

Critical Care Selectives
University of Kansas School of Medicine
Fourth Year Medical Education

I. Purpose Statement

Critical Care is an integral aspect of medical education. The purpose of the 4th year critical care selective rotation is to allow students to participate in the management of the critically ill patient in a specialty area of interest not experienced during the third year of training. Each sub-specialty critical care rotation provides the student with the core knowledge necessary for the care of critically ill patients, an appreciation of management issues unique to this patient population and the technical skills that one must incorporate for effective patient care. The student will act as an integral part of the critical care team with an emphasis on increased patient care responsibility and autonomy. Most importantly, this educational purpose will be founded on the core competencies set forth by the University of Kansas School of Medicine.

II. Symptom Complexes

Critical care selectives will provide exposure to a number of core symptom complexes considered crucial to the management of the patient with critical illness.

Core Critical Care Principles: The student will be able to discuss the core principles of critical care management including, DVT and stress ulcer prophylaxis, nutrition, pressure wound and skin care, delirium, sedation and pain management as they pertain to each critical sub-specialty.

Organ System Compromise: Develop an integrated approach to evaluating and discussing the patient with either single or multi-organ compromise, including but not limited to cardiac, renal, gastrointestinal, pulmonary, neurologic, infectious and hematologic. Describe how each system functions independently or dependently of each other in regards to the specific critical illness.

Respiratory Dysfunction: Recognize patients with respiratory distress, manifested as an inability to either oxygenate or to ventilate and discuss etiologies of respiratory failure based on different patient populations. The student should exhibit a general understanding of invasive and noninvasive means of mechanical ventilation.

Hemodynamic Compromise: Manage patients with hemodynamic instability admitted for monitoring and treatment of arrhythmias, hypotension or hypertension. Describe the different types of shock states including cardiogenic, distributive (septic) and hypovolemic and discuss the importance of maintaining the physiologic balance of oxygenation and tissue perfusion in caring for these patients.

Metabolic Compromise: Recognize and discuss management of patients with complications of renal failure including acid-base imbalance, volume overload and electrolyte abnormalities.

Palliative Care: Evaluate the critically ill patient in regards to terminal illness and end-of-life issues. The student will be exposed to family meetings that will deal directly with palliative care issues.

III. Critical Care Course Objectives

Patient Care - Students are expected to achieve the knowledge, skills, attitudes and behaviors to enable them under supervision to demonstrate increasing clinical capabilities as they progress toward residency, specifically to:

- Performs an efficient and focused comprehensive history and physical exam and presents an appropriate plan of care for critically ill patients.
- Observe and participate in procedural opportunities pertinent to each selective such as central and arterial line placement and endotracheal intubation.
- Act at a resident level when assuming care for new admissions, writing orders and discussing cases directly with residents, fellows and attendings.

Medical Knowledge - Students will be able to use an appropriate fund of knowledge of current and evolving concepts and practices in critical care.

- Select and interpret pertinent clinical information including radiographic, pharmacologic and laboratory data.
- Appropriately use documentation, protocols, data storage and retrieval pertaining to each critical care sub-specialty and the electronic medical record (O2)
- Attend weekly didactic conferences and patient-based learning experiences specific to the sub-specialty critical care selective.
- Participate in clinical skills assessments and simulated patient encounters.

Practice-Based Learning/Improvement - Students should demonstrate critical and analytic thinking, awareness of the limitations of their knowledge and skills, and commitment to continuous learning and development.

- Demonstrate the integration of evidence-based medicine and similar strategies into solving clinical problems.
- Use electronic medical record and other information technology to support clinical practice and personal education.
- Use analysis of experiences to improve performance and continuously update personal clinical knowledge and skills.

Interpersonal and Communication Skills - The care of the critically ill patient is complex and multidisciplinary. It is important that students refine their ability to display interpersonal and

communication skills that result in effective information exchange and teaming with patients, their families and other health professionals in a concise, accurate and respectful manner.

Professionalism - It is important that those caring for critically ill patients integrate the concepts of altruism, accountability, excellence, duty, service, honor, integrity and respect for others into all aspects of their care.

- Understand informed consent and patient confidentiality.
- Discuss the importance of a culturally sensitive, patient and family centered approach to care, which integrates the emotional and spiritual needs of the patient and family, especially in relation to serious progressive illness or end of life.

System-Based Practice - Students will be prepared to function effectively in teams and within organizational structures. They will demonstrate the ability to call on system resources to provide optimal care.

Specific expectations for the PICU:

Principles essential to providing patient care as a fourth-year medical student:

- Taking on primary responsibility for the patient.
- Focusing histories, physicals, and oral and written communication appropriately.
- Sharing information effectively with a patient and family.
- Prioritizing and organizing work effectively.
- Anticipating what a patient will need during the course of hospitalization (i.e. when they need to be re-examined, when a lab needs to be repeated, when additional therapy is necessary, when additional history needs to be obtained, discharge criteria) and communicating this information effectively in hand-overs.
- Re-evaluating a patient when you take on their care (i.e. the assessment and plan, as well as the clinical status) and looking further when the clinical picture does not fit.
- Continuing to think about and re-assess the patient during the course of the day.
- Coping with uncertainty in patient care issues (i.e. knowing what you know and what you don't know, accessing best resources, and knowing when and how to get help).
- Functioning as a "team player" with residents, attendings, nurses, ancillary staff and all others involved in the care of the patient.
- Coordinating the care of your patient during hospitalization and in planning for discharge.

You are expected to perform at the level of an Intern and will be evaluated accordingly. You will write orders but they will need to be co-signed by the senior resident or attending. The PICU Selective student is permitted to assume the same responsibility to that of an intern for inpatient management which includes the following:

- Conduct and record complete patient histories and physical examinations.
- Write patient care orders.

- Observe hospital policies and protocols.
- Perform or assist with medical procedures as available
 - Nasopharyngeal suction
 - Aerosol breathing treatment
 - IV start
 - Lab draw
 - Straight bladder catheterization
 - Lumbar puncture
 - NG tube placement
- Follow the patient's progress and record daily progress notes.
- Communicate with the patient and/or patient's family.
- Research problems and conduct textbook and literature review on case subjects and communicate findings to attending physician, residents and students.
- Resolve problems and questions from nursing and ancillary services, after discussion with your senior resident.
- Notify and consult with the attending physician on all significant management decisions.

Duties:

- Overnight call not required but encouraged, discuss with resident on with you as well as attendings.
- You should have 2 weekends off a month and 2 weekends of rounding.
- Be prepared and participate in check out rounds, then you may leave for the day.
- Participate fully in all aspects of care of the patients assigned to you.
- Understand trending patterns when updating your progress notes
- You will present topics for the team, assigned by the intensivists and residents.
- Complete a card (provided) with the name of three patients you were involved with. Describe a professional interaction with attending dealing with the patient, such as discussion points, and lessons learned from the patient.
 - Example: a mini field trip in the hospital to the pharmacy to see how they prepare TPN.