

**American Academy of Orthopaedic Surgeons**

**Editorial Credits**

Chief Education Officer: Mark W. Wieting

Director, Department of Publications: Marilyn L. Fox, PhD

Managing Editor: Barbara A. Scotese

**World Headquarters Jones and Bartlett Publishers**

40 Tall Pine Drive

Sudbury, MA 01776

978-443-5000

info@jbpub.com

[www.EMSzone.com](http://www.EMSzone.com)

**Jones and Bartlett Publishers Canada**

6339 Ormindale Way

Mississauga, ON L5V 1J2

Canada

**Jones and Bartlett Publishers International**

Barb House, Barb Mews

London W6 7PA

United Kingdom

**Copyright © 2006 by Jones & Bartlett Publishers, Inc.**

All rights reserved. No part of the material protected by this copyright notice may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

This DVD is for discussion purposes only; it is not intended to represent standards of care required in emergency situations. The American Academy of Orthopaedic Surgeons and the publisher make no guarantee as to, and assume no responsibility for the correctness, sufficiency, or completeness of such information or recommendations.

6048

**Production Credits**

Contributor: Chris Stratford, RN, BS, CEN

Reviewers: Carol Gupton, BSEMS, NREMT-P; Mike Smith, MICP;

Brenda M. Beasley, RN, BS, EMT-P; Larry Newell, EdD, NREMT-P

Publisher, Public Safety: Kimberly Brophy

Editor: Jennifer L. Reed

V.P., Production and Design: Anne Spencer

V.P., Manufacturing and Inventory Control: Therese Connell

## **Introduction**

The "You are the EMT" DVD series shows real life patient care situations involving practicing EMTs at various levels of care. The DVDs are for discussion purposes only; they are not intended to show standards of care in emergency situations. The primary focus is on assessment techniques. The DVDs may be used to introduce specific topics, review those topics, or stimulate critical discussion about the care provided. Caution should be employed when using these DVDs to teach specific techniques of management. The instructor is encouraged to preview the DVDs to become familiar with the scenarios prior to showing them in class. The scenarios need not be shown in the order presented on the DVDs.

## **Thinking Critically**

In every EMS call, decisions must be made based on conditions at the scene — conditions that are often not as perfect as those portrayed in textbooks or classrooms. The patient care and procedures in these real-life calls should be used to raise questions and stimulate discussion. In reviewing these incidents, put yourself in the place of the care providers. Your decisions may vary from theirs, but make your decisions based on the circumstances of each specific scene. Look at each case and try to anticipate the problems that you might encounter. Think through how you avoid these problems or how you would deal with them should they arise. At the end of each scenario, ask yourself, "Would I have treated this patient any differently?" If so, how?

## **Using the DVD**

Review the discussion questions provided and watch the DVD before showing it to the class. Divide the students into partners of two (similar to a typical ambulance) or in groups of three to four (similar to an engine company in a first response fire department). One person in each group should be assigned the role of the senior partner or captain of the company. Ask the students to watch one situation and write down their observations on how the care provided by these practicing EMTs may differ from what they have learned in class. After showing the DVD, provide time for the students to discuss their observations with their partner or in their small groups. These small group discussions teach the students how to critique their own runs and find ways to improve. Ask the captain or senior partner to share their group's observations with the class. This will help to build leadership qualities and group speaking abilities in the students.

# Pediatric Emergencies I

## Scenario 1

### Chief Complaint: Pediatric Fever

#### Scene Size-Up

- **Body Substance Isolation:** Is BSI necessary for pediatric complaints? What are the chances of this child having Hepatitis or HIV? What about meningococcal meningitis or other infectious diseases?
- **Scene Safety:** There are no obvious threats. What distractions are present in trying to evaluate the scene and history of present illness? Can you think of another place that may be better to evaluate this child?

#### Initial Assessment

- **General Impression:** This scenario shows a 2- to 3-year-old child who is awake and attentive and sitting in the mother's arms. If the mother was cradling the child in her arms, would you give the child a higher priority for concern? What would be age appropriate reactions for a toddler during your assessment?
- **Airway:** Airway is found to be present and adequate.
- **Breathing:** Breathing is also present and adequate. Breath sounds are noted to be clear on auscultation. What is the likelihood of this child having respiratory complaints based on his age?
- **Circulation:** The pulse is present and adequate. No external bleeding is found. If you had noted a decreased level of consciousness and a slow pulse, how concerned would you be? Would you change your priorities? Skin assessment indicates the child is hot and dry with pink mucous membranes in the mouth. If the child had a decreased level of consciousness and a dry mouth, what would you be suspicious of? How would you focus your history questions?
- **Transport Decision:** This crew decided to stay on scene to continue assessment and care. Would you agree? Did you see anything concerning about this child that they didn't?

## Scenario 2

### Chief Complaint: Pediatric Burn

#### Scene Size-Up

- **Scene Survey:** There is one patient carried by a mother who reports a mechanism of injury of being burned while sitting on the stove. Why did the EMT reconfirm the mechanism of injury several times? What was she concerned about? Could the mother be considered another patient? Will you have to manage her needs as well as the child's?

#### Initial Assessment

- **General Impression:** This scenario shows a 4-year-old child who is awake and crying. Did the EMT assess the child's mental status?
- **Airway:** Airway is determined quickly to be present and adequate because of the child's crying. What signs and symptoms would make you suspicious that a burned child may have airway burns?
- **Breathing:** Breathing is found to be present and adequate, again because of the child's crying. In spite of the child having adequate respirations, the patient is placed on high flow

oxygen. How will this benefit this patient? If the child did not tolerate the nonrebreathing mask, what would be an alternative method of administering oxygen?

- **Circulation:** The pulse is found to be present and adequate. The skin assessment also reveals significant burns to the child's posterior torso and legs. How high is the risk of shock in a pediatric burn patient? Pediatric patients have a larger body surface area proportionately than adults. Why is this important to note in this patient?
- **Transport Decision:** The decision in this case is to transport the patient immediately. How could you have used the mother to help calm the child during transport? When would you not allow a parent to ride in the patient compartment with the child?

### **Focused History and Physical Exam**

- **Rapid Trauma Assessment:** After the initial assessment, a rapid trauma exam is performed because of the significant mechanism of injury. Using the pediatric rule of nines, what would you estimate is the percentage of total body surface area (TBSA) burned in this patient? Would you categorize this as a minor, moderate, or critical burn?

### **Scenario 3**

#### **Chief Complaint: Auto vs. Child Pedestrian**

#### **Scene Size-Up**

- **Scene Size-Up:** The scene size-up indicates one patient with a mechanism of injury produced by being struck by a car. The speed of the car is unknown. One EMT noted the windshield had significant damage with blood and hair imbedded in the glass. How does this evaluation of the scene and mechanism of injury help you to predict the patient's injuries?
- **Scene Safety:** There are a number of bystanders present. Could any of these people become a patient?
- **Consent to Care:** Where is the patient's family? Who is responsible for her? If no family were present, how would you obtain consent to care? If no family were present, would it change how you care for the child?

#### **Initial Assessment**

- **General Impression:** This scenario shows a 10-year-old girl lying prone on the asphalt. She appears to be awake and oriented but does not appear anxious or agitated. Would this be an age appropriate response for a school-age child suffering from trauma?
- **Airway:** Airway is present and adequate and there is good initial manual stabilization of the cervical spine. Why was it important for the EMTs to obtain the right size cervical spine immobilization device (CSID)? Would you put the CSID on before or after log rolling the patient to a supine position on a long spine board? Why?
- **Breathing:** Breathing is present and adequate. Is it more important to immobilize the spine or place the patient on oxygen if her respirations are present and adequate? What if her respirations were present but inadequate due to chest trauma?
- **Circulation:** Pulse is present and perfusion is adequate. External bleeding is noted to her face. Is it bleeding adequately enough to require an immediate pressure dressing?
- **Transport Decision:** The decision in this case is to transport the child immediately and a rapid trauma exam is performed to look for deformities, contusions, abrasions, punctures/penetrations, burns, tenderness, lacerations, and swelling (DCAP-BTLS). Would

you wait until inside the ambulance to perform this exam? One EMT evaluated the patient's legs thoroughly based on the patient's complaints. If the patient had a fractured lower leg, would this change how you completed her spinal immobilization? What about your decision to transport?

## Pediatric Emergencies II

### Scenario 1

#### Chief Complaint: Pediatric Patient with a Fever

#### Scene Size-Up

- **Scene Survey:** The call is for a 4-day-old infant with unknown problems. How would you begin to prepare for this type of call? What anxieties does it create within you? What equipment would you plan to take in?
- **Mechanism of Injury (MOI) or Nature of Illness (NOI):** The MOI/NOI is unknown en route to the scene without further information from dispatch. While trauma is rare in newborns, it should still be considered. What are the most common medical conditions found in neonates? What would be specific assessment techniques you would use to evaluate this baby?
- **Number of Patients:** Could the parents be considered patients as well?

#### Initial Assessment

- **General Impression:** The general impression quickly shows a newborn infant, several days old, who is awake and crying. What priority decisions need to be made for this newborn? What type of findings would make this patient a high priority? Did the EMTs assess mental status?
- **Airway:** Airway is found to be open and adequate because the infant is crying.
- **Breathing:** Breathing is also present and adequate. What would be indications of respiratory distress in a neonate?
- **Circulation:** A pulse is present and perfusion is adequate. Which two pulse sites are recommended to evaluate the quality and rate of a neonate's pulse? Skin assessment indicates the child is warm, dry, and jaundiced. How common is it for infants to have yellow skin?
- **Additional Considerations:** The parents are concerned that the child is dehydrated because he is not producing tears. What would be other indications that the infant is dehydrated? Is appropriate to evaluate infants for dehydration in the initial assessment? What is the relationship of dehydration to shock?
- **Transport Decision:** In this scenario, the decision is made to call for additional help and transport the infant to the hospital for evaluation. The crew chooses to stay on scene while waiting for the ambulance. Would you want to transport this infant to the hospital where he was born if possible?

#### Focused History and Physical Exam

- **History:** History is evaluated by one EMT while another performs vital signs and the physical exam. What should be the focus of your history in a 3- or 4-day-old infant? The EMT confirmed the parent's experience and background in caring for a neonate. Why was this important? How important is the birthing history when evaluating possible newborn problems? Should the pregnancy history be a factor to consider as well?
- **Vital Signs:** An apical pulse was auscultated at 160 beats/min. Is this within normal parameters for a neonate? What information does palpating a pulse provide that auscultating does not? What would be a normal respiratory rate and rhythm for a neonate?

- **Physical Exam:** The physical exam should be adjusted following an age appropriate protocol. What would be unique areas to assess in neonates? Would you perform a focused physical exam or a rapid physical exam? What else would you include in a detailed exam on a newborn?

### Interventions

- The EMTs provided support and reassurance that the baby had no immediate life threatening conditions, although he needed to be evaluated. Why was this so important? How does it improve the infant's condition now or in the future? Are there opportunities here to teach the family about infant and childhood diseases? Should this be a responsibility of EMT Basics?

### Scenario 2

#### Chief Complaint: Pediatric Decreased Level of Consciousness

#### Scene Size-Up

- **Scene Survey:** The scenario presents one patient in an apartment, with a nature of illness reported as a decreased level of consciousness. What would be reasons for decreased LOC in a preschooler?
- **Number of Patients:** Would it be appropriate to evaluate other siblings or family members for similar symptoms? If so, what would you expect as the nature of illness?
- **Additional Resources:** Additional resources have been immobilized. A number of care providers at various levels are managing the patient. Who is responsible for supervising the care providers to ensure that all aspects of care are being provided?

#### Initial Assessment

- **General Impression:** The scenario shows a 4-year-old child who is responsive to voice. The mother reports the child was tired and when she went to check on him, he was not responding appropriately. What would be age appropriate responses for a preschooler?
- **Airway:** Airway is quickly determined to be present and adequate. Would you consider an oral or nasopharyngeal airway? If so, why? Are these devices appropriate for small pediatric patients?
- **Breathing:** Breathing is found to be present and adequate. The patient is placed on high flow oxygen. How will this benefit this patient? If the child did not tolerate the nonbreathing mask, what would be an alternative method of administering oxygen?
- **Circulation:** The pulse is found to be present and adequate. The skin assessment indicates decreased perfusion. Oxygen and intravenous fluids are begun and are appropriate treatments for shock. What would be indications that a child is inadequately perfusing? What would be appropriate treatments at an EMT-B level for the treatment of shock? How important is maintaining normal body temperature in a pediatric patient?
- **Transport Decision:** The decision in this case was to transport immediately. Was the child properly restrained on the stretcher before being transported to the hospital?
- **Additional Considerations:** How can you best prepare to handle an extremely ill child? What emotions did you experience observing this child? What if the child was in full arrest? A parent in the patient compartment can be either a help or a hindrance. Why?

### Scenario 3

#### Chief Complaint: Pediatric Poisoning

#### Scene Size-Up

- **Scene Survey:** The scene size-up shows one patient with a reported ingestion of an unknown substance as the nature of illness. What are common substances that a toddler might ingest in a household environment? How would you plan your care, knowing you have a toddler that has been poisoned? Would you call poison control? If so, when?

#### Initial Assessment

- **General Impression:** The arriving EMTs chose to request ALS response for additional help after their general impression. Why did they do this? Was it because the patient was a pediatric patient or because they believed the child to be more ill than they could care for? The paramedic formed a general impression of an 18-month-old awake and responsive deaf toddler who ingested an unknown quantity of lamp oil, a petroleum-based liquid. What would be age appropriate responses for this patient? Does this child demonstrate those behaviors? How would you rate this child's priority based on this general impression? The grandmother was caring for the child while his mother was away. Is she able to provide consent for care by the EMTs? Is she able to consent for transportation to the hospital? What if the caregiver was a 15-year-old babysitter? Would your treatment differ in any way?
- **Airway:** Airway is present and adequate. The child is awake and able to maintain a sitting position in the EMT's arms. The grandmother reported that child had vomited several times. If the child continued to vomit, what would you do to protect the airway? Would it be helpful to either see the vomit or know what it looked like?
- **Breathing:** Breathing is present and adequate. The child has an occasional cough because of the ingestion. Would you provide oxygen to this patient? If so, what would be an appropriate method of administering oxygen?
- **Circulation:** Pulse is present and perfusion appears to be adequate. External bleeding is absent. What injuries would you expect if this child had ingested a caustic acid or base?
- **Transport Decision:** The decision by the initially arriving EMTs is to stay and wait for additional help. What would be indications in a pediatric poisoning that would make you leave and meet the advanced level providers en route? The paramedic chose to leave immediately and continue evaluation and care en route. What were his reasons for this immediate transport decision? Would you restrain this patient on the stretcher for transport? If so, what is the most appropriate method to restrain the child? During transport, the paramedic continued to monitor the patient's level of consciousness and calm and reassure the child. Touch was very effective in this pediatric patient. Can touch be used in adult patients? What would be inappropriate touch for adult patients? What things might you say to a toddler to calm him or her down? What would you avoid saying that might make the toddler more anxious?

## Geriatric Emergencies

### Scenario 1

#### Chief Complaint: Priority Call

### Scene Size-Up

- **Scene Safety:** Dispatch information was unclear and reported a "Priority Call," similar to a "Man Down" call. What are possible reasons that dispatch was unable to obtain more information? How suspicious would you be about scene safety issues on these calls? Would your suspicions for safety concerns be higher if you found out alcohol was involved? Why?
- **Number of Patients:** In this situation, the number of patients is as difficult to determine as who the patients are. As time progresses, more and more people arrive, adding to the complexity of the situation. It is finally determined that the intoxicated older gentleman is the patient. He speaks about a bedridden wife whom he cares for. Will she require attention by the EMS providers as well?
- **Nature of Illness:** The nature of illness appears to be alcohol abuse; however, the patient does state that he is distraught because he must care for his bedridden wife. Could there be a behavioral emergency? What is the potential for spousal abuse by the husband? What about neglect or elder abuse by the children? What would be indications of trauma, accidental or not? Is head trauma a possibility?
- **Additional Resources:** Depending on the aggression of intoxicated patients, law enforcement is usually involved at some point. What other resources might help in this situation?

### Initial Assessment

- **General Impression:** The scenario presents an elderly gentleman in a sitting position who complains of being "loaded" and appears to be in no immediate distress. His level of consciousness is awake, but how is his mental status? Why is the EMT so persistent in determining his mental status?
- **Airway:** Airway is present and adequate because the patient is awake and talking.
- **Breathing:** Breathing is also present and adequate. The patient is not placed on oxygen. Do you think he needs it? Would he tolerate it?
- **Circulation:** Pulse is present. Skin color, temperature, and condition indicate he is perfusing well. There is no evidence of external bleeding. How concerned should these EMTs be about internal bleeding? Is it common in alcohol abuse? How common is alcohol abuse in the elderly?
- **Transport Decision:** The decision is to stay on scene because the patient refuses transport. Can he legally refuse transport? What are your agency's protocols for releasing intoxicated patients? Are you required to contact medical control before leaving the patient? Does your decision to release the patient change if the patient has a competent family member to care for him or her? If medical control requests you to transport the intoxicated patient against his or her will, what options do you have to accomplish this task safely? Could you use law enforcement? What must you document to justify transporting a patient against his or her will? How does the bedridden wife affect your decision to transport the patient?

### Focused History and Physical Exam

- History, vital signs and a focused physical exam were completed by the EMTs. Is this necessary when the patient is obviously under the influence of alcohol?

## Scenario 2

### Chief Complaint: Decreased Level of Consciousness

#### Scene Size-Up

- **Scene Safety:** Safety issues in an Extended Care Facility (ECF) are often related to the environment, wet floors, poor lighting, etc. Why are the elderly more likely to become combative and hit their care providers than younger patients?
- **Nature of Illness:** The nature of illness is possible difficulty breathing and certainly a decreased level of consciousness (LOC), as reported from the ECF staff.
- **Additional Considerations:** With elderly patients, you should consider advanced life support as soon as possible. Why? What is different about an older person's physiology as compared to a 40-year-old person?

#### Initial Assessment

- **General Impression:** The scenario presents an 89-year-old woman with a decreased level of consciousness. She responds to voice, but she is unable to follow commands well. What level of priority would you give this woman? Did you notice that the woman is lying on a clean, made bed? Does this give you any indication about when her change in mental condition occurred?
- **Airway:** Airway is open and considered adequate after careful evaluation.
- **Breathing:** Breathing is present and inadequate because her respiratory rate is outside of normal limits. She is placed on oxygen at 15 liters through a nonrebreathing mask. Would you consider supplementing her tidal volume with positive pressure ventilations? With a fast respiratory rate, at what rate would you bag this woman?
- **Circulation:** She has no peripheral pulses and her central pulse is slower than normal. Her perfusion is poor based on her pale, cool, and dry skin. There is no evidence of external bleeding. What could you do to supplement her perfusion? What are your agency's protocols for treating for shock?
- **Transport Decision:** The decision in this case is to transport immediately. What is the basis of this decision?

#### Focused History and Physical Exam

- **History:** History is often difficult to obtain from patients with a decreased LOC. Because this woman is a resident of an ECF, the care center staff should have her comprehensive history and a current list of medications in addition to allergies. The patient's physician and hospital preference should also be available in the patient's chart. How often is this information accurate? What level of care is the staff at an ECF? Advanced directives should also be readily available in the patient care record. Advanced directives include a living will, medical treatment plans, healthcare power of attorney and Do Not Resuscitate (DNR) orders. Older populations are more likely to have these kinds of documents specifying their healthcare expectations when they are not able to say so themselves. Would you have asked the ECF staff if this patient had advanced directives? Which, if any, of these documents should be transferred to the hospital with the patient?
- **Focused Physical Exam:** The physical exam is performed with attention to the patient's neurological status, respiratory status, and circulation or perfusion status. Did the EMTs leave anything out on their physical exam?

- **Vital Signs:** Vital signs were obtained as quickly as possible. The woman's respiratory rate was 40; she had a heart rate of 40 to 50; her blood pressure was unobtainable at first and then auscultated at approximately 80; and her skin was pale, cool, and dry. An attempt was made to obtain pulse oximetry values but was unsuccessful. What factors would make it difficult to obtain an accurate pulse oximeter reading?

### **Interventions**

- This woman was perfusing poorly. The EMTs positioned her appropriately in a modified Trendelenberg position by elevating her legs. The paramedic ordered a frequent evaluation of her lungs. What was he concerned with? Why did they frequently evaluate her breath sounds?

### **Detailed Exam and Ongoing Assessment**

- It is difficult to tell on the available footage if a detailed exam was omitted or completed en route. What would be the advantage of a detailed exam if time allowed? How can a detailed exam help to identify the patient's history?
- An ongoing assessment of perfusion, respiratory status, and mental status was done en route to the hospital. How would you evaluate for each of these in this patient? How would you document your findings?

## **Scenario 3**

### **Chief Complaint: Chest Pain**

#### **Scene Size-Up**

- **Scene Size-Up:** The EMTs are dispatched to the home of an elderly gentleman complaining of chest pain. First responders are on scene and have completed their assessment and begun interventions. The EMTs obtain a report from them and assume care.

#### **Initial Assessment**

- **General Impression:** This scenario shows an elderly gentleman who is awake, talking, and reclining in his bed. How much distress would you estimate he is in? How would you confirm this? Did the EMTs check his mental status?
- **Airway:** The airway is determined to be present and adequate because the patient is awake and talking.
- **Breathing:** Breathing is present and adequate, but the patient is still placed on low flow oxygen. Why wasn't he placed on high flow oxygen?
- **Circulation:** The patient has a pulse, is perfusing well, and does not have signs of external bleeding or trauma.
- **Transport Decision:** The decision by the first responders was to stay on scene and wait for the ambulance. Once the ambulance arrived, a report was given and the patient was transferred to the ambulance. How would you transfer a cardiac patient from his bed to the stretcher to decrease both the physical and mental workload on the patient's heart?

#### **Focused History and Physical Exam**

- **History:** History is reported by the first responders and the EMTs asked more questions while preparing for transport. What other history would you want to gather on a patient with

chest pain? Elderly patients tend to have more complex medical history and take more medications than younger patients. What systematic process can you use to obtain important history? Although you should use open ended questions when asking history, what would you do if the patient was still not providing clear answers? How do you avoid putting answers in the patient's mouth?

- **Vital Signs and Focused Physical Exam:** These were assumed to have been obtained and reported by the first responders prior to arrival of the video crew.

#### **Detailed Exam and Ongoing Assessment**

- **Detailed Exam:** A detailed exam was performed by the EMT caring for the patient during transport. She clearly examined breath sounds and heart sounds, palpated the abdomen, and checked perfusion and swelling in the legs. What else would be important to include in a detailed exam of a cardiac patient?
- **Additional Considerations:** One nitroglycerine tablet was taken by the patient prior to the arrival of the first responders and three additional nitroglycerine tablets were administered after their arrival. Additional nitroglycerine would be contraindicated unless medical control indicated otherwise. Repeated vital signs were taken and the patient's anxiety was calmed with reassuring and confident care. How might this benefit a cardiac patient?