REQUIRED LONGITUDINAL EXPERIENCES

Ambulatory Care Longitudinal Experience at UMC Pharmacy
Preceptors: Amy Player, PharmD, Tarana Billups, PharmD, Deon Powell, PharmD

The 1917 Clinic is a Ryan White funded comprehensive HIV treatment clinic serving approximately 4000 patients. Once integrated into 1917, patients receive all their primary care at the clinic. The pharmacists at the 1917 Clinic are part a multidisciplinary team of health care providers that work to care for HIV positive patients and research methods to prevent and treat HIV/AIDS. Residents will work alongside physicians and nurse practitioners in the clinic seeing patients with the same provider team on a weekly basis. They will be expected to provide drug information to practitioners and counsel patients on their medication. They will review patient records and perform medication reconciliation.

Longitudinal Ambulatory Transplant Clinic
Preceptors: DeAnn Jones, PharmD, BCPS; Alexandra James, PharmD, BCPS

The purpose of this rotation is to provide pharmaceutical care to the post solid organ transplant population at UAB Hospital. The resident is expected to become familiar with transplant medication regimens, including common side effects and drug interactions. In addition, disease states/complications encountered in this population will also be discussed. Residents will attend kidney, liver, heart and lung transplant clinic as assigned by the preceptor. Typical volume of patients seen in each clinic varies and averages 20-30 patients scheduled daily. The resident will work to develop and improve problem-solving, communication skills and to develop and refine medication counseling techniques in the ambulatory transplant setting. Activities will include chart review, patient counseling, and medication reconciliation. Residents will participate in weekly topic reviews or topic discussions and will document, when applicable, adverse drug reactions, medication errors and other recommendations or interventions.

Major Project
Preceptor(s): Tina Fogel, PharmD (Chairperson) and Project Advisor (TBD)

Completing a major project is a required learning experience for all residents. Residents will be presented with a list of potential topics from which the resident can choose his or her Major Residency Project. Based on the topic, the resident will be assigned a pharmacist who will act as the resident's Project Director. The major project will be presented at the Southeastern Residency Conference (SERC) in Athens, GA in The Spring and will be submitted as a poster for the ASHP Midyear meeting in December following completion of the residency year.
**Medication Utilization Evaluation (MUE)**
Preceptors: Malia Manning, PharmD, BCPS, Danielle Kunz, RPh, BCPS AQ-(ID), Maury Moody, PharmD

The Department of Pharmacy, in conjunction with the Pharmacy and Therapeutics Committee, develops and monitors the Hospital’s therapeutic policies and practices, particularly with regard to drug utilization within the institution. The resident will participate in this quality assurance activity by performing a medication usage evaluation (MUE) as a longitudinal activity. The learning experience is designed to engage the resident throughout the MUE process. The resident will work with the drug information pharmacists to design the medication usage evaluation, apply to the IRB, complete data collection, data analysis, preparation for poster presentation, present findings to UAB Hospital Pharmacy and Therapeutics Committee, and complete any proposed interventions.

**Orientation**
Preceptor: Deidre B. Clark, PharmD, BCPS

Orientation is a required 6 week experience were the resident will receive orientation of the hospital, pharmacy department, residency program, and practice coverage areas. The residency coordinator will serve as the primary contact; however, numerous trainers will be involved with the residents orientation. Residents will be given two schedules during the first week: a pharmacy education & development training schedule and a residency & practice coverage training schedule. At the end of orientation, the resident will have completed most of the pharmacy department orientation requirements, finalized their residency customized training plan for the year, and will be ready to move on to weekend practice coverage training and begin their first rotation.

**Practice Coverage**
Preceptor: Maria Taylor, PharmD; Anita Harrison, PharmD, BCPS; Kevin Langston, RPh

This rotation allows the residents a crucial learning opportunity to develop professional practice skills. The PGY1 residents provide every third weekend coverage to assigned units throughout the residency year. In addition, staffing is required during Thanksgiving, Christmas or New Year, Spring Break and the final two weeks of the residency program.

From this experience, the resident will gain proficiency in patient care and interaction, operational and personal management as well as clinical skills. The resident will be responsible for verifying, preparing and dispensing medications; answering drug information questions; and making medication recommendations to other healthcare professionals.

**Teaching Certificate Program**
Preceptor: Deidre B. Clark, PharmD, BCPS

The Teaching Certificate Program is a longitudinal teaching requirement for the PGY1 Residency Program. This program consists of numerous teaching requirements that will be completed throughout the residency year. Residents will develop a teaching philosophy, which is a self-reflective statement of one’s values and goals of educating others. For large group teaching, residents will each develop and present of a CPE program for the pharmacy staff at UAB Hospital. For small group teaching, all residents will teach at least one inservice, develop & teach a UAB Hospital Pharmacy Student Pharmacotherapy Round, and develop & lead a journal club presentation. In addition, residents will be involved with co-precepting activities such as evaluating student presentations and giving student feedback. In order to help prepare residents for these requirements and teach them the basic fundamentals of teaching, they will attend numerous pedagogy topic discussions. Residents will record all teaching activities in a teaching portfolio.
REQUIRED ROTATIONAL EXPERIENCES

Central Pharmacy Services
Preceptors: Tom Comer, PharmD; Cammie Burgess, PharmD, MS

This is a three week required rotation through Central Pharmacy. The resident will spend time in each of the main areas; Sterile Products, Compounding and Packaging, and Automated Dispensing Cabinets (ADC). While in the Sterile Products Area the resident will undergo refresher training in the preparation of Sterile Products. The resident will also participate in the checking processes for large and small volume parenterals, piggybacks, chemotherapy and other hazardous products, and intrathecal injections. The Compounding and Packaging area will offer the resident the opportunity to participate in the preparation and final checking of extemporaneously prepared oral doses as well as the required audit processes associated with this area. While in the ADC area, the resident will gain a general overview of the automated dispensing cabinets (ADC) with some emphasis on how order entry is connected to medication distribution from the automated devices.

During orientation, the residents will also tour the Alabama Organ Bank (if staff is available), attend transplant ID clinic, and participate in transplant conferences for listing patients for transplant.

Leadership
Preceptor: Mark W. Todd, PharmD, FASHP

This 2 week rotation will focus on pharmacy and health system leadership with emphasis on issues identification and problem solving. The resident will spend as much time as possible with the Chief Pharmacy Officer / Associate Vice President in various leadership and management meetings learning about the organization and how pharmacy practice decisions can impact the success of the organization. The resident will experience different leadership styles and be able to articulate effective and ineffective qualities of leaders. The resident will spend time with each of the pharmacy directors as they lead their specific divisions and discuss what they have learned from each leader. The resident will also learn financial decision making and the budget process through Rex Seaborn, the Pharmacy’s Financial Officer. Projects/assignments will be made as they arise and will be completed prior to the end of the rotation.

Therapeutic Policy Management
Preceptor: Malia Manning, PharmD, BCPS

The rotation is designed to engage the resident in a wide spectrum of medication management activities including formulary management, product shortage management, medication safety, performance improvement and regulatory issues. The resident will work with the drug information pharmacists to address information requests, participate in Pharmacy and Therapeutics activities coordinate the management and communication of product shortages, review and trend reported medication misadventures as well as participate in performance improvement initiatives.
ELECTIVES

Cardiology Critical Care
Preceptors: Glenn Weldon, PharmD

Cardiology Critical Care is a four week rotation which requires the resident to understand acute treatment of cardiovascular disease in an intensive care unit. Cardiology areas of emphasis include acute coronary syndrome, decompensated heart failure, and supraventricular and ventricular dysrhythmias. The rotation also focuses on pharmacokinetic dosing and monitoring, infectious disease common to the unit, and providing drug information to physicians and nurses during and after rounds.

Emergency Medicine
Preceptors: Katie Coan Farmer, PharmD, BCPS; Emily Vance, PharmD

The University Emergency Department (UED) at UAB Hospital sees approximately 85,000 patients per year, of which about 30% are admitted. The department serves as the beginning of the patient’s encounter with medical care and incorporates many critical and primary care components. The department is the size of a football field and contains 45 patient treatment rooms divided into 6 PODs. Each POD has a central station with an attending physician, medical residents, 3 to 4 nurses, a patient care technician, and can see a variety of patient situations throughout the day. Generally, one pharmacist covers the entire department from 1230 – 2300 and is responsible for: order verification, medication profile review, antibiotic therapy monitoring, adverse drug reaction monitoring, renal/hepatic dosage adjustment, medication cost avoidance, reporting of actual and prevented medication errors, urgent/emergent intravenous drip preparation, procuring medications from central pharmacy, drug information, pharmacokinetic dosing, and responding to all codes (full arrest, trauma, stroke, and MI) in addition to various administrative activities. The pharmacy resident will develop an appreciation for pre- and inter-hospital care for patients in the UED, while helping to communicate vital information to others in our department. The pharmacy resident is expected to perform those duties of the pharmacist; as time permits, the resident will have the opportunity to observe further care of patients including surgeries, catheterization lab activities, and transition to intensive care units. Outside learning opportunities include observing an aeromedical crew at Air Methods®, the Regional Poison Control Center at Children’s Hospital of Alabama, the Trauma Communications Center at Birmingham Regional EMS Service, or attending the basic 2-day class at Advanced Regional Response Training Center in Mobile, AL. The pharmacy resident will also be assigned a presentation, consisting of a topic applicable to emergency medicine.

Gastroenterology
Preceptor: Steven Lawley, PharmD

The Gastroenterology rotation is designed to provide the resident with an overview of the pathophysiologic basis of gastrointestinal and liver diseases. Clinical relevance of the pathophysiologic process is emphasized. Focus is on active resident participation on the management of patients with acute and chronic gastrointestinal and liver diseases. Residents will be an integral part of the gastroenterology/liver team providing care to patients with gastrointestinal and liver disorders.

Hematology/Oncology
Preceptor: Barry Diamond, PharmD, BCOP

The Hematology/Oncology learning experience is a 4 week rotation in which the resident will develop knowledge in the treatment of hematologic malignancies. The resident will interact with members of the hematology team consisting of nurse practitioners and physicians. Resident responsibilities will include
the following (not all inclusive): order verification, profile review, rounds with hematology team, pharmacokinetic monitoring, provide drug information, verification of chemotherapy orders.

**Highlands Critical Care**  
Preceptor: Daniel Brackin, PharmD, BCPS

The Highlands ICU rotation provides a unique experience that is centered in a 12-bed critical care setting that serves both medical and surgical patients. The resident will go on daily multidisciplinary rounds, work on process improvement/medication safety projects for the ICU, provide education for various disciplines. The Highlands ICU multidisciplinary team includes pharmacists, anesthesiologists, CRNPs and PAs, RNs, the nurse manager, respiratory therapists, case management, and PT/OT. The resident will also participate in checking and dispensing medications, compounding parenteral medications and non-sterile medications, maintaining integrity of controlled substances, and learn the general operations of Highlands Inpatient Pharmacy.

**Infectious Disease/Antimicrobial Stewardship**  
Preceptor: Danielle F. Kunz, RPh., BCPS-(AQ) Infectious Disease

A four week rotation which allows the resident to gain knowledge regarding management and treatment of infectious disease states through active participation in daily rounds with the inpatient infectious disease consult services. The inpatient infectious disease consult services are divided into three teams. Each team has an ID faculty serving as the attending physician, an ID fellow who coordinates the assignment of patients, 2-3 medical residents and 2-3 medical students. There is only one ID pharmacist who rotates between the three teams and maintains a pager for questions when not actively rounding with a particular service. The IC (immunocompromised) service receives consults for those with immunocompromised host defense including; hematology, oncology, all solid organ transplants, bone marrow transplant and those presently on the “wait list” for organ transplants including those with LVADs. The other two services (Green and Gold) divide the remaining consults including HIV positive patients and non-immunocompromised patients. These infectious disease consult services provide assistance in the management of 200 patients per month between the three teams. Consultation is sought for a wide variety of common infectious disease states including pneumonia (CAP, VAP, HCAP), endocarditis, SSTI, CNS infections, Clostridium difficile, bone/joint infections, and management of MRSA/VRE/MDR-gram negative infections. Given the large immunocompromised patient population, consultation is sought for more atypical infections including Mycobacterium tuberculosis, MOTT, and Nocardia spp. commonly encountered viral infections include HSV, CMV, RSV, adenovirus and human metapneumovirus. Recommendations regarding the management of fungal infections are also common in the IC populations and include those with Candida spp., the endemic mycosis (Cryptococcus spp. Histoplasma spp., Blastomyces spp.) and molds (Aspergillus, Fusarium and Zygomycetes). The resident is expected to be a proactive member of the consult team mirroring the ID pharmacist’s daily activities through medication profile monitoring (allergies, drug interactions), provision of drug information, adverse drug reaction monitoring, renal/hepatic dosage adjustment, and appropriateness of antibacterial/antifungal therapy based on current culture and sensitivity results.

The antimicrobial stewardship program maintains an active role in the appropriate utilization of all antimicrobial agents for the institution. The resident will be involved in data mining reports for select antimicrobial agents, perform audits pertaining to safety of pharmacokinetic dosing/monitoring for vancomycin, assist in the provision of drug information requests pertaining to antimicrobials and perform abbreviated medication usage evaluations as needed. In addition, the resident will assist in activities related to antimicrobial formulary management, investigation of medication errors related to antimicrobials and communication regarding national shortages of antimicrobials as needed. The resident is expected to attend weekly Infectious Disease Conferences and the monthly Antimicrobial Stewardship Committee meeting.
Internal Medicine
Preceptors: Amber Burton Rasco, PharmD, BCPS; Leah Ann Durham, PharmD, BCPS

The general medicine rotation is a four week rotation which provides pharmaceutical care to adult and elderly patients with a wide range of disease states. Common disease states encountered during this rotation include infectious diseases, HIV and opportunistic infections, diabetes, heart failure, DVT/PE, acute intoxication of alcohol and other substances, sickle cell anemia, and GI bleeding.

The Tinsley Harrison service (internal medicine service) has five different teams, each consisting of an attending physician, medical residents and interns, medical students, nurses, and pharmacists. Patients are generally admitted to the 9 South nursing unit, which consists of 30 beds. Patient census per team fluctuates, depending on team’s call schedule. Each team is on call (admitting new patients) every fifth night.

This rotation will allow the resident to see daily responsibilities of a clinical pharmacist. The resident will be responsible for daily rounds with the medical team. The number of teams the resident will follow is dependent on the capabilities and experience of the resident. They will also gain experience through monitoring medication profiles, order verification, applying pharmacotherapy, renal/hepatic dosing adjustments, making pharmacokinetic recommendations, inpatient glycemic monitoring, patient counseling, medication reconciliation, and communicating information to other health care providers.

Medical Intensive Care Unit
Preceptor: Alex Ward, PharmD

This is a 4 to 6 week learning experience that exposes the resident to the unique and challenging concepts of pharmacotherapy management in critically ill medical patients. The medical intensive care unit (MICU) is comprised of 25 beds. The service consists of 3 ICU teams composed primarily of pulmonologists and physician interns/residents. The resident will be expected to establish rapport with (and maintain) collaborative working relationships with providers and nursing staff. Rotation activities include (but are not limited to) daily rounds with one or more ICU teams, patient monitoring, performing pharmacokinetics, providing therapeutic drug information, order verification, participation in ACLS/Code Blue scenarios, and assisting nursing staff with questions/concerns/medication administration issues.

The resident on rotation will be expected to present an in-service or presentation on a critical care topic, a journal article review, or patient case/literature review to nursing staff, physicians, or pharmacists. After the evening shift pharmacist arrives, the afternoons of select rotation days will be spent on topic discussions of various critical care disease states that the resident will likely encounter in the MICU during the rotation (i.e. CVVH, sepsis/shock, ARDS/ALI/paralysis, ACLS, sedation/analgesia/delirium, and many other topics related to critical care). Various topics will have pre-assigned reading of review articles/primary literature pertinent to the disease state. Other topics will be taught simply from a bedside perspective and the resident may seek additional information/reading on their own. By the end of the rotation, the resident pharmacist should be providing care at the level of an experienced critical care specialty pharmacist practitioner.

Medication History and Transitions of Care
Preceptors: Mary Hatcher, PharmD, BCPS and Rebekah Neal, RPh

The Resident is expected to collaborate with multiple disciplines and use a variety of resources to obtain a complete and accurate home medication list. During this rotation, residents will interact with patients, pharmacists, physicians, nurses and nurse practitioners on inpatient floors, the pre-anesthesia clinic and the emergency room to ensure accuracy of patients home medication list in the electronic medical record. Additional experiences include evaluation of current therapies, documentation of medication errors and assisting with dispensing of medications from the central pharmacy at UAB Highlands.
Neonatology Critical Care  
Preceptor: Kimberly Ross, PharmD

The Regional Newborn Intensive Care Nursery at University Hospital is a 55 bed level 3C neonatal intensive care unit. During this rotation residents will participate in medical rounds with the medical team consisting of an attending physician, fellows, medical residents, neonatal nurse practitioners, nurses, respiratory therapists and a pharmacist. Pastoral care, social work, a dietitian and the discharge coordinator also frequently participate in rounds. Pharmacists provide a wide range of services to the RNICU including drug and dosing recommendations, drug information and pharmacokinetics monitoring as well as order verification and distributive functions.

Nephrology  
Preceptor: Maria Taylor, PharmD

The Nephrology rotation is designed to provide the resident with an overview of the pathopysiological basis of renal diseases. Clinical relevance of the pathophysiological process is emphasized. Focus is on active resident participation on the management of patients with acute and chronic renal disease. Residents will be an integral part of the nephrology team providing care to patients with acute kidney injury, chronic kidney disease and metabolic and electrolyte disorders.

Neuroscience Critical Care  
Preceptor: Susan Vu, PharmD

The University of Alabama at Birmingham (UAB), Department of Neurosurgery provides adult and pediatric neurosurgical services to Alabama and the southeastern United States. The Neuroscience Critical Care Rotation is a 4 week rotation that will expose the resident to various neurological conditions, such as, brain tumors, neurovascular conditions, spinal disorders, functional disorders, and pediatric conditions. The NICU has 28 beds that are managed by the neurosurgery & anesthesia critical care teams. The resident will be assigned a group of patients and be expected to monitor all aspects of their care. The pharmaceutical plans for assigned patients will be reviewed with the preceptor daily. The resident will participate in medical rounds with both the Neurosurgery and Trauma Services. The resident will be allowed to observe Neurosurgery and various radiologic procedures as well as spend a day in the Neurosurgery Clinic if desired. The resident is expected to become a vital member of the medical team through medication profile monitoring, provision of drug information, pharmacokinetic monitoring of aminoglycosides and anticonvulsants, monitoring of the antibiotic therapy for appropriateness, adverse drug reaction monitoring, renal/hepatic dosage adjustment, cost avoidance interventions and reporting of actual and prevented medication errors.

Obstetrics  
Preceptor: Jennifer J. Chapman, PharmD

During this 4-week rotation, the resident will gain experience providing pharmaceutical care to obstetric patients including antepartum, postpartum, and laboring patients. The resident will participate in rounds with the medical staff, providing drug information when appropriate. Pharmacotherapy options pertaining to certain disease states in the pregnant and lactating patient will be discussed as well as acceptable resources. Some diseases managed will include general medicine topics as well as specific pregnancy related problems. The resident will also counsel patients on different contraceptive options.
Renal/Liver Transplantation
Preceptor: Alexa Ray, PharmD, BCPS and Matthew Malachowski, PharmD, BCPS

A four week rotation that allows the resident to gain knowledge and experience in providing pharmaceutical care to renal and liver transplant patients. The practice setting includes two inpatient hospital units that primary serve kidney and liver transplant patients. The number of patients on the inpatient services varies, but averages 20-25 kidney transplant patients and 10-15 liver transplant patients. The interdisciplinary teams consistent of attending physicians, residents physicians and fellows, nurse practitioners, social workers, and case managers. Daily activities of the pharmacist include review of patient profiles and laboratory data, adjusting medication regimens as needed, post-operative and discharge patient education and daily rounds with the medical and surgical transplant teams. Other activities for the resident include assigned readings and discussions with preceptor, as well as providing at least one educational presentation to health care professionals on a topic relevant to renal transplant.

Surgical Critical Care
Preceptor: Michael Denaburg, PharmD

The Surgical Intensive Care Unit rotation at UAB is an elective learning experience for the PGY1 resident. Each resident will attend daily rounds with the Critical Care team, which is a multidisciplinary team including anesthesia and surgical residents/attending physicians, pharmacists, pharmacy students, medical students, respiratory therapists, and nurses. The resident will be responsible for patients within the surgical intensive care unit, which may include off-service patients. The resident will serve as the Critical Care drug therapy expert in the intensive care unit. The resident will be involved with any Pharmacotherapy Consult Services in the care of complicated critically ill patients and must devise efficient strategies for accomplishing multiple patient care activities in the allotted time frame.

This rotation is designed to provide the resident opportunities in assessing and evaluating patient specific drug therapies with an emphasis on integration of pathophysiology, pharmacology and therapeutics to devise appropriate pharmaceutical care plans for critically ill patients.

The resident will serve as the medication expert on the critical care team, answering drug information questions and providing medication related in-services as necessary.

Trauma/Burn
Preceptor: Margaret Childress, PharmD

This rotation provides the opportunity to gain experience in caring for burns and various traumatic injuries, outside of the ICU setting. There are two nursing units, with a total of 48 beds at full capacity. Daily activities will include rounding with the trauma team, assisting with pharmacokinetic monitoring, evaluating pharmacotherapy and providing drug information to medical and nursing staff. The opportunity to observe and assist the burn dressing team with burn wound dressings will be provided if interested.

Trauma/Burn Critical Care
Preceptor: Doug Wylie, PharmD, BCPS

This month long rotation focuses on the pharmacotherapeutic care of critically ill trauma and burn patients. This rotation is intended to expose the resident to the unique pharmacotherapeutic challenges of acute trauma, surgical, and burn patients while also focusing on core concepts of critical care pharmacotherapy. The Trauma/Burn Intensive Care Unit (TBICU) is a 28-bed, surgeon-led, closed unit. The patient population consists of patients who have sustained injuries through motor vehicle crashes, falls, work-related accidents and violent acts. The pharmacist’s responsibilities on a daily basis include, but are not limited to: managing pharmacokinetic consults, attending multidisciplinary rounds, verifying
medication orders, distributing medications, and answering drug information questions as they arise. The multidisciplinary rounding team is comprised of attending trauma surgeons, trauma fellows, surgical and anaesthesia residents, physician assistants, pharmacists, PA and MD students, and registered dieticians. The pharmacy resident is expected to attend multidisciplinary rounds with the trauma team, serve as the drug information resource for the team, assist with pharmacokinetic dosing and monitoring, and participate/lead topic discussions. The resident will present one formal journal club and a patient case presentation. When time permits, the resident may choose to observe trauma or burn surgeries and/or burn wound care.

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