

EMERGENCY MEDICINE SELECTIVE ROTATION

Selective Title: Emergency Medicine Clinical Pharmacy

Brief Description: Emergency medicine residents will learn and focus on drug therapy and pharmacology by working directly with the emergency medicine pharmacy specialists.

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Educational or Clinical Site: ☒ BUMC – Tucson Campus ☐ BUMC – South Campus

Durations available: ☒ 2 weeks ☐ 4 weeks
 ☒ Other: Available at discretion of director

Educational Goals & Objectives:

1. Become familiar with the medication use process in the emergency department, specifically medication allocation, preparation, distribution, and administration.
2. Apply drug therapy and pharmacology principles to bedside patient care.

Resident Responsibilities:

1. Review assigned learning topics by reading literature and discussing landmark article(s) with preceptor. The resident is encouraged to choose and discuss topics of their interest, however, a list of possible topics is provided (Appendix A, next page).
 - a. A minimum of 1-2 topics for each week of rotation is required.
 - b. Develop a 1-2 page handout for 1 topic discussion that may be provided to co-residents at the completion of the rotation for each 2 weeks of rotation.
2. Participate in and/or lead topic discussions with other rotators at the discretion of the preceptor. An emphasis will be placed on drug therapy and pharmacology.
3. Attend the pharmacy residency conference (Wednesdays 3-4PM) and pharmacy journal club (Tuesdays and Thursdays 2-3PM) if interested. Preceptor to provide topic info.
4. Answer pharmacy related calls and questions at the discretion of the preceptor.
5. Assist with bedside management of patients as it relates to the role of the pharmacist.

Assessment method for performance of stated objectives:

1. Educational or patient tool will be reviewed.
2. Verbal and written feedback as indicated.

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Appendix A: Topic discussion options

- A. Acute agitation
 - a. Midazolam-Droperidol, Droperidol, or Olanzapine for Acute Agitation-Randomized Clinical Trial_TaylorDM_Ann Emerg Med_2016
 - b. Chemical Agents for the Sedation of Agitated Patients in the ED-Systematic Review_KorczakV_Am J Emerg Med_2016
- B. Anaphylaxis
- C. Anticoagulation reversal
 - a. Guideline for Reversal of Antithrombotics in Intracranial Hemorrhage_FronteraJA_Neurocrit Care_2016
 - b. Anticoagulation Reversal and Treatment Strategies in Major Bleeding-Update 2016_ChristosS_West J Emerg Med_2016
 - c. Emergency Reversal of Anticoagulation and Antiplatelet Therapies in Neurosurgical Patients-Review_BeshayJE_J Neurosurg_2010
- D. Antimicrobial Selection and Stewardship
 - a. General Strategies
 - i. <http://www.emdocs.net/antimicrobial-use-in-the-emergency-department-pearls-and-pitfalls/>
 - b. Guidelines by Infection Type
 - i. Community Acquired Pneumonia
 - ii. Sexually Transmitted Infections
 - iii. Meningitis
 - iv. Urinary Tract Infections
 - v. Skin and Soft Tissue Infections
 - vi. Sepsis
 - vii. Open Fracture Prophylaxis
 - viii. IDSA Combat Related Injuries
 - ix. Pediatrics vs Adults
- E. Atrial fibrillation/SVT
 - a. ED Patients with A Fib or AF and an Acute Underlying Medical Illness May Not Benefit From Attempts to Control Rate or Rhythm_ScheuermeyerFX_Ann Emerg Med_2015
 - b. Efficacy and Safety of Procainamide vs Propafenone vs Amiodarone for the Conversion of Recent-Onset Atrial Fibrillation_KochiadakisGE_Am J Cardiol_2007
 - c. Lenient vs Strict Rate Control in Patients with Atrial Fibrillation_VanGelderIC_NEJM_2010
 - d. Comparison of Rate Control and Rhythm Control in Patients with Recurrent Persistent Atrial Fibrillation-RACE_VanGelderIC_NEJM_2002
 - e. Comparison of Rate Control and Rhythm Control in Patients with Atrial Fibrillation-AFFIRM_NEJM_2002
 - f. BBs vs CCBs for Acute Rate Control of A-Fib with RVR-Systematic Review_MartindaleJL_Eur J Emerg Med_2015
 - g. Association of the Ottawa Aggressive Protocol with Rapid Discharge of ED Patients with Recent-Onset A-Fib or Flutter_StiellIG_CJEM_2010

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- h. Slow Infusion of CCBs Compared with IV Adenosine in the Emergency Treatment of SVT_LimSH_Resuscitation_2009
- i. 2015 AHA Guideline for the Management of Adult Patients with SVT_PageRL_J Am Coll Cardiol_2015
- F. Diabetic ketoacidosis
- G. Ischemic stroke
- H. Local anesthetics
 - a. Principles of Office Anesthesia - Part 1 - Infiltrative Anesthesia_AcharS_Am Fam Physician_2002
 - b. Principles of Office Anesthesia - Part 2 - Topical Anesthesia_KunduS_Am Fam Physician_2002
- I. Open fracture antibiotics
 - a. Acute Management of Open Fractures-An Evidence Based Review_HalawiMJ_Orthopedics_2015 (1)
 - b. Practice Management Guidelines for Prophylactic Antibiotic Use in Open Fractures_HoffWS_J Trauma_2011
 - c. Prophylactic Antibiotic Use in Open Fractures-Evidence Based Guideline_HauserCJ_Surgical Infections_2006
 - d. IDSA Guidelines Abx in Combat Injury_HospenthalDR_J Trauma_2011
- J. Postintubation sedation and analgesia
- K. RSI
 - a. RSI in Traumatic Brain Injured Adults_KramerN_Cureus_2018
 - b. RSI-Review of the Process and Considerations When Choosing Medications_StollingsJL_Ann Pharmacother_2014
- L. Shock
 - a. Shock_WackerDA_Emerg Med Clin N Am_2014
 - b. Pressors and Inotropes_KanterJ_Emerg Med Clin N Am_2014
 - c. Cardiogenic Shock_MoskovitzJB_Emerg Med Clin N Am_2015
 - d. Dopamine vs Norepi in Tx of Shock_Backer_NEJM_2010
 - e. Dopamine vs NE for Septic Shock - EBEM Commentators_SandiferJP_Ann Emerg Med_2012
- M. Status epilepticus
 - a. IM vs IV Therapy for Prehospital Status Epilepticus-RAMPART_SilbergleitR_NEJM_2012
 - b. A Comparison of Lorazepam, Diazepam, and Placebo for the Treatment of Out-of-Hospital SE_AlldredgeBK_NEJM_2001
 - c. A Comparison of Four Treatments for Generalized Convulsive SE_TreimanDM_NEJM_1998
 - d. ESETT_NEJM
- N. STIs
- O. Tox (ASA, APAP, local anesthetic, envenomations, digoxin, cyanide, serotonin syndrome, NMS, malignant hyperthermia, TCAs, organophosphates, etc.)
 - a. Goldfrank's
 - i. Chapter 35 Salicylates
 - ii. Chapter 34 Acetaminophen
 - iii. Chapter 127 Methemoglobin Inducers
 - iv. Chapter 113 Insecticides Organic Phosphorus Compounds and Carbamates

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- v. Chapter 73 Cyclic Antidepressants
 - vi. Chapter 64 Cardioactive Steroids
- b. Scorpion Envenomation_IngelfingerJR_NEJM_2014
- c. Diagnosis and Treatment of Drug-Induced Hyperthermia
_MusselmanM_AHJP_2012
- P. Tranexamic acid in trauma
 - a. TXA in Trauma-How Should We Use It_NapolitanoLM_J Trauma Acute Care Surg_2013
 - b. Effects of TXA on Death, Vascular Occlusive Events, and Blood Transfusion in Trauma Patients with Significant Haemorrhage_CRASH-2_Lancet_2010
 - c. Military Application of Tranexamic Acid in Trauma Emergency Resuscitation Study-MATTERs_MorrisonJJ_Arch Surg_2012