**Materials for this course will be release on 04/15/2020**

Critical Care Pharmacy Specialty Recertification Literature Study: Module 1A-B (Cert # L209137)

**Teaser:** The Literature Study Module provides immediate access to peer-selected, contemporary articles that are relevant to specialty practice. After learners review the content, they must successfully complete an online assessment to earn recertification credit.

**Tag:** Certifications; Critical Care

**ACPE Numbers:** Various – see listing below  
**Pre-Sale Date:** 03/18/2020  
**Content Release Date:** 04/15/2020  
**Expiration Dates:** 10/20/2020  
**Activity Type:** Application-based  
**CE Credits:** 10.00 hours (BPS and ACPE)  
**Activity Fee:** $55 (ASHP member); $110 (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 Literature Studies are designed to help board-certified pharmacists who are seeking recertification credit hours to maintain their Board of Pharmacy Specialties (BPS).

**Activity Overview**
The Literature Study Module is intended for board certified pharmacists in need of recertification credit and is designed based on the content outline developed by the Board of Pharmacy Specialties (BPS). This module consists of 2 online home study activities (see table below). Each activity is designed to assess the learners’ ability to analyze and apply peer-selected contemporary articles to practice and includes a short video for enhanced learning and understanding.

**Module 1A: Pain:** This module focuses on pain management including opioid tolerance, opioid use disorder and use of nonnarcotic medications to manage pain.

**Module 1B: Endocrine and Emergency Preparedness:** This module includes articles related to glucose control in the critically ill patient. Additional topics include disaster emergency preparedness.

Learners will be required to review the content and complete the associated online assessments. The learner must be able to correctly answer the questions based upon their interpretation of the content, as well as “baseline specialty specific knowledge and/or easily retrievable information.” For purposes of this Literature Study, “baseline specialty specific knowledge and/or easily retrievable information” is defined as product labeling and well-established standards of practice in the specialty practice.

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

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Recertification Credit*
Board certified pharmacists are eligible to receive up to 10 hours of recertification credit for completing this module. To earn recertification credit, learners must review the activity 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.

<table>
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<tr>
<th>Learning Activity</th>
<th>ACPE Number</th>
<th>Credit Hours</th>
<th>*Assessment Pass Point</th>
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<td>0204-0000-20-935-H08-P</td>
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<td>Critical Care Pharmacy Literature Study Module 1B: Endocrine and Emergency Preparedness</td>
<td>0204-0000-20-938-H01-P</td>
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Articles and Learning Objectives

Module 1A: Pain
0204-0000-20-935-H08-P
This module focuses on pain management including opioid tolerance, opioid use disorder and use of nonnarcotic medications to manage pain.


Learning Objectives:
- Describe the indications for use of opioid therapy in critically ill patients, opioid signal transduction during short- and long-term use, role of inflammation and the immune response in tolerance, and strategies to mitigate opioid tolerance
- Develop recommendations for strategies to mitigate opioid tolerance and opioid-induced hyperalgesia in critically ill patients


Learning Objectives:
- Describe the rationale, methodology, findings, limitations, and implications of the consensus guidelines on the use of intravenous ketamine infusions for acute pain management from the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists
- Develop recommendations for the use of intravenous ketamine infusions to manage acute pain

Learning Objectives:

- Explain the rationale, methodology, findings, limitations, and implications of the DEXACET study of the effect of postoperative scheduled intravenous (IV) acetaminophen with propofol or dexmedetomidine on postoperative delirium in older patients undergoing cardiac surgery.
- Develop recommendations for the use of scheduled intravenous (IV) acetaminophen as part of postoperative analgesia in combination with IV dexmedetomidine or propofol as sedation in older patients undergoing cardiac surgery.


Learning Objectives:

- Describe the assessment of pain, factors to consider in managing pain, role of self-management, and use of psychological interventions and nonopioid analgesic agents for the treatment of pain.
- Develop recommendations for the use of nonopioid treatments for pain, including self-management, psychological treatments, nonsteroidal anti-inflammatory drugs, antidepressants, antiepileptic agents, and topical local agents.


Learning Objectives:

- Describe the available evidence of efficacy and potential problems with off-label use of gabapentin and pregabalin to treat pain.
- Develop recommendations for the off-label use of gabapentin and pregabalin to treat pain, taking into consideration the available evidence of efficacy, potential for adverse effects, type and etiology of pain, other patient characteristics, and cost.


Learning Objectives:

- Describe the American Gastroenterological Association Institute guideline on the medical management of opioid-induced constipation.
- Develop recommendations for the medical management of constipation associated with opioid therapy.


Learning Objectives:

- Describe the management of acute opioid withdrawal and compare and contrast the pharmacology, pharmacokinetics, efficacy, safety, tolerability, and feasibility of using buprenorphine, methadone, and naltrexone to manage opioid use disorder (OUD).
- Develop recommendations for the medical management of patients with opioid-use disorder.
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**Module 1B: Endocrine and Emergency Preparedness**

0204-0000-20-938-H01-P

This module includes articles related to glucose control in the critically ill patient. Additional topics include disaster emergency preparedness.


Learning Objectives:
- Explain the rationale, methodology, findings, limitations, and implications of the study comparing moderate-intensity insulin therapy (MIIT) with high-intensity insulin therapy (HIIT) in patients with diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS)
- Develop recommendations for the use of continuous insulin infusions in patients with diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic state (HHS)


Learning Objectives:
- Describe the relationship between blood glucose concentrations and mortality in critically ill patients with or without preexisting diabetes and the available evidence from randomized controlled trials (RCTs) of tight glucose control, including key methodological issues that have led to uncertainty about the ideal blood glucose concentration to maintain in this patient population
- Develop recommendations for blood glucose control in critically ill patients in the intensive care unit


Learning Objectives:
- Explain the rationale, methodology, findings, limitations, and implications of the Stroke Hyperglycemia Insulin Network Effort (SHINE) study of intensive treatment of hyperglycemia in patients with acute ischemic stroke
- Develop recommendations for the management of hyperglycemia in patients with acute ischemic stroke


Learning Objectives:
- Describe the etiology, natural history, clinical presentation, diagnosis, prevention, and treatment of biological agents that pose a natural, accidental, or intentional threat to national security or public health
- Develop recommendations for the diagnosis, prevention, and treatment of biological agents that pose a natural, accidental, or intentional threat to national security or public health


Learning Objectives:
- Describe the toxicology and hospital-based management of acute poisonings caused by exposure to hazardous chemicals
- Develop recommendations for the hospital-based management of acute poisonings caused by exposure to hazardous chemicals
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Methods and CE Requirements
Activities consist of educational materials, assessments, and activity evaluations. In order to receive continuing pharmacy education credit, learners must:

- Complete the attestation statement
- Review all content
- Complete and pass the assessments
- Complete the evaluations

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 ASHP.