

Clinical Skills Certificate for International Pharmacy

ACPE Activity Number(s):

- 0204-0000-21-781-H04-P
- 0204-0000-21-782-H04-P
- 0204-0000-21-783-H01-P
- 0204-0000-21-784-H01-P
- 0204-0000-21-785-H01-P
- 0204-0000-21-786-H01-P
- 0204-0000-21-787-H01-P
- 0204-0000-21-788-H01-P
- 0204-0000-21-789-H01-P

Release Date: August 4, 2021

Expiration Date: August 4, 2024

CE Credit Hour(s) (*no partial credit*): 23.5 hours

Fees: Member: \$395.00 / Nonmember: \$495.00; modules are not available for individual purchase.

Accreditation for Pharmacists



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

Target Audience

This certificate is intended for pharmacists who are interested in gaining the foundational knowledge necessary to provide clinical pharmacy services in their practice settings. Participants will be assumed to have the required pharmacy content knowledge but not necessarily the education-related knowledge and skills included in this certificate.

Activity Overview

These modules are designed to teach fundamental concepts of patient-centered clinical skills for pharmacists practicing or trained outside of the United States of America. The curriculum will cover core principles of clinical pharmacy practice and patient care roles of pharmacists. The course will present pharmacist-led activities in key clinical areas. After completing all of the modules, participants will have the foundational knowledge necessary to provide clinical pharmacy services in their practice settings.

CE Activity Announcement

Learning Objectives and Schedule of Activities

Activity CE Information	Title, Description, and Learning Objectives
<p>ACPE #: 0204-0000-21-781-H04-P</p> <p>Credit Hours: 3.25</p> <p>Activity Type: Knowledge-based</p>	<p>Title: Orientation to Clinical Pharmacy Practice, Pharmacists as Caregivers, and Transitions of Care</p> <p>This module is a general overview of clinical pharmacy practice including an introduction to the roles and responsibilities of acute and ambulatory care clinical pharmacists, a description of the tools used by pharmacists in practice, and the pharmacists role in the transition of care.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Joshua Bayer, Pharm.D., BCPS, AAHIVP • Thomas J. Pierson, Pharm.D. • Jason T. Wong, Pharm.D., M.B.A., CPPS <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Summarize the history, evolution, and advancement of clinical pharmacy practice 2. Describe the standards of practice for a hospital clinical pharmacist in the United States of America 3. Discuss how ambulatory care pharmacists address the provision of integrated, accessible healthcare services for ambulatory patients in a wide variety of settings, including community pharmacies, clinic, and physician offices 4. Identify the importance of supporting futuristic practice models that support the most effective use of pharmacists as direct patient care providers 5. Describe the role of the clinical pharmacist on the patient care team 6. Discuss information obtained from the patient medical record used to develop drug therapy recommendations 7. Identify drug information resources available to assist clinical pharmacists 8. Describe strategies to monitor and document patient response to pharmacotherapy interventions using a patient medical record 9. Describe the role of the pharmacist in care transitions between multiple settings 10. Explain the steps to complete a medication history and medication reconciliation 11. Describe evidence supporting the role of pharmacists in admission and discharge medication reconciliation

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<p>ACPE #: 0204-0000-21-782-H04-P</p> <p>Credit Hours: 2.0</p> <p>Activity Type: Application-based</p>	<p>Title: Evidence-based Medicine and Drug Information</p> <p>This module describes components of evidence-based medicine including biostatistics calculations and reviews how pharmacists can use this information when making clinical decisions.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Paul M. Boylan, Pharm.D., BCPS • J. Nate Hedrick, Pharm.D. <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Describe the elements of evidence-based medicine 2. Evaluate study design for appropriateness and limitations 3. Assess clinical practice guidelines for validity and applicability 4. Solve biostatistics calculations 5. Describe the role of the pharmacist in providing drug information 6. Differentiate between primary, secondary, and tertiary sources of information
<p>ACPE #: 0204-0000-21-783-H01-P</p> <p>Credit Hours: 2.5</p> <p>Activity Type: Application-based</p>	<p>Title: Renal Pharmacotherapy and Fluids and Electrolytes</p> <p>This module discusses the key factors to consider in renal clearance and medication dosing, the composition of body fluids in adults and properties of intravenous fluids, and the recommended pharmacotherapy interventions.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Michelle Estevez, Pharm.D., DPLA, BCPS • J. Nate Hedrick, Pharm.D. <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Describe the role of key components of the nephron 2. Explain how glomerular filtration, active secretion, and passive reabsorption contribute to renal clearance 3. Select a medication dose using the Cockcroft-Gault equation 4. Describe the distribution of total body fluid and expected distribution of various intravenous fluids 5. Compare examples of a hypotonic fluid, isotonic fluid, and hypertonic fluid 6. Recommend pharmacotherapy interventions based on patient criteria and electrolyte abnormalities
<p>ACPE #: 0204-0000-21-784-H01-P</p> <p>Credit Hours: 3.0</p> <p>Activity Type: Application-based</p>	<p>Title: Pharmacokinetics, Nutrition, and Critical Care</p> <p>This module discusses medication pharmacokinetics and pharmacodynamics; enteral and parenteral nutrition, and key issues in critical care</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Michelle Estevez, Pharm.D., DPLA, BCPS • Amanda L. Hedrick, Pharm.D.

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	<p>Learning Objectives:</p> <ol style="list-style-type: none">1. Describe clinical pharmacodynamics as it relates to medication dosing2. Describe the role of pharmacokinetics in therapeutic drug monitoring in medications such as vancomycin and aminoglycosides3. Differentiate between pharmacokinetics and pharmacodynamics4. Describe nutritional requirements5. Compare and contrast enteral and parenteral nutrition in hospitalized patients6. Identify the signs and symptoms of refeeding syndrome7. Describe common medication related challenges in critically ill patients8. Identify drug related problems in the intensive care unit9. Apply guideline-based interventions in patients with sepsis10. Contrast treatment approaches for analgesia and sedation in critically ill patients11. Assess how to treat and prevent delirium in the intensive care unit
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<p>ACPE #: 0204-0000-21-785-H01-P</p> <p>Credit Hours: 3.0</p> <p>Activity Type: Application-based</p>	<p>Title: Diabetes, Cardiovascular, and Dermatologic Pharmacotherapy</p> <p>This module describes pharmacotherapy and management of diabetes mellitus, management of acute and chronic cardiovascular disease states, and the pathology, pharmacotherapy, and patient counseling topics for common skin disorders.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Daniel Brust, Pharm.D. • Mary J. Ketchner, Pharm.D. <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Differentiate between type 1 and type 2 diabetes 2. Identify different classes of medications used to treat diabetes 3. Explain how to reduce and treat hypoglycemia 4. Define diabetic ketoacidosis and hyperosmolar hyperglycemic state 5. Recommend first-line medication treatments for diabetic ketoacidosis and hyperosmolar hyperglycemic state 6. Identify medications used to treat hypertension and dyslipidemia 7. List first-line medications that are used in acute coronary syndromes, cerebrovascular accident, and transient ischemic attack 8. Contrast rate versus rhythm control strategies 9. Differentiate anticoagulants used in venous thromboembolism and atrial fibrillation 10. Summarize appropriate pharmacological treatment of acute/chronic heart failure 11. Describe the pathology of common skin disorders 12. Identify medications for common skin disorders 13. Counsel patients about dermatologic skin products 14. Select appropriate skin care products based on patient symptoms
<p>ACPE #: 0204-0000-21-786-H01-P</p> <p>Credit Hours: 2.0</p> <p>Activity Type: Application-based</p>	<p>Title: Special Populations and Infectious Diseases</p> <p>This module explains the role of pharmacist in antimicrobial stewardship programs and covers common infectious diseases and medications, including vancomycin and aminoglycosides.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Michelle Estevez, Pharm.D., DPLA, BCPS • Jason T. Wong, Pharm.D., M.B.A., CPPS <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Differentiate the pharmacokinetics in geriatric and pediatric populations 2. List medications on the BEERs criteria 3. Recommend appropriate dosing for pediatric patients 4. Identify pregnancy and lactation drug references and resources 5. Describe the role a hospital clinical pharmacist plays in the management of common infectious diseases 6. Recommend antimicrobial medications and protocols

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	7. Identify elements of a hospital antimicrobial stewardship program
<p>ACPE #: 0204-0000-21-787-H01-P</p> <p>Credit Hours: 2.5</p> <p>Activity Type: Application-based</p>	<p>Title: Pulmonary Disorders This module describes the pharmacotherapy and management of pulmonary disorders, including asthma and chronic obstructive pulmonary disease.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Paul M. Boylan, Pharm.D., BCPS <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Given a patient case, assess the severity and level of control of their asthma 2. Identify medication safety and tolerability concerns for patients with asthma 3. Recommend appropriate pharmacotherapy for patients with asthma 4. Identify safety and tolerability concerns with medications used for asthma 5. Given a patient case, assess the severity and level of control of their chronic obstructive pulmonary disease 6. Identify medication safety and tolerability concerns for patients with chronic obstructive pulmonary disease 7. Recommend appropriate pharmacotherapy for patients with chronic obstructive pulmonary disease

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<p>ACPE #: 0204-0000-21-788-H01-P</p> <p>Credit Hours: 1.75</p> <p>Activity Type: Application-based</p>	<p>Title: Gastrointestinal Disorders and Coping with Chemotherapy</p> <p>This module describes the pharmacotherapy and management of gastrointestinal disorders and disease states, and the identification and management of chemotherapy side effects.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Daniel Brust, Pharm.D. • Kate Taucher, Pharm.D., M.H.A., BCOP <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Identify medications that can cause constipation, diarrhea, and nausea and vomiting 2. List medications used to treat constipation, diarrhea, and nausea and vomiting 3. Differentiate between pharmacologic classes of medications used to treat gastroesophageal reflux disease 4. Summarize medications used in inflammatory bowel disease including potential adverse effects 5. Recommend an appropriate treatment plan for a patient with a gastrointestinal bleed. 6. Assess the risk of chemotherapy induced nausea and vomiting based on emetogenic potential and patient risk factors 7. Apply guideline based recommendations for management of chemotherapy side effects 8. Summarize the rationale for side effect management in clinical cases
<p>ACPE #: 0204-0000-21-789-H01-P</p> <p>Credit Hours: 3.5</p> <p>Activity Type: Application-based</p>	<p>Title: Neurological Disorders, Pain Management, and Rheumatology</p> <p>This module discusses the initial assessment and management of neurologic disorders and pain management. The module also describes the overview, main causes, and recommended pharmacotherapy for osteoarthritis, gout, and rheumatoid arthritis.</p> <p>Faculty:</p> <ul style="list-style-type: none"> • Joshua Bayer, Pharm.D., BCPS, AAHIVP • Jason T. Wong, Pharm.D., M.B.A., CPPS <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Describe management of a acute stroke 2. Differentiate the role of a clinical pharmacist in the management of mental health disorders and pain 3. Compare common analgesics used in the treatment of pain 4. Discuss the main causes for gout 5. List the most common treatments for gout 6. Recommend a medication treatment plan for a patient with gout 7. Develop a treatment plan for a patient unable to take oral medications 8. Discuss the main causes for osteoarthritis 9. List the most common treatments for osteoarthritis

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	<ol style="list-style-type: none"> 10. Recommend a medication treatment plan for a patient with osteoarthritis 11. Discuss the main causes for rheumatoid arthritis 12. List the most common treatments for rheumatoid arthritis 13. Recommend a medication treatment plan for a patient with rheumatoid arthritis
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Faculty Information

Joshua Bayer, Pharm.D., BCPS, AAHIVP

Clinical Pharmacy Specialist
Department of Veterans Affairs
La Crosse, Wisconsin

Paul M. Boylan, Pharm.D., BCPS

Assistant Professor
The University of Oklahoma College of Pharmacy
Oklahoma City, Oklahoma

Daniel Brust, Pharm.D.

Patient Aligned Care Team (PACT) Clinical Pharmacy Specialist
Wilkes-Barre Veterans Affairs Medical Center
Wilkes-Barre, Pennsylvania

Michelle Estevez, Pharm.D., DPLA, BCPS

Emergency Medicine Pharmacist
Lee Health
Fort Myers, Florida

Amanda L. Hedrick, Pharm.D.

Critical Care Pharmacist
University of Virginia Health
Charlottesville, Virginia

J. Nate Hedrick, Pharm.D.

Clinical Pharmacist
Emergency Department
University of Virginia Health
Charlottesville, Virginia

Mary J. Ketchner, Pharm.D.

Clinical Pharmacist
Walter Reed National Military Medical Center
Bethesda, Maryland

Thomas J. Pierson, Pharm.D.

Pharmacy Manager of Specialty Clinic Services
Cleveland Clinic
Cleveland, Ohio

Kate Taucher, Pharm.D., M.H.A., BCOP

Ambulatory Oncology Clinical Pharmacy Specialist
PGY2 Oncology Residency Program Director
UCHealth Memorial Hospital
Medical Key Account Manager
G1 Therapeutics
Colorado Springs, Colorado

Jason T. Wong, Pharm.D., M.B.A., CPPS

Inpatient Operations Manager
PGY1 Pharmacy Residency Program Director
Oregon Health & Science University
Portland, Oregon

Disclosures

In accordance with the ACPE's and ACCME's Standards for Commercial Support, everyone in a position to control the content of an educational activity is required to disclose to the accredited provider their relevant financial relationships. An individual has a **relevant financial relationship** if he or she (or spouse/domestic partner) has a financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the activity content over which the individual has control.



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A **commercial interest** is any entity producing, marketing, re-selling, or distributing healthcare goods or services consumed by, or used on, patients. The Standards for Commercial Support do not consider providers of clinical services directly to patients to be commercial interest.

In this activity, only the individual(s) below have a relevant financial relationship.

Kate Taucher, Pharm.D., MHA, BCOP
- employee of GI Therapeutics

All other planners, presenters, reviewers, and staff report no financial relationships relevant to this activity.

Methods and CE Requirements

This online activity consists of a combined total of 9 learning modules. Pharmacists are eligible to receive a total of 23.5 hours of continuing education credit by completing all 9 modules within this certificate program.

Participants must participate in the entire activity and complete the evaluation to earn continuing pharmacy education credit. Follow the prompts online at the ASHP eLearning portal (<http://elearning.ashp.org>) to claim credit and view statements of credit within 60 days of completing the activity. Credits will be reported directly to CPE Monitor. To verify that you have completed the required steps and to ensure your credits hours have been reported to CPE Monitor, we encourage you to check your NABP eProfile account to validate your credits were transferred successfully before the ACPE 60-day deadline. After the 60 day deadline, ASHP will no longer be able to award credit.

System Technical Requirements

Courses and learning activities are delivered via your Web browser and Acrobat PDF. Users should have a basic comfort level using a computer and navigating web sites.

View the [minimum technical and system requirements](#) for learning activities.

Acknowledgements of Support

This activity was planned and developed by The American Society of Health-System Pharmacists.