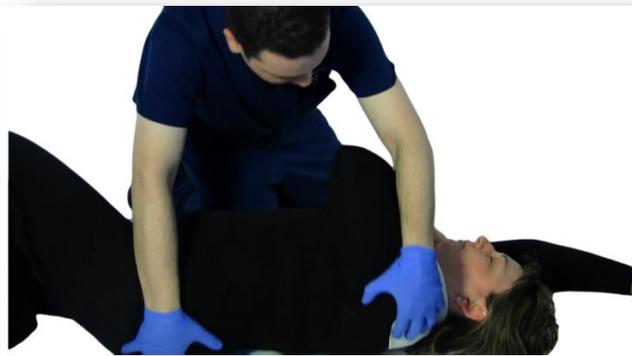
If the victim is **unresponsive** but is **breathing normally**, place the victim in the **recovery position**. Carefully roll the victim on his or her side and angle the head and mouth towards the ground to prevent aspiration (*next page*).

RECOVERY POSITION

If a victim is **unconscious** but is **breathing normally** and has no other life-threatening conditions, he or she should be placed in the **recovery position**. This will ensure that the airway remains clear and open in the case the victim vomits.

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

PROPER STEPS:



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

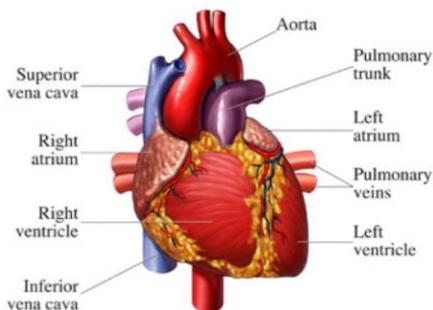


- Place one hand on the victim's **shoulder** and the other hand at the **waist**.
- Gently roll the victim **towards you** and try to keep the **head** stabilized if possible.



- **Adjust** the body to keep it **stable**.
- Position the victim's **head** and **mouth** towards the **ground** to prevent him or her from aspirating.

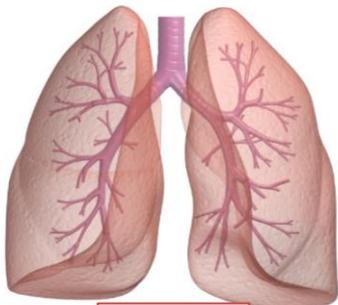
ANATOMY & PHYSIOLOGY FUNDAMENTALS



Heart

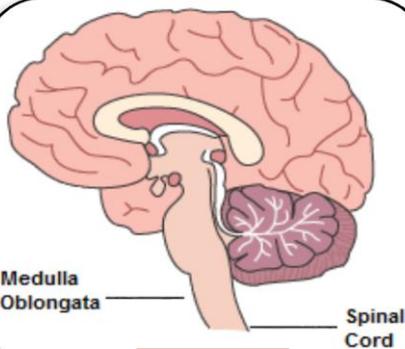
The **heart** consists of two upper chambers (**atria**) and two lower chambers (**ventricles**).

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



Lungs

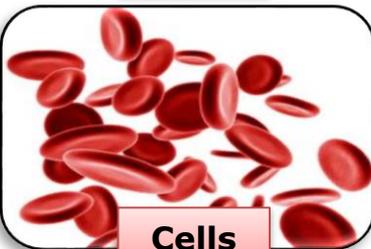
The **lungs** function by transporting **oxygen** (O_2) from the atmosphere into the bloodstream, and releasing **carbon dioxide** (CO_2) from the bloodstream back into the atmosphere as a waste product.



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:

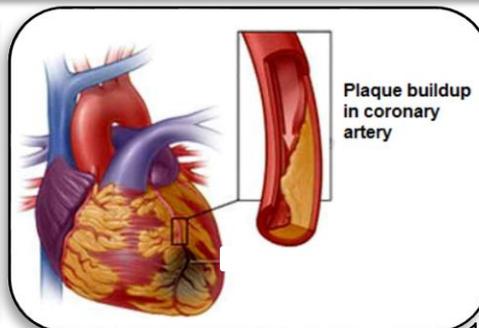
Healthy diet (more fruits & vegetables), consistent physical activity, weight management, stress management, maintaining proper blood pressure, not smoking or drinking alcohol excessively, etc.



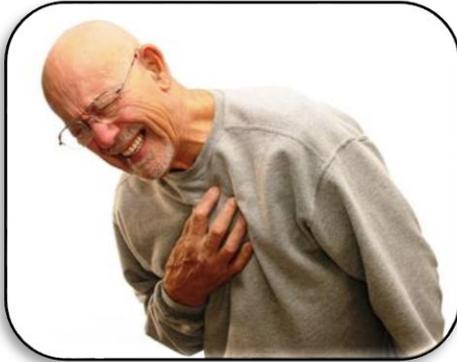
HEART ATTACK OVERVIEW

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

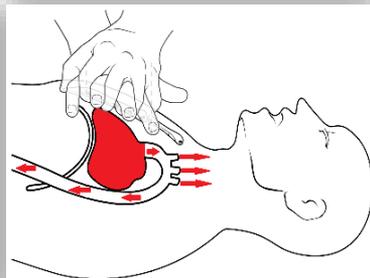
Cardiac arrest occurs when the heart **stops** beating and circulating blood completely. In adults, it is primarily due to heart disease while in infants and children it may occur due to breathing and other underlying problems. Additional causes of cardiac arrest include **drowning**, **untreated choking**,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

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

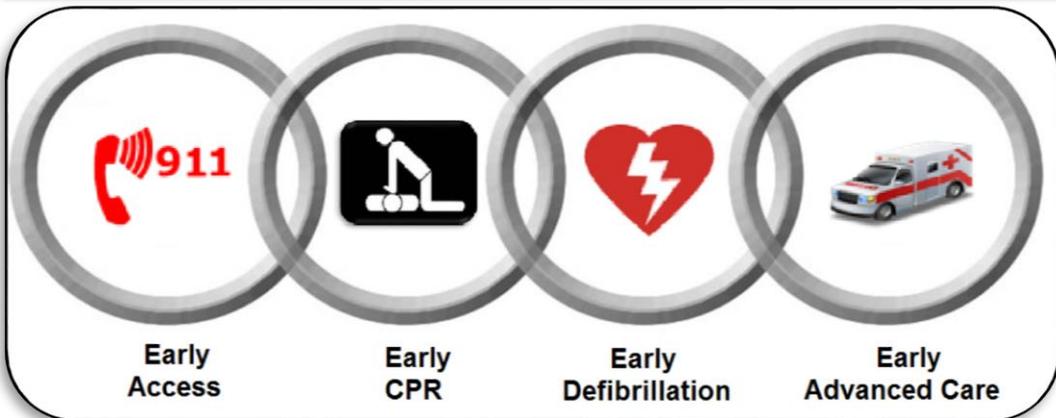
It can happen to **any** person, in **any** place, and at **any** time!

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.

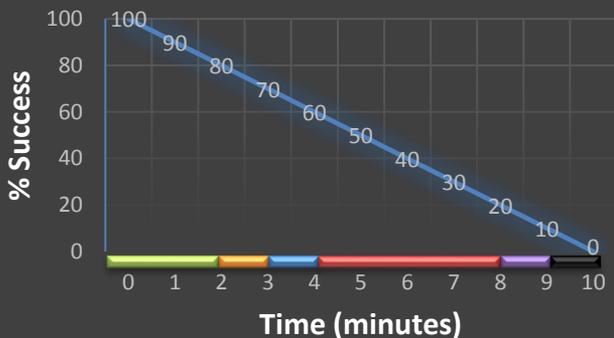


CARDIAC ARREST CHAIN OF SURVIVAL



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.

Resuscitation Success vs. Time



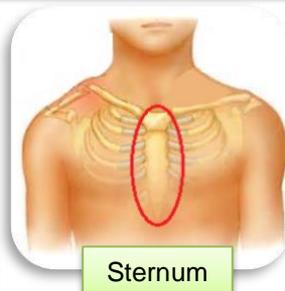
- Recognition/Decision
- 911 Call
- Dispatch to Unit
- Unit Travel Time
- Time to Victim
- Time of CPR & AED

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.



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.

The rate is **100 compressions/minute**

ADULT CPR STEP-BY-STEP



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 **30 compressions** using **2 hands**.

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



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

Repeat cycles: **30 compressions: 2 breaths**

EMERGENCY STEPS & CPR SUMMARY



Adult

- **Two hands** in center of chest
- *At least 2 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
- 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 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.

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.



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%**.

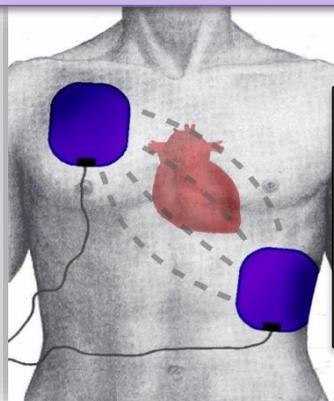
AEDs are found everywhere:

- 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 is wet, **wipe** the chest **dry** with a piece of clothing or paper towel.
- Try to remove the victim from **metal** surfaces if possible.
- Remove any **medication patches** on the victim's chest with gloves.
- Do not take off any pieces of jewelry or body piercings unless they are obstructing the chest area from firmly attaching the pads.

- 1 Turn on the AED
- 2 Bare & Wipe the Chest
- 3 Apply Pads & Plug in Connector
- 4 Stand Clear & Push Shock Button
- 5 Resume Chest Compressions



Pad Placement

Upper Right

Lower Left

ADULT AED STEP-BY-STEP



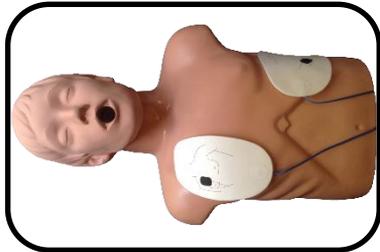
Turn the AED on.

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



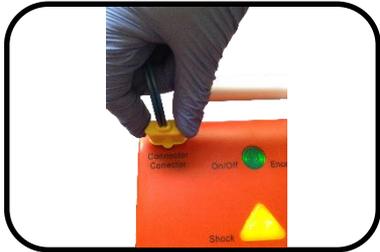
Bare the chest and dry it off.

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.

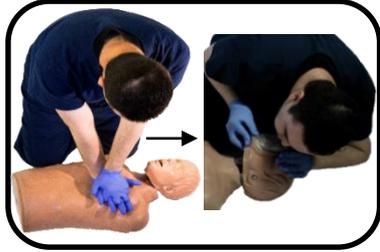
Be sure no one is touching the victim while the AED analyzes the heart rhythm.



Push the shock 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.



Continue 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



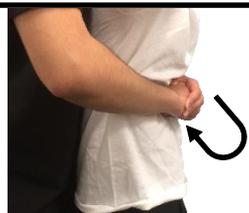
Approach victim and ask, “Are you choking?”

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.

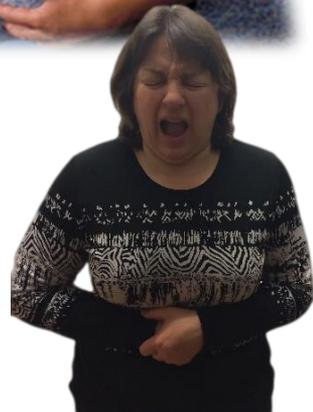
Push inwards and upwards.

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 **home alone** and are 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 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.



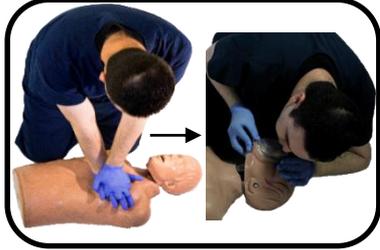
Open airway and check for object.

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.



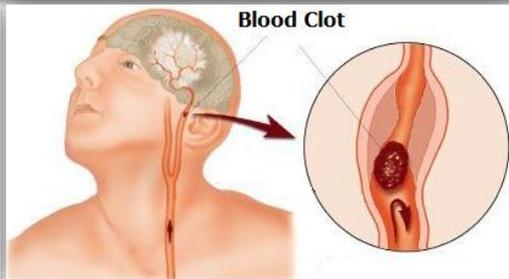
Check for object again.

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.

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:

Recognize Seizure Signs & Symptoms

Call 911

Remove any objects in victim's way

Do not hold down the victim or put anything in his or her mouth

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.

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

Treatment: call 911, keep victim warm, control any bleeding and raise legs 12 inches.

Signs & Symptoms:

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



Elevate legs about 12 inches above the heart.

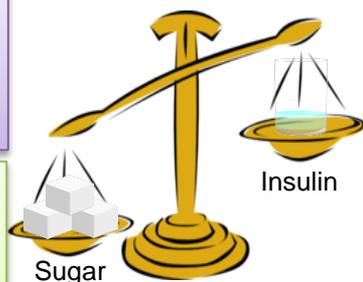
DIABETIC/SUGAR EMERGENCIES

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

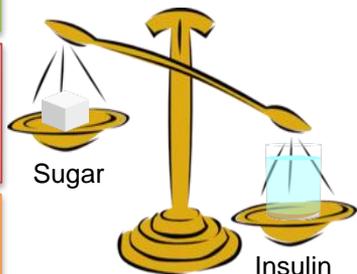
People with **diabetes** are not able to convert the sugar they eat (**glucose**) into energy. **Insulin**, a hormone produced in the pancreas, helps regulate the process of converting sugar into energy. **Sugar** and **insulin** have to be balanced for the body to function properly.

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.



Hyperglycemia



Hypoglycemia

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 **sugar** (orange juice, candy bar, fruit, milk, or table sugar dissolved in water) if he or she is **conscious** and able to **swallow**

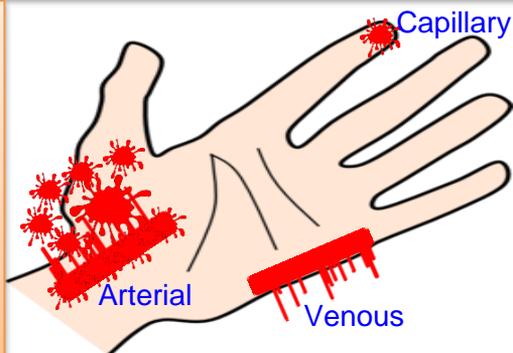


Note: A person suffering from low blood sugar or high blood sugar may display similar symptoms. Low blood sugar is much more life-threatening. When in doubt, **always give sugar!**

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)



Treatment:

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

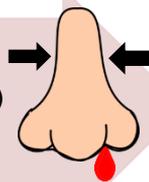
If bleeding has not stopped, apply more gauze pads or wrap the wound with an **elastic bandage** or **wrap**

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 Bleeding

- For bleeding that is from the **tongue**, **lips**, or **cheek**, apply **pressure** with a **sterile gauze pad** over the affected area.



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.





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