

**Erlanger Pharmacy Department
2022 UT Resident/Fellow
Orientation**

Pharmacy Department

- **Main Pharmacy - Ext. 7238 (423.778.7238)**
 - Located on the ground floor beside the morgue
 - Open 24/7
- **Children's Pharmacy – Ext. 6363 (423.778.6363)**
 - Located on 3rd floor of main campus
 - Open 24/7
- **East Pharmacy**
 - Located on East campus
 - Open 24/7
- **North Pharmacy**
 - Located on North campus
 - Open 7am – 3pm Monday to Friday– after hours served by main campus
- **Bledsoe Pharmacy**
 - Located on Bledsoe campus (Central Time Zone)
 - Open 7am – 3pm Monday to Friday– after hours served by main campus
- **SVED—pharmacist in house 3days/week**
- **Western Carolina**

General Information

- Drug Resources
 - UptoDate, MicroMedex , Neofax– located on Erlanger intranet
 - Free access to MicroMedex/Neofax mobile version
- Therapeutic Drug Substitutions for Adult Patients
 - Automatic substitution of non-formulary drug order to formulary agents
 - Examples of automatic substitutions per Erlanger formulary:
 - H2RA: famotidine
 - Proton pump inhibitor: pantoprazole
 - Carbapenems: Imipenem, Doripenem to meropenem
 - Low molecular weight heparin: enoxaparin
 - Other conversions per Pharmacy And Therapeutics Policy
- Renal Dosing (PC-228)
 - Evaluation of renally eliminated medications for appropriate dosing
 - Automatic dose adjustments made by pharmacists where appropriate
 - Examples: antibiotics, anticoagulants

Clinical Pharmacy Services

- Internal Medicine
- Family Medicine
- Cardiology/ CT Surgery
- Infectious Diseases
- Pulmonary Critical Care
- Trauma Critical Care
- Trauma Step Down
- Infectious Diseases
- Emergency Medicine
- Neonatology
- Pediatrics/Peds Critical Care
- Anticoagulation
- Nutrition Support
- Pharmacokinetics
- Drug information

Dedicated clinical pharmacists specializing in pharmacotherapy management work closely with nursing and physician staff to provide therapeutic recommendations, drug information, and educational services

Pharmacokinetics Service

- Pharmacy manages dosing and monitoring of all orders for **vancomycin, aminoglycosides** 7 days/week
(Consult service for pediatric/neonatal patients)
- **Pharmacy Vancomycin Adult Dosing Protocol :**
 - 20mg/kg loading dose, then 15mg/kg IV maintenance dosing adjusted for renal function
 - Therapeutic monitoring ordered and regimens adjusted by clinical pharmacy staff
 - Use caution interpreting reported vancomycin levels: reported vancomycin level must take into consideration timing of previous dose in relation to timing of lab draw
 - Vancomycin “Pulse Dosing”: dosing based on random levels for patients with AKI, dialysis
- **Pharmacy Aminoglycoside Adult Dosing Protocol:**
 - Once daily dosing for most patients
 - Random aminoglycoside level 10 hours post dose with dosing adjustments as clinically indicated
 - Traditional Dosing (Q8h): severe renal insufficiency, endocarditis synergy

Antibiotic Stewardship Program

- ASP Leadership
 - Adult: James Sizemore, MD; Cyle White, PharmD, BCPS
 - Peds: Ghussai Abd El Gadir, MD; Andrea Gerwin, PharmD, BCPPS; Renee Hughes, PharmD, BCPPS
- Reviews antibiotic orders on a daily basis for adult patients
- Make therapy suggestions for modifications to streamline therapy, make dosages adjustments for better efficacy, stop unnecessary antibiotics

*****Please Review Policy PC.231 on the intranet*****

Antibiotic Stewardship Program

- Prevent adverse events
 - Examples
 - *Clostridium difficile*
 - Line-related infections
- Decrease resistance
 - Examples
 - Vancomycin-resistance enterococcus
 - Multidrug Resistant Organisms
- Decrease antibiotic drug expenditures
- Lab stewardship

Antibiotic Stewardship: Methods

- Automatic ID consults on all patients with S.aureus bacteremia
- Discontinue antimicrobials exceeding evidence-based recommendations without documented rationale
- Authority to adjust antiretroviral regimens for accuracy
- Automatic discontinuation of double beta-lactam, double atypical coverage, and/or anaerobic coverage with no documented rationale

Pharmacy TPN Service

- Available 7 days a week
- Adult Patients
 - Required Order Set/patient must meet criteria for appropriateness of use
 - TPN consults must be received by 2pm to be started that day
 - Do not order TPN to start after 2pm
 - Not a stat/urgent therapy
 - Orders for TPN after 2pm will not be started until the following day
- Pediatric/Neonatal Patients
 - Physician to order TPN; consult Children's Pharmacy for assistance
 - Orders to be completed by 2pm (standard hang time 6pm)
- Enteral feeding ALWAYS preferred
 - If can take sips/clears TPN not indicated
 - If oral intake anticipated within 7 days, TPN not indicated
 - NG/Dob Hoff/PEG always preferred
 - Reduced incidence line infections vs. parenteral nutrition
 - Reduced risk gut atrophy vs. parenteral nutrition

Pharmacy Anticoagulation Service

- Optional Consult Service - Available 7 days/week
 - Warfarin dosing
 - Assistance and management of transitions between anticoagulants (e.g., enoxaparin → rivaroxaban)
 - Drug information regarding anticoagulants
 - Assistance with selection of agent in patients new to oral anticoagulation
 - Management of heparin induced thrombocytopenia
- Daily monitoring by anticoagulation service:
 - All patients receiving warfarin for appropriateness of dosing
 - Automatic adjustment of enoxaparin and heparin dosing for weight and renal function, per indication
- To consult enter order in Epic for **“pharmacy anticoagulation consult”** and specify need (warfarin/NOAC/etc.)

Adverse Drug Reactions

“Any unintended, undesirable, and unexpected effect of a prescribed medication or a medication error that requires discontinuation of or modification of a dose”

- 4th-6th leading cause of death
- Over 100,000 deaths occur annually due to ADRs

Adverse Drug Reactions

- Reasons to Report
 - Post marketing Surveillance
 - Manufacturing Errors
 - Mandated by DNV
- How to Report
 - eSafe (link found on Erlanger intranet home page)

Medication Occurrence Reporting

“Any event that involves potential or actual harm to a patient or visitor or lost/damaged property”

- Occurrence reporting is MANDATORY at Erlanger via eSafe on intranet
- Reporting is non-punitive
- Reporting is anonymous
- When reporting, state only the facts to avoid miscommunication
- Examples of reportable occurrences:
 - Medication errors
 - Failure to deliver or administer an ordered medication
 - Staff behavioral concerns

Pharmacy Medication Order Sets

- Some order sets are required
 - The medication order will not be verified by the pharmacist if the required order set is not used
- Examples of required order sets:
 - Kcentra
 - Albumin
 - TPN
 - Argatroban
 - Subcutaneous insulin

Ordering PRN Medications

Per DNV, all PRN medications **MUST** have an indication as part of the order

e.g., “Labetalol 20 mg IV every hour *prn SBP > 160*”

e.g., “Morphine 2 mg IV Q 4 hrs *prn pain scale 7-10*”

e.g., “Mirialax 17g po daily *prn constipation*”

Please be sure to include indications on all PRN orders

Ordering PRN Medications

Per DNV, duplicate PRN orders cannot be used

It is not acceptable to order Lortab[®]/Percocet[®] and Morphine[®] all PRN pain. Each PRN pain medication order and dose must be linked to a specific pain scale.

Ex) Lortab[®] 5/325mg po q4hprn PS 1-3
 Lortab[®] 10/325mg po q4hprn PS 4-6
 Morphine[®] 2mg iv q2hprn PS 7-10

This also applies to antiemetics and BP medications

******please see PC-245******

How to reach a pharmacist:

Main Adult Pharmacy Ext: 7328
(423.778.7328)

Children's Pharmacy Ext: 6363
(423.778.6363)