INFANTS AND CHILDREN
Lesson Objective:

- Identify the signs, symptoms and treatments of the common pediatric emergencies.
Overview:

- The Pediatric Patient
- Common Medical Conditions
- Traumatic Injuries
- Child Abuse and Neglect
Overview:

- Transporting Infants and Children
- EMS Response to Pediatric Emergencies
The Pediatric Patient

- Pediatrics - medical care devoted to the young

Children to the age of 18
The Pediatric Patient

- **Infants**
  - birth to 1 year
  - first 30 days referred to as neonate
The Pediatric Patient

- Toddlers
  - ages 1-3 years
The Pediatric Patient

- Preschool
  - ages 3-6 years
The Pediatric Patient

- School-age
  - ages 6-12 years
The Pediatric Patient

- Adolescents
  - ages 12-18 years
Specific Medical Problems

- Major cause of death
  - Infants
    - related to birth
    - Developmental stages
      - Trauma (MVA)
Assessing Infants and Children

- Infants
  - Keep with parents
  - Keep warm
  - Stethoscope and hands are warm
  - Assess breathing before touching
  - Heart and lungs first, head last
Assessing Infants and Children

- Children
  - Will be frightened
  - Dislike being touched by strangers
  - Afraid of needles
  - Resist O2
Children (cont.)

- Do not separate from parents
- Reassure them they were not bad
- Respect their modesty
- Treat adolescents as if they were adults
Common Medical Conditions

- Airway Obstruction
  - Partial Airway Obstruction
    - Still able to breathe
    - Place in comfortable position
    - Administer high-flow $O_2$
    - Remove foreign body
    - Limit assessment to ABCD
    - Do not agitate
    - Prompt transport
Airway Obstruction

- Complete Airway Obstruction
  - Chest does not rise and fall
  - Decrease LOC
  - Cyanosis
  - Inability to cry or speak
  - Perform abdominal thrust maneuver
  - Assist ventilation’s with BVM
  - Transport
Other Respiratory Emergencies

Signs of Respiratory Problems

- Early Distress
- Severe Distress
- Respiratory Arrest
Respiratory Problems

- Early Distress
  - Audible wheezing
  - Grunting
  - Stridor
  - Nasal Flaring
  - Use of accessory muscles
Respiratory Problems

- Severe distress
  - Respiration's more than 60 breaths/min
  - Cyanosis
  - Drooling
Respiratory Problems

Severe distress (cont.)
- Decreased muscle tone
- Altered level of consciousness
- Slow capillary refill
- Use of accessory muscles
Respiratory Problems

- Respiratory Arrest
  - Fewer than 10 breaths/min
  - Unconscious and unresponsive
  - Limp muscle tone
  - Heart rate less than 80 beats/min
  - Distal pulses weak or absent
  - Full ventilatory support with BVM & CPR
Seizures

- Common among children
- Rarely life threatening
- Causes great anxiety
- Most episodes last 15 seconds or less
- May lose bladder control
- Common with high fever
Seizures

Other causes

- Brain or CNS infections
- Poisoning
- Trauma
- Inadequate O₂
- Hypoglycemia
- Unknown reasons
Treatment

- Determine cause
- MOA
- Assist ventilation's if cyanotic
- Transport
- Obtain history of episode
Altered Level of Consciousness

- Hypoglycemia
- Poisoning
- Infection
- Insufficient O$_2$
- Head injury
- Seizure episode
Poisoning

- Gather information about poison
- Bring it to hospital
- ? activated charcoal
- Prompt transport
- Monitor LOC
- Prepare to provide BLS
Other Respiratory Emergencies

- **Croup** - A viral illness that causes acute swelling of the lining of the larynx below its opening.

- **Epiglottitis** - Bacterial infection that produces severe swelling of the epiglottis, the flap of tissue that protects the opening of the larynx.
Croup and Epiglottis

Signs & Symptoms

- Fever
- Progressive respiratory difficulty
- Barking, brassy cough and hoarseness
- Progressive and excessive muscular effort with breathing
Treatment

- Never use tongue blade, finger, or artificial airway
- Avoid back-blows & abdominal-thrust maneuver
- Sniffing position
TX (cont.)

- $O_2$
  - moist - epiglottis
  - cool mist for croup

- Suction secretions and transport
Fever

- Meningitis
- Heat-Related Emergencies
- Febrile Convulsions
Meningitis - A viral or bacterial infection of the membranes covering the brain and spinal cord

- Extremely serious
- Hot and obviously sick
- Headache and stiff neck
- Sore throat and URI prior
- Rapid transport
- Alert for seizures!
Heat related emergencies

- Most dangerous fevers
- Same care for child as adult
- Reduce body temperature
- Transport
- Monitor carefully
Febrile Convulsions
- Usually last less than 15 minutes
- Rarely dangerous
- No special treatment other than airway management
Abdominal Pain

Appendicitis

- Most serious cause of abdominal pain in childhood
- Ages of 10-25 years
- Crampy pain
- Pain starts over the umbilicus and rapidly moves to the RLQ
Appendicitis (cont.)

- Pain becomes steady and severe
- Nauseated, may vomiting, irritable or fussy with no appetite
- Low grade fever is common
- Transport all children with abdominal pain
- Should not try to determine the cause
Abdominal Pain

- Dehydration
  - Associated with abdominal pain
  - Common with infants and children
  - May cause shock
Contagious Diseases

- Measles
- German Measles
- Chicken pox
- Mumps

Treatment?
Shock

- Rarely result of Heart Condition
- Meningitis
- Blood Infection

- Dehydration*
- Abdominal injury
- Blood Loss*
Shock

S&S

- Rapid heartbeat
- Delayed capillary refill
- Pale, cool, clammy skin
- Weak or absent peripheral pulses
- Altered level of consciousness
Shock

- Late indicator - low systolic blood pressure
  - < 50 mm Hg in a child under 5 years
  - < 60 mm Hg in a child
  - < 70 mm Hg in a teenager or young adult
<table>
<thead>
<tr>
<th>Treatment</th>
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<tr>
<td>MOA</td>
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<tr>
<td>C-spine</td>
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<tr>
<td>Dress obvious wounds</td>
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<tr>
<td>Splint fractures</td>
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<td>Elevate feet</td>
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<td>Keep warm</td>
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<td>Handle gently</td>
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<td>NPO</td>
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Near Drowning

- Ventilation is top priority
- Other considerations
  - Spinal injuries
  - Hypothermia
  - Alcohol or drug use in adolescents
- Prompt transport
Sudden Infant Death Syndrome (SIDS)

- Cause unknown
- Occurs during sleep
- Between the ages of 2-6 months
- Anguished, severely disturbed parents
BLS before and during transport
- Continue until baby is pronounced dead by a physician
- Notify MCC
- Remain alert for signs of child abuse
The Basic Principles of Trauma Management

- MOA
- C-spine
- Control bleeding
- Splint musculoskeletal injuries
Head, Neck, and Spinal Injuries

- Usually caused by motor vehicle accidents, falls, or diving mishaps
**Head, Neck, and Spinal Injuries**

**Treatment**
- Do not bend neck or back
- MOA
- Assist ventilation's
- Avoid urge to pick-up and cradle
- Transfer child with head slightly elevated
Head, Neck, and Spinal Injuries

Treatment (cont.)

- Monitor level of consciousness

AVPU

- Record observations every 5 minutes
Penetrating abdominal or chest injuries are uncommon.

Blunt injuries are far more common:
- Falls
- Motor vehicle accidents
Chest and Abdominal Injuries

- Blunt abdominal trauma may rupture:
  - Spleen
  - Liver
  - Kidney

- Suspect shock if:
  - Sustained blunt abdominal injury
  - Complains of abdominal pain
Treatment

- Transport promptly
- Monitor vital signs
- Anticipate shock
- Be alert for vomiting
Traumatic Injuries

- Extremity Injuries
  - Treatment?

- Severe Bleeding and use of a PASG
  - Do we use them?

- Burns
  - Treatment same as adults
Child Abuse and Neglect

Child Abuse - Deliberate, intentional injury of a child physically and emotionally.
Child Abuse and Neglect

Recognizing Child Abuse

- History does not match injury
- Injuries at different stages of healing
- HX of several accidents in the past
Child Abuse and Neglect

- Child may appear
  - Withdrawn
  - Fearful
  - Hostile
  - Undernourished
Child Abuse

Handling

- Do not Dx/accuse
- Professional approach
- Carefully record history
- Can’t transport without parents permission
- Consult law enforcement
- Follow local protocol
Child Abuse

- Reporting
  - Report to Physician
  - What you saw, not what you think!
Sexual Abuse

- Most rape victims are over 10 years of age
- Should not examine genitalia unless:
  - Obvious bleeding
  - Injuries that must be treated
Sexual Abuse

- When abuse suspected:
  - Should not wash, urinate, or defecate
  - Same sex EMT
  - Concerned caring approach is important
Suspected Sexual Abuse

- Obtain history from child and witnesses
  - May be hysterical
  - May be unwilling, especially if abuser is:
    ⑦ Sibling
    ⑦ Relative
    ⑦ Family friend
Suspected Sexual Abuse

- EMT is in best position to get information
  - Record information carefully and completely
  - Written in clear and accurate detail
  - Use ambulance report form

- Transport
Neglect

- Neglect - Occurs when a parent or caregiver does not provide basic care to a child.
  - Provide food
  - Clothing
  - Shelter
- Abandoning
- Follow local protocol
Transporting Infants and Children

- Susceptible of temperature changes
  - Lose body heat more rapidly
  - Wrap in blankets
  - $O_2$ should be warmed
Transporting Infants and Children

- Susceptible to infection
  - Avoid breathing or coughing on child
  - Universal precautions
  - Transport newborns in special incubators
Transporting Infants and Children

- Child should have a familiar person close
  - Parent
  - Relative
  - Close friends
Transporting Infants and Children

- Familiar objects may help
  - Dolls
  - Teddy bears
  - Blanket
Transporting Infants and Children

- The EMT should:
  - Maintain a caring professional approach
  - Be honest
  - Repeat procedures
  - Respect child’s modesty
  - Friendly tone of voice
  - Maintain eye contact
EMS Response

- May experience wide range of emotions
- Prepare for pediatric cases
  - Practice with equipment
  - Review local protocol
  - Mentally prepare yourself
- Debriefing is helpful
- Know when to seek help
Summary

- Pediatric Patient
- Common Medical Conditions
- Traumatic Injuries
- Child Abuse and Neglect
- Transporting
- EMS Response
QUESTIONS