

CCSAP 2023 Book 1 (*Coagulation and Thrombotic Disorders*)

Release date: March 15, 2023

BCCCP test deadline: 11:59 p.m. (Central) on September 15, 2023

ACPE test deadline: 11:59 p.m. (Central) on March 15, 2026



Continuing Pharmacy Education (CPE) Credit: The American College of Clinical Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

CCSAP Target Audience: The target audience for CCSAP 2022 Book 2 (*Coagulation and Thrombotic Disorders*) not only ICU and ED pharmacists across the spectrum of care but also any pharmacist caring for acutely ill patients whose management may be complicated by coagulopathies or hypercoagulabilities.

Module I (4.5 CPE): 0217-0000-23-012-H01-P

Chapter: Coagulation Assays in Critical Care

Learning Objectives

1. Analyze coagulation assays available in clinical practice and their relevance in critical care settings.
2. Evaluate coagulation assays in critically ill patients to assess critical care-associated coagulopathy.
3. Develop a pharmacotherapy plan for a critical care-associated coagulopathy based on coagulation assay results.

Chapter: Reversal of Anticoagulants, Antiplatelets, and Fibrinolytics

Learning Objectives

1. Apply general concepts for antithrombotic reversal strategies in both bleeding and non-bleeding patients.
2. Differentiate the reversal agents by mechanism of action, pharmacokinetics, and their role in certain clinical scenarios.
3. Design an antithrombotic algorithm for patients presenting with life-threatening hemorrhage on anticoagulation.
4. Develop a pharmacotherapeutic plan for a patient with life-threatening bleeding receiving thrombolytic therapy.

Module II (4.0 CPE): 0217-0000-23-013-H01-P

Chapter: Acute GI Bleeding

Learning Objectives

1. Distinguish between upper GI bleeding (UGIB) and lower GIB (LGIB) on the basis of locations in the GI tract.

2. Assess patient risk of development of and mortality from UGIB.
3. Evaluate appropriate pharmacologic therapy for UGIB on the basis of etiology.
4. Distinguish between nonpharmacologic management strategies after initial resuscitation for LGIB.
5. Assess appropriateness of resuming antiplatelet and anticoagulant medications after resolution of acute GI bleeding.

Chapter: Pulmonary Embolism

Learning Objectives

1. Given patient-specific data, imaging studies, and prognostic indicators, apply risk stratification tools to characterize pulmonary embolism (PE).
2. Develop patient-centered treatment plans for the provision of anticoagulation and/or thrombolytic therapy in PE.
3. Analyze literature and guideline recommendations for the use of thrombolytic therapy in low-, moderate-, and high-risk PE.
4. Assess patient-specific data and PE features to determine whether endovascular or surgical management of PE is warranted.

Module III (4.0 CPE): 0217-0000-23-014-H01-P

Chapter: Acquired Hematologic Dysfunction, Part I

Learning Objectives

1. Distinguish atypical hemolytic uremic syndrome (aHUS) from immune thrombotic thrombocytopenic purpura (iTTP).
2. Evaluate medications associated with drug-induced hemolysis and determine appropriate management.
3. Analyze the safety and efficacy of eculizumab and ravulizumab for the treatment of aHUS and caplacizumab for iTTP.
4. Design an evidence-based treatment plan for a patient with thrombotic microangiopathy.

Chapter: Acquired Hematologic Dysfunction, Part II

Learning Objectives

1. Evaluate patients in the ICU for general mechanisms of thrombocytopenia and related clinical implications.
2. Distinguish types of drug-induced thrombocytopenia.
3. Evaluate the pathogenesis and treatment of uremia-induced platelet dysfunction.
4. Assess the pathophysiology, diagnosis, and management of patients with methemoglobinemia.

Module IV (5.5 CPE): 0217-0000-23-015-H01-P

Interactive Case: Anticoagulation Management in Atrial Fibrillation

Learning Objectives

1. Assess the need for anticoagulant therapy in a patient with atrial fibrillation (AF) according to AF classification in addition to thromboembolic stroke and bleeding risk.
2. Analyze patient-specific factors to select an appropriate anticoagulant regimen.
3. Design antithrombotic regimens for patients requiring anticoagulation for AF who have a concomitant need for dual antiplatelet therapy.
4. Develop a periprocedural treatment plan for a patient requiring anticoagulation for AF.
5. Evaluate the need for ongoing anticoagulant therapy in patients with AF undergoing left atrial appendage occlusion or exclusion procedures.

Interactive Case: DVT Treatment in Obesity

Learning Objectives

1. Evaluate patients with obesity for risk of deep vein thrombosis (DVT) formation.
2. Analyze and apply data from available literature regarding the effect of obesity on anticoagulant pharmacokinetics.
3. Design pharmacotherapy management for the patients with obesity and deep vein thrombosis

Recorded Webcast: Device-Related Antithrombotic Therapy

Learning Objectives

1. Assess potential thrombotic and bleeding complications after transcatheter aortic valve replacement (TAVR) and apply emerging evidence for antithrombotic regimens to optimize outcomes in patients after TAVR.
2. Analyze bleeding and thrombotic complications with the HeartMate 3 left ventricular assist device (HM3 LVAD).
3. Design an oral antithrombotic regimen for patients with an HM3 LVAD.
4. Evaluate thrombotic risks associated with LVADs and devise a treatment algorithm on the basis of patient-specific characteristics.