ROTATION DESCRIPTION

ROTATION TITLE
Pediatric Intensive Care Unit (PGY2 Pediatric Pharmacy)

PURPOSE
The purpose of the Pediatric Intensive Care Unit (PICU) experience is to allow the resident to become an independent practitioner in the area of pediatric critical care. The PGY2 resident will further develop and refine advanced pharmacotherapy skills in the prevention, identification, and resolution of drug- or nutrition- related problems in critically ill children. It is expected that by the end of the experience, the PGY2 resident will be autonomous and an expert in care of these patients. The PGY2 resident must assume complete responsibility for patient care, ensuring optimal drug therapy outcomes.

LEARNING EXPERIENCE DESCRIPTION
The PICU rotation (at least 1 month) is one of the foundation experiences for all PGY2 Pediatrics residents.

The PICU is an environment that encourages the resident to incorporate their baseline pharmacology and pathophysiology knowledge with current evidence-based medicine and to further develop their precise clinical evaluation skills as they actively formulate and monitor therapeutic plans for critically ill children. Patients in the PICU range from 1 day to 18 years of age and have a wide variety of therapeutic issues. The PICU team responds to pediatric maydays on the MUSC Main Hospital and Children's Hospital campuses, which the resident will attend with the preceptor to further develop skills in pediatric advanced life support. The resident's clinical assessment, knowledge base, and critical thinking skills will be enhanced during the learning experience.

A typical day starts by preparing for interprofessional rounds which begin at approximately 8:30 AM, following Pediatric Morning Report (8 AM to 8:30 AM, Monday through Thursday) or Pediatric Grand Rounds (8 AM to 9 AM, Friday) and last approximately 3 hours. The census is generally 8 to 11 patients. Review of patient problem lists and current therapies as well as evaluation of new admissions, along with literature retrieval and evaluation, occurs between 12 PM and 2 PM daily. The resident will meet with the preceptor in the afternoon to discuss patients and educational topics or literature evaluation **(Appendix).** Afternoon PICU checkout rounds begin at 4 PM. The resident should provide prompt feedback to the preceptor of topics not being properly explained and areas of improvement.

LEARNING EXPERIENCE ACTIVITIES
During this month, the resident will:

- Be punctual and professional.
  (R1.1.1; R2.1.1)

- Develop an effective strategy for prioritizing daily activities to ensure completion of all necessary tasks in a timely manner.
  (R2.2.1; R2.4.3)

- Round twice daily with the PICU team. Communicate, in a systematic and logical manner that secures consensus and advocates for quality patient care, all recommendations. If necessary, the PGY2 resident communicate with other health care providers details relevant to drug and nutrition therapy that are necessary for the patient's hospital or follow-up care. (R1.3.1; R1.4.1; R2.1.1; R2.8.1; R2.10.2; R2.11.1; R2.11.2)

- Generate patient specific databases for making drug therapy recommendations from numerous databases (patient medical record, MAR, nurses notes, Oacis, Practice Partner, and medication reconciliation database).
  (R2.4.1; 2.4.3; R2.11.1; E2.1.1)

- Define patient-specific pharmacotherapy and nutrition goals that consider disease state-, age- and drug-specific information; ethical considerations; and quality of life issues.
  (R2.6.1)

- Design and implement therapeutic regimens, which include monitoring plans, to achieve the established patient-specific goals and to measure achievement. Identify and incorporate evidence-based medicine, quality-of-life issues, pharmacoeconomics, and ethical considerations into each regimen. Interpret monitoring parameters effectively.
  (R2.6.2; R2.7.1; R2.9.1; R2.10.1)

- Evaluate each patient's drug or nutrition therapy throughout the day; frequency will be determined by patient acuity. Determine appropriateness of the drug/ nutrition formulation, dose, frequency, and route and method of administration; adherence; therapeutic duplication; therapeutic outcome; cost; and avoidance of adverse drug reactions and negative interactions. Know the recommendation from consultants. Display initiative in anticipating, preventing, identifying, and resolving pharmacy- or nutrition-related patient care problems. Redesign the pharmacotherapy or nutrition plan, as needed.
  (R1.3.2; R2.4.1; R2.4.2; R2.4.3; R2.5.1; R2.5.2; R2.6.2; R2.9.1; R2.10.1; R2.10.3)

- Participate in medical emergencies. Demonstrate skill in administering or supervising the administration of drugs during medical emergencies, including the intravenous, intramuscular, intraosseus, and endotracheal routes.
  (R2.2.1; R2.9.2; R3.7.1; R3.7.2; R4.1.3; R4.1.4)

- Actively communicate with patients and/or their families/caregivers daily the drug/ nutrition regimen that their child is receiving and discharge plans in order to

establish effective pharmacist/patient and caregiver relationships, understanding the unique issues involved in caring for a critically ill child, including end-of-life concerns, ethical dilemmas, and culturally diverse views of these concepts. (R1.4.1; R2.3.1; R2.8.1; R2.10.2)

- Ensure continuity of care when a patient transfers to or from an outside hospital, the general pediatric wards, or home by completing the medication reconciliation database upon transfer or discharge, communicating with pharmacists and other health care professionals in the new setting, and establishing and monitoring home infusion services, such as parenteral antimicrobial or nutrition therapy. (R2.1.1; R2.5.1; R2.5.2; R2.11.1; R2.11.2)

- Adhere to MUSC policies and procedures for drug use. (R1.1.5; R2.9.3; R4.2.2; R4.2.4)

- Document all drug-related occurrences or adverse reactions in the Patient Safety Net; all clinical interventions in e-Meds (minimum of 20 to 25 per week); all nutrition, pharmacokinetic, and significant pharmacotherapy interventions in the Progress Notes of the medical record ; and all patient/family education on the Multidisciplinary Patient Education Form. (R1.1.6; R2.12.1; R2.12.2; R4.5.3; R2.12.1; R2.12.2; R4.5.3)

REQUIREMENTS OF LEARNING EXPERIENCE

Required hours
7 AM to 5 PM
As patient care requires, the above listed times may vary.

Required meetings
Daily meetings with preceptor in the morning (during or after rounds) and afternoon
Pediatric Morning Report: Monday through Thursday, 8 AM – 8:30 AM
Pediatric Grand Rounds: Friday, 8 PM – 9 AM
Pharmacy Resident Seminar: Monday, 1 PM – 2 PM
RITE/Resident Discussion Series: Friday. 12 PM – 1 PM
Pediatric Pharmacy Resident Education Series: 2nd and 4th Tuesday, 2 PM – 4 PM

Required presentations
Critical review of primary literature and general topic review and discussion twice monthly as part of the Pediatric Pharmacy Resident Education Series
Patient case presentations including problem lists and pharmacotherapeutic plans daily

Required readings
A packet of reading and reference material is available.
Literature relevant to the disease states and therapies for PICU patients

Topics from the RLS Appendix which must be discussed this month

Pediatric shock syndromes
Disseminated intravascular coagulation (DIC)
Status epilepticus
Acid-base problem-solving
Status asthmaticus

Other topics which may be discussed

Critical illness – related adrenal insufficiency
Nutrition in critically ill pediatric patients
Use of neuromuscular blockers and sedatives
Fluid and electrolyte abnormalities and corrections
Acute fenal failure (dialysis modalities, drug dosing)
Appropriate use of antimicrobials in critically ill children
Resuscitation, rapid sequence intubation, and cardiac arrhythmias
Pneumonia, febrile neutropenia, meningitis
Acute liver failure
Toxicology (accidental and intentional ingestions, snake bites)
Complications of hematopoietic stem cell transplantation and oncologic emergencies
Pulmonary hypertension

ROTATION PRECEPTOR(S)

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METHOD OF EVALUATION

Evaluation of residents will be based on the learning experience objectives identified by the Residency Program Director and outlined in this rotation description (available in ResiTrak). The preceptor and resident will review the resident's customized plan and the learning experience introduction document (available in ResiTrak) on the first day of rotation. Feedback will include, but not be limited to, a verbal and written formative midpoint evaluation and a summative end-of-rotation evaluation. The resident will self-evaluate performance and evaluate the preceptor and the rotation site (in ResiTrak).