Emergency Medicine

**Description of Rotation:**
Pharmacists have the opportunity to play an integral role in an emergency department (ED) setting. The emergency department is a high-risk environment with frequent medication-related errors, creating a unique position for pharmacists to optimize patient care. Pharmacists in the ED may provide both clinical and distributary services. Appropriate patient management in the ED requires critical care and ambulatory care skills, drug information, emergency preparedness and toxicology. This ED rotation provides students with the opportunity to work in a high-stress, high-volume setting with an interdisciplinary medical team in order to improve patient care.

**Goals of Rotation:**
Facilitate student learning and critical thinking skills in Emergency Medicine in order to:
To prepare the student with a knowledge base and problem solving skills relating to the provision of emergency medical care.
1. Understand patient healthcare needs.
2. Apply evidence-based medicine.
3. Enhance and reinforce didactic course work.
4. Develop interpersonal communication skills.
5. Describe the pathophysiology of common illness.
6. Explain monitoring parameters given the particular disease state and the treatment regimen (including efficacy, toxicity, side effects, and potential drug interactions).
7. Provide non-pharmacological treatment for disease states.

**Learning Objectives:**
Upon completion of this rotation the student should be able to:
1. Understand the role of a pharmacist in the setting of an emergency department.
2. Ensure the timely delivery of the right medication to right patient and utilize other aspects of pharmaceutical care and ensure the most appropriate therapy is chosen and administered.
3. Utilize patient data to identify potential and present medication related problems.
4. Assess medication errors, drug interactions and adverse drug reactions as causes of ED admissions.
5. Participate in medication reconciliation for patients being admitted from the ED.
6. Conduct history of patients and family members when appropriate.
7. Participate in the physical exam and assess the patient’s diagnosis for the most appropriate treatment protocol.
8. Apply didactic knowledge to patient care situations, therapeutic decision-making and problem solving.
9. Make therapeutic recommendations in an ED setting based upon evidence-based medicine.
10. Demonstrate confidence in providing therapeutic recommendations to physicians, nurses and other health-care professionals.
11. Observe and/or participate in codes when appropriate.
Activities:

1. Drug order screening and verification
   a. Drug allergies
   b. Dosing
   c. Drug interactions
2. Clinical consultation in the ED
   a. Rounding
   b. Dose recommendations
   c. Therapeutic substitution
   d. Pharmacokinetics
3. Preparation and selection of medications in an emergent situation
4. Resuscitations and trauma response
5. Rapid sequence intubation
6. ACS / codes
7. Procedural sedation
8. Appropriate empiric antibiotic selection for a variety of infectious diseases
9. Medication reconciliation
10. Review EMS drug boxes
11. Verbal medication orders
12. Patient, nursing and physician education
13. Discussions on ED medicine topics
Common disease states encountered in the Emergency Medicine setting (list not inclusive):

1. Code situations
   a. ACLS
   b. PALS
2. Stroke management
3. ACS management
4. Empiric management of a variety of infectious diseases
   a. CAP
   b. HCAP
   c. UTIs
   d. URTIs
   e. Meningitis
   f. SSTIs,
   g. Diabetic foot infections
   h. STDs
   i. Sepsis
5. Hypertensive crisis
6. Status epilepticus
7. Asthma / COPD exacerbations
8. Pain management
9. Shock
10. Burns
11. Trauma
12. Drug overdoses and toxicities
13. CHF
14. Diabetes and complications
   a. DKA
   b. HHS
15. Thyroid emergencies
16. Acute agitation
17. HIV related complications
18. Electrolyte abnormalities
Potential longitudinal activities to accomplish at site:
   a. Identify and collect appropriate drug-related monitoring parameters for each assigned patients using EBM.
   b. Identify and prioritize drug-related problems for each assigned patient.
   c. Assess appropriateness of each assigned patient’s drug therapy.
   d. Present all patient data in a concise and meaningful fashion.
   e. Obtain and write-up a patient medical history.
   f. Provide medication information to a unique cultural and socioeconomic diverse patient.
   g. Counsel a patient on their medications.
   h. Provide a verbal therapeutic plan recommendation to another health-care professional.
   i. Perform medication reconciliation for patients.

2. Physical Assessment Activities
   a. Interpret diagnostic test results for a patient / caregiver or preceptor.
   b. Provide an optimal pain management or palliative care plan for a patient.
   c. Assess an ECG (EKG).
   d. Observe a code in a health-care setting.
   e. Observe a health-care professional perform a full physical exam and assess results.

3. Assessment Activities
   a. Assess a creatinine clearance for an adult.
   b. Assess a creatinine clearance for a child / infant.
   c. Assess a creatinine clearance for a renally insufficient patient.
   d. Assess a body surface area (BSA) for an adult.
   e. Assess an ideal body weight (IBW) for an adult.

4. Intervention Activities
   a. Recommend empiric antibiotic therapy.
   b. Adjust a drug dose in a patient with renal insufficiency.
   c. Assess the significance of a drug-drug interaction.

5. Education / Research activities
   a. Prepare a written drug information response in a practice setting.
   b. Provide options for medication shortage.
   c. Provide a formal case presentation.
   d. Provide an education presentation to other health-care professionals.
   e. Participate in a Patient / Medication Safety Review or error reduction program.
   f. Participate in a discussion of toxic exposure, poison control centers and the pharmacy’s role for emergency preparedness.
   g. Participate in a discussion of a pharmacist role in ethical issues related to any of the following topics: end of life care, professional behaviors, clinical research and pharmacy current event / hot button issue.