

2019 Infectious Diseases Pharmacy Preparatory Review and Recertification Course

Learning Objectives

Antimicrobial Stewardship

- Outline components of an effective stewardship program.
- Select appropriate resources; relevant accreditation, legal, regulatory, and safety requirements; and quality metrics related to infectious diseases.
- Evaluate institutional treatment polices and pathways for compliance with antimicrobial stewardship guidelines, surveillance data, and best available evidence.
- Assess the effectiveness of infection prevention and control strategies.
- Identify metrics for evaluating the value of infectious disease pharmacy services.

Upper Respiratory Tract Infections

- Assess available pharmacotherapies for urinary tract infections.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Recommend appropriate modifications of patient-specific treatment plans based efficacy and adverse effects.
- Identify recommended immunizations and potential adverse effects.

Lower Respiratory Tract Infections

- Assess available pharmacotherapies for lower respiratory tract infections, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Recommend the most appropriate modifications of patient-specific treatment plans based on efficacy, adverse effects, and follow-up assessment.
- Interpret biomedical literature with regard to study design and methodology, significance of reported data and conclusions, limitations, and applicability of study results to patients with lower respiratory tract infections.

HIV Infection and AIDS

- Assess available pharmacotherapies for HIV-infection and AIDS, including opportunistic infections.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Identify recommended immunizations and screening guidelines for patients with HIV.
- Recommend appropriate modifications of patient-specific treatment plans based on efficacy, drug interactions, immunologic response, and adverse effects.

- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results related to HIV infection.
- Evaluate a plan to facilitate transitions of care.

Infections of Reproductive Organs and Sexually-Transmitted Diseases

- Assess available pharmacotherapies for infections of reproductive organs and sexually-transmitted diseases.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Identify recommended screening guidelines for sexually-transmitted diseases.
- Recommend appropriate modifications of patient-specific treatment plans based on efficacy, immunologic response, and adverse effects.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Outline key considerations in effective patient and caregiver education and counseling techniques.

Opportunistic Infections in Immunocompromised Patients

- Assess the advantages and disadvantages of available pharmacotherapies for opportunistic infections in immunocompromised patients, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Recommend appropriate modifications of patient-specific pharmacotherapeutic plans based on efficacy, immunologic response, and adverse effects.
- Identify preventative therapies in immunocompromised patients.

Gastrointestinal and Intra-abdominal Infections

- Assess available pharmacotherapies for gastrointestinal and intra-abdominal infections, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Recommend appropriate modifications of patient-specific treatment plans based on efficacy, immunologic response, and adverse effects.

Viral Hepatitis

- Assess available pharmacotherapies for viral hepatitis, including relevant pharmacology and spectrum of activity.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, virus and genotype, and best available evidence.
- Interpret signs, symptoms, laboratory and other relevant diagnostic test results.

- Recommend appropriate modifications of patient-specific treatment plans based on efficacy, adverse effects, and drug interactions.
- Outline key considerations in effective patient and caregiver education and counseling techniques.
- Identify screening guidelines and preventive therapies for viral hepatitis.

Tuberculosis and Other Mycobacterial Infections

- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, laboratory and other relevant diagnostic test results.
- Recommend appropriate modifications of patient-specific treatment plans based on efficacy, adverse effects, and drug interactions.
- Outline key considerations in effective patient and caregiver education and counseling techniques.
- Identify screening guidelines and preventive therapies for tuberculosis and other mycobacterial infections.

Cardiovascular Infections

- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Identify drug-related problems associated with the therapeutic plan.
- Recommend appropriate modifications of patient-specific pharmacotherapeutic plans based on efficacy and adverse effects.
- Interpret biomedical literature with regard to study design and methodology, significance of reported data and conclusions, limitations, and applicability of study results to patients with cardiovascular infections.

Urinary Tract Infections

- Assess available pharmacotherapies for lower respiratory tract infections, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, laboratory and other relevant diagnostic test results.
- Identify infectious diseases for which notification of the Centers for Disease Control and Prevention is required.

Statistics, Evidence-based Medicine, and Research Design

- Given an excerpt from a study, determine quality and appropriateness of the excerpt, with specific attention to:
 - Study design
 - Statistical analysis

- Internal/external validity
- Sources of bias/confounders
- Quality of conclusions
- Interpretation of graphs from given studies
- Determine clinical and statistical significance based on specified excerpts of studies
- Determine why a statistical test is appropriate or not, given the sample distribution, data type, and study design
- Interpret statistical significance for results from commonly used statistical tests
- Describe the strengths and limitations of different types of measures of central tendency (mean, median, and mode) and data spread (standard deviation, standard error of the mean, range, and interquartile range)
- Define and evaluate odds ratio (OR), risk/incidence rate, relative risk (RR), number needed to treat (NNT), number needed to harm (NNH), and other risk estimates
- Determine whether the study applies to a specified patient population

Bone and Joint Infections and Skin and Soft Tissue Infections

- Assess the advantages and disadvantages of available pharmacotherapies for bone and joint infections and skin and soft tissue infections, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Identify drug-related problems associated with the therapeutic plan.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Recommend appropriate modifications of patient-specific pharmacotherapeutic plans based on efficacy and adverse effects.
- Describe the etiology, diagnosis, and treatment of acute bacterial osteomyelitis and septic arthritis in pediatric patients.

Central Nervous System Infections

- Assess available pharmacotherapies for central nervous system infections, including antimicrobial spectrum of activity, pharmacokinetics, and pharmacodynamics.
- Select the most appropriate pharmacotherapeutic plan and monitoring based on patient- and disease specific information, antibiogram data, and best available evidence.
- Interpret signs, symptoms, and laboratory and other relevant diagnostic test results.
- Identify preventive therapies for central nervous system infections.

Clinical Microbiology

- Characterize the mechanisms of antimicrobial resistance among various pathogens.
- Identify basic microbiology laboratory procedures.
- Interpret laboratory and other diagnostic test results relevant to the diagnosis, management, and monitoring of patients with infectious diseases.

- Evaluate biomedical literature with regard to study design and methodology specific to infectious diseases.