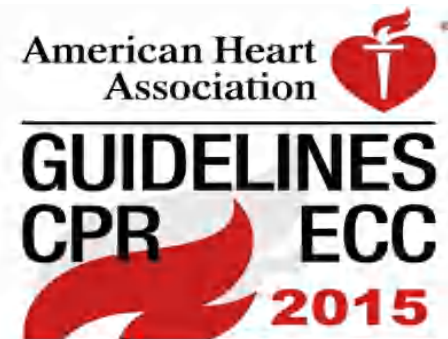




Best Practices HeartSaver First-Aid & OSHA BBP 3317-06N



***Derry Fire Department
Community Risk Reduction***



Trainer: Chuck Hemeon

Derry Fire Department EMS

- CAAS Accredited
- Operate from 4 stations
- 3294 EMS responses over last 12 months
- Central Station dedicated ambulance crew
- Substations crews cross staff fire apparatus and ambulances
- Average response time (00:4:52)
 - Paramedics
 - Advanced EMTs
 - EMTs



Injuries are NOT Accidents!



Accidents are

- Unpredictable
- Random

Injuries are

- Predictable
- Preventable

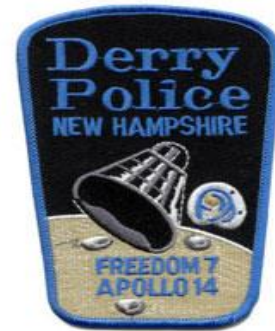


Accidents don't just happen to other people!

First Aid



- Is: the immediate care that you give someone with an illness or injury before trained help arrives and takes over



Derry Fire 2017



Bloodborne/Airborne Pathogens
OSHA Bloodborne Pathogens 29 CFR
1910.1030

Promoting Safety in the Workplace through Education



Body Substance Isolation-BSI



- Protects Emergency Responder *and* Patient

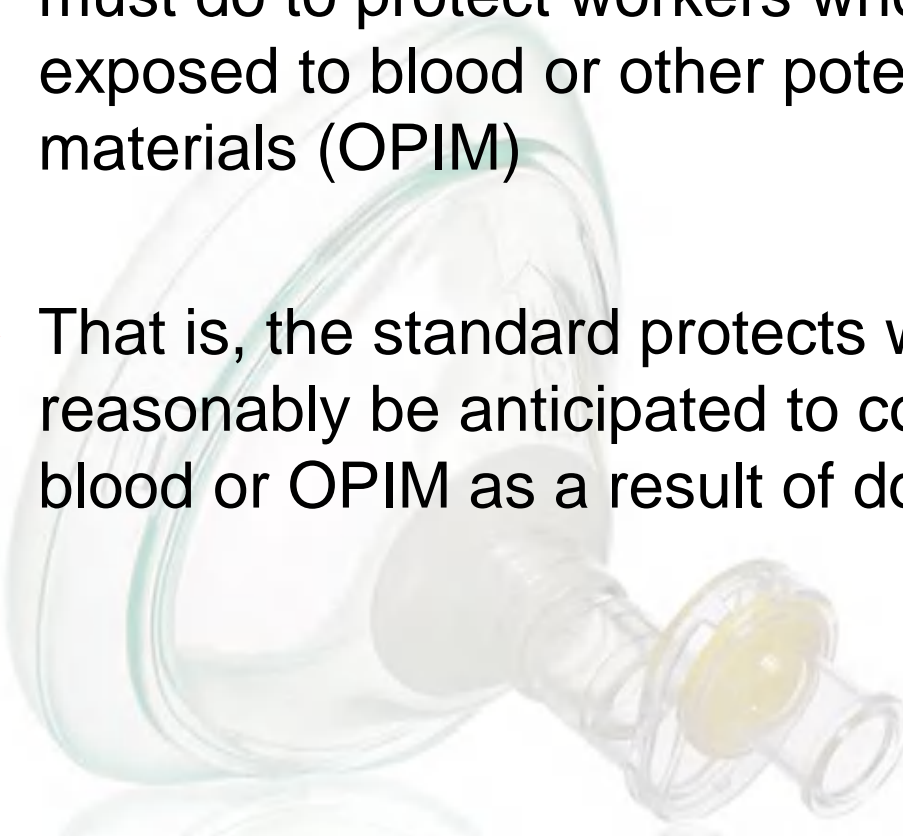
Golden Rule

“Assume all Body Fluids are Potentially Infectious”



OSHA's Bloodborne Pathogens Standard

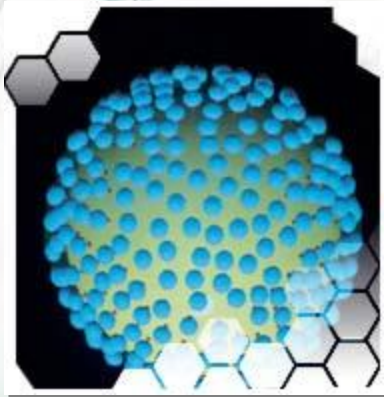
A clear plastic medical device, possibly a nebulizer or a small ventilator, with a yellow filter and a green tube, is shown in the top right corner of the slide.

- The standard's requirements state what employers must do to protect workers who are occupationally exposed to blood or other potentially infectious materials (OPIM)
 - That is, the standard protects workers who can reasonably be anticipated to come into contact with blood or OPIM as a result of doing their job duties
- 
- A clear plastic medical device, similar to the one in the top right, is shown in the bottom left corner of the slide, partially obscured by the text.

What are Bloodborne Pathogens?



- Bloodborne pathogens are:
- Disease causing microorganisms that may be present in human blood or other potentially infectious materials (OPIM)



The Need for Body Substance Isolation



- Pathogens may be transmitted via airborne droplets to mucus membranes or the respiratory system or when blood or OPIM come in contact with non-intact skin
- Non-Intact Skin
 - Cuts
 - Abrasions
 - Burns
 - Rashes
 - Paper cuts
 - Hangnails
 - Mucus membranes, ears, eyes, nose, ect.



Diseases of Immediate Concern to Emergency Responders



BIOHAZARD

Human Immunodeficiency Virus (HIV)

- Risk to the General Public
 - Found in blood, blood products, and body fluids
 - Common methods of transmission include sexual contact and shared needles
- Risk to Health Care Workers
 - Transmission to health care workers is actually rare
 - Accidental needle sticks are the most common source
 - High-risk exposures are those involving a large volume of blood, deep percutaneous injury, actual intramuscular injection, or a high antibody-retrovirus titer in the source

Hepatitis



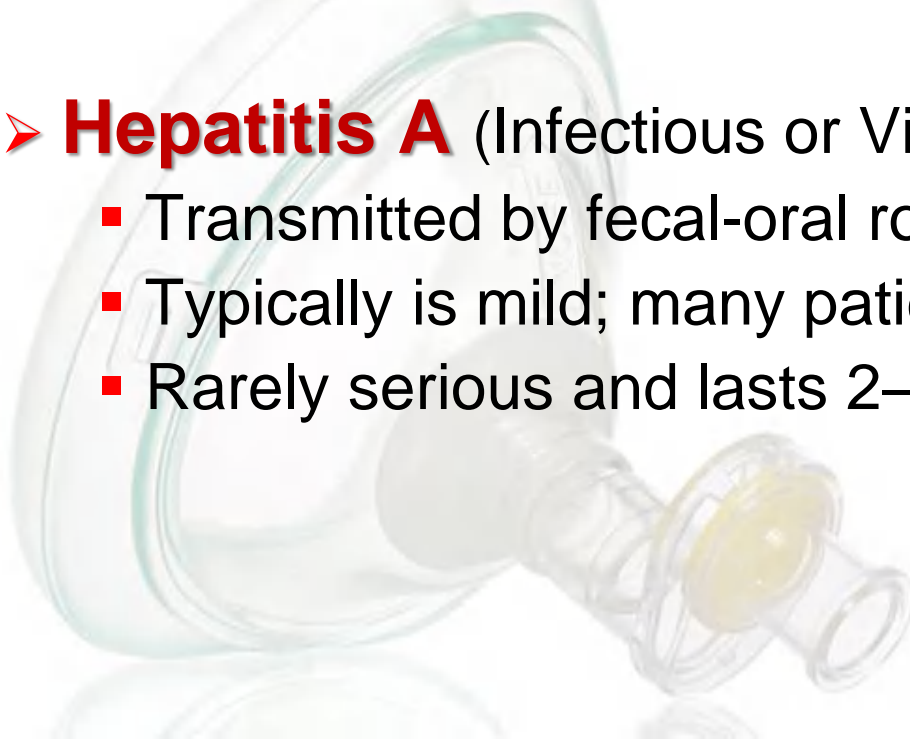
Hepatitis

➤ General Signs & Symptoms

- Headache, fever, weakness, joint pain, anorexia, nausea, vomiting, and URQ abdominal pain

➤ **Hepatitis A** (Infectious or Viral Hepatitis) (HVA)

- Transmitted by fecal-oral route
- Typically is mild; many patients are asymptomatic
- Rarely serious and lasts 2–6 weeks

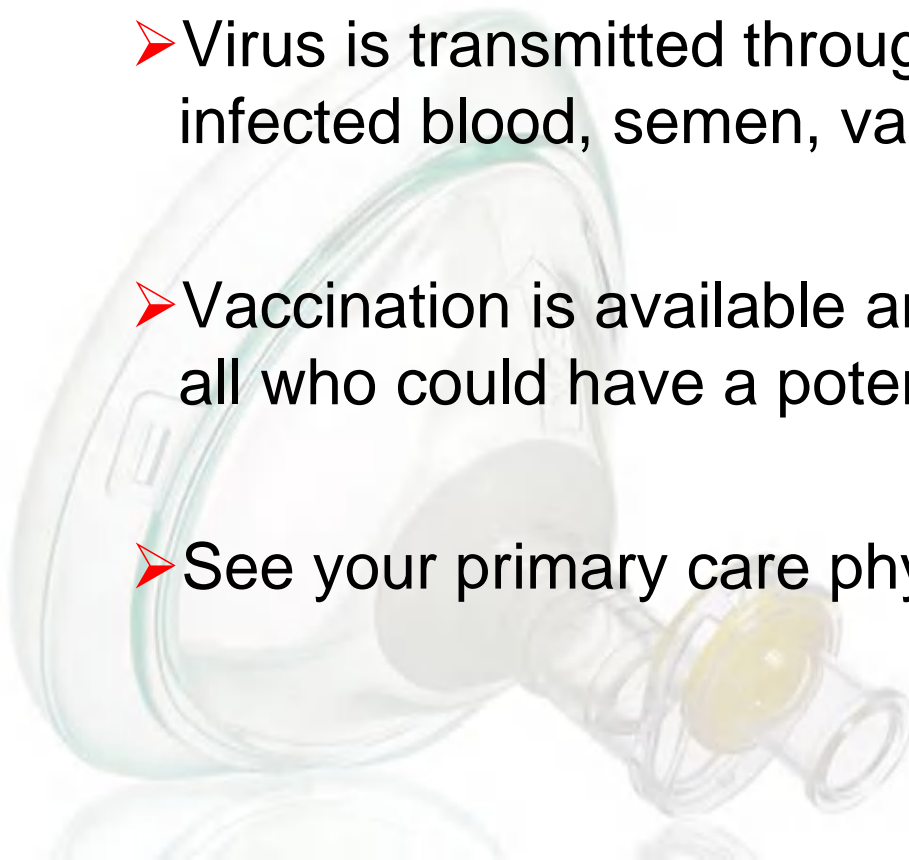


Hepatitis



Hepatitis B (Serum Hepatitis) (HBV)

- Virus is transmitted through direct contact with infected blood, semen, vaginal fluids, or saliva
- Vaccination is available and recommended for all who could have a potential exposure
- See your primary care physician



Hepatitis



Hepatitis C (HCV)

- Primarily transmitted by IV drug abuse and sexual contact
- Chronic infection that can cause active disease years later



Personal Protective Equipment



- Treat every victim as potentially infectious
- Avoid infection from blood or body fluids
- Decontaminate equipment and surfaces after use and wash your hands frequently
- Observe PPE measures



Types of PPE



- Gloves
- Eye protection (glasses, face shields, goggles)
- Barriers gowns



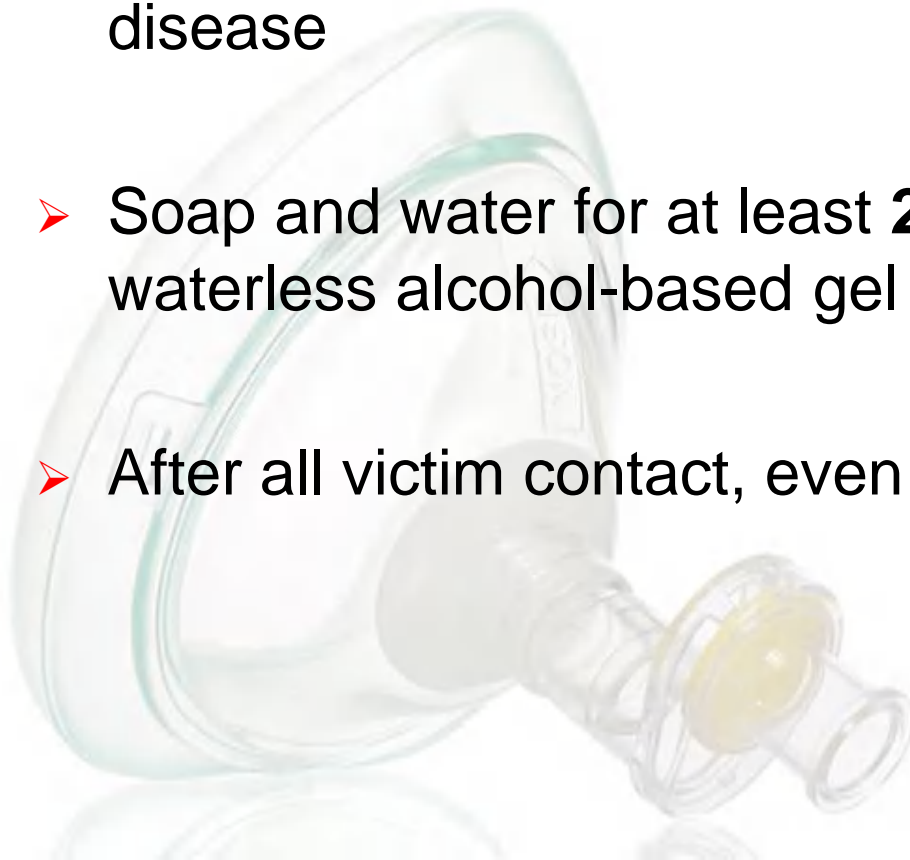
Wear Non-Latex, Vinyl, or Synthetic Gloves



Hand Washing is Vital



- **Single most effective way** to prevent the spread of disease
- Soap and water for at least **20** seconds or with waterless alcohol-based gel
- After all victim contact, even if you wore gloves



Best Protection is to Wash Hands Thoroughly



Alcohol- Based Cleaning Gel

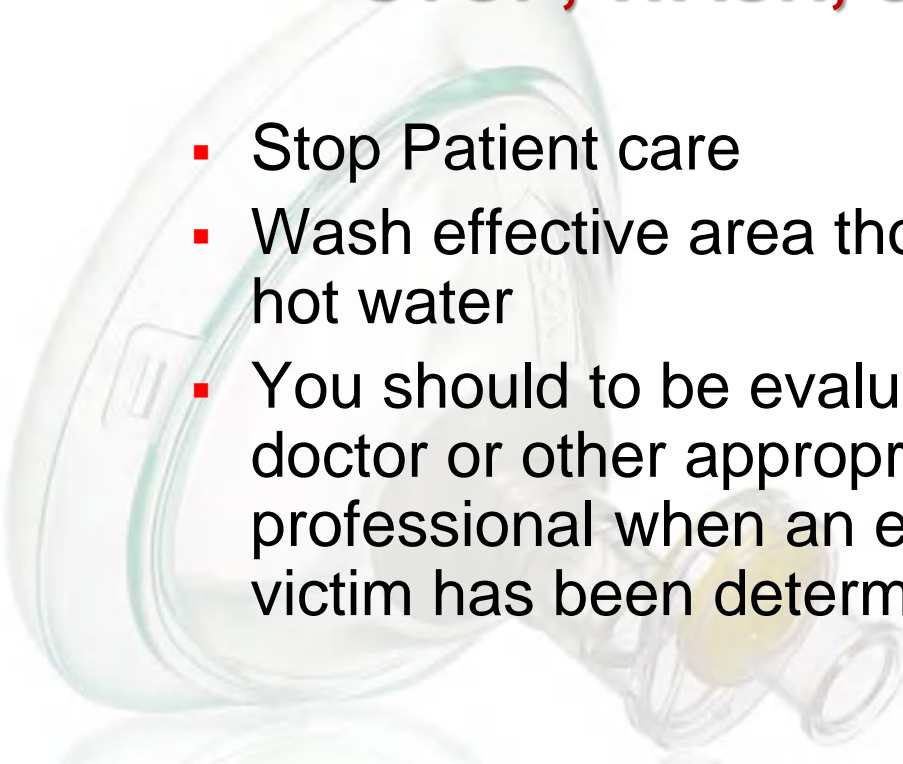


Postexposure **STOP, WASH, & REPORT**



- Upon contact with blood or OPIM of a victim:

STOP, WASH, & REPORT

- 
- Stop Patient care
 - Wash effective area thoroughly with soap and hot water
 - You should to be evaluated and followed by a doctor or other appropriate health care professional when an exposure to an infected victim has been determined

Medical/Legal and Ethical Issues



Duty to Act



- You have a duty to give the level of care that you will learn in this first aid course
- **Act responsibility**, If you have a duty to respond to emergencies, you should offer to help
- Do Unto Others as you Would have Them do for You.....



Expressed Consent

- Expressed Consent Required from all Conscious and Alert Patients
- Request Permission to Treat

Implied Consent

- Consent Implied for Unconscious Patient
- Based on the Assumption the Patient would Consent if Conscious

Patient Refusal



- Patients have the Right to Refuse Treatment if they:
 - Are Competent and have Capacity to make there own Health Care Discussions
 - Capacity is Determined by your Assessment



Assault/Battery



- Unlawfully Touching of a Individual without Consent can be Considered Battery
- Providing Care without Consent
- Obtain Informed Consent from all Conscious Patients



A medical device, possibly a ventilator or a similar respiratory apparatus, is shown in the background. It has a clear plastic body with a green band around it. The device is positioned in the upper right corner, with its main body and a yellow component visible. The background is a light gray gradient.

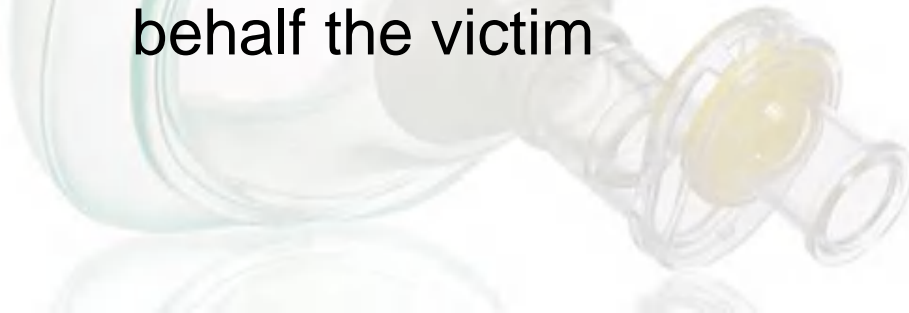
Ethical, Medical, Legal Issues

Duty to Act: Ethical/ Moral



➤ NH Good Samaritan Laws

- RSA 508.12 Any person who in good faith renders emergency care at the scene of an emergency to a person in need of urgent care and provides care in good faith without willful or wanton negligence. Shall not be held liable of civil damages for acts or omissions of care providing there is no compensation from or on behalf the victim



Abandonment



Termination of care of a patient without assuring continuation of care at the same level or higher

Abandonment

Confidential Information



- Protected under HIPAA
- Patient name, demographics
- All Protected Health Information
 - History of Present Injury/Illness
 - Patient History
 - All Assessment Findings
 - Treatment Rendered
- Includes any or all written records which must be safeguarded

**Protect
Patient
Information**



Scene Safety Golden Rule



Plan

Observe



React

Scene Size-Up



1. Activate Emergency Response Plan, Call 911
2. Body Substance Isolation, BSI Precautions
3. Number of Victims?
4. Additional Resources Required, Police, EMS, Fire, Haz-Mat, Public Utilities
5. Mechanism of Injury
6. Nature of Illness or Medical Complaint
7. Be Prepared to Provide Basic First Aid

Emergency Action Plan

Injury Severity



Sick or not Sick

1. Life Threatening – call 911 Immediately
2. Needs Medical Attention Now
3. Needs Medical Attention but can Wait
4. Can be Managed with First-Aid

Quick Action can Help to Prevent a More Serious Problem



Call 911 Early



EMERGENCY

POLICE

FIRE

MEDICAL

CALL

911



Life Threatening Conditions

- Not Breathing, Difficulty Breathing
- No Pulse or Signs of Circulation
- Severe Bleeding, Major Trauma
- Unconsciousness
- Call or Direct Someone to Call EMS



Needs Medical Attention Now



- Chest Pains
- Breathing Difficulty
- Overdose
- Allergic Reactions
- Acute Stroke
- Call 911 and Provide Basic First Aid



Photo by Bill Pingree www.firenews.org



Emergency Action Principles



1. Survey the Scene - What's going on? Is it safe to Approach? BSI?
2. Access EMS by Calling 911
3. Perform a Primary Survey (ABC's)
4. Perform a Secondary Survey (Head-Toe)
5. Provide Basic First Aid



Primary Survey



Sick or Not Sick

Level of Responsiveness

1. **Conscious**, Awake, Eye Contact & Answers Questions
2. **Responds to Verbal**, Eye Opening by Yelling Their Name
3. **Responds to Pain**, Sternal Rub, Moans or Groans
4. **Unresponsive**, be Prepared to Start CPR



A- Airway Head-Tilt/Chin Lift



➤ Unresponsive Patients

- Head-Tilt/Chin Lift Everytime....
- Victim should be Placed on Back on Flat-Firm Surface
- **Conscious Patients**, Ask Patient
 - How is your Breathing?
 - Assess for Signs of Respiratory Distress

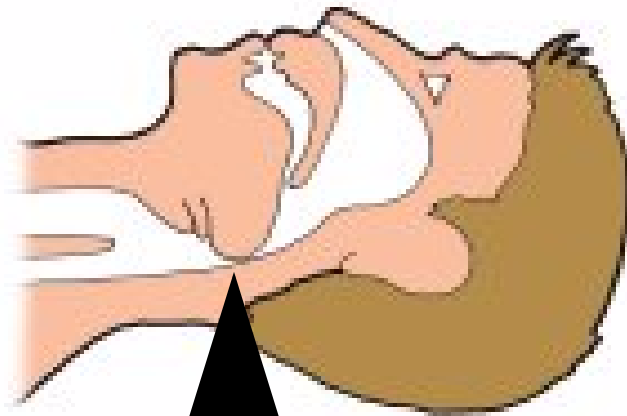


Supine

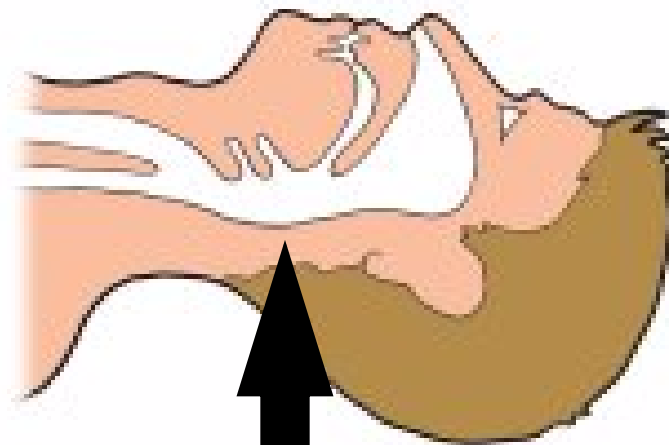


Prone

Anatomy of the Airway



Airway Closed



Airway Open



B = Checking BREATHING



Patient Unresponsive: Assess for Gasping or Abnormal Breathing, Assess Chest Wall Movement

- If Abnormal Breathing and Ineffective Chest Wall Movement, be Prepared to Assist Breaths, Mouth to Mouth or with a Pocket Mask
- Seal Open Chest injuries



Check Breathing



Adequate Breathing

- 12-20 breaths per minute
- Chest raises and falls with each breath
- Regular and not noisy

Inadequate Breathing

- Too slow or too fast
- Chest fails to raise
- Irregular and noisy
- Be prepared to provide rescue breaths



C = Checking CIRCULATION

- Check Carotid Pulse, Fast Slow or Absent
- No Pulse or Signs of Circulation
 - START CPR immediately and get the AED
- Check for Obvious Bleeding
- Control Major Bleeds with Direct Pressure or if needed a Tourniquet
 - Remember BSIs
- Treat for SHOCK



ADAM.



Apply direct pressure on external wounds with sterile cloth or your hand, maintaining pressure until bleeding stops

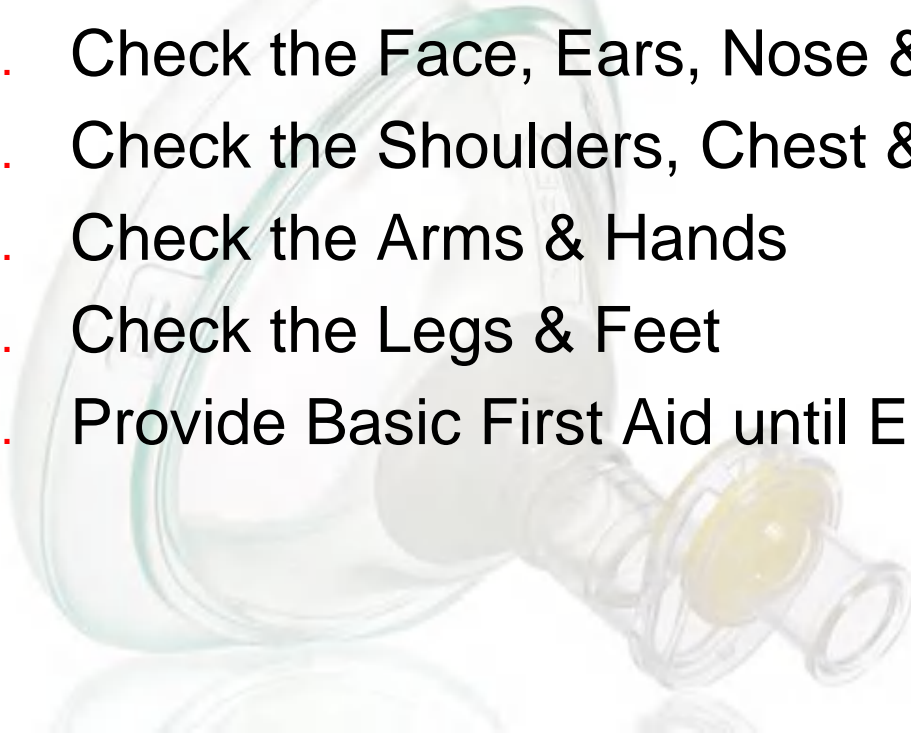
ADAM.

Secondary Survey

Toe-to-Head Exam



1. Communicate with Victim
2. Move from Head to Toe looking for anything Unusual
3. Look for Bleeding, Cuts, Swelling, Bruises
4. Check the Face, Ears, Nose & Mouth
5. Check the Shoulders, Chest & Stomach
6. Check the Arms & Hands
7. Check the Legs & Feet
8. Provide Basic First Aid until EMS arrives



Medical Identification Devices

A clear plastic medical identification device with a yellow cap and a small label, shown in the top right corner of the slide.

Alert's Emergency Responders to a Patient's Medical Condition

A clear plastic medical identification device with a yellow cap and a small label, shown in the bottom left corner of the slide.

- Heart conditions
- Diabetes
- Allergies
- Epilepsy
- Other information

- Cell Phone ICE

Medical Identification Device (front)



Medical Identification Device (back)



The slide features a white background with a green curved line at the top. Two clear plastic oxygen masks with yellow filters are positioned in the top right and bottom left corners. The text "Medical Emergencies" is centered in a bold, blue, 3D-style font.

Medical Emergencies

Syncope (Fainting)

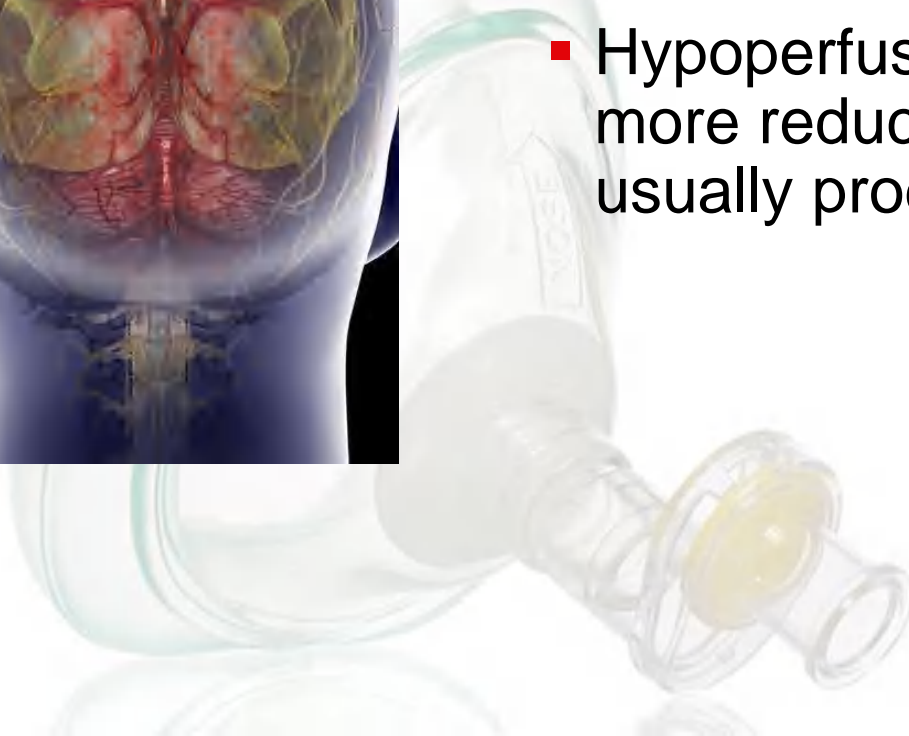


Transient loss of consciousness with no of prolonged confusion

Syncope (Fainting)



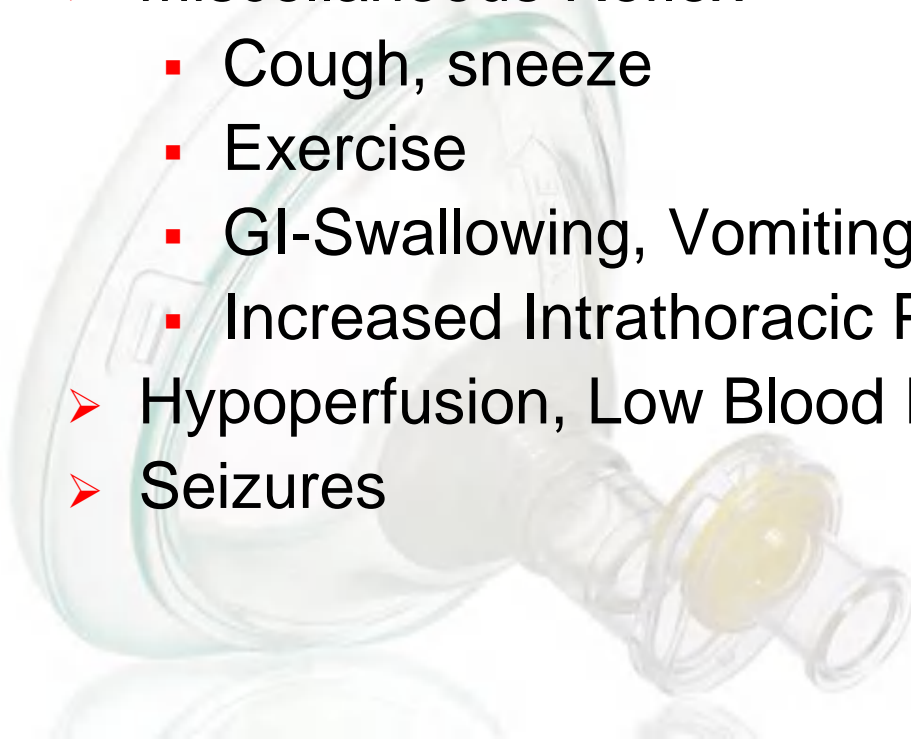
- Most commonly, decreased blood flow to the brain
 - Hypoperfusion resulting in 35% or more reduction in cerebral blood flow usually produces unconsciousness



Etiology: Causes



- Hyperventilation
- Vasovagal (Emotion, Pain)
- Carotid Sinus Sensitivity (Necktie/shaving)
- Miscellaneous Reflex
 - Cough, sneeze
 - Exercise
 - GI-Swallowing, Vomiting, Defecation
 - Increased Intrathoracic Pressure (weightlifting)
- Hypoperfusion, Low Blood Pressure
- Seizures



First Aid for the Syncope Patient

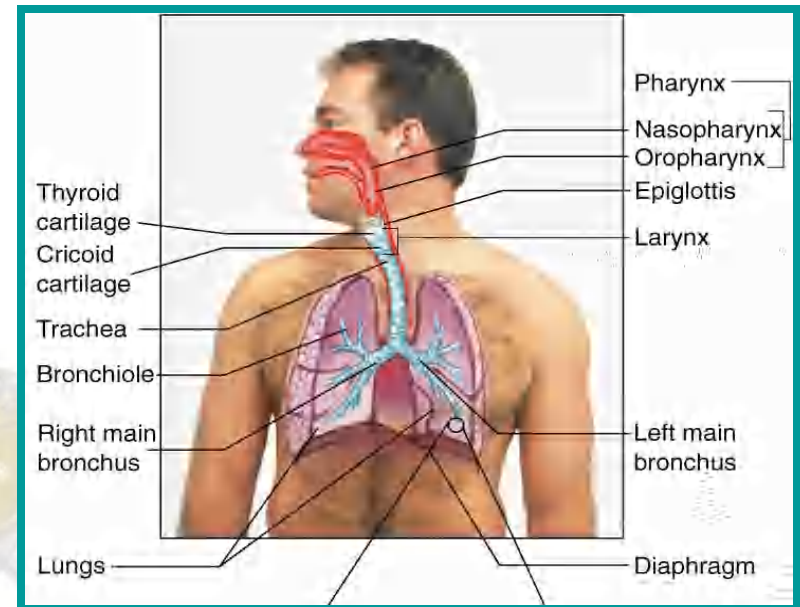


- Emergency Action Principles
- Perform Initial Assessment, If Patient Unstable: be Prepared to Provide to Start CPR
- Keep Flat, Consider Elevating Lower Extremities if there is no Evidence of Traumatic Injuries
 - Since syncope is a transient event, most patients are able to give history
 - Also important to talk to other individuals at the scene to determine events leading up to the episode
 - Await the arrival of EMS

Breathing Problems



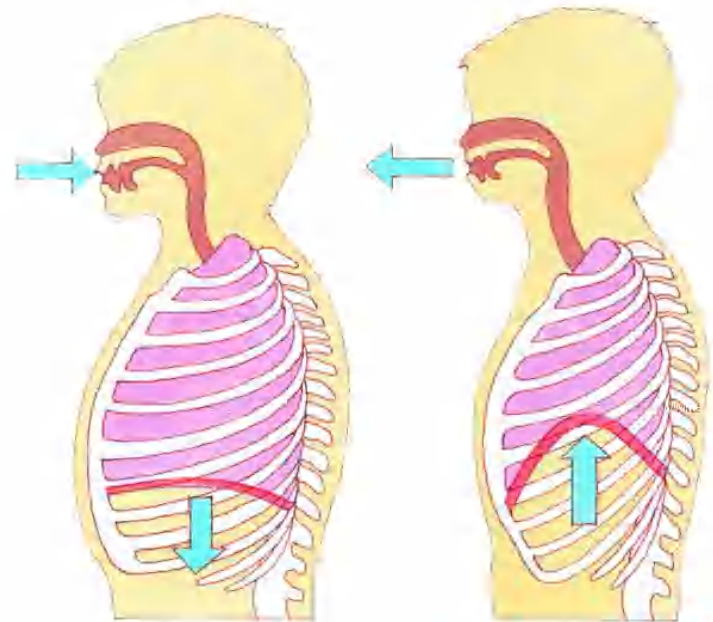
- Oxygen enters the lungs, passes into the capillaries (bloodstream) to be used by the body
- Waste (carbon dioxide) produced by the body needs to exit the via the lungs



Adequate Breathing

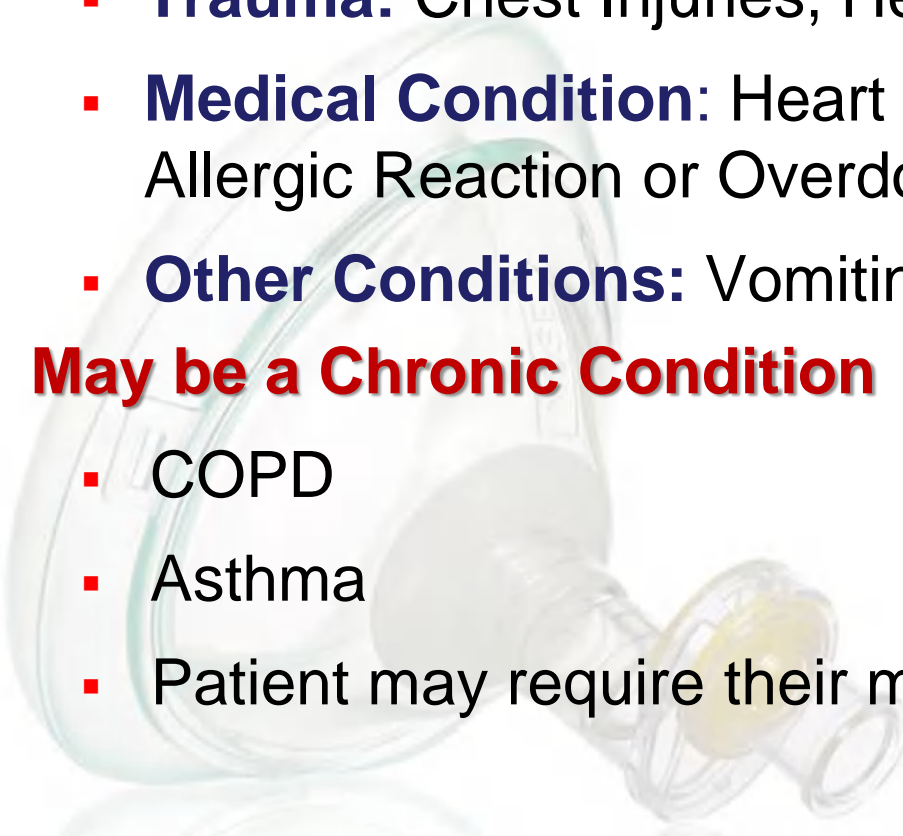


- No Obvious Distress
- Normal Mental Status
- Skin Color Normal
- Able to speak in Full Sentences without Stopping for Breath



Causes of Breathing Problems



- **May be result of an Acute Problem**
 - **Trauma:** Chest Injuries, Head Injuries
 - **Medical Condition:** Heart Attack, Stroke, Allergic Reaction or Overdoses
 - **Other Conditions:** Vomiting, Anxiety, Stress
 - **May be a Chronic Condition**
 - COPD
 - Asthma
 - Patient may require their medication Inhalers
- 

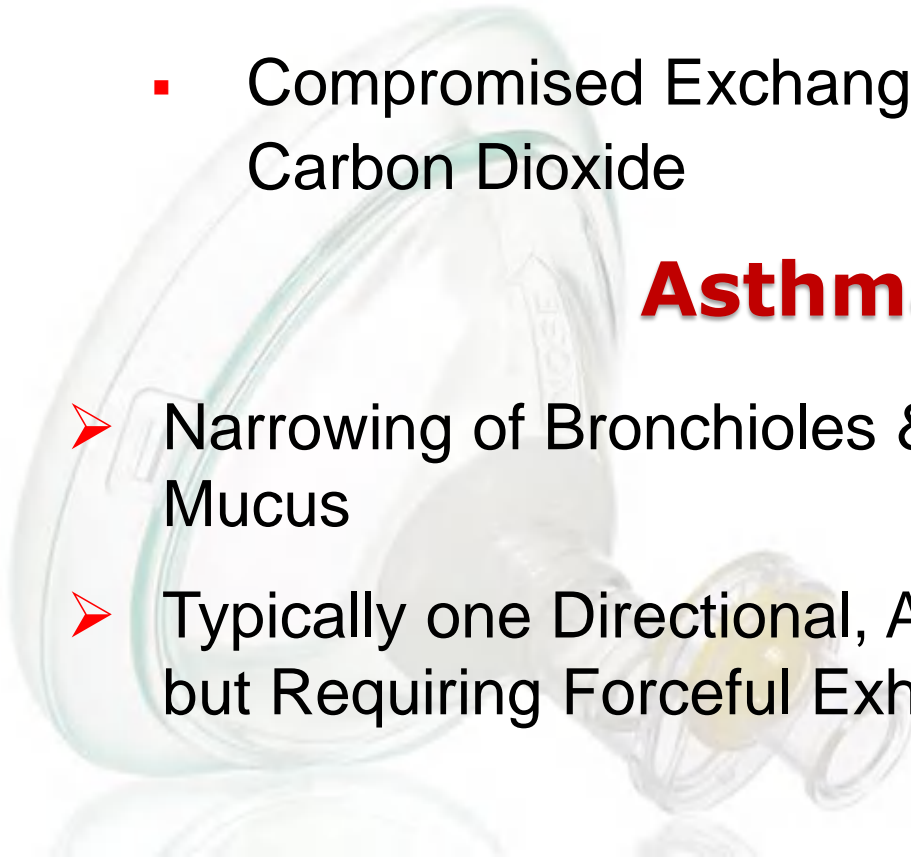
Chronic Obstructive Pulmonary Disease (COPD)



- Includes Emphysema and Chronic Bronchitis
 - Breakdown and Damage to Lung Tissue
 - Compromised Exchange of Oxygen and Carbon Dioxide

Asthma

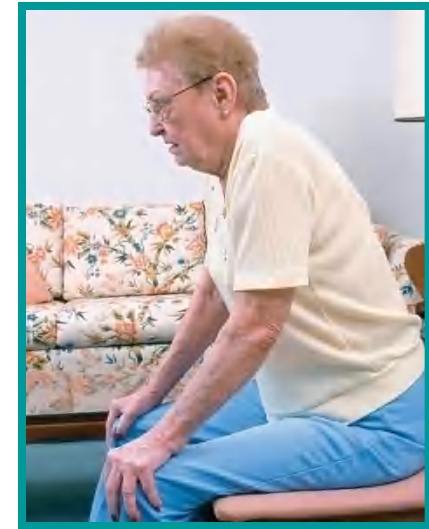
- Narrowing of Bronchioles & Overproduction of Mucus
- Typically one Directional, Allowing Air into Lungs but Requiring Forceful Exhalation (wheezing)



Signs of Breathing Difficulty



- Change in Mental Status
- Pale, Cyanotic Skin
- Flared Nostrils, Pursed Lips
- Positioning (Tripod)
- Pale, Cyanotic Skin
- Noisy Breathing (gurgling, snoring, wheezing, etc.)
- Accessory Muscle Use



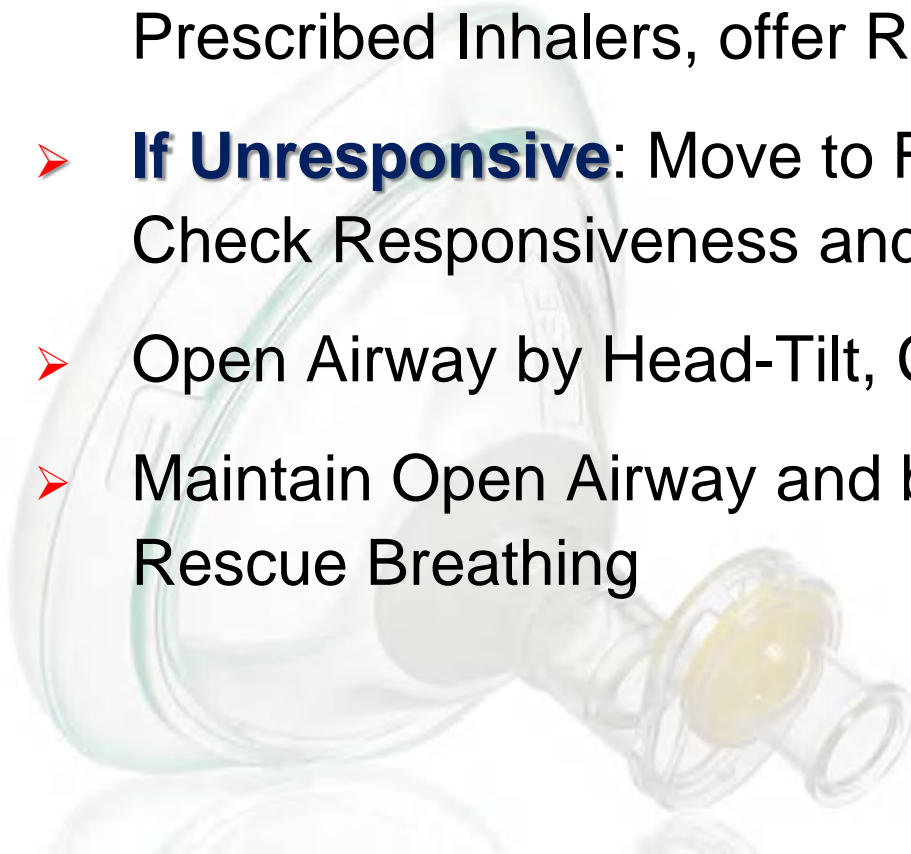
First Aid for Breathing Emergencies



Emergency Action Principles



- **If Responsive:** Position of Comfort, Ask about Prescribed Inhalers, offer Reassurance
- **If Unresponsive:** Move to Floor, Position on Back, Check Responsiveness and Prepare to start CPR
- Open Airway by Head-Tilt, Chin-Lift Maneuver
- Maintain Open Airway and be Prepared to Provide Rescue Breathing



Facilitate Patients Own Inhaler



Allergic Reactions



Allergic Reaction



An Exaggerated Reaction by the Body's Immune System to any Substance, Most Commonly a Single System Response, such as the Skin (hives)

Typically Not Life Threatening, but can Progress to Anaphylaxis

Anaphylaxis



A Life-Threatening Allergic Reaction, Multi System Response, Can Lead to Profound Shock and Airway Compromise. Can Occur Seconds to Minutes after Exposure

Causes of Allergic Reactions



Insect stings



Plants

Foods

Medications

Signs and Symptoms Anaphylaxis



- Itching and Hives
- Flushing, Warm, Tingling Feeling
- Swelling, Face, Neck, Hands, Tongue
- Tightness in Throat/Chest
- Rapid, Labored, Noisy Breathing, Coughing
- Decreasing Mental Status
- Increasing Heart Rate
- Signs of Shock
- Sense of Impending Doom



Assessing Allergic Reactions

Epi Pen JR
< 55 lbs.



- Any History of Allergies?
- *What* was Patient Exposed to?
- *How* was the Patient Exposed?
- What Signs and Symptoms does the Patient have?
- Any *Progression* of the Signs and Symptoms?
- Does the Patient have an Prescribed Epi-Pen?

Epi-Pen Criteria- Respiratory Distress Signs of Shock

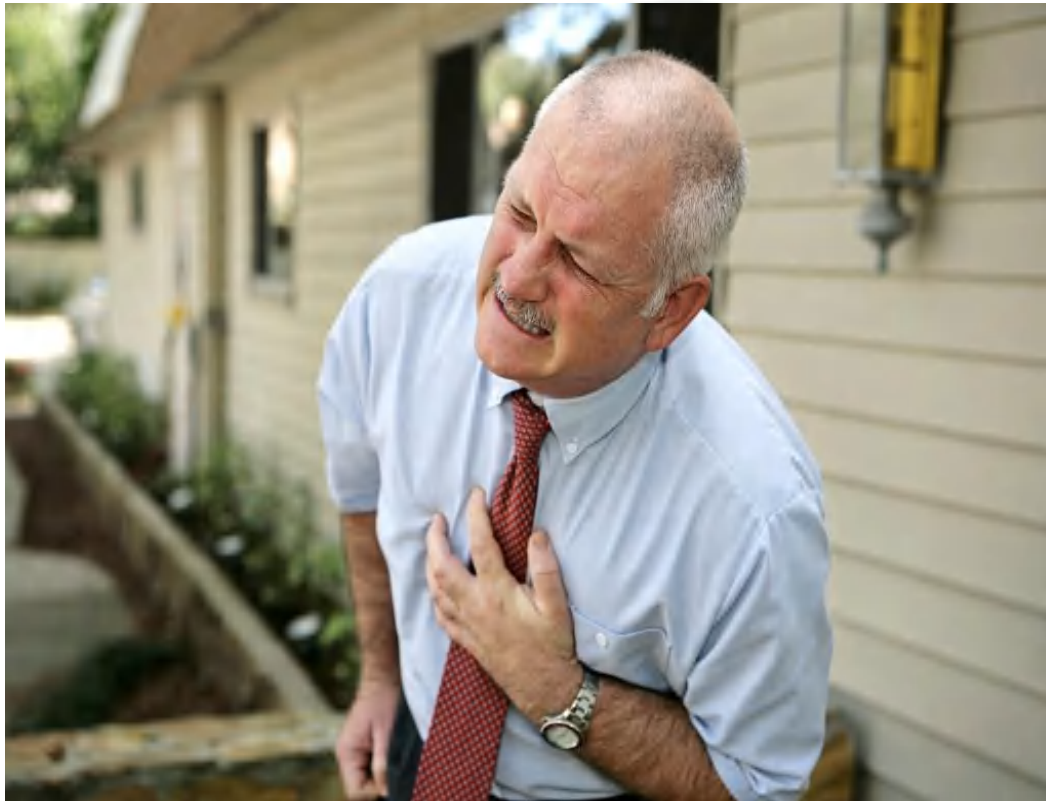
First Aid for Anaphylaxis



1. Emergency Action Principles
2. Ask about an Epi-Pen
3. Facilitate Patients own Epi-Pen
4. Administer into Lateral Thigh
5. Be Prepared to start CPR
5. Treat for Shock
6. Await arrival of EMS

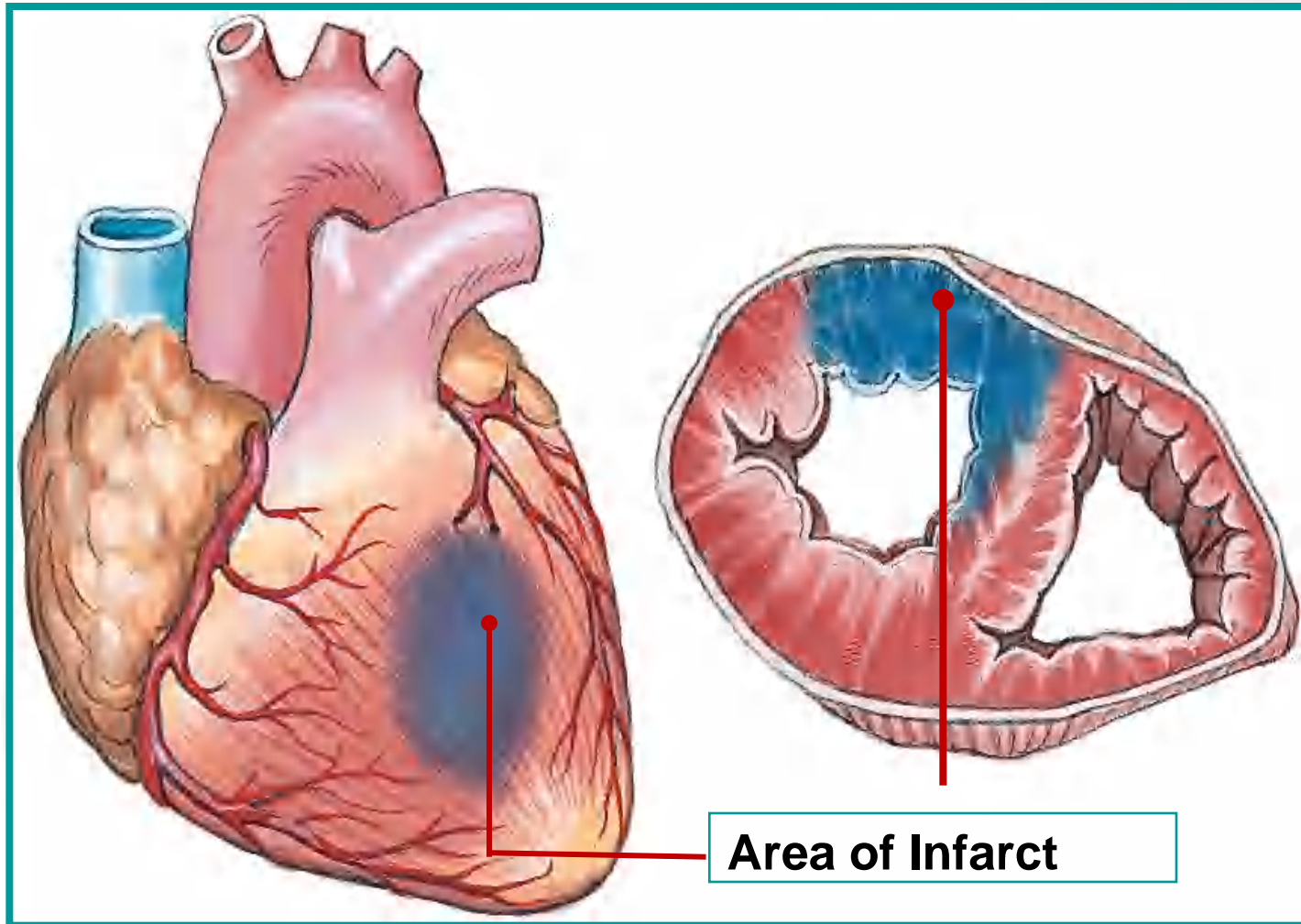


Chest Pains

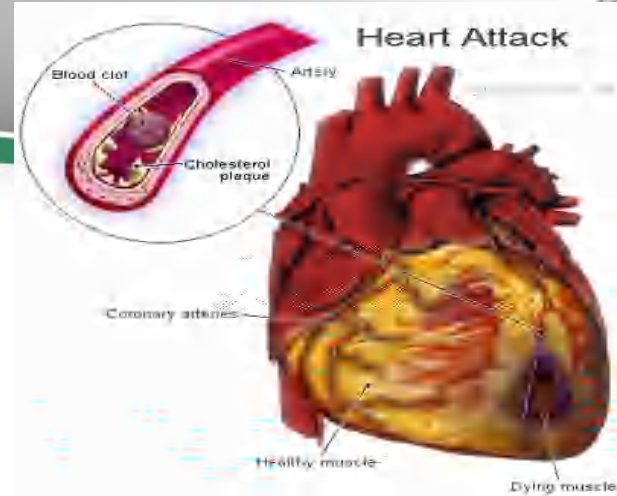


Common Causes of Chest Pains

Heart Attack



Symptoms of Cardiac Compromise



- Discomfort in Chest or Upper Abdomen
 - Pain, Pressure, Crushing, Squeezing, Heaviness
- May Radiate Down One or Both Arms
- Difficulty Breathing (dyspnea)
- Nausea
- Anxiety/Feeling of Impending Doom
- Sweaty Skin

First Aid for Cardiac Problems



- Emergency Action Principles
- Position of Comfort
- Facilitate Aspirin Administration
 - If not Allergic to Aspirin
 - (4-Chewable or one regular-324 mg)
- Be Prepared to Start CPR and Provide Prompt AED Defibrillation
- Await the arrival of EMS



Diabetic Emergencies



DIABETES

KNOW THE SYMPTOMS

diabetes.org.uk



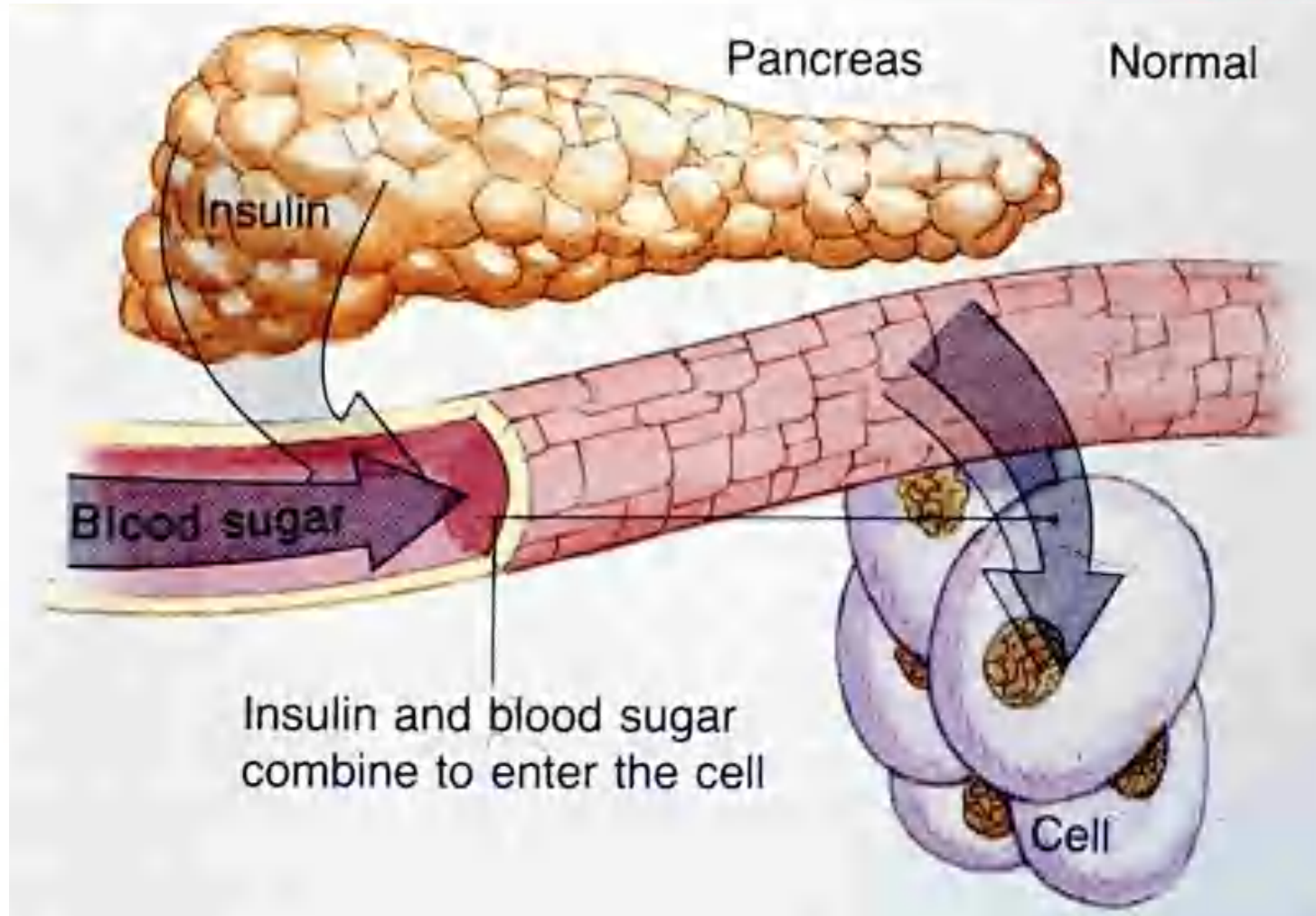
Diabetes



Caused by Decreased Insulin Production, or the Inability of the Body Cells to use Insulin Properly



Insulin allows Sugar to Pass from the Bloodstream into the Cells



Hyperglycemia



Hyperglycemia (high blood sugar) is a Slow-Onset Condition from Decreased Insulin Levels in People with Diabetes

- Forgotten or insufficient insulin dose
- Infection
- Stress
- Increased dietary intake

Signs & Symptoms

- Slow Onset
- Nausea/Vomiting
- Acetone Odor on Breath
- Increased Urination/Hunger/Thirst



dreamstime.com

Hypoglycemia



Hypoglycemia (low blood sugar) is a Life-Threatening Emergency for People with Diabetes

- Most common Emergency for the Diabetics
- Caused By
 - After Taking too Much Insulin
 - Vomiting
 - After Unusual Amount of Exercise
 - Reduced Sugar Intake by not Eating



Signs & Symptoms of Hypoglycemia



- Rapid Onset
- Intoxicated Appearance, Staggering, Slurred Speech
- Unusual or Bizarre Behavior
- Refusal to Cooperate or Combative
- Unconsciousness
- Cold, Clammy Skin
- Rapid Heart Rate
- Seizures (severe cases)



First Aid for Diabetic Emergency



- Emergency Action Principles
- Note any medical Alert Tags
- Any Patient with a History of Diabetes and has an Altered Mental Status needs Sugar
- Give Oral Glucose or Sugar by Mouth if all of these Conditions are Met:
 - History of Diabetes
 - Altered Mental Status
 - Patient can Swallow



Treating Diabetic Emergencies



- If Patient Becomes Unconscious, Stop Glucose Administration Immediately and Secure the Airway!
- Await arrival of EMS



Right Lateral Recumbent



Left Lateral Recumbent

Seizures

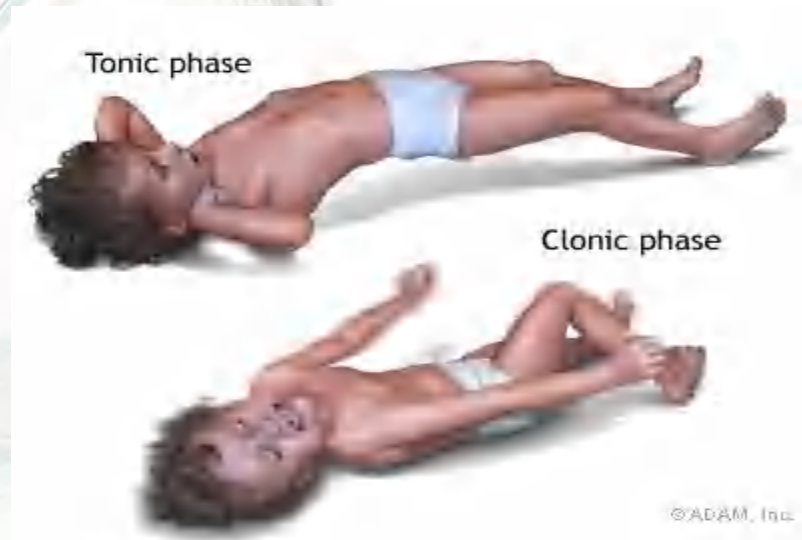


Sudden Change in Sensation, Behavior, or Movement caused by Irregular Electrical Activity of the Brain

Information to Obtain



- What Movements were Exhibited?
- Loss of Bladder or Bowel Control?
- What did the Patient do after Seizure?
- Length of Episode?



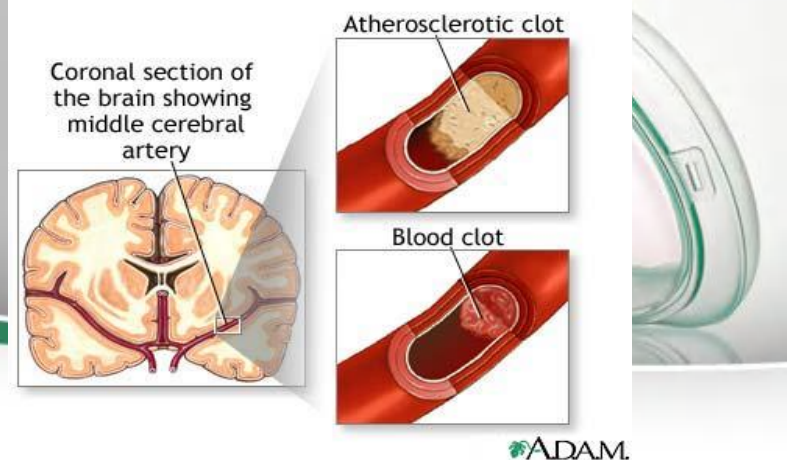
First Aid for Seizures



- Emergency Action Principles
- Place Patient on Floor
- Position Patient on Side
- Loosen Restrictive Clothing
- Remove Harmful Objects
- Protect Patient from Injury
- Await Arrival of EMS



Stroke



- Death or Injury of Brain Tissue that is Deprived of Oxygen
- 85% Caused by a Blockage (blood clots)
- 15% Caused by Bleeding of a Blood Vessel in the Brain

Signs & Symptoms of Stroke

- Intoxicated Appearance, Slurred speech
 - Severe Headache, Vision Changes
 - Facial Droop
- One-Sided Weakness on Body

FAST



Is it a stroke? Check these signs **FAST!**

Face



Does the face look uneven?
Ask them to smile.

Arm



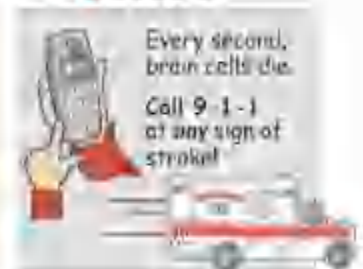
Does one arm drift down?
Ask them to raise both arms.

Speech



Does their speech sound strange?
Ask them to repeat a phrase.

Time



Every second, brain cells die.
Call 9-1-1 at any sign of stroke!

Act **FAST**. Call 9-1-1 at any sign of stroke!

First Aid for Stroke



- Emergency Action Principles
- Maintain ABCs
- Protect Paralyzed Side or Extremity
- Position of Comfort
- Determine onset of Signs and Symptoms
- Await the Arrival of EMS



Bleeding and Shock



External Bleeding



Take BSI Precautions when Controlling Bleeding



Types of External Bleeding



Arterial

Venous



Capillary

First Aid for Bleeding- Direct Pressure



Emergency Action Principles



First Aid for Bleeding- Pressure Bandage



After bleeding stops, bind wound with tight bandage and apply ice pack with direct pressure for 10 minutes.



Bleeding Control Pressure Bandage



- Place Dressing on the Wound
- Wrap with Kling or Roller Gauze Bandage
- Wrap Elastic Bandage (Ace Wrap) Around Extremity



Bleeding Control



Bleeding from an Arm or Leg can be Controlled by:

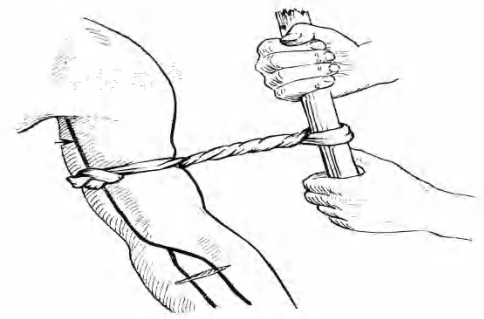
- Manual Pressure
- Pressure Dressing
- Tourniquet (last resort?)



Boston, MA April 15, 2013



Boston Injured



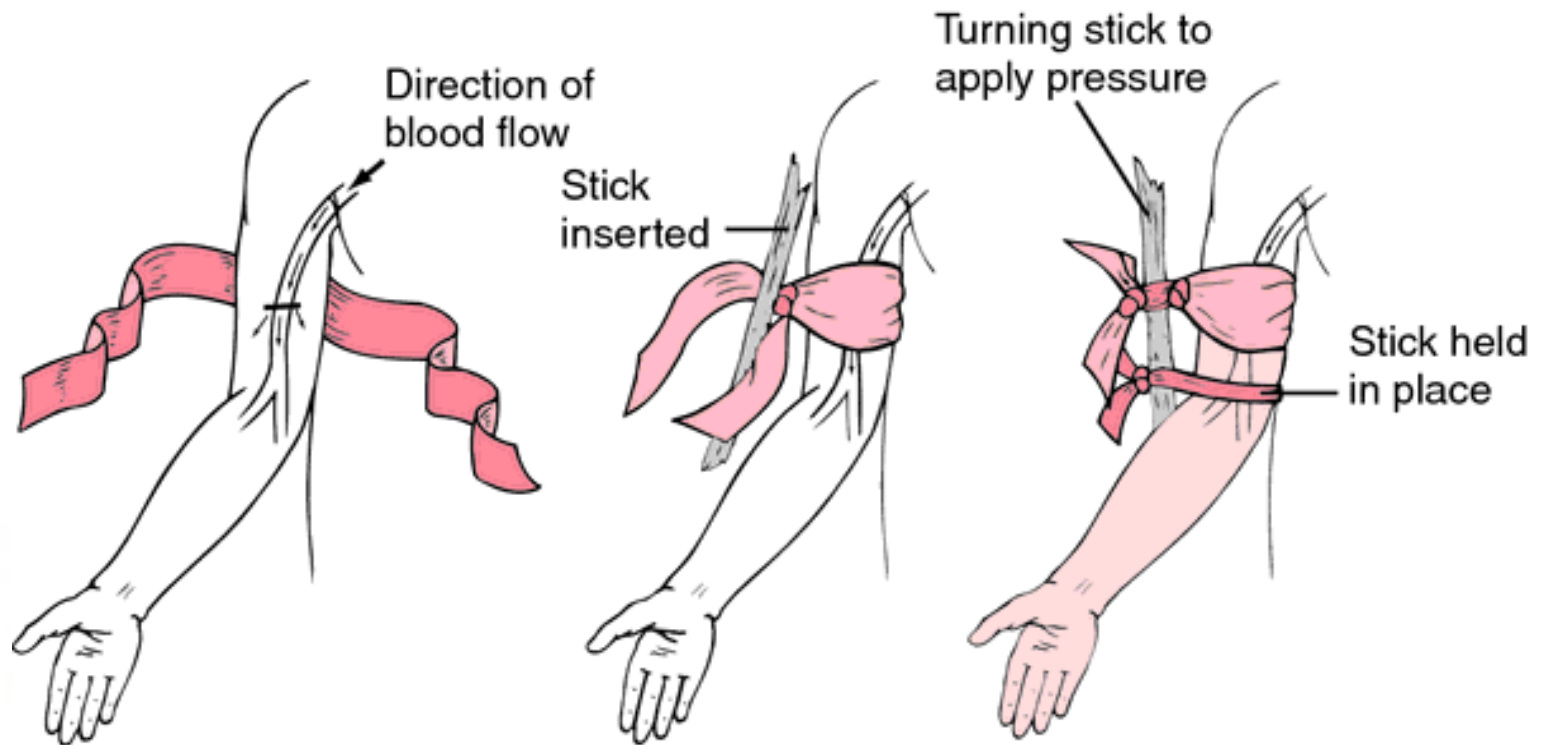
TOURNIQUET

- 27 improvised tourniquets were applied
- 17 traumatic amputations
- 5 lower extremities had major vascular injuries, and 6 additional limbs with major soft tissue injury
- All tourniquets were improvised, and no commercial, purpose-designed tourniquets were identified
- Among all 243 patients, mortality was 0%

Tourniquets



Improvised Tourniquets

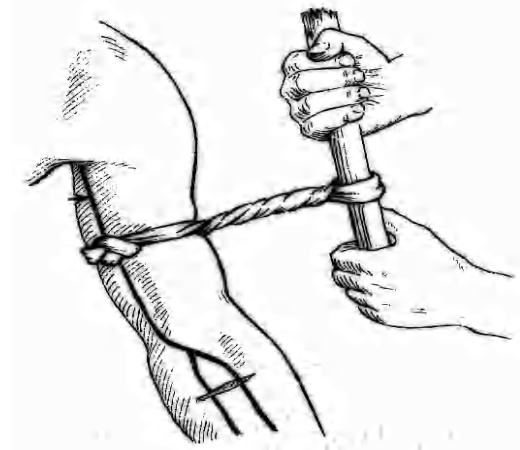
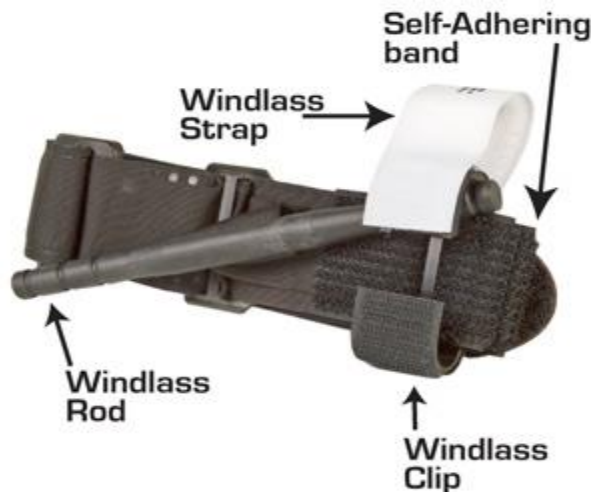


Tourniquets



“Control Bleeding”

- The Tourniquet Should be Placed on the Extremity 2-3 inches, above the Injury as Soon as Possible, Ignoring the Clothing



- **Tourniquet Time-** Initial time 90 minutes, ideal is 45-60 minutes

Key Points



- Stop any **Life Threatening Hemorrhage** with a Commercially Available Tourniquet such as the (CAT) or Improvise One
- Apply Tourniquet for any Total or Partial Amputation Regardless of Bleeding



Hemorrhage and Shock



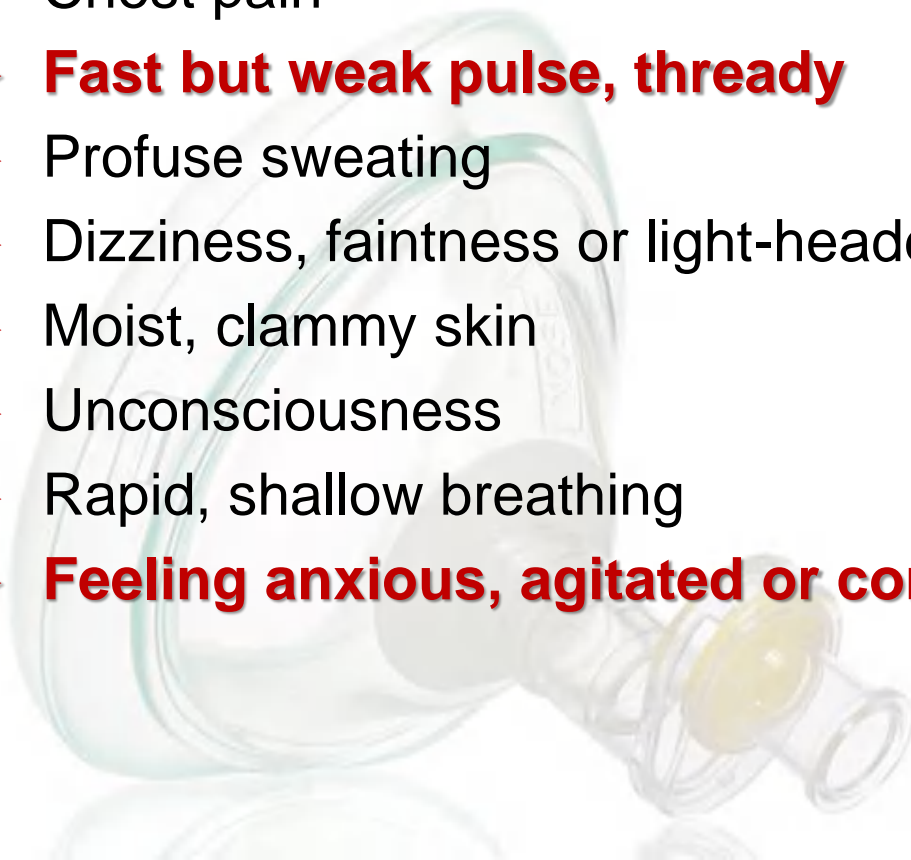
What Happens When you Start to Bleed?

- It Depends on How Much Blood you Lose and How Quickly you Lose it ...





- The most common **symptoms of shock** include:
- Feeling weak or nauseous
- Chest pain
- **Fast but weak pulse, thready**
- Profuse sweating
- Dizziness, faintness or light-headedness
- Moist, clammy skin
- Unconsciousness
- Rapid, shallow breathing
- **Feeling anxious, agitated or confused**



Recognition of Shock

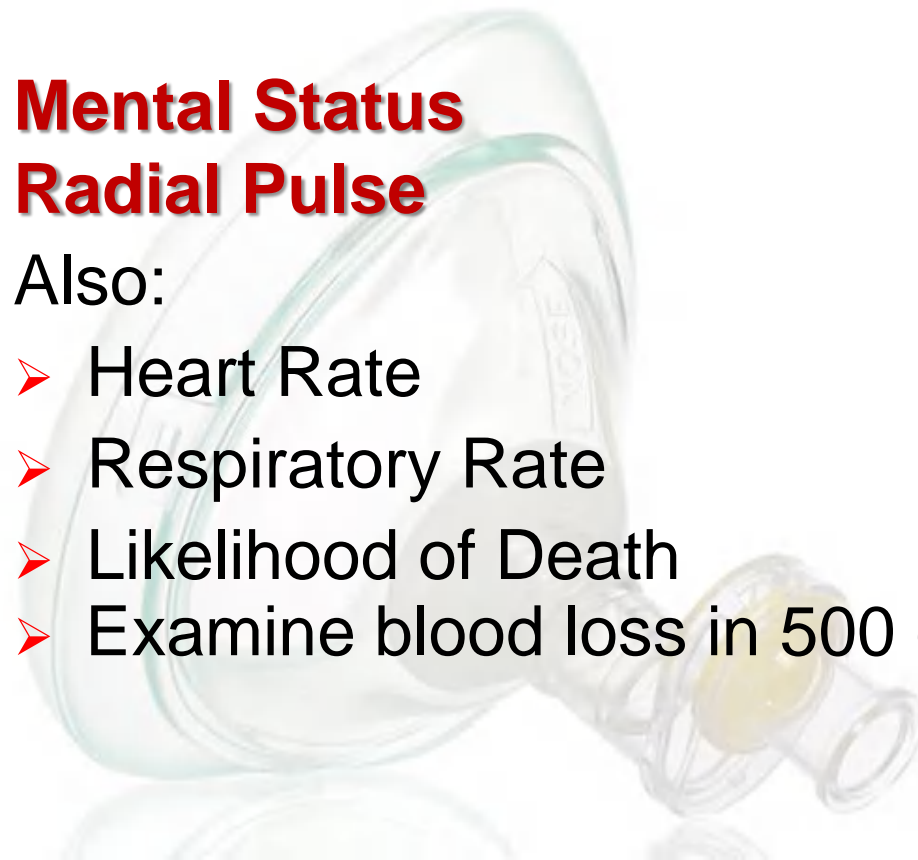


Most useful signs in Severe Trauma with known Bleeding is,

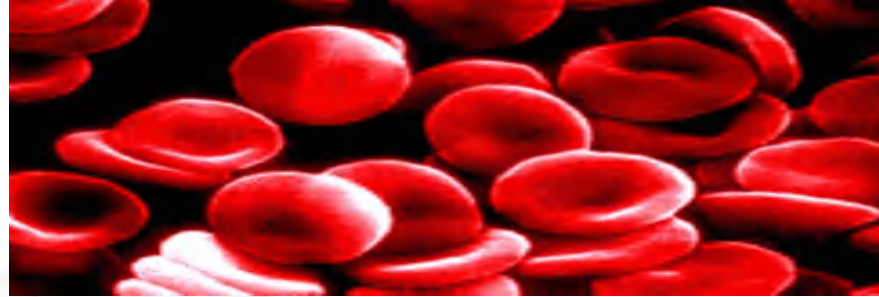
Mental Status
Radial Pulse

Also:

- Heart Rate
- Respiratory Rate
- Likelihood of Death
- Examine blood loss in 500 cc increments

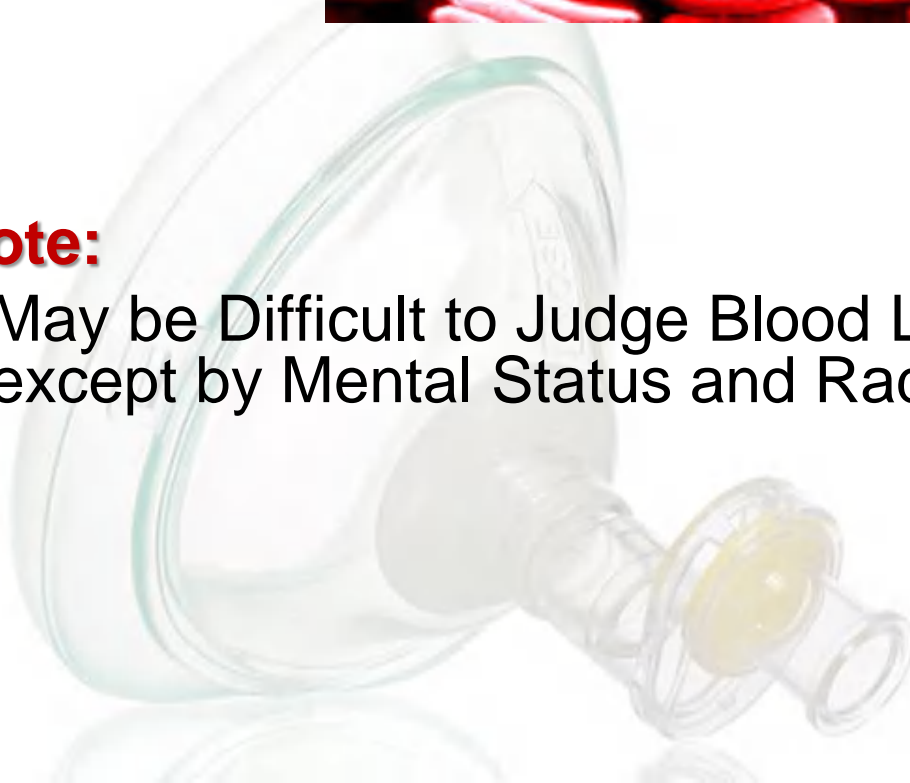


Recognition of Shock



Note:

- May be Difficult to Judge Blood Loss in Major Trauma except by Mental Status and Radial Pulse





Normal Adult Blood Volume

5 Liters Blood Volume

500 cc Blood Loss



Identify S/S

500 cc Blood Loss



- **Mental State - Alert**
- **Radial Pulse - Full**
- Heart Rate – Normal or somewhat increased
- Systolic Blood pressure - Normal
- Respiratory Rate - Normal
- Is he going to die from this: **No**



1500cc Blood Loss



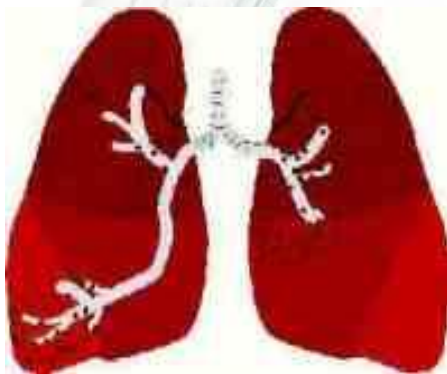
3.5 Liters

Identify S/S of Shock

1500cc Blood Loss



- **Mental State - Alert but Anxious**
- **Radial Pulse - May be Weak**
- Heart Rate – 100+
- Respiratory Rate - 30
- Is he Going to Die from this: **Probably Not**



First-Aid for Shock



- Emergency Action Principles
- Control External Bleeding
- Ensure BSIs for you and your Crew
- DO NOT MOVE if Head, Neck or Back Injury is Suspected
- Keep Patient Flat and Warm
- Loosen Tight Clothing
- DO NOT give anything by Mouth
- Await arrival of EMS



Environmental Emergencies



Risk Factors for Heat Illness



- Older People are at Particular Risk
 - Perspire Less
 - Acclimatize more Slowly
 - Feel Thirst less Readily
 - Decreased Mobility
 - Chronic Conditions
- Infants and Young Children are Vulnerable
 - Higher Metabolic Heat Production
 - CBT Rises Faster During Dehydration
 - Smaller Organ and Vascular Systems do not Dissipate Heat as Well

Heat Cramps



- Pathophysiology
 - Acute, Involuntary Muscle Spasms
 - Occur from:
 - Profuse Sweating
 - Sodium Loss
 - Most often Afflict those in Good Physical Condition



Heat Cramps



➤ Assessment

- Starts during strenuous or prolonged activity
- Usual presentation:
 - Severe, Incapacitating Pain
 - Hypotension and Nausea
 - Rapid Pulse
 - Pale and Moist Skin
 - Normal Temperature



Heat Cramps



- Management
- Emergency Action Principles
 - Treatment to Eliminate Exposure and Restore Lost Salt and Water:
 - Move Patient to Cool environment
 - Sports Drinks



Heat Exhaustion

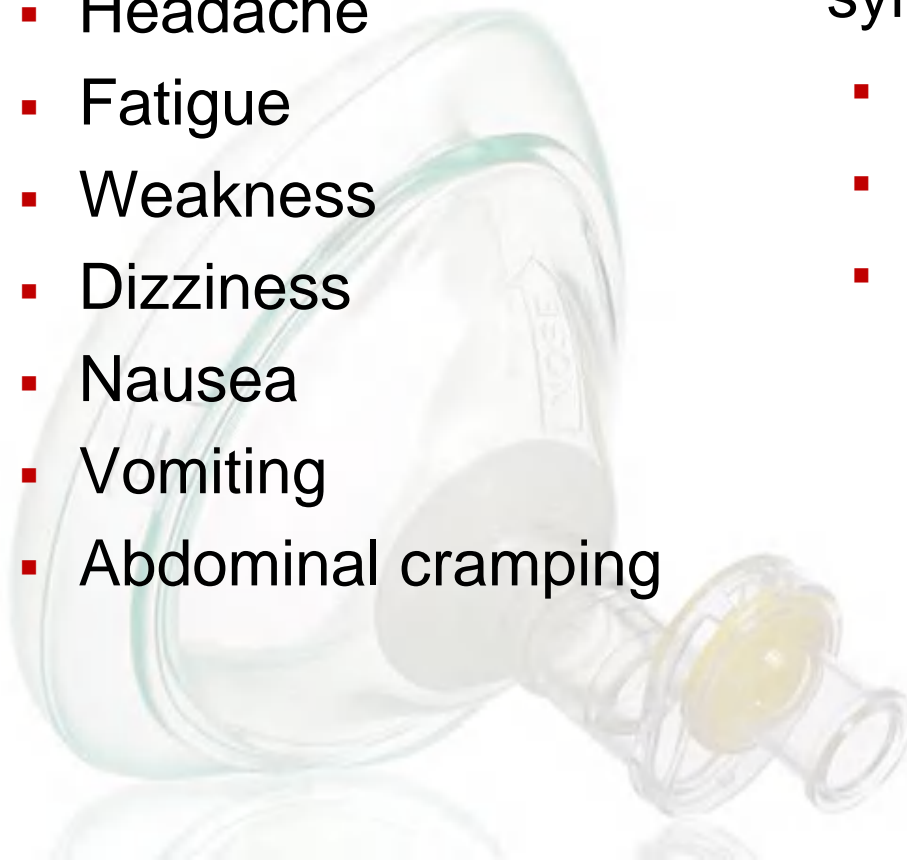


➤ Symptoms include:

- Headache
- Fatigue
- Weakness
- Dizziness
- Nausea
- Vomiting
- Abdominal cramping

➤ Other signs and symptoms:

- Profuse sweating
- Pale, clammy skin
- Tachycardia



Heat Exhaustion



➤ Management

- Emergency Action Principles
- Move to Cool Environment
- Remove Excess Clothes
- Place Supine with Legs Elevated
- If Temperature is Elevated:
 - Sponge, Spray, or Drip with Cool Water and Fan Gently
- Oral Hydration with Sports Drinks
- Await the Arrival of EMS



Heatstroke



➤ Pathophysiology

- Least Common but Most Deadly
- Caused by Severe Disturbance in Body's Thermoregulation
- Findings to Determine Heatstroke:
 - Core Temperature of more than 104°F (40°C)
 - Altered Mental Status



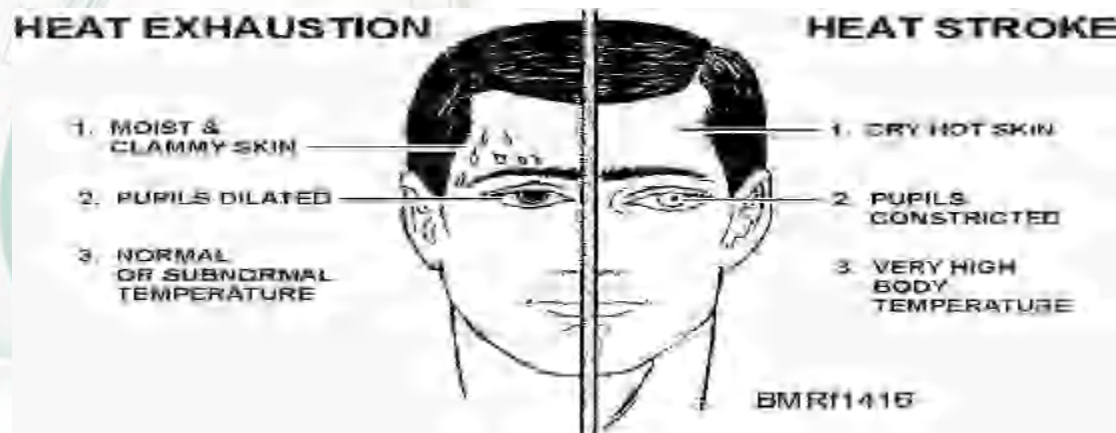
Heatstroke



➤ Assessment

▪ Signs include:

- Irritability, Combativeness
- Signs of Hallucination
- Dehydration
- Dry, Red, Hot Skin (classic heatstroke)
- Pale and Sweaty Skin (exertional heatstroke)



Heatstroke



➤ Management

- Emergency Action Principles
- Evaluate ABCs
- Move Patient to a Cool Environment
- Cool as Rapidly as Possible



Drowning



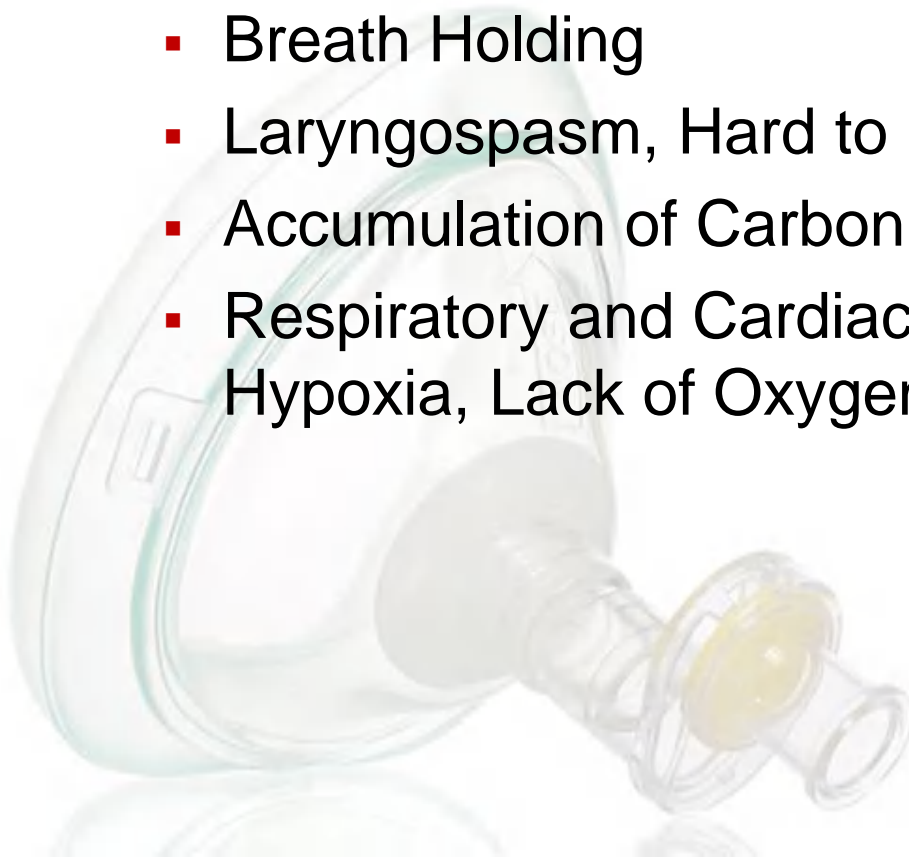
- Process of Experiencing Respiratory Impairment from Submersion or Immersion in Liquid
- Outcomes include:
 - Death
 - Morbidity
 - Near morbidity



Drowning



- Drowning Continuum:
 - Breath Holding
 - Laryngospasm, Hard to Breathe
 - Accumulation of Carbon Dioxide
 - Respiratory and Cardiac Arrest from Tissue Hypoxia, Lack of Oxygen



Drowning



- Resuscitation is the Same as for Others in Respiratory or Cardiac Arrest
- Reaching Victim—Leave to Those Trained and Experienced in Water Rescue



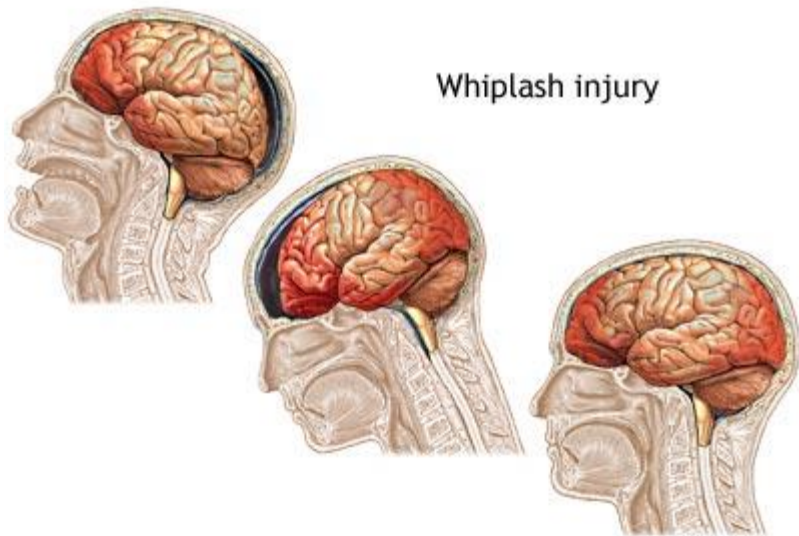
Drowning



- Emergency Action Principles
- Recovery
- Treatment follows ABCs
 - Open Airway, Head Tilt, Chin Lift
- Provide Rescue Breathing
 - Determine Pulse
 - Continue to Treat According to ABC Guidelines
 - Cervical Spine Precautions, Especially if:
 - History of diving or water slide
 - Signs of injury



Injuries



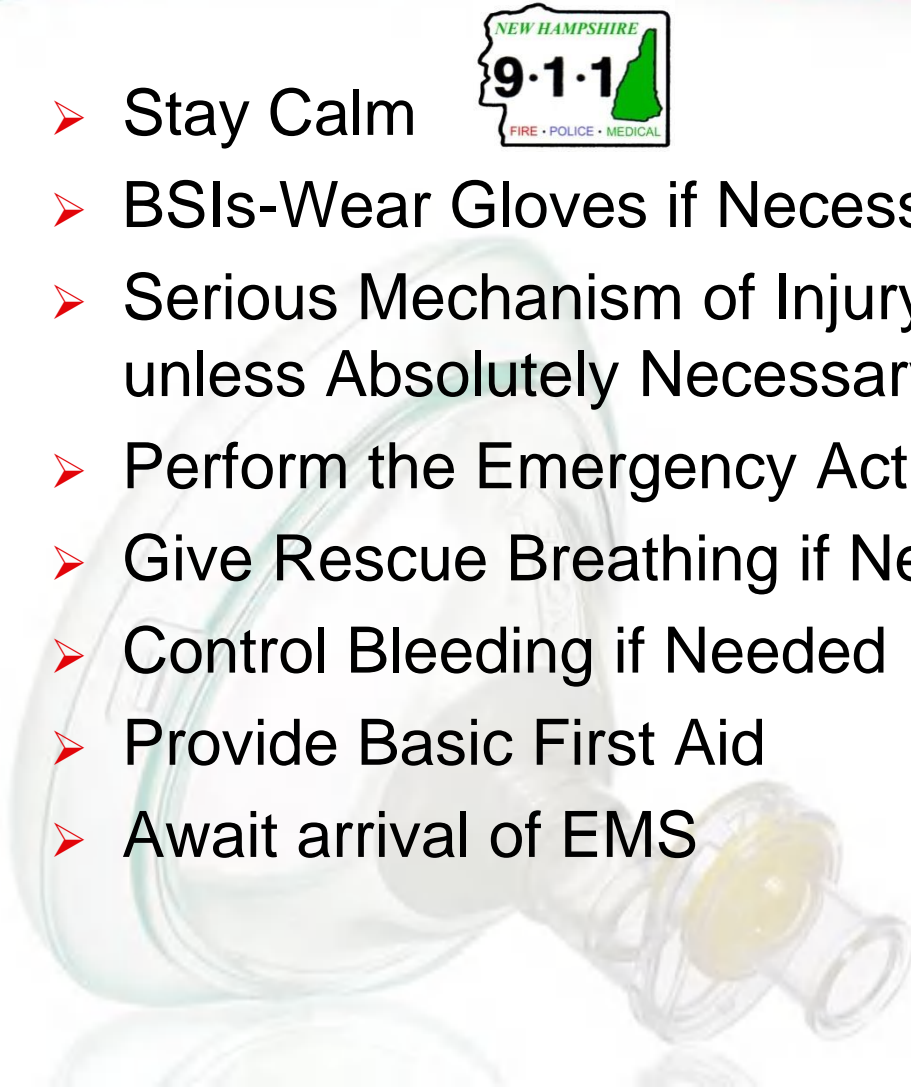
ADAM



Review of Emergency Procedures



- Stay Calm
- BSIs-Wear Gloves if Necessary
- Serious Mechanism of Injury-Do NOT move Victim unless Absolutely Necessary
- Perform the Emergency Action Principles **Call 911**
- Give Rescue Breathing if Needed
- Control Bleeding if Needed
- Provide Basic First Aid
- Await arrival of EMS



Causes of Serious Head & Neck Injury



If any of the Following Occur, DO NOT MOVE the Victim:

- Falling from a Height or Down Stairs
- Being Forcefully Struck in the Head, Neck or Spine
- Massive Blunt Trauma
- Being in a Car Crash
- Being Hit by a Car



Blunt trauma

Signs of Head & Neck Injuries



- Unconsciousness
- Seizure in a Patient with No History of Seizures
- Confusion
- Sleepiness
- Severe Bleeding from the Head
- Blood or Watery Fluid in the Ears
- Unequal Pupils
- Patient can't Feel Arms or Legs or has Numbing/Tingling in Arms or Legs
- Neck Pain
- Vomiting
- Headache



Immobilizing the Head

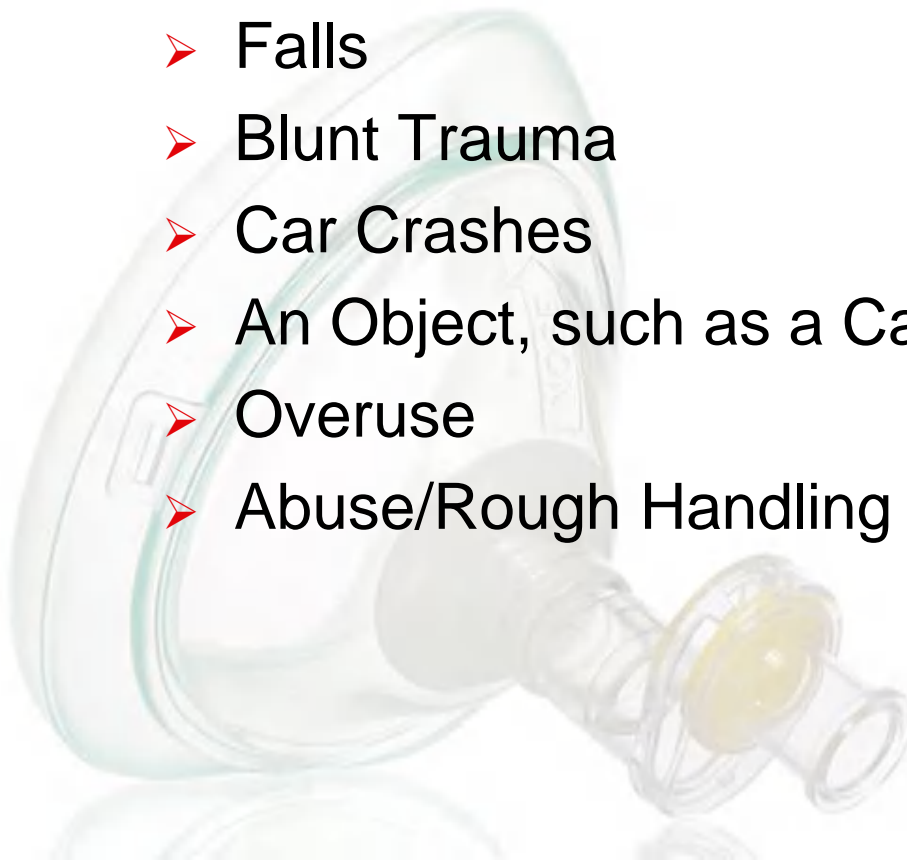
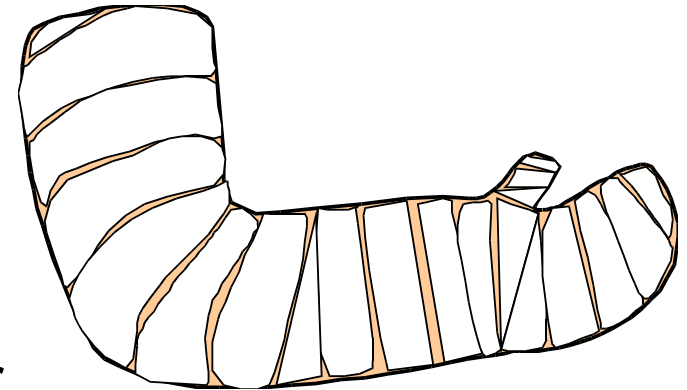
- With Victim Lying on Back, Hold the Head Still
- With Hands on Each Side, Gently Hold Head Still
- Don't Move Head or Neck without Holding it Support Neck until EMS Arrives



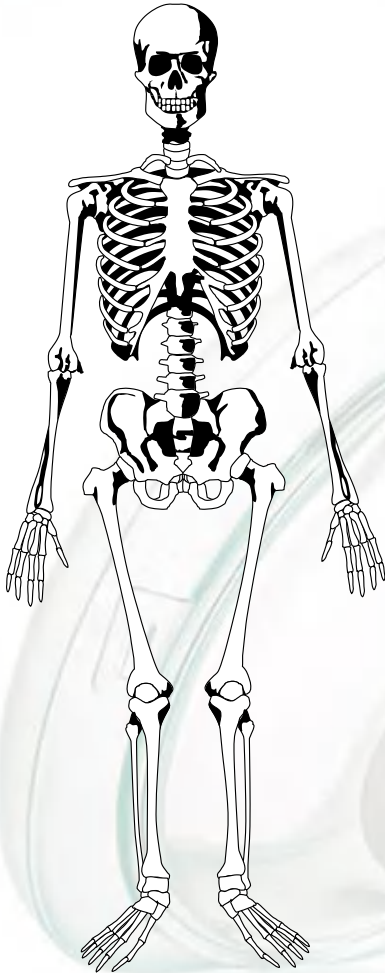
Muscle & Bone Injuries- Common Causes



- Falls
- Blunt Trauma
- Car Crashes
- An Object, such as a Car
- Overuse
- Abuse/Rough Handling



Signs/Symptoms of Muscle & Bone Injuries



- Severe Pain
- Swelling
- Feeling “Heat” in the Injured Area
- Discolorations/Bruising
- Deformities - Bone Bent Wrong Way or Sticking Through Skin
- Victim Cradling or not Using a Part of the Body

First Aid for Muscle and Bone Injuries



- Emergency Action Principles
- Do not Move Extremity, Check for Pulse, Skin Color and Temperature
- **Improvise a Splint, Secure in in Position Found**



Poisoning



➤ Poisons May Be:

- Swallowed
- Inhaled
- Absorbed through the Skin or Eyes
- Injected



Common Poisons

- Medicines
- Plants/Wild Berries
- Chemicals/Cleaners
- Insect Bites & Stings
- Spoiled or Contaminated Food
- Drugs/Alcohol
- Snake bites



Signs/Symptoms of Poisoning



- Pills, Berries or Unknown Substance in Victims Mouth
- Burns around Mouth or on Skin
- Strange Odor on Breath
- Pain
- Difficulty Breathing
- Sweating
- Upset Stomach or Vomiting
- Dizziness, Fainting or Unconsciousness
- Confusion
- Seizures



First Aid for Poisoning



- Emergency Action Principles
- Call Poison Control 1-800-222-1222
- Do not give any by Mouth Unless Directed to do so by Poison Control



Overdoses Opioids



- Most opioid Users do not use Alone
- Known Risk Factors:
 - Mixing Substances, Abstinence, Using Alone, Unknown Source
- Opportunity window:
 - Opioid OD takes Minutes to Hours
 - Bystanders can be Trained to Recognize OD
 - Bystanders can be Trained to Administer Naloxone
 - Naloxone can Save a Life....
 - Bystanders Trained in CPR

Opioid Overdoses



- Person has **“Opioid Overdose Triad”**
 - Unconsciousness/Reduced Consciousness
 - Pinpoint Pupils
 - Respiratory Depression
- If an opioid overdose is not treated, a person will...
 - Stop Breathing
 - Go into Cardiac Arrest
 - Die....

An Opioid Overdose is a Dire Medical Emergency
Call 911

Opioid Overdose Kit and Nasal Spray



Kit contents:

- Two **(2)** individual pre-filled syringes of Naloxone (2) mg each
- One **(1)** mucosal atomizer (nose pieces/spray device)



Nasal Spray:

- (2) 4 mg doses of Naloxone



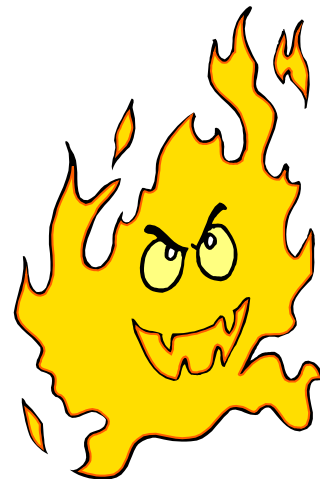
Responding to an Opioid Overdose



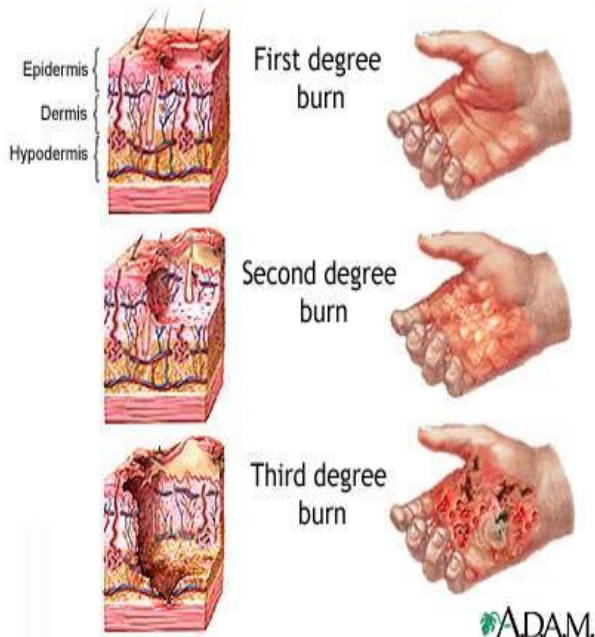
1. Stimulate, Sternal Rub
2. Alert EMS by calling 911
3. Administer Naloxone, if available
4. Rescue Breathing/Ventilations - **Critical Step in Care**
5. **Be Prepared to Provide CPR**
6. Repeat 3 & 4, if necessary
7. Recovery position, if breathing
8. Do not handle sharps, never recap needles, leave for EMS



Burns



Sources of Burns

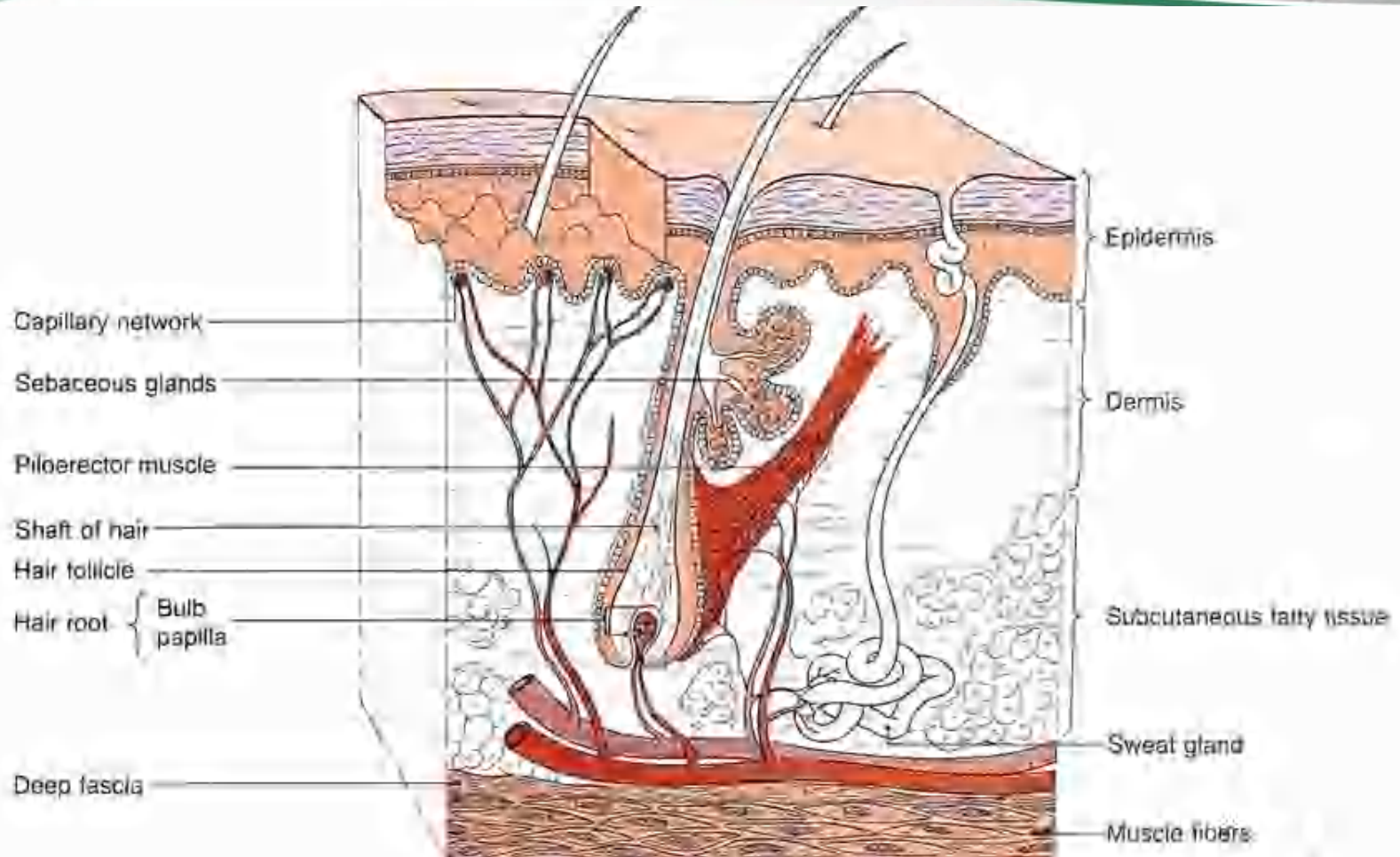


- Thermal
- Chemical
- Electrical
- Light
- Radiation

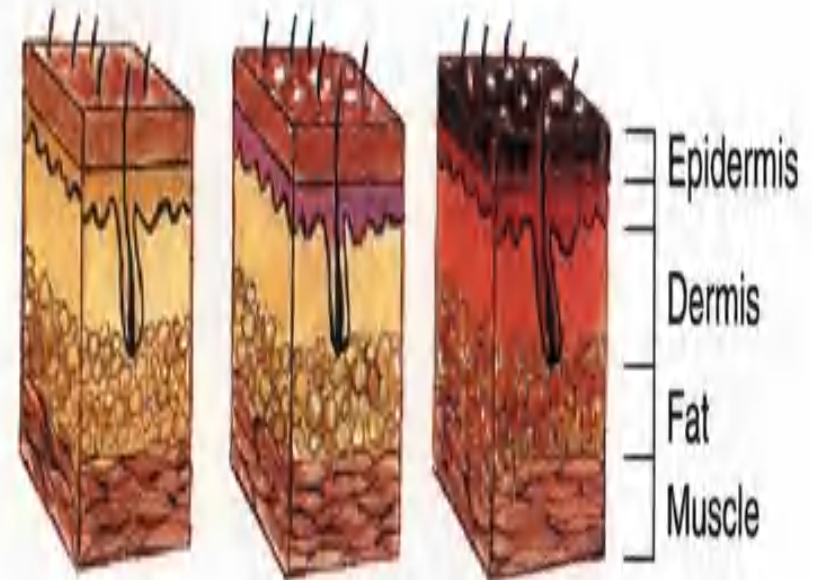
MR. BURNS
The Scientist



Layers of the Skin



Classifying Burns by Depth



First Aid for Burns



- Emergency Action Principles
- Body Substance Isolation
- Stop the Burning Process with Water
- Remove Smoldering Clothing and Jewelry
- Prevent Further Contamination
- Monitor the Airway for Closure
- Cover Burn Area with Dry, Sterile Dressing
- Do not Use Ointments/Lotions
- Do not Break Blisters



Emergency Action Principles



1. Survey the Scene - What's going on? Is it safe to Approach? BSI?
2. Access EMS (call 911), request MERT
3. Perform a Primary Survey (ABC's)
4. Perform a Secondary Survey (Head-Toe)
5. Provide Basic First Aid



END



- Much of first aid is common sense. Basic principles, such as knowing to use an adhesive bandage or applying direct pressure on a bleed, are often acquired passively through life experiences. However, to provide effective, life-saving first aid interventions requires instruction and practical training such as offered in this course.
- Thank you for attending and the willingness to help those in need.

Remember-Walk the Walk, Talk the Talk and Look the Look