

## PGY 2 Critical Care Course Description

### Learning Experience Title: Emergency Medicine I

#### Preceptor:

Jeremy P. Hampton, PharmD, BCPS

Clinical Pharmacy Specialist

Emergency Medicine

University Health

Emergency Department

2301 Holmes Street

Kansas City, MO 64108

816-404-5086 (office)

816-717-3207 (pager)

[jeremy.hampton@uhkc.org](mailto:jeremy.hampton@uhkc.org)

Clinical Assistant Professor

UMKC School of Pharmacy

Division of Pharmacy Practice and Administration

2464 Charlotte St

Kansas City, MO 64108

816-235-5286 (office)

[hamptonjp@umkc.edu](mailto:hamptonjp@umkc.edu)

**Description:** Emergency medicine is a required six week learning experience at University Health Truman Medical Center. The Emergency Department (ED) consists of 34 primary patient care beds, 3 trauma beds, 7 “specials” beds in a locked unit, and 7 fast track/urgent care beds. In the event there are no available inpatient beds, admitted patients may be boarded in the ED until beds become available. Boarded patients, once inpatient orders have been written, are no longer considered ED patients and care is transferred to the admitting team.

This rotation is structured to build upon the knowledge and skills acquired from the resident’s Pharmacy Practice Residency in order to provide the skills necessary to become proficient in the delivery of emergency care. At the end of the rotation the resident should be able to independently function as the pharmacist in charge in the emergency department with the ability to execute advanced treatment plans in all scenarios, including (but not limited to): trauma, medical resuscitation, cardiac arrest, procedural sedation, and rapid sequence intubation. The primary role of the pharmacist in the ED is to ensure the appropriate pharmacotherapeutic management of critically ill patients. The pharmacist is expected to have working knowledge of a wide spectrum of disease states, specifically the treatment of such disease states, and will be relied upon to develop appropriate treatment plans in conjunction with other members of the health care team. The expectation is that the pharmacist will facilitate the expeditious treatment of acutely ill patients and will enhance efficiency in this fast paced environment

#### Resident Responsibilities:

- Provide Pharmacy review of medication orders prior to administration, when available and appropriate
- Actively participate during cardiac resuscitations and traumas, assists with the preparation of parenteral medications for emergency use, and offers medication/dosing consultation when available and appropriate.
- Participate in providing didactic and experiential training in Clinical Pharmacy for baccalaureate (BS) and doctoral (PharmD) students and

- clinical pharmacy residents
- Provide patient specific medication use teaching for discharge medications when appropriate
- Attend any presentations that the emergency department holds.
  - Grand Rounds (schedule variable, will provide calendar at beginning of rotation)
  - Faculty Lecture Series (as appropriate)
  - Trauma Conference (as appropriate)
- Present one topic discussion on an emergency medicine topic of interest to the pharmacy and or Emergency Department staff.
- Provide one case presentation to the pharmacy staff at the conclusion of the rotation regarding medical/pharmacological management of an emergently ill patient.
- Assist with precepting UMKC School of Pharmacy students (General Medicine I and General Medicine II), as well as with PGY1 residents who may rotate through the UHTMC ED.
- Additionally, a short rotation with the KCFD Emergency Medical Services (EMS) may be possible.

**Disease States:**

Disease states commonly encountered during this experience that the resident will be expected to review, discuss, and apply include but are not limited to:

- Chief Complaints
  - Shortness of breath
  - Chest pain
  - Abdominal pain
  - Altered Mental Status
- Central Nervous System
  - Ischemic/hemorrhagic stroke
  - Meningitis
  - Migraine
  - Seizure
  - Spinal cord injury
  - Intracranial
- Pulmonary
  - Allergic reactions
  - Asthma exacerbations
  - COPD exacerbations
  - Pneumonia
  - Pulmonary embolus
- Airway Management
  - Respiratory failure
  - Rapid sequence intubation
  - Mechanical ventilation
  - Sedation and analgesia

- Cardiovascular
  - Acute coronary syndrome/myocardial infarction
  - Advanced cardiac life support/cardiac arrest
  - Hypertensive urgency/emergency
  - Hemodynamic support
  - Shock states
  - Acute heart failure
  - Dysrhythmias
- Gastrointestinal
  - GI bleed
  - Appendicitis
  - Cholecystitis
  - Vomiting
  - Constipation
  - Diarrhea
  - Obstruction
  - Pancreatitis
  - Cirrhosis
  - Hepatic encephalopathy
- Genitourinary
  - Obstetric emergencies
  - Vaginal hemorrhage
  - Sexually transmitted diseases
  - Sexual assault
- Endocrinology
  - Diabetic ketoacidosis
  - Adrenal insufficiency
  - Myxedema
  - Thyrotoxicosis
- Renal
  - UTI
  - Pyelonephritis
  - Renal calculi
  - Acute renal failure
  - Chronic renal failure
- Trauma
  - Initial burn management
  - Antibiotic prophylaxis
  - Trauma resuscitation
- Toxicology/Overdose
  - Acetaminophen
  - Alcohol
  - Aspirin
  - Opiates
  - Benzodiazepines
  - Sympathomimetics/Hallucinogenics

- Ethylene glycol
- Tricyclic antidepressants
- Antidotes
- Decontamination
- Hematology/Oncology
  - Febrile neutropenia
  - Cord compression
  - Tumor lysis syndrome
  - Hypercalcemia
  - Sickle cell crisis
  - Hemophilia
- Skin/Soft tissue structure
  - Cellulitis
  - Lacerations
  - Bite wounds (human, dog, cat, snake)
  - Deep vein thrombosis
- Electrolytes
  - Hyperkalemia
  - Hyponatremia
  - Hybern timers
  - Acid/base disorders
  - Blood gas interpretation
- Miscellaneous
  - Procedural sedation
  - Psychiatric emergencies

**Learning Experience Activities:**

Activity	Objectives Covered
Establish appropriate inter-professional and inter-patient relationships in the ED. Provide prompt, evidence based pharmaceutical recommendations and drug information.	R1.1.1
Develop ability to incorporate appropriate primary literature results and patient data into a daily plan that maximizes appropriate pharmaceutical care to critically ill patients.	R1.1.1
Construct an evidenced based treatment regimen including goals for critically ill patients that take into consideration patient-,age-, disease- and drug-specific information as well as ethical and financial considerations for various disease states using the most current evidence based resources, and develop and maintain patient specific monitoring sheets that relevant information needed to formulate appropriate therapeutic recommendations for critically ill patients.	R1.1.5

Participate in medical resuscitations, code blue, trauma activations, and other acute medical emergencies in the Emergency Department. Exercise skill as a team member in the management of medical emergencies as exhibited by certification in the American Heart Association Advanced Cardiac Life Support.	R3.1.1
Present one case presentation to the pharmacy staff at the conclusion of the rotation regarding management of an emergently ill patient and present information in a concise and efficient manner.	R4.1.2
Residents will be expected to serve as an active preceptor of younger learners including, but not limited to, P3 introductory experience students and P4 APPE students. The resident will tailor questions and learning materials to the level of the learner.	R4.2.1
Residents will design activities and interactions with learners that allow them to further develop and refine the four preceptor roles of instructing, modeling, coaching, and facilitating.	R4.2.2

**Objectives selected to be evaluated during learning experience:**

R 1.1.1: (Applying) Interact effectively with health care teams to manage critically ill patients' medication therapy.

R 1.1.5: (Creating) Design, or redesign, safe and effective patient-centered therapeutic regimens and monitoring plans (care plans) for critically ill patients.

R 3.1.1: (Applying) Demonstrate personal, interpersonal, and teamwork skills critical for effective leadership in the provision of care for critically ill patients.

R 4.1.2: (Applying) Use effective presentation and teaching skills to deliver education related to critical care pharmacy.

R 4.2.1: (Analyzing) When engaged in teaching related to critical care, select a preceptor role that meets learners' educational needs.

R 4.2.2: (Applying) Effectively employ preceptor roles, as appropriate, when instructing, modeling, coaching, or facilitating skills related to critical care.

**Requirements of Learning Experience:**

Expected hours: 0800-1700; these times may vary depending on presentation of medical resuscitation or trauma patients. Opportunity would also exist to work swing shift hours (1500-2300; 1800-0200) if desired.

Required presentations:

One topic presentation to pharmacy staff, emergency medicine/disease state management topic discussions with the ED staff, one formal presentation to pharmacy staff on an emergency medicine-related topic.

Required readings:

Required reading materials for this learning experience include, but are not

limited to the following: (a link to a shared ED Google Drive and/or Dropbox folder will be made available to the resident)

- Rapid Sequence Intubation
- Sedation and Analgesia
- Seizure / Status Epilepticus
- Acid / Base Disorders
- Hypotension, Shock, Vasopressors

Preceptor interaction:

Daily\*:           0900           Beginning of shift briefing, patient overview  
                      1300-1400    Topic discussions, review patient progress, etc.

\*Times of interactions may vary depending upon department acuity level, i.e., presentation of traumas, resuscitations, cardiac arrests, or other emergent patients.

Communication: The preceptor will be available daily for live interactions. For those times in which the preceptor may not be physically present in the department (meetings, teaching responsibilities, etc.), he may be immediately reached via text.

Expected progression of resident on this learning experience:

Residents will be expected to demonstrate increased proficiency in regards to the practice of emergency medicine at both the midpoint and the final evaluations. Evidence of proficiency may include, but is not limited to, ability to recall previously learned material and apply it in a patient specific manner; enhanced comfort in serving as the primary pharmacy provider during trauma, medical resuscitation, and/or medical code activations; and, skill in precepting APPE and IPPE students (if applicable, i.e., if students concurrently on rotation); etc. The resident will also be expected to demonstrate improvement in regards to the development of patient-specific differential diagnoses and the ability to triage patients.

**Method of Evaluation:**

Evaluation of the resident will be based on the ASHP activity learning experiences listed above. Each learning activity has a corresponding code following the experience which corresponds to the activity learning experience listed in PharmAcademic®. During the orientation to the learning experience, the preceptor and the resident will review all the material contained in this learning experience description and sign a copy to be retained in the residents file.

The preceptor will provide feedback verbally (formative) throughout the course of the learning experience and electronically (summative) via PharmAcademic® at the conclusion of the experience. Once the resident is finished with all of the requirements for the experience, the preceptor and the resident will discuss the learning experience as a whole both formally and informally. The resident will also be responsible for providing both formative and summative feedback at the conclusion of the experience. All

evaluations must be submitted within seven days from the conclusion of the learning experience.

*I have read and acknowledged the responsibilities of the learning experience.*

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Pharmacy Resident

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Primary Preceptor