

Contents

<i>List of Contributors</i>	<i>page ix</i>
<i>Preface</i>	<i>xvii</i>
 Section 1: General Critical Care <i>Annette Ilg</i>	
1. Shock <i>Kenneth R. L. Bernard</i>	3
2. Airway Management <i>Amanda Doodlesack</i>	15
3. Mechanical Ventilation <i>Jake Hoyne and Joshua Kolikoff</i>	31
4. The Boarding ICU Patient in the Emergency Department <i>Robert L. Sherwin</i>	39
 Section 2: Infectious Disease Emergencies <i>Mark Andreae</i>	
5. COVID-19 <i>John Rozehnal and Melissa Villars</i>	49
6. Sepsis and Septic Shock <i>Erica Chimelski</i>	58
7. Pneumonia <i>Navdeep Sekhon and Calvin Lee</i>	63
8. Meningitis and Encephalitis <i>Christopher Allison</i>	70
9. Infective Endocarditis <i>Jason M. Block</i>	77
10. Necrotizing Soft Tissue Infections <i>Jennifer Carnell</i>	83
11. Complications of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) <i>Abeer Almasary and Zubaid Rafique</i>	89
 Section 3: Neurological Emergencies <i>Michael Cocchi</i>	
12. Ischemic Strokes <i>Joshua W. Joseph</i>	101
13. Intracranial Hemorrhage <i>Matthew L. Wong and Joshua W. Joseph</i>	114
14. Status Epilepticus <i>Matthew L. Wong</i>	124
15. Acute Spinal Cord Compression <i>Cristal Cristia</i>	131

vi Contents

Section 4: Cardiovascular Emergencies *Todd Seigel*

16.	Post-Cardiac Arrest Care	<i>Di Pan</i>	141
17.	Acute Coronary Syndrome	<i>Steven C. Rougas</i>	149
18.	Acute Decompensated Heart Failure	<i>Brandon Maughan</i>	159
19.	Aortic Dissection	<i>Stefi Lee and Gregory Hayward</i>	169
20.	Hypertensive Emergencies	<i>Nadine Himelfarb</i>	177
21.	Valvular Diseases	<i>Ermias Jirru and Elena Kapilovich</i>	187

Section 5: Respiratory Emergencies *Susan Wilcox*

22.	Acute Respiratory Distress Syndrome	<i>Katie Dickerson and Elisabeth Lessenich</i>	199
23.	Upper Airway Emergencies	<i>Paul Ginart and Brian C. Geyer</i>	207
24.	Asthma	<i>Imikomobong Ibia</i>	218
25.	Chronic Obstructive Pulmonary Disease	<i>Rmaah Memon and Andrew Eyre</i>	226
26.	Massive Hemoptysis	<i>Amar Deshwar and Elisabeth Lessenich</i>	234
27.	Pulmonary Embolism	<i>Kathryn Oskar and Liza Gonen Smith</i>	242

Section 6: Gastrointestinal Emergencies *Cassidy Dahn*

28.	Gastrointestinal Bleeding	<i>Joel Moll, Robert Tidwell, and Robert Adams</i>	257
29.	Abdominal Aortic Aneurysms	<i>Payal Modi and Nathaniel Oz</i>	270
30.	Fulminant Hepatic Failure	<i>Aqsa Shakoor, Danielle Walsh, and Desiree Rogers</i>	279
31.	Acute Mesenteric Ischemia	<i>Jeffrey N. Siegelman and Sothivin Lanh</i>	293
32.	The Surgical Abdomen	<i>Sarah Fisher and Carla Haack</i>	302
33.	Abdominal Compartment Syndrome	<i>Sarah Fisher and Carla Haack</i>	311

Section 7: Renal Emergencies *Kari Gorder*

34.	Acid-Base Interpretation	<i>Peter G. Czamecki and Chanu Rhee</i>	319
35.	Common Electrolyte Disorders (Sodium, Potassium, Calcium, Magnesium)	<i>Christine K. Chan and John E. Arbo</i>	333

36. Acute Kidney Injury and Emergent Dialysis *Adam L. Gottula and Feras H. Khan* 365

Section 8: Hematology–Oncology Emergencies
Jason Block

37. Reversal of Anticoagulation *Calvin E. Hwang* 379

38. Thrombotic Thrombocytopenic Purpura/Hemolytic Uremic Syndrome and Disseminated Intravascular Coagulation *Jai Madhok* 387

39. Sickle Cell Emergencies *Charles Lei* 397

Section 9: Endocrine Emergencies *Brandon Godbout*

40. Diabetic Ketoacidosis and Hyperglycemic Hyperosmolar State *Benjamin Zabbar* 413

41. Thyroid Storm *Yves Duroseau* 424

42. Adrenal Crisis *Raymond Hou and Daniel Rolston* 433

Section 10: Environmental Emergencies *Christian Renne*

43. Anaphylaxis *David Convissar* 445

44. Hyperthermia *Amy Caggiula and Daniel Herbert-Cohen* 453

45. Hypothermia *Shan Modi* 465

46. Overdoses *Christopher Shaw and Daniel Herbert-Cohen* 471

Section 11: Trauma *Julie Winkle*

47. General Trauma Principles *Benjamin Schnapp* 507

48. Severe Traumatic Brain Injury *Jacob D. Isserman* 516

49. Neck Trauma *Vishal Demla* 528

50. Thoracic Trauma *Lauren Becker* 538

51. Solid Organ Abdominal Trauma *Jayaram Chelluri* 552

52. Severe Pelvic Trauma *Jeffrey Pepin* 561

53. Soft Tissue Injury: Crush Injury, Compartment Syndrome, and Open Fractures *Katrina Harper-Kirksey* 567

54. Burns Resuscitation *Aaron Surrey* 578



Contents

Section 12: End of Life *Ashley Shreves*

55. Care of the Dying Patient <i>Ashley Shreves</i>	591
--	-----

<i>Index</i>	598
--------------	-----