Health Care Provider Basic Life Support

YOU, THE HEALTH CARE PROVIDER

Lesson 1

Learning Outcomes (1 of 2)

- Provide examples of professions that include health care providers.
- Describe legal and ethical concerns that apply to health care providers rendering care.
- Identify diseases that pose a risk of transmission to health care providers and precautions to minimize disease transmission.

Learning Outcomes (2 of 2)

- Describe types of cardiovascular disease.
- Identify and describe the links in the Chain of Survival, and the roles of the health care providers within each link.

Emergency Medical Services System

- More commonly known as EMS
- System that provides emergency medical care for persons with trauma and sudden illnesses.
- A comprehensive system made up of vast professional health care providers

Health Care Providers (1 of 2)

- Health Care Providers include:
  - Physicians
  - Nurses
  - EMS providers
  - Lifeguards
  - Athletic Trainers

Health Care Providers (2 of 2)

- Health Care Providers work in:
  - Hospitals
  - Clinics
  - Practitioners' offices
  - Nursing homes
  - Public safety
  - Schools
  - Park and recreation
  - insurance companies & government

A Duty to Respond

- Health care providers have a job-related duty to respond to emergencies and provide care to those in need.

Legal Considerations (1 of 2)

- Duty to Act
  - Job defined requirement to respond
- Scope of Practice
  - Certain responsibilities and skills
- Standard of Care
  - Expectation of appropriate knowledge and skill
- Negligence
  - Failure to follow reasonable standard of care

Legal Considerations (2 of 2)

- Consent
  - Actual or implied acceptance to receive care
- Confidentiality
  - Private information related to care
- Advance Directives
  - Written instructions related to desired care (Living Wills / DNR)
- Documentation
  - Accurate written records regarding care
- Good Samaritan Laws
  - Laws protecting providers from legal action
- Abandonment
  - Leaving without ensuring continued proper care

Basic Life Support Skills

- Clearing airway obstruction
- Rescue breathing
- Cardiopulmonary Resuscitation (CPR)
- Automated External Defibrillation (AED)

Diseases of Concern

- Health care providers must follow standard precautions to protect against exposure to blood, fluids, secretions, and excretions.

Specific Pathogens of Concern

- Bloodborne Transmission
  - Hepatitis B
  - Hepatitis C
  - Human Immunodeficiency Virus (HIV)

- Airborne Transmission
  - SarS-CoV-2 (COVID-19)
  - Tuberculosis
  - Measles
  - Chickenpox
  - Meningitis

Standard Precautions

- Measures put in place to reduce the risk of disease transmission:
  - Hygiene practices
  - Engineering controls
  - Work practice controls
  - Personal Protective Equipment (PPE)

Hygiene Practices

- Proper handwashing after providing care
  - Soap and water
  - Hand sanitizer

Engineering Controls

- Controls that isolate or remove potential hazards on the job
  - Sharps container

Work Practice Controls

- Reduce the chance of exposure by changing the way a task is performed
  - Disposing of contaminated items
  - Handling specimens

Personal Protective Equipment

- PPE helps maintain an effective barrier during care:
  - Medical exam gloves
  - Breathing devices
  - Eyewear (goggles, glasses with shields)
  - Gowns
  - Antiseptic solution

Handling an Exposure

- If a bloodborne exposure occurs:
  - Clean skin thoroughly
  - Flush eyes
  - Document the event
  - Report the event
  - Follow your exposure control plan

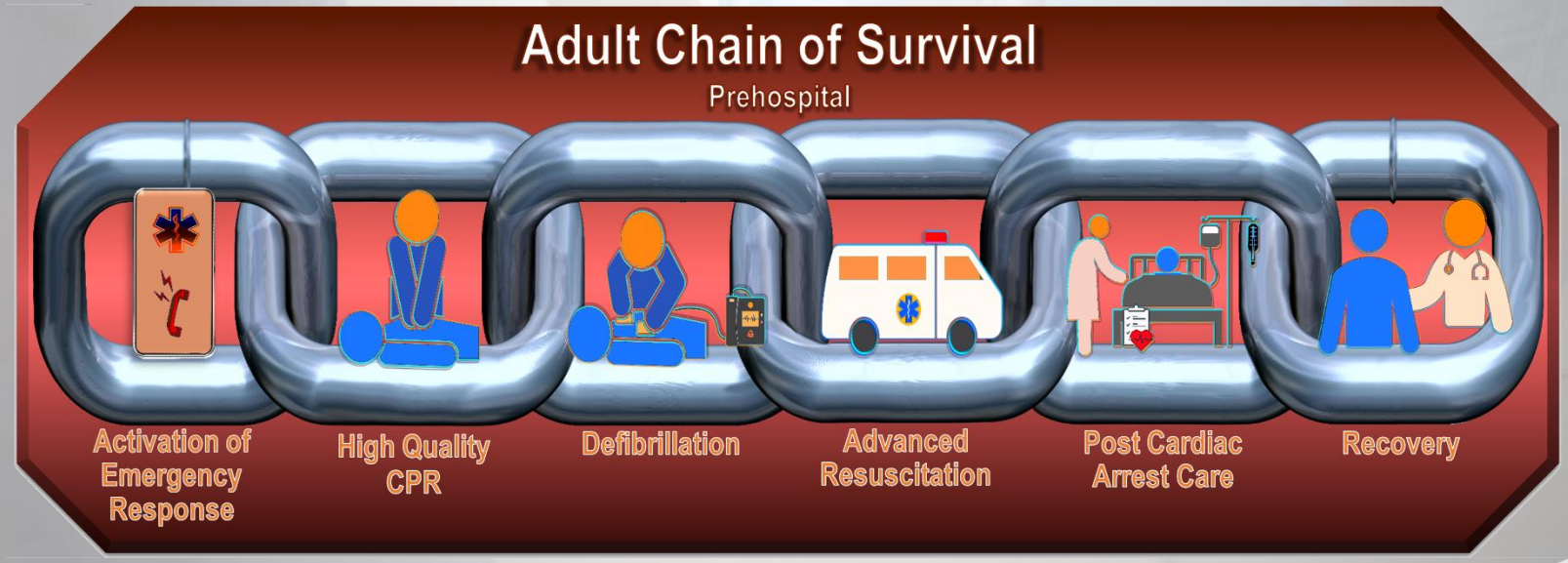
Removing Soiled Exam Gloves

- Pinch glove
- Peel downward
- Slide finger under remaining glove
- Peel downward

Scene Survey

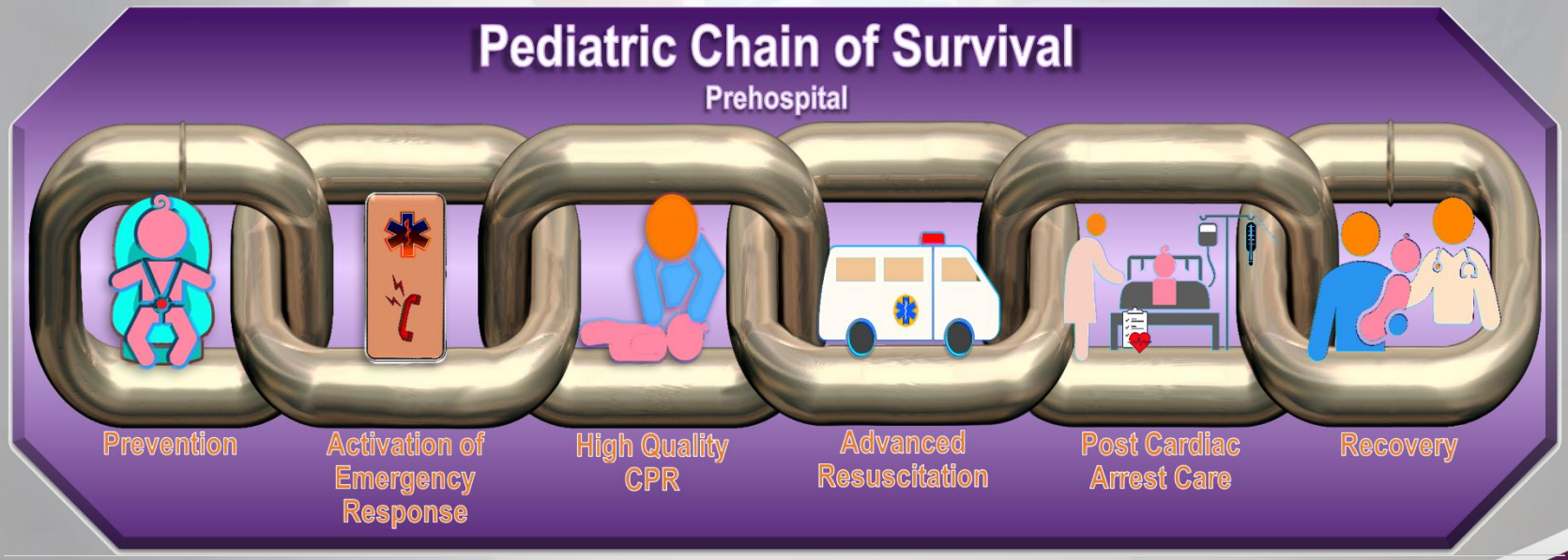
Adult Chain of Survival

- Important actions are linked together to provide the best care and chance of survival for a person in cardiac arrest.



Pediatric Chain of Survival

- Important actions are linked together to provide the best care and chance of survival for a person in cardiac arrest.



Discussion (1 of 2)

- What professions include health care providers?
- What basic legal considerations apply to health care providers?
- Can you name 8 diseases that pose a risk of airborne or bloodborne disease transmission to health care providers?

Discussion (2 of 2)

- What precautions minimize the chance of disease transmission?
- How do you safety remove soiled gloves?
- What should look for when surveying t he scene for safety?
- What are the links in the adult and pediatric Chains of Survival?

RESPIRATORY EMERGENCIES

Lesson 2

Learning Outcomes (1 of 2)

- Describe the components and function of the respiratory system.
- Identify causes of respiratory emergencies.
- Describe how to assess a person experiencing respiratory distress.
- Describe how to care for a person experiencing respiratory distress.

Learning Outcomes (2 of 2)

- Demonstrate how to provide rescue breathing for an adult, child, and infant in respiratory arrest.
- Discuss the purpose of the recovery position and how to place a person in the recovery position.
- Demonstrate how to care for an airway obstruction in a conscious or unconscious adult, child, and infant.

The Respiratory System (1 of 3)

- Delivers oxygen to the lungs during inhalation
- Removes waste products, such as carbon dioxide, during exhalation

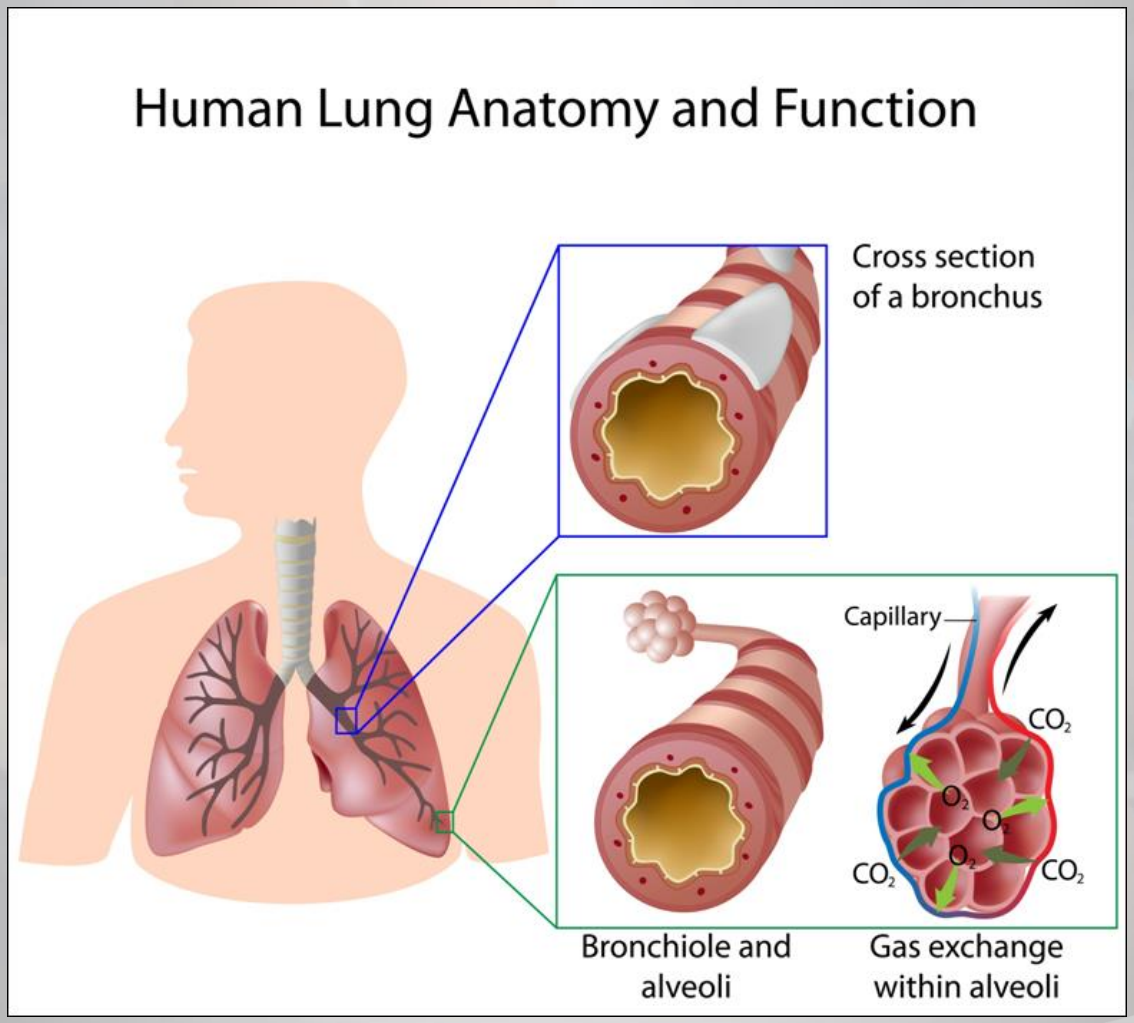
Respiratory System Anatomy (1 of 3)

- Diaphragm
  - Large muscle supporting breathing
- Pharynx
  - Throat
- Epiglottis
  - Flap of tissue protecting the trachea
- Trachea
  - Windpipe leading to the lungs

Respiratory System Anatomy (2 of 3)

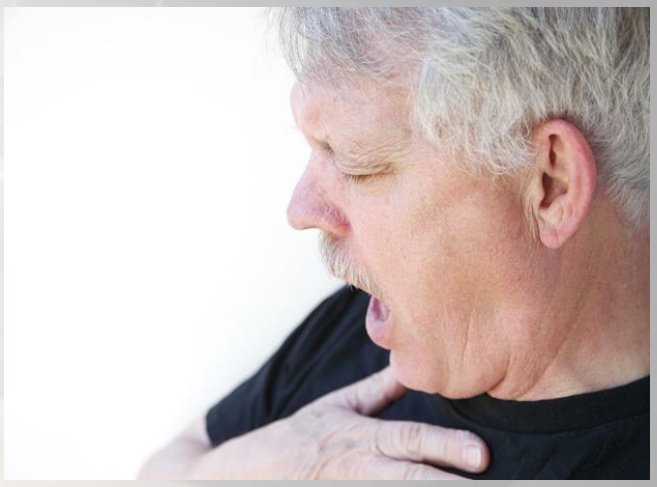
- Bronchi
  - Two main branches off the trachea
- Bronchioles
  - Smaller branches off the bronchi
- Alveoli
  - Small air sacs at the end of the bronchioles
  - Oxygen and carbon dioxide are exchanged within tiny blood vessels (capillaries)

Respiratory System Anatomy (3 of 3)



Recognizing Respiratory Distress

- Signs and symptoms include:
  - Labored or noisy breathing
  - Slow or fast breathing
  - Irregular breathing
  - Deep or shallow breathing
  - Changes in skin color
  - Restlessness, confusion
  - Changes in consciousness
  - Chest discomfort



Care for Respiratory Distress

- To care for respiratory distress
  - Rest in a position that makes breathing easier
  - Assist with any medications
  - Provide emergency oxygen
  - Summon more advanced care
  - Keep the airway clear

Respiratory Arrest

- When a person is no longer breathing due to the failure of the lungs to function effectively
- Care requires rescue breathing.

Primary Check (1 of 3)

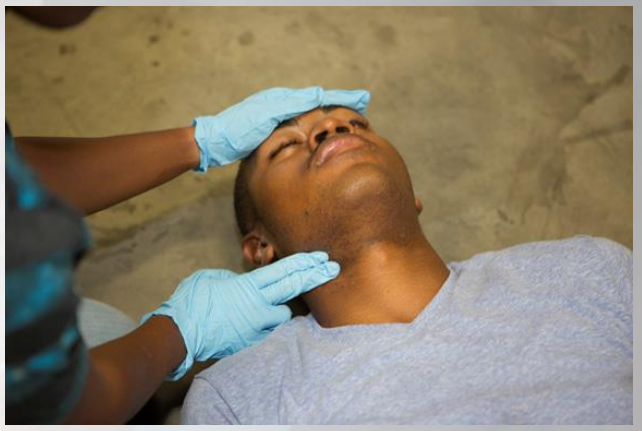
- Check responsiveness
  - Tap & Shout
- Activate EMS/Code Team
- Simultaneously check breathing and pulse

Primary Check (2 of 3)

- Agonal Breaths
  - Deep, gasping breaths
  - As few as 1 or 2 breaths over several minutes
  - Result of increasing hypoxia during cardiac arrest
  - Do not confuse with adequate breathing

Primary Check (3 of 3)

- Check carotid pulse
  - In the neck
  - For adult or child



- Check brachial pulse
  - Inside upper arm
  - For infant

Rescue Breathing

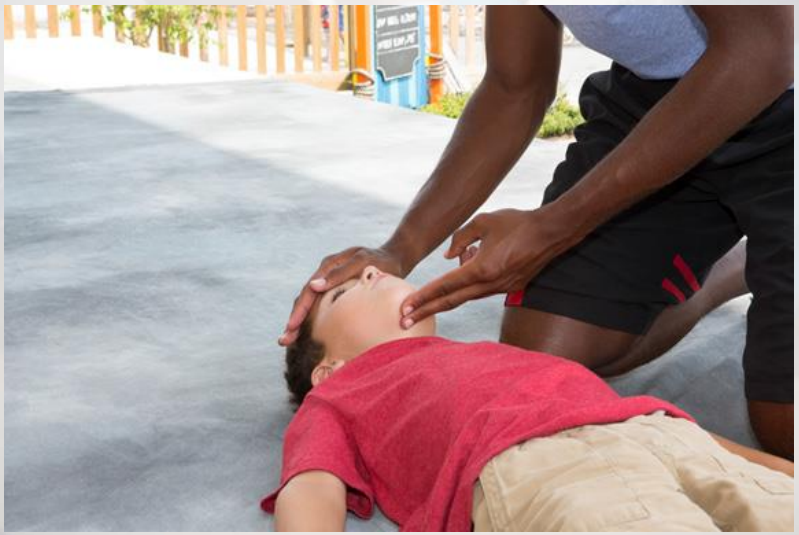
- Process of breathing for a non-breathing person
- Requires proper positioning of the airway

Opening the Airway

- Tilting the head and /or lifting the jaw displaces the tongue
- Provides and open path for air to the lungs

Methods of Opening the Airway (1 of 2)

- Head Tilt – Chin Lift



Methods of Opening the Airway (2 of 2)

- Jaw Thrust
  - With head tilt
  - Without head tilt

Protection During Rescue Breathing

- Use a barrier device to protect yourself during rescue breathing
  - Face shield / Face mask / Bag-valve-mask

Providing Ventilations (1 of 2)

- Each ventilation is one second in duration and makes the chest rise
- Give 1 ventilation every 6 seconds for adults; every 2-3 seconds for a child or infant
- Reduce the volume for children and infants

Rescue Breathing

Rescue Breathing Care Summary

Patient	Approximate Age Group	Rescue Breathing	Ventilation Quality
Adults	Adolescence* through adulthood *Onset	1 breath every 6 seconds (10 breaths per minute)	Duration: 1 second Volume Indicator: Achieve visible chest rise Volume Range: 500 – 600 ml (approximate)
Children	1 year old – adolescence* *Onset	1 breath every 2 – 3 seconds (20 – 30 breaths per minute) Training Target: 1 breath every 3 seconds	Duration: 1 second Volume Indicator: Achieve visible chest rise Volume Range: 90 – 500 ml (approximate)
Infants	Newborn* – 1 year old *Home from the hospital	1 breath every 2 – 3 seconds (20 – 30 breaths per minute) Training Target: 1 breath every 3 seconds	Duration: 1 second Volume Indicator: Achieve visible chest rise Volume Range: 25 – 90 ml (approximate)

Managing the Airway With the Recovery Position

- Place unresponsive, breathing person on the side to keep the airway clear
  - Bend leg nearest you
  - Position arm nearest you across chest
  - Raise the other arm alongside the head
  - Roll person to the side

If the Chest Does Not Rise (

- Reposition the head and mask and reattempt ventilations
- If still unsuccessful, suspect the airway is obstructed

Obstructed Airway in an Unresponsive Person

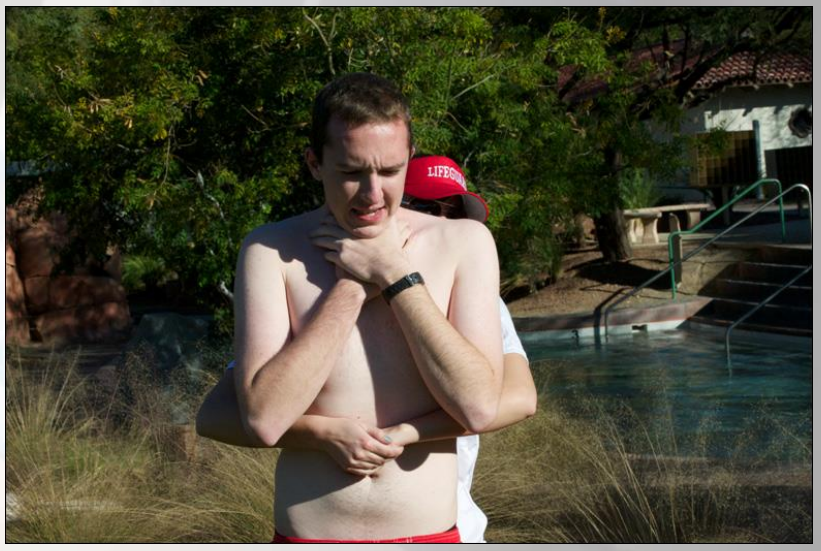
- Provide 30 chest compressions.
- Look in the mouth for any object; sweep the object out if you see it
- Reattempt ventilations
- Repeat this process until chest rise is obtained

Airway Obstruction in a Responsive Adult or Child (1 of 2)

- Often results from food, becoming lodged in the throat
- Clutching the throat is the universal distress sign of choking
- Unable to cough, speak, cry, or breathe

Airway Obstruction in a Responsive Adult or Child (2 of 2)

- Stand behind the person
- Place a fist just above the naval
- Grasp your fist
- Give inward, upward thrusts
- Continue until object is dislodged or person becomes unresponsive



Airway Obstruction in a Large or Pregnant Person

- Give chest thrusts instead of abdominal thrusts

Airway Obstruction in a Responsive Infant

- Give 5 back slaps
- Give 5 chest thrusts
- Look in the mouth
- Remove any object visible
- Repeat steps until object is expelled

Discussion (1 of 2)

- Can you describe how the respiratory system functions?
- What are causes of respiratory emergencies?
- What a the signs of respiratory distress and how do you provide care?

Discussion (2 of 2)

- How do you provide rescue breathing for an adult, child, or infant?
- Can you explain the purpose of the recovery position and how to position a patient?
- How do you care for an airway obstruction in a responsive or unresponsive adult, child, or infant?

CARDIOVASCULAR EMERGENCIES

Lesson 3

Learning Outcomes (1 of 2)

- Describe the components and function of the circulatory system.
- Identify the risk factors of cardiovascular disease.
- Describe how to assess and care for a person experiencing a heart attack.

Learning Outcomes (2 of 2)

- Describe how to assess and care for a person experiencing a stroke.
- Demonstrate how to provide cardiopulmonary resuscitation (CPR) for an adult, child, and infant in cardiac arrest.

The Circulatory System (1 of 2)

- Comprised of the heart and blood vessels
- Delivers oxygen and nutrients throughout the body, and removes waste products
- Two upper chambers - the atria
- Two lower chambers - the ventricles

The Circulatory System (2 of 2)

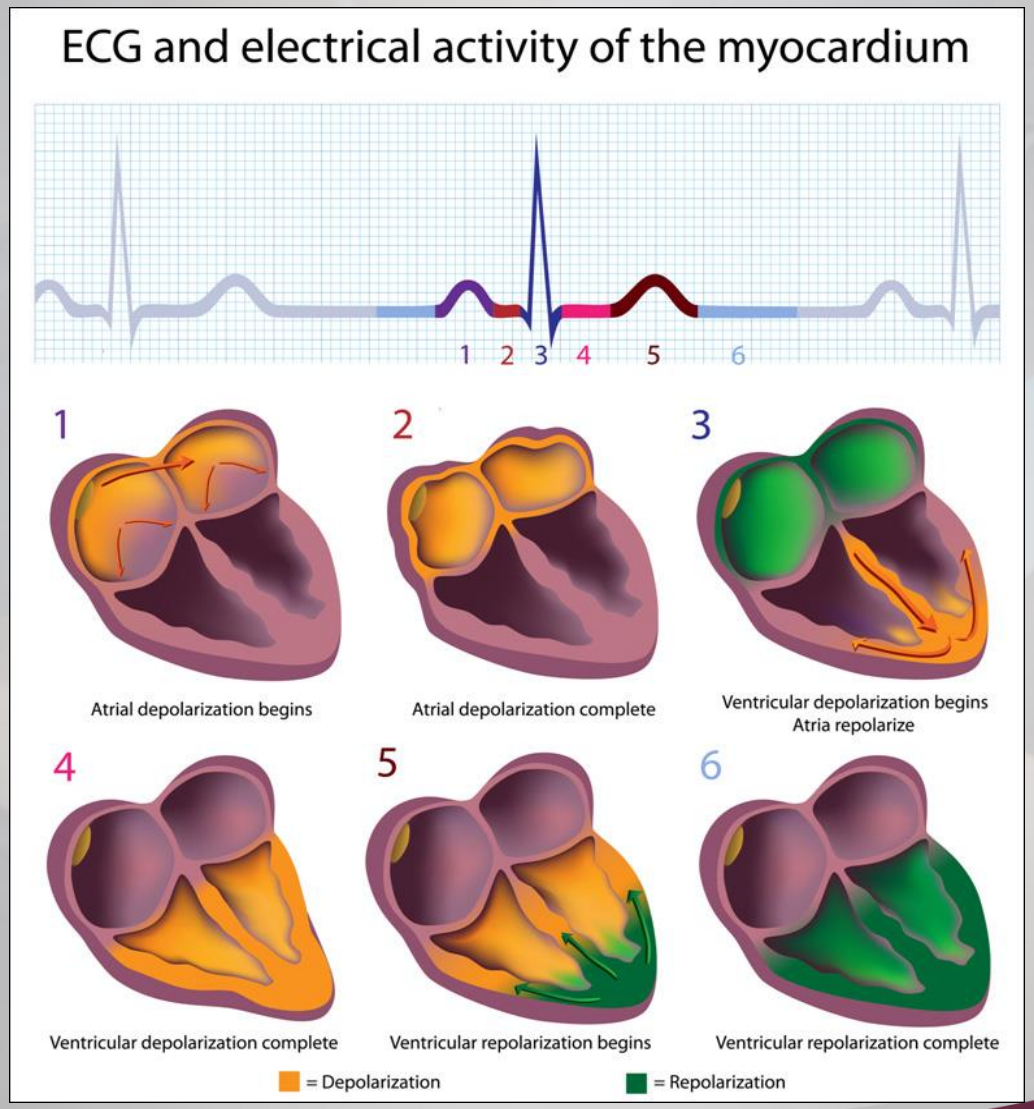
- Right Atria and Right Ventricle
  - Receive oxygen-poor venous blood from the body.
  - Pump it to the lungs.
  - Waste products are removed & oxygen picked up.

- Left Atria and Left Ventricle
  - Accept the oxygen-rich blood.
  - Pump it to all parts of the body through arteries.

Electrical Activity of the Heart (1 of 2)

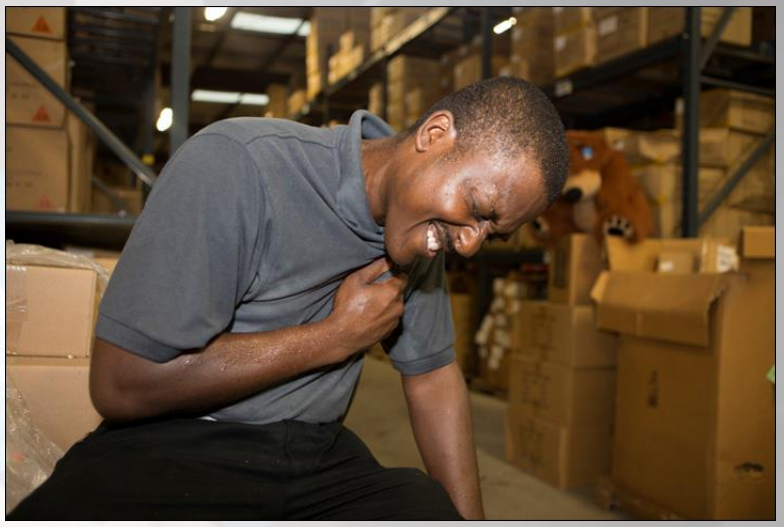
- The heart creates its own electrical impulses automatically
- Impulses move along an electrical conduction system in a wavelike pattern
- When impulses reach specialized muscle cells, the chambers of the heart contract and then relax
- This activity can be seen on an ECG

Electrical Activity of the Heart (2 of 2)



Cardiovascular Disease (1 of 2)

- Leading cause of death annually
- Heart attack
  - Blood flow to part of the heart is blocked
  - Often due to atherosclerosis



Cardiovascular Disease (2 of 2)

- Arrhythmias
- Heart valve problems
- Heart failure
- Stroke

Cardiovascular Disease

- Includes conditions that involve the heart and the blood vessels
- Atherosclerosis, the plaque (cholesterol substances) that accumulates on the inside walls of the arteries
- Narrowing of the coronary arteries

Cardiovascular Disease Risk Factors (1 of 2)

- 5 Controllable factors
  - High cholesterol
  - High blood pressure
  - Overweight
  - Smoking
  - Diabetes

Cardiovascular Disease Risk Factors (2 of 2)

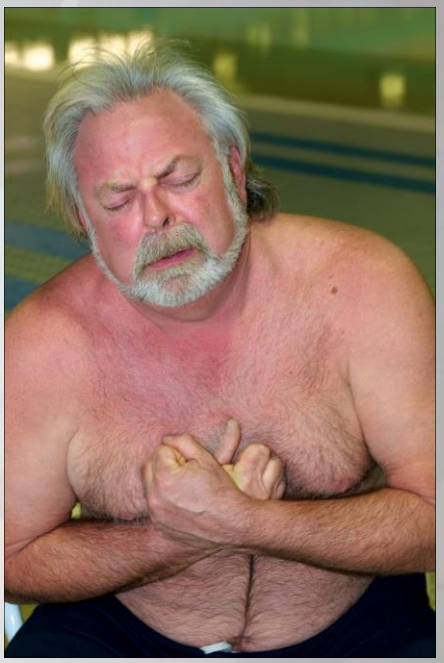
- 3 Uncontrollable factors
  - Gender
  - Heredity
  - Age

Heart Attack

- Myocardial infarction (MI)
- Blood supply to part of the heart blocked
- Portions of heart muscle tissue die from lack of oxygen

Recognizing Heart Attack

- Signs & symptoms include:
  - Chest pain /discomfort
  - Difficulty breathing
  - Profuse sweating
  - Nausea and vomiting
  - Cool, pale skin
  - Unusual weakness / fatigue
  - Dizziness / fainting
  - Irregular heart beat (pulse)

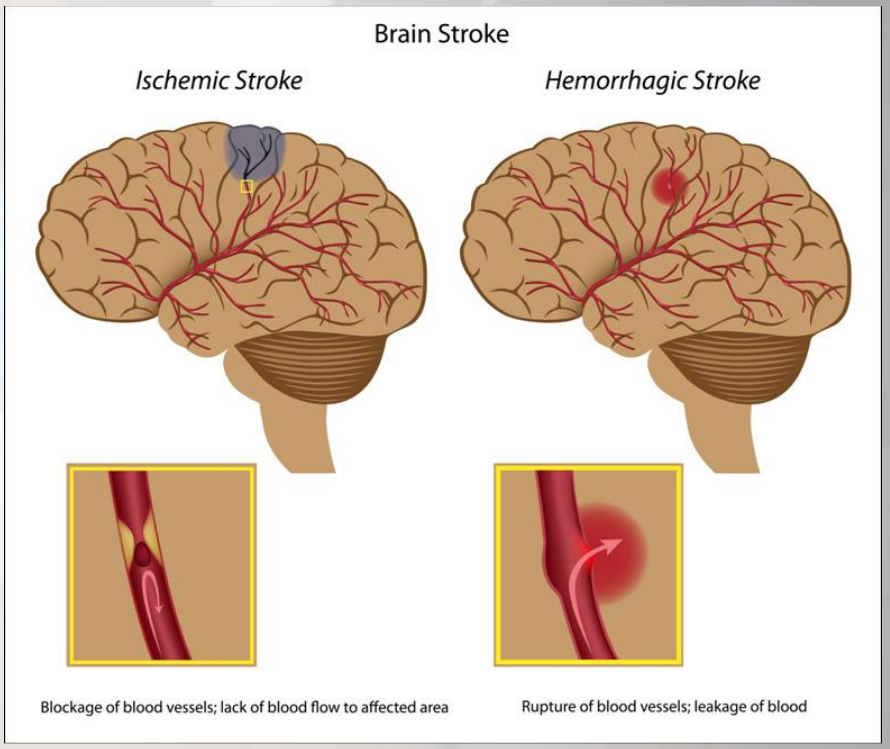


Care for Heart Attack

- To care for a heart attack
  - Stop activity and rest
  - 9-1-1 or more advanced medical care.
  - Assist with person's prescribed heart medication (e.g nitroglycerin)
  - Provide aspirin if not allergic (1 regular or 2 low dose)

Stroke (Brain Attack)

- Blood vessel in the brain becomes blocked
- Two types:
  - Ischemic
  - Hemorrhagic



Recognizing Stroke (1 of 2)

- Signs and symptoms include:
  - Numbness, weakness, or paralysis of the face, arm, or leg on one side
  - Difficulty speaking
  - Difficulty understanding
  - Dizziness
  - Blurred or decreased vision in one eye
  - Sudden, severe headache
  - Unequal pupils

Recognizing Stroke (2 of 2)

- Use the F.A.S.T stroke action plan to quickly recognize stroke
  - Facial droop
  - Arm weakness
  - Speech difficulty
  - Time to get help

Care for Stroke

- To care for stroke:
  - Stop activity and rest
  - 9-1-1 or more advanced medical care
  - Loosen any restrictive clothing

Cardiac Arrest

- Heart muscle severely damaged
- Person will become unresponsive, non-breathing, and pulseless
- Person needs CPR, AED, and advanced medical care

Cardiopulmonary Resuscitation (CPR)

- CPR:
  - Provided to anyone in cardiac arrest.
  - Involves chest compressions and ventilations
  - Helps circulate blood and oxygen to vital organs throughout the body

Performing CPR

- Effective CPR requires:
  - Person positioned on the back, on a hard surface.
  - Compressions in the center of chest
  - Compress fast (approximately 110 compressions per minute -Range of 100-120/min)
  - Push deep (2 -2.4inches for adults; less for kids)
  - Push rhythmically
  - Allow for complete recoil of the chest (Do not lean)
  - Minimize interruptions (< 10 seconds)

Adult CPR

- To perform adult CPR:
  - Do a primary assessment.
  - Determine unresponsive, not breathing, and pulseless.
  - Use 2 hands,
  - Compress at least 2 inches ; 30 times
  - Give 2 proper ventilations
  - Continue compressions & breaths until a defibrillator is available or the person shows signs of life

Child CPR

- To perform child CPR:
  - Do a primary assessment
  - Determine unresponsive, not breathing, and pulseless.
  - Use 1 or 2 hands
  - Compress about 2 inches; 30 times
  - Give 2 breaths
  - Continue compressions & breaths until a defibrillator is available or the person shows signs of life

Infant CPR

- To perform infant CPR:
  - Do a primary assessment
  - Determine unresponsive, not breathing, and pulseless
  - Use 2 fingers
  - Compress 1/3 depth of the chest (1 ½ inches); 30 times.
  - Give 2 proper ventilations
  - Continue compressions & breaths until a defibrillator is available or the infant shows signs of life

Multiple Rescuer Adult / Child CPR

- 2 or more rescuers share the load and work more efficiently than 1 rescuer
- Adult/child CPR:
  - Adult CPR cycle (30 compressions & 2 breaths)
  - Child CPR cycle (15 compressions & 2 breaths)
  - Switch positions every 2 minutes

Multiple Rescuer Infant CPR

- Two or more rescuers infant CPR:
  - Use two thumbs to compress the chest, while encircling the infant's chest with both hands
  - CPR cycle is15 compressions & 2 breaths

Basic Life Support Review

Care Steps	Adults (Adolescence* and older) *Onset	Children (1 year of age to Adolescence*) *Onset	Infants (Newborn* - 1 year of age) *Home from the Hospital
Scene safety and recognition	Determine scene safety, PPE. Check for responsiveness: "*Tap and shout*"	Determine scene safety, PPE. Check for responsiveness: "*Tap and shout*"	Determine scene safety, PPE. Check for responsiveness: "*Tap and shout*"
Patient position and airway	Place patient on back (hard surface). Tilt head backward, lift chin/jaw to open the airway.	Place patient on back (hard surface). Tilt head backward, lift chin/jaw to open the airway.	Place patient on back (hard surface). Tilt head *slightly* backward, lift chin to open the airway (achieve neutral position).
Simultaneously Assess pulse/breathing	Look for chest rise and fall. Listen and feel for breathing. Attempt to find the *carotid pulse* in the neck for no more than 10 seconds.	Look for chest rise and fall. Listen and feel for breathing. Attempt to find the *carotid pulse* in the neck for no more than 10 seconds.	Look for chest rise and fall. Listen and feel for breathing. Attempt to find the *brachial pulse* in the arm for no more than 10 seconds.
Pulse present, Normal Breathing absent	Provide rescue breathing: 1 breath every 6 seconds with a resuscitation mask or BVM. Attach oxygen when/if available.	Provide rescue breathing: 1 breath every 2-3 seconds (training target: 1:3) with a resuscitation mask or BVM. Attach oxygen when/if available.	Provide rescue breathing: 1 breath every 2-3 seconds (training target: 1:3) with a resuscitation mask or BVM. Attach oxygen when/if available.
Pulse & Breathing absent or uncertain	Provide High Quality CPR: 30 Chest compressions. (two hands), center of chest and 2 breaths using a mask with O2 when/if available. Use AED when available.	Provide High Quality CPR: 30 Chest compressions. (1 or 2 hands), center of chest and 2 breaths using a mask with O2 when/if available. Use AED when available.	Provide High Quality CPR 30 Chest compressions. (two fingers), just below the nipple line and 2 breaths using a mask w/O2 when/if available. Use AED when available.
Multiple rescuers	CPR Ratio: 30:2 Alternate compressors every 2 min. Ventilate with Adult BVM and oxygen when/if available.	CPR Ratio: 15:2 Alternate compressors every 2 min. Ventilate with Pediatric BVM and oxygen when/if available.	CPR Ratio: 15:2 Using the two-thumb method, alternate compressors every 2 min. Ventilate with Infant BVM and oxygen when/if available.
High Quality Chest Compressions	Depth: 2 – 2.4 inches (5 – 6 cm). Rate:100 -120 compressions/min (nearly 2 compressions per second). Allow full recoil. Limit interruptions to ≤10 sec.	Depth: 1.5 – 2 inches (about 5 cm). Rate:100 -120 compressions/min (nearly 2 compressions per second). Allow full recoil. Limit interruptions to ≤10 sec.	Depth: 1.5 inches (about 4 – 5 cm). Rate:100 -120 compressions/min (nearly 2 compressions per second). Allow full recoil. Limit interruptions to ≤10 sec.
High Quality Ventilations	Duration: About 1 second. Volume: Achieve visible chest rise (Approximate range 500-600 ml)	Duration: About 1 second Volume: Achieve visible chest rise (Approximate range 90-500 ml)	Duration: About 1 second Volume: Achieve visible chest rise (Approximate range 25-90 ml)

CPR and Advanced Airways

- With an advanced airway in place:
  - Compressions are done continuously
  - Breaths are provided every 6 seconds
  - No synchronization of compressions and breaths

Circulatory Assist Devices (1 of 2)

- Mechanical CPR devices
  - Promote active compression / decompression (ACD)
  - Allow for maximum compression and recoil
  - May improve cardiac output
  - May help reduce physical stress of performing CPR

Circulatory Assist Devices (2 of 2)

- Impedance threshold devices
  - Attached to a face mask or endotracheal tube
  - Increases amplitude and duration of the vacuum within the chest cavity
  - Improves blood pressure and organ perfusion

Discussion (1 of 2)

- Can you describe the components of the circulatory system and how the circulatory system functions?
- What are the risk factors of cardiovascular disease?
- What are the signs and symptoms of a heart attack and of a stroke?

Discussion (2 of 2)

- Can you describe how to care for heart attack and stroke?
- How should you provide one rescuer CPR for an adult, child, and infant in cardiac arrest?
- How does 2 rescuer CPR differ from 1 rescuer CPR?

AUTOMATED EXTERNAL DEFIBRILLATION (AED)

Lesson 4

Learning Outcomes (1 of 2)

- Explain the electrical conduction system of the heart.
- Describe the two abnormal heart rhythms that the AED can correct.
- Identify the elements common to all AEDs.
- Describe how an AED works to help a person in cardiac arrest.

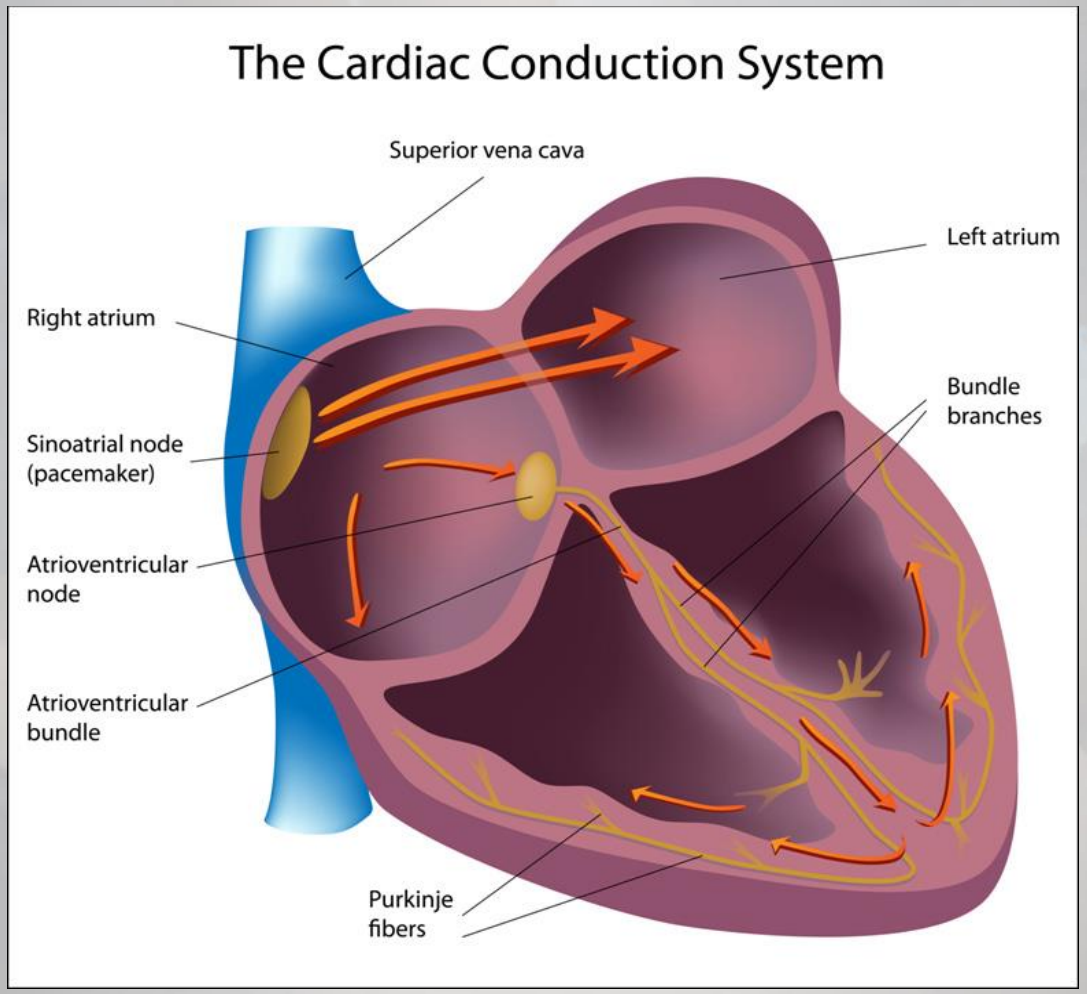
Learning Outcomes (2 of 2)

- Describe special considerations when using an AED.
- Describe how to maintain an AED in proper working condition.
- Demonstrate how to use an AED for an adult, child, and infant in cardiac arrest.

Cardiac Conduction System (1 of 2)

- Sinoatrial Node (SA Node)
  - Normal electrical impulses originate and pass through the atria
- Atrioventricular Node (AV Node)
  - The gatekeeper of electrical impulses passing through to the ventricles
- Purkinje fibers
  - The point at which heart muscle contraction occurs

Cardiac Conduction System (2 of 2)



Cardiac Dysrhythmias

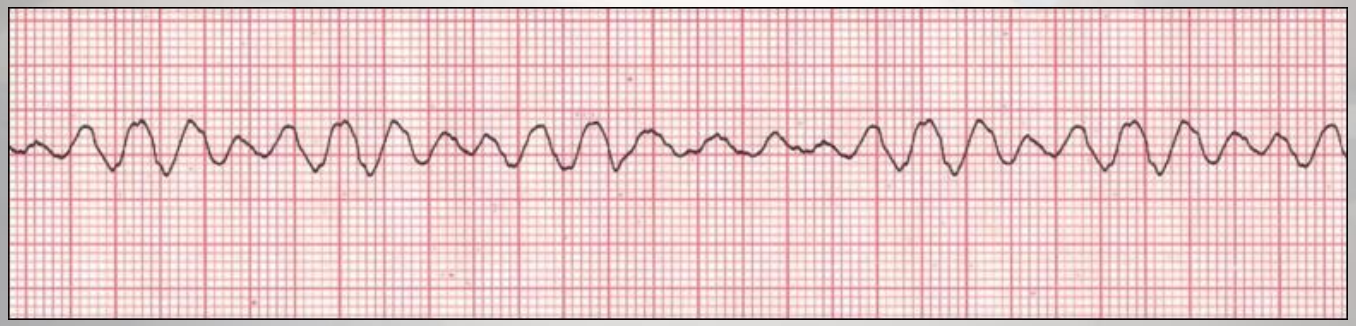
- Electrical disturbances due to the interruption of normal electrical activity
- 2 common life-threatening dysrhythmias:
  - Ventricular fibrillation (V-fib)
  - Ventricular tachycardia (V-tach)

Ventricular Tachycardia

- Originates in the ventricles
- Ventricles beat far too fast
- The chambers cannot fill properly or pump blood effectively

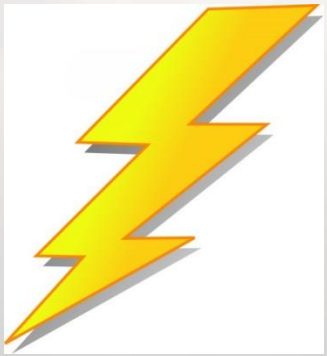
Ventricular Fibrillation

- Originates in the ventricles
- Chaotic, disorganized electrical activity
- Blood is not pumped out of the heart
- Person is pulseless



Caring For V-Fib & V-Tach

- Both electrical disturbances respond to defibrillation
  - Delivering an electric shock to the heart to correct these two dysrhythmias
- Time matters. Chance of survival decreases about 7% for every minute until shock.



About AEDs (1 of 3)

- Used in conjunction with CPR for cardiac arrest
- Portable device
- Guides the user
- Analyzes heart rhythm
- Delivers defibrillatory shock if needed

About AEDs (2 of 3)

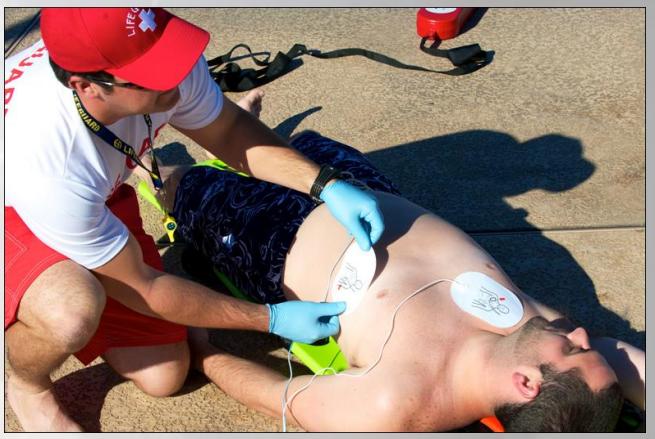
- Features of all AEDs:
  - Battery operated
  - Self maintained
  - Power on/off
  - Voice prompts
  - Cable and electrodes
  - ECG Analysis
  - Defibrillation capability

About AEDs (3 of 3)

- Automated AEDs
  - No shock button
  - Delivers the shock automatically
- Semi-automated AEDs
  - Requires user to press shock button

Using an AED (1 of 3)

- Turn on the AED
- Follow the prompts:
  - Prepare the chest
  - Attach the electrode pads
  - Do not touch person
  - Allow for analysis
  - Deliver shock if needed
  - Provide CPR
  - Reanalyze



Using an AED (2 of 3)

- Precaution
  - Stand clear when analyzing and shocking

Using an AED (3 of 3)

- AEDs and CPR
  - Provide 2 minutes of CPR between every AED analysis / shock as long as cardiac arrest continues

Special Considerations (1 of 5)

- Medication patches
  - Remove if in the way of either patch
  - Wipe the chest dry
  - Apply the electrode pads

Special Considerations (2 of 5)

- Children and Infants (Age 8 and under).
  - Special pediatric pads or key reduce energy.
  - Use adult pads if pediatric pads are not available.
  - Apply electrode pads according to manufacturer instructions.

Special Considerations (3 of 5)

- Water
  - Remove the person from free standing water
  - Dry the chest
  - Apply the electrode pads

Special Considerations (4 of 5)

- Implanted Devices
  - Pacemaker
  - Internal cardioverter defibrillator (ICD)
  - Avoid placing electrode pads over top device
  - If an ICD is administering shocks, wait until it is done to apply and use your AED

Special Considerations (5 of 5)

- Piercings and Jewelry
  - Rarely an issue
  - Apply electrode pads so not in contact with piercings or jewelry.
  - Remove only if in the way of the electrode pads.

AED Maintenance

- Periodic inspection is needed
  - Verify good working condition
  - Verify up-to-date supplies
  - Device provides visual and audible warnings if something is wrong

Discussion (1 of 2)

- Can you explain the electrical conduction system of the heart?
- What are the two abnormal heart rhythms that an AED can correct?
- What elements are common to all AEDs?
- Can you describe how an AED works?

Discussion (2 of 2)

- What are special considerations to be aware of when using an AED?
- Can you explain how to use an AED for an adult, child, and infant in cardiac arrest?
- How should an AED be maintained to insure proper working condition?

SPECIAL SITUATIONS

Lesson 5

Learning Outcomes

- Describe the process of drowning and hypothermia and how to provide resuscitative care for both.
- Describe how to provide resuscitative care for:
  - Trauma
  - Electrocution
  - Anaphylaxis
  - Laryngectomy
  - Opioid overdose
  - Those with dentures
  - Those who are pregnant

Drowning

- The process of experiencing respiratory impairment as a result of immersion (face/airway) or submersion (entire body) in a liquid, commonly water

- Suffocation and death can occur when the air supply to the lungs is blocked

Drowning Process

- Attempt to hold breath while struggling to get air.
- Panic and further struggle.
- Stop breathing / Unresponsive
- Oxygen is used up.
- Carbon dioxide builds up.
- Spontaneous breath while submerged.
- Water enters lungs.
- Surfactant washout.
- Alveoli collapse.

Care for Drowning

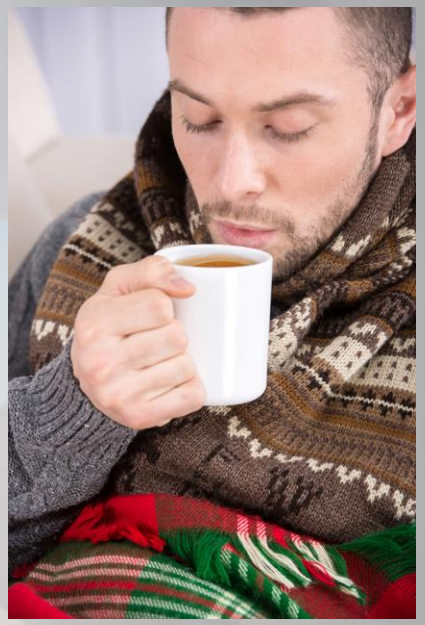
- Remove from the water
- Primary Check
- Clear any debris present
- Provide rescue breathing, CPR, AED, suction, and supplemental oxygen as needed

Hypothermia

- Caused by exposure to cold weather or immersion in cold water
- Body loses heat faster than it can produce heat
- Signs and symptoms include:
  - Altered consciousness
  - Shivering
  - Muscle rigidity
  - Cold body / temperature <95 degrees

Care for Hypothermia

- Remove from the cold
- Handle with care to avoid the chance of arrhythmias
- Remove any cold / wet clothing
- Rewarm with dry items such as clothing and blankets
- If the person is alert and able to swallow, provide warm fluids
- If in cardiac arrest, shock if advised by the AED, continue CPR, and continue warming efforts



Trauma

- 4th leading cause of death in the USA
- 30 million injuries requiring hospital care each year
- For serious head/neck injuries, keep the head inline with the body
- Transport severe trauma cases to specialized trauma centers

Electrocution

- Injuries range from a minor wound to cardiac arrest
- Primary & secondary assessment to determine extent of injuries and care needed
- Cover any entry and exit wounds
- Seek more advanced medical care for serious electric shock

Opioid Overdose

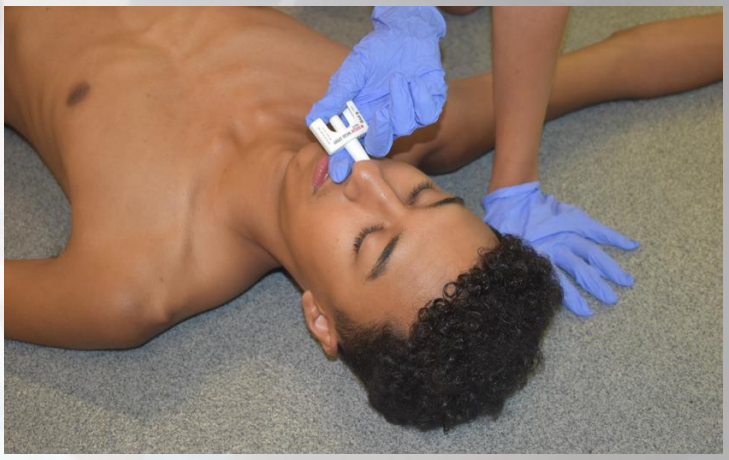
- Affects tens of thousands
- Central nervous system depression
- Naloxone reverses effects for those in respiratory arrest
  - Intranasal injection
  - Intramuscular injection

Care for Suspected Opioid Overdose

- Scene safety
- Check responsiveness
- Activate emergency response
- Retrieve AED and Naloxone if available
  - If breathing – Give Naloxone
  - If not breathing – Provide rescue breathing and give Naloxone as soon as possible
  - If pulseless – Provide CPR/AED. Give Naloxone as long as it does not delay CPR/AED care.

Administering Naloxone

- Position person face up
- Insert nozzle in nostril
- Depress plunger with thumb



Late Term Pregnancy

- Women in late term pregnancy who require resuscitation
- Use Lateral Uterine Displacement (LUD)
- Moves fetus to left side to release weight compressing vena cava
  - Improves blood flow

Anaphylaxis

- Severe allergic reaction shock
- Signs include:
  - Difficulty breathing or swallowing
  - Swelling of face, throat, tongue
  - Wheezing
  - Hives
  - Rapid heart rate with low BP
  - Dizziness, loss of consciousness

Using an Epinephrine Auto Injector

- Remove the allergen whenever possible
- Call EMS
- Help the person use his/her epinephrine
  - Remove safety cap
  - Inject the medication in the outer thigh & massage
  - Give 2nsd dose in 5 minutes if no improvement

Laryngectomy

- Removal of the larynx
- Breathes through neck opening
- To provide rescue breathing:
  - close the person's mouth and nose
  - place the resuscitation mask over the stoma
  - Give ventilations

Dentures

- Dentures help maintain a seal when using a mask during rescue breathing
- It is not necessary to remove dentures during rescue breathing unless they are loose and preventing air from entering freely

Secondary Survey

- Performed if there are no immediate threats to life that must first be addressed.
- Done after successful management of BLS priorities of circulation, airway, and breathing.
- Utilizing DOTS, physically examine the patient for secondary medical conditions, treating anything found.

Discussion

- Can you describe the process of drowning and how to provide resuscitative care for

- Can you describe the process of hypothermia and how to provide resuscitative care.

Discussion

- Can you describe how to provide resuscitative care for victims of:
  - Trauma
  - Electrocution
  - Anaphylaxis
  - Laryngectomy
  - Opioid overdose
  - Those with dentures
  - Those who are pregnant