CCSAP 2017 Book 2 (Renal/Pulmonary Critical Care)
Total Available Hours: 12.5
BCCCP test deadline: 11:59 p.m. (Central) on October 2, 2017.
ACPE test deadline: 11:59 p.m. (Central) on May 14, 2020.

Renal Critical Care I (Module 1) – Credit Hours: 6.5

Chapter: Acute Kidney Injury
Learning Objectives

1. Distinguish among the different types of acute kidney injury (AKI) and identify drug-induced causes.
2. Apply knowledge of organ cross-talk to predict changes in drug pharmacokinetics.
3. Demonstrate knowledge of protein, caloric, electrolyte, and trace element requirements in AKI with and without renal replacement therapy (RRT).
4. Compare and contrast the use of the various RRTs.
5. Estimate renal function, and formulate an appropriate drug-dose regimen for a patient with AKI not receiving RRT.

Chapter: Continuous Renal Replacement Therapies
Learning Objectives

1. Evaluate the most appropriate mode of renal replacement for a specific patient case.
2. Evaluate solute removal between convective and diffusive clearances.
3. Compose a replacement or dialysis solution that could be used during convective clearance to minimize electrolyte losses.
4. Develop an appropriate assessment and plan for anticoagulation during CRRT, given a set of patient conditions.
5. Design a reasonable departmental approach for pharmacy involvement while implementing a new CRRT program at a given institution.
6. Design dialysate solutions and anticoagulation regimens for patients with liver failure or pulmonary failure receiving extracorporeal membrane oxygenation.

Chapter: Dosing Considerations in Patients with AKI and CRRT
Learning Objectives

1. Evaluate the pharmacokinetic changes associated with continuous renal replacement therapy (CRRT).
2. Apply the influence of CRRT dialytic parameters to drug removal and drug dosing.
3. Evaluate the CRRT drug dosing literature, and apply current recommendations to new CRRT techniques.
4. Design effective strategies for dosing medications in patients with acute kidney injury receiving CRRT.
5. Assess the influence of CRRT on time- and concentration-dependent antibiotic dosing.

Pulmonary Critical Care I (Module 2) – Credit Hours: 6.0

Chapter: ARDS and ECMO

Learning Objectives

1. Distinguish the pathophysiologic changes associated with developing acute respiratory distress syndrome (ARDS).
2. Evaluate the potential benefits and risks of current treatment strategies for ARDS.
3. Develop a patient-specific plan incorporating nonpharmacologic and pharmacologic treatment modalities for ARDS.
4. Demonstrate an understanding of extracorporeal membrane oxygenation (ECMO) physiology and differences between ECMO strategies.
5. Design a patient-specific anticoagulation plan for a patient receiving ECMO.

Chapter: COPD Exacerbations, Status Asthmaticus, and Pulmonary Hypertension

Learning Objectives

1. Design a comprehensive therapeutic plan for a patient with an acute chronic obstructive pulmonary disease exacerbation.
2. Design a therapeutic plan for a patient with life-threatening asthma, including initial therapies and possible alternative agents.
3. Analyze gaps in the literature surrounding pharmacologic therapies for life-threatening asthma.
4. Apply the cornerstones of pulmonary hypertension (PH) management in a patient with right ventricular failure (RVF).
5. Develop a patient-specific treatment plan for a patient with decompensated PH and RVF.

Chapter: Inhaled Medications in the ICU

Learning Objectives

1. Demonstrate knowledge of the technical principles and pharmacokinetic and pharmacodynamic advantages of inhaled drug therapy to optimize drug delivery.
2. Justify the use of inhaled vasodilators, including inhaled prostacyclins and/or nitric oxide in treatment of patients with hypoxemia or pulmonary hypertension.
3. Design a treatment plan for mechanically ventilated patients with multidrug-resistant gram-negative pneumonia that considers evidence-based use of inhaled antimicrobials.
4. Demonstrate an understanding of the literature for aerosolized antifungal agents as prophylaxis against invasive pulmonary infection in immunocompromised patients.
5. Apply evidence for the use of inhaled ribavirin therapy for treatment of patients with respiratory cultures positive for respiratory syncytial virus.
6. Justify the use of mucoactive drugs in critically ill patients to decrease secretion burden based on current evidence.