**SECTION 1: ESSENTIAL INFORMATION**

**Chapter 1 – Introduction to Traumatic Disease:**

1. Identify the most common causes of death due to traumatic injury.

2. Summarize the components of scene size-up.

3. Describe the role of scene size-up in provider safety and anticipation of patient injuries.

4. Explain the relationship between kinetic injury and injury severity.

5. Identify the three collisions associated with a motor vehicle collision and relate potential patient injuries to the deformity of the vehicle, interior structures, and body structures.

6. Describe how vehicle safety mechanisms affect anticipated injury patterns.

7. List the factors that predict the type and severity of injury due to fall.

8. Describe how bullets cause tissue injury and explain the relationship between bullet characteristics and injury severity.

9. Relate the five injury mechanisms involved in blast injuries to scene size-up and patient assessment.

10. Describe the priorities of prehospital trauma care and relate them to preventable causes of death.

11. Discuss the role of preventative efforts in reducing injury and death due to trauma.

**Chapter 2 – Trauma Assessment and Management:**

1. Outline the steps of the ITLS Trauma Assessment.

2. Describe the ITLS Primary Survey.

3. Explain the initial assessment and how it relates to the rapid trauma survey and the focused exam.

4. Describe when the initial assessment can be interrupted.

5. Identity which patients have critical conditions and how they should be managed.

6. List the 10 critical interventions made during the primary survey and when to make them.

7. List 10 life-threatening injuries that should be identified during the ITLS Primary Survey.

8. Describe the ITLS Reassessment Exam.

9. Describe the ITLS Secondary Survey.

**Chapter 3 – Assessment Skills:**

1. Correctly perform the ITLS Primary Survey.

2. Identify within 2 minutes which patients require load and go.

3. Describe when to perform critical interventions.

4. Correctly perform the ITLS Reassessment Exam.

5. Correctly perform the ITLS Secondary Survey.

6. Demonstrate proper communications with medical direction.

7. Demonstrate the proper sequence of rapid assessment and management of the multiple-trauma patient.

**Chapter 4 – Hemorrhage Control and Shock:**

1. List the four components of the vascular system necessary for normal tissue perfusion.

2. Describe the symptoms and signs of shock in the order that they develop, distinguishing compensated from uncompensated shock.

3. Describe the three common clinical shock syndromes.

4. Explain and compare the pathophysiology of hemorrhagic, mechanical (obstructive), cardiogenic, and distributive shock.

5. Describe the management of the following: a Hemorrhage that can be controlled, Hemorrhage that cannot be controlled, non-hemorrhagic shock syndromes

6. Discuss the use of tourniquets and hemostatic agents for uncontrolled extremity hemorrhage.

7. Discuss the current indications for the use of IV fluids and tranexamic acid in the treatment of hemorrhagic shock.

8. Recognize the advantages that may be gained by using such tools as ECG (including 12-lead), end-tidal CO2monitoring, and lactate levels.

**Chapter 5 – Shock and Hemorrhage Control Skills:**

1. Perform the technique of cannulation of the external jugular vein.

2. Describe indications for the use of intraosseous infusion.

3. Perform intraosseous infusion using appropriate devices.

4. Use length-based resuscitation tape to estimate the weight of a child.

5. Demonstrate how to properly apply a tourniquet for life-threatening bleeding.

6. Control hemorrhage using direct pressure with and without hemostatic gauze.

7. Demonstrate on a mannequin model how to pack a wound to control bleeding.

**Chapter 6 – Airway Management:**

1. Describe the anatomy and physiology of the respiratory system.

2. Explain the importance of observation as it relates to airway control.

3. Describe methods to deliver supplemental oxygen to the trauma patient.

4. Briefly describe the indications, contraindications, advantages, and disadvantages of the following airway adjuncts:

a. Nasopharyngeal airways

b. Oropharyngeal airways

c. Bag-valve masks

d. Supraglottic airway

e. Endotracheal intubation

5. State the predictors of difficult mask ventilation and endotracheal intubation.

6. Describe apneic oxygenation and external laryngeal manipulation.

7. List the essential components of an airway kit.

**Chapter 7 – Airway Skills:**

1. Suction the airway.

2. Insert a nasopharyngeal and oropharyngeal airway.

3. Use the pocket mask.

4. Use the bag-valve mask.

5. Use the pulse oximeter.

6. Perform airway management utilizing supraglottic airway devices.

7. Prepare for endotracheal intubation.

8. Perform laryngoscopic orotracheal intubation.

9. Confirm placement of the endotracheal tube (ETT).

10. Use capnography to confirm placement of the ETT.

11. Secure the ETT.

12. Understand the use of medications to assist with intubation.

**SECTION 2: FOUNDATIONAL KNOWLEDGE**

**Chapter 8 – Thoracic Trauma:**

1. Describe the signs and symptoms of thoracic trauma.

2. List the immediate life-threatening thoracic injuries.

3. Define flail chest in relation to associated physical findings and management.

4. Explain the pathophysiology and management of an open pneumothorax.

5. Explain the hypovolemic and respiratory compromise, pathophysiology, and management due to a massive hemothorax.

6. Describe the clinical signs of a tension pneumothorax in conjunction with appropriate management. Contrast those with the clinical signs of massive hemothorax.

7. List the indications to perform emergency chest decompression.

8. Identify the physical findings (including Beck’s triad) of cardiac tamponade.

9. Explain the cardiac involvement and management associated with blunt injury to the chest.

**Chapter 9 – Thoracic Trauma Skills:**

1. Describe the indications for emergency decompression of a tension pneumothorax.

2. Explain the advantages, disadvantages, and complications of needle decompression of a tension pneumothorax by the anterior approach and the lateral approach.

3. Perform needle decompression of a tension pneumothorax by either the anterior or lateral approach.

4. Apply chest seal to open chest wounds.

**Chapter 10 – Spinal Trauma and Spinal Motion Restriction:**

1. Explain the normal anatomy and physiology of the spinal column and spinal cord.

2. Define spinal motion restriction and its relationship to patient safety.

3. Describe elements of injury, history, and assessment that may assist in determining which patients will benefit from spinal motion restriction.

4. Explain the difference between emergency rescue and rapid extrication techniques and describe the appropriate utilization of each.

5. Using the clinical evaluation, differentiate neurogenic shock from hemorrhagic shock.

**Chapter 11 – Spine Management Skills:**

1. List the goals and principles of spinal motion restriction (SMR).

2. Describe indications to apply SMR.

3. Explain when to perform an emergency rescue and a rapid extrication.

4. Perform SMR on a supine and a seated patient.

5. Transfer patient to ambulance stretcher using long spine board or scoop stretcher.

6. Properly secure a patient to a stretcher or backboard.

7. Stabilize a patient’s head and neck when a neutral position cannot be safely attained.

8. Perform a rapid extrication.

9. Explain when helmets should and should not be removed from injured patients.

10. Properly remove a motorcycle helmet.

**Chapter 12 – Head Trauma and Traumatic Brain Injury:**

1. Describe the anatomy of the head and brain.

2. Describe the pathophysiology of traumatic brain injury.

3. Explain the difference between primary and secondary brain injury.

4. Describe the mechanisms for the development of secondary brain injury.

5. Describe the assessment of the patient with a head injury.

6. Describe the prehospital management of the patient with a traumatic brain injury.

7. Recognize and describe the management of cerebral herniation syndrome.

8. Identify potential problems in the management of the patient with a traumatic brain injury.

**Chapter 13 – Abdominal Trauma:**

1. Identify the basic anatomy of the abdomen and explain how abdominal and chest injuries may be related.

2. Differentiate between blunt and penetrating injuries and identify characteristic complications associated with each.

3. Describe the treatment required for the patient with protruding viscera.

4. Describe how to identify and stabilize a pelvic fracture and why this is important.

5. Describe the findings indicating possible intra-abdominal injuries based on history, physical examination, and mechanism of injury.

6. List the critical interventions for patients with abdominal injuries.

**Chapter 14 – Extremity Trauma:**

1. Prioritize extremity trauma in the assessment and management of life-threatening injuries.

2. Discuss the major immediate and short-term complications and treatment of the following extremity injuries:

a. Fractures

b. Dislocations

c. Open wounds

d. Amputations

e. Neurovascular injuries

f. Sprains and strains

g. Impaled objects

h. Crush injuries

3. Discuss the pathophysiology of compartment syndrome and which extremity injuries are most likely to develop this complication.

4. Describe the potential amount of blood loss from pelvic and femur fractures.

5. Discuss major mechanisms of injury, associated injuries, potential complications, and management of injuries to the following:

a. Clavicle and shoulder

b. Elbow

c. Forearm and wrist

d. Femur

e. Hand or foot

f. Hip

g. Knee

h. Pelvis

i. Tibia and fibula (including ankle)

**Chapter 15 – Extremity Trauma Skills:**

1. Explain when to use a traction splint.

2. Describe the complications of using a traction splint.

3. Apply a traction splint: Hare splint, Sager splint, and Thomas splint.

4. Demonstrate pelvic stabilization techniques.

**Chapter 16 – Trauma Arrest:**

1.Identify treatable causes of traumatic cardiopulmonary arrest.

2.Describe the proper evaluation and management of the patient in traumatic cardiopulmonary arrest.

3.Identify patients in traumatic cardiac arrest for whom you should withhold resuscitation attempts.

**SECTION 3: SPECIAL POPULATIONS**

**Chapter 17 - Burns:**

1. Identify the basic anatomy of the skin, including:

a. Epidermal and dermal layers

b. Structures found within

2. List the basic functions of the skin.

3. Describe types of burns as a function of burn depth.

4. Estimate depth of burn based on skin appearance.

5. Estimate extent of burn using the rule of nines.

6. Describe the initial management of:

a. Thermal burns

b. Chemical burns

c. Electrical burns

7. List situations and physical signs that:

a. Indicate inhalation injury

b. Suggest carbon-monoxide poisoning

8. Discuss how carbon monoxide causes hypoxia.

9. Describe the initial treatment for carbon-monoxide poisoning.

10. Identify which patients may require transport to a burn center.

**Chapter 18 – Pediatric Trauma:**

1. Describe effective techniques for gaining the confidence of children and their parents.

2. Predict the most likely pediatric injuries based on common mechanisms of injury.

3. Describe and clinically apply the ITLS Primary and Secondary Surveys in the pediatric patient.

4. Demonstrate understanding of the need for immediate medical intervention and transport in potentially life-threatening circumstances, regardless of the availability of immediate parental consent.

5. Differentiate the equipment needs of pediatric patients from those of adults.

6. Describe the various ways to perform spinal motion restriction on a child and how this differs from an adult.

7. Discuss the need for involvement of EMS personnel in injury prevention programs for parents and children.

**Chapter 19 – Geriatric Trauma:**

1. Describe the changes that occur with aging.

2. Explain how these changes can affect your assessment and management of the geriatric trauma patient.

3. Describe how the assessment and management of the geriatric trauma patient are impacted by the aging process.

4. Explain how aging affects the ability of a geriatric patient to compensate for injury and shock.

**Chapter 20 – Trauma in Pregnancy:**

1. Understand the dual goals in managing the pregnant trauma patient.

2. Describe the physiological changes associated with pregnancy.

3. Understand the pregnant trauma patient’s response to hypovolemia.

4. List the types of injuries most commonly encountered in the pregnant trauma patient.

5. Describe the initial assessment and management of the pregnant trauma patient.

6. Discuss trauma prevention in pregnancy.

**Chapter 21 – The Impaired Patient:**

1. List signs and symptoms of patients under the influence of alcohol and/or drugs.

2. Describe some strategies you would use to help ensure cooperation during assessment and management of a patient under the influence of alcohol and/or drugs.

3. Define excited delirium.

4. List the special considerations for assessment and management of patients in whom substance abuse is suspected.

5. Describe what steps you need to take to protect yourself from exposure to possible drugs of abuse on the scene.

**APPENDICES**

**Appendix A – Standard Precautions:**

1. Identify the three most common bloodborne viral ill-nesses to which emergency care providers are likely to be exposed in the provision of patient care.

2. Describe precautions emergency care providers can take to prevent exposure to blood and other potentially infectious materials (cerebrospinal fluid, synovial fluid, amniotic fluid, pericardial fluid, pleural fluid, or any fluid with gross visible blood).

3. Describe procedures for emergency care providers to follow if they are accidentally exposed.

4. Identify those situations in which a higher level of personal protective equipment is needed, beyond the basic equipment used in daily patient care.

5. List vaccines and immunizations recommended for EMS personnel.

6. Discuss the signs and symptoms of airborne and droplet-transmitted diseases, and describe protective measures to reduce possible exposure to them. (online version only)

7. Discuss multidrug-resistant organisms and describe precautions for care of patients with multidrug-resistant illnesses and airborne/droplet diseases. (online version only)

**Appendix B – Analgesia and Pain Control for the Trauma Patient:**

1. Describe the benefits to the patient from controlling pain in the field.

2. Discuss indications, contraindications, and possible complications for use of analgesics.

3. List when to use specific agents for pain control.

**Appendix C – Multi-casualty Incidents and Triage:**

1. Compare and contrast the definitions of the terms disaster and multi-casualty incident.

2. Define the term span of control.

3. Describe the SALT triage scheme.

4. Classify patients based on priority need for treatment.