Trauma ICU Exam Content Outline

Exam Objective:
To measure the overall level of clinical knowledge in the area of the Trauma Intensive Care Unit.

Knowledge Domains - Trauma ICU Exam

- Cardiovascular: 21%
- Endocrine: 5%
- Gastrointestinal: 3%
- General Knowledge: 12%
- Multisystem: 8%
- Neurology: 3%
- Pulmonary: 15%
- Renal: 16%
- TICU Pharmacology: 15%

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I. **Cardiovascular**

A. Knowledge of anatomy and physiology of cardiovascular system.

B. Knowledge of pathophysiology and disease processes related to the cardiovascular system:
   1. Cardiac Tamponade
   2. Compartment Syndrome
   3. Deep Vein Thrombosis
   4. Myocardial Infarction

C. Knowledge of preload, afterload, and mechanism of contractility.

D. Knowledge of blood and blood products:
   1. Administration
   2. Compatibility criteria
   3. IV Catheter selection
   4. Blood transfusion reactions

E. Knowledge of invasive hemodynamic monitoring:
   1. Waveform interpretations
   2. General knowledge of CVP

F. General knowledge of PA systolic, diastolic, and PCWP.

G. Knowledge and recognition of different types of shock:
   1. Cardiogenic

H. Knowledge of troubleshooting hemodynamic.

I. Knowledge of defibrillators, AED, and pacemakers.

J. Knowledge of ACLS guidelines:
   1. Defibrillation guidelines
   2. Treatment protocols

K. Knowledge of hemodynamic changes in MI patient.

L. Knowledge of Rhythm Interpretation:
   1. EKG changes with electrolyte imbalance
II. Endocrine
   A. Knowledge of pathophysiology and disease processes related to Endocrine System:
      1. Diabetes Mellitus (Type I and Type II)
      2. Diabetes Insipidus (Neurogenic)
      3. DKA
      4. SIADH

III. Gastrointestinal
   A. Knowledge of pathophysiology and disease processes related to Gastrointestinal System.
   B. Knowledge of impact of blunt trauma to abdomen.
   C. Knowledge of nursing interventions for patients with altered nutritional intake:
      1. TPN administration
      2. Lipid administration

IV. General Knowledge
   A. Knowledge of disease processes common in the Trauma ICU.
   B. Knowledge of appropriate phlebotomy technique and site selection.
   C. Knowledge of management and complications of IV lines:
      1. Central Lines
      2. PICC lines
   D. Knowledge of nursing interventions for patients with altered nutritional intake:
      1. TPN administration
   E. Knowledge of blood and blood products.
   F. Knowledge of intravenous procedures.
G. Knowledge of patient education regarding radiologic procedures.
H. Knowledge of cardiopulmonary effects on obstetric population

V. Multisystem
A. Knowledge of components for performing a comprehensive multisystem assessment on patients with application of interventions specific to the Trauma Intensive Care Unit patient.
B. Knowledge of appropriate nursing interventions for multiple trauma injury patients:
   1. Crush-type injuries
   2. Mandibular-type injuries
   3. Seat belt type injuries
C. Knowledge of complications in trauma patients.
D. Knowledge of disease processes with multisystem impact common in TICU.
E. Knowledge, recognition and management of different types of shock:
   1. Hypovolemic
   2. Neurogenic
F. Knowledge of appropriate interventions for multiple trauma injury patients.

VI. Neurology
A. Knowledge of pathophysiology and disease processes related to the Neurological System.
B. Knowledge of performing a comprehensive neurological assessment.
C. Knowledge of the anatomy and physiology of the brain and spine.
D. Knowledge of the anatomy and physiology of the brain as it relates to neurological events.
E. Management of:
   1. Closed Head Injury
   2. Craniotomies
   3. Seizures
      a. Types
      b. Treatment in acute care setting
   4. Classification of Pain Closed Head Injury

F. General Knowledge of ICP/CPP monitoring:
   1. Normal parameters

VII. Pulmonary

   A. Knowledge of pathophysiology and disease processes related to the pulmonary system:
      1. Pulmonary contusion
      2. Tension pneumothorax

   B. Knowledge of mechanical ventilation:
      1. Silencing alarms
      2. Troubleshooting

   C. Knowledge and interpretation of ABG’s:
      1. Respiratory Acidosis
      2. Respiratory Alkalosis
      3. Metabolic Acidosis
      4. Metabolic Alkalosis

   D. Knowledge of ventilator equipment and settings:
      1. Tidal volume
      2. IMV
      3. PEEP
      4. FIO2
      5. Complications of PEEP
E. Knowledge of emergency intubation
   1. Confirmation of correct placement

VIII. Renal
   A. Knowledge of renal pathophysiology as it relates to post-traumatic injury.
   B. Knowledge of renal system disease processes.
   C. Knowledge of high-risk populations for intra-renal failure.

IX. TICU Pharmacology
   A. Knowledge of all ACLS medications including indications and dosages.
   B. Knowledge of medications used to effect cardiovascular status such as cardiac output and B/P.
   C. Knowledge of different types of fluids used for fluid replacement.
   D. Knowledge of medication used for conscious sedation.
   E. Knowledge of reversal agents for medications used in conscious sedation.
   F. Knowledge of medications used as paralytics.
   G. Knowledge of drugs used in emergency situations.
   H. Knowledge of commonly used medications that will impact preload, afterload and contractility.
   I. Knowledge of TPN Administration Techniques.
   J. Knowledge of antagonist for meds such as narcotics and anticoagulants.