

4. PEM Fellow Rotation in Pediatric Critical Care

Experience:

The pediatric critical care rotation is a one month long rotation completed in the first year of PEM subspecialty training. During this time, PEM fellows function as a full time member of the critical care team to gain experience in the acute as well as longer term management of the critically ill child. The rotation takes place in the pediatric intensive care unit (PICU) at UNMH Children's Hospital, which has 20 ICU level beds. The critical care service patient population is comprised of a mix of medical and subspecialty medical patients, as well as patients on whom the critical care team is consulted (multi-system trauma patients, post-operative major surgery patients, etc.).

Goals:

1. Gain experience in the diagnosis and management of the critically ill child, including airway management, ventilator management, cardiovascular support and resuscitation.
2. Gain experience in the management of potentially life-threatening illnesses.
3. Become more familiar with the indications for procedures used in the care of critically ill children as well as proper technique.
4. Gain experience dealing with the families of children who are critically ill or deceased.
5. Become more familiar with end of life decision making.

Objectives:

After completing this rotation, the fellow will demonstrate the ability to:

Patient Care

1. Recognize and manage isolated and multi-organ system failure and assessment of its reversibility.
2. Integrate clinical assessment and laboratory data to formulate management and therapeutic plans for critically ill patients.
3. Provide ventilatory support for all types of critical care patients to include medical and surgical patients.
4. Evaluate blood gases (arterial, venous, capillary, and end-tidal carbon dioxide) and appropriately adjust mechanical ventilation on patients.
5. Provide emergency airway management – BVM and endotracheal intubation.
6. Evaluate, diagnose and treat patients with acute respiratory failure (to include asthma, ALI / ARDS, aspiration).
7. Evaluate and prescribe appropriate antibiotics to those patients with severe pneumonia, sepsis, and other serious bacterial infections.
8. Provide appropriate fluid management for those patients with fluid and electrolyte imbalances.
9. Provide care for the patient with CNS trauma to include management of intracranial hypertension.
10. Provide support for patients with acute and chronic renal failure. Discuss indications and risks of CVVH, hemodialysis, peritoneal dialysis.
11. Provide adequate nutrition to critically ill patients.
12. Resuscitate, stabilize and transport patients to the PICU and within the hospital.
13. Participate in decision making in the admitting, discharge, and transfer of patients in the intensive care unit.

Medical Knowledge

1. Describe the pathophysiology, assessment and treatment of organ dysfunction in critically ill pediatric patients.
2. Discuss the indication for different modes and types of mechanical and non-invasive ventilation.
3. Discuss the indications for nitric oxide and other medical gases.
4. Discuss indications and place appropriate intravascular catheters to include arterial catheter and central venous catheter. Interpret data provided by each of these catheters.
5. Describe the major complications (infection, rejection) of the critically ill immunocompromised patients (including transplant patients).
6. Discuss indications and risks of agents used for intravenous sedation, paralysis and procedural sedation and analgesia.
7. List and discuss the indications for vasoactive medications, such as dopamine, epinephrine, norepinephrine, milrinone, and vasopressin and implement their use when necessary.
8. Discuss indications and risk of parenteral and enteral nutrition.

Practice-based Learning and Improvement

1. Make changes in practice using performance self-improvement assessment.
2. Effectively search the medical literature, analyze the literature and determine its relevance for specific patients.
3. Effectively use online medical resources.
4. Facilitate professional learning with peers.
5. Review challenging cases to identify better patient care management strategies.

Interpersonal and Communication Skills

1. Demonstrate active listening skills including appropriate non-verbal behavior.
2. Effectively communicate with patients and families during critical illness, including end of life issues.
3. Demonstrate respect for individual patient concerns and perceptions.
4. Effectively communicate and collaborate with the team including nurses, respiratory therapists, and other health care providers and specialists.
5. Accurately record findings and assessments in the medical record in a timely and legible manner.

Professionalism

1. Maintain confidentiality of patient information according to hospital and HIPAA regulations.
2. Respect patient self-autonomy and the right of the patient and a family to be involved in care decisions.
3. Place the needs of patients above personal concerns.
4. Develop an ethically sound relationship with patients and families.
5. Demonstrate appropriate respect for other health care professionals.
6. Demonstrate sensitivity and compassion to a variety of patient populations.
7. Demonstrate respect for diversity of opinion, age, gender and ethnicity.
8. Develop awareness of ethical and medical-legal considerations in the care of patients in the Intensive Care Unit.
9. Apply sensitivity when evaluating cultural influences on patient and family behavior.
10. Responds to pages and messages promptly.
11. Is punctual and respectful of others' time.

12. Effectively instruct and mentors residents and students.

Systems-based Practice

1. Recognize system errors and recommend quality improvements.
2. Describe non-acute provider settings (Rehab, Skilled Nursing).
3. Collaborate with other health care providers to facilitate orderly and effective transitions from one care environment to another such as floor-based nursing settings, rehabilitation settings, chronic care facilities, and home care settings.
4. Demonstrate an awareness of and skill in resource-efficient care.
5. Demonstrate advocacy for patients within the health care system.

Policies on Duty Hours, Supervision, Call Schedule, Back-up Call, On-call Activities and Expectations during Critical Care Rotation

Duty Hours: The PEM fellows are on call in-house no more than every fourth night and average every 4th night. During in-house call, fellows are provided with a sleep room, shower, and lounge and food facilities. Distribution of time during this month is 100% clinical.

- a. Duty hours are defined as all clinical and academic activities related to the residency program, i.e., patient care (inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities and scheduled academic activities such as conferences. Duty hours do not include reading and preparation time spent away from the duty site.
- b. Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.
- c. Residents must be provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call. One day is defined as one continuous 24-hour period free from all clinical, educational and administrative activities.
- d. Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

Supervision: PEM fellows will be under the supervision of the critical care attendings for clinical decision making and the performance of procedures. All attending physicians are subspecialty board certified or board eligible in Pediatric Critical Care.

Evaluation: The PICU faculty are responsible for supplying the program director with a written evaluation of the subspecialty resident's rotation using a global evaluation form and informing the resident and program director of any problems or issues which may arise during the month. Acceptable performance will be dependent on attendance and acceptable performance for level on all six ACGME clinical competency areas.