North Carolina EMS Education Standards:
EMT Curriculum Map
Funding for this Accreditation Alignment Project

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Preparatory

EMS Systems

**Summary:** Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

**TARGET SKILLS:**

- EMS systems
- Roles, responsibilities, and professionalism of EMS personnel
- Quality Improvement
- History of EMS
- Patient safety

**Key Terminology:**

- Designated agent
- Medical direction
- Medical director
- 911 System
- Patient outcomes
- Protocols
- Quality improvement
- Standing orders

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
</table>
| • Define Emergency Medical Services (EMS) systems  
  • Differentiate the roles and responsibilities of the EMT from other prehospital care providers  
  • Describe the roles and responsibilities related to personal safety.  
  • Discuss the roles and responsibilities of the EMT towards the safety of the crew, the patient, and bystanders  
  • Define quality improvement and discuss the EMT’s role in the process  
  • Define medical direction and discuss the EMT’s role in the process  
  • State the specific statutes and regulations in your state regarding the EMS system  
  • Assess areas of personal attitude and conduct of the EMT  
  • Characterize the various methods used to access the EMS system in your community  
  • Discuss the history and legislation that define the modern EMS systems  
  • Define the different types of medical facilities that are available for patient care  | • Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, and medical, legal, and ethical issues to the provision of emergency care.  
  • Standard safety precautions  
  • Personal protective equipment  
  • Stress management  
  • Prevention of work related injuries  
  • Lifting and moving patients  
  • Disease transmission  
  • Wellness principles  
  • Principles of documentation and report writing  
  • Medical legal ethics |
Activities/Resources: On-line instructional support, workbook, video. Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

Student presentations: Have each student give a brief presentation explaining his or her reason for taking the EMT course and what his or her expectations are of the course.

- Arrange a tour with local EMS units.
- Learn recertification requirements for the EMS credentialing.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills). Written quizzes and exams.
Research

Summary: Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

TARGET SKILLS: Impact of research on EMT care, data collections, and evidence-based decision making.

Key Terminology:
- Evidence-based
- Reliability
- Validity

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discuss the importance of evidence-based research as it pertains to EMS</td>
<td>• Evidence-based decisionmaking</td>
</tr>
<tr>
<td>• Discuss the methods of determining treatments based on evidence-based decision making.</td>
<td></td>
</tr>
<tr>
<td>• Emphasize the importance of documentation that leads to data collection</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Research group project, evidence based medicine scenarios, and Q&A sessions. Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills). Research individual project, quizzes, and exams
Workforce Safety and Wellness

**Summary:** Applies fundamental knowledge of the EMS system, safety and well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

**TARGET SKILLS:** Standard safety precautions to include:
- Personal protective equipment
- Stress management
- Dealing with death and dying
- Prevention of response-related injuries
- Lifting and moving patients
- Disease transmission
- Wellness principles

**Key Terminology:**
- Contamination
- Critical incident stress management
- Decontamination
- Hazardous material incident
- Multiple-casualty incident (MCI)
- Pathogens
- Personal protective equipment (PPE)
- Standard precautions
- Stress
- Bariatric
- Body mechanics
- Direct carry
- Direct ground lift
- Draw-sheet method
- Extremity lift
- Power grip
- Power lift

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discuss one-handed carrying techniques.</td>
<td>• Standard safety precautions</td>
</tr>
<tr>
<td>• Describe correct and safe carrying procedures on stairs.</td>
<td>• Personal protective equipment</td>
</tr>
<tr>
<td>• State the guidelines for reaching and their application.</td>
<td>• Stress management</td>
</tr>
<tr>
<td>• Describe correct reaching for log rolls.</td>
<td>• Prevention of work-related injuries</td>
</tr>
<tr>
<td>• State the guidelines for pushing and pulling.</td>
<td>• Lifting and moving patients</td>
</tr>
<tr>
<td>• Discuss the general considerations of moving patients.</td>
<td>• Disease transmission</td>
</tr>
<tr>
<td>• State three situations that may require the use of an emergency move.</td>
<td>• Wellness principles</td>
</tr>
<tr>
<td>• Identify and demonstrate proper technique for the following patient carrying</td>
<td></td>
</tr>
<tr>
<td>devices:</td>
<td></td>
</tr>
<tr>
<td>▪ Wheeled ambulance stretcher</td>
<td></td>
</tr>
<tr>
<td>▪ Portable ambulance; stretcher</td>
<td></td>
</tr>
<tr>
<td>▪ Stair chair</td>
<td></td>
</tr>
<tr>
<td>▪ Scoop stretcher</td>
<td></td>
</tr>
<tr>
<td>▪ Long spine board</td>
<td></td>
</tr>
<tr>
<td>▪ Basket stretcher</td>
<td></td>
</tr>
</tbody>
</table>
Flexible stretcher

• Explain the rationale for properly lifting and moving patients.
• Working with a partner, the EMT will demonstrate techniques for the transfer of a patient from an ambulance stretcher to a hospital stretcher.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Physical fitness, lifting, and body mechanics
• Defense techniques
• Stress management survey to include substance abuse
• Diet assessment plan
• Consult a medical examiner or psychologist for death and dying.
• Bloodborne pathogens training.
• Skills:
  ▪ Use of PPE
  ▪ Handwashing
  ▪ Disinfection of equipment

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
**Documentation**

**Summary:** Applies fundamental knowledge of the EMS system, safety/well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

**TARGET SKILLS:** Recording patient findings and the principles of medical documentation and report writing

**Key Terminology:**
- Drop report
- Transfer report
- PCR (Patient Care Report)

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Compose a patient care narrative.</td>
<td>• Principles of documentation and report writing</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction. Engage students in documenting lab scenarios and give students charting criteria to include:
- Different technology based charting programs
- Mandatory reporting guidelines per your state laws.

**Assessments:** Review student charts from EMS on different documentation styles. Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
EMS System Communication

**Summary:** Applies fundamental knowledge of EMS System, safety and well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

**TARGET SKILLS:** Communication needed to:
- Call for Resources
- Transfer care of the patient
- Interact within the team structure
- EMS communication system
- Communication with other health care professionals
- Team communication and dynamics

**Key Terminology:**
- Base station
- Cell phone
- Mobile radio
- Portable radio
- Repeater
- Viper radio
- Watt

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Define the different elements of an EMS communication system.</td>
<td>• EMS Communication System</td>
</tr>
<tr>
<td>• Demonstrate the ability to communicate with other organizations including dispatch, hospital, etc.</td>
<td>▪ System components</td>
</tr>
<tr>
<td>• Demonstrate therapeutic communication in a prehospital environment.</td>
<td>▪ Radio communications</td>
</tr>
<tr>
<td></td>
<td>• Communication</td>
</tr>
<tr>
<td></td>
<td>▪ Communication with other healthcare professionals</td>
</tr>
<tr>
<td></td>
<td>▪ Interpersonal communications</td>
</tr>
<tr>
<td></td>
<td>▪ Team communication and dynamics</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Coordinate with Local 911 or radio center for communication skills to include proper radio reporting.
- Team building for interpersonal communications dynamics
- Coordinate with interdisciplinary teams such as RN’s, Paramedics, and MD’s.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Therapeutic Communication

Summary: Applies fundamental knowledge of EMS System, safety/well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

TARGET SKILLS: Principles of communicating with patients in a manner that achieves a positive relationship to include:

- Interviewing techniques
- Adjusting communication strategies for:
  - Age
  - Stage of development
  - Patients with special needs
  - Differing cultures
- Verbal defusing strategies
- Family presence issues

Key Terminology:

- Intimate zone
- Personal distance
- Social distance
- Public distance
- Encoding
- Decoding
- Facilitation
- Reflection
- Clarification
- Resistance
- Clarification
- Reflection

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate therapeutic communication in a prehospital environment.</td>
<td>• Principles of communicating with patients in a manner that achieves a positive relationship.</td>
</tr>
<tr>
<td>• Principles of communicating with patients in a manner that achieves a positive relationship.</td>
<td>• Communication process and components</td>
</tr>
<tr>
<td>• Communication process and components</td>
<td>• Types of responses</td>
</tr>
<tr>
<td>• Types of responses</td>
<td>• Developing patient rapport</td>
</tr>
<tr>
<td>• Developing patient rapport</td>
<td>• Strategies to ascertain information</td>
</tr>
<tr>
<td>• Strategies to ascertain information</td>
<td>• Special interview situations</td>
</tr>
</tbody>
</table>

Activities/Resources: Discussion about body language and interpersonal communication. Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Medical/Legal and Ethics

**Summary:** Applies fundamental knowledge of EMS System, safety/well-being of the EMT, medical, legal, and ethical issues to the provision of emergency care.

**TARGET SKILLS:**

- Consent/refusal of care
- Confidentiality
- Advanced directives
- Tort and criminal actions
- Evidence preservation
- Statutory responsibilities
- Mandatory reporting
- Ethical principles/moral obligations
- End-of-life issues

**Key Terminology:**

- Abandonment
- Advance directive
- Assault
- Battery
- Confidentiality
- Consent
- Do not resuscitate (DNR)
- Duty to act
- Good Samaritan laws
- HIPAA
- In loco parentis
- Liability
- Libel
- Negligence
- Organ donor
- Res Ispa Loquitur
- Safe haven laws
- Scope of practice
- Slander
- Standard of care
- Tort

**Objectives:**

- Define the EMT scope of practice.
- Discuss the importance of Do Not Resuscitate [DNR] (advance directives) and local or state provisions regarding EMS application.
- Define consent and discuss the methods of obtaining consent.
- Differentiate between expressed and implied consent.
- Explain the role of consent of minors in providing care.
- Discuss the implications for the EMT in patient refusal of transport.
- Discuss the issues of abandonment, negligence, battery and their implications to the EMT.

- Review the following times pertaining to legal and ethical situations:
  - Consent/refusal of care
  - Confidentiality
  - Advanced directives
  - Tort and criminal actions
  - Evidence preservation
  - Statutory responsibilities
  - Mandatory reporting
  - Ethical principles and moral obligations
- State the conditions necessary for the EMT to have a duty to act.
- Explain the importance, necessity, and legality of patient confidentiality.
- Discuss the considerations of the EMT in issues of organ retrieval.
- Differentiate the actions that an EMT should take to assist in the preservation of a crime scene.
- State the conditions that require an EMT to notify local law enforcement officials.
- Explain the role of EMS and the EMT regarding patients with DNR orders.
- Explain the rationale for the needs, benefits, and usage of advance directives.
- Explain the rationale for the concept of varying degrees of DNR.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Legal issues as it pertains to treatments and documentation- such as the court room scene
- Use of advanced directives per your state, to include MOST forms, DNR, and living wills.
- Law case studies from previous tort claims against EMS providers, such as abandonment, negligence, and assault.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam.
Anatomy and Physiology

**Summary:** Applies fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.

**Key Terminology:**
- Anatomy
- Cardiovascular system
- Digestive system
- Endocrine system
- Musculoskeletal system
- Nervous system
- Physiology
- Renal system
- Reproductive system
- Respiratory system
- Skin

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify the following topographic terms:</td>
<td>• Anatomy and body functions</td>
</tr>
<tr>
<td>▪ Medial</td>
<td>• Life support chain</td>
</tr>
<tr>
<td>▪ Lateral</td>
<td>• Age-related variations for pediatric and geriatric (see special patient populations)</td>
</tr>
<tr>
<td>▪ Proximal</td>
<td></td>
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<tr>
<td>▪ Distal</td>
<td></td>
</tr>
<tr>
<td>▪ Superior</td>
<td></td>
</tr>
<tr>
<td>▪ Inferior</td>
<td></td>
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<tr>
<td>▪ Anterior</td>
<td></td>
</tr>
<tr>
<td>▪ Posterior</td>
<td></td>
</tr>
<tr>
<td>▪ Midline</td>
<td></td>
</tr>
<tr>
<td>▪ Right and left</td>
<td></td>
</tr>
<tr>
<td>▪ Mid-clavicular</td>
<td></td>
</tr>
<tr>
<td>▪ Bilateral</td>
<td></td>
</tr>
<tr>
<td>▪ Mid-axillary</td>
<td></td>
</tr>
<tr>
<td>• Describe the anatomy and function of the following major body systems:</td>
<td></td>
</tr>
<tr>
<td>▪ Respiratory</td>
<td></td>
</tr>
<tr>
<td>▪ Circulatory</td>
<td></td>
</tr>
<tr>
<td>▪ Musculoskeletal</td>
<td></td>
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<tr>
<td>▪ Nervous</td>
<td></td>
</tr>
<tr>
<td>▪ Endocrine</td>
<td></td>
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</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Use of models or animal specimens for anatomy.
- Use of computer models and programs for human anatomy.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam.
Medical Terminology

Summary: Uses foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals.

Key Terminology:

• Combining form
• Prefix
• Root
• Suffix

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
</table>
| • Recognizes simple medical prefixes, suffixes, and combination of words. | • Medical terminology  
• Medical terms  
• Standard medical abbreviations and acronyms |

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Medical terminology reference sheets.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Pathophysiology

**Summary:** Applies fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management.

**Key Terminology:**
- Aerobic metabolism
- Anaerobic metabolism
- Cardiac output
- Chemoreceptors
- Dead air space
- Dehydration
- Edema
- Electrolyte
- FiO₂
- Hydrostatic pressure
- Hypersensitivity
- Hypoperfusion
- Minute volume
- Pathophysiology
- Perfusion
- Plasma oncotic pressure
- Shock
- Stretch receptors
- Stroke volume
- Systemic vascular resistance (SVR)
- Tidal volume
- V/Q match

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Uses simple knowledge of shock and respiratory compromise to respond to life threats.</td>
<td>• Composition of ambient air</td>
</tr>
<tr>
<td></td>
<td>• Patency of the airway</td>
</tr>
<tr>
<td></td>
<td>• Respiratory compromise</td>
</tr>
<tr>
<td></td>
<td>• Alteration in regulation of respiration due to medical or traumatic conditions</td>
</tr>
<tr>
<td></td>
<td>• Ventilations/perfusion (V/Q)ratio and mismatch</td>
</tr>
<tr>
<td></td>
<td>• Perfusion and shock</td>
</tr>
<tr>
<td></td>
<td>• Microcirculation</td>
</tr>
<tr>
<td></td>
<td>• Blood pressure</td>
</tr>
<tr>
<td></td>
<td>• Alteration of cell metabolism</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Computer programs for understanding pathophysiology of the body.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Life Span Development

**Summary:** Applies fundamental knowledge of life span development to patient assessment and management.

**Key Terminology:**
- Adolescence
- Bonding
- Early adulthood
- Infancy
- Late adulthood
- Middle adulthood
- Moro reflex
- Palmar reflex
- Preschool age
- Rooting reflex
- Scaffolding
- School age
- Sucking reflex
- Temperament
- Toddler phase
- Trust vs. mistrust

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td><em>Uses simple knowledge of age related differences to assess and care for patients.</em></td>
<td><em>Application for management of emergency care for the following life span development:</em></td>
</tr>
<tr>
<td>- Infancy (birth to 1 year)</td>
<td>- Toddler (12 to 36 months)</td>
</tr>
<tr>
<td>- Toddler (12 to 36 months)</td>
<td>- Preschool age (3 to 5 years)</td>
</tr>
<tr>
<td>- Preschool age (3 to 5 years)</td>
<td>- School-age children (6 to 12 years)</td>
</tr>
<tr>
<td>- School-age children (6 to 12 years)</td>
<td>- Adolescents (13 to 18 years)</td>
</tr>
<tr>
<td>- Adolescents (13 to 18 years)</td>
<td>- Early adulthood (20 to 40 years)</td>
</tr>
<tr>
<td>- Early adulthood (20 to 40 years)</td>
<td>- Middle adulthood (41 to 60 years)</td>
</tr>
<tr>
<td>- Middle adulthood (41 to 60 years)</td>
<td>- Late adulthood (61 and older)</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Developmental milestones for aging based on videos or pictures.
- Abnormal development regarding people of all ages.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Public Health

Summary: Uses simple knowledge of the principles of illness and injury prevention in emergency care.

TARGET SKILLS:
- Community needs assessment

Key Terminology:
- Injury prevention
- Health promotion
- Disease surveillance

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Have an awareness of local public health resources and the role EMS personnel play in public health emergencies and education.</td>
<td>• Basic principles of public health</td>
</tr>
<tr>
<td></td>
<td>• Identify at risk patients and preventative education</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Community events with the emphasis on patient safety or preventive medicine.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam.
Pharmacology

Principles of Pharmacology

*Summary:* Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.

**TARGET SKILLS:** Medication safety and the kinds of medications used during an emergency

**Key Terminology:**
- Indications
- Contraindications
- Enteral
- Parenteral
- Pharmacodynamics
- Pharmacology
- Side effect
- Untoward effect
- Inhaler

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Identify which medications will be carried on the unit.</td>
<td>• Medication safety</td>
</tr>
<tr>
<td>• State the medications carried on the unit by the generic name.</td>
<td>• Kinds of medications used in an emergency</td>
</tr>
<tr>
<td>• Identify the medications with which the EMT may assist the patient with administering.</td>
<td>• Basic medication terminology</td>
</tr>
<tr>
<td>• State the medications the EMT can assist the patient with by the generic name.</td>
<td></td>
</tr>
<tr>
<td>• Discuss the forms in which the medications may be found.</td>
<td></td>
</tr>
<tr>
<td>• Explain the rationale for the administration of medications.</td>
<td></td>
</tr>
<tr>
<td>• Demonstrate general steps for assisting patient with self-administration of medications.</td>
<td></td>
</tr>
<tr>
<td>• Read the labels and inspect each type of medication.</td>
<td></td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Identify the different routes or administration.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Medication Administration

**Summary:** Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.

**TARGET SKILLS:** Within the scope of practice of the EMT how to:
- Self-administer medication
- Peer-administer medication
- Assist/administer medication to a patient.
- Use of Epi Pens
- Assemble IV setup with drip set and fluids

**Key Terminology:**
- Autoinjector
- IV bag
- Drip set
- Drip chamber

**Objectives:**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>• Read the labels and inspect each type of medication.</td>
<td>• Assist and administer medications to a patient</td>
</tr>
<tr>
<td>• Demonstrate the proper steps in medication administration.</td>
<td>• Self-administer/Peer-administer medication is the case of terrorism response</td>
</tr>
<tr>
<td>• Differentiate between administering and assisting with self-administration</td>
<td></td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction. Practice assembling IV set ups to support ALS treatment.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Emergency Medications

Summary: Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency

TARGET SKILLS: Within the scope of practice of the EMT
- Names
- Effects
- Indications
- Routes of administration
- Dosages for the medications administered
- Actions
- Indications
- Contraindications
- Complications
- Side effects
- Interactions

Key Terminology:
- Aspirin
- Epinephrine
- Nitroglycerin
- Oral glucose
- Oxygen

Objectives:

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</thead>
<tbody>
<tr>
<td>Identify the appropriate routes of medication administration</td>
<td>Specific medications and the details of those medications to include:</td>
</tr>
<tr>
<td>Be able to describe all drugs an EMT can administer using the state formulary.</td>
<td>Name</td>
</tr>
<tr>
<td>Demonstrate the administration of emergency medications with the state</td>
<td>Effects</td>
</tr>
<tr>
<td>formulary</td>
<td>Indications/Contraindications</td>
</tr>
<tr>
<td></td>
<td>Dose</td>
</tr>
<tr>
<td></td>
<td>Route</td>
</tr>
<tr>
<td></td>
<td>6 medication rights</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Make or distribute medication cards for EMT
- Discussion on cultural and/or religious differences to receiving medications

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Airway Management, Respiration and Artificial Ventilation

Airway Management

Summary: Applies knowledge (fundamental depth and foundational breadth) of general anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.

TARGET SKILLS: Within the scope of practice of the EMT:

- Airway anatomy
- Airway assessment
- Techniques of assuring a patent airway

Key Terminology:

- Airway
- Bronchoconstriction
- Gag reflex
- Heal-tilt, chin-lift maneuver
- Jaw-thrust maneuver
- Nasopharyngeal airway
- Oropharyngeal airway
- Patent airway
- Stridor
- Suctioning
- Continuous positive airway pressure (CPAP)

Objectives:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>• Name and label the major structures of the respiratory system on a diagram.</td>
<td>• Airway anatomy</td>
</tr>
<tr>
<td>• List the signs of both adequate and inadequate breathing.</td>
<td>• Airway assessment</td>
</tr>
<tr>
<td>• Describe the steps in performing the head-tilt chin-lift maneuver.</td>
<td>• Techniques of assuring a patent airway</td>
</tr>
<tr>
<td>• Relate mechanism of injury to opening the airway.</td>
<td>• Consider age related variations in pediatric and geriatric patients (see special patient populations section)</td>
</tr>
<tr>
<td>• Describe the steps in performing the jaw thrust.</td>
<td></td>
</tr>
<tr>
<td>• State the importance of having a suction unit ready for immediate use when providing emergency care.</td>
<td></td>
</tr>
<tr>
<td>• Describe the techniques of suctioning.</td>
<td></td>
</tr>
<tr>
<td>• Describe how to artificially ventilate a patient with a pocket mask.</td>
<td></td>
</tr>
<tr>
<td>• Describe then demonstrate the steps in performing the skill of artificially ventilating a patient with a bag-valve-mask while using the jaw thrust.</td>
<td></td>
</tr>
<tr>
<td>• List the parts of a bag-valve-mask system.</td>
<td></td>
</tr>
<tr>
<td>• Describe then demonstrate the steps in performing the skill of artificially ventilating</td>
<td></td>
</tr>
</tbody>
</table>
a patient with a bag-valve-mask for one and two rescuers.

- Describe the signs of both adequate and inadequate artificial ventilation using the bag-valve-mask.
- Describe the steps in artificially ventilating a patient with a flow restricted, oxygen-powered ventilation device.
- List the steps in performing the actions taken when providing mouth-to-mouth and mouth-to-stoma artificial ventilation.
- Describe how to measure and insert both an oropharyngeal (oral) and a nasopharyngeal (nasal) airway.
- Define the components of an oxygen delivery system.
- Identify a non-rebreather face mask and state the oxygen flow requirements needed for its use.
- Describe the indications for using a nasal cannula versus a non-rebreather facemask.
- Identify a nasal cannula and state the flow requirements needed for its use.
- Explain the rationale for basic life support, artificial ventilation, and airway protective skills taking priority over most other basic life support skills.
- Explain the rationale for providing adequate oxygenation through high inspired oxygen concentrations to patients who, in the past, may have received low concentrations.
- Demonstrate the steps in performing the head-tilt chin-lift maneuver and the jaw thrust..
- Demonstrate the techniques of suctioning.
- Demonstrate the steps in providing mouth-to-mouth artificial ventilation with body substance isolation (barrier shields).
- Demonstrate how to use a pocket mask to artificially ventilate a patient.
- Demonstrate the assembly of a bag-valve-mask unit.
- Demonstrate artificial ventilation of a patient with a flow restricted, oxygen-powered ventilation device.
- Demonstrate how to artificially ventilate a patient with a stoma.
- Demonstrate how to insert an oropharyngeal (oral) and a nasopharyngeal (nasal) airway.
- Demonstrate the correct operation of oxygen tanks and regulators.
- Demonstrate the use of a nonrebreather face mask and state the oxygen flow requirements needed for its use.
- Demonstrate the use of a nasal cannula and state the flow requirements needed for its use.
- Demonstrate how to artificially ventilate the infant and child patient.
- Demonstrate oxygen administration for the infant and child patient.
- Identify and describe the airway anatomy in the infant, child and the adult.
- Differentiate between the airway anatomy in the infant, child, and the adult.
- Explain the pathophysiology of airway compromise.
- Describe the proper use of airway adjuncts.
- Review the use of oxygen therapy in airway management.
- Describe the indications, contraindications, and technique for insertion of nasal gastric tubes.
- Describe how to perform the Sellick maneuver (cricoid pressure).
- Describe the indications for advanced airway management.
- List the equipment required for orotracheal intubation.
- Describe the proper use of the curved blade for orotracheal intubation.
- Describe the proper use of the straight blade for orotracheal intubation.
- State the reasons for and proper use of the stylet in orotracheal intubation.
- Describe the methods of choosing the appropriate size endotracheal tube in an adult patient.
- State the formula for sizing an infant or child endotracheal tube.
- List complications associated with advanced airway management.
• Define the various alternative methods for sizing the infant and child endotracheal tube.
• Describe the skill of orotracheal intubation in the adult, infant, and child patient.
• Describe the skill of confirming endotracheal tube placement in the adult, infant and child patient.
• State the consequence of and the need to recognize unintentional esophageal intubation.
• Describe the skill of securing the endotracheal tube in the adult, infant and child patient.
• Recognize and respect the feelings of the patient and family during advanced airway procedures.
• Explain the value of performing advanced airway procedures.
• Defend the need for the EMT to perform advanced airway procedures.
• Explain the rationale for the use of a stylet.
• Explain the rationale for having a suction unit immediately available during intubation attempts.
• Explain the rationale for confirming breath sounds.
• Explain the rationale for securing the endotracheal tube.
• Demonstrate how to perform the Sellick maneuver (cricoid pressure).
• Demonstrate the skill of orotracheal intubation in the adult, infant, and child patient.
• Demonstrate the skill of confirming endotracheal tube placement in the adult, infant, and child patient.
• Demonstrate the skill of securing the endotracheal tube in the adult, infant, and child patient.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Ventilation of simulators using different types of bag value masks at the appropriate rate with the appropriate volume of air.
• Using suction equipment to remove material for the oral opening.
• Practice assembling and calculating oxygen flows for patient using various masks.
**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Respiration

**Summary:** Applies knowledge (fundamental depth and foundational breadth) of general anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.

**Target Skills:** Anatomy of the respiratory system to include:
- Physiology and pathophysiology of respiration
  - Pulmonary ventilation
  - Oxygenation
  - Respiration
    - External
    - Internal
    - Cellular
- Assessment and management of adequate and inadequate respiration
- Supplemental oxygen therapy

**Key Terminology:**
- Respiration
- Respiratory distress
- Respiratory arrest
- Cellular respiration
- Cyanosis
- Diffusion
- Hypoxia
- Pulmonary respiration
- Respiratory failure
- Exhalation
- Expiration
- Inhalation
- Inspiration

**Objectives:**

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>• Describe the anatomy of the respiratory system as it pertains to respirations.</td>
<td>• Anatomy of the respiratory system</td>
</tr>
<tr>
<td>• Differentiate between pulmonary ventilation, oxygenation, and respiration.</td>
<td>• Physiology of respiration</td>
</tr>
<tr>
<td>• Demonstrate proper assessment of respiratory system.</td>
<td>• Pathophysiology of respiration</td>
</tr>
<tr>
<td>• Demonstrate the proper management in providing supplemental oxygen therapy.</td>
<td>• Assessment of adequate and inadequate ventilation</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Allow students to watch patient during ventilation and discuss the effects of inhalation and exhalation while exchanging gases in the lungs.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Artificial Ventilation

**Summary:** Applies knowledge (fundamental depth and foundational breadth) of general anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.

**TARGET SKILLS:** Assessment and management of adequate and inadequate ventilation to include:
- Artificial ventilation
- Minute ventilation
- Alveolar ventilation
- Effect of artificial ventilation on cardiac output

**Key Terminology:**
- Alveolar ventilation
- Artificial ventilation
- Cricoid pressure
- Positive pressure ventilation
- Stoma
- Ventilation

**Objectives:**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>• Differentiate between ventilation as it relates to inspiration and expiration.</td>
<td>• The management of inadequate ventilation</td>
</tr>
<tr>
<td>• Differentiate between adequate and inadequate ventilation.</td>
<td>• Differences between normal and positive pressure ventilation</td>
</tr>
<tr>
<td>• Describe the effects of artificial ventilation on cardiac output.</td>
<td>• Consider age-related ventilations in pediatric and geriatric patients (see special patient populations)</td>
</tr>
</tbody>
</table>

**Activities/Resources** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Use different position techniques for maintaining effective ventilation.
- Using visual material, discuss patient with special airway needs and related equipment.
- Simulate positive pressure ventilation using a PEEP value on a BVM.
- Discuss the importance of cricoid pressure in airway techniques.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Patient Assessment

Scene Size-Up

**Summary:** Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

**TARGET SKILLS:** Scene safety and scene management to include:

- Impact of the environment on patient care
- Addressing hazards
- Violence
- Need for additional or specialized resources
- Standard precautions
- Multiple patient situations

**Key Terminology:**

- Blunt-force trauma
- Danger zone
- Index of suspicion
- Mechanism of injury
- Nature of illness
- Penetrating trauma
- Scene size-up

**Objectives:**

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</thead>
<tbody>
<tr>
<td>• Recognize hazards/potential hazards.</td>
<td>• Scene safety and situational awareness</td>
</tr>
<tr>
<td>• Describe common hazards found at the scene of a trauma and a medical patient.</td>
<td>• Scene management</td>
</tr>
<tr>
<td>• Determine if the scene is safe to enter.</td>
<td>• Nature of illness and or mechanism of injury</td>
</tr>
<tr>
<td>• Discuss common mechanisms of injury/nature of illness.</td>
<td>• Re-evaluation of scene hazards</td>
</tr>
<tr>
<td>• Discuss the reason for identifying the total number of patients at the scene.</td>
<td></td>
</tr>
<tr>
<td>• Explain the reason for identifying the need for additional help or assistance.</td>
<td></td>
</tr>
<tr>
<td>• Explain the rationale for crew members to evaluate scene safety prior to entering.</td>
<td></td>
</tr>
<tr>
<td>• Serve as a model for others explaining how patient situations affect your evaluation of mechanism of injury or illness.</td>
<td></td>
</tr>
<tr>
<td>• Observe various scenarios and identify potential hazards.</td>
<td></td>
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</tbody>
</table>
Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using 911 or simulated recording, allow students to discuss topics such as scene safety and general impression of the scene prior to arrival.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Primary Assessment

Summary: Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

TARGET SKILLS: Primary assessment for all patient situations to include:
- Level of consciousness
- ABCs
- Identifying life threats
- Assessment of vital functions
- Initial general impressions
- Begin interventions needed to preserve life
- Integration of treatment/procedures needed to preserve life.

Key Terminology:
- ABCs
- AVPU
- General impression
- Mental status
- Primary assessment
- Priority

Objectives:

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<tbody>
<tr>
<td>• Summarize the reasons for forming a general impression of the patient.</td>
<td>• Primary survey and primary assessment</td>
</tr>
<tr>
<td>• Discuss methods of assessing altered mental status.</td>
<td>• Integration of treatment /procedures needed to preserve life</td>
</tr>
<tr>
<td>• Differentiate between assessing the altered mental status in the adult, child, and infant patient.</td>
<td>• Evaluating priority of patient care and transport</td>
</tr>
<tr>
<td>• Discuss methods of assessing the airway in the adult, child, and infant patient.</td>
<td></td>
</tr>
<tr>
<td>• State reasons for management of the cervical spine once the patient has been determined to be a trauma patient.</td>
<td></td>
</tr>
<tr>
<td>• Describe methods used for assessing if a patient is breathing.</td>
<td></td>
</tr>
<tr>
<td>• State what care should be provided to the adult, child, and infant patient with adequate breathing.</td>
<td></td>
</tr>
<tr>
<td>• State what care should be provided to the adult, child, and infant patient without adequate breathing.</td>
<td></td>
</tr>
<tr>
<td>• Differentiate between a patient with adequate and inadequate breathing.</td>
<td></td>
</tr>
</tbody>
</table>
• Distinguish between methods of assessing breathing in the adult, child, and infant patient.
• Compare the methods of providing airway care to the adult, child, and infant patient.
• Describe the methods used to obtain a pulse.
• Differentiate between obtaining a pulse in an adult, child, and infant patient.
• Discuss the need for assessing the patient for external bleeding.
• Describe normal and abnormal findings when assessing skin color, skin temperature, and skin condition.
• Describe normal and abnormal findings when assessing skin capillary refill in the infant and child patient.
• Explain the reason for prioritizing a patient for care and transport.
• Explain the importance of forming a general impression of the patient.
• Explain the value of performing an initial assessment.
• Demonstrate the techniques for assessing mental status.
• Demonstrate the techniques for assessing the airway.
• Demonstrate the techniques for assessing if the patient is breathing.
• Demonstrate the techniques for assessing if the patient has a pulse.
• Demonstrate the techniques for assessing the patient for external bleeding.
• Demonstrate the techniques for assessing the patient’s skin color, temperature, condition and capillary refill (infants and children only).
• Demonstrate the ability to prioritize patients.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Using simulation, allow students to see patient with different types of injuries or conditions through assessment of the patient.
**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
History Taking

**Summary:** Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

**TARGET SKILLS:** Determining the chief complaint to include:
- Mechanism of injury/nature of illness
- Associated signs and symptoms
- Investigation of the chief complaint
- Past medical history
- Pertinent negatives

**Key Terminology:**
- Chief complaint
- Interventions

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<tbody>
<tr>
<td>• Identify the components of the extended vital signs.</td>
<td>• Investigation of chief complaint</td>
</tr>
<tr>
<td>• Describe the methods to obtain a breathing rate.</td>
<td>• Components of patient history</td>
</tr>
<tr>
<td>• Identify the attributes that should be obtained when assessing breathing.</td>
<td>• Techniques of history taking</td>
</tr>
<tr>
<td>• Differentiate between shallow, labored, and noisy breathing.</td>
<td>• Standardize approach to history-taking</td>
</tr>
<tr>
<td>• Describe the methods to obtain a pulse rate.</td>
<td>• History taking on sensitive topics</td>
</tr>
<tr>
<td>• Identify the information obtained when assessing a patient’s pulse.</td>
<td>• Age-related variations for pediatric and geriatric assessment and management (see special populations section)</td>
</tr>
<tr>
<td>• Differentiate between a strong, weak, regular, and irregular pulse.</td>
<td></td>
</tr>
<tr>
<td>• Describe the methods to assess the skin color, temperature, and condition (capillary refill in infants and children).</td>
<td></td>
</tr>
<tr>
<td>• Identify the normal and abnormal skin colors.</td>
<td></td>
</tr>
<tr>
<td>• Differentiate between pale, blue, red, and yellow skin color.</td>
<td></td>
</tr>
<tr>
<td>• Identify the normal and abnormal skin temperature.</td>
<td></td>
</tr>
<tr>
<td>• Differentiate between hot, cool, and cold skin temperature.</td>
<td></td>
</tr>
<tr>
<td>• Identify normal and abnormal skin conditions.</td>
<td></td>
</tr>
</tbody>
</table>
• Identify normal and abnormal capillary refill in infants and children.
• Describe the methods to assess the pupils.
• Identify normal and abnormal pupil size.
• Differentiate between dilated and constricted pupil size.
• Differentiate between reactive, non-reactive, equal, and unequal pupils.
• Describe the methods to assess blood pressure.
• Define systolic and diastolic pressure.
• Explain the difference between auscultation and palpation for obtaining a blood pressure.
• Identify the components of the SAMPLE history.
• Differentiate between a sign and a symptom.
• State the importance of accurately reporting and recording the baseline vital signs.
• Discuss the need to search for additional medical identification.
• Explain the value of performing the baseline vital signs.
• Recognize and respond to the feelings patients experience during assessment.
• Defend the need for obtaining and recording an accurate set of vital signs.
• Explain the rationale of recording additional sets of vital signs.
• Explain the importance of obtaining a SAMPLE history.
• Demonstrate the skills involved in assessment of breathing.
• Demonstrate the skills associated with obtaining a pulse.
• Demonstrate the skills associated with assessing the skin color, temperature, condition, and capillary refill in infants and children.
• Demonstrate the skills associated with assessing the pupils.
• Demonstrate the skills associated with obtaining blood pressure.
• Demonstrate the skills that should be used to obtain information from the patient, family, or bystanders at the scene.
Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated patients, allow students to formulate questions and produce a dialog to promote interaction with different age ranges of patients.
- Use community members and allow students to talk to them to find out important medical information through the uses of open and closed looped questioning.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Secondary Assessment

**Summary:** Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

**TARGET SKILLS:** Performing a rapid full body scan to include:
- Focused assessment of pain
- Assessment of vital signs

Techniques of physical examination to include:
- Respiratory system
  - Presence of breath sounds
- Cardiovascular system
- Neurological system
- Musculoskeletal system
- All anatomical regions

**Key Terminology:**
- Auscultation
- Blood pressure
- Brachial artery
- Brachial pulse
- Bradycardia
- Carotid pulse
- Construct
- Diastolic blood pressure
- Dilate
- Oxygen saturation
- Palpation
- Pulse
- Pulse quality
- Pulse rate
- Pupil
- Radial pulse
- Reactivity
- Respiration
- Respiratory quality
- Respiratory rate
- Respiratory rhythm
- Systolic blood pressure
- Tachycardia
- Vital signs

**Objectives:**

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<tr>
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<tbody>
<tr>
<td>• Discuss the components of the detailed physical exam.</td>
<td>• Techniques of physical examination</td>
</tr>
<tr>
<td>• State the areas of the body that are evaluated during the detailed physical exam.</td>
<td>• Special considerations for pediatric and geriatric patients (see special populations section)</td>
</tr>
<tr>
<td>• Explain what additional care should be provided while performing the detailed physical exam.</td>
<td>•</td>
</tr>
<tr>
<td>• Distinguish between the detailed physical exam that is performed on a trauma patient and that of the medical patient.</td>
<td>•</td>
</tr>
<tr>
<td>• Explain the rationale for the feelings that these patients might be experiencing.</td>
<td>•</td>
</tr>
<tr>
<td>• Demonstrate the skills involved in performing the detailed physical exam.</td>
<td>•</td>
</tr>
</tbody>
</table>
Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Allow students to practice obtaining vital signs on classmates
- Allow student to report and record assessment findings.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Monitoring Devices

**Summary:** Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

**TARGET SKILLS:** Within the scope of practice of the EMT:
- Obtaining and using information from patient monitoring devices including (but not limited to)
  - Pulse oximetry

**Key Terminology:**
- Blood pressure monitor
- Pulse oximeter
- Sphygmomanometer
- Glucometer

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate the use of monitoring devices per state formulary.</td>
<td>Pulse oximetry</td>
</tr>
<tr>
<td></td>
<td>Non-invasive blood pressure</td>
</tr>
<tr>
<td></td>
<td>Other monitoring devices</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Discuss the uses of monitoring devices, their importance, and inconsistencies. Practice with non-invasive equipment to gain confidence with its use.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Reassessment

Summary: Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.

TARGET SKILLS: How and when to reassess patients for all patient situations.

Key Terminology:
• Reassessment
• Trending

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe why reassessment of patients is vital to prehospital care.</td>
<td>• How and when to reassess</td>
</tr>
<tr>
<td></td>
<td>• Identify and treat changes in the patient’s condition in a timely manner</td>
</tr>
<tr>
<td></td>
<td>• Reassessment should be performed at regular intervals</td>
</tr>
<tr>
<td></td>
<td>• A reassessment Includes:</td>
</tr>
<tr>
<td></td>
<td>▪ Primary assessment</td>
</tr>
<tr>
<td></td>
<td>▪ Vital signs</td>
</tr>
<tr>
<td></td>
<td>▪ Chief complaint</td>
</tr>
<tr>
<td></td>
<td>▪ Interventions</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Allow students to perform reassessment through the use of simulation and patient progression.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Medicine

Medical Overview

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Assessment and management of:
- a Medical complaint
Pathophysiology, assessment, and management of medical complaints to include:
- Transport mode
- Destination decisions

Key Terminology:
- Medical patient
- OPQRST

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate the assessment and management of a medical patient.</td>
<td>• Assessment factors</td>
</tr>
<tr>
<td>• Describe the importance of determining the transport mode and destination decisions for pre-hospital care.</td>
<td>• Major components of the patient assessment</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, ask students to determine the need of transport and facility destination
- Discuss the different types of healthcare facilities as well as possible tours of each.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Neurology

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Anatomy, presentations, and management of:
- Decreased level of responsiveness
- Seizure
- Stroke

Anatomy, physiology, pathophysiology, assessment, and management of:
- Stroke/transient ischemic attack
- Seizure
- Status epilepticus
- Headache

Key Terminology:
- Seizures
- Status epilepticus
- Stroke
- Transient ischemic attack (TIA)

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the structure and function of the nervous system</td>
<td>Strokes/TIA</td>
</tr>
<tr>
<td>Demonstrate the appropriate treatment(s) of patients with neurological illnesses.</td>
<td>Seizures</td>
</tr>
<tr>
<td></td>
<td>Headache</td>
</tr>
<tr>
<td></td>
<td>Age-related variations for pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td></td>
<td>Communication and documentation</td>
</tr>
<tr>
<td></td>
<td>Transport decisions—rapid transport to an appropriate facility</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with neurological emergencies.
- Find a patient who has experienced a neurological event and allow the students to talk to them about the event.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Abdominal and Gastrointestinal Disorders

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Anatomy, presentations, and management of shock associated with abdominal emergencies to include:
- Gastrointestinal bleeding

Anatomy, physiology, pathophysiology, assessment, and management of:
- Acute and chronic gastrointestinal hemorrhage
- Peritonitis
- Ulcerative diseases

**Key Terminology:**
- Parietal pain
- Peritoneum
- Referred pain
- Retroperitoneal pain
- Tearing pain
- Visceral pain

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the structure and function of the abdominal system.</td>
<td>• Define acute abdomen</td>
</tr>
<tr>
<td>• Demonstrate the appropriate treatment(s) of patients with abdominal and</td>
<td>• Anatomy of the organs of the abdominopelvic cavity</td>
</tr>
<tr>
<td>gastrointestinal disorders.</td>
<td>• Assessment and symptoms</td>
</tr>
<tr>
<td>• Define acute abdomen</td>
<td>• General management for patients with an acute abdomen</td>
</tr>
<tr>
<td>• Anatomy of the organs of the abdominopelvic cavity</td>
<td>• Specific acute abdominal conditions—definition, causes, assessment findings and</td>
</tr>
<tr>
<td>• Assessment and symptoms</td>
<td>symptoms, complications, and specific prehospital management</td>
</tr>
<tr>
<td>• General management for patients with an acute abdomen</td>
<td>• Consider age-related variations for pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td>• Specific acute abdominal conditions—definition, causes, assessment findings</td>
<td>• Communication and documentation for patients with an abdominal or gastrointestinal</td>
</tr>
<tr>
<td>and symptoms, complications, and specific prehospital management</td>
<td>condition or emergency</td>
</tr>
<tr>
<td>• Consider age-related variations for pediatric and geriatric assessment and</td>
<td>• Transport decision</td>
</tr>
<tr>
<td>management</td>
<td></td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with gastrointestinal emergencies.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Immunology

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Recognition and management of shock and difficulty breathing related to anaphylactic reactions. Anatomy, physiology, pathophysiology, assessment, and management of hypersensitivity disorders and/or emergencies to include anaphylactic reactions

Key Terminology:
- Allergen
- Allergic reaction
- Anaphylaxis
- Auto-injector
- Epinephrine
- Hives

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recognize the patient experiencing an allergic reaction.</td>
<td>• Introduction</td>
</tr>
<tr>
<td>• Describe the emergency medical care of the patient with an allergic reaction.</td>
<td>• Basic immune system’s response to allergens</td>
</tr>
<tr>
<td>• Establish the relationship between the patient with an allergic reaction and airway management.</td>
<td>• Fundamental pathophysiology</td>
</tr>
<tr>
<td>• Describe the mechanisms of allergic response and the implications for airway management.</td>
<td>• Assessment findings for allergic reaction</td>
</tr>
<tr>
<td>• State the generic and trade names, medication forms, dose, administration, action, and contraindications for the epinephrine autoinjector.</td>
<td>• Assessment findings for anaphylaxis</td>
</tr>
<tr>
<td>• Evaluate the need for medical direction in the emergency medical care of the patient with an allergic reaction.</td>
<td>• Management</td>
</tr>
<tr>
<td>• Differentiate between the general category of those patients having an allergic reaction and those requiring immediate medical care, including immediate use of epinephrine auto-injector.</td>
<td>• Epinephrine as a treatment for allergic reaction</td>
</tr>
<tr>
<td>• Explain the rationale for administering epinephrine using an autoinjector.</td>
<td>• Consider age-related variations for pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td></td>
<td>• Communication and documentation</td>
</tr>
<tr>
<td></td>
<td>• Transport decisions</td>
</tr>
</tbody>
</table>
**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patients with hypersensitivity disorders.
- Demonstrate the use of auto injector and practice with epi-pen trainer.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Infectious Diseases

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Awareness of:
- A patient who may have an infectious disease
- How to decontaminate the ambulance and equipment after treating a patient

**Key Terminology:**
- Infectious diseases
- Communicable diseases
- Transmission routes
- Direct contact
- Coughing and sneezing
- Blood borne
- Other body fluids

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate the steps of proper decontamination.</td>
<td>• Causes of infectious disease</td>
</tr>
<tr>
<td></td>
<td>• Body substance isolation, personal protective equipment, and cleaning and disposing of equipment and supplies</td>
</tr>
<tr>
<td></td>
<td>• Consider age-related variations in pediatric and geriatric patient’s as they relate assessment and management of patient’s with a communicable and or infectious disease</td>
</tr>
<tr>
<td></td>
<td>• Communication and documentation for a patient with a communicable and or infectious disease</td>
</tr>
<tr>
<td></td>
<td>• Transport decision’s including special infection control procedures</td>
</tr>
<tr>
<td></td>
<td>• Legal requirements regarding reporting communicable and or infectious diseases/conditions</td>
</tr>
<tr>
<td></td>
<td>• Required reporting to the health department or other healthcare agency</td>
</tr>
</tbody>
</table>
Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Discuss the different types of infectious disease
- Using PPE, demonstrate the appropriate method to apply and remove each item

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Endocrine Disorders

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Awareness that diabetic emergencies may cause altered mental status. Anatomy, physiology, pathophysiology, assessment, and management of acute diabetic emergencies

Key Terminology:
• Diabetes mellitus
• Diabetic ketoacidosis (DKA)
• Glucose
• Hyperglycemia
• Hypoglycemia
• Insulin
• Insulin pump
• Syncope
• Juvenile diabetes
• Seizure

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the structure and function of the endocrine system.</td>
<td>• Introduction</td>
</tr>
<tr>
<td>• Describe the management of an acute diabetic emergency.</td>
<td>• Diabetes</td>
</tr>
<tr>
<td></td>
<td>• Communication and documentation</td>
</tr>
<tr>
<td></td>
<td>• Transport decisions—rapid transport for altered level of consciousness</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Using simulated cases of patient presentations, discuss treatment of patients with endocrine disorders.
• Discuss the use of oral glucose for the diabetic patient
• Use glucometers for testing blood glucose.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Psychiatric

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Recognition of:
- Behaviors that pose a risk to the EMT, patient, or others.
- Basic principles of the mental health system

Assessment and management of:
- Acute psychosis
- Suicidal/risk
- Agitated delirium

**Key Terminology:**
- Behavior
- Behavioral emergency
- Excited delirium
- Positional asphyxia
- Restraints

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate the assessment and management of patients with behavioral/psychiatric problems/complications.</td>
<td>• Define behavior, psychiatric disorder, and behavioral emergencies</td>
</tr>
<tr>
<td></td>
<td>• Epidemiology of psychiatric disorders</td>
</tr>
<tr>
<td></td>
<td>• Assessment</td>
</tr>
<tr>
<td></td>
<td>• Behavioral change</td>
</tr>
<tr>
<td></td>
<td>• Psychiatric emergencies</td>
</tr>
<tr>
<td></td>
<td>• Medical-legal considerations</td>
</tr>
<tr>
<td></td>
<td>• Consider age-related variations in pediatric and geriatric patient’s as they relate assessment and management</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with psychiatric disorders.
- Discuss methods of protection for the provider while dealing with psychiatric patients.
- Discuss methods of calming the patient while talking.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Cardiovascular

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Anatomy, signs, symptoms, and management of:
- Chest pain
- Cardiac arrest

Anatomy, physiology, pathophysiology, assessment and management of:
- Acute coronary syndrome
  - Angina pectoris
  - Myocardial infarction
- Aortic aneurysm/dissection
- Thromboembolism
- Heart failure
- Hypertensive emergencies

Key Terminology:
- Acute coronary syndrome (ACS)
- Acute myocardial infarction (AMI)
- Agonal breathing
- Aneurysm
- Angina pectoris
- Apnea
- Cardiopulmonary resuscitation (CPR)
- Cardiovascular system
- Congestive heart failure (CHF)
- Coronary artery disease (CAD)
- Defibrillation
- Dysne
- Dysrhythmia
- Edema
- Embolism
- Occlusion
- Pedal edema
- Pulmonary edema
- Sudden death
- Thrombus

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the structure and function of the cardiovascular system.</td>
<td>• Anatomy of the cardiovascular system</td>
</tr>
<tr>
<td>• Describe the emergency medical care of the patient experiencing chest pain/discomfort.</td>
<td>• Physiology</td>
</tr>
<tr>
<td>• List the indications for automated external defibrillation (AED).</td>
<td>• Pathophysiology</td>
</tr>
<tr>
<td>• List the contraindications for automated external defibrillation.</td>
<td>• Assessment</td>
</tr>
<tr>
<td>• Define the role of EMT in the emergency cardiac care system.</td>
<td>• Management (refer to the current AHA Guidelines)</td>
</tr>
<tr>
<td>• Explain the impact of age and weight on defibrillation.</td>
<td>• Specific cardiovascular emergencies (refer to the current AHA Guidelines)</td>
</tr>
<tr>
<td>• Discuss the position of comfort for patients with various cardiac emergencies.</td>
<td>• Pharmacological agents</td>
</tr>
<tr>
<td></td>
<td>• Consider age-related variations in pediatric and geriatric patient’s as they relate assessment and management</td>
</tr>
</tbody>
</table>
- Establish the relationship between airway management and the patient with cardiovascular compromise.
- Discuss the fundamentals of early defibrillation.
- Explain the rationale for early defibrillation.
- Explain that not all chest pain patients result in cardiac arrest and do not need to be attached to an automated external defibrillator.
- Explain the importance of prehospital ACLS intervention if it is available.
- Explain the importance of urgent transport to a facility with advanced cardiac life support (ACLS) if it is not available in the prehospital setting.
- Discuss the various types of automated external defibrillators.
- Differentiate between the fully automated and the semi-automated defibrillator.
- Discuss the procedures that must be taken into consideration for standard operations of the various types of automated external defibrillators.
- State the reasons for assuring that the patient is pulseless and apneic when using the automated external defibrillator.
- Discuss the circumstances which may result in inappropriate shocks.
- Explain the considerations for interruption of CPR when using the automated external defibrillator.
- Discuss the advantages and disadvantages of automated external defibrillators.
- Summarize the speed of operation of automated external defibrillation.
- Discuss the use of remote defibrillation through adhesive pads.
- Discuss the special considerations for rhythm monitoring.
- List the steps in the operation of the automated external defibrillator.
- Discuss the standard of care that should be used to provide care to a patient with persistent ventricular fibrillation and no available ACLS.
- Discuss the standard of care that should be used to provide care to a patient with recurrent ventricular fibrillation and no available ACLS.
- Differentiate between the single rescuer and multi-rescuer care with an automated external defibrillator.
- Explain the reason for pulses not being checked between shocks with an automated external defibrillator.
- Discuss the importance of coordinating ACLS trained providers with personnel using automated external defibrillators.
- Discuss the importance of post-resuscitation care.
- List the components of post-resuscitation care.
- Explain the importance of frequent practice with the automated external defibrillator.
- Discuss the need to complete the Automated Defibrillator Operator's Shift Checklist.
- Discuss the role of the American Heart Association (AHA) in the use of automated external defibrillation.
- Explain the role medical direction plays in the use of automated external defibrillation.
- State the reasons why a case review should be completed following the use of the automated external defibrillator.
- Discuss the components that should be included in a case review.
- Discuss the goal of quality improvement in automated external defibrillation
- Recognize the need for medical direction of protocols to assist in the emergency medical care of the patient with chest pain.
- List the indications for the use of nitroglycerin.
- State the contraindications and side effects for the use of nitroglycerin.
- Define the function of all controls on an automated external defibrillator, describe event documentation, and battery defibrillator maintenance.
• Defend the reasons for obtaining initial training in automated external defibrillation and the importance of continuing education.
• Defend the reason for maintenance of automated external defibrillators.
• Explain the rationale for administering nitroglycerin to a patient with chest pain or discomfort.
• Demonstrate the assessment and emergency medical care of a patient experiencing chest pain/discomfort.
• Demonstrate the application and operation of the automated external defibrillator.
• Demonstrate the maintenance of an automated external defibrillator.
• Demonstrate the assessment and documentation of patient response to the automated external defibrillator.
• Demonstrate the skills necessary to complete the Automated Defibrillator Operator’s Shift Checklist.
• Perform the steps in facilitating the use of nitroglycerin for chest pain or discomfort.
• Demonstrate the assessment and documentation of patient response to nitroglycerin.
• Practice completing a prehospital care report for patients with cardiac emergencies.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patients with cardiovascular emergencies.
- Use simulation to perform effective cardiopulmonary resuscitation to include lifting and moving the patient.
- Use an AED trainer during simulation.
- Discuss the use of nitroglycerin while using a candy breath spray as a means of simulating administration.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Toxicology

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Recognition and management of:
- Carbon monoxide poisoning
- Nerve agent poisoning
- How and when to contact a poison control center

Anatomy, physiology, pathophysiology, assessment, and management of:
- Inhaled poisons
- Ingested poisons
- Injected poisons
- Absorbed poisons
- Alcohol intoxication and withdrawal

**Key Terminology:**
- Absorbed poison
- Activated charcoal
- Antidote
- Delirium tremens (DTs)
- Dilution
- Downers
- Hallucinogens
- Ingested poisons
- Inhaled poisons
- Injected poisons
- Narcotics
- Poison
- Toxin
- Uppers
- Volatile chemicals
- Withdrawal

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
</table>
| • List various ways that poisons enter the body.  
• List signs/symptoms associated with poisoning.  
• Discuss the emergency medical care for the patient with possible overdose.  
• Describe the steps in the emergency medical care for the patient with suspected poisoning.  
• Establish the relationship between the patient suffering from poisoning or overdose and airway management.  
• State the generic and trade names, indications, contraindications, medication form, dose, administration, actions, side effects, and reassessment strategies for activated charcoal. | • Introduction  
• Poison by ingestion  
• Poison by inhalation  
• Poison by injection  
• Poison by absorption  
• Drugs of abuse  
• Poisonings and exposures  
• Medication overdose  
• General treatment modalities for poisonings  
• Consider age-related variations in pediatric and geriatric patient’s as they relate assessment and management  
• Communication and documentation for patients with toxicological emergencies  
• Transport decisions |
• Recognize the need for medical direction in caring for the patient with poisoning or overdose.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Using simulated cases of patient presentations, discuss treatment of patients with toxicological emergencies.
• Discuss the use of activated charcoal.
• Visit a detox center to allow students to talk with patients and see the visual effects of withdrawal.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Respiratory

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Anatomy, signs, symptoms, and management of respiratory emergencies including those that affect the upper and lower airways.

Anatomy, physiology, pathophysiology, assessment, and management of:
- Epiglottitis
- Spontaneous pneumothorax
- Pulmonary edema
- Asthma
- Chronic obstructive pulmonary disease
- Environmental/industrial exposure
- Toxic gas
- Pertussis
- Cystic fibrosis
- Pulmonary embolism
- Pneumonia
- Viral respiratory infections

Key Terminology:

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the structure and function of the respiratory system.</td>
<td>Anatomy of the respiratory system</td>
</tr>
<tr>
<td>State the signs and symptoms of a patient with breathing difficulty.</td>
<td>Normal respiratory effort</td>
</tr>
<tr>
<td>Describe the emergency medical care of the patient with breathing difficulty.</td>
<td>Assessment findings and symptoms and management for respiratory conditions</td>
</tr>
<tr>
<td>Recognize the need for medical direction to assist in the emergency medical care of the patient with breathing difficulty.</td>
<td>Specific respiratory conditions—definition, causes, assessment findings and symptoms, complications, and specific prehospital management and transport decisions</td>
</tr>
<tr>
<td>Describe the emergency medical care of the patient with breathing distress.</td>
<td>Metered-dose inhaler and small volume nebulizer</td>
</tr>
<tr>
<td>Establish the relationship between airway management and the patient with breathing difficulty.</td>
<td>Communication and documentation for patients with respiratory emergencies</td>
</tr>
<tr>
<td>List signs of adequate air exchange.</td>
<td>Consider age-related variations in pediatric and geriatric patient’s as they relate assessment and management</td>
</tr>
<tr>
<td>State the generic name, medication forms, dose, administration, action, indications, and contraindications for the prescribed inhaler.</td>
<td>Transport decisions</td>
</tr>
<tr>
<td>Distinguish between the emergency medical care of the infant, child, and adult patient with breathing difficulty.</td>
<td></td>
</tr>
<tr>
<td>Differentiate between upper airway obstruction and lower airway disease in the infant and child patient.</td>
<td></td>
</tr>
</tbody>
</table>
- Defend EMT treatment regimens for various respiratory emergencies.
- Explain the rationale for administering an inhaler.
- Demonstrate the emergency medical care for breathing difficulty.
- Perform the steps in facilitating the use of an inhaler.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with respiratory emergencies.
- Students should assist in assembling and using an inhaler

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Hematology

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Anatomy, physiology, pathophysiology, assessment, and management of:
  • Sickle cell crisis
  • Clotting disorders

Key Terminology:
  • Anemia
  • Sickle cell anemia

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss the composition and functions of the blood.</td>
<td>Anatomy and physiology</td>
</tr>
<tr>
<td>Describe the pathophysiology of sickle cell disease and the four main types of sickle cell crisis.</td>
<td>Pathophysiology of sickle cell</td>
</tr>
<tr>
<td>Describe the assessment and management of a patient with suspected sickle cell disease.</td>
<td>Sickle cell crisis</td>
</tr>
<tr>
<td>Describe two types of blood clotting disorders, and their risk factors, characteristics, and management of each.</td>
<td>Clotting disorders</td>
</tr>
<tr>
<td>Consider age related variations</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
  • Using simulated cases of patient presentations, discuss treatment of patients with hematological emergencies.
  • Discuss the different groups of people who have these types of disorders.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Genitourinary/Renal

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Blood pressure assessment in hemodialysis patients. Anatomy, physiology, pathophysiology, assessment, and management of complications related to:
- Renal dialysis
- Urinary catheter management (not insertion)
- Kidney stones

**Key Terminology:**
- Continuous ambulatory peritoneal dialysis (CAPD)
- Continuous cycler-assisted peritoneal dialysis (CCPD)
- Exchange
- Peritonitis
- Renal failure
- Thrill

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Understand the anatomy and physiology of the genitourinary/renal system.</td>
<td>• Anatomy and physiology of the renal system</td>
</tr>
<tr>
<td>• Describe pathological conditions of the genitourinary/renal system.</td>
<td>• Pathophysiology</td>
</tr>
<tr>
<td>• Explain the procedures for patient assessment of the genitourinary/renal system.</td>
<td>• Dialysis</td>
</tr>
<tr>
<td>• Describe the emergency medical care of the genitourinary/renal system.</td>
<td>• Management for a patient with a dialysis emergency</td>
</tr>
<tr>
<td>• Understand the principles of kidney dialysis.</td>
<td>• Dialysis shunt special considerations</td>
</tr>
<tr>
<td></td>
<td>• Urinary catheter management</td>
</tr>
<tr>
<td></td>
<td>• Consider age related variations of the pediatric and geriatric patients</td>
</tr>
<tr>
<td></td>
<td>• Communication and documentation</td>
</tr>
<tr>
<td></td>
<td>• Transport decisions</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with genitourinary emergencies.
- Visit a dialysis center for students to understand the function of dialysis and how it works.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Gynecology

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

TARGET SKILLS: Recognition and management of shock associated with vaginal bleeding. Anatomy, physiology, assessment findings, and management of fundamental depth and foundational breadth to include:
- Vaginal bleeding
- Sexual assault (to include appropriate emotional support)
- Infection

Key Terminology:
- Ovaries
- Ovulation
- Fallopian Tubes
- Uterus
- Cervix
- Vagina
- Pelvic Inflammatory Disease (PID)
- Chlamydia
- Bacterial Vaginosis
- Gonorrhea
- Sexual Assault
- Rape
- SANE (Sexual Assault Nurse Examiner)

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the anatomy and physiology of the female reproductive system including the developmental changes that occur during puberty and menopause</td>
<td>• Introduction of female reproductive system (anatomy and physiology)</td>
</tr>
<tr>
<td>• Describe the gynecological emergencies, including their causes, risk factors, assessment findings, and patient management considerations</td>
<td>• Assessment findings</td>
</tr>
<tr>
<td>• Discuss the importance of patient privacy and communication of the gynecological patient</td>
<td>• General management</td>
</tr>
<tr>
<td>• Assessment and scene management of a sexual assault/rape patient</td>
<td>• Specific gynecological emergencies—definition, causes, risk factors, assessment findings, management</td>
</tr>
<tr>
<td></td>
<td>• Age-related variations of pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td></td>
<td>• Communications and documentation</td>
</tr>
<tr>
<td></td>
<td>• Preservation of evidence in assault</td>
</tr>
<tr>
<td></td>
<td>• Transport decisions</td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patients with gynecology emergencies.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Non-Traumatic Musculoskeletal Disorders

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient. Discuss the different methods of moving these types of patients.

**TARGET SKILLS:** Anatomy, physiology, pathophysiology, assessment and management of non-traumatic fractures.

**Key Terminology:**
- Cancer
- Osteoporosis
- Contractures

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the function of the skeletal system.</td>
<td>• Anatomy and physiology review</td>
</tr>
<tr>
<td>• List the major bones or bone groupings of the spinal column, the thorax, the upper extremities, and the lower extremities.</td>
<td>• Pathophysiology</td>
</tr>
<tr>
<td>• Differentiate between an open and a closed, painful, swollen, and deformed extremity.</td>
<td>• Assessment</td>
</tr>
<tr>
<td>• State the reasons for splinting.</td>
<td>• Management</td>
</tr>
<tr>
<td>• List the general rules of splinting.</td>
<td>• Special transport and packaging considerations</td>
</tr>
<tr>
<td>• List the complications of splinting.</td>
<td>• Consider age related variations</td>
</tr>
<tr>
<td>• List the emergency medical care for a patient with a painful, swollen, deformed extremity.</td>
<td></td>
</tr>
<tr>
<td>• Explain the rationale for splinting at the scene versus load and go.</td>
<td></td>
</tr>
<tr>
<td>• Explain the rationale for immobilization of the painful, swollen, deformed extremity.</td>
<td></td>
</tr>
<tr>
<td>• Demonstrate the emergency medical care of a patient with a painful, swollen, deformed extremity.</td>
<td></td>
</tr>
<tr>
<td>• Demonstrate completing a prehospital care report for patients with musculoskeletal injuries.</td>
<td></td>
</tr>
</tbody>
</table>
**Activities/Resources:** Use of auditory, visual and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patients with musculoskeletal disorders.
- Consider the different stages of grieving of patients and family during the care of a cancer patient.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Diseases of the Eyes, Ears, Nose and Throat

*Summary:* Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.

**TARGET SKILLS:** Recognition and management of Nose bleed, eye injuries, and bleeding in the airway

**Key Terminology:**
- Epistaxis

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstrate the care of the patient exhibiting signs and symptoms of a nose bleed/epistaxis</td>
<td>• Nose bleed</td>
</tr>
<tr>
<td></td>
<td>• Eye injuries</td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patient with a nose bleed.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Shock and Resuscitation

Summary: Applies fundamental knowledge of the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post resuscitation management.

Key Terminology:

- Cardiogenic shock
- Compensated shock
- Decompensated shock
- Hemorrhagic shock
- Hypoperfusion
- Hypovolemic shock
- Irreversible shock
- Neurogenic shock
- Perfusion
- Shock

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Discuss the ethical issues in resuscitation</td>
<td>• Ethical issues in resuscitation attempts</td>
</tr>
<tr>
<td>• Explain the respiratory system in relationship to a shock patient presentation</td>
<td>• Anatomy and physiology review</td>
</tr>
<tr>
<td>• List the structure and function of the circulatory system</td>
<td>• Respiratory failure</td>
</tr>
<tr>
<td>• Differentiate between arteriole, venous, and capillary bleeding</td>
<td>• Respiratory arrest</td>
</tr>
<tr>
<td>• State methods of emergency medical treatment of external bleeding</td>
<td>• Cardiac arrest</td>
</tr>
<tr>
<td>• Describe the Stage of Shock</td>
<td>• Resuscitation of the shock patient</td>
</tr>
<tr>
<td>Describe the different forms of shock</td>
<td>• Automated external defibrillator (AED) (refer to the current AHA guidelines)</td>
</tr>
<tr>
<td>• List the signs and symptoms of shock</td>
<td>• Shock (poor perfusion)</td>
</tr>
<tr>
<td>• List the steps in the emergency medical care of the patient with signs and symptoms of shock</td>
<td></td>
</tr>
<tr>
<td>• Explain the sense of urgency to transport patients with signs and symptoms of shock</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patient in shock.
- Using simulation, allow students to treat the patient as it pertains to cardiac arrest and resuscitation.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Trauma

Trauma Overview

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Pathophysiology, assessment, and management of the trauma patient to include:
- Trauma scoring
- Rapid transport and destination issues
- Transport mode

Key Terminology:
- Crepitation
- Details physical exam
- Disorientation
- History of present illness
- Jugular vein distention (JVD)
- Paradoxical motion
- Past medical history
- Priapism
- Rapid trauma assessment
- SAMPLE
- Stoma
- Tracheostomy
- Trauma patient

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss the reasons for reconsideration concerning the mechanism of injury.</td>
<td>Identification and categorization of trauma patients</td>
</tr>
<tr>
<td>State the reasons for performing a rapid trauma assessment.</td>
<td>Pathophysiology of the trauma patients</td>
</tr>
<tr>
<td>Recite examples and explain why patients should receive a rapid trauma assessment.</td>
<td>Assessment of the trauma patient</td>
</tr>
<tr>
<td>Describe the areas included in the rapid trauma assessment and discuss what should be evaluated.</td>
<td>Management of the trauma patient</td>
</tr>
<tr>
<td>Differentiate when the rapid assessment may be altered in order to provide patient care.</td>
<td></td>
</tr>
<tr>
<td>Discuss the reason for performing a focused history and physical exam.</td>
<td></td>
</tr>
<tr>
<td>Recognize and respect the feelings that patients might experience during assessment.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate the rapid trauma assessment that should be used to assess a patient based on mechanism of injury.</td>
<td></td>
</tr>
</tbody>
</table>

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Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, allow students to review trauma assessment to determine treatment and destination criteria.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
# Bleeding

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

**TARGET SKILLS:** Recognition, pathophysiology, assessment, and management of bleeding.

**Key Terminology:**
- Arterial bleeding
- Capillary bleeding
- Hemorrhage
- Hemostatic agents
- Pressure dressing
- Tourniquet
- Venous bleeding

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- List the structure and function of the circulatory system.</td>
<td>- Pathophysiology</td>
</tr>
<tr>
<td>- Differentiate between arterial, venous, and capillary bleeding.</td>
<td>- General assessment</td>
</tr>
<tr>
<td>- State methods of emergency medical care of external bleeding.</td>
<td>- Management strategies</td>
</tr>
<tr>
<td>- Establish the relationship between body substance isolation and bleeding.</td>
<td>- Recognition of need for rapid transportation</td>
</tr>
<tr>
<td>- Establish the relationship between airway management and the trauma patient.</td>
<td></td>
</tr>
<tr>
<td>- Establish the relationship between mechanism of injury and internal bleeding.</td>
<td></td>
</tr>
<tr>
<td>- List the signs of internal bleeding.</td>
<td></td>
</tr>
<tr>
<td>- List the steps in the emergency medical care of the patient with signs and symptoms of internal bleeding.</td>
<td></td>
</tr>
<tr>
<td>- List signs and symptoms of shock (hypoperfusion).</td>
<td></td>
</tr>
<tr>
<td>- State the steps in the emergency medical care of the patient with signs and symptoms of shock (hypoperfusion).</td>
<td></td>
</tr>
<tr>
<td>- Explain the sense of urgency to transport patients that are bleeding and show signs of shock (hypoperfusion).</td>
<td></td>
</tr>
<tr>
<td>- Demonstrate direct pressure as a method of emergency medical care of external bleeding.</td>
<td></td>
</tr>
<tr>
<td>- Demonstrate the use of diffuse pressure as a method of emergency medical care of external bleeding</td>
<td></td>
</tr>
</tbody>
</table>
• Demonstrate the use of pressure points and tourniquets as a method of emergency medical care of external bleeding.
• Demonstrate the care of the patient exhibiting signs and symptoms of internal bleeding
• Demonstrate the care of the patient exhibiting signs and symptoms of shock (hypoperfusion)
• Demonstrate completing a prehospital care report for patient with bleeding and/or shock (hypoperfusion).

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Using simulated cases of patient presentations, discuss treatment of bleeding.
• Allow the student to manage an injury that is bleeding.
• Discuss the use of hemostatic agents.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Chest Trauma

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition and management of blunt versus penetrating mechanisms to include:

- Open chest wound
- Impaled object
- Hemothorax
- Pneumothorax
  - Open
  - Simple
  - Tension
- Cardiac tamponade
- Rib fractures
- Flail chest
- Commotiocordis

Key Terminology:

- Flail chest
- Paradoxical motion
- Pneumothorax
- Sucking chest wound
- Tension pneumothorax

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explain the mechanics of ventilation in relation to chest injuries.</td>
<td>• Incident of chest trauma</td>
</tr>
<tr>
<td>• Describe the difference between an open and closed chest injury.</td>
<td>• Mechanism of injury for chest trauma</td>
</tr>
<tr>
<td>• Describe the signs of chest injury.</td>
<td>• Anatomy of the chest</td>
</tr>
<tr>
<td>• Differentiate between a pneumothorax (open, simple, and tension) and a hemothorax.</td>
<td>• Physiology of chest trauma</td>
</tr>
<tr>
<td>• Describe the complication of a cardiac tamponade.</td>
<td>• Pathophysiology of chest trauma</td>
</tr>
<tr>
<td>• Describe the complications of rib fractures.</td>
<td>• General assessment findings</td>
</tr>
<tr>
<td>• Describe the complications of a patient with a flail chest.</td>
<td>• General management of the chest trauma patient</td>
</tr>
<tr>
<td>• Explain the complications of a patient with an open pneumothorax (sucking chest wound)</td>
<td>• Blunt trauma or closed chest injury</td>
</tr>
<tr>
<td>• Describe the management of a patient with a suspected chest injury, including:</td>
<td>• Open chest injury</td>
</tr>
<tr>
<td>• Pneumothorax</td>
<td>• Age-related variations for pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td>• Hemothorax</td>
<td></td>
</tr>
<tr>
<td>Conditions</td>
<td></td>
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<tr>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>Cardiac tamponade</td>
<td></td>
</tr>
<tr>
<td>Rib fractures</td>
<td></td>
</tr>
<tr>
<td>Flail chest</td>
<td></td>
</tr>
<tr>
<td>Pulmonary contusion</td>
<td></td>
</tr>
<tr>
<td>Traumatic asphyxia</td>
<td></td>
</tr>
<tr>
<td>Blunt myocardial injury</td>
<td></td>
</tr>
<tr>
<td>Commotion cordis</td>
<td></td>
</tr>
<tr>
<td>Laceration of the great vessels</td>
<td></td>
</tr>
</tbody>
</table>

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patient with chest trauma.
- Place bubble wrap under a shirt to allow students to feel simulated subcutaneous air.
- Simulate an impaled object and allow students to manage injury.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Abdominal and Genitourinary Trauma

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition and management of blunt versus penetrating mechanisms including:

- Evisceration
- Impaled object
- Solid and hollow organ injuries
- Injuries to the external genitalia
- Vaginal bleeding due to trauma
- Sexual assault

Key Terminology:

- Evisceration

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Describe the anatomy and physiology of the abdomen and the genitourinary system.</td>
<td>• Incidence (mortality &amp; morbidity)</td>
</tr>
<tr>
<td>• Describe the difference in hollow and solid organs.</td>
<td>• Anatomy of the abdominal and genitourinary systems</td>
</tr>
<tr>
<td>• Discuss the mechanism of injury associated with abdominal trauma.</td>
<td>• Physiology</td>
</tr>
<tr>
<td>• Discuss the difference between open and closed abdominal injuries and the signs and symptoms.</td>
<td>• Specific injuries</td>
</tr>
<tr>
<td>• Discuss the difference between low velocity, medium velocity, and high velocity injuries.</td>
<td>• General assessment</td>
</tr>
<tr>
<td>• Discuss the emergency medical care of a patient who has sustained an open abdominal injury, including penetrating injuries and abdominal evisceration, and considerations related to the use of a pneumatic anti-shock garment (PASG) when caring for these patients.</td>
<td>• General management</td>
</tr>
<tr>
<td>• Describe the types of traumatic injuries that may be sustained by the organs of the male and female genitourinary system.</td>
<td>• Age-related variations for pediatric and geriatric assessment and management</td>
</tr>
<tr>
<td>• Discuss assessment of a patient who has experienced a genitourinary injury.</td>
<td>• Special considerations of abdominal trauma</td>
</tr>
<tr>
<td>• Discuss the emergency medical care of a patient who has experienced a genitourinary injury.</td>
<td></td>
</tr>
</tbody>
</table>
- Explain special considerations related to a patient who has experienced a genitourinary injury caused by sexual assault, including patient treatment, criminal implications, and evidence management.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patient with abdominal and genitourinary injuries.
- Demonstrate the use of PASG.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Orthopedic Trauma

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

**TARGET SKILLS:** Recognition and management of:
- Open fractures
- Closed fractures
- Dislocations
- Upper and lower extremity orthopedic trauma
- Sprains/strains
- Pelvic fractures
- Amputations/replantation
- Amputations

**Key Terminology:**
- Angulated fracture
- Bones
- Cartilage
- Closed extremity injury
- Comminuted fracture
- Compartment syndrome
- Crepitus
- Dislocation
- Extremities
- Fracture
- Greenstick fracture
- Joints
- Ligaments
- Manual traction
- Muscles
- Open extremity injury
- Sprain
- Strain
- Tendons
- Traction splint

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the function of the musculoskeletal system.</td>
<td>Incidence</td>
</tr>
<tr>
<td>Explain the anatomy and physiology of the musculoskeletal system.</td>
<td>Anatomy</td>
</tr>
<tr>
<td>Describe the different types of musculoskeletal injuries including:</td>
<td>Physiology</td>
</tr>
<tr>
<td>Fractures</td>
<td>Mechanism of injury</td>
</tr>
<tr>
<td>Dislocations</td>
<td>Complications</td>
</tr>
<tr>
<td>Amputations</td>
<td>Descriptions of fractures</td>
</tr>
<tr>
<td>Sprains</td>
<td>Dislocations</td>
</tr>
<tr>
<td>Strains.</td>
<td>Sprains/strains</td>
</tr>
<tr>
<td>Describe the four mechanisms of injury.</td>
<td>Pelvic fracture</td>
</tr>
<tr>
<td>Differentiate between open and closed fractures.</td>
<td>General assessment</td>
</tr>
<tr>
<td>Explain how to assess the severity of an injury.</td>
<td>General management</td>
</tr>
<tr>
<td>Describe the treatment of a patient experiencing an orthopedic injury.</td>
<td>Specific injuries</td>
</tr>
<tr>
<td></td>
<td>Types of splints</td>
</tr>
<tr>
<td></td>
<td>Age-related variations for pediatric and geriatric assessment and management</td>
</tr>
</tbody>
</table>
• Describe the need of general rules and possible complications of splinting.
• Explain the reasons for splinting fractures, dislocations, and sprains at the scene versus transporting the patient immediately.
• Describe the treatment of a patient with an amputation.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Using simulated cases of patient presentations, discuss treatment of patient with soft tissue injuries.
• Allow the student to manage an orthopedic injury.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Soft Tissue Trauma

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition, pathophysiology, assessment, and management of:
- Wounds
  - Avulsions
  - Bite wounds
  - Laceration
  - Puncture Wounds
  - Incisions
- Burns
  - Electrical
  - Chemical
  - Thermal
  - Radiation
- Chemicals in the eye and on the skin
- Crush Syndrome

Key Terminology:
- Abrasion
- Amputation
- Avulsion
- Closed wound
- Contusion
- Crush injury
- Dermis
- Epidermis
- Full thickness burn
- Hematoma
- Laceration
- Open wound
- Partial thickness burn
- Puncture wound
- Rule of nines
- Rule of palm
- Subcutaneous
- Superficial burns

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the emergency medical care of the patient with:</td>
<td>Incident of soft tissue injury</td>
</tr>
<tr>
<td>- A partial thickness burn</td>
<td>Anatomy and physiology of soft tissue injury</td>
</tr>
<tr>
<td>- A full thickness burn</td>
<td>Closed soft tissue injury</td>
</tr>
<tr>
<td>List the functions of dressing and bandaging.</td>
<td>Open soft tissue injury</td>
</tr>
<tr>
<td>Describe the purpose of a bandage.</td>
<td>General assessment</td>
</tr>
<tr>
<td>Describe the steps in applying a pressure dressing.</td>
<td>Management of soft tissue injury</td>
</tr>
<tr>
<td>Establish the relationship between airway management and the patient with:</td>
<td>Incidence of burn injury</td>
</tr>
<tr>
<td>- Chest injury</td>
<td>Anatomy and physiology of burns</td>
</tr>
<tr>
<td>- Burns</td>
<td>Complications of burn injuries</td>
</tr>
<tr>
<td>- Blunt injuries</td>
<td>General assessment of burn injuries</td>
</tr>
<tr>
<td>- Penetrating injuries.</td>
<td>General management of burn injuries</td>
</tr>
<tr>
<td>Specific burn injury management considerations</td>
<td>Specific burn injury management considerations</td>
</tr>
</tbody>
</table>
- Describe the effects of improperly applied dressings, splints, and tourniquets.
- Describe the steps in the emergency medical care of a patient with:
  - An impaled object
  - An amputation
  - A chemical burn
  - An electrical burn
  - Closed soft tissue injury
  - Open soft tissue injury
  - An open chest wound
  - Open abdominal wounds
  - An impaled object
  - Superficial burns
  - Partial thickness burns
  - Full thickness burns
- Demonstrate the steps in the emergency medical care of an amputated part.
- Age-related variations

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of patient with soft tissue injuries.
- Allow the student to manage a soft tissue injury.
- Allow student to use simulated burn patient to figure burn percentages.
- Demonstrate the treatment of the different types of burns.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Head, Facial, Neck and Spine Trauma

*Summary:* Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

**TARGET SKILLS:** Recognition and management of:

- Life threats
- Spine trauma
- Penetrating neck trauma
- Laryngeotracheal injuries
- Facial fractures
- Skull fractures
- Foreign bodies in the eyes
- Dental trauma

**Key Terminology:**

- Central nervous system
- Concussion
- Contusion
- Cranium
- Dermatome
- Hematoma
- Herniation
- Laceration
- Malar
- Mandible
- Maxillae
- Nasal bone
- Orbits
- Temporomandibular joint (TMJ)

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>State the components of the nervous system.</td>
<td>Introduction to trauma of the head, face, neck and spine</td>
</tr>
<tr>
<td>List the functions of the central nervous system.</td>
<td>Review of anatomy and physiology of the head, face, and neck</td>
</tr>
<tr>
<td>Define the structure of the skeletal system as it relates to the nervous system.</td>
<td>General patient assessment</td>
</tr>
<tr>
<td>Relate mechanism of injury to potential injuries of the head and spine.</td>
<td>Specific Injuries to head, face, and neck</td>
</tr>
<tr>
<td>Describe the implications of not properly caring for potential spine injuries.</td>
<td>Age-related variations</td>
</tr>
<tr>
<td>State the signs and symptoms of a potential spine injury.</td>
<td></td>
</tr>
<tr>
<td>Describe the method of determining if a responsive patient may have a spine injury.</td>
<td></td>
</tr>
<tr>
<td>Relate the airway emergency medical care techniques to the patient with a suspected spine injury.</td>
<td></td>
</tr>
<tr>
<td>Describe how to stabilize the cervical spine.</td>
<td></td>
</tr>
</tbody>
</table>
• Discuss indications for sizing and using a cervical spine immobilization device.
• Establish the relationship between airway management and the patient with head and spine injuries.
• Describe a method for sizing a cervical spine immobilization device.
• Describe how to log roll a patient with a suspected spine injury.
• Describe how to secure a patient to a long spine board.
• List instances when a short spine board should be used.
• Describe how to immobilize a patient using a short spine board.
• Describe the indications for the use of rapid extrication.
• List steps in performing rapid extrication.
• State the circumstances when a helmet should be left on the patient.
• Discuss the circumstances when a helmet should be removed.
• Identify different types of helmets.
• Describe the unique characteristics of sports helmets.
• Explain the preferred methods to remove a helmet.
• Discuss alternative methods for removal of a helmet.
• Describe how the patient's head is stabilized to remove the helmet.
• Differentiate how the head is stabilized with a helmet compared to without a helmet.
• Explain the rationale for immobilization of the entire spine when a cervical spine injury is suspected.
• Explain the rationale for utilizing immobilization methods apart from the straps on the cots.
• Explain the rationale for utilizing a short spine immobilization device when moving a patient from the sitting to the supine position.
• Explain the rationale for utilizing rapid extrication approaches only when they indeed will make the difference between life and death.
• Defend the reasons for leaving a helmet in place for transport of a patient.
• Defend the reasons for removal of a helmet prior to transport of a patient.
• Demonstrate the following:
  ▪ Opening the airway in a patient with suspected spinal cord injury
  ▪ Evaluating a responsive patient with a suspected spinal cord injury
  ▪ Stabilization of the cervical spine
  ▪ The four person log roll for a patient with a suspected spinal cord injury
  ▪ How to log roll a patient with a suspected spinal cord injury using two people
  ▪ Securing a patient to a long spine board
  ▪ Using the short board immobilization technique
  ▪ Procedure for rapid extrication
  ▪ Preferred methods for stabilization of a helmet
  ▪ Helmet removal techniques
  ▪ alternative methods for stabilization of a helmet
  ▪ Completing a prehospital care report for patients with head and spinal injuries.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Using simulated cases of patient presentations, discuss treatment of patient with spinal trauma.
• Demonstrate the different devices to immobilize patients with spinal injuries.
• Demonstrate the use of dermatomes for assessment of injury.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Nervous System Trauma

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition, pathophysiology, assessment, and management of:
- Traumatic brain injury
- Spinal cord injury

Key Terminology:
- Intracranial pressure (ICP)
- Foramen magnum
- Neurogenic shock
- Peripheral nervous system
- Spinous process
- Vertebrae

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>• State the components of the nervous system.</td>
<td>• Incidence (mortality &amp; morbidity)</td>
</tr>
<tr>
<td>• List the functions of the central nervous system.</td>
<td>• Anatomy and physiology of the brain and spine</td>
</tr>
<tr>
<td>• Define the structure of the skeletal system as it relates to the nervous system.</td>
<td>• General assessment considerations for the brain trauma patients</td>
</tr>
<tr>
<td>• Define traumatic brain injury (TBI) and explain the difference between a primary (direct) injury and secondary (indirect) injury, providing examples of possible mechanisms of injury.</td>
<td>• Age-related variations for the pediatric and geriatric assessment and management of brain trauma</td>
</tr>
<tr>
<td>• Describe the signs and symptoms associated with increased intracranial pressure (ICP), concussion, contusion, and injuries caused by medical conditions.</td>
<td>• Spinal cord injuries</td>
</tr>
<tr>
<td>• List the mechanisms of injury that cause a high index of suspicion for the possibility of a head injury or spinal injury.</td>
<td>• Age-related variations for the pediatric and geriatric assessment and management of spinal injury</td>
</tr>
<tr>
<td>• Describe the assessment of a patient with a suspected nervous system trauma.</td>
<td></td>
</tr>
<tr>
<td>• Describe the treatment of a patient with a suspected nervous system injury.</td>
<td></td>
</tr>
<tr>
<td>• Discuss the transport of the nervous system injury patient to the most appropriate facility.</td>
<td></td>
</tr>
</tbody>
</table>
Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, discuss treatment of patient with intracranial pressure.
- Discuss the differences found with neurogenic shock

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Special Considerations in Trauma

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition, pathophysiology, assessment, and management of trauma in:
- Pregnant patient
- Pediatric patient
- Geriatric patient
- Cognitively impaired patient

Key Terminology:
- Backboard tilt
- Pediatric Assessment Triangle (PAT)

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Recognition and management of trauma in the:</td>
<td>• Trauma in pregnancy</td>
</tr>
<tr>
<td>- Pregnant Patient</td>
<td>• Trauma in the pediatric patient</td>
</tr>
<tr>
<td>- Pediatric Patient</td>
<td>• Trauma in the elderly patient</td>
</tr>
<tr>
<td>- Geriatric Patient</td>
<td>• Trauma in the cognitively impaired patient</td>
</tr>
<tr>
<td>- Cognitively Impaired Patient</td>
<td></td>
</tr>
<tr>
<td>• Pathophysiology, assessment, and management of the trauma in the:</td>
<td></td>
</tr>
<tr>
<td>- Pregnant Patient</td>
<td></td>
</tr>
<tr>
<td>- Pediatric Patient</td>
<td></td>
</tr>
<tr>
<td>- Geriatric Patient</td>
<td></td>
</tr>
<tr>
<td>- Cognitively Impaired Patient</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using simulated cases of patient presentations, discuss treatment of a patient with different needs during traumatic events.
- Using equipment, demonstrate how students should perform these tasks.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Environmental Emergencies

Summary: Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

TARGET SKILLS: Recognition and management of:
- Submersion incidents
- Temperature-related illness

Pathophysiology, assessment, and management of:
- Near drowning
- Temperature-related illness
- Bites and envenomation
- Dysbarism
  - High-altitude
  - Diving injuries
- Electrical injury
- Radiation exposure

Key Terminology:
- Active rewarming
- Air embolism
- Central rewarming
- Conduction
- Convection
- Decompression sickness
- Drowning
- Evaporation
- Hyperthermia
- Hypothermia
- Local cooling
- Passive rewarming
- Radiation
- Respiration
- Toxins
- Venom
- Water chill
- Wind chill

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the various ways that the body loses heat.</td>
<td>Submersion incidents</td>
</tr>
<tr>
<td>List the signs and symptoms of exposure to cold.</td>
<td>Temperature-related illness</td>
</tr>
<tr>
<td>Explain the steps in providing emergency medical care to a patient exposed to cold.</td>
<td>Bites and envenomation</td>
</tr>
<tr>
<td>List the signs and symptoms of exposure to heat.</td>
<td>Diving emergencies (dysbarism)</td>
</tr>
<tr>
<td>Explain the steps in providing emergency care to a patient exposed to heat.</td>
<td>Electrical injuries</td>
</tr>
<tr>
<td>Recognize the signs and symptoms of water-related emergencies.</td>
<td>Radiation injuries</td>
</tr>
<tr>
<td>Describe the complications of near drowning.</td>
<td>Age-related variations for pediatric and geriatric assessment and management</td>
</tr>
</tbody>
</table>
• Discuss the emergency medical care of bites and stings.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Using simulated cases of patient presentations, discuss treatment of patient within an environmental emergency.
• Discuss the different injuries as it pertains to your local protocol.
• Visit a facility with a decompression chamber for information.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Multi-System Trauma

**Summary:** Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

**TARGET SKILLS:** Recognition and management of multi-system trauma and blast Injuries

**Key Terminology:**

- Multiple trauma
- Multisystem trauma
- Trauma score
- Velocity

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
</table>
| • Describe muti-system trauma and special consideration that are required for patients who fit this category. | • Kinematics of trauma  
• Multi-system trauma  
• Specific injuries related to multi-system trauma |

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using simulated cases of patient presentations, allow students to figure the trauma score.
- Discuss the needs for treatment based on multisystem trauma.

**Assessments:** Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills).
Special Patient Populations

Obstetrics

Summary: Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.

TARGET SKILLS: Recognition and management of normal delivery and vagina bleeding in the pregnant patient to include:

- Normal delivery
- Abnormal delivery
  - Nuchal cord
  - Prolapsed cord
  - Breech delivery
- Third trimester bleeding to include:
  - Placenta previa
  - Abruptio placenta
- Spontaneous abortion/miscarriage
- Ectopic pregnancy
- Preeclampsia/Eclampsia

Key Terminology:

- Abortion
- Abruptio placenta
- Afterbirth
- Braxton-hicks contractions
- Breech presentation
- Cephalic presentation
- Crowning
- Eclampsia
- Ectopic pregnancy
- Fallopian tubes (oviducts)
- Labor
- Limb presentation
- Meconium staining
- Multiple birth
- Neonate
- Placenta
- Placenta previa
- Preeclampsia
- Premature infant
- Prolapsed umbilical cord
- Supine hypotensive syndrome

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Identify the following structures:</td>
<td>- Introduction</td>
</tr>
<tr>
<td>• Uterus</td>
<td>- Anatomy and physiology review of the female reproductive system</td>
</tr>
<tr>
<td>• Vagina</td>
<td>- Physiology of pregnancy</td>
</tr>
<tr>
<td>• Fetus</td>
<td>- General system physiology, assessment, and management of the pregnant patient</td>
</tr>
<tr>
<td>• Placenta</td>
<td>- Complications of pregnancy</td>
</tr>
<tr>
<td>• Umbilical cord</td>
<td>- High-risk pregnancy to include:</td>
</tr>
<tr>
<td>• Amniotic sac</td>
<td>• Pathophysiology</td>
</tr>
<tr>
<td>• Perineum</td>
<td>• Assessment</td>
</tr>
<tr>
<td>- Identify and explain the use of the contents of an obstetrics kit.</td>
<td>• Complications</td>
</tr>
<tr>
<td>- Identify predelivery emergencies.</td>
<td></td>
</tr>
</tbody>
</table>

90
• State indications of an imminent delivery.
• Differentiate the emergency medical care provided to a patient with predelivery emergencies from a normal delivery.
• State the steps in the predelivery preparation of the mother.
• Establish the relationship between body substance isolation and childbirth.
• State the steps to assist in the delivery.
• Describe care of the baby as the head appears.
• Describe how and when to cut the umbilical cord.
• Discuss the steps in the delivery of the placenta.
• List the steps in the emergency medical care of the mother post-delivery.
• Summarize neonatal resuscitation procedures.
• Describe the procedures for the following abnormal deliveries:
  - Breech birth
  - Prolapsed cord
  - Limb presentation
• Differentiate the special considerations for multiple births.
• Describe special considerations of meconium.
• Describe special considerations of a premature baby.
• Discuss the emergency medical care of a patient with a gynecological emergency.
• Explain the rationale for understanding the implications of treating two patients (mother and baby).
• Demonstrate the steps to assist in the normal cephalic delivery.
• Demonstrate necessary care procedures of the fetus as the head appears.
• Demonstrate infant neonatal procedures.
• Demonstrate post-delivery care of infant.
• Demonstrate how and when to cut the umbilical cord.
• Attend to the steps in the delivery of the placenta.
• Demonstrate the post-delivery care of the mother.

• Management
• Complications of labor to include:
  - pathophysiology, assessment, complications, and management
    - Pathophysiology
    - Assessment
    - Complications
    - Management
• Complications of delivery to include:
  - pathophysiology, assessment, complications, and management
    - Pathophysiology
    - Assessment
    - Complications
    - Management
• Postpartum complications to include:
  - pathophysiology, assessment, complications, and management
    - Pathophysiology
    - Assessment
    - Complications
    - Management
- Demonstrate the procedures for the following abnormal deliveries:
  - Breech birth
  - Prolapsed cord
  - Limb presentation
- Demonstrate the steps in the emergency medical care of the mother with excessive bleeding.
- Demonstrate completing a prehospital care report for patients with obstetrical/gynecological emergencies.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Childbirth video, scenario based training pertinent to topic of instruction.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills)
**Neonatal Care**

**Summary:** Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.

**TARGET SKILLS:** Assessment and management of:
- Newborn care and
- Neonatal resuscitations

**Key Terminology:**
- Umbilical cord
- APGAR
- Bulb syringe

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
</table>
| • Understand the steps to take in neonatal resuscitation and assessment. | • Assessment and management of the neonate
• Neonatal resuscitation |

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Post newborn care video

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Pediatrics

**Summary:** Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.

**TARGET SKILLS:** Age-related assessment findings, and age-related and developmental stage related assessment and treatment modifications for pediatric-specific major diseases and/or emergencies to include:
- Upper airway obstruction
- Lower airway reactive disease
- Respiratory distress/failure/arrest
- Shock
- Seizures
- Sudden Infant Death Syndrome
- Gastrointestinal disease

**Key Terminology:**
- Fontanelle
- Croup
- Pediatric Assessment Triangle (PAT)
- Pediatric Retractions

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
</table>
| • Identify the developmental considerations for the following age groups:  
  ▪ Infants  
  ▪ Toddlers  
  ▪ Pre-school  
  ▪ School age  
  ▪ Adolescent  
  ▪ Describe differences in anatomy and physiology of the infant, child, and adult patient.  
  ▪ Differentiate the response of the ill or injured infant or child (age specific) from that of an adult.  
  ▪ Indicate various causes of respiratory emergencies.  
  ▪ Differentiate between respiratory distress and respiratory failure.  
  ▪ List the steps in the management of foreign body airway obstruction.  
  ▪ Summarize emergency medical care strategies for respiratory distress and respiratory failure.  
| • Anatomy and physiology consideration of the pediatric patient  
| • Airway compared to an adult’s  
| • Chest and lungs compared to an adult’s  
| • Abdominal difference between and pediatric and adult patient  
| • Extremities compared to an adult’s  
| • Integumentary differences between and pediatric and adult patient  
| • Respiratory system, nervous system, and metabolic response compared to that of an adult’s  
| • Compared to an adult growth and development  
| • Assessment of the pediatric patient  
| • Specific pathophysiology, assessment, and management of the pediatric patient |
• Identify the signs and symptoms of shock (hypoperfusion) in the infant and child patient.
• Describe the methods of determining end organ perfusion in the infant and child patient.
• State the usual cause of cardiac arrest in infants and children versus adults.
• List the common causes of seizures in the infant and child patient.
• Describe the management of seizures in the infant and child patient.
• Differentiate between the injury patterns in adults, infants, and children.
• Discuss the field management of the infant and child trauma patient.
• Summarize the indicators of possible child abuse and neglect.
• Describe the medical legal responsibilities in suspected child abuse.
• Recognize need for EMT debriefing following a difficult infant or child transport.
• Explain the rationale for having knowledge and skills appropriate for dealing with the infant and child patient.
• Attend to the feelings of the family when dealing with an ill or injured infant or child.
• Understand the provider's own response (emotional) to caring for infants or children.
• Demonstrate the techniques of foreign body airway obstruction removal in the infant and the child.
• Demonstrate the assessment of the infant and child.
• Demonstrate bag-valve-mask artificial ventilations for the infant and the child.
• Demonstrate oxygen delivery for the infant and child.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Using simulated cases of patient presentations, discuss treatment of pediatric patients.
• Discuss the difference in vital signs as it pertains to the age.
  • Allow children in the classroom for assessment by the students.
  •
Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Geriatrics

**Summary:** Applies a fundamental knowledge of growth, development, and aging, and assessment findings to provide basic emergency care and transportation for a patient with special needs.

**TARGET SKILLS:** Impact of age-related changes on assessment and care. Changes associated with aging, psychosocial aspects of aging, and age-related assessment and treatment modifications for the major or common geriatric diseases and/or emergencies

**Key Terminology:**
- Cardiovascular diseases
- Respiratory diseases
- Neurological diseases
- Endocrine diseases
- Alzheimer’s
- Dementia

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Define the term geriatrics.</td>
<td>• Cardiovascular system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Appreciate some of the special aspects of the lives of the elderly persons.</td>
<td>• Respiratory system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Discuss generational considerations when communicating with a geriatric patient.</td>
<td>• Neurovascular system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Describe the common complaints and the leading causes of death in the elderly.</td>
<td>• Gastrointestinal system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Discuss special considerations when performing the patient assessment process on a geriatric patient with a medical condition and traumatic injury.</td>
<td>• Genitourinary system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Explain the GEMS diamond and its role in assessment and care of the geriatric patient.</td>
<td>• Endocrine system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Discuss the physiologic changes associated with the aging process and the age related assessment and treatment modifications that result.</td>
<td>• Musculoskeletal system: anatomical and physiological changes, and pathophysiology</td>
</tr>
<tr>
<td>• Define polypharmacy and explain the toxicity issues that can result.</td>
<td>• Toxicological emergencies</td>
</tr>
<tr>
<td>• Discuss the effect of aging on psychiatric and environmental emergencies.</td>
<td>• Sensory changes in the elderly</td>
</tr>
<tr>
<td>• Discuss the special considerations when responding to calls to nursing and skills care facilities.</td>
<td></td>
</tr>
<tr>
<td>• Define an advance directive and its use with older patients.</td>
<td></td>
</tr>
<tr>
<td>• Describe the causes of elder abuse and neglect</td>
<td></td>
</tr>
</tbody>
</table>
**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Use multiple pairs of gloves along with glasses covered with KY jelly to simulate some of the changing issues faced by geriatric populations
- Discuss the body systems and the changes as they decrease in age.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Patients with Special Challenges

**Summary:** Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.

**TARGET SKILLS:** Recognizing and reporting abuse and neglect. Healthcare implications of:
- Abuse
- Neglect
- Homelessness
- Poverty
- Bariatrics
- Technology dependent
- Hospice/terminally ill
- Tracheostomy care/dysfunction
- Homecare
- Sensory deficit/loss
- Developmental disability

**Key Terminology:**
- Autism spectrum disorders (ASD)
- Automatic implanted cardiac defibrillator (AICD)
- Bariatrics
- Central IV catheter
- Continuous positive airway pressure (CPAP)
- Dialysis
- Disability
- Feeding tube
- Left ventricular assist device (LVAD)
- Obesity
- Ostomy bag
- Pacemaker
- Stoma
- Tracheostomy
- Urinary catheter
- Ventilator

**Objectives:**

<table>
<thead>
<tr>
<th>DOT Objectives</th>
<th>EMS Education Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give some examples of patients with special needs whom an EMT may encounter during a emergency.</td>
<td>Abuse and neglect</td>
</tr>
<tr>
<td>Discuss the special patient care considerations that may be required when providing emergency care to patients with developmental disabilities.</td>
<td>Homelessness/poverty</td>
</tr>
<tr>
<td>Discuss the different types of needs regarding vision and hearing impairment including tips on effective communication techniques.</td>
<td>Bariatric patients</td>
</tr>
<tr>
<td>Discuss care to patients who suffer from neuromuscular disorders.</td>
<td>Technology assisted/dependent</td>
</tr>
<tr>
<td>Discuss the special need patient population regarding obesity and their care.</td>
<td>Hospice care and terminally ill</td>
</tr>
<tr>
<td>Discuss the Special patient population who rely on medical technological assistance devices.</td>
<td>Tracheostomy care</td>
</tr>
<tr>
<td>Describe Home care, types of patients it serves, and the services it encompasses.</td>
<td>Sensory deficits</td>
</tr>
<tr>
<td></td>
<td>Homecare</td>
</tr>
<tr>
<td></td>
<td>Patient with developmental disability</td>
</tr>
</tbody>
</table>
**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Using media, discuss the uses of the different types of devices used by people with special needs.
- Connect with the community to find someone with some of these devices who is willing to show students how they work.

**Assessments:** Scenario based assessments pertinent to topic of instruction, quiz, and exam (didactic and skills).
EMS Operations

Principles of Safely Operating a Ground Ambulance

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Risks and responsibilities of emergency response and of transport.

Key Terminology:
- Emergency traffic
- Due regard
- Wheel chocks
- Decontamination/disinfection
- Return to service
- Emergency operations
- Operations
- 360 degree perspective
- FADE
  - Facts
  - Address the facts
  - Decide and act
  - Evaluate

Objectives:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Discuss the medical and non-medical equipment needed to respond to a call.</td>
<td>Risks and responsibilities of emergency response</td>
</tr>
<tr>
<td>List the phases of an ambulance call.</td>
<td>Due regard</td>
</tr>
</tbody>
</table>
| Describe the general provisions of state laws relating to the operation of the ambulance and privileges in any or all of the following categories:  
  - Speed  
  - Warning lights  
  - Sirens  
  - Right-of-way  
  - Parking  
  - Turning | Unit preparation and disinfection |
| List contributing factors to unsafe driving conditions. | |
| Describe the considerations that should be given to:  
  - Request for escorts.  
  - Following an escort vehicle.  
  - Intersections. | |
| Discuss "Due Regard for Safety of All Others" while operating an emergency vehicle. | |
| State what information is essential in order to respond to a call. | |
| Discuss various situations that may affect response to a call. | |
- Differentiate between the various methods of moving a patient to the unit based upon injury or illness.
- Apply the components of the essential patient information in a written report.
- Summarize the importance of preparing the unit for the next response.
- Identify what is essential for completion of a call.
- Distinguish among the terms:
  - Cleaning
  - Disinfection
  - High-level disinfection
  - Sterilization
- Describe how to clean or disinfect items following patient care.
- Explain the rationale for appropriate report of patient information.
- Explain the rationale for having the unit prepared to respond.

**Activities/Resources:**
Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Contact Local EMS agency for an ambulance for the students to see
- Use of videos for visual aids of an ambulance run

**Assessments:**
Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Incident Management

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Establish and work within the incident management system.

Key Terminology:

- Incident Command System
- Incident Commander
- Unified Command System
- Personal accountability report (PAR)
- National Incident Management System (NIMS)
- Incident Command System (ICS)
- Span of Control

Objectives:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>• Describe basic concepts of the national incident management system and its components.</td>
<td>• Establish and work within the incident management system</td>
</tr>
<tr>
<td>• Describe the ICS structure and the role of EMS response within it.</td>
<td>• Manage the scene until care is transferred to an EMS team member licensed at a higher level arrives.</td>
</tr>
<tr>
<td>• Describe how ICS provides safety to patients, providers, and bystanders at an incident</td>
<td></td>
</tr>
<tr>
<td>• Describe the Role of the EMT in establishing command under ICS.</td>
<td></td>
</tr>
<tr>
<td>• Explain the medical incident command system and its structure.</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Given an MCI, allow students to set up the incident command system and assign roles to different classmates.
- Using video and news footage, discuss previous events and how the MCI was set up.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Multiple Casualty Incidents

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Resource management and triage principles to include:
- Performing
- Re-triage
- Destination decisions
- Post traumatic and cumulative stress

Key Terminology:
- Mass causality incidents
- Mutual aid response
- Triage

Objectives:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>- Describe the criteria for a multiple-casualty situation.</td>
<td>- Multiple casualty incidents (MCI)—an event that places a great demand on resources, be it equipment or personnel</td>
</tr>
<tr>
<td>- Evaluate the role of the EMT in the multiple-casualty situation.</td>
<td>- Triage principles</td>
</tr>
<tr>
<td>- Summarize the components of basic triage.</td>
<td>- Resource management</td>
</tr>
<tr>
<td>- Describe the different types of triage methods</td>
<td></td>
</tr>
<tr>
<td>- Define the role of the EMT in a disaster operation.</td>
<td></td>
</tr>
<tr>
<td>- Discuss different conditions that would define the incident as mass causality and give examples.</td>
<td></td>
</tr>
<tr>
<td>- Describe the triage principals as it pertains to patients within an incident.</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
- Using cards with scenarios, allow students to set up and perform all the tasks associated with an MCI incident.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).
Air Medical

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Safe air medical operations and criteria for utilizing air medical response

Key Terminology:

- Air transportation
- Landing zone

Objectives:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>• Describe key scene safety considerations when preparing for a helicopter, including:</td>
<td>• Safe air medical operations</td>
</tr>
<tr>
<td>▪ Establishing a landing zone</td>
<td>• Criteria for utilizing air medical response</td>
</tr>
<tr>
<td>▪ Securing loose objects</td>
<td></td>
</tr>
<tr>
<td>▪ Mitigating onsite hazards</td>
<td></td>
</tr>
<tr>
<td>▪ Approaching the aircraft</td>
<td></td>
</tr>
<tr>
<td>• Describe the capabilities, protocols, and methods for accessing air ambulances</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Contact local air medical provider for landing zone class.

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills)
Vehicle Extrication

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Safe vehicle extrication and use of simple hand tools

Objectives:

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>• Describe the purpose of extrication.</td>
<td>• Safe vehicle extrication</td>
</tr>
<tr>
<td>• Discuss the role of the EMT in extrication.</td>
<td>• Use of simple hand tools</td>
</tr>
<tr>
<td>• Identify what equipment for personal safety is required for the EMT.</td>
<td>• Special consideration for patient care</td>
</tr>
<tr>
<td>• Define the fundamental components of extrication.</td>
<td></td>
</tr>
<tr>
<td>• State the steps that should be taken to protect the patient during extrication.</td>
<td></td>
</tr>
<tr>
<td>• Evaluate various methods of gaining access to the patient.</td>
<td></td>
</tr>
<tr>
<td>• Distinguish between simple and complex access.</td>
<td></td>
</tr>
</tbody>
</table>

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

• Students should practice evaluating crash scenes
• Attend rescue training with a local fire department

Assessments: Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills)
Hazardous Materials Awareness

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety.

TARGET SKILLS: Operate in a cold zone at a hazardous material or other special incident.

Key Terminology:
- Cold zone
- Command
- Decontamination
- Disaster plan
- Hazardous material
- Hot zone
- Incident command
- Incident command system (ICS)
- Multiple-casualty incident
- National Incident Command System (NIMS)
- Single incident command
- Staging supervisor
- Transportation supervisor
- Treatment supervisor
- Triage
- Triage supervisor
- Unified command
- Warm zone

Objectives:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Explain the EMT's role during a call involving hazardous materials.</td>
<td>Risks and responsibilities of operating in a cold zone at a hazardous material or other special incident</td>
</tr>
<tr>
<td>Describe what the EMT should do if there is reason to believe that there is a hazard at the scene.</td>
<td>Safely treating and caring for patients that have been exposed to a hazardous incident after decontamination</td>
</tr>
<tr>
<td>State the role the EMT should perform to protect self, crew, and bystanders until and after appropriately trained personnel arrive at the scene of a hazardous materials situation.</td>
<td></td>
</tr>
<tr>
<td>Discuss the various environmental hazards that affect EMS.</td>
<td></td>
</tr>
<tr>
<td>Explain the methods for preventing contamination of self, equipment, and facilities.</td>
<td></td>
</tr>
<tr>
<td>Given a scenario of a mass casualty incident, perform triage.</td>
<td></td>
</tr>
<tr>
<td>Define the term Hazardous Material including the classification system used by the NFPA</td>
<td></td>
</tr>
<tr>
<td>List different reference material that is used to assist those who respond to a Hazmat incident</td>
<td></td>
</tr>
<tr>
<td>Explain the role of the EMT during the Hazmat incident before, during, and after</td>
<td></td>
</tr>
</tbody>
</table>
the incident team arrives including precautions required to ensure the safety of civilians and public safety personnel.
• Explain the three control zones of a Hazmat incident including the personnel who work in each zone
• Describe patient care at a Hazmat incident in regards to those that are decontaminated vs. those not fully decontaminated.

Activities/Resources: Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.
• Students should review a copy of the Hazardous Material Response Guide.
• Recognize a Hazmat incident and basic interventions that should be performed.

Assessments: Scenario based training pertinent to topic of instruction, quiz, and exam (didactic and skills)
Mass Casualty Incidents Due to Terrorism and Disaster

Summary: Knowledge of operational roles and responsibilities to ensure safe patient, public, and personnel safety

TARGET SKILLS: Manage on the scene of a natural or man-made disaster (this section subject to ongoing collective and cooperative review and input from all stakeholders including the Department of Transportation, Department of Homeland Security, and the Department of Health and Human Services)

Key Terminology:

- Contamination
- Dissemination
- Domestic terrorism
- Exposure
- International terrorism
- Permeation
- Rem
- Routes of entry
- Secondary devices
- Strategies
- Tactics
- Terrorism
- Weaponization
- Weapons of mass destruction (WMD)
- Zoonotic
- Time, Distance, Shielding
- B-NICE (biological, nuclear, incendiary, chemical, & explosive substances)

Objectives:

<table>
<thead>
<tr>
<th>DOT Objectives</th>
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</tr>
</thead>
<tbody>
<tr>
<td>• Provide some examples of domestic and international terrorism</td>
<td>• Risks and responsibilities of operating on the scene of a natural or man-made disaster</td>
</tr>
<tr>
<td>• Provide examples of four different types of goals that commonly motivate terrorist groups to stage a terrorist attack.</td>
<td>• Utilization of state triaging system</td>
</tr>
<tr>
<td>• Define the terms weapons of mass destruction (WMD) and weapons of mass casualty (WMC), and list weapons that may be utilized by terrorists.</td>
<td>• Working with related agencies during a disaster</td>
</tr>
<tr>
<td>• Discuss the history of chemical agents, their four main classifications, routes of exposure, effects on the patient, and patient care.</td>
<td>• Assessment and management of patients that have been involved in a weapons of mass destruction incident</td>
</tr>
<tr>
<td>• Discuss three categories of biological agents, routes of exposure, effects on the patient, and patient care.</td>
<td></td>
</tr>
<tr>
<td>• Describe the history of nuclear/radiologic devices, sources of radiological materials and dispersal devices, medical management of the patient, and protective measures that can be taken by personnel.</td>
<td></td>
</tr>
<tr>
<td>• Describe how the Department of Homeland Security (DHS) and Homeland Security Advisory System relate to the daily activities</td>
<td></td>
</tr>
</tbody>
</table>
of the EMS provider and their ability to respond to and survive a terrorist attack.

- Describe the key observations an EMS provider must make on each call to assist in the determination of whether an incident is related to terrorism.
- Explain the colors and threat levels that are used by the DHS daily to heighten awareness of the current terrorist threat.
- Describe the critical response actions related to establishing and reassessing scene safety, personnel protection, notification procedures, and establishing command an EMS provider must perform at a suspected terrorist event.
- Explain the role of EMS in relation to syndromic surveillance and points of distribution (PODS) during a biological event.
- Describe the mechanisms of injury caused by incendiary and explosive devices, including the types of wounds and their severity.

**Activities/Resources:** Use of auditory, visual, and kinesthetic aids to facilitate the student learning environment for the topic of instruction.

- Exercise using triage tags while performing simulated disaster plan.

**Assessments:** Scenario based assessment pertinent to topic of instruction, quiz, and exam (didactic and skills).