PGY1 Pediatric Rotation: Neonatal Intensive Care Unit (NICU)
Riley Hospital for Children
Indiana University Health

Preceptors
Katherine Malloy, PharmD, BCPS    William Buss, Pharm D
Office: 948-3142 /Pager:312-4501   Office: 948-3979/Pager:312-6163

Experience Description
Neonatal Intensive Care (NICU) is a one-month learning experience designed to allow PGY1 Pharmacy Practice residents opportunities to integrate pharmacokinetics, therapeutics, and pathophysiology into delivery of care for neonates. During the month, the resident will participate in daily multi-disciplinary rounds in a level III NICU, providing care to 10-20 patients. Residents will be challenged to identify and resolve medication-related issues as well as to develop and assess therapeutic plans. The resident will focus on collecting and analyzing patient information, the design, implementation and evaluation of evidence based monitoring plans, the redesign of regimens and monitoring plans as needed, documentation of direct patient care activities, problem identification and problem solving, medication reconciliation and discharge counseling. Emphasis will also be placed on collaborative relationships with other members of the healthcare team, a baseline comfort with common neonatal disease states and medications, and prioritization of patient care activities. Additional activities will include weekly topic discussions, attendance at NICU conferences, journal club and case presentations, opportunities to mentor PharmD Candidates, and pharmacokinetic monitoring.

Requirements of Learning Experience

Required Pre-Rotation Activities
- Residents will send an e-mail approximately two weeks prior the start of the rotation to discuss the upcoming month. The e-mail should include, but is not limited to, the following:
  - Dates and times of required longitudinal commitments, Indiana Pharmacy Teaching Certificate seminars (if applicable), and Residency Forum (if applicable)
  - Dates and times of any mandatory activities (i.e., Pharmacy Grand Rounds, Rx Report) and other meetings as they are scheduled.
  - Paid time off approved by both the RPD and respective preceptor

Required Attendance
- Resident will be available to all service areas until all pharmacy related issues are addressed and resolved
- Absences must be approved in advance

Required Meetings
- Residents will attend weekly NICU conferences on Friday mornings at 8:15am as well as NNP Pharmacology CE presentations on the first Wednesday of the month at 2:30pm

Required Projects
No required projects

**Required Presentations**
- Residents will present either one journal club or one patient case presentation to preceptors and other trainees

**Required Readings/Topic Discussions**
- Residents will engage in 2-5 topic discussions weekly with the preceptor. Much of the non-topic discussion time will involve patient-specific pharmacotherapy issues. Residents will be expected to prepare for the discussions to sufficient depth of knowledge to be able to lead the discussion if asked. Topics include but are not limited to:
  - Apnea of prematurity
  - Chronic lung disease
  - Congenital heart disease
  - Developmental Pharmacology
  - Drug Administration Issues
  - Electrolyte imbalances
  - Extracorporeal membrane oxygenation (ECMO)
  - Intraventricular hemorrhage
  - Neonatal abstinence syndrome
  - Necrotizing enterocolitis
  - Nutrition – parenteral and enteral
  - Pain and sedation management
  - Persistent pulmonary hypertension
  - Respiratory distress syndrome
  - Retinopathy of prematurity
  - Seizures
  - Sepsis

**Learning Experience Evaluated Goals**
**Goal R2.4:** Collect and analyze patient information.
**Goal R2.7:** Design evidence-based monitoring plans.
**Goal R2.9:** Implement regimens and monitoring plans.
**Goal R2.10:** Evaluate patients’ progress and redesign regimens and monitoring plans.
**Goal R2.12:** Document direct patient care activities appropriately.

**Learning Experience Activities and Corresponding Learning Experience Goals/Objectives**

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<tr>
<th>Learning Experience Activity</th>
<th>Learning Experience Objectives</th>
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<tr>
<td>Collect, analyze, and prioritize all drug- and disease-related problems.</td>
<td>R2.4.1, R2.4.2, R2.4.3; R2.7.1; R2.12.1,</td>
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<td>List appropriate goals for the resolution of the identified problems.</td>
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<td><strong>Document direct patient care activities appropriately.</strong></td>
<td>2.12.2, 2.12.3</td>
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<td><strong>Devise a rational pharmacotherapeutic approach to the identified problems, anticipate risks and develop alternative plans.</strong></td>
<td>R2.4.1, 2.4.2, 2.4.3; R2.7.1</td>
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<td><strong>Monitor and critically analyze current therapy with respect to necessity, rationale, drug of choice and influence on therapy of medical problems, disease states and concurrent medications.</strong></td>
<td>R2.4.1, 2.4.2, 2.4.3; R2.7.1</td>
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<td><strong>Analyze pediatric drug regimens and recommend adjustments, in order to maximize patient therapeutic response.</strong></td>
<td>R2.4.1, 2.4.2, 2.4.3; R2.9.1; R2.10.1, 2.10.2</td>
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<td>The resident will assume the care of one NICU team (approximately 20 patients) and participate in daily multi-disciplinary patient care rounds. The resident will collect, analyze, and maintain a record of each patient’s laboratory results, medication history, and other data critical for identifying trends and anticipating care needs.</td>
<td>R2.7.1; R 2.9.1, 2.9.2; R2.10.1, 2.10.2</td>
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<td>The resident will document all medication errors and adverse drug reactions using the appropriate on-line forms. The resident will keep a record of all patient care interventions and care-giver education performed throughout the month.</td>
<td>R 2.12.1, 2.12.2</td>
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<td>The resident will follow all patients’ receiving monitorable medications on a daily basis and document interventions and pharmacokinetic analyses appropriately in the medical record. The resident will discuss all pharmacokinetic consults with the preceptor. The resident will provide verbal and written sign-out for all patients on monitorable medications to the weekend pharmacists. The resident will also undergo a snapshot evaluation of pharmacokinetic skills during the second half of the rotation.</td>
<td>R 2.7.1; R 2.9.1, 2.9.2; R2.10.1, 2.10.2</td>
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**Methods of Evaluation**

Evaluation of residents will be based on the above learning experience goals and objectives. The preceptor and resident will review the resident’s customized plan and the learning experience rotation document on the first day of rotation. Feedback will include, but not be limited to: verbal and/or written mid-point and end of rotation evaluations of the resident, preceptor and learning experience.