TRAUMA PROVIDER LEVEL 2

TEST PREPARATION POINTS

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CHAPTER 1: INITIAL ASSESSMENT

Initial Assessment Summary

- Initial assessment of trauma patients, which is the first step of the trauma nursing process, includes a primary and a secondary assessment. If life-threatening conditions are present, the nurse should stop assessing and work to correct the problem before proceeding again with the assessment.
- A team approach is best for care of a seriously injured trauma patient
- The A-I mnemonic helps assist nurses during the initial assessment of a trauma patient:
    - Primary Assessment:
        - **A –** Airway with simultaneous cervical spine protection
        - **B –** Breathing
        - **C –** Circulation
        - **D –** Disability (neurologic status)
        - **E –** Expose/environmental control (remove clothing and keep the patient warm)
    - Secondary Assessment:
        - **F –** Full set of vital signs/focused adjuncts (includes cardiac monitor, urinary catheter, and gastric tube)/family presence
        - **G –** Give comfort measures
        - **H –** History and Head-to-toe assessment
        - **I –** Inspect posterior surfaces

CHAPTER 2: AIRWAY AND VENTILATION

Airway and Ventilation Summary

- Assessing and managing an airway and ventilation is an essential part of both primary and secondary assessments.
- The emergency nurse must quickly recognize life-threatening airway and ventilation problems and provide interventions if appropriate and necessary
- Early identification of all injuries demands a collaborative team effort.
- Determining the patient's need for definitive airway management and advanced ventilator support is a major consideration for members of a trauma team.
- Reassessing airway and ventilatory status is a continuous process; thus, the nurse should be alert to changes so that they can ensure optimal patient outcome

CHAPTER 3: SHOCK

Shock Summary

- Shock results from the inadequate perfusion of tissues. This leads to a decrease in the supply of oxygen and nutrients necessary to maintain the body's metabolic needs.
- There are four types of shock:
  - Hypovolemic
  - Cardiogenic
  - Obstructive
  - Distributive
- Hypovolemic shock is the most common type of shock and it is a result of inadequate intravascular blood volume.
- The organs and some structures of the body respond to shock in a compensatory fashion. If those compensatory mechanisms fail and treatment isn't initiated, organ, tissue, and cellular ischemia ensure.
- Adhering to the six phases of trauma nursing helps ensure an organize approach to the assessment and management of compromises to a patient's airway, circulation, and breathing.

CHAPTER 4: BRAIN AND CRANIAL TRAUMA

Brain and Cranial Trauma Summary

- Head injury is the leading cause of deaths related to trauma.
- Irreversible brain injury development can be prevented through appropriate and early intervention.
- Secondary brain injury can result from cerebral hypoxemia, ischemia, cerebral edema, hypercarbia, hypotension, or increased ICP.
- Facilitating oxygenation, ventilation, and adequate circulatory status is a priority in treating patients with head injury. Other priorities include optimizing CPP and controlling ICP.
- Maintaining adequate ventilation and CBD are crucial to preserving neurologic function and preventing secondary injury.
- In order to maintain CPP, stabilize blood pressure and treat any rise in ICP with a team approach.

CHAPTER 5: OCULAR, MAXILLOFACIAL AND NECK TRAUMA

Ocular, Maxillofacial, and Neck Trauma Summary

- Ocular, maxillofacial, and neck injuries can range anywhere from minor to extreme.
- Knowing about potential complications, frequently assessing for signs and symptoms of those complications, and intervening in the appropriate way can prevent morbidity and potential mortality.
- Pain relief as well as addressing patient and family concerns will help prevent fear and anxiety.
- The goals are to prevent or limit further injury, reduce pain, fear and anxiety, and facilitating an appropriate follow up.
- Trauma nurses should discuss eye injury prevention strategies with patients, as most are preventable.

CHAPTER 6: THORACIC TRAUMA

Thoracic Trauma Summary

- Chest trauma can result in life-threatening injuries due to compromises in breathing and circulation.
- Nurses should be knowledgeable about anatomy, mechanism and pattern of injury, and the physiologic consequences of disruption of pulmonary and cardiovascular systems.
- Early identification requires a collaborative approach to be able to conduct the appropriate diagnostic and therapeutic interventions.
- A major consideration of trauma team members should be determining if a patient needs to be transferred to a trauma center or if they need operative management.

CHAPTER 7: ABDOMINAL TRAUMA

Abdominal Trauma Summary

- Abdominal trauma is often associated with injury to other regions of the body, including the chest.
- Due to the high vascularity of solid organs and the presence of major vessels, abdominal trauma can produce hemorrhage and hypovolemic shock.
- Since patients with abdominal injuries may not present obvious signs, so frequent reassessment is an essential component of the trauma nursing process.
- Unrecognized abdominal trauma is a common cause of death that is ultimately preventable.
- A trauma nurse is part of a larger team who recognizes the nature of multisystem trauma and the necessity of an organized and standardized approach to care.
- The nurse who is familiar with abdominal anatomy, mechanisms and patterns of injury, and the pathophysiologic consequences of injury as a basis for symptoms of abdominal trauma is crucial.

CHAPTER 8: SPINAL CORD AND VERTEBRAL COLUMN TRAUMA

Spinal Cord and Vertebral Column Trauma Summary

- Blunt and penetrating injuries to the bony vertebral column can lead to fractures, subluxations, or dislocations.
- Injury to the spinal cord can result in either incomplete or complete spinal cord injuries.
- Anatomic transection of the cord is uncommon, yet physiologic cord damage is often shown by motor, sensory, and sympathetic deficits in the nervous system.
- Trauma nurses should be knowledgeable about pattern of injury, including the forces applied to the vertebral column and the flexion, extension, and rotation resulting from those forces.
- The best approach for treating a patient with a spinal cord injury is a collaborative team approach. The goal of this approach should be to ensure adequate circulation and ventilation.

CHAPTER 9: MUSCULOSKELETAL TRAUMA

Musculoskeletal Trauma Summary

- Injury to the extremities are not typically the first priority in care for patients with multiple trauma; however, there is a high incidence of injuries to both the lower and upper extremities that can result in functional disability, loss, or both, and long-term rehabilitation.
- The risk of neurovascular damage ranging from motor, sensory, or vascular deficits to paralysis, hemorrhage, or shock is increased by the proximity of vessels and nerves to musculoskeletal structures.
- If the pelvis is disrupted or fractured, significant blood loss may occur due to the concurrent injury to the blood vessels in the pelvic cavity.
- Nurses should use a team approach to quickly correct any life-threatening compromises to optimal circulation.
- During the secondary assessment, nurses should assess the extremities for any signs of fracture or dislocation.
- Nurses should intervene early to splint a suspected fracture and reassess neurovascular function prior to and after splinting.
- Quick recognition and management of a suspected musculoskeletal injury through pain control, splints, traction, or external fixation often produce improved functional patient outcomes.

CHAPTER 10: SURFACE AND BURN TRAUMA

Surface and Burn Trauma Summary

- Surface trauma is any disruption in the integumentary system. It can be skin or a soft-tissue injury.
- Burns, lacerations, abrasions, avulsions, contusions, punctures, hematomas, and degloving injuries are all types of surface trauma. They are often encountered in an acutely injured patient.
- Soft-tissue injuries can involve muscles, tendons, cartilage, ligaments, vessels, and nerves.
- Surface trauma can be either the primary injury or a concurrent injury.
- No matter the extent nor the depth of a thermal burn, nurses should adhere to the principles outlined in an initial assessment to correct any life-threatening compromises to airways, breathing, or circulation.
- To determine the severity of a burn, examine the depth, extent, and location of the burn. Additionally, take the age of the patient into consideration as well as their preexisting health conditions.
- After ensuring airway clearance and adequate ventilation, begin intravenous fluid replacement if the patient's burn exceeds 20% TBSA.
- Follow guidelines for considering transfer of patients to a comprehensive burn unit.
- The trauma nursing process will affect the patient's response to the injury, as there can be a long, painful, and stressful recovery ahead.
- The nursing process is intended to prevent or correct pathophysiologic changes that may result in serious sequelae, such as shock, pulmonary failure, or infection.

CHAPTER 11: SPECIAL POPULATIONS: PREGNANT, PEDIATRIC, AND OLDER ADULT TRAUMA PATIENTS

Pregnant, Pediatric, and Older Adult Trauma Patients Summary

- Caring for special populations that have experienced trauma requires knowledge of their unique anatomic and physiologic differences.
- Instances of trauma in special populations should be treated differently than typical occurrences of trauma.
- Assessment, intervention, and evaluation should be guided by the unique response to traumatic injury.

CHAPTER 12: DISASTER MANAGEMENT

Disaster Management Summary

- Color-coded triage disaster categories:
  - Emergent (red) → Life-threatening injuries
  - Urgent (yellow) → Major illness or injury that needs treatment within 30 to 60 minutes
  - Non-urgent (green) → Walking wounded, but can self-treat
  - Expectant (black) → Dead or expected to die
- The DISASTER paradigm:
  - Detect
  - Incident Command
  - Scene Security and Safety
  - Assess Hazards
  - Support Required
  - Triage and Treatment
  - Evacuation
  - Recovery
- Disaster management is complex and multifaceted. It requires advanced preparation, training, and a systems-level view of the community, hospital, and its staff.
- Disaster management involves the input and participation of local, state, and federal authorities and agencies.
- Nurses are an integral part of disaster management, especially planning, implementation, and ultimately, response.