

## OUTLINE

### Antimicrobials

Drug classes  
Pharmacokinetic Properties  
Concentration-dependent killing  
Time-dependent killing  
Post-antibiotic effect  
Common interactions with other drugs

### Antibacterial Allergies – Sulfa and Penicillin

Define true allergy  
Sulfonamide antibiotics vs non-antibiotics  
Penicillin – Cephalosporin cross-sensitivity

### Bacteria

Differentiation  
Normal flora  
Common pathogens

### Antibacterial Resistance–Contributing Factors

Trends  
Mechanisms of resistance  
Contributing factors

### Methicillin-Resistant Staphylococcus Aureus - Community versus Hospital Acquired

Differentiating between CA- and HA-MRSA  
Current clinical practice guidelines  
Pharmacologic management

### Enterobacteriaceae Resistance

Extended Spectrum Beta-Lactamase (ESBL)  
What are ESBLs  
Pharmacologic management  
Carbapenem-Resistant Enterobacteriaceae (CRE)  
What are CREs  
Pharmacologic management

### Urinary Tract Infections

Bacterial Etiology, Signs and Symptoms and Diagnosis  
Cystitis and pyelonephritis  
Complicated and uncomplicated  
UTIs in pregnancy  
Treatment (IDSA Guideline Treatment Algorithm)  
Acute  
Recurrent and relapse

### Clostridium Difficile Infection

Risk factors  
Pharmacology management  
Fecal Transplantation  
Probiotics literature review

### Community–Acquired Pneumonia

Bacterial etiology  
Diagnosis  
Typical vs. atypical  
Treatment (IDSA/ATS Guidelines) and monitoring  
Outpatient vs. inpatient  
Empiric treatment

### Healthcare–Associated Pneumonia

Bacterial etiology  
Treatment (IDSA/ATS Guidelines)  
Treatment Controversy

### Upper Respiratory Tract Infections

Sinusitis and pharyngitis  
Etiology (Viral vs. Bacterial)  
Treatment  
Bronchitis and Pertussis  
Etiology (Viral vs. Bacterial)  
Treatment

### Skin and Soft Tissue Infections

Cellulitis  
Diabetic foot infections  
Bacterial etiology  
Signs & symptoms  
Treatment (IDSA Guidelines)  
Osteomyelitis  
Acute vs. Chronic  
Oral considerations

### Strategies to Improve Patient Adherence

IMS Model (Information-Motivation-Strategy)  
Major predictors of poor adherence to medication

### Antibacterial Resistance–Prevention Strategies

Mechanisms for drug resistance  
12 steps to prevent antimicrobial resistance (CDC)  
Antibiotic stewardship

### Emerging and Reemerging Viral Infections

Animals as sources  
Drivers and ecological factors  
Modes of transmission  
Pharmacology management

### Influenza

Clinical features  
Diagnosis  
Pharmacology management

### Immunizations (Adult)

Types of Vaccines  
General recommendations  
Contraindications & precautions

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# PHARMACOLOGY

## OF INFECTIOUS DISEASES & IMMUNIZATIONS

for Advanced Practice Clinicians

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Tuesday, August 15, 2017

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Wednesday, August 16, 2017

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Thursday, August 17, 2017



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# PHARMACOLOGY

## OF INFECTIOUS DISEASES & IMMUNIZATIONS

for Advanced Practice Clinicians

Featuring **Eric Wombwell, PharmD, BCPS**

- Antimicrobials
- Preventive strategies to limit antimicrobial resistance
- C. Difficile
- UTIs
- Respiratory Infections
- Skin Infections
- Treatment (IDSA) guidelines
- Immunizations (Adult)

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# PHARMACOLOGY OF INFECTIOUS DISEASES & IMMUNIZATIONS

Attend this seminar and learn proper prescribing, patient education and monitoring procedures for a variety of drug regimens used to treat common acute and chronic infectious diseases. Choosing an antibacterial agent can be challenging, given the plethora of drugs available on the market and the emerging trend in bacterial resistance.

You will learn the pharmacology of different classes of antimicrobials used to treat infectious disease states encountered in clinical practice. Discover the spectrums of activity, pharmacokinetic characteristics and parameters for monitoring therapeutic outcomes. Emphasis is placed on the new antimicrobials and advances in evidence-based treatment guidelines. You will leave this seminar better prepared to design appropriate and cost-effective drug regimens for improved therapeutic outcomes.

## SPEAKER

**Eric Wombwell, PharmD, BCPS,** is a Board Certified Pharmacotherapy Specialist and Clinical Assistant Professor for the Department of Pharmacy Practice and Administration at the University of Missouri - Kansas City, School of Pharmacy. Dr. Wombwell completed his PharmD degree at the University of Missouri Kansas City, followed by an ASHP accredited pharmacy practice residency at the Kansas City VA Medical Center.

Dr. Wombwell coordinates the pharmacy school courses of Pharmacotherapy II and Zoonotic Illnesses, and provides didactic lectures on infectious disease, hematology/oncology, and zoonoses topics for UMKC, where he has received multiple teaching recognitions. He is frequently invited to speak locally and nationally to nurse and pharmacist groups on a variety of infectious disease topics. Dr. Wombwell is published often in the areas of teaching, immunizations, and pharmacologic management of infectious diseases. In addition to his teaching, speaking, and research responsibilities, Dr. Wombwell practices as a clinical pharmacy specialist at Centerpoint Medical Center in Independence, Missouri emphasizing antimicrobial stewardship and pharmacokinetic dosing of antimicrobials. His professional interests include emerging and reemerging infectious pathogens and educational technology.

Speaker Disclosures:

Financial: Eric Wombwell is a Clinical Assistant Professor, Department of Pharmacy Practice at the University of Missouri – Kansas City. He receives a speaking honorarium from PESI, Inc.

Non-financial: Eric Wombwell has no relevant non-financial relationships to disclose.

## OBJECTIVES

1. Analyze the major classes of antibiotics and their pharmacokinetic characteristics.
2. Apply current evidenced-based approaches to select appropriate treatment regimens for common infections encountered in clinical practice.
3. Distinguish between different types of bacterial etiology and mechanisms of resistance.
4. Compare empiric dosing of antimicrobials.
5. Recognize important interactions between antimicrobials and other drugs.
6. Plan goals of therapy and parameters for monitoring therapeutic response to antimicrobials.
7. Recommend specific antimicrobial therapeutic drug monitoring to maximize efficacy and minimize toxicities (e.g., vancomycin and aminoglycosides).
8. Develop preventative strategies to limit antimicrobial resistance.
9. Design patient and caregiver education on the proper use of antimicrobials.
10. Differentiate local and global ecological factors affecting promotion of viral infection emergence.
11. Plan for vaccines that are currently recommended for routine administration.

Leave this seminar better prepared to design appropriate and cost-effective drug regimens for improved therapeutic outcomes.

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