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**General Description:** Intensive Care Nursery (ICN) is a required, four week learning experience at Children's Mercy Hospital. The ICN is a level IV, 74 bed unit that provides specialty care to critically ill premature and term neonates. The ICN specializes in the comprehensive care of critically ill neonates including unstable infants with life threatening conditions including the need for ECMO or nitric oxide therapy.

The infants in the ICN are managed by six separate medical teams and a surgical team. These teams are multidisciplinary and collaborative relationships amongst team members are required. The neonatal nurse practitioners (NNPs) cover five of the medical teams providing services to the extremely low birth weight infants (ELBW) and other more critically ill infants where long term continuity of care is required. The resident service provides care to all the other infants along with a NNP. There are four attending physicians who round with the various medical teams and are in charge of the services provided. A neonatology fellow assists the attending physicians in caring for all infants on the medical services. The surgeons manage their own patients with the assistance of nurse practitioners and surgical fellows, the purple team attending physician rounds with the surgery team as well. Additional team members include dietitians, lactation, social workers, discharge coordinators and a clinical pharmacist.

The clinical pharmacy specialist provides comprehensive pharmaceutical care to all patients within the ICN. The role of the clinical pharmacy specialist is to assure safe and effective medication therapy for all patients within the unit and to serve as a resource for discharge preparation. Responsibilities include: daily review of medication and IV fluid orders; participation in daily patient rounds; communication with decentralized ICN satellite pharmacy and nursing staff to decrease medication errors; detecting and reporting adverse drug reactions; quality and safety improvement; staff education; and discharge medication counseling. Documentation of pharmacokinetic recommendations, taper schedule recommendations, and other appropriate activities is required. The resident will work toward assuming care of all patients on either Green and Yellow (15-30 patients) or the Red and Orange teams (15-30 patients) throughout the four week rotation. The resident must develop efficient strategies for accomplishing all required activities during the rotation.

**Disease States:** Topic discussions and review of key literature will be used to help the resident develop knowledge about less common disease states and to augment the information learned from direct care experience. Common disease states in which the resident will be expected to gain proficiency through direct patient care experience include, but are not limited to:

- Sepsis / meningitis / Necrotizing Enterocolitis (NEC)
- Respiratory Distress Syndrome (RDS)

- Apnea of prematurity & reflux
- Patent ductus arteriosus (PDA)
- Seizure Disorders
- Meconium Aspiration Syndrome
- Intraventricular hemorrhage (IVH)
- Persistent pulmonary hypertension of the newborn (PPHN)
- Chronic Lung Disease (CLD) / Bronchopulmonary dysplasia (BPD)
- Acute renal failure (ARF)
- Hyperbilirubinemia
- Congenital heart disease (CHD)
- Retinopathy of prematurity (ROP)
- Neonatal abstinence syndrome (NAS)
- Fungal Prophylaxis
- Neonatal Nutrition

**Goals and objectives to be taught and formally evaluated:**

<b>Selected goals for evaluation</b>		<b>Activities</b>
<b>Competency Area R1 : Patient Care</b>		
<b>Goal R1.1: In collaboration with the health care team, provide safe and effective patient care to a diverse range of patients, including those with multiple co-morbidities, high-risk medication regimens, and multiple medications following a consistent patient care process.</b>		
Objective R1.1.1	(Applying) Interact effectively with health care teams to manage patients' medication therapy.	<ul style="list-style-type: none"> <li>• Participate in daily rounds with the assigned medical team. Be prepared to answer questions and provide recommendations on assigned patients.</li> <li>• Provide drug information to ICN team when asked as well as when providing recommendations as appropriate</li> <li>• Make recommendations independently and proactively within an appropriate time frame</li> <li>• Gain consensus from the team regarding therapy for the patient, understanding that sometimes a compromise regarding decisions may need to be made</li> </ul>
Objective R1.1.2	(Applying) Interact effectively with patients, family members, and caregivers.	<ul style="list-style-type: none"> <li>• Use effective patient education techniques to provide counseling to caregivers</li> <li>• Utilize language at a level that the family is able to understand; use translator when appropriate</li> <li>• Follow-up with the family after education as appropriate</li> <li>• Delivers information with a logical flow</li> <li>• Answers questions within scope of practice (recognizes when to refer patients to the appropriate care provider)</li> </ul>

Objective R1.1.3	(Analyzing) Collect information on which to base safe and effective medication therapy.	<ul style="list-style-type: none"> <li>• Collect pertinent information for the assigned patients every morning on a patient monitoring form</li> <li>• Devise a plan for deciding which patients to focus on if given limited time and multiple patient care responsibilities.</li> </ul>
Objective R1.1.4	(Analyzing) Analyze and assess information on which to base safe and effective medication therapy.	<ul style="list-style-type: none"> <li>• Identify any issues with medication therapy and be prepared to discuss identified problems with the preceptor prior to rounds</li> <li>• Determine when to take action based on clinical significance of laboratory values</li> </ul>
Objective R1.1.5	(Creating) Design or redesign safe and effective patient-centered therapeutic regimens and monitoring plans (care plans).	<ul style="list-style-type: none"> <li>• For all patients on therapeutically monitored medications (vancomycin, aminoglycosides, Phenobarbital, heparin, enoxaparin, etc) assess whether or not changes are needed based on levels or if levels need to be ordered.</li> <li>• Monitor all patients on antibiotics for appropriateness (dose, indication, monitoring, antibiotic levels, narrowing of therapy, etc) and communicate with the antibiotic stewardship team and ICN team members regarding recommendations and plans for patients</li> <li>• For patients receiving opioids or benzodiazepines assess for pain and sedation to determine if therapy changes are necessary.</li> <li>• For all other medications, determine effectiveness of medications to determine if changes should be made to therapy.</li> <li>• Discontinue therapy when appropriate and determines when the patient is meeting therapeutic goals</li> <li>• Proactively develop alternative regimens to anticipate what may happen. Be aware of second and third line therapies along with the pros/cons of these options</li> <li>• Identify appropriate monitoring parameters for the current medication regimen. Differentiate between monitoring parameters for safety and efficacy along with appropriate frequency of monitoring</li> <li>• Provide pharmacokinetic calculations/recommendations when appropriate</li> <li>• Understand situations that require intervention from other services and follow up with the appropriate service regarding recommendations made</li> <li>• Resident should be prepared to discuss recommendations for addressing identified problems prior to rounds.</li> </ul>

Objective R1.1.6	(Applying) Ensure implementation of therapeutic regimens and monitoring plans (care plans) by taking appropriate follow-up actions.	<ul style="list-style-type: none"> <li>• Discuss recommendations with ICN team after approval from preceptor</li> <li>• Follow-up with the team in the afternoon to ensure that the plan was implemented as discussed. If plan has not been implemented as discussed, be prepared to assess reasons and if warranted, discuss with preceptor prior to addressing team.</li> </ul>
Objective R1.1.7	(Applying) Document direct patient care activities appropriately in the medical record or where appropriate.	<ul style="list-style-type: none"> <li>• Document direct patient care activities in the patient medical record within 24 hours of the intervention</li> <li>• Documentation required at a minimum are notes for therapeutic drug monitoring, narcotic tapers, and steroid tapers.</li> <li>• Locate and retrieve appropriate literature regarding different treatment options for the disease state</li> <li>• Choose the most appropriate drug therapy option based on patient specific factors after identifying an indication for therapy</li> <li>• Consider formulary options as well as unit policies/protocols</li> <li>• Complete narcotic and steroid weaning plans accurately and in a timely manner</li> <li>• Develop therapeutic goals related to the chosen medication therapy including but not limited to duration of therapy, monitoring parameters</li> </ul>
Objective R1.1.8	Objective R1.1.8: (Applying) Demonstrate responsibility to patients.	<ul style="list-style-type: none"> <li>• Monitor all patients on antibiotics for appropriateness (dose, indication, monitoring, antibiotic levels, narrowing of therapy, etc) and communicate with the antibiotic stewardship team and ICN team members regarding recommendations and plans for patients</li> <li>• Identify appropriate monitoring parameters for the current medication regimen</li> <li>• Differentiate between monitoring parameters for safety and efficacy along with appropriate frequency of monitoring</li> <li>• Provide pharmacokinetic calculations/recommendations when appropriate</li> <li>• Understand situations that require intervention from other services and follow up with the appropriate service regarding recommendations made</li> <li>• Ensure all identified medication-related issues are resolved by the end of the day. If cannot be resolved, ensure that any outstanding issues are communicated to evening pharmacy/preceptor prior to leaving for the day.</li> </ul>

<b>Goal R1.2: Ensure continuity of care during patient transitions between care settings.</b>		
Objective R1.2.1	(Applying) Manage transitions of care effectively.	<ul style="list-style-type: none"> <li>If a patient is to be discharged and a pharmacy consult for education is placed, resident is responsible for ensuring education is completed prior to the family going into PCU or home.</li> </ul>
<b>Goal R3.1: Demonstrate leadership skills.</b>		
Objective R3.1.1	(Applying) Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership.	<ul style="list-style-type: none"> <li>Communicate recommendations with confidence and at an appropriate time</li> <li>Make recommendations independently and proactively within an appropriate time frame</li> <li>Gain consensus from the team regarding therapy for the patient, understanding that sometimes a compromise regarding decisions may need to be made</li> <li>Educate providers regarding reasoning behind therapy decisions to increase understanding</li> <li>Effectively communicate with the preceptor and members of the multidisciplinary team about the care of the patient (recommendations, follow-up questions, etc) in a timely manner</li> </ul>

### **Resident-Preceptor Interaction**

The preceptor will attend rounds with the pharmacy resident during the initial period of the rotation. The resident is expected to become an independent practitioner by the end of the rotation. The preceptor will be available to the resident throughout the learning experience for consultation, daily patient presentations and topic discussions. The resident is expected to understand the pharmacotherapy related to the care of neonatal patients as well as other disease states encountered in this setting.

Daily:               8:30-9:30: Pre-rounds with resident  
                          Noon to 1 pm or 1-2 pm: Preceptor available for patient updates, topic discussions, progress notes, patient education, etc.

### **Communication:**

1. Residents are to prioritize questions and problems to discuss during scheduled meeting times
2. Residents are expected to read emails at the beginning, middle, and end of each day at a minimum for ongoing communication. Email is appropriate to use for routine, non-urgent questions and problems
3. The resident should call the preceptor on the mobile phone for urgent/emergency situations pertaining to patient care.
4. The resident should page the preceptor if the mobile phone is not available.

**Expected progression of resident responsibility on this learning experience:** (Length of time preceptor spends in each of the phases will be personalized based upon resident’s abilities and timing of the learning experience during the residency training year)

- Day 1: Preceptor to review learning activities and expectations with the resident. Overview of team dynamics and patient lists.
- Week 1: Resident to work up approximately ½ of the teams patients and present to preceptor daily. Preceptor to attend and participate in rounds with resident, modeling pharmacist’s role on the team.
- Week 2: Resident to work up the other ½ of the team and discuss patients and problems with preceptor daily. Preceptor to attend team rounds with the resident to coach the resident to take on more responsibilities as the pharmacist on the team
- Week 3-4: The resident should continue to workup patients on the team and work towards taking over responsibility for the teams problems and discuss these with the preceptor daily. Once resident is able to take responsibility for all patients on the team, the preceptor will no longer attend team rounds, but will continue to facilitate the resident as the pharmacist on the team.

**Evaluation:**

The resident will be evaluated using PharmAcademic. PharmAcademic will be used for documentation of scheduled evaluations. Evaluations will be signed in PharmAcademic following a meeting between the preceptor and resident.

- Summative evaluations: This evaluation summarizes the resident’s performance throughout the learning experience. Specific comments should be included to provide the resident with information they can use to improve their performance in subsequent learning experiences.
- Preceptor and learning experience evaluations must be completed by the last day of the learning experience.
- Spontaneous feedback will be given during patient presentations and topic discussions. As areas needed for improvement are identified the preceptor may chose to customize the assessment strategy to assure appropriate follow-up in those areas.

What	Who	When
Summative	Preceptor	End of week 4
Preceptor/Learning Experience Evaluation	Resident	End of week 4

**I have read and acknowledge the responsibilities and expectations of this experience.**

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Pharmacy Resident

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Primary Preceptor