



*College of Osteopathic Medicine  
3200 Grand Avenue  
Des Moines, Iowa 50312*

Bala Napa, M.D. Jessica Zuzga-Reed, M.D.  
Mercy Medical Center  
Pediatric Critical Care  
Phone: 515-643-3330

Office for Clinical Affairs  
Des Moines University  
Phone: 515-271-1727  
Fax: 515-271-1727

## **PEDIATRIC INTENSIVE CARE MERCY MEDICAL CENTER – DES MOINES, IOWA GENERAL DESCRIPTION**

### **Elective Rotation**

This elective rotation in the PICU is a four (4) week experience structured to develop the student's decision-making, organizational and cognitive skills and to apply didactic material in a clinical setting. This will be an elective rotation for 4<sup>th</sup> year medical students only.

### **Purpose**

Clinical experiences are intended to assist the students' transition from didactics to integrated clinical evaluation, decision-making, and management of patients with medical problems. In addition to gaining specific skills in pediatric critical care during this rotation, the student should also continue to develop skill in systematic medical problem solving and patient management abilities, establish or reinforce patterns of independent learning and self-evaluation, improve skills in communication and organization, as well as medical record keeping. The PICU rotation will also provide a broad exposure to diverse post-surgical, medical, cardiac and clinical problems.

### **At the completion of this rotation, the student should have reached certain broad goals, including:**

- development of systematic medical problem solving and patient management abilities in the PICU setting
- expanded knowledge of common PICU problems, their diagnosis, and management
- improved PICU clinical skills, including both diagnostic and therapeutic procedures
- Students are expected to assist in the diagnosis and management of common PICU problems under supervision.
- The student should develop fundamental psychomotor skills by performing routine basic procedures under direct supervision.
- the ability to organize, manage, and synthesize medical data on several patients in the PICU setting
- develop communication skills needed to accurately relay patient information to other members of the health care team
- enhanced knowledge of common lab tests, values, and appropriate usage
- enhanced skills regarding ordering and interpreting radiographic studies
- knowledge of names, indications, dosages, and adverse reactions to commonly used medications in the PICU setting

## **PROFESSIONAL CONDUCT & ATTITUDES**

**Students have a personal responsibility for their own education and for development of life-long learning skills.** They must interact with all staff, including their peers and their teachers, in a manner that demonstrates respect for each individual and that promotes personal and group learning.

## PREREQUISITES

Well developed data gathering skills, knowledge of ethical principles, and a basic understanding of health law issues are essential foundations for the student. Each student should have completed a Basic Life Support class prior to beginning this rotation. Pediatric Advanced Life Support, although not required, would be useful in this rotation as well.

## OBJECTIVES

### Affective Objectives

1. Gain confidence in the rapid establishment of a doctor-patient relationship in the PICU setting.
2. Understand how to react (attitude and behavior) and assist in a critical situation.
3. Understand the psychosocial, social and economic status of PICU patients.

### Basic Psychomotor Objectives

At the completion of the PICU rotation, the student should be able to apply osteopathic principles and practices to:

1. Perform and record an abbreviated history, focused physical examination, and obtain other pertinent history quickly and efficiently.
2. Prioritize patient management.
3. Demonstrate knowledge of basic life support and resuscitation methods.
4. Use laboratory tests appropriately.
5. Initiate treatment with supervision.
6. Recognize the need for and appropriateness of consultation and/or referral.
7. Anticipate possible treatment actions, reactions, and interactions.

In addition, students should be able to demonstrate:

1. knowledge of basic life support and resuscitation.
2. knowledge of pertinent pathophysiology in the urgent and ICU patient, to include shock, fluid imbalance, and cardiopulmonary resuscitation.
3. knowledge of rapid stabilization techniques for critically ill patients.
4. knowledge of chest tube placement, endotracheal intubation, suturing techniques, venous, arterial access and/or other techniques as directed.

### Basic Cognitive Objectives

For each of the following core areas, the student should be able to apply osteopathic principles and practices to:

- the assessment of critically ill children
- basic airway management
- recognition and treatment of types of shock
- recognition and management of respiratory failure
- recognition and management of renal failure and electrolyte disorders and fluid management
- sedation and pain management in the PICU setting
- apply strategies for prevention and management of:
  - ventilator associated pneumonia
  - catheter related infections
- assessment and management of pediatric trauma of the chest
- understanding the risks of transferring patients
- utilization of protocols in standardizing care
- communication with families and patient
- care of the pediatric post-operative patients

**The student should also develop understanding of the following:**

- arterial blood gases (ABGs)
- acid-based management
- capnography
- knowledge of common antibiotics
- sedation/analgesia in the PICU setting

## IMPLEMENTATION

Course objectives are to be accomplished in a College affiliated hospital or clinical facility, under supervision. Basic objectives **must** be covered during the rotation to assure adequate student preparation for Board examinations and other evaluations such as post-rotation examinations. The use of diverse methods appropriate to the individual and the clinical site are encouraged, but patient-centered teaching is optimal.

Didactic methods to achieve required objectives include:

- reading assignments
- lectures
- computer-assisted programs (if available)
- student attendance at/participation in formal clinical presentations by medical faculty
- PICU case study assignments

Clinically oriented teaching methods may include:

- supervised and critiqued clinical workups of patients seen in the PICU
- assignment of limited co-management responsibilities under supervision
- assigned, case-oriented reading case presentations

Four levels of achievement are identified:

- familiarity with a variety of medical procedures through observation and assisting
- proficiency in clinical procedures through actual supervised performance
- awareness of the availability of various medical procedures and their use
- understanding of the complex relationship between the pediatric family and the provider and staff

## PICU DAILY (ROUTINE) SCHEDULE

8:00am	Arrive in PICU to begin your day.
Assessment	Clinical assessment of patients, write notes, and discuss this information with attending physician.
Rounds	Complete rounds with attending PICU physician.
Ancillary Staff	Observe the PICU nursing staff and follow your specifically assigned patients. Communicate with OT/PT/speech therapy, dietary, and pharmacy as necessary.
New Admissions	Complete H&P, assessment, and following of these patients.
Procedures	Participate in procedures (ET tube, PIV, Foley, NG tube, central venous line, arterial line, chest tube, etc)
Notes	Assist in writing patient notes.
5:00pm	Log the work done, including procedures and then discuss with attending PICU physician

OTHER ACTIVITIES IN PICU (when possible):

1. Pre-op assessment of children with congenital cardiac defects, watch the surgical procedure in the OR under the supervision of Dr. Hockmuth and his team, follow the patient in PICU.
2. Watch ECHO cardiography done by Pediatric Cardiology.

3. Watch Cath Lab procedure under the supervision of Pediatric Cardiology.

## **ASSIGNMENT**

Each student is required to complete, by the end of the rotation, a powerpoint presentation on PICU topic or case they find interesting. This will be presented to Drs Napa and/or Heggen, and possibly to other clinical faculty and/or students as well. Please see Dr. Napa for specific details and requirements regarding this assignment.

## **TEXTS AND RESOURCES**

**No Textbooks are Required or Recommended.**

### **ADDITIONAL RESOURCES**

Required: PICU 3-Ring Binder: With information provided for your review.

Recommended: Website: [www.pted.com](http://www.pted.com)