HORRY GEORGETOWN TECHNICAL COLLEGE

INSTRUCTIONAL PACKAGE

EMS 109
Emergency Care II

Effective Term
Fall 2024/Spring 2025/Summer 2025

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: Fall 2024/Spring 2025/Summer 2025

COURSE PREFIX: EMS 109 COURSE TITLE: Emergency Care II

CONTACT HOURS: 6 – 3 - 7 CREDIT HOURS: 7

RATIONALE FOR THE COURSE:

To develop a working knowledge of skills and modalities for the assessment and treatment of patients in the prehospital emergency environment.

COURSE DESCRIPTION:

The Emergency Medical Technician (EMT) Basic Certificate is designed to prepare students with the knowledge, coursework, skills, procedures, and practical experience necessary for entry level of EMS. The curriculum will focus on rapid in-field treatment and transport to higher medical providers. Students will acquire basic medical assessment skills to be prepared to care for patients at the scene of an accident and while transporting patients by ambulance to the hospital under the direction of more highly trained medical personnel. The EMT-Basic has the emergency skills to assess a patient's condition and manage respiratory, cardiac, and trauma emergencies.

PREREQUISITES/CO-REQUISITES:

To progress in the curriculum, the student must:

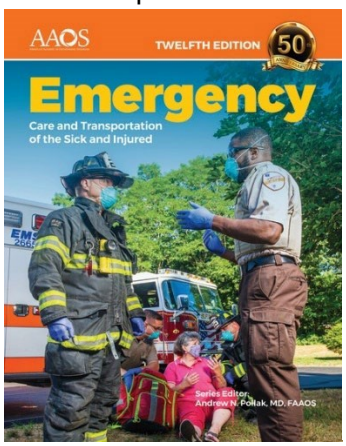
- Student must be 18 years of age and have a high school diploma or GED.
- Maintain a minimum cumulative GPA of 2.0 on all required courses.
- Pass a criminal background check.
- Submit a completed Health Sciences Division Physical Examination Form & Immunizations prior to enrollment in the second semester.

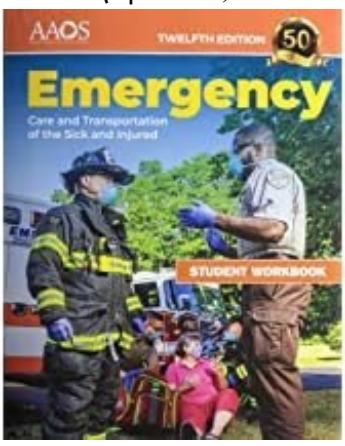
Prerequisite: EMS 104
Co-Requisite: EMS 212

*__Online/Hybrid__ courses require students to complete the Distance Learning Orientation Video prior to enrolling in an online course.

REQUIRED MATERIALS:

- Jones and Bartlett Learning (JBLEARNING) Emergency Care and Transportation of the Sick and Injured – Twelfth Edition (Required)
- Jones and Bartlett Learning (JBLEARNING) Emergency Care and Transportation of the Sick and Injured Student Workbook (optional)





Please visit the BOOKSTORE online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

- Emergency Medical Technology Program Uniform – please see programs uniform policy.

ADDITIONAL REQUIREMENTS:

Receives calls from dispatchers, responds verbally to emergency calls, reads maps, drives ambulances to emergency sites, uses most expeditious route, and observes traffic ordinances and regulations.

Works as a member of a two-person team.
Determines nature and extent of illness or injury, takes pulse, blood pressure, visually observes changes in skin color, auscultate breath sounds, makes determination regarding patient status, establishes priority for emergency care, renders appropriate emergency care (based upon competency and certification level); may administer intravenous drugs for fluid replacement as directed by a physician and based upon competency and certification level. May use equipment (based upon competency and certification level) such as but not limited to, defibrillator, electrocardiograph, inserts oral airway adjuncts, maintains open airways and ventilates patients.

Assists with lifting, carrying, and transporting patient in ambulance to a medical facility. Reassures patients and bystanders, avoids mishandling patient and undue haste, and searches for medical identification emblem to aid in care. Extricates patients from entrapment, assess extent of injury, uses prescribed techniques and appliances, radios dispatcher for additional

assistance or services, provides light rescue service if required, provides additional emergency care following established protocols.

Complies with regulations in handling deceased, notifies authorities, and arranges for protection of property and evidence at scene. Determines appropriate facility to which patient will be transported, report nature and extent of injuries or illness to the facility, ask for direction from hospital physician or emergency department (based upon competency and certification level). Observes patient enroute and administers care as directed by physician or emergency department or according to published protocol based on competency and certification level. Identifies diagnostic signs that require communication with facility. Assist in removing patient from ambulance and into emergency facility. Reports verbally and in writing observations about and care of patients at the scene and enroute to facility, helps emergency staff as required.

Replaces supplies, prepares and / or sends used supplies for sterilization and / or disposal in accordance with state and OSHA regulations and published standard operating procedures. Checks all equipment for future readiness, maintains ambulance in operable condition, ensures ambulance cleanliness and orderliness of equipment and supplies, decontaminates vehicle interior determines vehicle readiness by checking oil, gas, water in battery and radiator, and tire pressure, maintains familiarity with all specialized equipment.

ALL EMT's MUST BE ABLE TO PERFORM THESE ESSENTIAL JOB FUNCTIONS:

- Ability to communicate verbally, via telephone and radio equipment.
- Ability to lift, carry, and balance up to 125 pounds (250 pounds with assistance).
- Ability to read and interpret written, oral, and diagnostic form instructions.
- Ability to use good sound judgment and remain calm in high stress situations.
- Ability to work effectively in an environment with loud noises and flashing lights.
- Ability to function efficiently throughout an entire work shift.
- Ability to calculate weight and volume ratios and read small print, both under life threatening time constraints.
- Ability to read and understand English language manuals and road maps.
- Accurately discern street signs and address numbers.
- Ability to interview patient, family members, and bystanders; Ability to document, in writing, all relevant information in prescribed format considering legal ramifications of such.
- Ability to converse in English with co-workers and hospital staff as to status of patient.

- Good manual dexterity, with ability to perform all tasks related to highest quality patient care.
- Ability to bend, stoop, and crawl on uneven terrain.
- Ability to withstand varied environmental conditions such as extreme heat, cold, and moisture.
- Ability to work in low light, confined spaces, and other dangerous environments.
- Students must be 18 years old by the last day of class and possess a high school diploma or GED.

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) used for course materials.
Access to myHGTC portal for student self-services.
College email access – this is the college's primary official form of communication.
Honorlock Remote Proctor Program (optional)

STUDENT IDENTIFICATION VERIFICATION:

Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring for an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

Part II: Student Learning Outcomes

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

Upon completion of the course the student will have been provided with the knowledge and skills necessary to be able to:

1. Utilize universal Precautions while providing patient care.
2. Comprehend the diagnostic signs and symptoms of the patient suffering from a traumatic injury.
3. Perform the necessary steps to properly immobilize a trauma patient.
4. Perform the necessary steps to provide the treatment for shock to a traumatically injured patient.

5. Comprehend the diagnostic signs and symptoms of a patient suffering from an obstetrical emergency.
6. Possess a basic understanding of EMS Operations including patient triage, mass casualty priorities, and hazardous materials awareness.
7. Demonstrate the ability to complete a patient care report including a summation of treatment provided to the receiving facility or transporting ambulance.

Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates.

Chapter 25

Trauma Overview

Unit Summary

After students complete this chapter and the related course work, they will have an understanding of the basic concepts of energy and its effect on the human body; the general injury patterns associated with different types of impacts, falls, and penetrating trauma; and the basic application of laws of physics on the assessment of trauma patients. Students will begin to demonstrate critical thinking in making predictions of injuries and adjusting index of suspicion based on the analysis of evidence gathered in scene size-up simulations. Students will also understand some common injury patterns to major body systems.

Trauma

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

Trauma Overview

Pathophysiology, assessment, and management of the trauma patient

- Trauma scoring (p 924)
- Rapid transport and destination issues (pp 922–926)
- Transport mode (pp 924–926) ***Multisystem Trauma***

Recognition and management of

- Multisystem trauma (pp 918–919)

Pathophysiology, assessment, and management of

- Multisystem trauma (pp 918–919)
- Blast injuries (pp 915–918)

Knowledge Objectives

1. Define the terms *mechanism of injury* (MOI), *blunt trauma*, and *penetrating trauma*. (pp 901, 904)
2. Explain the relationship of the MOI to potential energy, kinetic energy, and work. (pp 901–902)
3. Provide examples of the MOI that would cause blunt and penetrating trauma to occur. (pp 904–915)
4. Describe the five types of motor vehicle crashes, the injury patterns associated with each one, and how each relates to the index of suspicion of life-threatening injuries. (pp 904– 911)
5. Discuss the three specific factors to consider during assessment of a patient who has been injured in a fall, plus additional considerations for pediatric and geriatric patients. (pp 912–913)
6. Discuss the effects of high-, medium-, and low-velocity penetrating trauma on the body and how an understanding of each type helps EMTs form an index of suspicion about unseen life-threatening injuries. (pp 913–915)
7. Discuss primary, secondary, tertiary, and miscellaneous blast injuries and the anticipated damage each one will cause to the body. (pp 915–918)
8. Describe multisystem trauma and the special considerations that are required for patients who fit this category. (pp 918–919)
9. Explain the major components of trauma patient assessment; include considerations related to whether the MOI was significant or nonsignificant. (p 920)
10. Discuss the special assessment considerations related to a trauma patient who has injuries in each of the following areas: head, neck and throat, chest, and abdomen. (pp 920–922)
11. Provide a general overview of multisystem trauma patient management. (pp 922–924)
12. Explain trauma patient management in relation to scene time and transport selection. (pp 922–926)
13. List the criteria for the appropriate use of helicopter emergency medical services. (p 924)
14. Discuss the American College of Surgeons Committee on Trauma classification of trauma centers. (pp 922–924)
15. Explain the American College of Surgeon's Committee on Trauma and the Centers for Disease Control and Prevention field triage decision scheme as it relates to making an appropriate destination selection for a trauma patient. (pp 922–925)

Skills Objectives

There are no skills objectives for this chapter.

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 25, and all related presentation support materials.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Several copies of a human body diagram (anterior, posterior, and lateral, if possible) for distribution in activities designed to identify possible internal and external injuries based on the MOI.

Chapter 26

Bleeding

Unit Summary

After students complete this chapter and the related course work, they will understand the structure and function of the circulatory system, the significance and characteristics of bleeding, the importance of personal protective equipment when treating a bleeding patient, the characteristics of external and internal bleeding, how to conduct a patient assessment, and methodologies for controlling bleeding.

Trauma

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

Bleeding

Recognition and management of
- Bleeding (pp 938–956)

Pathophysiology, assessment, and management of
- Bleeding (pp 937–956)

Pathophysiology

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

1. Describe the general structure of the circulatory system and the function of its different parts, including the heart, arteries, veins, and capillaries. (pp 934–937)
2. Explain the significance of bleeding caused by blunt force trauma, including the importance of perfusion. (pp 937–941)
3. Discuss hypovolemic shock as a result of bleeding, including the signs of shock. (pp 940–941)
4. Explain the importance of following standard precautions when treating a patient with external bleeding. (p 938)
5. Describe the characteristics of external bleeding, including the identification of the following types of bleeding: arterial, venous, and capillary. (pp 938–940)
6. Explain how to determine the nature of the illness (NOI) for internal bleeding, including identifying possible traumatic and nontraumatic sources. (p 940)
7. Identify the signs and symptoms of internal bleeding. (pp 940–941)
8. Discuss internal bleeding in terms of the different mechanisms of injury (MOI) and their associated internal bleeding sources. (p 940)
9. Explain how to conduct a primary assessment, including identification of life threats beyond bleeding, ensuring a patent airway, and making a transport decision. (pp 942–944)
10. Explain how to assess a patient with external or internal bleeding, including physical examination, vital signs, and use of monitoring devices. (p 943–944)
11. Explain the emergency medical care of the patient with external bleeding. (pp 944–954)
12. Explain the emergency medical care of the patient with internal bleeding. (p 955–956)

1. Demonstrate the emergency medical care of the patient with external bleeding. (p 947, Skill Drill 26-1)
2. Demonstrate the emergency medical care of the patient with external bleeding using wound packing. (p 948, Skill Drill 26-2)
3. Demonstrate the emergency medical care of the patient with external bleeding using a commercial tourniquet. (p 950, Skill Drill 26-3)
4. Demonstrate the emergency medical care of the patient with epistaxis, or nosebleed. (p 953, Skill Drill 26-4)

5. Demonstrate the emergency medical care of the patient who shows signs and symptoms of internal
bleeding. (pp 955–956, Skill Drill 26-5)

Readings and Preparation

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 26, and all related presentation support materials.

Support Materials

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Skill Drill PowerPoint presentations
  - Skill Drill 26-1, Controlling External Bleeding PowerPoint presentation
  - Skill Drill 26-2, Packing a Wound PowerPoint presentation
  - Skill Drill 26-3, Applying a Commercial Tourniquet PowerPoint presentation
  - Skill Drill 26-4, Controlling Epistaxis PowerPoint presentation
  - Skill Drill 26-5, Controlling Internal Bleeding PowerPoint presentation
- Equipment needed to perform the psychomotor skills presented in this chapter.
- Skill Evaluation Sheets
  - Skill Drill 26-1, Controlling External Bleeding
  - Skill Drill 26-2, Packing a Wound
  - Skill Drill 26-3, Applying a Commercial Tourniquet
  - Skill Drill 26-4, Controlling Epistaxis
  - Skill Drill 26-5, Controlling Internal Bleeding

Chapter 27

Soft-Tissue Injuries

Unit Summary

After students complete this chapter and the related course work, they will have an understanding of types of open and closed soft-tissue injuries; how to care for soft-tissue

injuries, including the use of dressings and bandages; and the assessment and care of different types of burns, including thermal, chemical, and electrical burns.

Trauma

Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient. ***Soft-Tissue Trauma***

Recognition and management of

- Wounds (pp 964–980)
- Burns
- Electrical (pp 964, 986–989, 994–996)
- Chemical (pp 964, 986–989, 993–994)
- Thermal (pp 991–992)
- Chemicals in the eye and on the skin (pp 981–989, 994)

Pathophysiology, assessment, and management of

- Wounds
- Avulsions (pp 966, 967–968, 986–989)
- Bite wounds (pp 964, 970–976, 980–981)
- Lacerations (pp 964, 966–967, 970–976)
- Puncture wounds (pp 964, 966–977, 996)
- Incisions (pp 964, 967, 970–976)
- Burns
- Electrical (pp 964, 981–989, 994–996)
- Chemical (pp 964, 981–989, 993–994)
- Thermal (pp 964, 981–989, 991–992)
- Radiation (pp 964, 981–989, 996–997)
- Crush syndrome (pp 964–966, 970–976)

1. Describe the anatomy of the skin; include the layers of the skin. (pp 962–964)
2. Know the major functions of the skin. (p 964)
3. Name the three types of soft-tissue injuries. (p 964)

4. Describe the types of closed soft-tissue injuries. (pp 965–966)
5. Describe the types of open soft-tissue injuries. (pp 966–970)
6. Explain patient assessment of closed and open injuries. (pp 970–976)
7. Explain patient assessment of closed and open injuries in relation to airway management. (pp 971–973)
8. Explain the emergency medical care for closed and open injuries. (pp 976–977)
9. Explain the emergency medical care for a patient with an open wound to the abdomen. (p 977–978)
10. Explain the emergency medical care for an impaled object. (p 978)
11. Explain the emergency medical care for neck injuries. (pp 978–980)
12. Describe the steps of the emergency treatment of small animal bites, human bites, and rabies. (pp 980–981)
13. Explain how the seriousness of a burn is related to its depth and extent. (pp 984–986)
14. Define superficial, partial-thickness, and full-thickness burns; include the characteristics of each burn (pp 983–985)
15. Explain the primary assessment of a burn patient. (pp 986–989)
16. Explain the emergency medical care for burn injuries. (pp 989-991)
17. Describe the emergency management of chemical, electrical, thermal, inhalation, and radiation burns. (pp 991–997)
18. Know the functions of sterile dressings and bandages. (pp 997–998)

Skills Objectives

1. Demonstrate the emergency medical care of a patient with an open chest wound. (pp 976–977)
2. Demonstrate the emergency medical care of closed soft-tissue injuries. (p 976)
3. Demonstrate how to control bleeding from an open soft-tissue injury. (pp 976–977)
4. Demonstrate the emergency medical care of a patient with an open abdominal wound. (pp 977–978)
5. Demonstrate how to stabilize an impaled object. (pp 978–979 Skill Drill 27-1)
6. Demonstrate how to care for a burn. (p 989–991, Skill Drill 27-2)
7. Demonstrate the emergency medical care of a patient with a chemical, electrical, thermal, inhalation, or radiation burn. (pp 991–997)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 27, and all related presentation support materials.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Skill Drill PowerPoint presentations
- Skill Drill 27-1, Stabilizing an Impaled Object PowerPoint presentation
- Skill Drill 27-2, Caring for Burns PowerPoint presentation
- Equipment to perform the psychomotor skills presented in this chapter
- Several copies of line drawings of bodies—infant, child, and adult for rule of nines activities
- Boxes of several (3 or more) different colors of plastic wrap
- Index cards labeled with injury types
- Skill Evaluation Sheets
  - Skill Drill 27-1, Stabilizing an Impaled Object
  - Skill Drill 27-2, Caring for Burns

Chapter 28

Face and Neck Injuries

Unit Summary

After students complete this chapter and the related course work, they will understand how to manage trauma-related issues with the face and neck. The student will learn how to recognize life threats associated with these injuries and the correlation with head and spinal trauma. The curriculum includes detailed anatomy and physiology of the head, neck, and eye, and discusses injuries including trauma to the mouth, penetrating neck trauma, laryngotracheal injuries, and facial fractures. The chapter also includes information on dental injuries and blast injuries to the eye. Management of common eye injuries such as foreign objects, puncture wounds, lacerated eyelids, burns, impaled objects, and complications from blunt trauma are included.

Medicine

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

Diseases of the Eyes, Ears, Nose, and Throat

Recognition and management of

- Nosebleed (pp 1027–1028)

Trauma

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

Head, Facial, Neck, and Spine Trauma

- Recognition and management of ◦ Life threats (pp 1009–1016) o Spine trauma (Chapter 29, *Head and Spine Injuries*)
- Pathophysiology, assessment, and management of o Penetrating neck trauma (pp 1009–1016, 1032–1033) o Laryngotracheal injuries (pp 1009–1016, 1033) o Spine trauma (Chapter 29, *Head and Spine Injuries*)

  o Facial fractures (pp 1009–1016, 1030–1031) o Skull fractures (Chapter 29, *Head and Spine Injuries*) o Foreign bodies in the eyes (pp 1016–1021) o Dental trauma (pp 1010–1011, 1031)

Knowledge Objectives

1. Describe the anatomy and physiology of the head, face, and neck; include major structures and specific important landmarks of which EMTs must be aware. (pp 1006–1009)
2. Describe the factors that may cause obstruction of the upper airway following a facial injury. (pp 1009–1011)
3. Discuss the different types of facial injuries and patient care considerations related to each one. (pp 1009–1011)
4. Explain the emergency care of a patient who has sustained face and neck injuries; include assessment of the patient, review of signs and symptoms, and management of care. (pp 1009–1016)
5. Explain the emergency medical care of a patient with soft-tissue wounds of the face and neck. (pp 1015–1016)

6. Explain the emergency medical care of a patient with an eye injury based on the following scenarios: foreign object, impaled object, burns, lacerations, blunt trauma, closed head injuries, and blast injuries. (pp 1016–1027)
7. Describe the three different causes of a burn injury to the eye and patient management considerations related to each one. (pp 1021–1023)
8. Explain the emergency medical care of a patient with injuries of the nose. (pp 1027–1028)
9. Explain the emergency medical care of a patient with injuries of the ear, including lacerations and foreign body insertions. (pp 1028–1030)
10. Explain the physical findings and emergency care of a patient with a facial fracture. (pp 1030–1031)
11. Explain the emergency medical care of a patient with dental and cheek injuries; include how to deal with an avulsed tooth. (p 1031)
12. Explain the emergency medical care of a patient with an upper airway injury caused by blunt trauma. (pp 1030–1032)
13. Explain the emergency care of a patient with a penetrating injury to the neck; include how to control regular and life-threatening bleeding. (pp 1032–1033)

Skills Objectives

1. Demonstrate the removal of a foreign object from under a patient's upper eyelid. (pp 1016–1019, Skill Drill 28-1)
2. Demonstrate the stabilization of a foreign object that has been impaled in a patient's eye. (pp 1016–1020, Skill Drill 28-2)
3. Demonstrate irrigation of a patient's eye using a nasal cannula, bottle, or basin. (pp 1021–1023)
4. Demonstrate the care of a patient who has a penetrating eye injury. (pp 1020, 1023)
5. Demonstrate how to control bleeding from a neck injury. (pp 1032–1033, Skill Drill 28-3)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 28, and all related presentation support materials.

• Review any local EMS agency protocols relative to EMT treatment of patients with eye injuries.

Chapter 29

Head and Spine Injuries

Unit Summary

After students complete this chapter and the related course work, they will understand how to manage trauma-related issues of the head and spine. The student will learn how to recognize life threats associated with these injuries as well as the need for immediate spinal stabilization and, potentially, airway and breathing support. The curriculum includes detailed anatomy and physiology of the nervous system and the pathophysiology, assessment, and management of traumatic brain and spinal cord injuries. This chapter provides detail about traumatic brain injury (TBI), including initial mechanism of injury, and primary (direct) versus secondary (indirect) injury. Transport considerations are discussed with a focus on potential deterioration. This chapter is skills intensive with detail on bandaging; traumatic airway control; manual inline stabilization; placement of a cervical collar; immobilization of the patient lying, sitting, or standing; and helmet removal.

Trauma

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

Head, Facial, Neck, and Spine Trauma

Recognition and management of

- Life threats (pp 1054–1055)
- Spine trauma (pp 1052–1061, 1064–1079)

Pathophysiology, assessment, and management of

- Penetrating neck trauma (Chapter 28, *Face and Neck Injuries*)
- Laryngotracheal injuries (Chapter 28, *Face and Neck Injuries*)
- Spine trauma (pp 1052–1061, 1064–1079)
- Facial fractures (Chapter 28, *Face and Neck Injuries*)
- Skull fractures (pp 1046–1048, 1053–1063)
- Foreign bodies in the eyes (Chapter 28, *Face and Neck Injuries*)
- Dental trauma (Chapter 28, *Face and Neck Injuries*)

Nervous System Trauma

Pathophysiology, assessment, and management of

- Traumatic brain injury (pp 1048–1052, 1053–1063)
- Spinal cord injury (pp 1052–1061, 1064–1079)

1. Describe the anatomy and physiology of the nervous system, including its divisions into the central nervous system (CNS) and peripheral nervous system (PNS), and the structures and functions of each. (pp 1040–1045)
2. Explain the functions of both the somatic and autonomic nervous systems. (p 1044)
3. List the major bones of the skull and spinal column and their related structures; include their functions as they relate to the nervous system. (pp 1044–1045)
4. Explain the different types of head injuries, their potential mechanism of injury (MOI), and general signs and symptoms of a head injury that EMTs should consider when performing a patient assessment. (pp 1045–10552
5. Define traumatic brain injury (TBI). (p 1048)
6. Explain the difference between a primary (direct) injury and a secondary (indirect) injury; include examples of possible MOIs that may cause each one. (pp 1048–1049)
7. Describe the different types of brain injuries and their corresponding signs and symptoms, including increased intracranial pressure (ICP), concussion, contusion, and injuries caused by medical conditions. (pp 1048–1052)
8. Describe the different types of injuries that may damage the cervical, thoracic, or lumbar spine; include examples of possible MOIs that may cause each one. (p 1052)
9. Explain the steps in the patient assessment process for a person who has a suspected head or spine injury; include specific variations that may be required as related to the type of injury. (pp 1053–1061)
10. List the mechanisms of injury that cause a high index of suspicion for the possibility of a head or spinal injury. (p 1053)
11. Explain emergency medical care of a patient with a head injury; include the three general principles designed to protect and maintain the critical functions of the CNS and ways to determine if the patient has a TBI. (pp 1061–1063)
12. Explain emergency medical care of a patient with a spinal injury; include the implications of not properly caring for patients with injuries of this nature, the steps for performing manual in-line stabilization, implications for sizing and using a cervical spine immobilization device, and key symptoms that contraindicate in-line stabilization. (pp 1064–1067)
13. Explain the process of preparing patients who have suspected head or spinal injuries for transport; include the use and functions of a long backboard, vacuum mattress, short backboard, and other short spinal extrication devices to immobilize the patient's cervical and thoracic spine. (pp 1067–1079)

14. Explain the different circumstances in which a helmet should be left on or taken off a patient with a possible head or spinal injury. (pp 1079–1080)
15. List the steps EMTs must follow to remove a helmet, including the removal of a football helmet. (pp 1079–1084)
16. Discuss age-related variations that are required when providing emergency care to a pediatric patient who has a suspected head or spine injury. (pp 1083–1084)

1. Demonstrate how to perform a jaw-thrust maneuver on a patient with a suspected spinal injury. (p 1064)
2. Demonstrate how to perform manual in-line stabilization on a patient with a suspected spinal injury. (pp 1064–1065, Skill Drill 29-1)
3. Demonstrate how to apply a cervical collar to a patient with a suspected spinal injury. (pp 1065–1067, Skill Drill 29-2)
4. Demonstrate how to secure a patient with a suspected spinal injury to a long backboard. (pp 1067–1070, Skill Drill 29-3)
5. Demonstrate how to secure a patient with a suspected spinal injury using a vacuum mattress. (pp 1070–1075, Skill Drill 29-4)
6. Demonstrate how to secure a patient with a suspected spinal injury who was found in a sitting position. (pp 1075–1077, Skill Drill 29-5)
7. Demonstrate how to remove a helmet from a patient with a suspected head or spinal injury. (pp 1079–1082, Skill Drill 29-6)
8. Demonstrate the method for removal of a football helmet from a patient with a suspected head or spinal injury. (p 1083)

Readings and Preparation

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 29, and all related presentation support materials.

• Review any local EMS agency protocols relative to EMT treatment of patients with head or spine injuries.

Support Materials

• Lecture PowerPoint presentation

- Case Study PowerPoint presentation
- Skill Drill PowerPoint presentations
  - Skill Drill 29-1, Performing Manual In-Line Stabilization PowerPoint presentation
  - Skill Drill 29-2, Application of a Cervical Collar PowerPoint presentation
  - Skill Drill 29-3, Securing a Patient to a Long Backboard PowerPoint presentation
  - Skill Drill 29-4, Placing a Patient on a Full-Body Vacuum Mattress PowerPoint presentation
  - Skill Drill 29-5, Securing a Patient Found in a Sitting Position PowerPoint presentation
  - Skill Drill 29-6, Removing a Helmet PowerPoint presentation
- Equipment needed to perform the psychomotor skills presented in this chapter.
- Skill Evaluation Sheets
  - Skill Drill 29-1, Performing Manual In-Line Stabilization
  - Skill Drill 29-2, Application of a Cervical Collar
  - Skill Drill 29-3, Securing a Patient to a Long Backboard
  - Skill Drill 29-4, Placing a Patient on a Full-Body Vacuum Mattress
  - Skill Drill 29-5, Securing a Patient Found in a Sitting Position
  - Skill Drill 29-6, Removing a Helmet

Chapter 30

Chest Injuries

Unit Summary

After students complete this chapter and the related course work, they will understand how to manage a patient with chest trauma. Students will learn how to recognize life threats associated with these injuries and how to provide immediate intervention. The curriculum includes a detailed description of the anatomy and physiology of the chest and underlying organs as well as the pathophysiology, complications, assessment, and management of chest injury. Age-related issues are discussed specific to pediatric and geriatric chest trauma. This chapter also provides information on incidence (morbidity and mortality) and a detailed discussion of blunt versus penetrating or open trauma. Specific injuries discussed include sucking chest wound, pneumothorax, tension pneumothorax, hemothorax, flail chest, and pericardial tamponade.

National EMS Education Standard Competencies

Trauma

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

Chest Trauma

Recognition and management of

- Blunt versus penetrating mechanisms (pp 1095–1097, 1102–1110)
- Open chest wound (pp 1095–1096)
- Impaled object (pp 1095–1096)

Pathophysiology, assessment, and management of

- Blunt versus penetrating mechanisms (pp 1095–1102)
- Hemothorax (pp 1097–1102, 1105)
- Pneumothorax (pp 1102–1105)
- Open (pp 1102–1104)
- Simple (p 1104)
- Tension (pp 1104–1105)
- Cardiac tamponade (pp 1105–1107)
- Rib fractures (p 1107)
- Flail chest (pp 1107–1108)
- Commotio cordis (p 1109)

1. Explain the mechanics of ventilation in relation to chest injuries. (pp 1094–1095)
2. Describe the differences between an open and closed chest injury. (pp 1095–1096)
3. Recognize the signs of chest injury. (pp 1096–1097)
4. Describe the management of a patient with a suspected chest injury, including pneumothorax, hemothorax, cardiac tamponade, rib fractures, flail chest, pulmonary contusion, traumatic asphyxia, blunt myocardial injury, commotio cordis, and laceration of the great vessels. (pp 1102–1110)
5. Recognize the complications that can accompany chest injuries. (pp 1102–1110)
6. Explain the complications of a patient with an open pneumothorax (sucking chest wound). (pp 1102–1104)

7. Differentiate between a pneumothorax (open, simple, and tension) and hemothorax. (pp 1102–1105)
8. Describe the complications of cardiac tamponade. (pp 1105–1107)
9. Describe the complications of rib fractures. (p 1107)
10. Describe the complications of a patient with a flail chest. (pp 1107–1108)

1. Describe the steps to take in the assessment of a patient with a suspected chest injury. (pp 1097–1102)
2. Demonstrate the management of a patient with a sucking chest wound. (pp 1103–1104)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 30, and all related presentation support materials.

- Review any local EMS agency protocols related to EMT treatment of patients with chest injuries.
- Consider assigning articles from relevant websites (see Enhancements) as additional reading or extra credit.
- Provide students with evidence-based research articles relating to various chest injury topics. This activity helps to validate the effectiveness and necessity of the basic chest injury management tools that EMTs are learning to master during their training program.

Chapter 31

Abdominal and Genitourinary Injuries

Unit Summary

After students complete this chapter and the related course work, they will understand how to manage a patient with abdominal and genitourinary trauma. The student will learn how to recognize life threats associated with these injuries and the need for immediate intervention. The curriculum includes detailed anatomy and physiology of the abdominal and genitourinary systems as well as the pathophysiology, complications, assessment, and management of abdominal and genitourinary injuries. The assessment section is very comprehensive and follows the primary and secondary model. Specific injuries discussed include blunt versus

penetrating mechanisms, evisceration, impaled object, injuries to external genitalia, vaginal bleeding secondary to trauma, and sexual assault. Emergency care skills include management of blunt abdominal injury, penetrating abdominal injury, and abdominal evisceration.

Trauma

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

Abdominal and Genitourinary Trauma

Recognition and management of

- Blunt versus penetrating mechanisms (pp 1121–1123, 1129–1130, 1133–1134, 1137–1139)
- Evisceration (pp 1130–1131)
- Impaled object (pp 1128, 1137)

Pathophysiology, assessment, and management of

- Solid and hollow organ injuries (pp 1123–1125)
- Blunt versus penetrating mechanisms (pp 1121–1123, 1125–1131, 1133–1134, 1137–1139)
- Evisceration (pp 1123, 1125–1129, 1130–1131)
- Injuries to the external genitalia (pp 1134–1139)
- Vaginal bleeding due to trauma (pp 1134–1139)
- Sexual assault (p 1138–1139) Knowledge Objectives

1. Describe the anatomy and physiology of the abdomen; include an explanation of abdominal quadrants and boundaries and the difference between hollow and solid organs. (pp 1118–1121)
2. Describe some special considerations related to the care of pediatric patients and geriatric patients who have experienced abdominal trauma. (pp 1121, 1125)
3. Define closed abdominal injuries; provide examples of the mechanisms of injury (MOI) likely to cause this type of trauma, and common signs and symptoms exhibited by patients who have experienced this type of injury. (pp 1121–1122)
4. Define open abdominal injuries; include the three common velocity levels that distinguish these injuries, provide examples of the MOI that would cause each, and describe

common signs and symptoms exhibited by patients who have experienced this type of injury. (pp 1121–1123)

5. Describe the different ways hollow and solid organs of the abdomen can be injured, and include the common signs and symptoms exhibited by patients depending on the organ or organs involved. (pp 1123–1125)
6. Explain assessment of a patient who has experienced an abdominal injury; include common indicators that help determine the MOI and whether it is a significant MOI. (pp 1125–1129)
7. Explain the emergency medical care of a patient who has sustained a closed abdominal injury, including blunt trauma caused by a seat belt or airbag. (p 1129)
8. Explain the emergency medical care of a patient who has sustained an open abdominal injury, including penetrating injuries and abdominal evisceration. (pp 1129–1130)
9. Describe the anatomy and physiology of the female and male genitourinary systems; include the differences between hollow and solid organs. (pp 1131–1133)
10. Discuss the types of traumatic injuries sustained by the male and female genitourinary system, including the kidneys, urinary bladder, and internal and external genitalia. (pp 1133–1135)
11. Explain assessment of a patient who has experienced a genitourinary injury; include special considerations related to patient privacy and determining the MOI. (pp 1135–11137)
12. Explain the emergency medical care of a patient who has sustained a genitourinary injury to the kidneys, bladder, external male genitalia, female genitalia, and rectum. (pp 1137–1138)
13. Explain special considerations related to a patient who has experienced a genitourinary injury caused by a sexual assault, including patient treatment, criminal implications, and evidence management. (pp 1138–1139)

Skills Objectives

1. Demonstrate proper emergency medical care of a patient who has experienced a blunt abdominal injury. (p 1129)
2. Demonstrate proper emergency medical care of a patient who has a penetrating abdominal injury with an impaled object. (pp 1129–1130)
3. Demonstrate how to apply a dressing to an abdominal evisceration wound. (pp 1130–1131)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 31, and all related presentation support materials.

- Review any local EMS agency protocols relative to EMT treatment of patients with abdominal and genitourinary injuries and sexual assault.

Support Materials

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- If available, three-dimensional model of the abdominal and genitourinary systems
- Materials for simulating impaled objects and other traumatic injuries
- Assorted dressings and bandages, including large bandages and occlusive dressings

Chapter 32

Orthopaedic Injuries

Unit Summary

After students complete this chapter and the related course work, they will understand the anatomy and physiology of the musculoskeletal system. They will have learned the proper assessment for a suspected and obvious injury. They will have learned general and specific types of musculoskeletal injuries including fractures, sprains, and dislocations, with associated signs, symptoms, and emergency treatment including the use of splints and traction splints.

National EMS Education Standard Competencies

Trauma

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

Orthopaedic Trauma

- Recognition and management of
- Open fractures (pp 1152–1155, 1163–1191)
- Closed fractures (pp 1152–1155, 1163–1191)
- Dislocations (pp 1151–1191)
- Amputations (pp 1158, 1176, 1191)
- Pathophysiology, assessment, and management of

- Upper and lower extremity orthopaedic trauma (pp 1151–1192)
- Open fractures (pp 1152–1155, 1159–1191)
- Closed fractures (pp 1152–1153, 1159–1191)
- Dislocations (pp 1155–1156, 1159–1160)
- Sprains/strains (pp 1156–1157, 1159–1193)
- Pelvic fractures (pp 1152–1155, 1158–1163, 1168–1169, 1178–1179)
- Amputations/replantation (pp 1158, 1176, 1191) **Medicine**

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

Nontraumatic Musculoskeletal Disorders

Anatomy, physiology, pathophysiology, assessment, and management of

- Nontraumatic fractures (pp 1152–1155, 1059–1191)

Knowledge Objectives

1. Describe the anatomy and physiology of the musculoskeletal system. (pp 1146–1151)
2. Name the four mechanisms of injury. (pp 1151–1152)
3. Describe the different types of musculoskeletal injuries, including fractures, dislocations, amputations, sprains, and strains. (pp 1151–1158)
4. Recognize the characteristics of specific types of musculoskeletal injuries. (pp 1151–1158, 1169–1191)
5. Differentiate between open and closed fractures. (pp 1152–1153)
6. Explain how to assess the severity of an injury. (p 1158)
7. Describe the emergency medical care of the patient with an orthopaedic injury. (pp 1163–1192)
8. Describe the emergency medical care of the patient with a swollen, painful, deformed extremity (fracture). (pp 1163–1191)
9. Discuss the need for, general rules of, and possible complications of splinting. (pp 1164–1165)
10. Explain the reasons for splinting fractures, dislocations, and sprains at the scene versus transporting the patient immediately. (pp 1164–1165)
11. Describe the emergency medical care of the patient with an amputation. (p 1191)

Skills Objectives

1. Demonstrate the care of musculoskeletal injuries. (pp 1163–1164, Skill Drill 32-1)
2. Demonstrate how to apply a rigid splint. (pp 1165–1167, Skill Drill 32-2)
3. Demonstrate how to apply a vacuum splint. (pp 1167–1168, Skill Drill 32-3)

4. Demonstrate how to splint the hand and wrist. (pp 1176–1177, Skill Drill 32-4)
5. Demonstrate how to apply a Hare traction splint. (pp 1183–1185, Skill Drill 32-5)
6. Demonstrate how to apply a Sager traction splint. (pp 1185–1186, Skill Drill 32-6)
7. Demonstrate how to splint the clavicle, the scapula, the shoulder, the humerus, the elbow, and the forearm. (pp 1169–1176)
8. Demonstrate how to care for a patient with an amputation. (p 1191)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 32, and all related presentation support materials.

• Review the local protocol for splinting and realignment of injuries. Make sure splinting equipment is in working order.

• Lecture PowerPoint presentation
• Case Study PowerPoint presentation
• Skill Drill PowerPoint presentations
  - Skill Drill 32-1, Caring for Musculoskeletal Injuries PowerPoint presentation
  - Skill Drill 32-2, Applying a Rigid Splint PowerPoint presentation
  - Skill Drill 32-3, Applying a Vacuum Splint PowerPoint presentation
  - Skill Drill 32-4, Splinting the Hand and Wrist PowerPoint presentation
  - Skill Drill 32-5, Applying a Hare Traction Splint PowerPoint presentation
  - Skill Drill 32-6, Applying a Sager Traction Splint PowerPoint presentation
• Equipment needed to perform the psychomotor skills presented in this chapter.
• Skill Evaluation Sheets
  - Skill Drill 32-1, Caring for Musculoskeletal Injuries
  - Skill Drill 32-2, Applying a Rigid Splint
  - Skill Drill 32-3, Applying a Vacuum Splint
  - Skill Drill 32-4, Splinting the Hand and Wrist
  - Skill Drill 32-5, Applying a Hare Traction Splint

- Skill Drill 32-6, Applying a Sager Traction Splint

Chapter 33

Environmental Emergencies

Unit Summary

After students complete this chapter and the related course work, they will understand the physiology of environmental injuries. They will have learned the proper assessment and management of general and specific types of environmental emergencies including hypothermia, local cold injuries such as frostbite, and heat exposure illnesses such as heatstroke. They will learn the associated signs and symptoms and emergency treatment of drowning; diving emergencies; high-altitude sickness; lightning strikes; and bites and envenomations from spiders, Hymenoptera (eg, bees, yellow jackets, wasps, and ants), snakes, scorpions, ticks, and marine life.

Trauma

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

Environmental Emergencies

Recognition and management of

- Submersion incidents (pp 1218–1220, 1225–1226)
- Temperature-related illness (pp 1202–1217, 1209–1213, 1215–1217)

Pathophysiology, assessment, and management of

- Near drowning (pp 1218–1220, 1223–1225)
- Temperature-related illness (pp 1202–1217)
- Bites and envenomations (pp 1228–1235)
- Dysbarism (p 1226)
- High altitude (pp 1226–1227)
- Diving injuries (pp 1220–1223)
- Electrical injury (p 1227)
- Radiation exposure (Chapter 41, *Terrorism Response and Disaster Management*)

1. Identify the four factors that affect how a person deals with exposure to a cold or hot environment. (pp 1201–1202)
2. Describe the five ways heat loss occurs in the body, and how the rate and amount of heat loss or gain can be modified in an emergency situation. (pp 1202–1203) 3. Describe the four general stages of hypothermia. (pp 1203–1205)
4. Describe local cold injuries and their underlying causes. (pp 1205–1206)
5. Describe the process of providing emergency care to a patient who has sustained a cold injury, including assessment of the patient, review of signs and symptoms, and management of care. (pp 1209–1210)
6. Explain the importance of following local protocols when rewarming a patient who is experiencing moderate or severe hypothermia. (p 1209)
7. Describe the three emergencies that are caused by heat exposure, including the risk factors, signs, and symptoms. (pp 1211–1213)
8. Describe the process of providing emergency care to a patient who is experiencing a heat emergency, including assessment of the patient, review of signs and symptoms, and management of care. (pp 1213–1217)
9. Describe drowning, including its incidence, risk factors, and prevention. (pp 1218–1220)
10. List the basic rules of performing a water and ice rescue. (p 1219)
11. Explain why EMTs should have a prearranged rescue plan based on the environment in which they work. (p 1219)
12. List five conditions that may result in a spinal injury following a submersion incident and the steps for stabilizing a patient with a suspected spinal injury in the water. (pp 1218– 1220)
13. Discuss recovery techniques and resuscitation efforts EMTs may need to follow when managing a patient who has been involved in a submersion incident. (p 1220)
14. Describe the three types of diving emergencies, how they may occur, and their signs and symptoms. (pp 1220–1222)
15. Describe the process of providing emergency care to a patient who has been involved in a drowning or diving emergency, including assessment of the patient, review of signs and symptoms, and management of care. (pp 1223–1226)
16. Discuss the types of dysbarism injuries, including their incidence, risk factors, signs and symptoms, and emergency medical treatment. (pp 1226–1227)

17. Discuss lightning injuries, including their incidence, risk factors, signs and symptoms, and emergency medical treatment. (pp 1227–1228)
18. Describe the process of providing emergency care to patients who have been bitten by each of the following venomous spiders: (pp 1228–1229)
    - Black widow spider
    - Brown recluse spider
19. Describe the process of providing emergency care to a patient who has sustained a bite or sting from each of the following insects and arachnids, including steps the EMT should follow if a patient develops a severe reaction to the sting or bite: (pp 1229– 1230, 1233–1234)
    - Hymenoptera (bees, wasps, yellow jackets, and ants)
    - Scorpions
    - Ticks
20. Describe the process of providing emergency care to a patient who has been bitten by each of the following types of snake and is showing signs of envenomation. (pp 1231–1233)
    - Pit viper
    - Coral snake
21. Describe the process of providing emergency care to a patient who has been stung by a coelenterate or other marine animal. (p 1235)

Skills Objectives

1. Demonstrate the emergency medical treatment of local cold injuries in the field. (p 1210)
2. Demonstrate using a warm-water bath to rewarm the limb of a patient who has sustained a local cold injury. (p 1210)
3. Demonstrate how to treat a patient with heat cramps. (p 1215)
4. Demonstrate how to treat a patient with heat exhaustion. (pp 1215–1217, Skill Drill 331)
5. Demonstrate how to treat a patient with heatstroke. (p 1217)
6. Demonstrate how to stabilize a patient with a suspected spinal injury in the water. (pp 1218–1221, Skill Drill 33-2)
7. Demonstrate how to care for a patient who is suspected of having an air embolism or decompression sickness following a drowning or diving emergency. (pp 1222–1223)

8. Demonstrate how to care for a patient who has been bitten by a pit viper and is showing signs of envenomation. (pp 1231–1232)
9. Demonstrate how to care for a patient who has been bitten by a coral snake and is showing signs of envenomation. (pp 1232–1233)
10. Demonstrate how to care for a patient who has sustained a coelenterate envenomation. (p 1235)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 33, and all related presentation support materials.

- Review the local protocol for splinting and realignment of injuries.
- Review the local protocol for passive rewarming.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Skill Drill PowerPoint presentations
  - Skill Drill 33-1, Treating for Heat Exhaustion PowerPoint presentation
  - Skill Drill 33-2, Stabilizing a Suspected Spinal Injury in the Water PowerPoint presentation
- Equipment needed to perform the psychomotor skills presented in this chapter.
- Skill Evaluation Sheets
  - Skill Drill 33-1, Treating for Heat Exhaustion
  - Skill Drill 33-2, Stabilizing a Suspected Spinal Injury in the Water

Chapter 34

Obstetrics and Neonatal Care

Unit Summary

After students complete this chapter and the related course work, they will understand the anatomy and physiology of the female reproductive system as it relates to pregnancy. They will learn the assessment and emergency treatment for childbirth, including stages of labor, normal

delivery, complications of pregnancy, and neonatal evaluations and resuscitation.

Special Patient Populations

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.

Obstetrics

- Recognition and management of
- Normal delivery (pp 1256–1265)
- Vaginal bleeding in the pregnant patient (pp 1248–1251, 1253–1254, 1255)
- Anatomy and physiology of normal pregnancy (pp 1243–1247)
- Pathophysiology of complications of pregnancy (pp 1247–1251)
- Assessment of the pregnant patient (pp 1253–1255)
- Management of
- Normal delivery (pp 1256–1265)
- Abnormal delivery (pp 1270–1274)
    - Nuchal cord (p 1263)
    - Prolapsed cord (pp 1271–1272)
    - Breech delivery (pp 1270–1271)
- Third trimester bleeding (pp 1248–1250)
    - Placenta previa (pp 1249–1250)
    - Abruptio placenta (pp 1249–1250)
- Spontaneous abortion/miscarriage (p 1250)
- Ectopic pregnancy (p 1249)
- Preeclampsia/eclampsia (p 1248)

Neonatal Care

Assessment and management of

- Newborn care (pp 1264–1270)
- Neonatal resuscitation (pp 1265–1270)

Trauma

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

Special Considerations in Trauma •

Recognition and management of trauma in the:

- Pregnant patient (pp 1251–1252)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*)
- Pathophysiology, assessment, and management of trauma in the
- Pregnant patient (pp 1251–1255)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*)
- Cognitively impaired patient (Chapter 37, *Patients With Special Challenges*)

Knowledge Objectives

1. Identify the anatomy and physiology of the female reproductive system. (pp 1243–1245)
2. Explain the normal changes that occur in the body during pregnancy. (pp 1246–1247)
3. Recognize complications of pregnancy including abuse, substance abuse, hypertensive disorders, bleeding, spontaneous abortion (miscarriage), and gestational diabetes. (pp 1247–1251)
4. Discuss the need to consider two patients—the woman and the unborn fetus—when treating a pregnant trauma patient. (pp 1251–1252)
5. Discuss special considerations involving pregnancy in different cultures and with teenage patients. (pp 1252–1253)
6. Explain assessment of the pregnant patient. (pp 1253–1255)
7. Explain the significance of meconium in the amniotic fluid. (p 1254)
8. Differentiate among the three stages of labor. (pp 1255–1256)
9. Describe the indications of an imminent delivery. (p 1256)
10. Explain the steps involved in normal delivery management. (pp 1256–1265)
11. List the contents of an obstetrics kit. (p 1257)
12. Explain the necessary care of the fetus as the head appears. (p 1263)
13. Describe the procedure followed to clamp and cut the umbilical cord. (p 1264)
14. Describe delivery of the placenta. (pp 1264–1265)

15. Explain the steps to take in neonatal assessment and resuscitation. (pp 1265–1270)
16. Recognize complicated delivery emergencies including breech presentations, limb presentations, umbilical cord prolapse, spina bifida, multiple gestation, premature newborns, postterm pregnancy, fetal demise, and delivery without sterile supplies. (pp 1270–1274)
17. Describe postpartum complications and how to treat them. (p 1274)

1. Demonstrate the procedure to assist in a normal cephalic delivery. (pp 1256–1265, Skill Drill 34-1)
2. Demonstrate care procedures of the fetus as the head appears. (p 1263)
3. Demonstrate how to clamp and cut the umbilical cord. (pp 1262–1264)
4. Demonstrate the steps to follow in postdelivery care of the newborn. (p 1264)
5. Demonstrate how to assist in delivery of the placenta. (pp 1264–1265)
6. Demonstrate the postdelivery care of the woman. (pp 1264)
7. Demonstrate procedures to follow for complicated delivery emergencies including vaginal bleeding, breech presentation, limb presentation, and prolapsed umbilical cord. (pp 1270–1273)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 34, and all related presentation support materials.

• Review the local protocol for neonatal resuscitation.

• Lecture PowerPoint presentation

• Case Study PowerPoint presentation

• Skill Drill PowerPoint presentation

- Skill Drill 34-1, Delivering the Newborn PowerPoint presentation • Equipment needed to perform the psychomotor skills presented in this chapter.

• Variety of pictures showing stages of labor, developing fetus, etc.

• Skill Evaluation Sheets

- Skill Drill 34-1, Delivering the Newborn

Chapter 35

Pediatric Emergencies

Unit Summary

After students complete this chapter and the related course work, they will understand the anatomy and physiology of the child as compared to the adult. They will learn the appropriate assessment and care for the types of illness and injury affecting children of all ages, injury patterns based on size, and special body system injuries. They will also learn the indicators of abuse and neglect, and the medical and legal responsibilities of an EMT.

Special Patient Populations

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

Patients With Special Challenges

- Recognizing and reporting abuse and neglect (pp 1336–1339 and Chapter 36, *Geriatric Emergencies*)

Health care implications of

- Abuse (pp 1336–1339 and Chapter 36, *Geriatric Emergencies*)
- Neglect (pp 1336-1339 and Chapter 36, *Geriatric Emergencies*)
- Homelessness (Chapter 37, *Patients With Special Challenges*)
- Poverty (Chapter 37, *Patients With Special Challenges*)
- Bariatrics (Chapter 37, *Patients With Special Challenges*)
- Technology dependence (Chapter 37, *Patients With Special Challenges*)
- Hospice/terminally ill (Chapter 37, *Patients With Special Challenges*)
- Tracheostomy care/dysfunction (Chapter 37, *Patients With Special Challenges*)
- Home care (Chapter 37, *Patients With Special Challenges*)
- Sensory deficit/loss (Chapter 37, *Patients With Special Challenges*)
- Developmental disability (Chapter 37, *Patients With Special Challenges*)

Pediatrics

Age-related assessment findings, and age-related assessment and treatment modifications for pediatric-specific major diseases and/or emergencies • Upper airway obstruction (pp

1294–1300, 1308–1310)

- Lower airway reactive disease (pp 1294–1300, 1310–1312)
- Respiratory distress/failure/arrest (pp 1294–1297, 1308–1320)
- Shock (pp 1296–1300, 1320–1322)
- Seizures (pp 1322–1323, 1328)
- Sudden unexpected infant death and sudden infant death syndrome (p 1339)

Age-related assessment findings, and developmental stage-related assessment and treatment modifications for pediatric-specific major diseases and/or emergencies • Upper airway obstruction (pp 1308–1310)

- Lower airway reactive disease (pp 1310–1311)
- Respiratory distress/failure/arrest (pp 1294–1297)
- Shock (pp 1297–1300, 1320–1321)
- Seizures (pp 1322–1323, 1328)
- Sudden infant death syndrome (1339–1342)
- Gastrointestinal disease (pp 1324–1325)

Trauma

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

Special Considerations in Trauma

Recognition and management of trauma in

- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (pp 1284–1290, 1293–1307, 1329–1335)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*) Pathophysiology, assessment, and

management of trauma in the

- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (pp 1286–1290, 1293–1307, 1328–1335)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*)
- Cognitively impaired patient (Chapter 37, *Patients With Special Challenges*)

1. Explain some of the challenges inherent in providing emergency care to pediatric patients and why effective communication with both the patient and his or her family members is critical to a successful outcome. (p 1284)

2. Discuss the physical and cognitive developmental stages of an infant, including health risks, signs that may indicate illness, and patient assessment. (pp 1285–1286)
3. Discuss the physical and cognitive developmental stages of a toddler, including health risks, signs that may indicate illness, and patient assessment. (pp 1286–1287)
4. Discuss the physical and cognitive developmental stages of a preschool-age child, including health risks, signs that may indicate illness, and patient assessment. (pp 1287–1288)
5. Discuss the physical and cognitive developmental stages of a school-age child, including health risks, signs that may indicate illness, and patient assessment. (pp 1288–1289)
6. Discuss the physical and cognitive developmental stages of an adolescent, including health risks, signs that may indicate illness, and privacy issues. (pp 1289–1290)
7. Describe differences in the anatomy and physiology of the pediatric patient compared to the adult patient and their implications for EMTs, with a focus on the following body systems: respiratory, circulatory, nervous, gastrointestinal, musculoskeletal, and integumentary. (pp 1290–1293)
8. Describe the differences in the pathophysiology of the pediatric patient compared to the adult patient and their implications for EMTs, with a focus on the following body systems: respiratory, circulatory, nervous, gastrointestinal, musculoskeletal, and integumentary. (pp 1290–1293)
9. Explain the steps in the primary assessment of a pediatric patient, including the elements of the pediatric assessment triangle (PAT), hands-on XABCs, transport decision considerations, and privacy issues. (pp 1293–1303)
10. Explain the steps in the secondary assessment of a pediatric patient, including what EMTs should look for related to different body areas and the method of injury. (pp 1304–1306)
11. Describe the emergency care of a pediatric patient in respiratory distress, including the different causes of pediatric respiratory emergencies, the signs and symptoms of increased work of breathing, and the difference between respiratory distress and respiratory failure. (pp 1294–1297, 1308–1320)
12. List the possible causes of an upper and a lower airway obstruction in a pediatric patient and the steps in the management of foreign body airway obstruction. (pp 1308– 1310)

13. Describe asthma; its possible causes, signs and symptoms; and steps in the management of a pediatric patient who is experiencing an asthma attack. (pp 1310– 1311)
14. Explain how to determine the correct size of an airway adjunct intended for a pediatric patient during an emergency. (p 1313)
15. List the different oxygen delivery devices that are available for providing oxygen to a pediatric patient, including the indications for the use of each and precautions EMTs must take to ensure the patient's safety. (pp 1316–1320)
16. Describe the emergency care of a pediatric patient who is in shock (hypoperfusion), including common causes, signs, and symptoms. (pp 1320–1321)
17. Describe the emergency care of a pediatric patient with an altered mental status, including common causes, signs, and symptoms. (p 1322)
18. Describe the emergency care of a pediatric patient who has experienced a seizure, including the different types of seizures, common causes, signs, and symptoms. (pp 1322–1323, 1328)
19. Describe the emergency care of a pediatric patient with meningitis, including common causes, signs, symptoms, and special precautions. (pp 1323–1324)
20. Describe the emergency care of a pediatric patient who is experiencing a gastrointestinal emergency, including common causes, signs, and symptoms. (pp 1324– 1325)
21. Describe the emergency care of a pediatric patient who has been poisoned, including common sources of poison, signs, and symptoms. (pp 1325–1326)
22. Describe the emergency care of a pediatric patient who is dehydrated, including how to gauge the severity of dehydration based on key signs and symptoms. (pp 1326– 1327)
23. Describe the emergency care of a pediatric patient who is experiencing a fever emergency, including common causes. (pp 1327–1329)
24. Describe the emergency care of a pediatric patient who has experienced a drowning emergency, including common causes, signs, and symptoms. (pp 1328– 1329)
25. Discuss the common causes of pediatric trauma emergencies; include how to differentiate between injury patterns in adults, infants, and children. (pp 1329–1335)
26. Discuss the significance of burns in pediatric patients, their most common causes, and general guidelines EMTs should follow when assessing patients who have sustained burns. (pp 1333–1335)

27. Explain the four triage categories used in the JumpSTART system for pediatric patients during disaster management. (pp 1335–1336)
28. Describe child abuse and neglect and its possible indicators, including the medical and legal responsibilities of EMTs when caring for a pediatric patient who is a possible victim of child abuse. (pp 1336–1339)
29. Discuss brief resolved unexplained event (BRUE), sudden unexpected infant death, and sudden infant death syndrome (SIDS), including its risk factors, patient assessment, and special management considerations related to the death of an infant patient. (pp 1339–1342)
30. Discuss the responsibilities of EMTs when communicating with a family or loved ones following the death of a child. (pp 1340–1341)
31. Discuss some positive ways EMTs may cope with the death of a pediatric patient and why managing posttraumatic stress is important for all health care professionals. (pp 1341–1342)

1. Demonstrate how to position the airway in a pediatric patient. (pp 1297–1298, Skill Drill 35-1)
2. Demonstrate how to palpate the pulse and estimate the capillary refill time in a pediatric patient. (pp 1299–1300)
3. Demonstrate how to use a length-based resuscitation tape to size equipment appropriately for a pediatric patient. (p 1313)
4. Demonstrate how to insert an oropharyngeal airway in a pediatric patient. (pp 1313–1314, Skill Drill 35-2)
5. Demonstrate how to insert a nasopharyngeal airway in a pediatric patient. (pp 1314–1316, Skill Drill 35-3)
6. Demonstrate how to administer blow-by oxygen to a pediatric patient. (pp 1316–1317)
7. Demonstrate how to assist ventilation of an infant or child using a bag-mask device. (pp 1317–1318)
8. Demonstrate how to perform one-person bag-mask ventilation on a pediatric patient. (p 1318, 1319, Skill Drill 35-4)
9. Demonstrate how to perform two-person bag-mask ventilation on a pediatric patient. (pp 1318–1319)
10. Demonstrate how to immobilize a pediatric patient who has been involved in a trauma emergency. (pp 1330, 1331, Skill Drill 35-5)

11. Demonstrate how to immobilize a pediatric patient in a car seat who has been involved in a trauma emergency. (pp 1330–1333, Skill Drill 35-6)

Readings and Preparation

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 35, and all related presentation support materials.

• Review the local protocol for splinting and realignment of injuries.

Support Materials

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Skill Drill PowerPoint presentations
- Skill Drill 35-1, Positioning the Airway in a Pediatric Patient PowerPoint presentation
- Skill Drill 35-2, Inserting an Oropharyngeal Airway in a Pediatric Patient PowerPoint presentation • Skill Drill 35-3, Inserting a Nasopharyngeal Airway in a Pediatric Patient PowerPoint presentation • Skill Drill 35-4, One-Person Bag-Mask Ventilation on a Pediatric Patient PowerPoint presentation
- Skill Drill 35-5, Immobilizing a Pediatric Patient PowerPoint presentation • Skill Drill 35-6, Immobilizing a Patient in a Car Seat PowerPoint presentation
- Equipment needed to perform the psychomotor skills presented in this chapter.
- Skill Evaluation Sheets
- Skill Drill 35-1, Positioning the Airway in a Pediatric Patient
- Skill Drill 35-2, Inserting an Oropharyngeal Airway in a Pediatric Patient
- Skill Drill 35-3, Inserting a Nasopharyngeal Airway in a Pediatric Patient
- Skill Drill 35-4, One-Person Bag-Mask Ventilation on a Pediatric Patient
- Skill Drill 35-5, Immobilizing a Pediatric Patient
- Skill Drill 35-6, Immobilizing a Patient in a Car Seat

Chapter 36

Geriatric Emergencies

Unit Summary

After students complete this chapter and the related course work, they will understand the

physiologic and psychological changes that occur with the aging process. The student will also learn and understand the types of illness and injuries common to the geriatric population. They will understand the GEMS triangle, use of advance directives, and signs and symptoms of elder abuse.

National EMS Education Standard Competencies

Special Patient Populations

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.

Geriatrics

- Impact of age-related changes on assessment and care (pp 1368–1373)
- 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
- Cardiovascular diseases (pp 1354–1357, 1368–1373)
- Respiratory diseases (pp 1353–1354, 1368–1373)
- Neurologic diseases (pp 1357–1360, 1368–1373)
- Endocrine diseases (p 1356, 1368–1373)
- Alzheimer disease (pp 1358–1359, 1368–1373)
- Dementia (pp 1358–1359, 1368–1373)

Patients With Special Challenges

- Recognizing and reporting abuse and neglect (pp 1381–1383 and Chapter 35, *Pediatric Emergencies*)
- Health care implications of
- Abuse (pp 1381–1383 and Chapter 35, *Pediatric Emergencies*)
- Neglect (pp 1381–1383 and Chapter 35, *Pediatric Emergencies*)
- Homelessness (Chapter 37, *Patients With Special Challenges*)
- Poverty (Chapter 37, *Patients With Special Challenges*)
- Bariatrics (Chapter 37, *Patients With Special Challenges*)
- Technology dependent (Chapter 37, *Patients With Special Challenges*)
- Hospice/terminally ill (Chapter 37, *Patients With Special Challenges*)
- Tracheostomy care/dysfunction (Chapter 37, *Patients With Special Challenges*)
- Homecare (Chapter 37, *Patients With Special Challenges*)
- Sensory deficit/loss (Chapter 37, *Patients With Special Challenges*)
- Developmental disability (Chapter 37, *Patients With Special Challenges*)

Trauma

Applies fundamental knowledge to provide basic emergency care and transportation based on

assessment findings for an acutely injured patient.

Special Considerations in Trauma

- Recognition and management of trauma in the
- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (pp 1375–1378)
- Pathophysiology, assessment, and management of trauma in the
- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (pp 1375–1378)
- Cognitively impaired patient (Chapter 37, *Patients With Special Challenges*)

Knowledge Objectives

1. Define the term *geriatrics*. (p 1350)
2. Recognize some of the special aspects of the lives of older people. (p 1350)
3. Know generational considerations when communicating with a geriatric patient. (pp 1350–1351)
4. Describe the common complaints and the leading causes of death in older people. (p 1352)
5. Discuss the physiologic changes associated with the aging process and the age-related assessment and treatment modifications that result. (pp 1352–1365)
6. Define polypharmacy and the toxicity issues that can result. (pp 1365–1367)
7. Discuss the effect of aging on behavioral emergencies. (pp 1367–1368)
8. Explain the GEMS diamond and its role in the assessment and care of the geriatric patient. (p 1368)
9. Explain special considerations when performing the patient assessment process on a geriatric patient with a medical condition. (pp 1368–1373)
10. Discuss the effects of aging on environmental emergencies. (p 1375)
11. Explain special considerations when performing the patient assessment process on a geriatric patient with a traumatic injury. (pp 1375–1378)
12. Explain special considerations when responding to calls to nursing and skilled care facilities. (pp 1379–1380)
13. Define an advance directive and explain its use with older patients. (pp 1380–1381)

14. Discuss the prevalence of elder abuse and neglect; include why the extent of elder abuse is not well known. (pp 1381–1383)
15. Recognize acts of commission or omission by a caregiver that result in harm, potential harm, or threat of harm to a geriatric patient. (p 1381)
16. Explain the assessment and care of a geriatric patient who has potentially been abused or neglected. (pp 1382–1383)

Skills Objectives

There are no skills objectives for this chapter.

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 36, and all related presentation support materials.

- Review the local protocol for care and treatment of the elderly.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation
- Variety of pictures showing the stages of aging

Chapter 37

Patients With Special Challenges

Unit Summary

After students complete this chapter and the related course work, they will understand the special needs of patients with developmental, sensory, and physical disabilities. They will understand the unique anatomy and physiology of, and assessment and treatment needed for these patients. The special care considerations for patients who rely on medical technological assistance are discussed, as are considerations for the management of obese patients.

Special Patient Populations
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.
Patients With Special Challenges

Recognizing and reporting abuse and neglect (covered in Chapter 35, *Pediatric Emergencies*, and Chapter 36, *Geriatric Emergencies*).
Health care implications of
- Abuse (Chapter 35, *Pediatric Emergencies*, and Chapter 36, *Geriatric Emergencies*)
- Neglect (Chapter 35, *Pediatric Emergencies*, and Chapter 36, *Geriatric Emergencies*)
- Homelessness (pp 1412–1413)
- Poverty (pp 1412–1413)
- Bariatrics (p 1402)
- Technology dependent (pp 1403–1410)
- Hospice/terminally ill (pp 1411–1412)
- Tracheostomy care/dysfunction (pp 1403–1405)
- Home care (p 1411)
- Sensory deficit/loss (pp 1396–1400)
- Developmental disability (pp 1393–1396)

Trauma

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

Special Considerations in Trauma

Recognition and management of trauma in the
- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*) Pathophysiology, assessment, and management of trauma in the:
- Pregnant patient (Chapter 34, *Obstetrics and Neonatal Care*)
- Pediatric patient (Chapter 35, *Pediatric Emergencies*)
- Geriatric patient (Chapter 36, *Geriatric Emergencies*)
- Cognitively impaired patient (pp 1393–1396)

1. Give examples of patients with special challenges EMTs may encounter during a medical emergency. (p 1392)
2. Explain the special patient care considerations required when providing emergency medical care to patients with intellectual disabilities, including

patients with autism spectrum disorder (ASD), Down syndrome, or prior brain injuries. (pp 1393–1396)

3. Describe the different types of visual impairments and the special patient care considerations required when providing emergency medical care for visually impaired patients, depending on the level of their disability. (pp 1396–1397)
4. Describe the various types of hearing impairments and the special patient care considerations required when providing emergency medical care for hard-of-hearing patients, including tips on effective communication. (pp 1397–1398)
5. Describe the various types of hearing aids worn by patients; include strategies to troubleshoot a hearing aid that is not working. (pp 1398–1400)
6. Explain the special patient care considerations required when providing emergency medical care to patients who have cerebral palsy, spina bifida, or paralysis. (pp 1400– 1402)
7. Define obesity. (p 1402)
8. Explain the special patient care considerations required when providing emergency medical care to bariatric patients; include the best way to move bariatric patients. (pp 1402–1403)
9. Explain the special patient care considerations required when providing emergency medical care to patients who rely on a form of medical technological assistance, including the following: (pp 1403–1410)
    - Tracheostomy tube
    - Mechanical ventilator
    - Apnea monitor
    - Internal cardiac pacemaker
    - Left ventricular assist device (LVAD)
    - External defibrillator vest
    - Central venous catheter
    - Gastrostomy tube
    - Ventricular peritoneal shunt
    - Vagus nerve stimulator
    - Colostomy bag, ileostomy bag, or urostomy bag
10. Describe home care, the types of patients it serves, and the services it encompasses. (p 1411)

11. Contrast hospice and palliative care with curative care. (pp 1411–1412)
12. Explain the responsibilities of EMTs when responding to calls for terminally ill patients who have DNR orders. (p 1411)
13. Discuss the issues of poverty and homelessness in the United States, their negative effects on a person's health, and the role of the EMTs as patient advocates. (pp 1412– 1413)

Skills Objectives

1. Demonstrate different strategies to communicate effectively with a patient who has a hearing impairment. (pp 1397–1398)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 37, and all related presentation support materials.

• Review the local protocol for caring for a patient with a colostomy and ileostomy.

Chapter 38

Transport Operations

Unit Summary

After students complete this chapter and the related course work, they will be able to describe and apply effective preparation for transport, safe emergency vehicle operations, appropriate transport decisions, safe patient transfer techniques, and a responsible approach to patient care during transport. Students will be able to identify the nine phases of a call and describe the EMT's role in each phase. They will be able to discuss the differences between ground and air medical transport. Furthermore, students will understand the steps necessary to properly clean and disinfect the emergency vehicle and equipment following a call.

EMS Operations

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

Principles of Safely Operating a Ground Ambulance

• Risks and responsibilities of emergency response (pp 1437–1453)

• Risks and responsibilities of transport (pp 1440–1453)

Air Medical

- Safe air medical operations (pp 1453–1458)
- Criteria for utilizing air medical response (pp 1453–1454)

Medicine

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

Infectious Diseases

Awareness of

- How to decontaminate equipment after treating a patient (pp 1442–1443)
- How to decontaminate the ambulance and equipment after treating a patient (pp 1442–1443)

Knowledge Objectives

1. List the nine phases of an ambulance call; include examples of key tasks EMTs perform during each phase. (pp 1426–1443)
2. Name the medical equipment carried on an ambulance; include examples of supplies that are included in each main category of the ambulance equipment checklist. (p 1428)
3. Name the safety and operations equipment carried on an ambulance; include examples of how each item might be used by EMTs in an emergency. (pp 1433–1434)
4. Discuss the importance of performing regular vehicle inspections; include the specific parts of an ambulance that should be inspected daily. (p 1435)
5. List the minimum dispatch information required by EMS to respond to an emergency call. (p 1436)
6. Describe some high-risk situations and hazards during both pretransport and transport that may affect the safety of the ambulance and its passengers. (pp 1436–1441, 1443–1453)
7. Discuss the specific considerations that are required to ensure scene safety; include personal safety, patient safety, and traffic control. (pp 1437–1440)
8. Describe the key elements that must be included in the written patient report upon patient delivery to the hospital. (p 1441)
9. Summarize the tasks EMTs must complete in the postrun phase. (pp 1442–1443)
10. Define the terms cleaning, disinfection, high-level disinfection, and sterilization. (p 1442)
11. Discuss the guidelines for safely and defensively driving an ambulance. (pp 1443–1445)
12. Identify key steps EMTs should take to improve safety while en route to the scene, the hospital, and the station. (pp 1443–1453)

13. List the three factors that dictate the use of lights and siren to the scene and to the hospital; include the risk-versus-benefit analysis regarding their use. (pp 1450–1451)
14. Describe the specific, limited privileges that are provided to emergency vehicle drivers by most state laws and regulations. (p 1450)
15. Explain the additional risks and special considerations posed by the use of police escorts, and the hazards and special considerations posed by crossing intersections. (pp 1451–1452)
16. Describe the capabilities, protocols, and methods for accessing air ambulances. (p 1453–1457)
17. Describe key scene safety considerations when preparing for a helicopter medevac, including establishing a landing zone, securing loose objects, mitigating onsite hazards, and approaching the aircraft. (pp 1455–1458)

Skills Objectives

1. Demonstrate how to perform a daily inspection of an ambulance. (pp 1435–1436)
2. Demonstrate how to present a verbal report that would be given to receiving personnel at the hospital upon patient transfer. (p 1441)
3. Demonstrate how to write a written report that includes all pertinent patient information following patient transfer to the hospital. (p 1441)
4. Demonstrate how to clean and disinfect the ambulance and equipment during the postrun phase. (pp 1442–1443)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured,*** **Twelfth Edition**, Chapter 38, and all related presentation support materials.

• Review local protocols for the use of air ambulances.

- Lecture PowerPoint presentation
- Case study PowerPoint presentation
- Handouts summarizing hand signals used for helicopter operations
- Copies of various forms of documentation:
- Ambulance and equipment inspection logs
- Patient care report

- Electronic records

Chapter 39

Vehicle Extrication and Special Rescue

Unit Summary

After students complete this chapter and the related course work, they will be able to describe and apply, in context, EMS rescue operations, including vehicle extrication and its 10 phases. Additionally, they will be able to describe various specialized components of EMS operations, including tactical EMS, trench rescue, high-angle rescue, and the EMT's role in these operations. The safety aspects of these operations are also discussed.

EMS Operations

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

Vehicle Extrication

- Safe vehicle extrication (pp 1464–1475)
- Use of simple hand tools (p 1472)

Knowledge Objectives

1. Explain the responsibilities of an EMT in patient rescue and vehicle extrication. (p 1464)
2. Discuss how to ensure safety at the scene of a rescue incident, including scene size-up and the selection of the proper personal protective equipment and additional necessary gear. (pp 1464–1469)
3. Describe examples of vehicle safety components that may be hazardous to both EMTs and patients following a collision and how to mitigate their dangers. (pp 1464–1465)
4. Define the terms extrication and entrapment. (p 1465)
5. Describe the 10 phases of vehicle extrication and the role of the EMT during each one. (pp 1466–1475)
6. Discuss the various factors related to ensuring situational safety at the site of a vehicle extrication, including controlling traffic flow, performing a 360-degree assessment, stabilizing the vehicle, dealing with unique hazards, and evaluating the need for additional resources. (pp 1466–1470)

7. Describe the special precautions the EMT should follow to protect the patient during a vehicle extrication. (pp 1470–1472)
8. Explain the different factors that must be considered before attempting to gain access to the patient during an incident that requires extrication. (pp 1470–1472)
9. Explain the difference between simple access and complex access in vehicle extrication. (p 1472)
10. Discuss patient care considerations related to assisting with rapid extrication, providing emergency care to a trapped patient, and removing and transferring a patient. (pp 1473–1475)
11. Describe examples of situations that would require special technical rescue teams and the EMT's role in these situations. (pp 1475–1479)

Skills Objectives

There are no skills objectives for this chapter.

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured,*** **Twelfth Edition**, Chapter 39, and all related presentation support materials.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation

Chapter 40

Incident Management

Unit Summary

After students complete this chapter and the related course work, they will be able to describe and apply, in context, the National Incident Management System (NIMS), including describing command and general staff roles. Additionally, they will be able to describe various specialized components of establishing incident command and its inherent responsibilities. This chapter also describes the importance of using the incident command system (ICS) in hazmat incidents and setting up EMS branch operations. Control zones, personal protective equipment, and triage methods are also discussed.

EMS Operations

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

Incident Management

- Establish and work within the incident management system. (pp 1486–1495)

Multiple-Casualty Incidents

- Triage principles (pp 1497–1499)
- Resource management (pp 1486–1487, 1491–1495)
- Triage (pp 1497–1502)
- Performing (pp 1497–1498)
- Retriage (p 1498)
- Destination decisions (pp 1501–1502)
- Posttraumatic and cumulative stress (pp 1495, 1502)

Hazardous Materials Awareness

- Risks and responsibilities of operating in a cold zone at a hazardous material or other special incident. (pp 1514–1515)

1. Describe the purpose of the National Incident Management System (NIMS) and its major components. (pp 1486–1487)
2. Describe the purpose of the incident command system (ICS) and its organizational structure. (pp 1487–1488)
3. Explain the role of EMS response within the ICS. (pp 1491–1493)
4. Describe how the ICS assists EMS in ensuring both personal safety and the safety of bystanders, health care professionals, and patients during an emergency. (pp 1492– 1493)
5. Describe the role of the EMT in establishing command under the ICS. (p 1493)
6. Describe the purpose of the medical branch of the ICS and its organizational structure. (pp 1493–1495)
7. Describe the specific conditions that would define a situation as a mass-casualty incident (MCI); include examples. (pp 1496–1497)

8. Describe what occurs during primary and secondary triage, how the four triage categories are assigned to patients on the scene, and how destination decisions regarding triaged patients are made. (pp 1497–1499)
9. Explain how to perform the START and JumpSTART triage methods. (pp 1499–1501)
10. Contrast a disaster with a mass-casualty incident. (p 1502)
11. Describe the role of EMTs during a disaster operation. (p 1502)
12. Recognize the entry-level training or experience requirements identified by the HAZWOPER regulation for EMTs to respond to a hazmat incident. (p 1503)
13. Define hazardous material; include the classification system used by the NFPA. (pp 1503, 1516)
14. Discuss the specific reference materials that EMTs use to recognize a hazmat incident. (pp 1510–1513)
15. Explain the role of EMTs during a hazmat incident both before and after the hazmat team arrives; include the precautions required to ensure the safety of civilians and responders. (pp 1514–1515)
16. Describe how the three control zones are established at a hazmat incident and discuss the characteristics of each zone, and the responders who work within each one. (pp 1514–1515)
17. Describe the four levels of personal protective equipment (PPE) required at a hazmat incident to protect responders from injury by or contamination from a particular substance. (pp 1516–1517)
18. Explain patient care at a hazmat incident; include the special requirements that are necessary for those patients who require immediate treatment and transport prior to full decontamination. (pp 1517–1519)

Skills Objectives

1. Demonstrate how to perform triage based on a fictional scenario that involves a mass casualty incident. (pp 1497–1501)
2. Using a reference, correctly identify DOT labels, placards, and markings that are used to designate hazardous materials. (pp 1508–1509)
3. Demonstrate the ability to use a variety of reference materials to identify a hazardous material. (pp 1510–1514)

Sick and Injured, **Twelfth Edition**, Chapter 40, and all related presentation support materials.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation

Chapter 41

Terrorism Response and Disaster Management

Unit Summary

After students complete this chapter and the related course work, they will be able to describe what constitutes terrorism and the EMT's response to terrorism, and they will be able to apply this knowledge. Additionally, the student will demonstrate an understanding of weapons of mass destruction (WMD) agents and countermeasures, as well as a fundamental knowledge of disaster management safety.

EMS Operations

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

Mass-Casualty Incidents Due to Terrorism and Disaster

- Risks and responsibilities of operating on the scene of a natural or man-made disaster. (pp 1528–1553)

1. Define international terrorism and domestic terrorism; include examples of incidents that have been caused by each one. (p 1528)
2. Name four different types of goals that commonly motivate terrorist groups to carry out terrorist attacks. (p 1529)
3. Define weapon of mass destruction (WMD) and weapon of mass casualty (WMC); include examples of weapons considered WMDs. (p 1531)
4. Explain how the Department of Homeland Security (DHS) National Terrorism Advisory System (NTAS) relates to the actions and precautions EMTs must take while performing their daily activities. (pp 1532–1533)
5. Name the key observations EMTs must make on every call to determine the potential of a terrorist attack. (pp 1532–1533)

6. Explain the critical response actions related to establishing and reassessing scene safety, personnel protection, notification procedures, and establishing command EMTs must perform at a suspected terrorist event. (pp 1532–1535)
7. Discuss the history of chemical agents, their four main classifications, routes of exposure, effects on the patient, and patient care. (pp 1535–1542)
8. List three categories of biologic agents, their routes of exposure, effects on the patient, and patient care. (pp 1542–1548)
9. Explain the role of EMS in relation to syndromic surveillance and points of distribution
(PODS) during a biologic event. (pp 1548–1549)
10. Discuss the history of nuclear/radiologic devices, sources of radiologic materials and dispersal devices, medical management of patients, and protective measures EMTs must take during a nuclear/radiologic incident. (pp 1549–1552)
11. Describe the mechanisms of injury caused by incendiary and explosive devices; include the types and severity of wounds. (pp 1552–1553)

Skills Objectives

1. Demonstrate the steps EMTs can take to establish and reassess scene safety based on a scenario of a terrorist event. (p 1535)
2. Demonstrate the steps EMTs can take for the management of a patient exposed to a chemical agent. (pp 1535–1542)
3. Demonstrate the use of the DuoDote Auto-Injector and/or the Antidote Treatment Nerve Agent Auto-Injector. (pp 1539–1540)

Review all instructional materials including ***Emergency Care and Transportation of the Sick and Injured***, **Twelfth Edition**, Chapter 41, and all related presentation support materials.

- Lecture PowerPoint presentation
- Case Study PowerPoint presentation

***Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates**.*

GENERAL EDUCATION OUTCOMES:

This course fulfills the following General Education Outcomes: Communication Skills, Critical Thinking, and Self & Professional Development. Upon completion of this course, the student will be able to:

☒ Communicate effectively;
Use effective listening skills to be able to respond appropriately
Artifact: EMS 109 Skills Evaluation

☒ Think critically; Utilize inductive and /or deductive reasoning skills
Devising a reasonable plan for resolving a problem / issue
Artifact: EMS 109 Skills Evaluation

☒ Self and professional development. Respond appropriately to challenging situations
Artifact: EMS 109 Skills Evaluation

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*:

Students' performance will be assessed, and the weight associated with the various measures/artifacts are listed below.

EVALUATION*

Module Tests	45%
Cumulative Test (Mid-Term & Final)	15%
Chapter Quizzes	20%
EMS Testing Unit Exams	20%
	100%

Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.

GRADING SYSTEM:

In accordance with South Carolina's Department of Health and Environmental Control, Horry Georgetown Technical College's EMS program will adhere to the following grading schedule A = 100 – 90, B = 89- 80, C = 79 – 75, D = 75 – 60, F = 59 and below.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact

academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop. You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two (2) consecutive weeks, the faculty is obligated to withdraw the student and a student may not be permitted to reenroll.

In accordance with South Carolina Department of Health and Environmental Control – Division of EMS a student may miss 10% of the total classroom hours for any reason. Under *extenuating circumstances*, the program coordinator MAY allow the student to miss **up to a total** of 20% of the total classroom hours.

The student is responsible for documenting in writing, to the program coordinator's satisfaction, the extenuating circumstances. The program coordinator is under NO obligation to accept the student's documentation or extend the student the additional 10% in allotted absences.

The student should also understand that arriving to class late or leaving class early counts towards the allotted hours of time missed.

Once the student exceeds the hours of absences, the student will be terminated from the course and will not be eligible to attempt the National Registry examination.

Students withdrawn from a course due to excessive absences will receive a grade of Withdraw ("W") up to the 2/3 point of the semester. Thereafter, a Withdraw ("W") or Withdraw Failing ("WF") will be assigned dependent upon his/her academic status at the time of last date attended.

Attendance records begin on the first day of class for both new and returning students, regardless of when he/she registers during the five-day registration and add/drop period at

the beginning of each term.

Students are responsible for all course work and class assignments; therefore, they are expected to regularly and promptly attend each meeting of classes for which they are enrolled. Students should limit absences to those that are unavoidable and, with the professor's consent, should make up all work missed.

Unannounced quizzes will *not* be made up and late homework will *not* be accepted. Two consecutive absences will result in a student/advisor conference.

Making up the class – missed work should not be construed as attendance. Attendance cannot be "made up" with work.

Tardiness should always be avoided. Three tardies will count as one absence.

Lab Attendance Requirements

The lab class attendance is included in the above attendance policy. Your attendance in lab class will be combined with the lecture section for the **10%** of allowed total absences. Students may not miss more than **4.5** total lab hours for the entire semester. Those 4.5 hours count toward the cumulative total of **13.5 hours** allowed to be missed.

Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.

Part V: Student Resources

THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. **Academic tutors** for most subject areas, **Writing Center support**, and **college success skills**.
2. Online **tutoring** and academic support resources.
3. Professional and interpersonal communication **coaching** in the EPIC Labs.

Visit the Student Success & Tutoring Center website for more information. To schedule tutoring, contact the SSTC at sstc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email sstc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the Online Resource Center to access on-demand resources.

STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following free resources:

1. **Getting around HGTC**: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. Use the Online Resource Center (ORC) including Office 365 support, password resets, and username information.
3. **In-person workshops, online tutorials and more services** are available in Desire2Learn, Student Portal, Degree Works, and Office 365.
4. **Chat with our staff on TECH Talk**, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552.

HGTC LIBRARY:

Each campus location has a library where HGTC students, faculty, and staff may check out materials with their HGTC ID. All three HGTC campus libraries are equipped with computers to support academic research and related school work; printing is available as well. Visit the Library website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in an **online/hybrid** course and in **make-up exam** situations may be accomplished in a variety of ways:

- Test administered within D2L.
- Test administered in writing on paper.
- Test administered through Publisher Platforms (which may have a fee associated with the usage)

Furthermore, tests may have time limits and/or require a proctor.

Proctoring can be accomplished either face-to-face at an approved site or online through our

online proctoring service. To find out more about proctoring services, please visit the Online Testing section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:
HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to HGTC's Accessibility and Disability Service webpage. The Accessibility and Disability Services staff will review documentation of the student's disability and, in a confidential setting with the student, engage in an interactive process to develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided. Students will need to reach out to the Accessibility and Disability Services staff each semester to renew their accommodations.

COUNSELING SERVICES:
HGTC Counseling Services strives to optimize student success through managing personal and academic concerns that may interfere with achieving educational goals. Staff are available to every student for assistance and guidance on personal matters, academic concerns and other areas of concern. HGTC offers free in-person and telehealth counseling services to students. For more information about counseling services, please reach out to counseling@hgtc.edu or visit the website the Counseling Services webpage.

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:
Horry-Georgetown Technical College shall not discriminate in employment or personnel decisions or in student admissions or in student decisions, or in all other segments of the College community on the basis of race, color, sex, national or ethnic origin, age, religion, disability, marital or family status, veteran status, political ideas, sexual orientation, gender identity, or pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation, in the educational programs and activities which it operates, and the college is prohibited from discrimination in such manner by applicable laws. Practices and requirements for nondiscrimination extend to the enrollment of students in programs and activities of the College and employment by the College.

> All inquiries regarding the federal laws as they relate to discrimination on the basis of sex may be directed to Tamatha Sells, Title IX Coordinator, Horry-Georgetown Technical College, Building 1100C, Room 107B, 2050 Hwy 501 E, PO Box 261966, Conway,

SC 29528-6066, 843-349-5218, tamatha.sells@hgtc.edu or to the US Department of Education Office of Civil Rights. (Telephone: 800-421-3481/Email: OCR@ed.gov).

Other employee and applicant inquiries concerning the federal laws and their application to the College may be directed to Jacquelyne Snyder, Vice President, Human Resources and Employee Relations & the College's Affirmative Action/Equal Opportunity Officer, Horry-Georgetown Technical College, Building 200C, Room 205B, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5212, jacquelyne.snyder@hgtc.edu.

Other student and prospective student inquiries concerning the federal laws and their application to the College or any student decision may be directed to Dr. Melissa Batten, Vice President, Student Affairs, Section 504 & Title II Coordinator Horry-Georgetown Technical College, Building 1100C, Room 107A, 2050 Hwy 501 E, PO Box 261966, Conway, SC 29528-6066, 843-349-5228, melissa.batten@hgtc.edu.

TITLE IX REQUIREMENTS:

Title IX of the Education Amendments of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination.

HGTC prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking and will provide students, faculty, and staff with necessary information regarding prevention, policies, procedures, and resources.

Any student, or other member of the college community, who believes that they have been a victim of sexual harassment, domestic violence, dating violence, sexual assault, or stalking may file a report with the college's Title IX Coordinator or campus law enforcement*.

*Faculty and Staff are required to report these incidents to the Title IX Coordinator when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

For more information, contact Tamatha Sells, Title IX Coordinator, Conway Campus, Building 1100C, Room 107B, 843-349-5218, tamatha.sells@hgtc.edu.

PREGNANCY ACCOMMODATIONS

Under Title IX, colleges must not exclude a pregnant student from participating in any part of an educational program. Horry-Georgetown Technical College is committed to ensuring that pregnant students receive reasonable accommodations to ensure access to our educational programs.

Students should advise the Title IX Coordinator of a potential need for accommodations as soon as they know they are pregnant. It is extremely important that communication between student, instructors, and the Title IX Coordinator begin as soon as possible. Each situation is unique and will be addressed individually.

Title IX accommodations DO NOT apply to Financial Aid. Financial Aid regulations do not give the College any discretion in terms of Financial Aid eligibility.

Certain educational programs may have strict certification requirements or requirements mandated by outside regulatory agencies. Therefore, in some programs, the application of Title IX accommodations may be limited.

To request pregnancy accommodations, please complete the **Pregnancy Intake Form**.