

Master Your Medics

First Edition

25

***Pediatric
Scenarios***

Geoff Murphy

Table of Contents

Asthma Exacerbation.....	3
Croup.....	5
Bronchiolitis.....	7
Foreign Body Aspiration.....	9
Severe Pneumonia.....	11
Significant Fall.....	13
Sports Injury.....	15
Motor Vehicle Collision with Head Injury.....	17
Non-Accidental Trauma (Abuse).....	19
Significant Burns.....	21
Neonatal Resuscitation.....	23
Sudden Infant Death Syndrome (SIDS).....	25
Cardiac Congenital Abnormalities.....	27
Near Apnea Due to Respiratory Problem.....	29
Febrile Seizures.....	31
Diabetic Ketoacidosis (DKA).....	33
Meningitis.....	35
Severe Dehydration from Gastroenteritis.....	37
Seizure Disorders.....	39
Supraventricular Tachycardia (SVT).....	41
Accidental Beta Blocker Overdose.....	43
Manic Episode.....	46
Suicidal Ideation.....	48

Pediatric Patient Scenario: Asthma Exacerbation

Patient Information:

- **Age:** 8 years old
- **Gender:** Male

Moulage Required:

- Audible wheezing, labored breathing, use of accessory muscles, distressed facial expression.

Dispatch Information:

- Emergency call for a child having difficulty breathing and a known history of asthma.

On Arrival Presentation:

- Child sitting upright, struggling to breathe.
- Audible wheezing and coughing.
- Appears anxious and is using accessory muscles to breathe.

Past Medical History:

- Diagnosed with asthma, uses an inhaler as needed.

Primary Assessment Findings:

- Increased work of breathing, intercostal retractions.
- Audible wheezes on auscultation.
- Altered mental status due to hypoxia.

Vital Signs:

- BP: 110/70 mmHg
- HR: 140 bpm
- RR: 35 breaths/min, labored
- SpO2: 88% on room air

SAMPLE History Findings:

- **Symptoms:** Difficulty breathing, wheezing, cough.
- **Allergies:** No known allergies.
- **Medications:** Albuterol inhaler.
- **Past Medical History:** Asthma.
- **Last Oral Intake:** Lunch, 2 hours prior.
- **Events Leading Up:** Playing outside when symptoms started.

EMT Level Treatment Goals:

- Administer high-flow oxygen.
- Assist with administering a beta-agonist inhaler (if available and prescribed).

- Position for comfort, usually sitting upright.
- Prepare for rapid transport to the hospital.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs and SpO₂.
- Nebulized albuterol treatment.
- Consideration of corticosteroids as per protocol.
- Preparing for possible intubation if there is no improvement or worsening of symptoms.

Scenario Outcomes:

Correct Management:

- Vital Signs: Slight improvement in SpO₂ and respiratory rate after nebulized treatment.
- Presentation: Reduced distress and wheezing, improved breathing effort.

Incorrect Management:

- Vital Signs: Further decrease in SpO₂, increased HR and RR.
- Presentation: Increased respiratory distress, potential progression to respiratory failure.

Debrief Questions:

Why is it important to administer a beta-agonist in asthma exacerbation?

- **Explanation:** Beta-agonists like albuterol are bronchodilators and help to relieve bronchospasm in asthma, improving airway patency and reducing wheezing and respiratory distress.

What are the signs of worsening asthma exacerbation that paramedics should monitor?

- **Explanation:** Signs of worsening include increased respiratory rate, decreased SpO₂, use of accessory muscles, and altered mental status. These signs indicate inadequate oxygenation and ventilation requiring advanced interventions.

How does the patient's past medical history of asthma impact the treatment provided in the field?

- **Explanation:** Knowledge of a patient's asthma provides a basis for immediate treatment with bronchodilators and helps in anticipating the need for additional interventions like corticosteroids or escalation to advanced airway management.

Pediatric Patient Scenario: Croup

Patient Information:

- **Age:** 3 years old
- **Gender:** Female

Moulage Required:

- Barking cough, hoarse voice, stridor at rest.

Dispatch Information:

- Emergency call for a young child with difficulty breathing and a strange cough.

On Arrival Presentation:

- Child appears anxious, with a notable “barking” cough and hoarse voice.
- Sitting upright, breathing with difficulty, and audible stridor without exertion.

Past Medical History:

- Recent history of upper respiratory infection.

Primary Assessment Findings:

- Signs of respiratory distress (use of accessory muscles, intercostal retractions).
- Stridor noted at rest.
- No cyanosis or altered mental status initially.

Vital Signs:

- BP: 90/60 mmHg
- HR: 120 bpm
- RR: 30 breaths/min, labored
- SpO2: 94% on room air

SAMPLE History Findings:

- **Symptoms:** Barking cough, difficulty breathing, hoarse voice.
- **Allergies:** No known allergies.
- **Medications:** None.
- **Past Medical History:** Recent cold.
- **Last Oral Intake:** Dinner, 3 hours prior.
- **Events Leading Up:** Symptoms worsened over the night.

EMT Level Treatment Goals:

- Keep the child calm and comfortable; agitation can worsen symptoms.
- Administer humidified oxygen if available.
- Position in a manner comfortable for the child, usually sitting upright.

- Transport to the hospital for further evaluation and treatment.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs and SpO2.
- Nebulized epinephrine if stridor is present at rest.
- Consideration of corticosteroids as per protocol.
- Prepare for potential deterioration and need for advanced airway management.

Scenario Outcomes:

Correct Management:

- Vital Signs: Slight improvement in respiratory rate and reduction in stridor after treatment.
- Presentation: Less respiratory distress, more comfortable child.

Incorrect Management:

- Vital Signs: Worsening of respiratory distress, potential decrease in SpO2.
- Presentation: Increased stridor, more labored breathing, potential for cyanosis.

Debrief Questions:

What is the significance of the barking cough and stridor in diagnosing croup?

- **Explanation:** The barking cough and stridor are hallmark symptoms of croup, usually caused by viral infection leading to swelling around the vocal cords. They are key indicators for identifying croup in pediatric patients.

Why is it important to keep a child with croup calm?

- **Explanation:** Agitation and crying can exacerbate airway swelling and stridor, worsening the child's respiratory distress. Keeping the child calm helps to manage symptoms and improve breathing.

What are the primary treatment goals for a child with croup in the pre-hospital setting?

- **Explanation:** The primary goals include maintaining airway patency, administering humidified oxygen, monitoring for signs of respiratory failure, and providing comfort. Nebulized epinephrine and corticosteroids may be necessary for severe cases.

Pediatric Patient Scenario: Bronchiolitis

Patient Information:

- **Age:** 6 months old
- **Gender:** Male

Moulage Required:

- Nasal congestion, wheezing, and coughing.

Dispatch Information:

- Call for an infant with difficulty breathing and persistent coughing.

On Arrival Presentation:

- The infant is irritable, with a runny nose and frequent coughing.
- Audible wheezing and signs of respiratory distress (fast breathing, using extra muscles to breathe).

Past Medical History:

- Born full-term with no complications.
- No previous hospitalizations or major illnesses.

Primary Assessment Findings:

- Mild tachypnea (increased respiratory rate) with nasal flaring.
- Wheezing on auscultation, particularly on expiration.
- Intercostal retractions indicating increased work of breathing.

Vital Signs:

- BP: Not easily obtainable due to age but appears normal based on skin color and capillary refill.
- HR: 160 bpm
- RR: 50 breaths/min
- SpO2: 92% on room air

SAMPLE History Findings:

- **Symptoms:** Cough, difficulty breathing, wheezing.
- **Allergies:** None known.
- **Medications:** None.
- **Past Medical History:** Unremarkable.
- **Last Oral Intake:** Breastfed 2 hours ago.
- **Events Leading Up:** Cold symptoms for a few days, worsening today.

EMT Level Treatment Goals:

- Transport in a position of comfort, preferably in a parent's arms, if safe.

- Administer oxygen if SpO2 is below 94%.
- Monitor for worsening respiratory distress or cyanosis.
- Provide reassurance to caregivers and maintain a calm environment.

Paramedic Level Treatment Goals:

- Continue monitoring vital signs and SpO2.
- Nebulized saline treatments if protocol allows.
- Consideration of bronchodilators if there is a history of atopy or a strong response to a trial dose.
- Prepare for possible escalation to advanced airway management if respiratory failure develops.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization of SpO2 and RR post-treatment.
- Presentation: Decreased wheezing and respiratory distress.

Incorrect Management:

- Vital Signs: Further decrease in SpO2, increased RR.
- Presentation: Worsening respiratory distress, potential progression to respiratory failure.

Debrief Questions:

What are the characteristic features of bronchiolitis that aid in its identification?

- **Explanation:** Bronchiolitis often presents with wheezing, coughing, and increased respiratory effort in infants, typically following a few days of cold-like symptoms. These clinical features are essential for its recognition in the prehospital setting.

Why is careful monitoring of SpO2 and respiratory rate crucial in bronchiolitis?

- **Explanation:** Monitoring SpO2 and respiratory rate helps identify hypoxemia and respiratory fatigue, which are indicators of disease progression and the need for advanced interventions or hospitalization.

What is the rationale behind the recommended treatments for bronchiolitis in the prehospital setting?

- **Explanation:** The primary goals are to support oxygenation and relieve respiratory distress. Nebulized saline can help with secretion clearance, and bronchodilators are considered if there's a history of atopy or a strong initial response. The focus is on supportive care, as bronchiolitis is typically a self-limiting viral illness.

Pediatric Patient Scenario: Foreign Body Aspiration

Patient Information:

- **Age:** 2 years old
- **Gender:** Female

Moulage Required:

- Sudden onset of coughing, choking, and possible cyanosis.

Dispatch Information:

- Emergency call reporting a child suddenly choking and having difficulty breathing while playing with small toys.

On Arrival Presentation:

- The child is conscious but distressed, exhibiting a cough and signs of respiratory distress.
- Parent reports the child was playing with small toys and suddenly started coughing and wheezing.

Past Medical History:

- No significant past medical history.

Primary Assessment Findings:

- Signs of respiratory distress, such as increased work of breathing and intercostal retractions.
- Mild stridor or wheezing depending on the location of the foreign body.
- Child is able to make sounds or weak cries.

Vital Signs:

- BP: 100/65 mmHg
- HR: 130 bpm
- RR: 30 breaths/min, labored
- SpO2: 92% on room air

SAMPLE History Findings:

- **Symptoms:** Sudden onset of coughing and wheezing.
- **Allergies:** None.
- **Medications:** None.
- **Past Medical History:** Healthy toddler.
- **Last Oral Intake:** Snack 1 hour ago.
- **Events Leading Up:** Child was playing with small toys.

EMT Level Treatment Goals:

- Keep the child calm and in a position of comfort, preferably sitting up.
- Administer oxygen if there is hypoxia.
- Transport to the hospital for possible foreign body removal.
- Do not attempt blind finger sweeps; avoid agitation which can worsen the obstruction.

Paramedic Level Treatment Goals:

- Continuous monitoring of vitals, especially respiratory status.
- Prepare for potential advanced airway management in case of complete airway obstruction.
- Pre-hospital removal attempts only if advanced airway skills are available and necessary.
- Rapid transport to a facility equipped for pediatric airway emergencies.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization of SpO₂ with oxygen therapy, no further deterioration of respiratory status.
- Presentation: Child remains calm, maintaining own airway with no progression of symptoms.

Incorrect Management:

- Vital Signs: Decrease in SpO₂, increased respiratory rate, potential progression to complete airway obstruction.
- Presentation: Increased distress, risk of worsening airway obstruction.

Debrief Questions:

What is the key indication of foreign body aspiration in a pediatric patient?

- **Explanation:** Sudden onset of coughing, choking, and respiratory distress while playing with small objects strongly indicates foreign body aspiration. The nature of cough and presence of stridor or wheezing can help locate the obstruction.

Why is it important to avoid blind finger sweeps in these cases?

- **Explanation:** Blind finger sweeps can push the foreign body further down the airway, worsening the obstruction. They should be avoided unless the foreign body is visually seen and easily reachable without causing harm.

What are the primary goals of treatment in the pre-hospital setting for a child with a suspected foreign body in the airway?

- **Explanation:** The primary goals are to maintain airway patency, support breathing (oxygen therapy if needed), keep the child calm, and transport quickly to a hospital for definitive care. Advanced removal attempts are reserved for situations with complete airway obstruction and should be performed by personnel with appropriate skills.

Pediatric Patient Scenario: Severe Pneumonia

Patient Information:

- **Age:** 4 years old
- **Gender:** Male

Moulage Required:

- Labored breathing, cough, possibly cyanotic lips.

Dispatch Information:

- Caller reports a young child with high fever, cough, and difficulty breathing.

On Arrival Presentation:

- Child appears lethargic, with labored breathing, coughing, and intermittent wheezing.
- Parent reports a history of fever and cough worsening over the past few days.

Past Medical History:

- History of mild asthma, occasional use of a rescue inhaler.

Primary Assessment Findings:

- Increased work of breathing, nasal flaring, and intercostal retractions.
- Crackles heard on auscultation of the lungs.
- Feverish to touch.

Vital Signs:

- BP: 95/60 mmHg
- HR: 150 bpm
- RR: 40 breaths/min, labored
- SpO₂: 89% on room air
- Temperature: 102°F (38.9°C)

SAMPLE History Findings:

- **Symptoms:** Persistent cough, fever, difficulty breathing.
- **Allergies:** No known drug allergies.
- **Medications:** Albuterol inhaler (as needed for asthma).
- **Past Medical History:** Asthma.
- **Last Oral Intake:** Limited due to illness.
- **Events Leading Up:** Symptoms began as a cold but have progressively worsened.

EMT Level Treatment Goals:

- Provide supplemental oxygen to improve SpO₂.
- Position in a manner comfortable for breathing, usually sitting up.

- Monitor vitals and transport to the hospital for further care.
- Provide reassurance and calm environment to avoid exacerbating respiratory distress.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs and oxygen saturation.
- Consider nebulized albuterol treatment, especially with a history of asthma.
- Prepare for possible IV access for hydration and hospital-administered medications.
- Evaluate the need for advanced airway management if respiratory status worsens.

Scenario Outcomes:

Correct Management:

- Vital Signs: Improvement in SpO₂ with oxygen therapy, slight reduction in respiratory rate.
- Presentation: Reduced respiratory distress, maintaining airway patency.

Incorrect Management:

- Vital Signs: Further decrease in SpO₂, increased respiratory rate, potential progression to respiratory failure.
- Presentation: Increased distress, cyanosis, potential for hypoxemia.

Debrief Questions:

What clinical signs indicate severe pneumonia in a pediatric patient?

- **Explanation:** Key signs include persistent cough, fever, labored breathing with increased work of breathing (retractions, nasal flaring), crackles on lung auscultation, and reduced SpO₂.

Why is oxygen therapy critical in this scenario?

- **Explanation:** Oxygen therapy is crucial to manage hypoxemia, a common complication of severe pneumonia. It helps improve oxygen saturation and reduce the work of breathing in a distressed child.

How does the child's asthma history affect the management of this case?

- **Explanation:** Asthma history may complicate pneumonia and can cause bronchospasm, which can be relieved with nebulized bronchodilators like albuterol. However, care must be taken to monitor the child's response to treatment, as overuse of bronchodilators can lead to tachycardia and worsen dehydration.

Pediatric Patient Scenario: Significant Fall

Patient Information:

- **Age:** 7 years old
- **Gender:** Female

Moulage Required:

- Apparent pain and distress, possible deformity of a limb, bruising.

Dispatch Information:

- Emergency call for a child who fell from a playground structure.

On Arrival Presentation:

- Child is lying on the ground near playground equipment, crying and holding her left arm.
- Parent reports she fell approximately six feet from the top of a slide.

Past Medical History:

- Generally healthy with no significant past medical issues.

Primary Assessment Findings:

- Child is conscious but in obvious pain.
- Swelling and deformity noted in the left forearm.
- No sign of head injury, but child complains of dizziness.

Vital Signs:

- BP: 100/65 mmHg
- HR: 130 bpm (tachycardic, likely due to pain and distress)
- RR: 24 breaths/min
- SpO2: 98% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Pain in the left forearm, dizziness.
- **Allergies:** No known allergies.
- **Medications:** None.
- **Past Medical History:** None significant.
- **Last Oral Intake:** Lunch, 2 hours ago.
- **Events Leading Up:** Fell while playing on the playground.

EMT Level Treatment Goals:

- Conduct a primary survey to assess for life-threatening injuries.
- Immobilize the injured limb.
- Provide pain management as per protocol.
- Monitor for signs of shock or head injury.
- Transport to a pediatric trauma center.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs.
- Administer IV or IO fluids if signs of shock are present.
- Consider advanced pain management as per protocol.
- Assess and monitor for potential head injury or internal injuries.
- Prepare for rapid transport to a pediatric trauma facility.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization of heart rate post pain management, no signs of shock.
- Presentation: Pain is controlled, limb immobilized, no worsening of condition.

Incorrect Management:

- Vital Signs: Increased heart rate, possible development of shock.
- Presentation: Increased pain and distress, potential exacerbation of injuries.

Debrief Questions:

Why is it important to immobilize the injured limb in cases of significant falls in children?

- **Explanation:** Immobilization prevents further injury to the affected area, reduces pain, and minimizes the risk of complicating a possible fracture.

What are the key indicators of a more serious injury such as internal bleeding or head trauma in a pediatric fall patient?

- **Explanation:** Indicators can include changes in consciousness, persistent dizziness, vomiting, unequal pupils, or signs of shock (tachycardia, hypotension, pallor).

How does the management of pain and potential shock differ in pediatric patients compared to adults?

- **Explanation:** Children may not verbalize pain in the same way as adults, and signs of shock may present later due to their physiological reserve. Early pain management and fluid resuscitation are crucial, and parameters for intervention may differ based on pediatric protocols.

Pediatric Patient Scenario: Sports Injury

Patient Information:

- **Age:** 10 years old
- **Gender:** Male

Moulage Required:

- Swelling and discoloration around the right knee, obvious pain and discomfort.

Dispatch Information:

- Call for a child injured during a soccer game, unable to walk and in severe pain.

On Arrival Presentation:

- The child is sitting on the soccer field with his right leg extended, grimacing in pain.
- Coaches report he collided with another player and twisted his knee.

Past Medical History:

- No significant medical history; generally healthy and active.

Primary Assessment Findings:

- Child is alert and oriented, but in acute pain.
- Swelling and bruising noted around the right knee, with limited range of motion due to pain.
- No open wounds or deformity, but possible ligament injury or fracture.

Vital Signs:

- BP: 110/70 mmHg
- HR: 120 bpm (elevated due to pain and anxiety)
- RR: 22 breaths/min
- SpO2: 99% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Pain in the right knee, swelling, unable to bear weight.
- **Allergies:** None reported.
- **Medications:** Occasional acetaminophen for headaches.
- **Past Medical History:** No previous injuries or chronic illnesses.
- **Last Oral Intake:** Water and a snack during the game.
- **Events Leading Up:** Collided with another player while playing soccer.

EMT Level Treatment Goals:

- Conduct a primary survey to rule out life-threatening conditions.
- Immobilize the injured knee to prevent further injury.
- Provide ice to reduce swelling.
- Monitor for signs of shock.
- Transport to a hospital for further evaluation, preferably one with pediatric orthopedic capabilities.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs.
- Administer pain management as per protocol.
- Maintain immobilization of the knee.
- Evaluate the need for IV fluids if signs of shock develop.
- Prepare for rapid transport to an appropriate medical facility.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilized heart rate post pain management, no signs of shock.
- Presentation: Pain is controlled, knee is immobilized, patient is comfortable.

Incorrect Management:

- Vital Signs: Elevated heart rate due to pain, potential hypotensive if shock develops.
- Presentation: Increased pain and distress, potential worsening of the injury.

Debrief Questions:

What are the key considerations when assessing a pediatric sports injury, particularly a knee injury?

- **Explanation:** Key considerations include assessing for signs of fracture or ligament injury, pain level, swelling, range of motion, and ability to bear weight. It's also important to consider the mechanism of injury to determine the potential types of injuries.

Why is pain management important in pediatric patients with sports injuries?

- **Explanation:** Effective pain management is crucial not only for the comfort of the child but also to prevent pain-induced shock and to facilitate a more accurate assessment and transport.

How does the approach to immobilization differ in pediatric patients compared to adults?

- **Explanation:** Pediatric immobilization must consider the smaller size and different proportions of children. Immobilization should be secure but not overly tight, and care should be taken to support the injured area adequately while avoiding additional pressure or discomfort.

Pediatric Patient Scenario: Motor Vehicle Collision with Head Injury

- **Age:** 5 years old
- **Gender:** Male

Moulage Required:

- A laceration on the forehead, bruising around the head, possible disorientation or unconsciousness.

Dispatch Information:

- Emergency call reporting a motor vehicle collision involving a child with a head injury.

On Arrival Presentation:

- Child found in the back seat, restrained in a booster seat. He is conscious but appears drowsy and confused.
- Visible laceration on the forehead and bruising around the head and face.

Past Medical History:

- No significant past medical history.

Primary Assessment Findings:

- Altered level of consciousness, but responsive to verbal stimuli.
- Obvious head injury with a laceration on the forehead.
- Pupils equal and reactive, but the child complains of headache and nausea.

Vital Signs:

- BP: 100/70 mmHg
- HR: 110 bpm
- RR: 24 breaths/min
- SpO2: 97% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Headache, nausea, drowsiness, confusion.
- **Allergies:** No known allergies.
- **Medications:** None.
- **Past Medical History:** Healthy with routine vaccinations.
- **Last Oral Intake:** Snack, 1 hour before the incident.
- **Events Leading Up:** Involved in a motor vehicle collision.

EMT Level Treatment Goals:

- Provide cervical spine immobilization due to mechanism of injury.

- Administer oxygen if there are signs of hypoxia.
- Control bleeding and protect the wound on the forehead.
- Constantly monitor for changes in the level of consciousness.
- Rapid transport to a trauma center, especially one specializing in pediatric care.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs, particularly neurological status.
- Consider IV access for fluid administration and potential medication administration.
- Prepare for possible rapid sequence intubation if there is a significant deterioration in mental status or respiratory function.
- Perform a thorough secondary survey to identify other injuries.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stable post-intervention, no significant deterioration in neurological status.
- Presentation: Head injury managed, cervical spine protected, and patient is stable for transport.

Incorrect Management:

- Vital Signs: Potential deterioration in neurological status, risk of developing shock.
- Presentation: Worsening of head injury symptoms, potential for secondary injury due to inadequate spinal immobilization.

Debrief Questions:

Why is cervical spine immobilization critical in pediatric patients with head injuries from motor vehicle collisions?

- **Explanation:** Cervical spine immobilization is essential due to the high risk of spinal injuries in motor vehicle collisions. The mechanism of injury in head trauma often involves forces that could damage the spine, particularly in children whose musculoskeletal structures are still developing.

What are the key signs of a serious head injury in a pediatric patient?

- **Explanation:** Key signs include changes in consciousness (like drowsiness or confusion), nausea, headache, unequal pupil size, and any signs of fluid leakage from the nose or ears. These symptoms indicate the need for immediate evaluation and treatment.

How does the management of a pediatric head injury differ from that of an adult?

- **Explanation:** Pediatric head injuries require a higher index of suspicion for serious injury due to children's proportionally larger head size and less stable neck muscles. Additionally, children may have more subtle signs of deteriorating neurological function and are more prone to rapid changes in their condition.

Pediatric Patient Scenario: Non-Accidental Trauma (Abuse)

- **Age:** 3 years old
- **Gender:** Female

Moulage Required:

- Multiple bruises of varying ages, particularly on areas not typically injured in falls, Fearful behavior.

Dispatch Information:

- Emergency call from a concerned neighbor who heard loud crying and distress from a child next door.

On Arrival Presentation:

- The child is found with a caregiver who seems agitated and evasive about the child's injuries.
- Child appears frightened, withdrawn, and has visible bruises on her arms and back.

Past Medical History:

- According to the caregiver, the child is “clumsy” and often has falls. No formal medical records or history provided.

Primary Assessment Findings:

- Child is timid and reluctant to speak or interact.
- Multiple bruises in different stages of healing.
- No immediate signs of broken bones or head injury, but the child winces when her back is touched.

Vital Signs:

- BP: 90/60 mmHg
- HR: 130 bpm
- RR: 25 breaths/min
- SpO2: 98% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Bruising and apparent pain.
- **Allergies:** Unknown.
- **Medications:** Unknown.
- **Past Medical History:** No information available.
- **Last Oral Intake:** Not known.
- **Events Leading Up:** Neighbor reports hearing frequent crying and loud noises from the apartment.

EMT Level Treatment Goals:

- Ensure the child's immediate safety and comfort.
- Conduct a gentle but thorough physical assessment to document injuries.
- Provide reassurance and emotional support to the child.
- Avoid confrontational or accusatory interactions with the caregiver.
- Transport to a hospital for further evaluation, including potential hidden injuries.

Paramedic Level Treatment Goals:

- Continue monitoring vital signs, looking for signs of internal injury or shock.
- Maintain a calm and supportive environment for the child.
- Avoid leading questions but document any spontaneous statements or observations.
- Prepare for comprehensive medical evaluation and possible law enforcement involvement upon arrival at the hospital.

Scenario Outcomes:

Correct Management:

- Vital Signs: Remain stable, no signs of acute distress.
- Presentation: Child remains calm, injuries documented, and safely transported to the hospital.

Incorrect Management:

- Vital Signs: Possible escalation of heart rate due to distress or undetected internal injuries.
- Presentation: Increased emotional distress or overlooked injuries.

Debrief Questions:

What are the indicators that suggest a pediatric injury might be non-accidental?

- **Explanation:** Indicators include bruises in various stages of healing, injuries in non-exposed or protected areas, inconsistent explanations for injuries, and signs of neglect or emotional abuse.

How should EMS personnel approach a situation where child abuse is suspected?

- **Explanation:** EMS personnel should focus on the child's immediate medical needs and safety, provide reassurance, document findings, avoid confrontational interactions with potential abusers, and report suspicions to appropriate authorities.

What are the legal and ethical responsibilities of EMS personnel in cases of suspected child abuse?

- **Explanation:** EMS personnel are legally mandated reporters of child abuse. They must report suspicions to the appropriate authorities and document their findings objectively. Ethically, they must prioritize the child's well-being while maintaining professional conduct.

Pediatric Patient Scenario: Significant Burns

Patient Information:

- **Age:** 6 years old
- **Gender:** Male

Moulage Required:

- Extensive burns on arms and torso, areas of reddened, blistered, and charred skin.

Dispatch Information:

- Emergency call from a residence reporting a child burned in a kitchen accident.

On Arrival Presentation:

- Child is crying and in visible pain, with burns evident on his arms and upper torso.
- A pot and spilled hot liquid are on the kitchen floor near the child.

Past Medical History:

- No significant medical history.

Primary Assessment Findings:

- Child is alert but in significant distress.
- Burns of varying depths on approximately 15% of total body surface area, primarily on arms and chest.
- No signs of airway burns (e.g., facial burns, singed nasal hair, hoarse voice).

Vital Signs:

- BP: 95/65 mmHg
- HR: 140 bpm (tachycardic, likely due to pain and stress)
- RR: 26 breaths/min
- SpO2: 98% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Pain at the burn sites, crying.
- **Allergies:** No known allergies.
- **Medications:** None.
- **Past Medical History:** Generally healthy.
- **Last Oral Intake:** Breakfast earlier that morning.
- **Events Leading Up:** Accidental spill of boiling water.

EMT Level Treatment Goals:

- Remove any clothing that is not adhered to the burns.
- Cool the burns with lukewarm (not cold) water, if within the first 20 minutes of injury.
- Cover the burns with a clean, dry dressing.
- Treat for shock: keep the child warm and comfortable.
- Transport to a hospital with pediatric burn care capabilities.

Paramedic Level Treatment Goals:

- IV access for fluid resuscitation, using the Parkland formula as a guide.
- Pain management as per protocol.
- Continuous monitoring for signs of shock and respiratory distress.
- Avoid overcooling the child, which can lead to hypothermia.
- Prepare for rapid transport to a specialized burn center.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization of heart rate and blood pressure, adequate pain control.
- Presentation: Burns appropriately managed, patient comfortable, and ready for transport.

Incorrect Management:

- Vital Signs: Development or worsening of shock (e.g., tachycardia, hypotension).
- Presentation: Increased pain, risk of infection, or hypothermia from inappropriate burn treatment.

Debrief Questions:

What is the importance of fluid resuscitation in pediatric burn patients?

- **Explanation:** Fluid resuscitation is critical in managing significant burns due to the risk of hypovolemic shock. Children are more susceptible to fluid loss through burned skin and require careful calculation of fluid needs.

Why should cold water not be used on significant burns, and what complications can arise from overcooling?

- **Explanation:** Cold water can exacerbate tissue damage and lead to hypothermia, especially in children due to their higher body surface area to volume ratio. Lukewarm water is recommended to stop the burning process without causing additional harm.

How do the treatment goals for burns differ in pediatric patients compared to adults?

- **Explanation:** Pediatric patients have different physiological responses and are more susceptible to fluid loss and hypothermia. The approach to pain management, fluid resuscitation, and consideration for specialized pediatric burn care may differ from that of adults.

Neonatal Patient Scenario: Neonatal Resuscitation

Patient Information:

- **Age:** Newborn (few minutes old)
- **Gender:** Female

Moulage Required:

- Newborn appearing limp, pale, and without crying.

Dispatch Information:

- Emergency home birth call. The caller reports a baby just delivered, not crying or moving much.

On Arrival Presentation:

- The newborn is on a clean surface near the mother. The baby appears limp, with minimal movement, and is pale. There is no crying.
- The umbilical cord is clamped and cut.

Past Medical History:

- Mother's pregnancy was uncomplicated. This is a term delivery with no known prenatal issues.

Primary Assessment Findings:

- Newborn appears limp, with poor muscle tone.
- Respirations are slow and shallow.
- Heart rate is noted to be slow.

Vital Signs:

- HR: 80 bpm
- RR: 20 breaths/min, shallow
- No measurable BP (normal for age)
- Temperature: Unable to measure initially

SAMPLE History Findings:

- **Symptoms:** Limpness, poor responsiveness.
- **Allergies:** Not applicable.
- **Medications:** None.
- **Past Medical History:** Uncomplicated term pregnancy.
- **Last Oral Intake:** Not applicable.
- **Events Leading Up:** Home delivery, no complications reported during birth.

EMT Level Treatment Goals:

- Immediate warming of the newborn to prevent hypothermia.
- Gently stimulate by drying.

- Assess breathing and heart rate.
- Provide ventilations if the heart rate is below 100 bpm or if there is no effective breathing.
- Prepare for immediate transport.

Paramedic Level Treatment Goals:

- Continue assessment and resuscitation measures.
- Administer supplemental oxygen and assist ventilations if needed.
- Prepare for advanced airway management if ventilation is ineffective.
- Continuous monitoring of heart rate and respiratory effort.
- Coordinate rapid transport to a facility equipped for neonatal care.

Scenario Outcomes:

Correct Management:

- Improvement in muscle tone, onset of crying, heart rate > 100 bpm, and regular respirations.
- Pink coloration of skin indicating effective oxygenation.

Incorrect Management:

- Persistent low heart rate, poor muscle tone, and inadequate respirations.
- Development or worsening of cyanosis.

Debrief Questions:

What are the key steps in neonatal resuscitation immediately after birth?

- **Explanation:** Key steps include initial assessment, warming the baby, drying and stimulating, checking breathing and heart rate, and providing ventilations if necessary. Immediate intervention is critical for neonates showing signs of distress.

Why is temperature management crucial in neonatal resuscitation?

- **Explanation:** Newborns can quickly lose body heat, leading to hypothermia, which can be life-threatening. Warming the baby and maintaining a proper temperature is crucial for stabilizing their condition.

How do the goals and interventions of neonatal resuscitation differ from those for older children or adults?

- **Explanation:** Neonatal resuscitation focuses more on establishing effective breathing and heart rate since many neonatal issues are due to respiratory distress. Interventions are more gentle, considering the newborn's fragility, and advanced airway management techniques are used more cautiously.

Neonatal Patient Scenario: Sudden Infant Death Syndrome (SIDS)

Patient Information:

- **Age:** 4 months old
- **Gender:** Male

Moulage Required:

- Infant found unresponsive in the crib, no signs of trauma or distress.

Dispatch Information:

- Call from a frantic parent reporting that their baby is not breathing.

On Arrival Presentation:

- The infant is found in the crib, unresponsive, with no signs of breathing or movement.
- The parent states the baby was laid down for a nap and was fine at that time.

Past Medical History:

- Full-term birth with no complications.
- No significant medical history.

Primary Assessment Findings:

- No response to stimuli.
- No breathing or pulse detectable.
- Skin is pale and cool to the touch.

Vital Signs:

- HR: No pulse
- RR: No respiratory effort
- Temperature: Lower than normal (hypothermic)
- SpO2: Not applicable

SAMPLE History Findings:

- **Symptoms:** Unresponsive and not breathing when found.
- **Allergies:** None.
- **Medications:** None.
- **Past Medical History:** Unremarkable.
- **Last Oral Intake:** Fed a couple of hours before being put down for a nap.
- **Events Leading Up:** The baby was seemingly healthy and normal before the nap.

EMT Level Treatment Goals:

- Begin CPR immediately as per pediatric BLS guidelines.
- Administer ventilations with a bag-valve-mask.

- Prepare for AED use, following pediatric protocols if the infant is older than 1 month.
- Contact medical control and consider advanced resuscitative efforts based on protocols.

Paramedic Level Treatment Goals:

- Continue CPR and advanced life support measures.
- Intubate if necessary and possible, given the age and size of the infant.
- Administer epinephrine as per pediatric cardiac arrest protocols.
- Continuous assessment and resuscitative efforts during rapid transport to a medical facility.

Scenario Outcomes:

Correct Management:

- Immediate initiation of CPR and appropriate ventilations.
- Correct use of AED and administration of medications.
- Effective communication with dispatch and receiving hospital.

Incorrect Management:

- Delay in starting or improper execution of CPR.
- Inadequate ventilation or delayed advanced airway management.
- Failure to follow pediatric resuscitation protocols.

Debrief Questions:

What are the key factors to consider when performing CPR on an infant suspected of SIDS?

- **Explanation:** Key factors include gentle yet effective chest compressions at the correct depth and rate, ensuring proper seal and ventilation technique with a bag-valve-mask, and avoiding over-ventilation.

How does the approach to resuscitation differ in a case of suspected SIDS compared to other cardiac arrest scenarios?

- **Explanation:** In SIDS, the focus is on high-quality CPR and ventilation without delay. The etiology in SIDS is often unclear, so the approach is supportive. There may be less emphasis on defibrillation compared to scenarios where a cardiac rhythm disturbance is suspected.

What are the emotional and communication considerations in dealing with a SIDS case, especially concerning the family?

- **Explanation:** SIDS is a devastating event for families. EMS providers should be sensitive, provide clear communication, and offer support while focusing on resuscitative efforts. It's important to balance the technical aspects of care with compassion and empathy for the family.

Neonatal Patient Scenario: Cardiac Congenital Abnormalities

Patient Information:

- **Age:** 2 weeks old
- **Gender:** Male

Moulage Required:

- Cyanosis (bluish skin coloration), especially around the lips and fingertips.

Dispatch Information:

- Call from parents concerned about their baby's breathing and unusual skin color.

On Arrival Presentation:

- The infant appears cyanotic with bluish lips and fingertips.
- The parents report that the baby has been "feeding poorly" and seems "unusually sleepy."

Past Medical History:

- Full-term birth with no complications noted immediately post-delivery.
- No significant medical history in the family.

Primary Assessment Findings:

- Mild tachypnea (increased respiratory rate) and mild tachycardia.
- Audible murmur upon auscultation.
- Cyanosis noted, not improving with oxygen administration.

Vital Signs:

- BP: 65/45 mmHg
- HR: 160 bpm
- RR: 50 breaths/min
- SpO2: 85% on room air

SAMPLE History Findings:

- **Symptoms:** Poor feeding, lethargy, cyanosis.
- **Allergies:** None.
- **Medications:** None.
- **Past Medical History:** Unremarkable prenatal history.
- **Last Oral Intake:** Difficulty feeding over the past day.
- **Events Leading Up:** Gradual onset of symptoms over the past week.

EMT Level Treatment Goals:

- Provide warm, humidified oxygen.
- Keep the infant calm and comfortable.

- Monitor vital signs closely.
- Transport to a hospital with pediatric cardiology capabilities.

Paramedic Level Treatment Goals:

- Initiate IV access for potential fluid resuscitation.
- Continuous cardiac monitoring.
- Administer supplemental oxygen, considering possible congenital heart defect implications.
- Prepare for advanced interventions based on medical control advice.
- Immediate transport to a specialized pediatric facility.

Scenario Outcomes:

Correct Management:

- Vital Signs: Slight improvement in oxygen saturation, stabilization of heart rate.
- Presentation: Maintained stability during transport, appropriate interventions applied.

Incorrect Management:

- Vital Signs: Worsening cyanosis, potential for respiratory distress or heart failure.
- Presentation: Deterioration in the infant's condition due to inadequate management.

Debrief Questions:

What are the signs and symptoms of congenital heart defects in neonates?

- **Explanation:** Signs and symptoms can include cyanosis, rapid breathing, fatigue, poor feeding, and a heart murmur. These symptoms might be subtle initially but can worsen over time.

Why is it important to administer oxygen carefully in neonates with suspected congenital heart disease?

- **Explanation:** In certain congenital heart defects, oxygen administration can alter pulmonary and systemic vascular resistance, potentially worsening the condition. It should be used judiciously and monitored closely.

How do the treatment priorities for neonates with cardiac congenital abnormalities differ from those with acquired cardiac conditions?

- **Explanation:** Treatment priorities include maintaining oxygenation and hemodynamic stability while avoiding interventions that might exacerbate the underlying condition, such as aggressive fluid resuscitation in certain defects. Immediate evaluation and intervention by a pediatric cardiologist are often necessary.

Neonatal Patient Scenario: Near Apnea Due to Respiratory Problem

Patient Information:

- **Age:** 3 weeks old
- **Gender:** Female

Moulage Required:

- The infant appears lethargic, with minimal chest movement and weak cries.

Dispatch Information:

- Emergency call from parents reporting their baby is "barely breathing."

On Arrival Presentation:

- The infant is found in her crib, showing signs of respiratory distress with infrequent, shallow breathing.
- Parents report the baby has been "fussy and feeding poorly" and now seems to be struggling to breathe.

Past Medical History:

- Born at 37 weeks gestation with a brief NICU stay for observation.
- No significant issues reported since discharge.

Primary Assessment Findings:

- Infrequent and shallow respirations, near apnea.
- Weak muscle tone and poor responsiveness.
- No apparent obstruction or trauma.

Vital Signs:

- BP: 60/40 mmHg
- HR: 160 bpm (tachycardic)
- RR: 8 breaths/min (bradypneic)
- SpO₂: 80% on room air
- Temperature: 97.5°F (36.4°C)

SAMPLE History Findings:

- **Symptoms:** Poor feeding, lethargy, near apnea.
- **Allergies:** None.
- **Medications:** None.
- **Past Medical History:** Prematurity.
- **Last Oral Intake:** Difficulty feeding over the last 24 hours.
- **Events Leading Up:** Gradual onset of respiratory distress.

EMT Level Treatment Goals:

- Stimulate the infant to encourage breathing.
- Administer blow-by oxygen or use a bag-valve-mask for ventilatory support.
- Monitor for changes in respiratory and cardiac status.
- Prepare for immediate transport to a pediatric facility.

Paramedic Level Treatment Goals:

- Initiate advanced airway management if necessary and feasible.
- Administer supplemental oxygen with careful monitoring.
- Establish IV or IO access for potential fluid resuscitation.
- Continuous monitoring of vital signs and oxygen saturation.
- Rapid transport with ongoing respiratory support.

Scenario Outcomes:

Correct Management:

- Vital Signs: Improvement in respiratory rate and oxygen saturation with intervention.
- Presentation: Stabilized breathing, no progression to full apnea.

Incorrect Management:

- Vital Signs: Deterioration in respiratory and cardiac status, potential progression to apnea and bradycardia.
- Presentation: Worsening of respiratory distress, potential for respiratory failure.

Debrief Questions:

What are the key indicators of respiratory distress in a neonate that may lead to apnea?

- **Explanation:** Indicators include infrequent or shallow breathing, bradypnea, poor muscle tone, lethargy, and low oxygen saturation. Early signs might also include fussiness and poor feeding.

Why is prompt intervention critical in neonates showing signs of near apnea?

- **Explanation:** Neonates have limited respiratory reserves, and any compromise can quickly lead to apnea, bradycardia, and potentially life-threatening consequences. Immediate intervention is crucial to prevent further deterioration.

How do neonates differ from older children or adults in their response to respiratory compromise, and how does this impact treatment?

- **Explanation:** Neonates are more likely to experience bradycardia as a primary response to hypoxia, unlike older children and adults who typically present with tachycardia. Treatment in neonates focuses on gentle stimulation to breathe, cautious oxygen administration, and maintaining body temperature while preparing for possible advanced airway management.

Neonatal Patient Scenario: Febrile Seizures

Patient Information:

- **Age:** 6 months old
- **Gender:** Female

Moulage Required:

- The infant experiencing rhythmic jerking movements, possible postictal state following the seizure activity.

Dispatch Information:

- Call from a parent reporting their baby is having a seizure for the first time.

On Arrival Presentation:

- Upon arrival, the seizure has ceased. The infant appears drowsy and is not fully responsive (postictal state).
- The parent reports the baby had a fever earlier in the day.

Past Medical History:

- Uncomplicated birth history.
- No previous seizures or significant medical issues.

Primary Assessment Findings:

- Postictal: The infant is drowsy, with decreased responsiveness but is breathing adequately.
- Skin is warm and flushed.
- No signs of trauma.

Vital Signs:

- BP: Not easily obtainable due to age, but perfusion appears adequate.
- HR: 140 bpm
- RR: 24 breaths/min
- SpO2: 96% on room air
- Temperature: 102.2°F (39°C) (febrile)

SAMPLE History Findings:

- **Symptoms:** Seizure activity, fever, irritability.
- **Allergies:** None known.
- **Medications:** None.
- **Past Medical History:** Generally healthy.
- **Last Oral Intake:** Bottle feeding 3 hours prior.
- **Events Leading Up:** Parents noted the infant felt warm and later observed seizure-like activity.

EMT Level Treatment Goals:

- Ensure the infant is in a safe position, clear of any objects that could cause injury.
- Monitor airway, breathing, and circulation. Administer oxygen if needed.
- Cool the infant if excessively warm, using tepid sponging and ensuring the infant is not overdressed.
- Transport to the hospital for evaluation, particularly since this is the first seizure.

Paramedic Level Treatment Goals:

- If seizure activity resumes, prepare for airway management and administer anticonvulsants as per protocol.
- Establish IV or IO access for potential antipyretic and anticonvulsant administration.
- Continuous monitoring of vital signs and neurological status.
- Rapid transport while providing supportive care.

Scenario Outcomes:

Correct Management:

- Vital Signs: Gradual normalization of temperature and stabilization of other vitals.
- Presentation: Improvement from the postictal state, no recurrence of seizure activity.

Incorrect Management:

- Vital Signs: Prolonged febrile state, potential for recurrent seizure activity.
- Presentation: Worsening postictal state, risk of injury if not properly positioned.

Debrief Questions:

What are the key features of febrile seizures in infants, and how do they typically present?

- **Explanation:** Febrile seizures are seizures associated with a fever in the absence of a central nervous system infection. They typically involve generalized tonic-clonic activity and occur in infants and young children between 6 months and 5 years.

Why is it important to manage the fever in a case of a febrile seizure?

- **Explanation:** Managing the fever is crucial because the seizure is typically triggered by a rapid increase in body temperature. Reducing the fever can help prevent additional seizures.

What are the primary considerations for EMS when handling a neonate post-febrile seizure?

- **Explanation:** Post-seizure considerations include ensuring a patent airway, monitoring for recurrent seizures, assessing for underlying causes of the fever (like infection), preventing injury, and maintaining normal body temperature. Transport to a hospital for further evaluation is important, especially for a first-time seizure.

Pediatric Patient Scenario: Diabetic Ketoacidosis (DKA)

Patient Information:

- **Age:** 10 years old
- **Gender:** Male

Moulage Required:

- Rapid breathing, signs of dehydration (e.g., dry mucous membranes), and a fruity odor on the breath.

Dispatch Information:

- Call from a parent concerned about their child who has been very thirsty, urinating frequently, and is now breathing rapidly and appears very sick.

On Arrival Presentation:

- Child is lethargic, breathing rapidly, and appears dehydrated.
- The parent mentions the child was recently diagnosed with type 1 diabetes.

Past Medical History:

- Recent diagnosis of type 1 diabetes.
- No other significant medical history.

Primary Assessment Findings:

- Rapid, deep breathing (Kussmaul respirations).
- Altered mental status: drowsy and somewhat disoriented.
- Signs of severe dehydration: dry lips, sunken eyes.

Vital Signs:

- BP: 100/60 mmHg
- HR: 130 bpm (tachycardic)
- RR: 35 breaths/min (deep and rapid)
- SpO2: 97% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Polyuria (frequent urination), polydipsia (increased thirst), lethargy, rapid breathing.
- **Allergies:** No known allergies.
- **Medications:** Insulin (recently started).
- **Past Medical History:** Type 1 diabetes.
- **Last Oral Intake:** Unable to keep down breakfast.
- **Events Leading Up:** Symptoms have been worsening over the past two days.

EMT Level Treatment Goals:

- Monitor airway, breathing, and circulation.
- Provide supplemental oxygen if needed.
- Keep the child comfortable and in a position of ease for breathing.
- Rapid transport to the hospital for advanced care.
- Monitor blood glucose levels if the capability exists.

Paramedic Level Treatment Goals:

- Establish IV access and begin fluid resuscitation.
- Continuous monitoring of vital signs and blood glucose levels.
- Administer insulin as per protocol, if available.
- Prepare for potential airway management if mental status deteriorates.
- Rapid transport to a hospital with pediatric diabetes management capabilities.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization with fluid therapy, no further deterioration of the mental status.
- Presentation: Improved hydration status, preparation for advanced care upon arrival at the hospital.

Incorrect Management:

- Vital Signs: Worsening tachycardia, potential hypotension, or shock.
- Presentation: Deterioration in mental status, worsening of dehydration and acidosis.

Debrief Questions:

What are the classic signs of DKA in a pediatric patient?

- **Explanation:** Classic signs include polyuria, polydipsia, lethargy, rapid and deep breathing (Kussmaul respirations), and signs of dehydration. A fruity odor on the breath due to ketones is also a key indicator.

Why is fluid resuscitation important in the management of DKA?

- **Explanation:** Fluid resuscitation addresses dehydration, which is a critical component of DKA. It helps to restore normal hydration status, improve circulation, and facilitate the elimination of ketones and glucose from the body.

How can EMS providers distinguish between DKA and other causes of altered mental status in diabetic children?

- **Explanation:** Providers should consider the history of polyuria, polydipsia, recent diabetes diagnosis, and the presence of Kussmaul respirations along with testing blood glucose levels, if possible. These factors, combined with the clinical presentation, can help distinguish DKA from other causes.

Neonatal Patient Scenario: Meningitis

- **Age:** 1 month old
- **Gender:** Male

Moulage Required:

- The infant appears irritable, possibly with a high-pitched cry, and may have a bulging fontanelle (soft spot on the head).

Dispatch Information:

- Call from parents concerned about their baby who is extremely fussy, has a fever, and is not feeding well.

On Arrival Presentation:

- The infant is irritable, difficult to console, and exhibits a high-pitched cry.
- Parents report the baby has been feverish and increasingly lethargic.

Past Medical History:

- Born at full term with no complications.
- Routine vaccinations have not begun due to age.

Primary Assessment Findings:

- Increased irritability and high-pitched crying.
- Possible bulging fontanelle.
- Shows discomfort when being handled.

Vital Signs:

- BP: Not easily obtainable, but extremities are warm with good capillary refill.
- HR: 160 bpm (elevated)
- RR: 30 breaths/min (slightly elevated)
- SpO2: 97% on room air
- Temperature: 100.4°F (38°C) (febrile)

SAMPLE History Findings:

- **Symptoms:** Fever, irritability, lethargy, poor feeding.
- **Allergies:** None known.
- **Medications:** None.
- **Past Medical History:** Unremarkable.
- **Last Oral Intake:** Reduced feeding over the last 24 hours.
- **Events Leading Up:** Gradual onset of symptoms over the past two days.

EMT Level Treatment Goals:

- Provide supportive care to maintain normal body temperature.
- Handle the infant gently to minimize discomfort.
- Administer oxygen if there are signs of respiratory distress.
- Rapid transport to a hospital with neonatal care capabilities.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs.
- IV or IO access for potential fluid administration and blood sample collection.
- Prepare for potential seizures and have appropriate medications ready as per protocol.
- Prehospital notification to the receiving facility for potential isolation and immediate intervention upon arrival.

Scenario Outcomes:

Correct Management:

Vital Signs: Maintain stable heart rate and oxygen saturation, appropriate temperature management.

Presentation: Infant remains stable during transport, with symptoms managed appropriately.

Incorrect Management:

Vital Signs: Possible worsening of fever, tachycardia, or onset of respiratory distress.

Presentation: Increased irritability, potential for seizure activity, or worsening of the condition.

Debrief Questions:

What are the key signs and symptoms of meningitis in a neonate?

- **Explanation:** Key signs include fever, irritability, high-pitched crying, lethargy, poor feeding, and a bulging fontanelle. Meningitis can progress rapidly in neonates and requires urgent medical attention.

Why is rapid transport and prehospital notification important in suspected cases of neonatal meningitis?

- **Explanation:** Rapid transport is crucial due to the potential for rapid deterioration in neonates with meningitis. Prehospital notification ensures the receiving facility is prepared for immediate assessment and treatment, which may include isolation precautions and prompt initiation of antibiotics.

How do the management strategies differ for neonates with suspected meningitis compared to older children or adults?

- **Explanation:** Management in neonates focuses on gentle handling due to the risk of increased intracranial pressure, maintaining normal body temperature, and preparing for potential complications like seizures. Neonates are more vulnerable to rapid deterioration, so early recognition and supportive care during transport are critical.

Neonatal Patient Scenario: Severe Dehydration from Gastroenteritis

Patient Information:

- **Age:** 2 months old
- **Gender:** Female

Moulage Required:

- Signs of dehydration such as sunken fontanelle, dry mucous membranes, and decreased tear production.

Dispatch Information:

- Parents call reporting their baby has been vomiting and having diarrhea for the past day and now seems very weak.

On Arrival Presentation:

- The infant is lethargic, with a sunken fontanelle and dry lips.
- Parents report frequent episodes of vomiting and watery diarrhea, with a significant decrease in wet diapers.

Past Medical History:

- No significant medical history. Born at full term.

Primary Assessment Findings:

- Lethargic and minimally responsive.
- Sunken eyes and fontanelle, indicating dehydration.
- Skin turgor decreased, with the skin slow to return to normal when pinched.

Vital Signs:

- BP: Lower than normal ranges for age, but precise measurement difficult.
- HR: 180 bpm (elevated, indicating dehydration and potential shock)
- RR: 35 breaths/min (slightly elevated)
- SpO2: 95% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Vomiting, diarrhea, lethargy, decreased urine output.
- **Allergies:** None.
- **Medications:** None.
- **Past Medical History:** Unremarkable.
- **Last Oral Intake:** Unable to keep down feeds for the last 24 hours.
- **Events Leading Up:** Onset of gastrointestinal symptoms one day ago.

EMT Level Treatment Goals:

- Keep the infant warm and comfortable.
- Monitor airway, breathing, and circulation closely.
- Administer oral rehydration solution if the infant can swallow, per protocol.
- Transport to a hospital with pediatric care facilities.

Paramedic Level Treatment Goals:

- Establish IV or IO access for fluid resuscitation.
- Monitor vital signs continuously, looking for signs of shock.
- Consider antiemetics or other medications as per protocol.
- Provide supportive care and prepare for rapid transport to a medical facility.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilization of heart rate and improvement in overall condition with fluid therapy.
- Presentation: Reduced signs of dehydration, more responsive.

Incorrect Management:

- Vital Signs: Worsening tachycardia and signs of shock.
- Presentation: Increasing lethargy, potential progression to hypovolemic shock.

Debrief Questions:

What are the signs of severe dehydration in a neonate, and why is it critical to identify them early?

- **Explanation:** Signs include sunken fontanelle and eyes, dry mucous membranes, decreased skin turgor, lethargy, and reduced urine output. Early identification is crucial as neonates can deteriorate rapidly and develop hypovolemic shock.

How do the treatment goals for dehydration in a neonate differ from those in older children or adults?

- **Explanation:** Neonates are at higher risk of rapid deterioration, so early fluid resuscitation is crucial. They also have less fluid reserve, so dehydration can become severe more quickly. Careful monitoring and gentle fluid replacement are key.

What are the potential complications of severe dehydration in neonates, and how can EMS providers mitigate these risks during transport?

- **Explanation:** Potential complications include electrolyte imbalances, renal failure, and shock. EMS providers can mitigate these risks by initiating fluid resuscitation, monitoring vital signs, providing supportive care, and ensuring rapid transport to a facility equipped for pediatric care.

Pediatric Patient Scenario: Seizure Disorders

Patient Information:

- **Age:** 5 years old
- **Gender:** Female

Moulage Required:

- The child experiencing convulsive movements, possible postictal state following the seizure activity.

Dispatch Information:

- Emergency call from a school reporting a child having a seizure in the classroom.

On Arrival Presentation:

- On arrival, the child is in a postictal state (drowsy and disoriented) but not actively seizing.
- A teacher reports that the child experienced convulsive movements lasting about 2 minutes.

Past Medical History:

- Diagnosed with epilepsy at the age of 3.
- On antiepileptic medication (specific type not known).

Primary Assessment Findings:

- Postictal: The child is disoriented, with decreased responsiveness but is breathing adequately.
- No signs of injury from the seizure.

Vital Signs:

- BP: 100/70 mmHg
- HR: 100 bpm
- RR: 20 breaths/min
- SpO2: 97% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Convulsive seizure, postictal state.
- **Allergies:** No known allergies.
- **Medications:** Antiepileptic medication (type unknown).
- **Past Medical History:** Epilepsy.
- **Last Oral Intake:** Lunch at school.
- **Events Leading Up:** Seizure occurred suddenly while in class.

EMT Level Treatment Goals:

- Ensure the child is in a safe environment, clear of any objects that could cause injury.

- Monitor airway, breathing, and circulation.
- Reassure and comfort the child as she recovers from the postictal state.
- Transport to the hospital for evaluation, especially if this is a change from her usual seizure pattern.

Paramedic Level Treatment Goals:

- Establish IV or IO access in case of recurrent seizures or if medication administration is needed.
- Continuous monitoring of vital signs.
- Consider administering a benzodiazepine if seizure recurs or according to protocol.
- Provide supportive care and reassurance during transport.

Scenario Outcomes:

Correct Management:

Vital Signs: Stabilization of vital signs post-seizure, with the child becoming more alert.

Presentation: Child safely transported with no recurrence of seizure activity.

Incorrect Management:

Vital Signs: Possible recurrence of seizure activity, risk of injury, or respiratory compromise.

Presentation: Prolonged postictal state or inadequate seizure management.

Debrief Questions:

What are the key priorities in managing a pediatric patient post-seizure?

- **Explanation:** Key priorities include ensuring a safe environment to prevent injury, monitoring airway, breathing, and circulation, reassessing the child for any changes or injuries, and providing comfort and reassurance during the postictal state.

How do the management strategies differ for pediatric patients with a known history of epilepsy compared to those experiencing a first-time seizure?

- **Explanation:** For children with a known history of epilepsy, management focuses on assessing whether the seizure followed their typical pattern and ensuring they return to their baseline postictal state. In contrast, a first-time seizure requires a more thorough evaluation to rule out new or acute underlying causes.

What are the indications for transporting a child with a seizure disorder to the hospital, even if they have returned to their baseline postictal state?

- **Explanation:** Indications for transport include significant changes in their seizure pattern, longer than usual seizures, multiple seizures without returning to baseline, first-time seizure, or if the child fails to return to their baseline mental state. Transport is also indicated if there are injuries or complications from the seizure.

Pediatric Patient Scenario: Supraventricular Tachycardia (SVT)

Patient Information:

- **Age:** 8 years old
- **Gender:** Male

Moulage Required:

- The child appears anxious, possibly pale or sweaty.

Dispatch Information:

- Call from a parent reporting their child has a "very fast heartbeat" and is feeling dizzy.

On Arrival Presentation:

- The child is sitting down, looking anxious and pale.
- The parent reports the child complained of sudden heart palpitations and dizziness.

Past Medical History:

- Diagnosed with SVT one year ago.
- Occasionally uses medication (unspecified) for SVT episodes.

Primary Assessment Findings:

- Rapid heart rate, difficult to palpate accurately.
- No respiratory distress, but the child reports feeling lightheaded.
- Skin is pale and slightly diaphoretic (sweaty).

Vital Signs:

- BP: 90/60 mmHg
- HR: 220 bpm (rapid and regular)
- RR: 20 breaths/min
- SpO2: 99% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Rapid heartbeat, dizziness, slight shortness of breath.
- **Allergies:** None known.
- **Medications:** As-needed medication for SVT (type unspecified).
- **Past Medical History:** Recurrent SVT.
- **Last Oral Intake:** A snack 1 hour ago.
- **Events Leading Up:** Symptoms started while playing.

EMT Level Treatment Goals:

- Keep the child calm and in a sitting position.

- Administer oxygen if there are any signs of hypoxia.
- Monitor vital signs and prepare for rapid transport.
- Avoid any strenuous activity or agitation.

Paramedic Level Treatment Goals:

- Establish IV access.
- Prepare for potential administration of adenosine or other antiarrhythmic medication as per protocol.
- Continuous cardiac monitoring.
- Consider vagal maneuvers if appropriate and safe.
- Immediate transport to a pediatric facility.

Scenario Outcomes:

Correct Management:

- Vital Signs: Heart rate may normalize following appropriate intervention or remain elevated but stable during transport.
- Presentation: Child remains alert and hemodynamically stable.

Incorrect Management:

- Vital Signs: Possible worsening of tachycardia or development of hypotension.
- Presentation: Deterioration of the child's condition, increased dizziness, or potential syncope.

Debrief Questions:

What are the characteristic features of SVT in a pediatric patient, and how can it be distinguished from normal sinus tachycardia?

- **Explanation:** SVT in pediatric patients typically presents with a sudden onset of a very rapid but regular heart rate, often over 200 bpm. It differs from sinus tachycardia, which gradually increases and is usually associated with an underlying cause like fever or anxiety.

Why is rapid intervention important in a pediatric patient with SVT?

- **Explanation:** Rapid intervention is essential to prevent complications such as heart failure, syncope, or hypotension, especially if the SVT is sustained and the heart rate is very high.

What are the initial steps for prehospital management of a pediatric patient with suspected SVT?

- **Explanation:** Initial steps include monitoring and supporting vital signs, establishing IV access, preparing for medication administration, considering vagal maneuvers, and ensuring rapid transport to a hospital. Continuous reassessment and monitoring during transport are crucial.

Pediatric Patient Scenario: Accidental Beta Blocker Overdose

- **Age:** 6 years old
- **Gender:** Female

Moulage Required:

- Child appears lethargic, possibly with slow respiratory rate.

Dispatch Information:

- Call from a parent who found their child with an open bottle of beta-blocker medication (prescribed to a family member).

On Arrival Presentation:

- The child is drowsy and breathing slowly.
- The parent presents an empty bottle of Metoprolol (a beta-blocker), unsure how many pills were ingested.

Past Medical History:

- Generally healthy with no chronic conditions.

Primary Assessment Findings:

- Decreased level of consciousness (drowsy but arousable).
- Bradycardia and hypotension.
- Respiratory rate is slow but adequate for oxygenation.

Vital Signs:

- BP: 80/50 mmHg
- HR: 50 bpm
- RR: 12 breaths/min
- SpO₂: 97% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Drowsiness, slow heartbeat.
- **Allergies:** No known allergies.
- **Medications:** None prescribed to the child.
- **Past Medical History:** No significant issues.
- **Last Oral Intake:** Breakfast this morning.
- **Events Leading Up:** Found with the medication bottle about 30 minutes prior to EMS arrival.

EMT Level Treatment Goals:

- Maintain airway patency and monitor breathing.

- Administer high-flow oxygen.
- Position the child to maintain airway and prevent aspiration.
- Rapid transport to the hospital.
- Support circulation as much as possible.

Paramedic Level Treatment Goals:

- Establish IV access.
- Consider administration of activated charcoal if within the appropriate time frame of ingestion and if the child is alert enough to swallow.
- Continuous monitoring of vital signs.
- Prepare for possible administration of antidotes such as glucagon or atropine, per protocol.
- Immediate transport to a medical facility for advanced care.

Scenario Outcomes:

Correct Management:

- Vital Signs: Slight improvement or stabilization of heart rate and blood pressure with treatment.
- Presentation: Maintained airway, no further deterioration in consciousness.

Incorrect Management:

- Vital Signs: Further decrease in heart rate and blood pressure, potential respiratory distress.
- Presentation: Worsening of consciousness level, possible respiratory failure.

Debrief Questions:

What are the key signs and symptoms of a beta-blocker overdose in a pediatric patient?

- **Explanation:** Key signs include bradycardia, hypotension, respiratory depression, and altered mental status. Symptoms can progress to heart failure and respiratory failure in severe cases.

Why is it important to rapidly transport a child with a suspected beta-blocker overdose to a hospital?

- **Explanation:** Rapid transport is critical due to the potential for rapid deterioration. The child may require advanced medical interventions, including specific antidotes, which are not typically available in the prehospital setting.

What prehospital treatments can be provided for a child with a beta-blocker overdose, and what are the considerations for each?

- **Explanation:** Prehospital treatment includes maintaining airway, breathing, and circulation, administering oxygen, establishing IV access, and considering the use of activated charcoal. Antidotes like glucagon or atropine may be administered per protocol, but careful monitoring for adverse effects is necessary.

Pediatric Patient Scenario: Manic Episode

- **Age:** 13 years old
- **Gender:** Male

Moulage Required:

- The child appears extremely energetic, possibly engaging in rapid, loud speech, and may exhibit impulsive behavior.

Dispatch Information:

- Call from a school counselor reporting a student exhibiting erratic and overly excited behavior.

On Arrival Presentation:

- The child is pacing rapidly, talking loudly and quickly, and seems easily distracted.
- School staff report this behavior is unusual and has been escalating throughout the day.

Past Medical History:

- Diagnosed with bipolar disorder; recently started on medication (specific type not known).
- No history of substance abuse.

Primary Assessment Findings:

- Overly talkative, displaying grandiose ideas.
- Difficulty focusing on questions or instructions.
- No signs of physical injury.

Vital Signs:

- BP: 130/85 mmHg
- HR: 110 bpm (elevated)
- RR: 20 breaths/min
- SpO2: 98% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Excessive energy, decreased need for sleep, racing thoughts, impulsive behavior.
- **Allergies:** None known.
- **Medications:** Recently started medication for bipolar disorder (type unspecified).
- **Past Medical History:** Bipolar disorder.
- **Last Oral Intake:** Breakfast in the morning.
- **Events Leading Up:** Behavior started escalating in the past week.

EMT Level Treatment Goals:

- Establish a calm and safe environment.

- Engage in clear, concise communication.
- Monitor vital signs and assess for any medical causes of altered mental status.
- Transport to a hospital for psychiatric evaluation, ensuring safety during transport.

Paramedic Level Treatment Goals:

- Consider sedation if the patient's behavior poses a risk to himself or others, following protocol.
- Continuous reassessment of mental status and vital signs.
- Prehospital notification to receiving facility about the patient's mental and physical status.
- Ensure thorough documentation of observations and interventions.

Scenario Outcomes:

Correct Management:

- Vital Signs: Stabilize with a calm environment and reassurance.
- Presentation: Safe transport without escalation of behavior.

Incorrect Management:

- Vital Signs: Possible escalation of heart rate and blood pressure due to stress or agitation.
- Presentation: Increased agitation or risk of harm to self or others.

Debrief Questions:

What are the key features of a manic episode in a pediatric patient, and how might they present differently from adults?

- **Explanation:** Key features include elevated or irritable mood, increased activity or energy, racing thoughts, impulsive behavior, and grandiosity. In pediatric patients, manic episodes can be more erratic and less structured compared to adults, and they might also have more pronounced mood swings.

How should EMS providers approach and manage a pediatric patient experiencing a manic episode?

- **Explanation:** EMS providers should approach with calm, non-threatening behavior, use clear and simple communication, establish a safe environment, and avoid overstimulating the patient. The goal is to reassure and safely transport the patient to a facility for evaluation.

What are the potential risks and complications associated with transporting a pediatric patient in a manic state?

- **Explanation:** Risks include the patient's unpredictable behavior, potential for aggression, impulsivity leading to self-harm or harm to others, and the risk of escalating the situation. Sedation may be necessary for transport but must be done carefully considering the patient's mental and physical health.

Pediatric Patient Scenario: Suicidal Ideation

- **Age:** 15 years old
- **Gender:** Female

Moulage Required:

- Possible self-inflicted superficial cuts on arms, tearful, and withdrawn demeanor.

Dispatch Information:

- Call from a parent concerned about their child who has locked herself in her room after a distressing conversation about self-harm.

On Arrival Presentation:

- The patient is found in her bedroom, sitting on the floor, crying. There are superficial cuts on arms
- She is initially reluctant to speak but eventually expresses feelings of hopelessness and thoughts of self-harm.

Past Medical History:

- Diagnosed with depression one year ago, under psychiatric care, and on medication (specific type not known). History of one previous suicide attempt.

Primary Assessment Findings:

- Emotional distress with tearfulness and withdrawal.
- Superficial lacerations on the forearms, no active bleeding.
- No immediate threat to life based on current injuries.

Vital Signs:

- BP: 120/80 mmHg
- HR: 90 bpm
- RR: 16 breaths/min
- SpO2: 99% on room air
- Temperature: 98.6°F (37°C)

SAMPLE History Findings:

- **Symptoms:** Suicidal ideation, self-harm, emotional distress.
- **Allergies:** No known drug allergies.
- **Medications:** Antidepressant (specific type not known).
- **Past Medical History:** Depression, previous suicide attempt.
- **Last Oral Intake:** Dinner the previous evening.
- **Events Leading Up:** Recent breakup with a significant other and increased depression

EMT Level Treatment Goals:

- Ensure the patient's safety, removing any harmful objects from her immediate vicinity.
- Provide emotional support and a calm environment.
- Monitor for any signs of medical complications from self-harm.
- Transport to a hospital for psychiatric and medical evaluation.

Paramedic Level Treatment Goals:

- Continuous monitoring of vital signs and mental status.
- Assess for any need for further medical intervention for self-inflicted injuries.
- Engage in non-judgmental, empathetic communication, ensuring the patient feels heard and supported.
- Prehospital notification to the receiving facility regarding the patient's mental health status and potential need for psychiatric care.

Scenario Outcomes:

Correct Management:

Vital Signs: Remain stable with appropriate emotional support and monitoring.

Presentation: Safe transport to the hospital with the patient feeling supported and cared for.

Incorrect Management:

Vital Signs: Potential for escalation of emotional distress or physiological response to stress (e.g., increased heart rate, hyperventilation).

Presentation: Increased risk of further self-harm or deterioration of mental state.

Debrief Questions:

What are the important considerations when managing a pediatric patient with suicidal ideation?

- **Explanation:** Key considerations include ensuring the patient's immediate safety, providing emotional support, engaging in empathetic and non-judgmental communication, and recognizing the need for psychiatric evaluation and care.

How should EMS providers approach the topic of self-harm or suicide with a pediatric patient?

- **Explanation:** Providers should approach the topic gently but directly, asking about thoughts of self-harm or suicide in a caring and non-threatening manner. It's important to listen actively and validate the patient's feelings.

What are the critical steps in the prehospital management of a patient with suicidal ideation and self-harm?

- **Explanation:** Critical steps include ensuring the patient's physical safety, addressing any immediate medical needs related to self-harm, monitoring vital signs, providing emotional support, and safe transportation to a facility equipped to provide appropriate mental health care.