

Contents

List of Contributors vii
Preface xi
List of Abbreviations xiii

1	Anatomy 1	Johanna B. de Haan and Nadia Hernández
2	Anesthesia Delivery Systems 11	Giacomo Scorsese, Bryan Hill, Jeron Zerillo, and Morgane Factor
3	Monitoring Methods 16	Aleksey Maryansky
4	Ventilators, Alarms, and Safety Features 20	Michael D. Lazar
5	Defibrillators 26	Matthew A. Levin
6	Electrical, Fire, and Explosion Hazards: Basic Electronics 31	Andrew J. Schwartz
7	Basic Mathematics and Statistics 35	Hung-Mo Lin, Hae-Young Kim, and John Michael Williamson
8	General Pharmacology 41	David Convissar, Victoria Nguyen, Shaji Faisal, and Ben Toure
9	Anesthetics: Gases and Vapors 45	Evida Mars-Holt, Jennifer Mardini, and Christopher R. Cowart
10	Opioids 52	Vineet Aggarwal, Kiang Lien Cheung, and Leena Mathew
11	Intravenous Anesthetics 61	Chris Sikorski
12	Local Anesthetics 68	Christopher X. Muñoz and Christina L. Jeng
13	Muscle Relaxants (Depolarizing, Non-Depolarizing) 72	Katherine Loftus and Palak Patel
14	Understanding the Role of the Anesthesia Preop Evaluation 77	Barbara Orlando
15	Preparation for General Anesthesia and Premedication 80	John Yin, Daniel G. Springer, and Theresa A. Gelzinis
16	Regional Anesthesia 86	Ali Shariat and Poonam Pai
17	General Anesthesia 91	Petrus Paulus Steyn and Jeffrey Derham
18	Monitored Anesthesia Care and Sedation 101	Ethan O. Bryson
19	Intravenous Fluid Therapy in the Perioperative Period 103	Stefan A. Ianchulev and Charles P. Plant
20	Complications of Anesthesia: Etiology, Prevention, and Treatment 108	Andrew Glasgow Perez, MD
21	Postanesthesia Recovery Period: Analgesics 114	Deborah C. Mokuolu and Rebecca E. Lee
22	Postoperative Period: Consequences of Anesthesia and of Surgical Incisions 120	Deborah C. Mokuolu, Renee L. Davis, and Rebecca E. Lee
23	Central and Peripheral Nervous System 126	Connie Yue and Jung Kim
24	Pain Mechanisms and Pathways 132	James Yeh and Yury Khelemsky
25	Autonomic Nervous System 135	Joseph Park, Nakiyah Knibbs, and Jeffrey Ciccone
26	Central Nervous System: Anatomy 141	Kenneth John, Devon Flaherty, and Jonathan Gal

Contents

- | | |
|--|--|
| <p>27 Respiratory System: Physiology 147
Maria Castillo</p> <p>28 Respiratory System: Anatomy 154
Samuel Hunter and Daniel Katz</p> <p>29 Respiratory System: Pharmacology 158
Kyle James Riley and Daniel Katz</p> <p>30 Cardiovascular Physiology 161
Jessica Brodt and Kaitlin Flannery</p> <p>31 Basics of Cardiopulmonary Resuscitation, Medications, Defibrillators, and Advanced Cardiac Life Support Algorithms 167
Ishu Kant and Paul Shekane</p> <p>32 Cardiovascular System: Anatomy 173
Claire Joseph and Diana Anca</p> <p>33 Cardiovascular System: Pharmacology 176
Edward R Mathney</p> <p>34 Anesthesiology for the Gastrointestinal and Hepatic Systems 186
Bryan Hill, Jeron Zerillo, Jordan Holloway, and Daphney Dorcius</p> <p>35 Renal Anatomy and Physiology 190
Michael D. Lazar and Ryan Barnette</p> <p>36 Renal Pharmacology 197
Sanford Littwin</p> | <p>37 Hematologic System: Coagulation, Anticoagulation, Antiplatelet, and Thrombolytics 199
Raj Parekh and Travis Burnett</p> <p>38 Transfusions 209
Russell J. Krom</p> <p>39 Reactions to Transfusions 215
Patrick Maffucci, Lyle Nolasco, Marc Sherwin, and Natalie Smith</p> <p>40 Endocrine and Metabolic Systems 222
Joseph R. Williams, Daniel R. Mandell, and Kathirvel Subramaniam</p> <p>41 Neuromuscular Physiology and Disorders 226
Jacqueline Donovan</p> <p>42 Special Problems or Issues in Anesthesiology 231
Evan Shawler, Regine Goh, Megan Meyer, Martha Schuessler, and Sanjana Vig</p> <p>43 Appendix 237
Jordan Abrams</p> |
|--|--|
-
- Index* 243
 The plates will be found between pages 114 and 115