MODULE 1
First Aid Basics

OBJECTIVES

- Explain the role of the Medical Responder in the medical response situation.
- Review the need for scene size-up and communication techniques
- Review when to Request Air Medical Transport
- Review Laws and regulations pertaining to Law Enforcement and medical care. i.e. Good Samaritan, LE HB 3653
- Explain the importance of using proper body mechanics.
- Explain the hazards of not using proper body mechanics when lifting and moving patients.
- Demonstrate the proper technique for standard moves, urgent moves, and emergent moves.

OBJECTIVES

Define the following terms:

- Personal Protective equipment PPE
- Standard precautions
- Mass Causality Incident MCI
- Triage
  - SALT triage system
- Emergent move
- Non-Emergent move

FIRST THINGS FIRST

IS IT SAFE?

- Do YOU See, Smell, Hear Anything Abnormal ?
- Is there Smoke, Sparks, or Fuel coming from the vehicle?
- Ensure scene safety for yourself, patient, and bystanders.
- You can't Help if you're a victim!!

Size Up

CAN REPORT

-CONDITIONS
-ACTIONS
-NEEDS

WIN

-WHAT'S
-IMPORTANT
-NOW

IF YOU WERE RESPONDING WHAT WHAT WOULD YOU WANT TO KNOW??

Body Substance Isolation

- BSI precautions include wearing personal protective equipment
  - Gloves, Masks, Gowns, and Eyewear
- Standard precautions
  - Guidelines recommended by CDC
  - Reduces risk of disease transmission
  - All patients considered infectious until proven otherwise

Personal Protective Equipment

Air Medical

- Who can Call?
- When to Call?
- What Information do they need?

ARCH AIR MEDICAL SERVICE

AIR EVAC LIFETEAM

Area Services

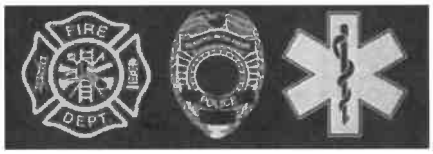
ARCH

Arch 1 - Granite City, Illinois
Arch 2 - Litchfield, Illinois
Arch 3 - Effingham, Illinois
Arch 4 - Sparta, Illinois
AirLife 1 - Carle Foundation Hospital Urbana, Illinois
Airlife 2 - Carle Foundation Hospital Olney, Illinois
Saints Flight - Springfield, IL
Rescue Flight - Highland, IL

AIR EVAC LIFETEAM

AE145- Mattoon, IL
AE28- Effingham, IL
AE137- Greenville, IL
AE35- Marion, IL
AE150- Olney, IL
AE11- Mt. Vernon, IL
AE27- Jacksonville, IL
AE39- Brazil, IN

Who can call



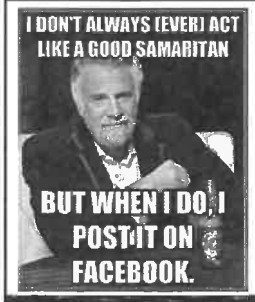
Call Early, Call Often

When to Call

- Prolonged extrication for a high-priority
- The patient is in a remote area.
- Stabbing or Gunshot wound to abdomen, back, chest or neck (stable)
- MVC (motor vehicle crash) with ejection
- MVC (motor vehicle crash) Highway speeds
- Death of occupant in same passenger compartment
- Falls ≥ 20 ft (Children: >10 ft or 2- 3 x height of the child)
- Separation of rider from motorcycle-Highway speeds
- Pedestrian / bicyclist struck by vehicle and thrown or run over
- Vehicle rollover with unbelted passengers
- Crush Injuries
- Field Tourniquet Use

What Information do they need?

- Type of Event
- Type of Injury
- Location



(745 ILCS 49/) Good Samaritan Act.

(745 ILCS 49/75)

Sec. 75. Law enforcement officers, firemen, emergency medical technicians (EMTs) and first responders; exemption from civil liability for emergency care. Any law enforcement officer or fireman as defined in Section 2 of the Line of Duty Compensation Act, any "emergency medical technician (EMT)" as defined in Section 3.50 of the Emergency Medical Services (EMS) Systems Act, and any "first responder" as defined in Section 3.69 of the Emergency Medical Services (EMS) Systems Act, who in good faith provides emergency care, including the administration of an opioid antagonist as defined in Section 5-23 of the Substance Use Disorder Act, without fee or compensation to any person shall not, as a result of his or her acts or omissions, except willful and wanton misconduct on the part of the person, in providing the care, be liable to a person to whom such care is provided for civil damages.

(Source: P.A. 99-480, eff. 9-9-15; 100-759, eff. 1-1-19.)

Goals:

To encourage responders to provide potentially life-saving care to those in need
To protect responders from civil liability for any acts, omissions, or injuries occurred when delivering emergency care to victims

For Good Samaritan Laws to be Applicable...

The situation must be an **Emergency**
The services rendered must be **Voluntary**
The victim receiving care must be accepting of it - obtain **Consent** whenever possible
The care provided must be rendered **Free of charge**
The care performed must be done **"In good faith"** to help

Mass Casualty Incident (MCI)

- Definition
  - *An incident which produces multiple casualties such that emergency services, medical personnel and referral systems within the normal catchment area cannot provide adequate and timely response and care without unacceptable mortality and/or morbidity.*

GOAL

- To save the largest number of people of a multiple casualty incident

THE INITIAL PROBLEM ON SCENE

V
S

THE OBJECTIVE

Triage

When do we need to triage ?

When the incident out ways the number of rescuers!!

SALT TRIAGE

SALT Triage

- **SALT** triage = Sort, Assess, Lifesaving Interventions, and Treatment and/or Transport
- Developed in effort to create a single, nationally recognized triage protocol for mass casualty incidents.
- Designed based on best practices from other triage protocols.
- Includes four core concepts
  - Voice commands
  - Interventions
  - Separation of expectant and deceased
  - Simple application for any age

Triage Categories

- **Red (1)**= immediate - critical patient
- **Yellow (2)** = delayed - serious patient that could wait until all reds have been transported
- **Green(3)** = ambulatory / hold – minor injuries
- **Black** = deceased (expectant)

Principles of Moving Patients Safely

First is your SAFETY
Lifting / Moving is the # 1 cause of off the job injuries

Body Mechanics

- Proper and efficient use of your body to facilitate lifting and moving
- Estimate the weight.
- Make a plan.
- Know YOUR physical limitations.

Principles of Moving Patients Safely

Proper and efficient use of your body to facilitate lifting and moving

- Position your feet properly.
- Lift with your legs.
- When lifting object with one hand, avoid leaning to either side.
- Keep weight as close to your body as possible.
- Minimize twisting during lift.

- **Only move patient when absolutely necessary.**

Types of Moves

EMERGENT MOVES – VS- NON- EMERGENT MOVES

EMERGENT MOVES

An emergent move, also called an emergency move
- When scene is hazardous
- When patient requires immediate repositioning
- When you must reach another patient who requires lifesaving care

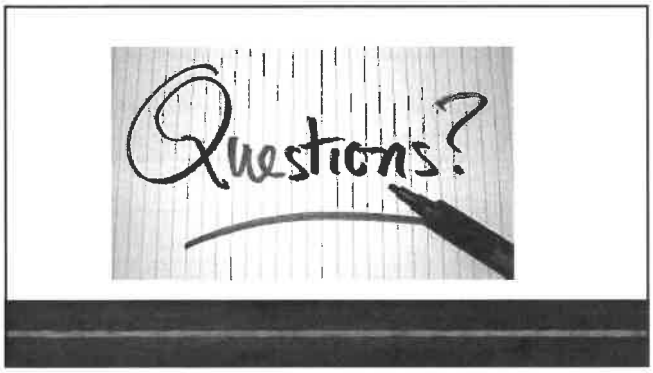
Most common Emergency move is a Drag
- Patients pulled by their clothes, feet, or shoulders or by using a blanket
- Initiated from shoulders by pulling along the long axis of body
- Avoid dragging patient sideways.

NON- Emergent Moves

- Extremity Lift
  - Two rescuers
    - One lifting patient's arms
    - One lifting patient's legs
  - Ideal for moving patient from ground
  - Do not perform if head, neck, spine, shoulder, hip, or knee injury, or suspected fractures to extremities.
  - If they can walk, LET Them!!

Reference List:

American Heart Association
- Heartsaver First Aid Student manual, 2020
- Friends and Family CPR Student Manual, 2015
- Stop the Bleed Course - https://www.stopthebleed.org/
- NAEMT TECC Course Manual 2ND EDITION
- ITLS : International Trauma Life Support
- Emergency Medical Responder 11th Edition, 2019
- Google Images


Questions?

Module 2- Medical Emergencies

Define the following terms:

- ABCs
- AVPU scale
- Nature of illness (NOI) -v- Mechanism of injury (MOI)
- Primary assessment
- Pulses- Where to find?
- Signs
- Symptoms

Module 2 - Objectives

- Discuss common Medical Emergencies and there Treatment.
- Demonstrate how to use an Epi-Pen
- Demonstrate and discuss how and when to administer Narcan.

Finding the Problem Assessment

NOW WHAT?

A- Airway...Is it open or is it blocked?
B- Breathing... Is he breathing (chest rise & fall)
C- Circulation... Does he have a pulse?

1..2..3

Any major life threats that could kill him in the next 3 seconds?

Common pulse points

Radial Pulse- Inside of wrist (Most common)

Carotid Pulse- On either side of the neck

Brachial Pulse- Just above the bend of the elbow
Most common for children

Determining level of consciousness

Awake	Patient is awake
Verbal	Patient responds to a verbal stimulus
Pain	Patient responds to a pain stimulus
Unresponsive	Patient is unresponsive to stimulus

Nature of Illness

Illness/ Health condition
Not caused by force

-V-

Outside physical force causing injury

Mechanism of Injury

Breathing Problems

Understanding Adequate Breathing:

- Sufficient to support life?
- Easy and effortless?
- Able to speak full sentences without having to catch breath?

NORMAL RESPIRATORY RATES	
Newborns	44 respirations per minute
Infants	20-40 respirations per minute
Children (1-7 years)	18-30 respirations per minute
Adults	12-20 respirations per minute

Breathing Problems

Signs of normal breathing

- -Rise and fall of chest
- -Listen for air entering and leaving nose and mouth.
- -Observe skin color.
- -Observe level of responsiveness.
- -Feel for air moving into and out of nose and mouth in unresponsive patients

Signs of abnormal breathing

- -Increased work of breathing
- -Absent or shallow rise and fall of chest
- -Little or no air heard or felt at nose or mouth
- -Noisy breathing or gasping sounds

Allergic Reactions

SIGNS / SYMPTOMS
- Breathing Difficulty
- Reddening of skin or rash
- Swelling
- Difficulty Speaking

TREATMENT
- Scene Safety
- Remove from exposure
- Call for EMS (If not already enroute)
- Monitor for SIGNS of Multiple body systems
- Provide Supportive Care
- MONITOR FOR THE NEED FOR CPR

Anaphylaxis

SIGNS / SYMPTOMS
- **Breathing Difficulty**
- **Reddening of skin or rash**
- **Swelling**
- **Difficulty Speaking**

TREATMENT
- Scene Safety
- Remove from exposure
- Call for EMS (If not already enroute)
- Assist with patient's Epi-Pen if trained to do so
- Provide Supportive Care

MONITOR FOR THE NEED OF CPR

Just another routine traffic stop right?

NOTHING IS ROUTINE!
ARE YOU PREPARED?

Heart Attack

Typical signs and symptoms
- -Pain, pressure, tightness, or heaviness to the chest/upper abdomen
- -Pain or discomfort behind the sternum
- -Pain radiating to the shoulders or arms
- -Pain to the back, neck, jaw or upper abdomen

Atypical signs and symptoms
- -"Flu-like" signs and symptoms such as nausea and vomiting
- -Indigestion
- -Feeling of general weakness

Heart Attack

Emergency Care

-Provide emotional support and reassure the patient.
-Allow the patient to maintain a position of comfort
-Monitor ABCs
-If patient looses consciousness Check for a signs of life, Start CPR if needed.
- Notify EMS in change of patients condition

Fainting

Passing out, blacking out, a sudden loss of consciousness. This partial or complete loss of consciousness is caused by a temporary reduction of blood flow to the brain. The person usually falls or slumps over.

It can be a minor, temporary occurrence or it can be caused by a medical condition

Reasons For Fainting

- Emotional shock
- Pain
- Lack of food
- Over-exertion
- Dehydration
- Exhaustion
- Sight of blood
- Standing up suddenly
- Standing in hot conditions
- Heart rhythm changes or heart conditions

Fainting

Treatment

Check for breathing.

- If the person isn't breathing, begin CPR. Advised EMS enroute.
- If they are breathing but still unresponsive roll them on their side Recovery Position

If the person was injured in a fall associated with fainting, cuts or injuries appropriately.

Recovery Position

Diabetic Emergencies

- Diabetes

Disease that prevents individuals from producing enough insulin or from using insulin effectively

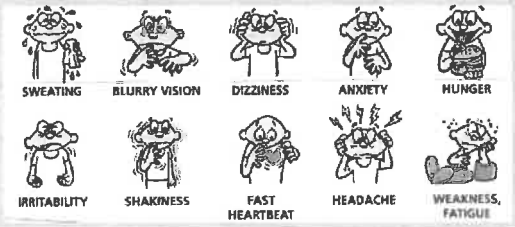
- Insulin

Hormone released by pancreas
Allows glucose (blood sugar) to enter cells to be used as energy

Hyperglycemia = High Blood Sugar
Gradual onset
Causes of high blood sugar
- Not taking enough insulin
- Eating too much sugar

Hypoglycemia = Low Blood Sugar
Rapid onset
Causes of low blood sugar
- Taking too much insulin
- Eating too little sugar
- Overexertion

Diabetic Emergencies

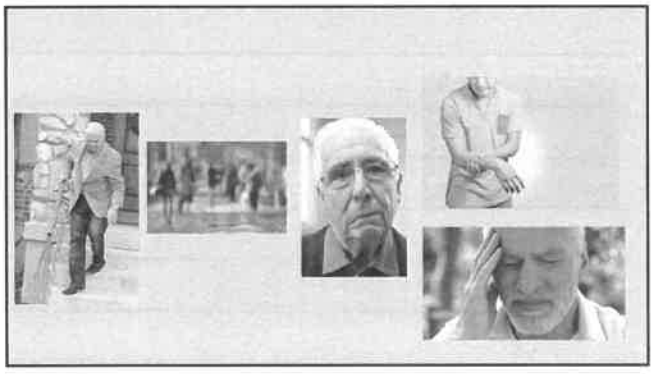


Diabetic Emergencies

Emergency Care

- If patient is able to check their blood sugar, Have them do it. If trained you may assist.
- **If in the Emergent setting with Altered Mental status treat as Hypo – Low Blood Sugar**
- If the patient is able to swallow encourage the to eat or drink something that contains sugar. Such as Candy or Orange juice, Soda
- If the patient is not alert, do NOT give them any anything by mouth

  This may cause an airway obstruction!



Stroke

If you or someone you know is having signs of a stroke,
BE FAST

B	E	F	A	S	T
Balance	Eyes	Face	Arms	Speech	Time

Seizures

Types of Seizures
- Tonic- Jerking Movements
- Clonic- Rigid, Muscle Stiffness
- Tonic Clonic- Rigid Full body Jerking Movements
- Absence- Blank Stare, Gaze
- Atonic – Loss of Muscle tone

Signs and Symptoms
- Jerking Movements Full or partial
- Blank Stare, Blank Gaze
- Confusion
- Nausea / Vomiting
- Loss of muscle control
- Loss of bowl or bladder

Seizures

Questions
- Do they have a Seizure History?
- Do the take medication for seizures?
- Any Trauma to the head ?
- How long did they last ?
- What did they look like ?
- How many have they had?

TREATMENT
- PPE
- PROTECT IN PLACE
- ADVISE DISPATCH OF NEED FOR EMS
- PROVIDE SUPPORTIVE CARE
- MONITOR FOR THE NEED OF CPR

Shock

Signs and Symptoms of Shock

- -Increased pulse
- -Increased breathing rate
- -Restlessness or combativeness
- -Pale, cool, and moist skin
- -Thirst
- -Weakness
- -Nausea and vomiting
- -Loss of responsiveness

Care for Shock

- -Support the ABCs
- -Keep patient lying flat.
- -Control all external bleeding

Hypovolemic Shock is the #1 preventable type of shock.

STOP THE BLEED

Overdose

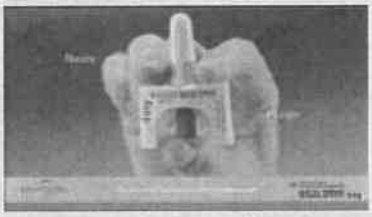
Signs and symptoms of use and overdose may mimic other medical conditions.

- Shaking, Anxiety, Nausea, Confusion, Irritability, Sweating, increased pulse and breathing
- Look for Track marks on patients arm, drug paraphernalia on scene

-Withdrawal from drugs varies patient to patient and drug to drug.

Lethal Doses

Using NARCAN



https://youtu.be/KEOq6fUWNtA

720 ILCS 570/414

A **person who, in good faith, seeks or obtains emergency medical assistance for someone experiencing an overdose shall not be arrested, charged, or prosecuted for a violation of Section 401 or 402 of the Illinois Controlled Substances Act**, Section 3.5 of the Drug Paraphernalia Control Act, Section 55 or 60 of the Methamphetamine Control and Community Protection Act, Section 9-3.3 of the Criminal Code of 2012, or paragraph (1) of subsection (g) of Section 12-3.05 of the Criminal Code of 2012 if evidence for the violation was acquired as a result of the person seeking or obtaining emergency medical assistance and providing the amount of substance recovered is within the amount identified in subsection (d) of this Section. The violations listed in this subsection (b) must not serve as the sole basis of a violation of parole, mandatory supervised release, probation, or conditional discharge, or any seizure of property under any State law authorizing civil forfeiture so long as the evidence for the violation was acquired as a result of the person seeking or obtaining emergency medical
Assistance in the event of an overdose

(c) A person who is experiencing an overdose shall not be arrested, charged, or prosecuted for a violation of Section 401 or 402 of the Illinois Controlled Substances Act, Section 3.5 of the Drug Paraphernalia Control Act, Section 9-3.3 of the Criminal Code of 2012, or paragraph (1) of subsection (g) of Section 12-3.05 of the Criminal Code of 2012 if evidence for the violation was acquired as a result of the person seeking or obtaining emergency medical assistance and providing the amount of substance recovered is within the amount identified in subsection (d) of this Section. The violations listed in this subsection
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- Google Images
- Youtube video

QUESTIONS?

Module 3- Injury Emergencies

Module 3 - Objectives

- Closed wounds
- Open wounds
- Abrasions & Lacerations
- Puncture Wounds
- Wound packing
- Impaled objects
- Avulsions
- Amputations

Module 3 - Objectives

- Open chest injuries
- Occlusive and Flutter- Valve Dressings
- External Bleeding
- CAT Tourniquet
- Hemostatic Agents
- Burns
- Splinting and Bandaging

Closed Wounds

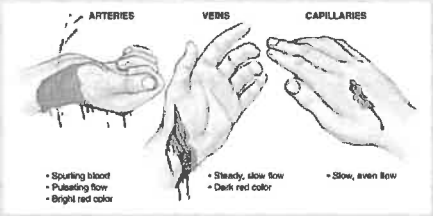
-Injury in which skin not broken
-Presence of swelling and/or bruises
-Large bruises can mean serious blood loss.

Fractures or extensive tissue damage under site of bruise

Open Wounds

-Skin has been damaged
-Obvious bleeding

Types of Bleeding



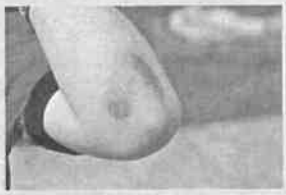
Direct Pressure

- Locate the source of the bleeding
- Apply direct pressure to wound with clean dressing.
- Don't release pressure to check the wound
- If the bleeding continues add gauze and think about next steps.

The #1 cause of preventable death after injury is bleeding

Abrasions

-Minor open wounds
-Skinned elbows and knees
"road rash," and "rug burns"



Lacerations

Smooth cuts, or incisions
-The edges of a smooth cut appear straight.
-Deep incisions can cause severe tissue damage and life.
Razor blades, knives, and broken glass
Jagged cuts
-These are tears with rough edges.
-Usually, they occur when the skin is cut by an object that does not have a very sharp edge.
-May be produced from the impact of a blunt object

Lacerations

-V-

Smooth

Jagged

Lacerations

Treatment

Locate the source of the bleed
Use Direct Pressure to try and stop the bleed
Monitor for signs for signs of shock
Monitor the need for CPR and provide it if needed

Puncture Wounds

- Objects such as knives, nails, and ice picks produce puncture wounds.
- Object puncturing body will tear through skin and usually proceed in straight line, damaging underlining tissues.
- When dealing with puncture wound, assume extensive internal injury and internal bleeding.
- Always check for an exit wound.

Impaled Objects

Impaled objects are treated the same as puncture wounds except you:
-Stabilize impaled object by using bulky dressings.
-Do not remove the object unless the object is an airway obstruction or prevents CPR from being performed when needed.



Avulsions

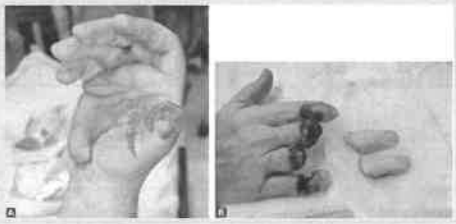


Avulsions

-Tearing loose or tearing off of large flaps of skin
-If avulsion occurs, gently fold skin back to normal position prior to applying direct pressure.

Treatment:
- Bleeding control
- Save and preserve avulsed or amputated part.
- Wrap body part in sterile dressing.
- Place into plastic bag or wrap in plastic wrap

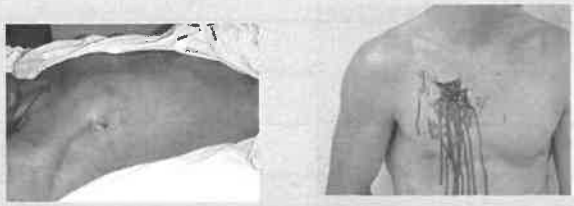
Amputations



Amputations

Loss or removal of a body part
Common amputated body parts
-Finger, toe, hand, foot, arm & leg
Treatment
-Expose the wound
-Control bleeding and provide care as you would for open wound
-Provide care for shock
-Treat amputation the same way as an avulsed part.
- Save and preserve part
- Make sure body part is taken to hospital with patient

Open Chest Injuries



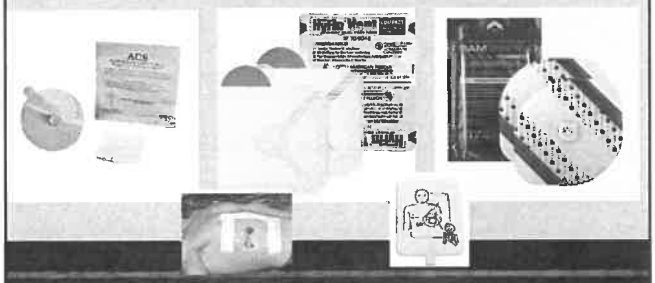
Open Chest Injuries

Penetrating injury
-Bullet, Knife, Glass, Steel rods, Pipes

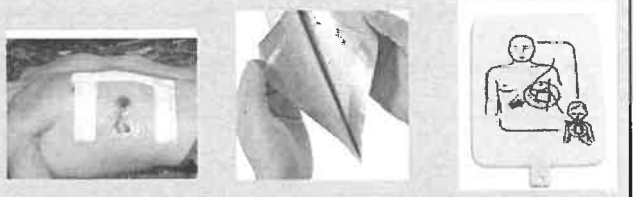
Sucking chest wound
-Open chest wound characterized by sucking sound each time patient inhales.

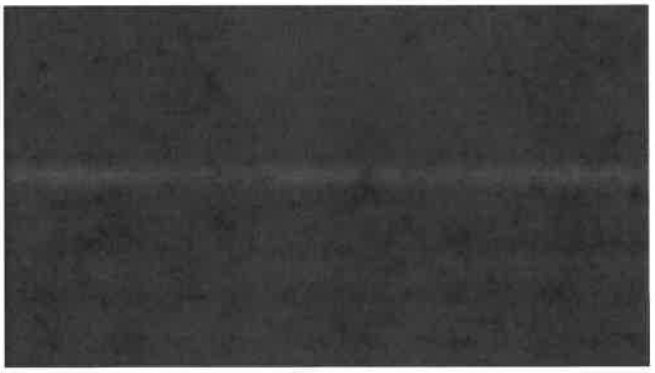
Tension pneumothorax
-Air builds up inside chest cavity, causing excessive pressure on one side of chest.

Chest Seals



Modified Chest Seals





Hemostatic Dressings

Wound Packing

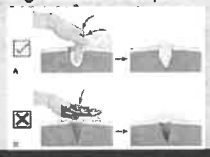
Wounds That Can Lead to Death from Bleeding (2 of 3)

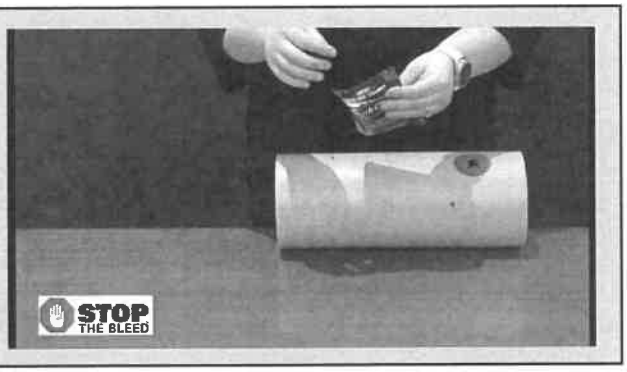
Torso Junctional Wounds

- Neck, shoulder, and groin
- Bleeding can be controlled by direct pressure and wound packing

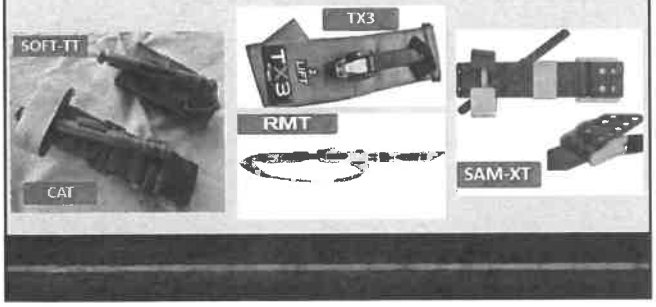
Wound Packing

- Locate the source of the active bleed
- Apply direct pressure until supplies are ready
- Remove Clothing around the wound
- Pack the wound with Hemostatic dressings or Gauze
- Continue to stuff the wound until bleeding subsides or stops

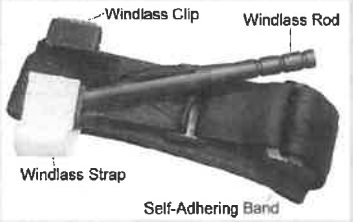




Tourniquet Types



CAT Tourniquet



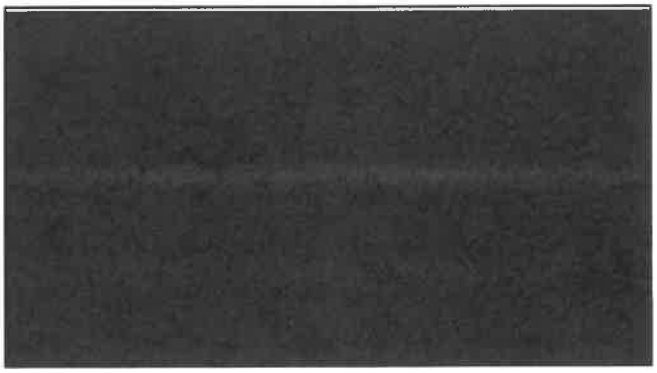
Tourniquet Application

Tourniquet Application

- Apply immediately if life-threatening bleeding is seen from an arm or a leg
- The tourniquet can be placed right on top of clothing, if necessary
- Place 2 to 3 inches above the bleeding wound (higher on the arm or leg)
  - BUT...
    - DO NOT apply directly over the knee or elbow joints
      - The bones of the joint will prevent the tourniquet from compressing the artery, so you won't stop the bleeding
    - DO NOT apply directly over a pocket that contains bulky items
      - Anything in a pocket that is underneath a tourniquet will interfere with the function of the tourniquet
- Tighten the tourniquet until bleeding stops

Tourniquet Application

- Tourniquets HURT when applied effectively (they HURT A LOT)
  - Explain this fact to the victim
- Pain *DOES NOT* mean you put on the tourniquet incorrectly
- Pain *DOES NOT* mean you should take the tourniquet off



Common Mistakes

- Not using a tourniquet or waiting too long to apply it when there is life-threatening bleeding
- Not making the tourniquet tight enough to stop the bleeding
- Not using a second tourniquet, if needed
- Periodically loosening the tourniquet to allow blood flow to the injured extremity
  - Causes unacceptable additional blood loss—DO NOT LOOSEN
- Removing a tourniquet
  - Only a paramedic or physician should loosen or remove it

Burns

Layers of the skin

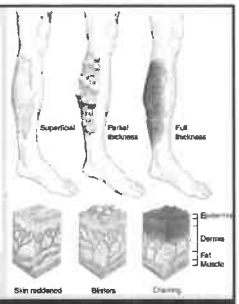
- Epidermis
- Dermis
- Subcutaneous layer

Types of Burns

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

Table 17-2. Characteristics of Various Depths of Burns

	Superficial (First Degree)	Partial Thickness (Second Degree)	Full Thickness (Third Degree)
Cause	Sun or minor flash	Hot liquids, flashes, or flame	Chemicals, electricity, flame, hot metals
Skin color	Red	Mottled red	Pearly white and/or charred, translucent and parchment-like
Skin surface	Dry with no blisters	Blisters with weeping	Dry with thrombosed blood vessels
Sensation	Painful	Painful	Anesthetic with peripheral pain
Healing	3–6 days	2–4 weeks, depending on depth	Requires skin grafting



- Most burn patients who die in the prehospital setting die from an occluded airway, toxic inhalation, other trauma, or infection post Burn.

Respiratory System
- Burns and inhalation of superheated air can cause obstruction of the airway.
- Smoke and toxic gas inhalation can cause respiratory compromise and poisoning.
- Circumferential chest burns can impair ventilation

Circulatory system
- Burn shock can develop after a few hours.
- Edema can further compromise tissue perfusion.
- Burn injuries can cause extreme fluid loss.

Nervous and musculoskeletal systems
- Loss of function of extremities
- Loss of Feeling

Treatment

- Scene Safety / BSI
- If safe to do so remove the patient form the source or source from the patient
- Maintain ABC's
- Control Any life-threatening bleeding.
- Remove any tight or restrictive unattached clothing / Jewelry
- If still burning able cool the burn area with cool water
- Cover the burn with a Dry, Sterile, Non-Stick Dressing

Musculoskeletal Injures

Fracture
Any time bone is broken, chipped, cracked, or splintered

Dislocation
One end of a bone that is part of a joint is pulled or pushed out of place.
Force of dislocation may cause a fracture of the adjoining bone.

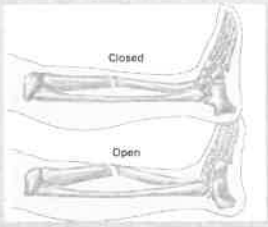
Sprain
Excessive twisting forces cause ligaments and tendons to stretch or tear.

Strain
Caused by overexerting, overworking, overstretching, or tearing of a muscle

Types of Fractures

Closed injury
- No break in skin

Open injury
- Open puncture through the skin.



Signs and Symptoms

Angulated (deformed) injuries

- Extremity is bulging, bent, or angulated where it normally should be straight.
- Exposed bone
- Pain
- Swelling
- Discoloration
- Deformity
- Inability to move a joint or limb
- Numbness or tingling sensation
- Loss of pulse

Treatment

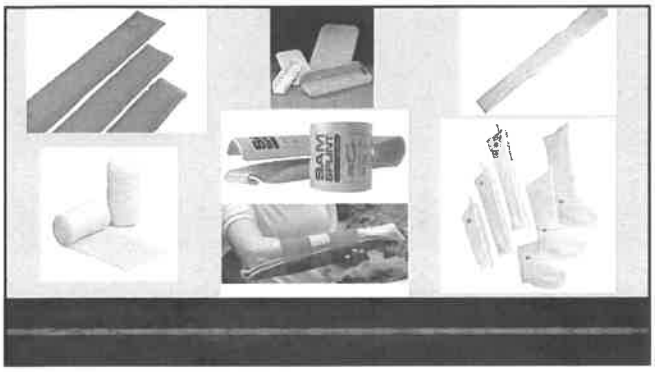
- Scene Safety / BSI
- Control Any life-threatening bleeding.
- Assess the need for CPR
- Fracture - Apply ice or cold pack if available to prevent swelling
- Sprains – Apply ice or cold pack if available to prevent swelling
- Strains- Apply Heat pack if available
- Splint in position found or position of comfort
- Provide supportive care

Splinting

Allows reposition and transfer of patients while minimizing movement of injury

General Rules for Splinting

- Assess and reassure patient.
- Expose injury site.
- Control all major bleeding.
- Dress open wounds.



Reference List:

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- Heartsaver First Aid Student manual, 2020
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- Google Images
- Youtube video

MODULE 4
ENVIRONMENTAL EMERGENCIES

OBJECTIVES

- Explain the four ways the body loses excess heat.
- Explain the appropriate assessment and care for a patient experiencing a heat-related emergency.
- Differentiate the signs and symptoms of heat exhaustion and heat stroke
- Describe the signs and symptoms of a cold-related emergency.
- Explain the appropriate assessment and care for a patient experiencing a cold-related emergency.

OBJECTIVES

- Explain the appropriate assessment and care for a patient experiencing an emergency related to a bite or sting
- Describe common methods used for water-related rescue.
- Explain the hazards related to water rescue.
- Describe the safety concerns involving ice-related incidents.
- Value the importance of proper training when attempting to conduct a water rescue.

OBJECTIVES

Define the following terms:

- Frostbite
- Heat cramps
- Heat exhaustion
- Heat stroke
- Hyperthermia
- Hypothermia

Temperature and the Body

- Temperature regulation
  - Process of maintaining proper body temperature
- Hyperthermia – High Body Temp
  - When heat gain occurs faster than body can shed heat.
- Hypothermia – Low Body Temp
  - When body loses heat faster than it can produce heat

Heat Emergencies

- Heat Cramps
  - Signs and Symptoms
    - Painful muscle spasms following strenuous activity in hot environment
    - Usually caused by electrolyte imbalance
    - Patient fully alert and sweaty with normal to warm skin temperature
- Heat Exhaustion
  - Signs and Symptoms
    - Mild to moderate perspiration
    - Warm or cool skin temperature
    - Skin color may be normal to pale.
    - Weakness, exhaustion, dizziness
    - Nausea and vomiting
    - Muscle cramps
    - Rapid, shallow breathing
    - Rapid, weak pulse

Heat Emergencies

- Heat Stroke
  - Temperature-regulating mechanisms fail.
    - Unable to get rid excess heat.
  - Core temperature allowed to rise uncontrolled, causing body to overheat
  - It is a life-threatening emergency.

Signs and Symptoms

- Confusion
- Lack of sweating
- Skin red, hot and dry
- Rapid, shallow breathing
- Rapid pulse
- Weakness, exhaustion, dizziness
- Nausea and vomiting
- Convulsions (Seizures)

Heat Emergencies

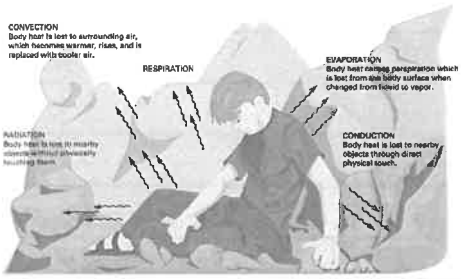
- Emergency Care for Heat Exhaustion
  - Take appropriate BSI precautions.
  - Ensure breathing is adequate.
  - Move patient to cool area.
  - Loosen or remove excess clothing.
  - Cool patient by fanning or applying small amounts of cool water
  - Encourage them to sip on water or an electrolyte based drink
  - Wet the skin or immerse the patient in cool water.
    - Do not induce shivering.

Heat Emergencies

- Place cold packs or ice bags in pulse points.
  - Under armpits
  - On groin
  - Each side of neck

Temperature and the Body

- Radiation
  - Body heat is emitted into environment.
- Conduction
  - Loss of body heat through direct contact with object or ground
- Convection
  - Loss of body heat when air close to skin moves away, taking body heat with it
- Evaporation
  - Loss of body heat through evaporation of moisture in form of sweat on skin
- Respiration
  - Heat leaves body with each breath.



COLD EMERGENCIES

- Hypothermia
  - Body loses heat faster than it can be generated.
  - Young children and elderly more susceptible
  - Blood is shunted from the extremities to the body's core.
    - Protects the vital organs

Signs and Symptoms

- Cool or cold skin temperature
- Shivering (Absence of shivering is a late sign.)
- Altered mental status
- Lack of coordination
- Muscle rigidity Complaints of joint/muscle stiffness
- Impaired judgment / Confusion

COLD EMERGENCIES

- Emergency Care for Hypothermia
  - Take appropriate BSI precautions.
  - Ensure adequate breathing.
  - Remove patient from cold environment.
  - Do not allow patient to walk or exert himself/herself in any way.
  - Protect patient from further heat loss.
  - Remove wet clothing and place blanket over and under patient.

COLD EMERGENCIES

- Localized Cold Injury
  - Cold injury or frostbite
    - Freezing or near freezing of body part
- Typically occurs first in the extremities
  - Fingers and toes
  - Ears
  - Face
  - Nose
- Late Signs and Symptoms
  - White, waxy skin
  - Firm to frozen feeling upon palpation

COLD EMERGENCIES

- Emergency Care for Cold Injury
  - Take appropriate BSI precautions.
  - Ensure adequate breathing.
  - Remove patient from cold environment.
  - Remove wet or constrictive clothing.
  - Cover affected part.
  - Remove jewelry from injured part.
  - Do not rub or massage it.
  - Do not rewarm or apply heat.
  - Do not re-expose part to cold.

BITES AND STINGS

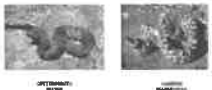
- Signs and Symptoms of Localized Reaction
  - Noticeable puncture marks on skin
  - Pain at or around injury site
  - Redness, itching at injury site

BITES AND STINGS

- Emergency Care for Localized Reaction
  - Take appropriate BSI precautions.
  - Perform scene size-up.
  - Ensure adequate breathing.
  - Scrape away bee and wasp stingers and venom sacs.
  - Do not attempt to pinch or pull out stingers.
    - Plastic credit card
  - Place cold pack over injury site.
  - Monitor for Allergic reaction / Anaphylactic Shock

Snakebites

- 4 species of venomous snakes native to Illinois.
- Cottonmouth
- Copperhead
- Massasauga Rattlesnake
- Timber rattlesnake



IDNR-October 2017

Snakebites

- Signs and Symptoms
  - Fang Bite Marks
  - Labored breathing
  - Weakness
  - Vision problems
  - Nausea and vomiting
  - Swelling to the area

WATER-RELATED INCIDENTS

- Illinois officers investigated 36 injuries were reported in, FY 2020,
- Illinois officers investigated 81 reportable boat accidents, FY 2019
- A total of 21 fatalities were reported in FFY2020

WATER-RELATED INCIDENTS

Drowning is a leading cause of death for children.

In the United States:

- More children ages 1–4 die from drowning than any other cause of death except birth defects.
- For children ages 1–14, drowning is the second leading cause of unintentional injury death after motor vehicle crashes.[1]

While children are at highest risk, anyone can drown.

Every year in the United States there are an estimated:

- 3,960* fatal unintentional drownings, including boating-related drowning—that is an average of 11 drowning deaths per day.
- 8,080* nonfatal drownings—that is an average of 22 nonfatal drownings per day.

SUBMERSED VEHICLES

- Car crashes where water submersion was the main factor make up less than 1% of traffic fatalities nationwide, according to National Highway Traffic Safety Administration
- 2004 to 2007 there was an annual average of 384 traffic fatalities in which accidental drowning was listed as one of the causes of death

WATER-RELATED INCIDENTS

- Reaching the Victim
  - Major problem is reaching victim.
  - Secure your position so you will not be pulled into water.
  - Throw objects that will float.
  - Throw flotation devices attached to line.
  - Never attempt water rescue by yourself.
  - Unless trained to work in the water, do not attempt rescue

ICE-RELATED INCIDENTS

- Unless trained to work on ice, do not attempt rescue.
- Never attempt ice rescue by yourself.
- Never go onto ice that is rapidly breaking up.
- Throw line to victim or reach out with stick or pole.
- Ice rescues require special training, protective clothing, rescue equipment.
- Broken legs and hypothermia are often problems.

Reference List:

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- Heartsaver First Aid Student manual, 2020
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- Google Images
- Youtube video

CPR TRAINING

Get trained. Save a life. You'll be glad you did.

Out-of-hospital Chain of Survival

The 6 links in the adult out-of-hospital Chain of Survival are:

- Recognition of cardiac arrest and activation of the emergency response system
- Early cardiopulmonary resuscitation (CPR) with an emphasis on chest compressions
- Rapid defibrillation
- Advanced resuscitation by Emergency Medical Services and other healthcare providers
- Post-cardiac arrest care
- Recovery (including additional treatment, observation, rehabilitation, and psychological support)

Average Response Time per State

Top 5 Longest Response Times		Top 5 Shortest Response Times	
Wyoming	35 min, 44.4 sec	Illinois	6 min, 0 sec
Vermont	22 min, 56.4 sec	California	6 min, 51.6 sec
Montana	22 min, 34.8 sec	Rhode Island	7 min, 3.6 sec
North Dakota	21 min, 30 sec	Connecticut	7 min, 54 sec
Kansas	21 min, 22.2 sec	Massachusetts	8 min, 33 sec

20 Volunteers Perform CPR On Man In Grocery Store For 96 Minutes Until Paramedics Arrived

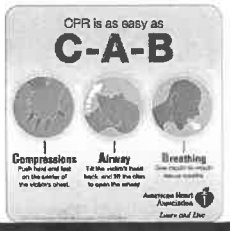
Goodhue, Minn

When a man had a heart attack in a grocery story in a remote town in Minnesota 20 people lined up and performed CPR on him for over an hour and a half until paramedics arrived and he survived

Effingham County deputies recognized for saving lives

Charleston and Eastern PD recognized for life saving actions
March 5,2019

CPR



Signs of Life

- No Response? Abnormal breathing?
- Perform CPR Immediately

Coughing? **Check for No longer than 10 Seconds**

Moving?

Breathing?

NO.... START CHEST COMPRESSIONS

YES.. ROLL TO THEIR LEFT SIDE AND LOOK FOR OTHER PROBLEMS

Compressions x 30

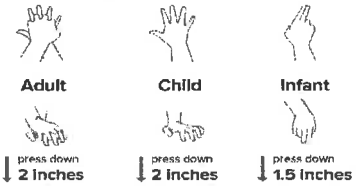
- Place two hands on center of chest
- Push hard (5cm deep) Push fast (100/min)

Compressions Push hard and fast on the center of the victim's chest

- 30 Compression's (5 Sets – 2 Min)
- 100-120 Per Minute
- Allow chest full recoil back to it original position
- Switch Rescuers every 5 Cycles or 2 Minutes Or As needed
- Minimize hand's off Time less than 10 seconds

- **Bare the Chest**
- **PLACE THE PALM OF ONE HAND IN THE CENTER OF THE CHEST (Nipple Line)**
- **PLACE YOUR OTHER HAND DIRECTLY OVER THE FIRST**
- **LOCK YOUR ELBOWS**
- **PUSH DOWN APPROX 2" FOR THE ADULT PATIENT**

Chest compressions



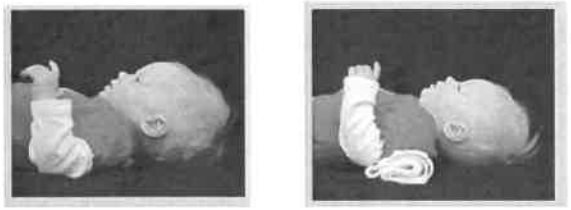
Perform 30 chest compressions at a rate of 100 per minute, letting the chest rise between each

Airway

- Push chin up and tilt head back
- Clear any obstructions with finger sweep

Airway
Tilt the victim's head back and lift the chin to open the airway

POSITIONING INFANT AIRWAY



Breaths x 2

- Use a pocket mask or bag-valve-mask
- Slow breaths, just enough for the chest to rise

Breathing
Give mouth-to-mouth rescue breaths

Circulation and CPR

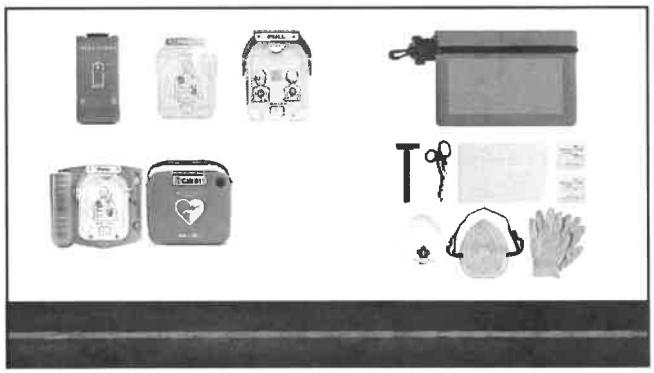
- Rates and Ratios of Compressions and Ventilations
  - Deliver compressions at rate of at least 100 per minute.
    - Avoid interrupting compressions for longer than 10 seconds.
  - Provide ventilations at ratio of two breaths for every 30 compressions.
    - Deliver each breath over one second.

Repeat cycles of **30 breaths** and **2 ventilations** until help arrives

Infant CPR


#CPRSavesLives
HANDS-ONLY
CPR
2 STEPS
TO SAVE A LIFE


AED
AUTOMATED EXTERNAL DEFIBRILLATOR
AED
AED

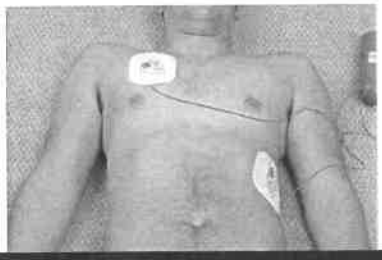


- Bare the Chest
(Remove All Clothing)

-Turn on the AED and
Follow the prompts

- Place pads on
Bare Chest
(Skin to Pad Contact)

ADULT AED PAD PLACEMENT



PEDIATRIC AED PAD PLACEMENT

- If "SHOCK" Advised

  Clear the Patient
  I'm Clear, Your Clear, Shocking!!

- Follow the prompts

- Immediately after Shocking, Resume CPR unless the patient is Coughing, Moving, or Breathing

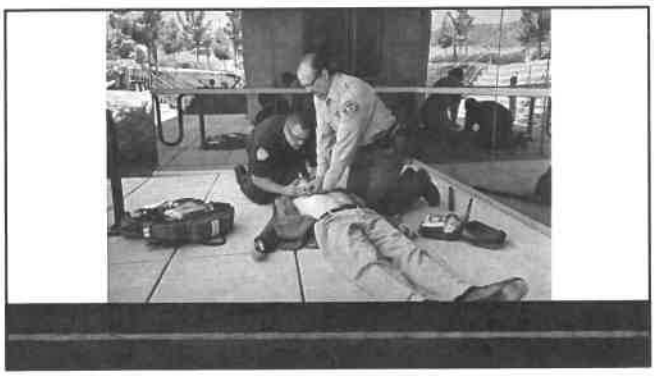
- If, Patient is breathing Roll to their side, and prepare for them to vomit

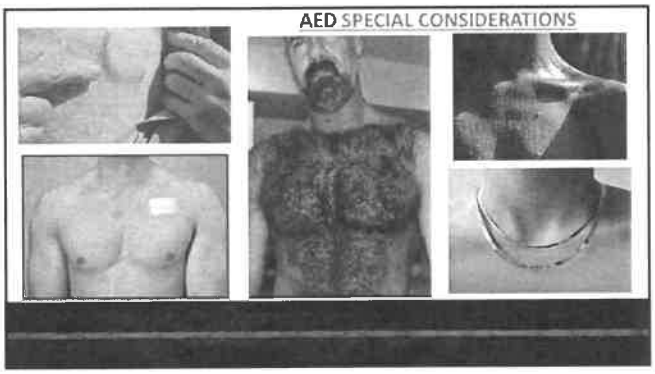
SHOCK ADVISED

Push Flashing Light

How will an AED prompt you?

- ANALYZING DO NOT TOUCH
- SHOCK ADVISED
- NO SHOCK ADVISED
- CHECK PADS





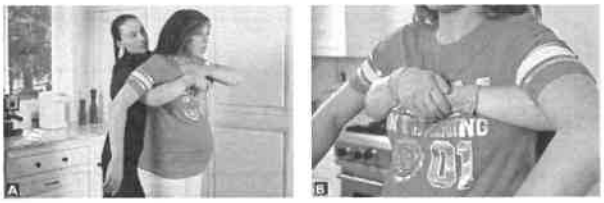
ADULT CHOKING

Mild Choking
Moving Air, Coughing etc.
- ASK THE PERSON TO COUGH OR SWALLOW
- IF PERSON CAN COUGH ALLOW THEM TO

- IF PERSON CAN NOT BREATHE OR COUGH .. **ACT FAST**

5 UPWARD / INWARD THRUSTS
CONTINUE UNTIL THE CLEAR THE OBJECT OR THE PASS OUT

Chest Thrust where you would provide Compressions



INFANT CHOKING

Remove the object with your finger ONLY if you can see it

5 Back Slap / 5 Chest Thrusts
CONTINUE UNTIL THE CLEAR THE OBJECT OR THE PASS OUT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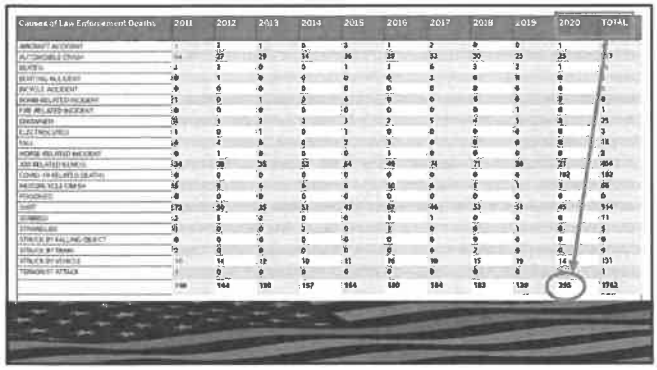
Module 6
SABA
CARE UNDER FIRE

Overview

- Reality is that Law Enforcement is Most likely to be **FIRST** on the scene during an Emergency.
- Officers must have a basic understanding and knowledge of how to provide medical aid/interventions to themselves and or their fellow officers.
- Nationally, 60,105 law enforcement officers were assaulted while performing their duties in 2020. These assaults were reported to the FBI by 9,895 law enforcement agencies. Based on these reports, there were 4,071 more officers assaulted in 2020 than the 56,034 assaults reported in 2019.



Causes of Law Enforcement Deaths	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
AIRCRAFT ACCIDENT	1	1	1	0	3	1	2	0	0	1	
AUTOMOBILE CRASH	54	27	29	34	36	28	33	30	23	25	319
BEATEN	4	3	0	0	1	1	6	3	3	1	
BEHAVIORAL ILLNESS	0	1	0	0	0	0	1	0	0	0	
BICYCLE ACCIDENT	0	0	0	0	0	0	0	0	0	0	
BOMB-RELATED INCIDENT	11	0	1	2	0	0	0	0	0	0	14
FIRE-RELATED INCIDENT	0	0	0	0	0	0	0	0	1	0	1
DROWNED	3	1	2	2	1	2	5	2	1	3	25
ELECTROCUTED	1	0	1	0	1	0	0	0	0	0	3
FALL	0	4	0	0	2	1	0	0	0	0	7
HORSE-RELATED INCIDENT	0	1	0	0	0	1	0	0	0	0	2
JOB-RELATED ILLNESS	104	38	26	22	24	46	24	21	30	27	356
COVID-19 RELATED DEATH	0	0	0	0	0	0	0	0	0	192	192
MOTOR VEHICLE-RELATED	55	3	4	5	5	10	6	5	1	3	88
POISONED	0	0	0	0	0	0	0	0	0	0	0
SHOT	170	39	28	31	43	62	46	33	33	45	514
STABBED	2	1	2	0	0	1	1	0	0	0	11
STRANGLED	0	0	0	2	0	1	0	0	1	0	4
STRUCK BY FALLING OBJECT	0	0	0	0	0	0	0	0	0	0	0
STRUCK BY TRAIN	2	0	0	0	0	0	0	2	0	0	4
STRUCK BY VEHICLE	0	14	12	10	11	10	10	15	10	14	101
TERRORIST ATTACK	1	0	0	0	0	0	0	0	0	0	1
	198	144	108	157	164	160	184	183	130	395	1763

Self Aid

Self Aid- Is that of care provided to one's self until helps arrives. Generally limited to hemorrhage control, self rescue, and cover / concealment.

Buddy Aid

Buddy Aid – Is that of care rendered by a fellow officer or officers. Generally limited to providing return / cover fire hemorrhage control, emergency extraction, and CPR.

- **STAY CALM**
- **Self Rescue / Self Contain**
- **Call for Medical Assistance and Back-up Immediately**
- **Neutralize the THREAT**
- **Return fire if required before providing medical care**
- **ADMINISTER ONLY LIFE-SAVING HEMORRHAGE CONTROL WHILE UNDER FIRE**

SABA KITS

At Minimum, Kit should contain:
- Tourniquet
- Pressure Bandage
- Tape
- Gloves
- Occlusive dressing

Casualty Movement Rescue Plan

If you must move a casualty under fire, consider the following:
- Location of nearest cover
- How best to move him to the cover
- The risk to the rescuers
- Weight of casualty and rescuer
- Distance to be covered
- Recover casualty's weapons if possible

Types of Carries for Care Under Fire

- One-person drag
- Two-person drag
- SEAL Team Three Carry
- Hawes Carry

Drags

- May be the safest, simplest technique
- Pull the patient along the long axis of the body.
- Keep spinal column in line.
- Grasp inside collar of officer's vest.
- Support the officer's neck with your forearms.
- Limit motion of head and neck.

One-Person Drag

Two-Person Drag

SEAL Team Three Carry

Hawes Carry

SEAL Team Three Carry

K9 Care

Emergency transport of an injured law enforcement K9 can be life-saving.

Illinois, Mississippi, New York, and California.passed laws allowing EMS to police K9s that are injured in the line of duty as long as no human requires transport at the same time.

https://www.k9medic.com/product/k9-medic-k9-handler-fak-basic-edition/

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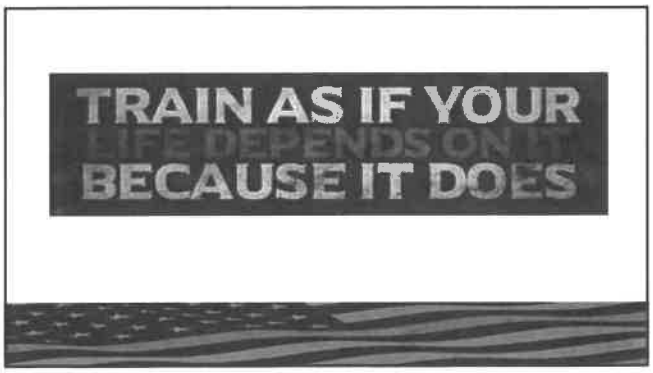
- Emergency Medical Responder 11th Edition, 2019
- Google Images


TRAIN AS IF YOUR
LIFE DEPENDS ON IT
BECAUSE IT DOES