# **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

UTIs in pregnancy
Treatment (IDSA Guidel

Treatment (IDSA Guideline Treatment Algorithm)

Complicated and uncomplicated

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)

## **Upper Respiratory Tract Infections**

Sinusitis and pharyngitis Etiology (Viral vs. Bacterial) Treatment

# Skin and Soft Tissue Infections

Cellulitis

Bacterial etiology

Strep. vs. Staph. vs. MRSA Signs & symptoms Treatment (IDSA Guidelines)

### Influenza

Clinical features
Diagnosis
Pharmacology management

### **Immunizations (Adult)**

Types of Vaccines General recommendations Contraindications & precautions

Questions?
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# PHARMACOLOGY

# OF INFECTIOUS DISEASES & IMMUNIZATIONS

# for Advanced Practice Clinicians

KANSAS CITY, MO Wednesday, November 20, 2019

SPRINGFIELD, MO

Thursday, November 21, 2019

**ST. LOUIS, MO** Friday, November 22, 2019



# PHARMACOLOGY

# OF INFECTIOUS DISEASES & IMMUNIZATIONS

# for Advanced Practice Clinicians

Featuring Eric Wombwell, PharmD, BCIDP

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

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# HARMACOLOGY 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

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.

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

# SPEAKER •

resistance.

Eric Wombwell, PharmD, BCIDP, is a board certified infectious diseases pharmacist and Clinical Associate Professor for the Department of Pharmacy Practice and Administration at the University of Missouri - Kansas City, School of Pharmacy. Wombwell is responsible for developing clinical and educational initiatives designed to optimize student learning. He is active in lecturing, research and hospital pharmacy practice.

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. Upon residency completion, Wombwell accepted a full-time non-tenured clinical faculty position at the University of Missouri – Kansas City, School of Pharmacy. His responsibilities include teaching Doctor of Pharmacy students in a variety of courses with special emphasis in the area of infectious diseases. As part of this position, Wombwell serves as a Clinical Pharmacy Specialist, working as part of the multidisciplinary team, providing care to acutely ill patients at Centerpoint Medical Center in Independence, Missouri. In addition, Wombwell functions in an adjunct faculty capacity with the University of Missouri – Kansas City, School of Dentistry, where he is responsible for teaching infectious diseases curricular content to dental students in the Pharmacology and Therapeutics course series.

Dr. Wombwell has more than 20 peer-reviewed publications on pharmacy and medication-related topics, and has delivered more than 50 invited presentations locally and nationally for continuing education to various health-professional audiences. He has been named Teacher-of-the-year in various capacities 10-times, including "Missouri Pharmacist Association - UMKC Faculty Member of the Year" in 2016, and received the "UMKC Provost's Award for Excellence in Teaching" in 2014.

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**

- pharmacokinetic characteristics.
- 2. Apply current evidenced-based approaches to select appropriate treatment regimens for common infections encountered in clinical practice.
- 3. Prescribe antimicrobials based on empiric dosing recommendations.
- 4. Plan goals of therapy and parameters for monitoring therapeutic response to antimicrobials.
- 1. Analyze the major classes of antibiotics and their 5. Recommend specific antimicrobial therapeutic drug monitoring to maximize efficacy and minimize toxicities (e.g., vancomycin and aminoglycosides).
  - 6. Develop preventative strategies to limit antimicrobial resistance.
  - 7. Design patient and caregiver education on the proper use of antimicrobials.

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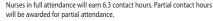
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