

2019 ACCP/ASHP Ambulatory Care Pharmacy Preparatory Review and Recertification Course Learning Objectives

Practices and Processes of Care

At the end of this activity you will be able to:

1. Define a pharmacist's scope of practice in ambulatory care pharmacy practice.
2. Recognize critical elements of a collaborative practice agreement, protocol, etc.
3. Compare and contrast the coding and billing for immunizations under Medicare Part B and Part D.
4. Describe different types of patient care services or practice models provided by a pharmacist within an ambulatory practice.
5. Apply tools and resources to detect, classify, report, analyze, and reduce preventable and non preventable adverse drug events.
6. Formulate a plan to ensure patient access to medications by facilitating the use of prescription drug plans and other resources.
7. Use formulary management activities to improve the prescribing of safe, effective, and affordable treatments in an organization.
8. Describe the regulatory requirements applicable to pharmacy services using point-of-care testing.

Communication Strategies in Pharmacy

At the end of this activity you will be able to:

1. Use strategies that develop patient rapport, foster trust, and effectively and efficiently obtain accurate, comprehensive histories, despite potential barriers in communication.
2. Use assessments of patients' knowledge, health literacy, self-management skills, health beliefs, and attitudes toward medications to tailor educational interventions that will improve adherence and self-efficacy.
3. Communicate patient care activities and medication related information effectively to other health care professionals verbally and in writing through the medical record.
4. Discuss factors and methods used to assess and select appropriate written educational materials intended for the general public.
5. Describe how to serve as a patient advocate on medication-related issues within and outside the health care system.

Developing a Clinical Practice

At the end of this activity you will be able to:

1. Perform an internal and external environmental scan for planning sustainable ambulatory clinical patient care service(s).
2. Create a formal service proposal or business plan with the key elements identified as important to your organization.
3. Develop a pro forma statement that financially supports your program within a business plan.
4. Incorporate the seven P's of marketing into a marketing plan for an ambulatory clinical service(s).
5. Identify and perform five clinic operational activities before opening a clinic, including developing an optimal workflow process for your services.
6. Develop and evaluate an effective set of clinic policies and procedures for an ambulatory clinic.

Managing a Clinical Practice

At the end of this activity you will be able to:

1. List three critical clinic functions for your clinic to assess and review on an annual basis to sustain a top-level practice.
2. Develop a robust quality assessment program for your clinical service using the balanced scorecard.
3. Analyze sources of quality measures important to your organization, and select the measures important to your practice site or patient population.

4. Develop a credentialing and privileging process to ensure the competency of pharmacists providing direct patient care in your clinic setting.
5. Differentiate pharmacist billing opportunities between a hospital-based clinic, physician office, and community pharmacy.
6. Develop a proposal for pharmacists at your clinic site to participate in the range of current Medicare billing opportunities that will sustain the service for the next several years.
7. Describe how pharmacist services in your setting may be incorporated into the Medicare Part B Quality Payment Program.

Cardiology I

At the end of this activity you will be able to:

1. Formulate appropriate oral anticoagulant treatment strategies for patients who develop venous thromboembolism (VTE) (deep venous thrombosis or pulmonary embolism) consistent with available consensus panel guidelines, recent U.S. Food and Drug Administration approvals, and randomized clinical trials.
2. Describe key differences in onset of action, dosing, administration, absorption, effects on common coagulation tests, and drug interactions between dabigatran, rivaroxaban, apixaban, edoxaban, and warfarin in the management of nonvalvular atrial fibrillation (NVAf) and treatment and prevention of VTE.
3. Develop a comprehensive education and monitoring plan for patients receiving oral anticoagulants for treatment and prevention of VTE, stroke prevention in NVAf, and stroke prevention associated with mechanical heart valves.
4. Develop patient-specific, guideline-driven treatment, monitoring, and follow-up plans for patients with heart failure (HF).
5. Develop patient-specific, guideline-driven treatment, monitoring, and follow-up plans for rate and pharmacologic rhythm control in a patient with atrial fibrillation (AF) and ventricular tachycardia.
6. Identify treatment goals, common adverse effects, clinically important drug interactions, monitoring, and REMS (Risk Evaluation and Mitigation Strategies) requirements for oral pharmacotherapy of pulmonary arterial hypertension.

Cardiology II

At the end of this activity you will be able to:

1. Recommend regimens for primary and secondary prevention of coronary heart disease (CHD) events according to current guidelines and performance measures.
2. Calculate a patient's initial 10-year risk of an atherosclerotic cardiovascular disease (ASCVD) event using the Pooled Cohort Equations risk calculator.
3. Formulate an appropriate antiplatelet regimen after percutaneous coronary intervention according to current guidelines and product labeling for P2Y12 inhibitors and protease-activated receptor antagonists.
4. Recommend an appropriate time interval for discontinuing antiplatelet medications for surgical procedures.
5. Apply an understanding of the mechanism of action and effects of antihypertensive medications to construct an appropriate pharmacologic and therapeutic monitoring plan for a patient with hypertension (HTN).
6. Design an evidence-based HTN medication regimen on the basis of comorbid conditions (e.g., chronic kidney disease [CKD], diabetes mellitus, CHD) and for patients who require combination antihypertensive therapy to achieve their blood pressure goals.
7. Integrate an understanding of the mechanism of action and effects of lipid medications to select an appropriate pharmacologic and therapeutic monitoring plan for efficacy and safety.
8. Create an evidence-based lipid-lowering medication regimen for primary and secondary prevention and for patients with dyslipidemia and comorbid conditions (e.g., peripheral arterial disease [PAD], CKD, potential drug interactions, chronic elevation in CK).
9. Develop an evidence-based treatment strategy for patients with PAD.
10. Recommend an evidence-based medication regimen for secondary prevention of stroke and transient ischemic attack.

Genitourinary, Electrolytes, and Nutritional Deficiencies/Supplementation in Older Adults

At the end of this activity you will be able to:

1. Describe the pathophysiology and clinical signs/ symptoms of benign prostatic hyperplasia (BPH), urinary incontinence, and erectile dysfunction (ED).
2. Identify common electrolyte abnormalities and nutritional deficiencies that occur in ambulatory older adults.
3. Evaluate and manage drug-induced causes of BPH, urinary incontinence, ED, hypokalemia, hyperkalemia, and hyponatremia in ambulatory older adults.
4. Compare and contrast pharmacologic interventions for BPH, urinary incontinence, ED, hypovitaminosis D, vitamin B12 deficiency, hyperkalemia, hypokalemia, and calcium supplementation.
5. Formulate treatment strategies for BPH, urinary incontinence, ED, hypovitaminosis D, vitamin B12 deficiency, hyperkalemia and hypokalemia using patient-specific information.
6. Evaluate the risk-benefit of multivitamin supplementation and the risk-benefit of antioxidant plus zinc supplementation for macular degeneration.

Trial Design and Biostatistics

At the end of this activity you will be able to:

1. Describe hypothesis testing and state the meaning of and distinguish between p values and confidence intervals.
2. Define, compare, and contrast the concepts of internal and external validity, bias, and confounding in trial design. Select strategies to eliminate or control for bias and improve internal and external validity.
3. Compare and contrast the advantages and disadvantages of various study designs (e.g., prospective, retrospective, case-control, cohort, cross-sectional, randomized controlled clinical trials, systematic review, meta-analysis).
4. Discuss the differences between causation and association.
5. 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 inter-quartile range).
6. Determine why a statistical test is appropriate or not appropriate, given the sample distribution, data type, and study design. Interpret statistical and clinical significance for results from commonly used statistical tests.
7. Define and evaluate odds ratio, risk/incidence rate, relative risk, number needed to treat, number needed to harm, and other risk estimates.
8. Define and calculate terms such as true positive, false positive, true negative, false negative, sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio, and negative likelihood ratio.

Pulmonary Disorders

At the end of this activity you will be able to:

1. Classify, assess, control, select, and monitor appropriate treatment for pediatric and adult patients with asthma, adult patients with chronic obstructive pulmonary disease (COPD), and adult patients with obstructive sleep apnea (OSA), depending on patient-specific factors.
2. Educate patients about their therapy for asthma, COPD, OSA, and smoking cessation, including the proper use of inhalers, holding chambers, positive airway pressure machines, and medications.
3. Select and monitor appropriate pharmacotherapy, and provide behavioral counseling, to assist a patient in quitting smoking.
4. Discuss public health, practice management, and patient advocacy issues as they pertain to asthma, COPD, OSA, and smoking cessation.

Diabetes Mellitus

At the end of this activity you will be able to:

1. Identify differences between prediabetes, type 1 diabetes mellitus (T1DM), type 2 diabetes mellitus (T2DM), and gestational diabetes mellitus (GDM), including differences in diagnostic criteria and clinical presentation.
2. Describe the pathophysiology of T1DM and T2DM.

3. Compare agents used in the treatment of diabetes mellitus (DM), including their mechanisms of action, adverse effects, contraindications, advantages, and disadvantages for each agent discussed.
4. Select appropriate insulin regimens for patients on the basis of desired onset, peak, and duration of insulin effects.
5. Individualize a comprehensive glycemic treatment and monitoring plan for a patient with prediabetes, DM, and GDM.
6. Discuss appropriate blood pressure and lipid management for patients with DM.
7. Discuss the acute and chronic complications associated with DM and strategies to prevent or slow its progression.

Endocrine Disorders

At the end of this activity you will be able to:

1. Identify the most at risk patient populations receiving thyroid hormone replacement and explain the importance of consistent levothyroxine replacement for these patients. In addition, identify appropriate thyroid hormone replacement therapy dosing strategies for all patients with hypothyroidism.
2. Discuss the pharmacotherapy of hyperthyroidism, including the advantages and disadvantages of antithyroid drugs versus radioactive iodine and surgery.
3. Recommend appropriate patient-specific pharmacotherapy for the treatment of polycystic ovary syndrome.
4. Medically manage a patient presenting with hyperprolactinemia. In addition, describe the typical differences in presentation of men versus women with prolactin-secreting tumors.
5. Compare and contrast the available weight-loss medications with respect to mechanism of action, efficacy, and adverse effects, and design a patient specific treatment plan for a patient who wishes to lose weight.
6. Compare and contrast the role of drug therapy, transsphenoidal surgery, and radiation therapy for a patient with a diagnosis of acromegaly, and design a patient-specific pharmacologic treatment and monitoring plan.
7. Describe the typical clinical features of patients with growth hormone deficiency, and design an appropriate pharmacologic treatment and monitoring plan on the basis of patient-specific factors.
8. Recognize the clinical presentation and treatment of a patient with adrenal insufficiency.
9. Identify indications when patients with Cushing syndrome would be candidates for pharmacologic treatment.
10. List symptoms of hyperaldosteronism, and recommend appropriate drug therapy for its treatment.
11. Compare the safety, efficacy, and routes of administration of available testosterone (T) replacement products. In addition, list appropriate monitoring guidelines for a man with hypogonadism receiving T-replacement therapy.

Obstetrics/Gynecology

At the end of this activity you will be able to:

1. Recommend therapy for contraception, infertility, menstrual disorders, endometriosis, and symptoms of menopause on the basis of patient-specific information.
2. Recommend appropriate treatment for common acute and chronic conditions in pregnancy and lactation.
3. Develop patient education regarding medication use during pregnancy and lactation, contraception, infertility, menstrual disorders, endometriosis, and postmenopausal therapy.
4. Identify additional resources for health care providers and patients on contraception, infertility, pregnancy and lactation, menstrual disorders, endometriosis, and postmenopausal therapy.

Psychiatric Disorders

At the end of this activity you will be able to:

1. Analyze the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) criteria, etiology, risk factors, and disease course for the anxiety disorders, sleep disorders, major depression, bipolar disorder, attention-deficit/hyperactivity disorder, and schizophrenia.
2. Apply a working knowledge of common drug and nondrug therapies for the psychiatric disorders, including drug, dose, frequency, adverse effects, drug interactions, and monitoring parameters.
3. Develop appropriate initial treatment plans and therapy modifications on the basis of response and tolerability of medications used for the psychiatric disorders described.

4. Monitor for adverse drug effects, drug-drug and drug-disease interactions, and appropriateness of therapy, including polytherapy.

Neurology

At the end of this activity you will be able to:

1. Given a patient case, select an appropriate antiepileptic drug (AED) regimen for a patient with epilepsy on the basis of seizure type and AED mechanism of action, common adverse effects, and drug interactions.
2. Recommend an appropriate pharmacologic therapy for a patient with episodic or chronic migraine headache.
3. Recommend and manage appropriate disease-modifying therapy for a patient with multiple sclerosis (MS) on the basis of MS subtype and other patient specific factors.
4. Formulate a treatment plan for a patient with Parkinson disease.
5. Evaluate the appropriateness of initiating/continuing chronic opioid therapy in a patient with chronic pain.

Gastrointestinal Disorders

At the end of this activity you will be able to:

1. Apply national guideline–based treatment strategies for GI disorders.
2. Assess the benefit-risk of drug therapy for patients with GI disorders.
3. Recommend appropriate nonpharmacologic and pharmacologic interventions for the management of GI disorders.
4. Develop and implement a patient-specific comprehensive therapeutic plan for the management of GI disorders.
5. Provide drug-related patient education and counseling for pharmacologic therapies used in the management of GI disorders.

Infectious Diseases I

At the end of this activity you will be able to:

1. Design appropriate treatment regimens for patients with sexually transmitted infections.
2. Describe routes of HIV transmission and current screening guidelines.
3. Explain the mechanisms of action of antiretroviral agents and commonly encountered adverse effects.
4. Formulate treatment strategies for the management of HIV and commonly encountered opportunistic infections.
5. Select appropriate ancillary medications and immunizations as needed for the management of HIV infection and its associated morbidities.
6. Explain the epidemiology of influenza and herpesviruses, and formulate appropriate strategies for treatment of infection.
7. Explain the risk factors for superficial and invasive fungal infections, and design corresponding treatment regimens.
8. Identify and manage the drug interactions associated with anti-infective medications.

Infectious Diseases II

At the end of this activity you will be able to:

1. Design appropriate pharmacologic and nonpharmacologic treatment regimens for various patient populations with urinary tract infections, prostatitis, community-acquired pneumonia, sinusitis, pharyngitis, otitis media, skin and soft tissue infections, tuberculosis, ophthalmic infections, bone and joint infections, tick-borne infections, infective endocarditis, central nervous system infections, antibiotic prophylaxis, infectious diarrhea, and Clostridium difficile infections.
2. Identify risk factors and clinical circumstances for antimicrobial resistance.
3. Design an antimicrobial therapeutic regimen to treat resistant infections and prevent future development.
4. Apply evidence-based medicine and patient-specific factors to design antimicrobial regimens that are appropriate and cost-effective for the patient.

Nephrology

At the end of this activity you will be able to:

1. Identify a patient at risk of, or presenting with, acute kidney injury, and formulate an appropriate recommendation.
2. Identify a patient at risk of, or presenting with, drug-induced kidney disease, and formulate an appropriate recommendation.
3. Compare and contrast the available methods to assess kidney function. Using appropriate data, assess kidney function in a patient.
4. Formulate an evidence-based treatment plan for managing the most common medical problems in patients with chronic kidney disease (CKD), including anemia, CKD-related mineral and bone disorder, and hyperkalemia.
5. Construct a treatment plan to slow the progression of CKD in patients with hypertension and diabetes.
6. Describe the pharmacokinetic effects of peritoneal and hemodialysis on drug disposition.
7. List the most common nephrolithiasis prevention measures and treatment options.
8. List the multidisciplinary dialysis team members.
9. Describe Medicare Part B and D policies related to end-stage renal disease (ESRD) and dialysis care (i.e., ESRD Prospective Payment System, Quality Incentive Program, Conditions for Coverage, Centers for Medicare & Medicaid Services [CMS] Comprehensive ESRD Care Model [CEC]).

Bone/Joint and Rheumatology

At the end of this activity you will be able to:

1. Systematically identify patients to screen for osteoporosis and use the screening results to guide the decision on how to treat the patient.
2. Use a STEPS-wise approach (safety, tolerability, efficacy, preference [pearls], simplicity) for comparing, recommending, and justifying a drug therapy regimen for osteoporosis.
3. Identify appropriate health maintenance interventions when caring for a patient receiving biologic and synthetic disease-modifying antirheumatic drug (DMARD) therapy.
4. Select the most appropriate treatment regimen for psoriatic arthritis on the basis of patient limitations because of the disease.
5. Create an algorithm or a stepwise approach to minimize pain and maximize functionality in patients with osteoarthritis.
6. Choose a drug therapy for treating fibromyalgia syndrome, based on drug efficacy and a patient's comorbid conditions.
7. Select follow-up screenings or laboratory tests at correct intervals for patients with systemic lupus erythematosus treated with hydroxychloroquine.
8. Formulate a care plan to help patients decrease their uric acid concentrations, gout symptoms, and gouty attacks by using nonpharmacologic and pharmacologic interventions.

Policy, Practice, and Regulatory Issues

At the end of this activity you will be able to:

1. List the congressional committees and government agencies that regulate health care in the United States.
2. Identify the regulatory and oversight bodies with jurisdiction over health system delivery of care.
3. Explain recent federal legislative and regulatory activity that affects the delivery of health care.
4. Describe the regulatory actions that govern the prescription drug approval process and the conduct of human subjects research.
5. Describe national quality initiatives aimed at improving health care delivery and patient health outcomes.
6. Explain medication policy implications at an institutional level.

Dermatologic and Eyes, Ears, Nose, and Throat, and Immunologic Disorders

At the end of this activity you will be able to:

1. Formulate an ophthalmologic drug therapy regimen for a patient presenting with macular degeneration, dry eye syndrome, or glaucoma.
2. Construct an individualized pharmacy care plan for a patient with allergic rhinitis who has received no relief from intranasal corticosteroids.
3. Recommend immunizations for patients receiving injectable medications for the treatment and prevention of angioedema.
4. Determine how patients with acne should initiate, switch, or modify topical or oral therapeutic agents using a treatment algorithm.
5. Recommend single or multiple topical and systemic agents for treating plaque psoriasis given a patient's disease presentation, severity, and prior therapies.
6. Effectively educate a patient on an infestation and the purpose, proper use, and potential adverse reactions of the first-line treatment options for scabies and lice.