

**** Materials for this course will release 09/22/2021 ****

Critical Care Pharmacy Specialty Core Therapeutic Module Package for Recertification (Cert # L219198)

Teaser: The Core Therapeutic Modules for Recertification Package consists of 3 activities on the topics of (Acid-Base Disorders, Pharmacokinetics and Pharmacodynamics, and Toxicology). In each activity, faculty review clinical topics and practice skills using a case-based approach.

Tag: Certifications; Critical care



ACPE Numbers: Various – see listing below

Pre-Sale Date: 09/01/2021

Content Release Date: 09/22/2021

Expiration Date: 09/20/2022

Activity Type: Application-based

CE Credits: 3.25 (BPS and ACPE) contact hours

Activity Fee: \$100 (ASHP member); \$150 (non-member)

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

These activities are intended for Board Certified Pediatric Specialists in need of recertification credit.

Activity Overview

The Core Therapeutic Modules for Recertification Package consists of 3 activities (see table below). In each activity, faculty review clinical topics and practice skills using a case-based approach. This package is intended for board certified pharmacists in need of recertification credit; the activities were designed based on the content outline developed by the Board of Pharmacy Specialties (BPS).

Successful completion of all the learning modules will provide up to 3.25 contact hours of continuing pharmacy education credit.

Recertification Credit*

Board certified pharmacists are eligible to receive up to 3.25 contact hours of recertification credit for completing this module. To earn recertification credit, learners must review the activity content and successfully complete the online assessment 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.

Participants who pass the assessments will be eligible for recertification credit in the year in which the assessment was completed.

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

**** Materials for this course will release 09/22/2021 ****

Learning Activity	ACPE Number	Contact Hours	*Assessment Pass Point
Select Topics in Acid-Base Disorders	0204-0000-21-610-H01-P	1.25	76%
Alterations in Pharmacokinetics and Pharmacodynamics in Critical Care	0204-0000-21-611-H01-P	1.00	
Select Topics in Toxicology	0204-0000-21-612-H01-P	1.00	

Learning Objectives

After participating in these CPE activities, learners should be able to:

Select Topics in Acid-Base Disorders

ACPE #: 0204-0000-21-610-H01-P

For the following specific acid/base disorders - respiratory, metabolic acid base disorders including anion gap/non-anion gap acidosis, renal tubular acidosis, as well as delta gap equation:

- Interpret laboratory and diagnostic tests.
- Recommend the most appropriate treatment and monitoring plans based on patient-specific information and current guidelines

Alterations in Pharmacokinetics and Pharmacodynamics in Critical Care

ACPE #: 0204-0000-21-611-H01-P

- Identify pharmacokinetic and pharmacodynamic (PK/PD) changes that occur in critical illness, and the impact on commonly administered medications in this setting.
- Apply knowledge of general PK/PD changes in critical illness to the following patient-specific factors that further complicate drug dosing:
 - Burns
 - Obesity
 - Pregnancy
 - Continuous renal replacement therapy (CRRT)
 - Extracorporeal membrane oxygenation (ECMO)
- Develop a therapeutic strategy to optimize PK/PK for commonly used medications in the intensive care unit.

Select Topics in Toxicology

ACPE #: 0204-0000-21-612-H01-P

For the following specific toxicology topics: acetaminophen, toxic alcohols, calcium channel blockers, beta blockers, opioids, and ecstasy:

- Interpret laboratory and diagnostic tests
- Recommend the most appropriate treatment and monitoring plans based on patient-specific information and current guidelines

**** Materials for this course will release 09/22/2021 ****

Faculty (<https://www.ashp.org/Professional-Development/Board-Certification-Resources/Critical-Care-Pharmacy/Critical-Care-Pharmacy-Review-Course-Faculty>)

Kevin E. Anger, Pharm.D., BCPS
Pharmacy Supervisor
Brigham and Women's Hospital
Boston, Massachusetts

Mojdeh Heavner
Associate Professor and Vice Chair for Clinical Services
University of Maryland School of Pharmacy
Baltimore, Maryland

Daniel R. Malcom, Pharm.D., BCPS, BCCCP
Associate Professor and Chair, Department of Pharmacy Practice
Sullivan University College of Pharmacy and Health Sciences
Louisville, Kentucky

Content Matter Experts

Angela Bingham, Pharm.D., BCPS, BCNSP, BCCCP, FASPEN, FCCP
Interim Vice Chair and Associate Professor of Clinical Pharmacy, PGY2 Critical Care Pharmacy Residency Program Director,
Residency Programs Coordinator
Philadelphia College of Pharmacy, University of the Sciences
Philadelphia, Pennsylvania
Critical Care Clinical Pharmacy Specialist
Cooper University Hospital
Camden, New Jersey

Mary M. Hess, Pharm.D., FASHP, FCCM, FCCP, BCCCP
Associate Dean
Professor, Pharmacy Practice
Jefferson College of Pharmacy
Philadelphia, Pennsylvania

Paul Szumita, Pharm.D., BCCCP, BCPS, FASHP, FCCM
Director of Clinical Pharmacy
Brigham & Women's Hospital
Boston, Massachusetts

Reviewers

Holly L. Byrnes, Pharm D., BCPS
Susan R. Dombrowski, M.S., R.Ph.
Jill A. Sellers, B.S.Pharm., Pharm.D.

Field Testers

Shannon Allcron, Pharm.D., BCCCP, BCPS
Rachel Anderson, Pharm.D., BCPS, BCCCP
John Austin, Pharm.D., BCPS, BCCCP
Neela Bhajandas, Pharm.D., BCPS, BCCCP
Jennifer Catlin, Pharm.D., BCPS, BCCCP

**** Materials for this course will release 09/22/2021 ****

Genevieve Cheung, Pharm.D., BCCCP
Ryan Cook, Pharm.D., BCPS, BCCCP
Rosanna dastoori, Pharm.D., BCPS, BCCCP
Adonia Eskandari, Pharm.D., BCCCP
Lane Farrell, Pharm.D., BCCCP
Nadia Ferguson-Myrthil, Pharm.D., BCCCP
April Finnigan, Pharm.D., BCCCP
Stefanie Forman, Pharm.D., BCPS, BCCCP
Jonathan Gray, Pharm.D., BCCCP
Coleen Hart, Pharm.D., BCPS, BCCCP
Ashley Hawthorne, Pharm.D., BCCCP
Lisa Hayes, Pharm.D. BCCCP
John Johnson, B.Pharm, BCPS, BCNSP, BCCCP
William Johnson, Pharm.D., BCCCP
Nirali Kalaria, Pharm.D., BCCCP
Kevin Kaucher, Pharm.D., BCCCP
BrookeAnne Magrum, Pharm.D.
Lindsay McCann, Pharm.D., BCCCP
Chris Oswald, Pharm.D., BCPS, BCCCP
Daniel Padgett, Pharm.D., BCPS, BCCCP
Christine Parker, Pharm.D., BCPS, BCCCP
Stacy Pasciolla, Pharm.D., BCCCP
Jina Patel, Pharm.D., BCCCP
Nishika Patel, Pharm.D., BCPS, BCCCP
Felix Pham, Pharm.D.
Alyssa Polotti, Pharm.D., BCCCP
Kaitlin Pruskowski, Pharm.D., BCPS, BCCCP
Alyssa Robertson, Pharm.D., BCPS, BCCCP
Tara Ruder, Pharm.D. BCCCP
Brandon Scholes, Pharm.D., BCCCP
Stephanee Schrader, Pharm.D, BCCCP
Luke Smedley, Pharm.D., BCCCP
Stephanie Smith, Pharm.D., BCCCP
Krista Wahby, Pharm.D., BCCCP
Melanie Yerondopoulos, Pharm.D., BCCCP

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, 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 or his or her spouse/partner has a financial relationship (e.g. employee, consultant, research grant recipient, speakers bureau, or stockholder) in any amount occurring in the last 12 months with a commercial interest whose products or services 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.

All faculty and planners for ASHP education activities are qualified and selected by ASHP and required to disclose any relevant financial relationships with commercial interests. ASHP identifies and resolves conflicts of interest prior to an

**** Materials for this course will release 09/22/2021 ****

individual's participation in development of content for an educational activity. Anyone who refuses to disclose relevant financial relationships must be disqualified from any involvement with a continuing pharmacy education activity.

All other planners, presenters, reviewers, ASHP and others with an opportunity to control content report no financial relationships relevant to this activity.

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

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 ASHP.