** Materials for this course will release 04/29/2020 **

Ambulatory Care Pharmacy Specialty Review Course for Recertification + RECERT EXAM Package
(Cert # L209101)

Teaser: This online course will help you earn BCACP recertification credit. With this course, get comprehensive, practical guidance, with a variety of complex cases, including references for further study.

Tag: Certifications; Ambulatory Care

ACPE Numbers: Various – see listing below
Pre-Sale Date: 04/15/2020
Content Release Date: 04/29/2020
Expiration Date: 04/13/2021
Activity Type: Application-based
CE Credits: 25 (BPS and ACPE)
Activity Fee: $475 (ASHP member); $675 (non-member)

Accreditation for Pharmacists
The American College of Clinical Pharmacy and the American Society of Health-System Pharmacists is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

These activities were recorded during a live educational event on March 5-7, 2020 at the ACCP/ASHP's 2020 Live Review & Recert Courses, Henderson, Nevada. Learners who claimed credit for the live activities should not claim credit for these home study activities.

Target Audience
These recertification activities are intended for board certified pharmacists seeking to update their knowledge and skills in ambulatory care pharmacy.

Activity Overview
This course is intended for BCACPs in need of recertification credit and is designed based on the content outline developed by the Board of Pharmacy Specialties (BPS) to provide an overview of recent standards and guidelines that specialists should be familiar with in practice. The course uses a case-based approach to discuss patient care issues. In this series, faculty will:

- Review pertinent clinical topics and practice skills
- List valuable resources for further self-study
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This online course consists of 19 activities (see table below) and provides up to 25 hours of continuing pharmacy education credit and/or recertification credit.

**Recertification Credit***
Board certified pharmacists are eligible to receive up to 25 hours of recertification credit for completing this course. To earn recertification credit, learners must review the course content and successfully complete the online assessments by the deadline. Only completed assessments will be eligible for credit; no partial or incomplete assessments will be processed. You are allowed only one attempt to successfully complete this assessment.

This course is not intended for those preparing to take the BPS Ambulatory Care Pharmacy Specialty Examination for Certification. To prepare for the examination, please see courses here: http://elearning.ashp.org/catalog/amb-care-review.

These activities are part of the ACCP and ASHP professional development program for BCACP recertification approved by the BPS.

* Please note: Review Course for Recertification may only be completed for recertification credit up to two times, in nonconsecutive years, during the 7-year recertification cycle.

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<th>Learning Activity</th>
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Learning Objectives
At the end of the presentations, the pharmacist should be able to:

**Trial Design and Biostatistics - Module IA**
ACPE #: 0217-9999-20-050-H04-P
- Describe hypothesis testing and state the meaning of and distinguish between p values, confidence intervals, and measures of central tendency and data spread.
- Define, compare, and contrast the concepts of internal and external validity, causation, association, bias, and confounding in trial design. Select strategies to eliminate or control for bias and improve internal and external validity.
- 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).
- 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.
- Define and evaluate odds ratio, risk/incidence rate, relative risk, number needed to treat, number needed to harm, and other risk estimates.

**Endocrine Disorders - Module IB**
ACPE #: 0217-9999-20-051-H01-P
- Identify appropriate thyroid hormone replacement therapy dosing strategies for patients with hypothyroidism.
- Discuss the pharmacotherapy of hyperthyroidism, including the advantages and disadvantages of antithyroid drugs versus radioactive iodine and surgery.
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- Recommend appropriate patient-specific pharmacotherapy for the treatment of polycystic ovary syndrome.
- Medically manage a patient with hyperprolactinemia
- 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.
- Recognize the clinical presentation of a patient with adrenal insufficiency and design a treatment plan, including differentiating the glucocorticoids with respect to duration of activity, glucocorticoid potency, and mineralocorticoid potency,
- 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.

**Genitourinary, Electrolytes, and Nutritional Deficiencies/Supplementation in Older Adults - Module 7A**
ACPE #: 0217-9999-20-049-H01-P

- Identify common electrolyte abnormalities and nutritional deficiencies in ambulatory older adults.
- Evaluate and manage drug-induced causes of benign prostatic hyperplasia (BPH), urinary incontinence, erectile dysfunction (ED), hypokalemia, hyperkalemia, and hyponatremia in ambulatory older adults.
- Compare and contrast pharmacologic interventions for BPH, urinary incontinence, ED, hypovitaminosis D, vitamin B₁₂ deficiency, hyperkalemia, hypokalemia, and calcium supplementation.
- Formulate treatment strategies for BPH, urinary incontinence, ED, hypovitaminosis D, vitamin B₁₂ deficiency, hyperkalemia, and hypokalemia using patient-specific information.

**Cardiology I - Module 2A**
ACPE #: 0217-9999-20-052-H01-P

- Evaluate the appropriate use of aspirin for primary prevention of cardiovascular (CV) events according to practice guidelines and clinical trial evidence.
- Design an evidence-based treatment and monitoring strategy for patients with hypertension (HTN) that considers goals of therapy, comorbid conditions, and compelling indications.
- Formulate a treatment plan for resistant HTN.
- Create an evidence-based treatment and monitoring plan for patients receiving lipid-lowering therapies for primary and secondary prevention of atherosclerotic cardiovascular disease (ASCVD) and hypertriglyceridemia.
- Develop an optimal treatment strategy for patients who experience statin-associated muscle symptoms or are statin intolerant.
- Devise an evidence-based treatment plan for secondary prevention of acute coronary syndrome (ACS), stroke and transient ischemic attack (TIA), and peripheral arterial disease (PAD).
- Recommend an appropriate time interval for discontinuing antiplatelet medications for surgical procedures.
Cardiology II - Module 2B
ACPE #: 0217-9999-20-053-H01-P

- Formulate appropriate oral anticoagulant treatment strategies for patients who develop venous thromboembolism (Deep venous thrombosis or pulmonary embolism) or nonvalvular atrial fibrillation or who have mechanical heart valves consistent with available consensus panel guidelines, recent U.S. Food and Drug Administration approvals, and randomized clinical trials.
- 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.
- Develop patient-specific, guideline-driven treatment, monitoring, and follow-up plans for patients with heart failure, atrial fibrillation, or ventricular tachycardia.
- Identify treatment goals, common adverse effects, clinically important drug interactions, monitoring, and risk evaluation and mitigation strategies requirements for oral pharmacotherapy of pulmonary arterial hypertension.

Bone/Joint and Rheumatology - Module 2C
ACPE #: 0217-9999-20-054-H01-P

- Systemically identify patients to screen for osteoporosis, and use the screening results to guide the decision on how to treat the patient.
- Use a STEPS-wise approach (safety, tolerability, efficacy, preference [pearls], simplicity) for comparing, recommending, and justifying a drug therapy regimen for osteoporosis, rheumatoid arthritis (RA), psoriatic arthritis (PsA), osteoarthritis (OA), fibromyalgia, gout, and systemic lupus erythematosus (SLE).
- Choose a drug therapy for OA or fibromyalgia syndrome on the basis of drug efficacy and a patient’s comorbid conditions.
- Select screenings or laboratory tests at appropriate intervals for patients with RA, PsA, or SLE treated with disease-modifying antirheumatic (DMARD) or biologic DMARD therapies.
- Formulate a care plan to help patients decrease their uric acid concentrations, gout symptoms, and gouty attacks using nonpharmacologic and pharmacologic interventions.

Diabetes Mellitus - Module 3A
ACPE #: 0217-9999-20-055-H01-P

- Identify difference 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.
- Describe the pathophysiology of T1DM and T2DM.
- Compare agents used in the treatment of diabetes mellitus (DM), including their mechanisms of action, adverse effects, contraindications, advantages, and disadvantages.
- Select appropriate insulin regimens for patients on the basis of desired onset, peak, and duration of insulin effects.
- Individualize a comprehensive glycemic treatment and monitoring plan for patients with prediabetes, DM, and gestational DM.
- Discuss appropriate blood pressure and lipid management for patients with DM.
- Discuss the acute and chronic complications associated with DM and the strategies used to prevent them or slow their progression.
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**Obstetrics/Gynecology - Module 3B**
ACPE #: 0217-9999-20-056-H01-P
- Recommend therapy for contraception, infertility, menstrual disorders, and endometriosis on the basis of patient-specific information.
- Recommend appropriate treatment for common acute and chronic conditions in pregnancy and lactation.
- Recommend therapy for menopause on the basis of patient-specific information.
- Develop provider and patient education regarding medication use during pregnancy and lactation, contraception, infertility, menstrual disorders, endometriosis, and postmenopausal therapy.

**Pulmonary Disorders - Module 3C**
ACPE #: 0217-9999-20-057-H01-P
- Compare and contrast between common features of patients with asthma or chronic obstructive pulmonary disease (COPD).
- Select appropriate evidence-based treatment for patients with asthma, COP, and/or nicotine dependence based on specific patient factors and comorbidities.
- Develop a comprehensive education plan with monitoring parameters for patients on therapy for asthma, COPD, and/or smoking cessation.
- Compare and contrast the different respiratory inhaler devices and holding chambers.
- Integrate brief behavioral counseling and smoking cessation best practices when assisting a patient with quitting smoking.
- Explain the public health, practice management, and patient advocacy issues as they pertain to asthma, COPD, and/or smoking cessation.

**Practices and Processes of Care - Module 4A**
ACPE #: 0217-9999-20-058-H04-P
- Compare and contrast the billing for immunizations under Medicare Part B and Part D.
- Describe different types of patient care services or practice models provided by a pharmacist within an ambulatory practice, together with any applicable regulatory requirements.
- Apply tools and resources to detect, classify, report, analyze, and reduce preventable and non-preventable adverse drug events.
- Formulate a plan to ensure patient access to medications by facilitating the use of prescription drug plans and other resources.
- Use formulary management activities to improve the prescribing of safe, effective, and affordable treatments in an organization.

**Communication Strategies in Pharmacy - Module 4B**
ACPE #: 0217-9999-20-059-H04-P
- Use strategies that develop patient rapport, foster trust, and effectively and efficiently obtain accurate, comprehensive histories, despite potential barriers in communication.
- 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.
Communicate patient care activities and medication-related information effectively to other health care professionals verbally and in writing through the medical record.

Discuss factors and methods used to assess and select appropriate written educational materials intended for the general public.

Describe how to serve as a patient advocate on medication-related issues within and outside the health care system.

Perform an internal and external environmental scan and needs assessment to determine the need and organizational value for an ambulatory clinical patient care service.

Create a formal service proposal or business plan including the important key elements identified by stakeholders within your organization.

Develop a sustainable financial model using direct and indirect costs and financial projections.

Develop an effective marketing plan incorporating the seven “P’s” of health care marketing.

Prepare for implementing an ambulatory service by developing essential clinical operational activities, including policy and procedures and a clinic workflow.

List five critical clinical practice functions and activities required to sustain a top-level practice.

Develop a robust and sustainable quality-assessment program using the balanced scorecard concept for your clinical service and identifying quality measures important to your organization and patient population.

Develop a credentialing and privileging process to ensure the competency of pharmacists providing direct patient care in your clinic setting

Identify and implement pharmacist reimbursement or billing opportunities for a hospital-based clinic, physician office, and community pharmacy.

Describe how to sustain reimbursement for pharmacist services in new models of care and value-based payment.

Analyze the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) criteria and disease course for anxiety disorders, sleep disorders, major depression, bipolar disorder, attention-deficit/hyperactivity disorder, schizophrenia, and substance use disorders.

Apply a working knowledge of common drug and nondrug therapies for psychiatric disorders, including drug, dose, frequency, adverse effects, drug interactions, and monitoring values.

Recommend appropriate treatments, including both lifestyle modification and specific drug therapy (medication dose, schedule, and delivery system), on the basis of relevant patient factors (pharmacodynamic, physiologic, pharmacokinetic, and socioeconomic parameters).

Monitor for adverse drug effects, drug-drug and drug-disease interactions, and appropriateness of therapy, including polytherapy.
Neurology - Module 5B
ACPE #: 0217-9999-20-062-H01-P
- 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.
- Recommend an appropriate pharmacologic therapy for a patient with episodic or chronic migraine headache.
- 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.
- Formulate a treatment plan for a patient with Parkinson disease.
- Evaluate the appropriateness of initiating/continuing chronic opioid therapy in a patient with chronic pain.

Gastrointestinal Disorders - Module 5C
ACPE #: 0217-9999-20-063-H01-P
- Gastrointestinal (GI) disorders within the objectives refer to the disorders covered in the chapter and include the following: gastroesophageal reflux disease, peptic ulcer disease, chronic liver disease manifestations, viral hepatitis, malabsorption syndrome, diarrhea, constipation, nausea and vomiting, irritable bowel syndrome, and inflammatory bowel disease.
  - Apply national guideline-based treatment strategies for GI disorders.
  - Access the benefit-risk of drug therapy for patients with GI disorders.
  - Recommend appropriate nonpharmacologic and pharmacologic interventions for managing GI disorders.
  - Develop and implement a patient-specific comprehensive therapeutic plan for managing GI disorders.
  - Provide drug-related patient education and counseling for pharmacologic therapies used in managing GI disorders.

Infectious Diseases I - Module 6A
ACPE #: 0217-9999-20-064-H01-P
- Identify the clinical presentations of sexually transmitted infections, and design appropriate treatment regimens.
- Describe the mechanisms of action and adverse effects associated with antiretroviral agents, and identify major drug interactions associated with them.
- Formulate treatment strategies for the management of HIV and commonly encountered opportunistic infections.
- Design appropriate strategies for treatment and prevention of influenza and other viral infections.
- Identify the risk factors for superficial and endemic fungal infections, and design corresponding treatment regimens.
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**Infectious Diseases II - Module 6B**
ACPE #: 0217-9999-20-065-H01-P

- Design appropriate pharmacologic and nonpharmacologic regimens for various patient populations with urinary tract infections, prostatitis, community-acquired pneumonia, sinusitis, pharyngitis, otitis media, skin and soft tissue infections, latent tuberculosis infections, conjunctivitis, Lyme disease, antibiotic prophylaxis, infectious diarrhea, and Clostridioides difficile infections.
- Identify risk factors and clinical circumstances for antimicrobial resistance.
- Design an antimicrobial therapeutic regime to treat resistant infections and prevent their future development.
- Apply evidence-based medicine and patient-specific factors to design antimicrobial regimens that are appropriate and cost-effective for the patient.

**Nephrology - Module 6C**
ACPE #: 0217-9999-20-066-H01-P

- Identify a patient at risk of developing, or presenting with, acute kidney injury, drug-induced kidney disease, or chronic kidney disease (CKD), and formulate an appropriate care plan to mitigate risk and slow progression.
- Compare and contrast the available methods to assess kidney function. Using appropriate data, assess kidney function in a patient to inform clinical decision-making.
- Formulate an evidence-based treatment plan for managing the most common medical problems in patients with CKD, including anemia, CKD-related mineral and bone disorder, and hyperkalemia.
- Evaluate the pharmacokinetic effect of peritoneal or hemodialysis on drug disposition and implications for appropriate use.
- List the most common nephrolithiasis prevention measures and treatment options.
- 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 Comprehensive ESRD Care Model) and their respective effects on medication use.

**Dermatologic and Eyes, Ears, Nose, and Throat, and Immunologic Disorders - Module 6D**
ACPE #: 0217-9999-20-067-H01-P

- Formulate an ophthalmologic drug therapy regimen for a patient presenting with macular degeneration, dry eye syndrome, or glaucoma.
- Construct an individualized pharmacy care plan for a patient with allergic rhinitis who has obtained no relief from intranasal corticosteroids.
- Recommend immunizations for patients receiving injectable medications for the treatment and prevention of angioedema.
- Determine how patients with acne should initiate, change, or modify topical or oral therapeutic agents using a treatment algorithm.
- Recommend single or multiple topical and systemic agents for treating plaque psoriasis given a patient’s disease presentation, severity, and prior therapies.
- 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.
Ambulatory Care Pharmacy Specialty Review
Course for Recertification

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In addition to the reviewers above, all chapters were reviewed by one or more of ACCP/ASHP’s Course Content Matter Experts.

Field Testers  
TBD

Disclosures  
In accordance with the Accreditation Council for Continuing Medical Education’s Standards for Commercial Support and the Accreditation Council for Pharmacy Education’s Standards for Commercial Support, ACCP and ASHP requires that all individuals involved in the development of activity content disclose their relevant financial relationships. A person has a relevant financial relationship if the individual of his or her spouse/partner has a financial relationship (e.g. employee, consultant, research grant recipient, speakers bureau, or stockholder) in any amount occurring the in the last 12 months with a commercial interest whose products or series may be discussed in the educational activity content over which the individual has control. The existence of these relationships is provided for the information of participants and should not be assumed to have an adverse impact on the content.

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- Consultant/Member of Advisory Board: Katie E. Cardone (Wolters Kluwer Kelly, AstraZeneca) Michael P. Kane (Wolters Kluwer), Michelle T. Martin (AbbVie and Gilead)
- Grant Funding/Research Support: Michelle T. Martin (Gilead, Merck)
- Speaker’s Bureau: Michael P. Kane (Amarin Pharmaceuticals)
- Minor Shareholder: Michelle T. Martin (AbbVie, Gilead, and Merck)
- Employer: Katie E. Cardone (Spouse employed by Fresenius Medical Care)
- Other: Alicia B. Forinash (royalties from Wolters Kluwer), Mary Ann Kliethermes (co-owner of Clinical Pharmacy Systems)

Reviewer Disclosures:
- Employee of Company: Terry Richardson (Rx 8 Consulting)

All other planners, presenters, and reviewers of this session report no financial relationships relevant to this activity.
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Methods and CE Requirements
Activities can be completed in any order. Each activity consists of audio, video, and/or PDFs and evaluations. Learners must review all content and complete the evaluations to receive continuing pharmacy education credit for each activity.

Follow the prompts to claim, view, or print the statement of credit within 60 days after completing the activity.

System Technical Requirements
Courses and learning activities are delivered via your Web browser and Acrobat PDF. For all activities, you should have a basic comfort level using a computer and navigating web sites.

View the minimum technical and system requirements for learning activities.

Development
These activities were developed by ACCP and ASHP.