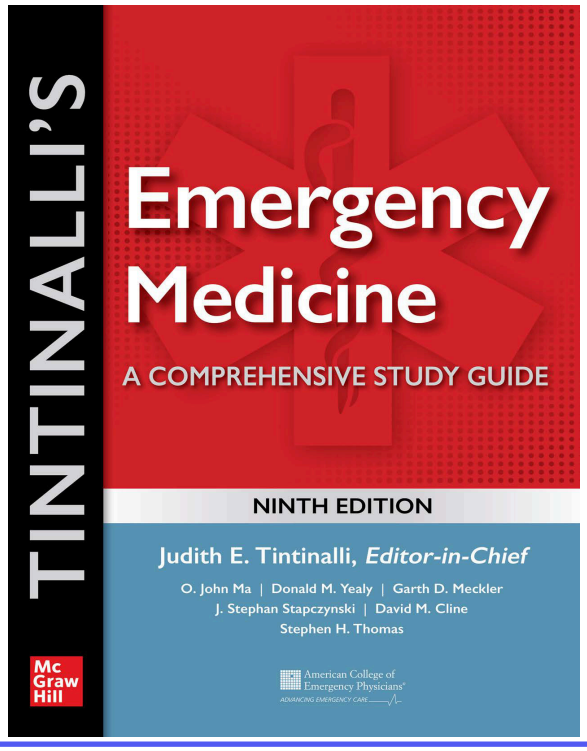


ebookbig.com

or scan the QR code to access the digital study portal.

To my keenest supporters, my husband, Burton Fox, and my emergency medicine physician daughter, Anne Tintinalli, MD.

Judith E. Tintinalli, MD, MS

For Elizabeth, the love of my life.

O. John Ma, MD

I thank the people who trusted me with their care needs; the people who taught me how to think and to be a physician and scientist; the partners over the years who made me better; and to my family, who always supported and cared for me.

Donald M. Yealy, MD

To the patients, nurses, students, and mentors who teach me every day and to my partner, Steve, for his support and patience.

Garth D. Meckler, MD, MSHS

I dedicate this edition to my grandson, Charlie. In his eyes, I am just "Grandpa." And that means the world to me.

Joseph Stephan Stapczynski, MD

To my family, mentors, fellow clinicians, residents, students, and patients who give meaning to this work.

David M. Cline, MD

To Cathrine, Sarah Alice, and Caroline, who make it all worthwhile.

Stephen H. Thomas, MD, MPH

Content

PROCEDURAL AND ULTRASOUND VIDEOS

To access the collection of more than 100 emergency medicine videos, please scan the QR code below or visit www.tintinalliem.com. The password to access videos is **tem9**

Contributors . . . . . *xv*

Pharmacy Reviewers . . . . . *xli*

Preface . . . . . *xliii*

SECTION 1 Prehospital Care 1

1 **Emergency Medical Services** 1
C. Crawford Mechem

2 **Prehospital Equipment** 3
Brett Boggust, Andy Boggust

3 **Air Medical Transport** 9
Keith C. Stone, Stephen H. Thomas

4 **Mass Gatherings** 13
Asa M. Margolis, Michael G. Millin

SECTION 2 Disaster Management 19

5 **Disaster Preparedness** 19
Robert G. Hendrickson, B. Zane Horowitz

6 **Natural Disasters** 25
Lisa D. Mills, Trevor J. Mills

7 **Bomb, Blast, and Crush Injuries** 30
Michael J. Bono, Pinchas (Pinny) Halpern

8 **Chemical Disasters** 35
B. Zane Horowitz, Robert G. Hendrickson

9 **Bioterrorism** 41
Joe Suyama

10 **Radiation Injuries** 47
Annette M. Lopez, Jennifer A. Stephani

SECTION 3 Resuscitation 5

11 **Sudden Cardiac Death** . . . . .
Joseph P. Ornato

12 **Approach to Nontraumatic Shock** . . . . .
Bret A. Nicks, John P. Gaillard

13 **Approach to Traumatic Shock** . . . . .
David M. Somand, Kevin R. Ward

14 **Allergy and Anaphylaxis** . . . . .
Brian H. Rowe, Brian Grunau

15 **Acid-Base Disorders** . . . . .
Gabor D. Kelen, David M. Cline

16 **Blood Gases, Pulse Oximetry, and Capnography** . . . . .
Casey M. Glass

17 **Fluids and Electrolytes** . . . . .
Roberta Petrino, Roberta Marino

18 **Cardiac Rhythm Disturbances** . . . . .
William J. Brady, George F. Glass III

19 **Pharmacology of Antiarrhythmics and Antihypertensives** 1
Sara Haney Shields, Rachel M. Holland, Benjamin Small

20 **Pharmacology of Vasopressors and Inotropes** 1
Sara Haney Shields, Rachel M. Holland

21 **Hyperbaric Oxygen Therapy** 1
Tracy Leigh LeGros, Heather Murphy-Lavoie

SECTION 4 Resuscitative Procedures 14

22 **Basic Cardiopulmonary Resuscitation** 1
Maite Anna Huis in't Veld, Jon Mark Hirshon

23 **Defibrillation and Electrical Cardioversion** 1
Marcus E.H. Ong, Benjamin S.H. Leong, Yih Yng Ng

24 **Cardiac Resuscitation** 1
Brit Long, Alex Koyfman, Venkataraman Anantharaman, Swee Han Lim, Marcus E. H. Ong, Tan Boon Kiat Kenneth, James E. Manning

25 **Resuscitation in Pregnancy** 1
Boyd D. Burns, Emily C.S. Fisher

26 **Post–Cardiac Arrest Syndrome** 1
Benjamin S. Abella, Bentley J. Bobrow

27 **Ethical Issues of Resuscitation** 1
Catherine A. Marco

28 **Noninvasive Airway Management and Supraglottic Airways** . . . 1
Jestin N. Carlson, Henry E. Wang

29A **Tracheal Intubation** . . . 179
Henry E. Wang, Jestin N. Carlson

29B **Mechanical Ventilation** . . . 190
Skyler Lentz, Patricia Ruth Atchinson, Matthew A. Roginski

30 **Surgical Airways** . . . 194
Keith Murray, Alanna C. Peterson, Donald M. Yealy

31 **Vascular Access** . . . 201
Chris Wyatt

32 **Hemodynamic Monitoring** . . . 212
Bachar Hamade, David T. Huang

33 **Cardiac Pacing and Implanted Defibrillation** . . . 216
Swee Han Lim, Wee Siong Teo, Venkataraman Anantharaman

34 **Pericardiocentesis** . . . 223
Carolyn K. Synovitz, Eric J. Brown

SECTION 5 Analgesia, Anesthesia, and Procedural Sedation 229

35 **Acute Pain Management** . . . 229
James Ducharme

36 **Local and Regional Anesthesia** . . . 236
Michael A. Gibbs, Teresa Wu

37 **Procedural Sedation and Analgesia in Adults** . . . 248
Justin G. Myers, Jennifer Kelly

38 **Chronic Pain** . . . 259
David M. Cline

SECTION 6 Wound Management 267

39 **Wound Evaluation** . . . 267
Adam J. Singer, Judd E. Hollander

40 **Wound Preparation** . . . 269
Adam J. Singer, Judd E. Hollander

41 **Wound Closure** . . . 272
Adam J. Singer, Judd E. Hollander

42 **Face and Scalp Lacerations** . . . 285
Wendy C. Coates

43 **Arm, Forearm, and Hand Lacerations** . . . 292
Moira Davenport

44 **Thigh, Leg, and Foot Lacerations** . . . 299
Moira Davenport

45 **Soft Tissue Foreign Bodies** . . . 307
Richard Lammers, Joshua Mastenbrook

46 **Puncture Wounds and Bites** . . . 317
James Quinn

47 **Postrepair Wound Care** . . . 324
Adam J. Singer, Judd E. Hollander, Joseph Stephan Stapczynski

SECTION 7 Cardiovascular Disease 329

48 **Chest Pain** . . . 329
Lane M. Smith, Simon A. Mahler

49 **Acute Coronary Syndromes** . . . 334
Deborah B. Diercks, Judd E. Hollander

50 **Cardiogenic Shock** . . . 352
David E. Manthey, Bret A. Nicks

51 **Low-Probability Acute Coronary Syndrome** . . . 357
Kathleen Hosmer, Chadwick D. Miller

52 **Syncope** . . . 362
James Quinn

53 **Acute Heart Failure** . . . 367
Alan B. Storrow, Brian Bales, Sean P. Collins

54 **Valvular Emergencies** . . . 374
William D. Alley

55 **Cardiomyopathies and Pericardial Disease** . . . 380
Manpreet Singh, James T. Niemann

56 **Venous Thromboembolism Including Pulmonary Embolism** . . . 389
Jeffrey A. Kline

57 **Systemic Hypertension** . . . 399
Brigitte M. Baumann

58 **Pulmonary Hypertension** . . . 408
John C. Greenwood, Michael Winters

59 **Aortic Dissection and Related Aortic Syndromes** . . . 412
Gary A. Johnson, Louise A. Prince

60 **Aneurysmal Disease** . . . 415
Louise A. Prince, Gary A. Johnson

61 **Arterial Occlusion** . . . 420
David Carr, Anna K. Nowacki

SECTION 8 Pulmonary Disorders 425

62 **Respiratory Distress** . . . 425
Joseph Stephan Stapczynski

63 **Hemoptysis** . . . 432
Troy Christian Sims

64 **Acute Bronchitis and Upper Respiratory Tract Infections** . . . 436
Cedric W. Lefebvre

65 **Community-Acquired Pneumonia, Aspiration Pneumonia, and Noninfectious Pulmonary Infiltrates** . . . 439
Eric Anderson, Simone French, Gerald E. Maloney

66 **Lung Empyema and Abscess** . . . 449
Sharon E. Mace, Eric Anderson

67 **Tuberculosis** . . . 451
Brit Long, Alex Koyfman

68 **Pneumothorax** . . . 457
Bret A. Nicks, David E. Manthey

69 **Acute Asthma and Status Asthmaticus** . . . 461
Tadahiro Goto, Kohei Hasegawa

70 **Chronic Obstructive Pulmonary Disease** . . . 467
Craig G. Bates

SECTION 9 Gastrointestinal Disorders 473

71 **Acute Abdominal Pain** . . . 473
David A. Masneri, Mary Claire O'Brien

72 **Nausea and Vomiting** . . . 481
Bophal Sarha Hang, Jeffrey S. Ditkoff, Alex Koyfman, Brit Long

73 **Disorders Presenting Primarily With Diarrhea** 484
Nicholas E. Kman, Howard A. Werman, Sarah M. Greenberger

74 **Constipation** 492
Shawn R. Wassmuth, Elizabeth C. Oehler

75 **Upper Gastrointestinal Bleeding** 495
Christopher M. Ziebell, Andrew D. Kitlowski, Janna Welch, Phillip Friesen

76 **Lower Gastrointestinal Bleeding** 498
Bruce Lo

77 **Esophageal Emergencies** 500
Michael J. Bono

78 **Peptic Ulcer Disease and Gastritis** 505
Angela M. Bogle, Matthew C. Gratton

79 **Pancreatitis and Cholecystitis** 508
Bart Besinger, Christine R. Stehman

80 **Hepatic Disorders** 516
Susan R. O'Mara, Lauren Wiesner

81 **Acute Appendicitis** 523
E. Paul DeKoning

82 **Diverticulitis** 527
Autumn Graham

83 **Bowel Obstruction** 530
Timothy G. Price

84 **Hernias** 532
Don Byars, Turan Kayagil

85 **Anorectal Disorders** 536
Jeremy G. Berberian, Brian E. Burgess

86 **Gastrointestinal Procedures and Devices** 551
Michael D. Witting

87 **Complications of General Surgical Procedures** 555
Edmond A. Hooker

SECTION 10 Renal and Genitourinary Disorders 563

88 **Acute Kidney Injury** 563
Richard Sinert, Peter R. Peacock, Jr.

89 **Rhabdomyolysis** 570
Francis L. Counselman

90 **End-Stage Renal Disease** 573
J. Hayes Calvert, David M. Cline

91 **Urinary Tract Infections and Hematuria** 578
Kim L. Askew

92 **Acute Urinary Retention** 586
David E. Manthey, David J. Story

93 **Male Genital Problems** 591
Jonathan E. Davis

94 **Urologic Stone Disease** 598
David E. Manthey, Bret A. Nicks

95 **Complications of Urologic Procedures and Devices** 602
Elaine B. Josephson, Benjamin Azan

SECTION 11 Obstetrics and Gynecology 60

96 **Abnormal Uterine Bleeding** 6
Bophal Sarha Hang

97 **Abdominal and Pelvic Pain in the Nonpregnant Female** 6
Melanie Heniff, Heather R.B. Fleming

98 **Ectopic Pregnancy and Emergencies in the First 20 Weeks of Pregnancy** 6
Heather A. Heaton

99 **Comorbid Disorders in Pregnancy** 6
Lori J. Whelan

100 **Maternal Emergencies After 20 Weeks of Pregnancy and in the Peripartum Period** 6
Janet S. Young

101 **Emergency Delivery** 6
Sarah Elisabeth Frasure, Kathleen Kerrigan

102 **Vulvovaginitis** 6
Ciara J. Barclay-Buchanan, Melissa A. Barton

103 **Pelvic Inflammatory Disease** 6
Brian Weiss, Suzanne M. Shepherd

104 **Breast Disorders** 6
Bophal Sarha Hang

105 **Complications of Gynecologic Procedures** 6
Nikki M. Binz

SECTION 12 Pediatrics 66

106 **Emergency Care of Children** 6
Garth D. Meckler

107 **Neonatal and Pediatric Transport** 6
Daniel G. Ostermayer

108 **Resuscitation of Neonates** 6
Marc F. Collin

109 **Resuscitation of Children** 6
William E. Hauda, II

110 **Pediatric Trauma** 6
Genevieve Ernst

111 **Minor Head Injury and Concussion in Children** 6
Paul M.A. Korn, Franz Babl

112 **Cervical Spine Injury in Infants and Children** 7
Julie C. Leonard

113 **Intubation and Ventilation of Infants and Children** 7
Matthew L. Hansen, Carl Eriksson

114 **Vascular Access in Infants and Children** 7
Matthew L. Hansen

115 **Pain Management and Procedural Sedation for Infants and Children** 7
Samina Ali, Naveen Poonai

116 **Neonatal Emergencies and Common Neonatal Problems** 7
Quynh H. Doan, Deepak S. Manhas

117 **Brief Resolved Unexplained Events and Apparent Life-Threatening Events** 739
Ilene Claudius, Joel Tieder

118 **Sudden Infant Death Syndrome** 745
Erik Akopian, Ilene Claudius, Joel Tieder

119 **Fever and Serious Bacterial Illness in Infants and Children** 746
David M. Rodriguez, Jo-Ann O. Nesiama, Vincent J. Wang

120 **Meningitis in Infants and Children** 752
Amy Levine

121 **Ear and Mastoid Disorders in Infants and Children** 756
Carmen M. Coombs

122 **Eye Emergencies in Infants and Children** 763
Janeva Kircher, Andrew Dixon

123 **Nose and Sinus Disorders in Infants and Children.** 772
Joanna S. Cohen, Dewesh Agrawal

124 **Mouth and Throat Disorders in Infants and Children** 775
Derya Caglar, Richard Kwun

125 **Neck Masses in Infants and Children** 782
Charles E.A. Stringer, Vikram Sabhaney

126 **Stridor and Drooling in Infants and Children** 789
Rushi R. Parikh, Craig J. Huang

127 **Wheezing in Infants and Children** 798
Gabrielle Freire, Allan Evan Shefrin, Roger Zemek

128 **Pneumonia in Infants and Children.** 811
Kevin M. Overmann, Todd A. Florin

129 **Congenital and Acquired Pediatric Heart Disease.** 819
Esther L. Yue, Garth D. Meckler

130 **Syncope, Dysrhythmias, and ECG Interpretation in Children** . . . 835
Andrew Dixon

131 **Vomiting, Diarrhea, and Dehydration in Infants and Children** . . 842
Stephen B. Freedman, Jennifer Thull-Freedman

132 **Fluid and Electrolyte Therapy in Infants and Children** 851
Melissa Chan, Paul Enarson

133 **Acute Abdominal Pain in Infants and Children** 857
Ross J. Fleischman

134 **Gastrointestinal Bleeding in Infants and Children** 864
Sarah M. Reid

135 **Urinary Tract Infection in Infants and Children** 870
Benetta Chin, Sim Grewal

136 **Pediatric Urologic and Gynecologic Disorders.** 874
Deborah R. Liu

137 **Renal Emergencies in Children** 881
Andrew Dixon, Brandy Stauffer

138 **Seizures in Infants and Children** 888
Maija Holsti

139 **Headache in Children** 896
David Sheridan, Garth D. Meckler

140 **Altered Mental Status in Children.** 902
Melisa S. Tanverdi, Sarah A. Mellion

141 **Pediatric Orthopedic Emergencies** 904
Kathy Boutis

142 **Rashes in Infants and Children** 925
Michael Nguyen, Amy L. Dunn

143 **Sickle Cell Disease in Children.** 944
John P. Marshall

144 **Hematologic Emergencies in Infants and Children** 949
Jessica A. Bailey, Megan Mickley

145 **Oncologic Emergencies in Infants and Children.** 955
Jessica A. Bailey, Megan Mickley

146 **Metabolic Emergencies in Infants and Children** 965
Nadeem Qureshi, Irene A. Oriaifo

147 **Diabetes in Children** 971
Adam E. Vella

148 **The Child With Special Healthcare Needs** 976
Thomas Abramo, Nicholas W. Porter, Samuel T. Selby

149 **Behavioral Disorders in Children** 982
Quynh H. Doan, Tyler R. Black

150 **Child Abuse and Neglect** 988
Margaret Colbourne, Michelle Clarke

SECTION 13 Infectious Diseases 997

151 **Sepsis** 997
Michael A. Puskarich, Alan E. Jones

152 **Soft Tissue Infections** 1005
Elizabeth W. Kelly

153 **Sexually Transmitted Infections** 1013
Karen D. Serrano

154 **Serious Viral Infections** 1024
Sukhjit S. Takhar, Greg Moran

155 **Human Immunodeficiency Virus Infection** 1032
Catherine A. Marco, Kamna S. Balhara, Richard E. Rothman

156 **Endocarditis.** 1043
Daniel Saul Brenner, Catherine A. Marco, Richard E. Rothman

157 **Tetanus** 1048
Alan X. You, Donna L. Carden, Joel Moll

158 **Rabies.** 1051
Zachary I. Willis, David J. Weber

159 **Malaria** 1057
Malcolm E. Molyneux

160 **Food and Waterborne Illnesses** 1063
Lane M. Smith, Simon A. Mahler

161 **Zoonotic Infections** 1070
Bryan B. Kitch, John T. Meredith

162 **Global Travelers.** 1079
Shawn M. D'Andrea, Annelies De Wulf

163 **Occupational Exposures, Infection Control, and Standard Precautions** 1092
Charissa B. Pacella

SECTION 14 Neurology 1101

164 **Neurologic Examination** 1101
J. Stephen Huff, Andrew D. Perron

165 **Headache** 1107
Alex Koyfman, Brit Long

166 **Spontaneous Subarachnoid and Intracerebral Hemorrhage** . . . 1114
Anna M. Nelson, Caitlin A. Mase, O. John Ma

167 **Stroke Syndromes** 1119
Steven Go

168 **Altered Mental Status and Coma** 1137
M. Kathryn Mutter, J. Stephen Huff

169 **Ataxia and Gait Disturbances** 1142
J. Stephen Huff

170 **Vertigo** 1145
Brian Goldman, Peter Johns

171 **Seizures and Status Epilepticus in Adults** 1153
Josh Kornegay

172 **Acute Peripheral Neurologic Disorders** 1159
Nachi Gupta, Phillip Andrus

173 **Chronic Neurologic Disorders** 1165
Tarina L. Kang, Tiffany M. Abramson

174 **Central Nervous System and Spinal Infections** 1172
Mary E. Tanski, O. John Ma

175 **Central Nervous System Procedures and Devices** 1179
Jay G. Ladde

SECTION 15 Toxicology 1187

176 **General Management of Poisoned Patients** 1187
Shaun Greene

177 **Cyclic Antidepressants** 1194
Frank LoVecchio

178 **Atypical and Serotonergic Antidepressants** 1199
Frank LoVecchio, Erik G. Mattison

179 **Monoamine Oxidase Inhibitors** 1204
Frank LoVecchio

180 **Antipsychotics** 1208
Michael Levine, Frank LoVecchio

181 **Lithium** 1212
Anita Mudan, David H. Jang

182 **Barbiturates** 1214
Chip Gresham, Frank LoVecchio

183 **Benzodiazepines** 1215
Dan Quan

184 **Nonbenzodiazepine Sedatives** 1219
Frank LoVecchio

185 **Alcohols** 1222
Jennifer P. Cohen, Dan Quan

186 **Opioids** 1232
Jennifer S. Love, Jeanmarie Perrone

187 **Cocaine and Amphetamines** 12
Rachel S. Wightman, Jeanmarie Perrone

188 **Hallucinogens** 12
Utsha Khatri, David H. Jang

189 **Salicylates** 12
Rachel Levitan, Frank LoVecchio

190 **Acetaminophen** 12
Rachel S. Wightman, Lewis S. Nelson

191 **Nonsteroidal Anti-Inflammatory Drugs** 12
Jonathan de Olano, Rana Biary

192 **Methylxanthines and Nicotine** 12
Chip Gresham, Daniel E. Brooks

193 **Digitalis Glycosides** 12
Michael Levine, Aaron Skolnik

194 **Beta-Blockers** 12
Matthew K. Riddle, Christian Tomaszewski

195 **Calcium Channel Blockers** 12
Clifford P. Masom, Christian Tomaszewski

196 **Antihypertensives** 12
Frank LoVecchio, Dan Quan

197 **Anticonvulsants** 12
Frank LoVecchio

198 **Iron** 12
Stephanie H. Hernandez, Lewis S. Nelson

199 **Hydrocarbons and Volatile Substances** 12
C. William Heise, Frank LoVecchio

200 **Caustic Ingestions** 12
Nicholas J. Connors, Wallace A. Carter

201 **Pesticides** 13
Shaun Greene

202 **Anticholinergics** 13
Frank LoVecchio

203 **Metals and Metalloids** 13
Eddie Charles Michael Garcia, Lewis S. Nelson

204 **Industrial Toxins** 13
Chip Gresham, Frank LoVecchio

205 **Vitamins and Herbals** 13
Michael Levine

206 **Antimicrobials** 13
Nicholas J. Connors, Wallace A. Carter

207 **Dyshemoglobinemias** 13
Brenna M. Farmer, Lewis S. Nelson

SECTION 16 Environmental Injuries 133

208 **Cold Injuries** 13
Michael T. Paddock

209 **Hypothermia** 13
Douglas J.A. Brown

210 **Heat Emergencies** 13
Frank LoVecchio

211 **Bites and Stings** 1350
Aaron Schneir, Richard F. Clark

212 **Snakebite** 1358
Richard C. Dart, Julian White

213 **Marine Trauma and Envenomation** 1362
John J. Devlin, Kevin J. Knoop

214 **Diving Disorders** 1368
Charlotte A. Sadler, Brian K. Snyder

215 **Drowning** 1374
Stephen John Cico, Linda Quan

216 **High-Altitude Disorders** 1376
Chris Davis, Kurt Power Eifling

217 **Thermal Burns** 1384
E. Paul DeKoning

218 **Chemical Burns** 1391
Anthony F. Pizon, Michael Lynch

219 **Electrical and Lightning Injuries** 1396
Caitlin Bailey

220 **Mushroom Poisoning** 1404
Anne F. Brayer

221 **Poisonous Plants** 1410
Betty Chen, Lewis S. Nelson

222 **Carbon Monoxide** 1414
Gerald E. Maloney

SECTION 17 Endocrine Disorders 1419

223 **Type 1 Diabetes Mellitus** 1419
Nikhil Goyal, Adam Schlichting

224 **Type 2 Diabetes Mellitus** 1424
Mohammad Jalili, Mahtab Niroomand

225 **Diabetic Ketoacidosis** 1433
Andrew Nyce, Richard Byrne, Cary L. Lubkin, Michael E. Chansky

226 **Ketoacidotic Syndromes** 1441
Debra Perina, William A. Woods

227 **Hyperosmolar Hyperglycemic State** 1443
Charles S. Graffeo

228 **Hypothyroidism and Myxedema Crisis** 1447
Alzamani Mohammad Idrose

229 **Hyperthyroidism and Thyroid Storm** 1450
Alzamani Mohammad Idrose

230 **Adrenal Insufficiency** 1457
Alzamani Mohammad Idrose

SECTION 18 Hematologic and Oncologic Disorders 1461

231 **Anemia and Polycythemia** 1461
Michael Billet, Robin R. Hemphill

232 **Hemostasis** 1464
Stephen John Cico

233 **Acquired Bleeding Disorders** 1469
Robert W. Shaffer, Sally A. Santen

234 **Clotting Disorders** 1474
Jessie G. Nelson

235 **Hemophilias and von Willebrand's Disease** 1478
Jonathan A. "Drew" Clare, Robin R. Hemphill

236 **Sickle Cell Disease and Hereditary Hemolytic Anemias** 1482
Brit Long, Alex Koyfman

237 **Acquired Hemolytic Anemia** 1490
Laurie Ann Dixon, Robin R. Hemphill

238 **Transfusion Therapy** 1494
Clinton J. Coil, Sally A. Santen

239 **Thrombotics and Antithrombotics** 1500
David E. Slattery, Charles V. Pollack, Jr

240 **Emergency Complications of Malignancy** 1513
Patricia Brock, Maria T. Cruz-Carreras

SECTION 19 Eye, Ear, Nose, Throat, and Oral Disorders 1523

241 **Eye Emergencies** 1523
Richard A. Walker, Srikar Adhikari

242 **Ear Disorders** 1560
Kathleen Hosmer

243 **Face and Jaw Emergencies** 1566
Stephanie A. Lareau, Corey R. Heitz

244 **Nose and Sinuses** 1572
Henderson D. McGinnis

245 **Oral and Dental Emergencies** 1579
Ronald W. Beaudreau

246 **Neck and Upper Airway** 1594
Nicholas D. Hartman

247 **Complications of Airway Devices** 1600
Casey D. Bryant

SECTION 20 Dermatology 1607

248 **Initial Evaluation and Management of Skin Disorders** 1607
William Rushton, William J. Brady

249 **Generalized Skin Disorders** 1623
William J. Brady, Amit Anil Kumar Pandit, Mark R. Sochor

250 **Skin Disorders: Face and Scalp** 1629
Sam Wu, Diana B. McShane, Dean S. Morrell

251 **Skin Disorders: Trunk** 1635
Katharine Kenyon, Dean S. Morrell, Diana B. McShane

252 **Skin Disorders: Groin and Skinfolds** 1651
Alexandra E. Zeitany, Diana B. McShane, Dean S. Morrell

253 **Skin Disorders: Extremities** 1655
Heather Holahan, Dean S. Morrell, Diana B. McShane

SECTION 21 Trauma 1669

254 **Trauma in Adults** 1669
Peter A. Cameron, Barry J. Knapp, William Teeter

255 **Trauma in the Elderly** 1677
Ross J. Fleischman, O. John Ma

256 **Trauma in Pregnancy** 1680
Ciara J. Barclay-Buchanan, Melissa A. Barton

257 **Head Trauma** 1683
David W. Wright, Lisa H. Merck

258 **Spine Trauma** 1696
Steven Go

259 **Trauma to the Face** 1714
Tarlan Hedayati, Dhara P. Amin

260 **Trauma to the Neck** 1722
Ashley S. Bean

261 **Pulmonary Trauma** 1729
Yvonne L. Wang, David Jones

262 **Cardiac Trauma** 1742
Brit Long, Alex Koyfman

263 **Abdominal Trauma** 1751
Anthony A. Ferroggiaro, O. John Ma

264 **Trauma to the Flank and Buttocks** 1755
Amy M. Stubbs

265 **Genitourinary Trauma** 1757
Regina C. Mysliwiec

266 **Trauma to the Extremities** 1762
James Heilman

SECTION 22 Orthopedics 1767

267 **Initial Evaluation and Management of Orthopedic Injuries** . . . 1767
Ryanne J. Mayersak

268 **Injuries to the Hand and Digits** 1782
Brit Long, Alex Koyfman

269 **Wrist Injuries** 1794
Brit Long, Alex Koyfman

270 **Elbow and Forearm Injuries** 1809
Yvonne C. Chow, Stewart W. Lee

271 **Shoulder and Humerus Injuries** 1821
Lars Bjoernsen, Alexander Ebinger

272 **Pelvis Injuries** 1836
Ciara J. Barclay-Buchanan, Melissa A. Barton

273 **Hip and Femur Injuries** 1842
Chris Courtney

274 **Knee Injuries** 1850
Rachel Bengtzen

275 **Leg Injuries** 1859
Andrea K. Weiers, Paul Haller

276 **Ankle Injuries** 1862
Talib Omer, Margarita Santiago-Martinez

277 **Foot Injuries** 1870
Talib Omer, Margarita Santiago-Martinez

278 **Compartment Syndrome** 1876
Maxwell A. Beck, Paul Haller

SECTION 23 Musculoskeletal Disorders 188

279 **Neck and Back Pain** 18
David Della-Giustina, Jeffrey Dubin

280 **Shoulder Pain** 18
David Della-Giustina, David Hile

281 **Hip and Knee Pain** 18
Kelly P. O'Keefe

282 **Systemic Rheumatic Diseases** 19
Rachel M. Wolfe, Andrew C. Seymore, R. Darrell Nelson

283 **Nontraumatic Disorders of the Hand** 19
Carl A. Germann

284 **Joints and Bursae** 19
John H. Burton, Timothy J. Fortuna

285 **Soft Tissue Problems of the Foot** 19
Mitchell C. Sokolosky

SECTION 24 Psychosocial Disorders 193

286 **Mental Health Disorders: ED Evaluation and Disposition** 19
Veronica Tucci, Nidal Moukaddam

287 **Acute Agitation** 19
Michael Wilson

288 **Mental Health Disorders of the Elderly** 19
Christina L. Shenvi

289 **Mood and Anxiety Disorders** 19
Tracy M. DeSelm

290 **Psychoses** 19
Adam Z. Tobias

291 **Eating Disorders** 19
Gemma C.L. Bornick

292 **Substance Use Disorders** 19
Kathryn Hawk, Elizabeth A. Samuels,
Scott G. Weiner, Gail D'Onofrio, Edward Bernstein

SECTION 25 Abuse and Assault 196

293 **Female and Male Sexual Assault** 19
Lisa A. Moreno-Walton

294 **Intimate Partner Violence and Abuse** 19
Cameron Crandall, Sylvia Gonzalez Alden

295 **Abuse of the Elderly and Impaired** 19
Jonathan Glauser, Fredric M. Hustey

SECTION 26 Special Situations 197

296 **Injection Drug Users** 19
Suzanne M. Shepherd

297 **The Transplant Patient** 19
Brit Long, Alex Koyfman

298 **The Patient with Morbid Obesity** 19
Joanne Williams

299 The Transgender Patient 1997
Monica L. Gaddis, Frances W. Grimstad

300 Palliative Care 2000
Justin K. Brooten

301 Death Notification and Advance Directives 2004
Lindsay M. Weaver, Cherri D. Hobgood

302 Military Medicine 2007
D. Aaron Baker, Alex P. Keller, IV,
Ryan M. Knight, Sarah Goss, Jared A. Sutton,
Nicholas D. Drakos, Michael A. Bellamy

303 Legal Issues in Emergency Medicine 2014
Jonathan E. Siff, Bryan E. Baskin

Index 2025