

Clerkship Name: Pediatric Critical Care Medicine

Clerkship Objectives:

GOALS - The goal of the fourth-year PICU clerkship is to prepare the student to understand critical illness in children. Students will learn how to efficiently diagnose, evaluate, and manage both common and unusual pediatric critical illnesses in the pediatric intensive care unit. They will also assume responsibility for the care of 2-3 critically ill patients

- Under guidance of an intensivist-preceptor, we provide exposure to the breadth and depth of pediatric critical care medicine by enabling students to function as a contributing member of the PICU team.
- We introduce the principles of critical care medicine and the rationale behind various therapeutic interventions through self-directed learning activities.
- We provide students with the opportunity to develop knowledge and skills necessary to provide patient care: to diagnose various diseases, and to determine criteria for PICU admission while fostering the development of lifelong learning skills.
- We foster student growth in the areas of communication skills, practice-based learning, medical ethics and moral reasoning, professionalism and social and community context of health care.

PHYSICIANSHIP OBJECTIVES - Complementary to specific knowledge and skills objectives, students are expected to demonstrate ongoing growth in the area of interpersonal and communication skills, medical ethics and moral reasoning, practice-based learning and improvement and professionalism. During the clerkship, the student will:

Professional Behavior and Moral Reasoning

- Recognize the ethical and legal aspects of withdrawal and withholding of life support and the appropriate use of the DNAR order (PBMR-1)
- Behave with accountability and dependability (PBMR-5)
- Behave with honesty, integrity, respect, and compassion toward all patients, families, students, faculty, and members of the healthcare team (PBMR-3)
- Anticipate patient care needs and address changing priorities (PBMR-7)

Effective Communication and Interpersonal Skills and System Awareness and Team-Based Care

- Provide verbal patient report that accurately summarizes the patient's condition and need for level of care (PCMC-3)
- Organize and verbally communicate thoughts regarding patient care to health care team in order to demonstrate closed loop communication (ECIS-3)
- Communicate effectively with patients and their surrogates, including counseling and education skills (ECIS-1, ECIS-3, PCMC-6)
- Function as a "team player" with residents, attendings, nurses, and ancillary staff. (SATBC-2a,2b)

Continuous Learning and Quality Improvement

- Student must be able to critically evaluate his/her performance (CLQI-2)
- Apply evidence-based medicine (EBM) principles to patient care (CLQI-3)

Patient-Centered Medical Care

- Document patient care appropriately in EMR (PCMC-5)

Community Engagement and Service

- Identify advocacy and equity issues as they arise during the course of your daily clinical care
(CES 1-2)

HISTORY and PHYSICAL OBJECTIVES Students will perform complete histories and physical exams on patients as well as in simulated settings.

- Perform a focused Physical Exam (PCMC-2)
- Elicit complete History from critically ill patients/caregivers of critically-ill children (PCMC-1)

SKILLS OBJECTIVES – During simulated practicums, students will learn to perform skills relevant in the PICU setting.

- Execute the skills required to perform CPR (PCMC-4)
- Execute the skills required to perform tracheal intubation (PCMC-4)

- Execute the skills required to place a central venous catheter (PCMC-4)
- Execute the skills required to perform an arterial puncture (PCMC-4)

KNOWLEDGE OBJECTIVES Topics divided into Respiratory, Hemodynamic, Neurologic and other miscellaneous topics.

Respiratory:

- Discriminate amongst the etiologies and treatment options for acute hypoxemic respiratory failure and ventilatory failure and propose a logical plan of care to manage patients on mechanical ventilatory support understanding the utility of the following when appropriate (MKS-1b, MKS-1e, MKS-3a, MKS-3b)
 - Non-invasive ventilation
 - Intubation and mechanical ventilation
 - Modes of mechanical ventilation including:
 - Synchronous intermittent mandatory ventilation(SIMV)/volume control
 - SIMV/pressure control
 - Pressure support ventilation
 - High frequency oscillatory ventilation
- Provide ventilatory support settings that appropriately use machine set PEEP and verbalize the relationship between ventilator settings and hemodynamics, arterial blood gases and complications of mechanical ventilation (MKS-1e, MKS-3b)
- Interpret simple and mixed acid-base disorders and adjust ventilator settings appropriately (MKS-1d, MKS-3a)

Hemodynamic:

- Differentiate the following four categories of shock (hypovolemic, distributive, cardiogenic and obstructive) in terms of pathophysiology, hemodynamic profiles and patient treatment (MKS-1b, MKS-1e)
- Implement the suitable volume replacement therapy (MKS-1e, MKS-3b)
- Discriminate between the choice of a vasopressor and an inotrope for drug therapy in a patient with shock (MKS-1e, MKS-3b)
- Evaluate the hemodynamic information obtained from a central venous catheter. (MKS-1d, MKS-3a)

Neurologic:

- Discriminate between causes of altered mental status: including seizure, infection, trauma and metabolic derangement (MKS-1b, MKS-3a)
- Differentiate the appropriate indications for the administration of neuromuscular blocking agents from sedatives (MKS-1e, MKS-3b)
- Given a patient with mental status changes, apply the Glasgow Coma Scale scoring system (MKS-1d, MKS-3a)
- Discriminate between persistent vegetative state and brain death (MKS-1d, MKS-3a)

Miscellaneous:

- Given a patient with fever, justify a rationale for evaluation of the patient's fever given common sources in critically ill patients (MKS-1b, MKS-3a)
- Summarize a plan for approach to treatment of a patient with a GI bleed of unknown etiology (MKS-1e, MKS-3b)

- Compare different assessment and management plans for patients in critical care with a diagnosis of poisoning (MKS-1e, MKS-3b)