

CONTENTS

Preface.....	xiii
<i>Brian L. Erstad, Pharm.D., FCCP, BCPS</i>	
Foreword.....	xv
<i>Joseph F. Dasta, M.S., FCCP; Curtis N. Sessler, M.D., FCCP, FCCM; Ashlee Dauenhauer, Pharm.D.; and Oboud A. Aljuhani, Pharm.D.</i>	
Letter from ACCP	xxi
<i>Judith Jacobi, FCCP, MCCC, BCPS, BCCCP, ACCP President 2014–2015</i>	

SECTION 1: SUPPORTIVE CARE

Chapter 1: Acid-Base Disorders	3
<i>Curtis E. Haas, Pharm.D.; David C. Kaufman, M.D.; and Brian L. Erstad, Pharm.D., FCCP, BCPS</i>	
Chapter 2: Fluid Therapy in the Critically Ill Patient	29
<i>Brian L. Erstad, Pharm.D., FCCP, BCPS</i>	
Chapter 3: Electrolyte Disorders in the Critically Ill Population	58
<i>Jeffrey J. Bruno, Pharm.D., BCPS, BCNSP; and Todd W. Canada, Pharm.D., FASHP, FTSHP, BCNSP</i>	
Chapter 4: Nutrition Support Therapy in Critically Ill Patients.....	98
<i>Amber Verdell, Pharm.D., BCPS, BCNSP; and Carol J. Rollins, M.S., RD, Pharm.D., FASHP, FASPen, BCNSP</i>	
Chapter 5: Glucose Management in the Critically Ill Population.....	128
<i>Paul M. Szumita, Pharm.D., FCCM, BCCCP, BCPS; and James F. Gilmore, Pharm.D., BCCCP, BCPS</i>	
Chapter 6: Analgesia.....	147
<i>Asad E. Patanwala, Pharm.D.</i>	
Chapter 7: Agitation and Comfort in the Intensive Care Unit.....	161
<i>David J. Gagnon, Pharm.D.; Nicole Kovacic, Pharm.D.; and Gilles L. Fraser, Pharm.D., MCCC</i>	
Chapter 8: Delirium in Critically Ill Adults.....	186
<i>John W. Devlin, Pharm.D., FCCP, FCCM</i>	
Chapter 9: Neuromuscular Blocking Agents.....	198
<i>M. Claire McManus, Pharm.D., BS(Pharm)</i>	

Chapter 10: Shock Syndromes.....	225
<i>Ishaq Lat, Pharm.D., FCCP, FCCM, BCPS; and Sajni Patel, Pharm.D., BCPS</i>	

SECTION 2: INFECTIOUS DISEASES

Chapter 11: Appropriate Use of Antimicrobials	241
<i>Scott T. Micek, Pharm.D.; and Marin H. Kollef, M.D.</i>	
Chapter 12: Pharmacokinetic and Pharmacodynamic Considerations for Antimicrobial Use in Critically Ill Patients.....	252
<i>Douglas N. Fish, Pharm.D., FCCP, FCCM, BCPS-AQ ID</i>	
Chapter 13: Laboratory Testing Considerations	283
<i>Kali Martin, Pharm.D.; Shanna Cole, Pharm.D.; and Michael Klepser, Pharm.D.</i>	
Chapter 14: Antimicrobial Resistance in the Critical Care Environment.....	289
<i>Andrew M. Roecker, Pharm.D.; and Steven J. Martin, Pharm.D.</i>	
Chapter 15: Severe Sepsis and Septic Shock.....	298
<i>Seth R. Bauer, Pharm.D., FCCM, BCPS; Simon W. Lam, Pharm.D., FCCM, BCPS; and Lance J. Oyen, Pharm.D., FCCM, FCCP, BCPS</i>	
Chapter 16: Invasive Fungal Infections	319
<i>Kathryn R. Matthias, Pharm.D., BCPS-AQ ID</i>	
Chapter 17: Invasive Viral Infections in the Intensive Care Unit	331
<i>P. Brandon Bookstaver, Pharm.D., FCCP, BCPS-AQ ID, AAHIVP; and Caroline B. Derrick, Pharm.D., BCPS</i>	
Chapter 18: Antimicrobial Prophylaxis	351
<i>Keith M. Olsen, Pharm.D., FCCP, FCCM; and Gregory Peitz, Pharm.D., BCPS</i>	

SECTION 3: NEUROCRITICAL CARE

Chapter 19: Status Epilepticus and Acute Seizure Management.....	371
<i>Eljim P. Tesoro, Pharm.D., BCPS; Karen Berger, Pharm.D., BCPS; and Gretchen M. Brophy, Pharm.D., FCCP, FCCM, FNCS, BCPS</i>	
Chapter 20: Traumatic Brain Injury and Acute Spinal Cord Injury.....	388
<i>A. Shaun Rowe, Pharm.D., BCPS; and Bradley A. Boucher, Pharm.D., BCPS</i>	
Chapter 21: Acute Management of Stroke	403
<i>Martina Holder, Pharm.D., BCPS; and Stacy Voils, Pharm.D., M.Sc., BCPS</i>	

Chapter 22: Critical Care Management of Aneurysmal Subarachnoid Hemorrhage	416
<i>Denise H. Rhoney, Pharm.D., FCCP, FCCM, FNCS; Kathryn Morbitzer, Pharm.D.; and J. Dedrick Jordan, M.D., Ph.D.</i>	

SECTION 4: HEMATOLOGY

Chapter 23: Prevention and Treatment of Venous Thromboembolism.....	449
<i>William E. Dager, Pharm.D., FCCP, FCCM, FCSHP, FASHP, MCCM, BCPS; and A. Josh Roberts, Pharm.D., BCPS</i>	
Chapter 24: Hemostatic Agents for the Prevention and Management of Hemorrhage in the ICU	468
<i>Robert MacLaren, Pharm.D., MPH, FCCP, FCCM; Bradley A. Boucher, Pharm.D., FCCP, FCCM; and Laura Baumgartner, Pharm.D.</i>	
Chapter 25: Laboratory Testing with Anticoagulation	499
<i>Tyree H. Kiser, Pharm.D., FCCP, FCCM, BCPS</i>	

SECTION 5: ACUTE KIDNEY INJURY

Chapter 26: Acute Kidney Injury—Prevention and Management.....	523
<i>Curtis L. Smith, Pharm.D., BCPS; and Thomas C. Dowling, Pharm.D., Ph.D., FCCP, FCP</i>	
Chapter 27: Drug Dosing in Acute Kidney Injury and Extracorporeal Therapies	538
<i>Melanie S. Joy, Pharm.D., Ph.D., FCCP, FASN; Michael L. Bentley, Pharm.D.; and Katja M. Gist, D.O., M.A., MSCS</i>	

SECTION 6: LIVER/GASTROINTESTINAL

Chapter 28: Management and Drug Dosing in Acute Liver Failure	573
<i>Andrew C. Fritschle Hilliard, Pharm.D., BCPS, BCCCP; and David R. Foster, Pharm.D., FCCP</i>	
Chapter 29: Acute Gastrointestinal Bleeding: Prophylaxis and Treatment	591
<i>Salmaan Kanji, Bsc. Pharm, Pharm.D.; and David Williamson, B. Pharm, M.Sc., Ph.D., BCPS</i>	

SECTION 7: ACUTE PULMONARY DISEASE

Chapter 30: Pulmonary Arterial Hypertension.....	609
<i>Steven E. Pass, Pharm.D., FCCP, FCCM, FASHP, BCPS; and Joseph E. Mazur, Pharm.D., BCPS</i>	
Chapter 31: Critical Care Management of Asthma and Chronic Obstructive Pulmonary Disease.....	626
<i>Amanda Zomp, Pharm.D., BCPS; Katherine Bidwell, Pharm.D., BCPS; and Stephanie Mallow Corbett, Pharm.D., FCCM</i>	

SECTION 8: CARDIOVASCULAR CRITICAL CARE

Chapter 32: Acute Decompensated Heart Failure	645
<i>Jo E. Rodgers, Pharm.D., FCCP, BCPS-AQ Cardiology; and Brent N. Reed, Pharm.D., FAHA, BCPS-AQ Cardiology</i>	
Chapter 33: Management of Acute Coronary Syndrome	660
<i>Zachary A. Stacy, Pharm.D., M.S., FCCP, BCPS; and Paul P. Dobesh, Pharm.D., FCCP, BCPS-AQ Cardiology</i>	
Chapter 34: Management of Cardiac Arrest	688
<i>Toby C. Trujillo, Pharm.D., FCCP, FAHA, BCPS-AQ Cardiology</i>	
Chapter 35: Acute Management of Arrhythmias.....	707
<i>James E. Tisdale, Pharm.D., FCCP, FAPhA, FAHA, BCPS</i>	
Chapter 36: Pharmacologic Challenges During Mechanical Circulatory Support in Adults	735
<i>Amy L. Dzierba, Pharm.D., FCCM, BCPS; and Erik Abel, Pharm.D., BCPS</i>	

SECTION 9: OTHER URGENCIES AND EMERGENCIES

Chapter 37: Hypertensive Crisis	757
<i>Jeremy Flynn, Pharm.D., FCCP, FCCM; Melissa Nestor, Pharm.D., BCPS; and Komal Pandya, Pharm.D., BCPS</i>	
Chapter 38: Medication Withdrawal in the Intensive Care Unit	781
<i>Colgan T. Sloan, Pharm.D., BCPS; Robert French, M.D., MPH; Nicholas B. Hurst, M.D., M.S.; Stephen R. Karpen, Pharm.D.; and Mazda Shirazi, M.D., Ph.D.</i>	
Chapter 39: Endocrine Disorders	793
<i>Robert L. Talbert, Pharm.D.</i>	
Chapter 40: Oncologic Emergencies.....	803
<i>Ali McBride, Pharm.D., M.S., BCPS, BCOP; Michelle Nadeau, Pharm.D., BCPS; and Cory M. Vela, Pharm.D.</i>	

SECTION 10: MISCELLANEOUS

Chapter 41: Drug Dosing in Special Intensive Care Unit Populations.....	821
<i>Jeffrey F. Barletta, Pharm.D., FCCM</i>	
Chapter 42: Management of the Critically Ill Burn Patient	842
<i>Claire V. Murphy, Pharm.D., BCPS; and Kate Oltrogge Pape, Pharm.D., BCPS</i>	

Chapter 43: The Role of Pharmacotherapy in the Treatment of the Multiple Trauma Patient	862
<i>Rita Gayed, Pharm.D.; Prasad Abraham, Pharm.D., FCCM, BCPS; and David V. Feliciano, M.D., FACS</i>	
Chapter 44: Pediatric Critical Care.....	895
<i>Elizabeth Farrington, Pharm.D., FCCP, FCCM, FPPAG, BCPS</i>	
Chapter 45: Drug Shortages: An Overview of Causes, Impact, and Management Strategies.....	925
<i>Samuel E. Culli, Pharm.D., MPH; and John J. Lewin III, Pharm.D., MBA, FASHP, FCCM, FNCS</i>	
Chapter 46: Drug Interactions in the Intensive Care Unit	930
<i>Cristian Merchan, Pharm.D.; and John Papadopoulos, Pharm.D., B.S., FCCM, BCNSP</i>	
Chapter 47: Acute Illness Scoring Systems.....	951
<i>Thomas J. Johnson, Pharm.D., MBA, FASHP, FCCM, BCPS</i>	
Chapter 48: Leading and Managing Intensive Care Unit Pharmacy Services	960
<i>Robert J. Weber, Pharm.D., M.S., FASHP, BCPS</i>	
Chapter 49: Medication Safety and Active Surveillance	971
<i>Sandra L. Kane-Gill, Pharm.D., M.Sc., FCCP, FCCM; and Mitchell S. Buckley, Pharm.D., FCCP, FASHP, FCCM, BCPS</i>	
Chapter 50: Care of the Immunocompromised Patient	983
<i>Heather Personett, Pharm.D., BCPS; and Simon W. Lam, Pharm.D., FCCM, BCPS</i>	
Chapter 51: Clinically Applied Pharmacogenomics in Critical Care Settings.....	999
<i>Samuel G. Johnson, Pharm.D., FCCP; and Christina L. Aquilante, Pharm.D., FCCP</i>	
Contributors	1013
Reviewers	1017
Index	1019
Disclosure of Potential Conflicts of Interest.....	1047