

Contents

Preface	xi
Acknowledgments	xiii
Contributors	xv
Competency Mapping Chart	xix
Section I: Preliminaries in Anesthesia	
1. Anatomy, Physiology, and Applied Physics <i>Mritunjay Kumar</i>	3
2. Historical Milestones in Anesthesia <i>Ridhima Sharma and Ripon Choudhary</i>	16
3. Preoperative Checkup <i>Neha Garg</i>	21
4. Fluids <i>Damarla Haritha and Puneet Khanna</i>	31
5. Blood Transfusion <i>Shashikant Sharma and Puneet Khanna</i>	40
6. Monitoring in Anesthesia <i>Shashikant Sharma and Puneet Khanna</i>	47
Section II: General Anesthesia	
7. Glimpse of General Anesthesia <i>Heena Garg and Nishant Patel</i>	59
8. Inhalational Anesthetics <i>Tanvir Samra</i>	63
9. Intravenous Anesthetic Agents <i>Tanvir Samra</i>	74
10. Muscle Relaxants <i>Shashikant Sharma and Puneet Khanna</i>	91
Section III: Regional Anesthesia	
11. Local Anesthetics <i>Richa Saroa, Sanjeev Palta, and Arushi Goyal</i>	101
12. Central Neuraxial Blocks <i>Richa Saroa, Sanjeev Palta, and Arush Singla</i>	111
13. Peripheral Nerve Blocks <i>Richa Saroa, Sanjeev Palta, and Aravind B. Guledagudd</i>	125

Contents

Section IV: Anesthesia for Coexisting Diseases

- | | |
|---|-----|
| 14. Anesthesia and Cardiac Disease
<i>Rohan Magoon and Souvik Dey</i> | 139 |
| 15. Anesthesia for Respiratory Diseases
<i>Heena Garg and Puneet Khanna</i> | 157 |
| 16. Anesthesia for Central Nervous Diseases
<i>Heena Garg and Nishant Patel</i> | 165 |
| 17. Anesthesia for Liver Diseases
<i>Ushkiran Kaur, Neel Prakash, and Sandeep Sahu</i> | 173 |
| 18. Anesthesia for Renal Diseases
<i>Ushkiran Kaur, Neel Prakash, and Sandeep Sahu</i> | 178 |
| 19. Anesthesia for Endocrine Disorders
<i>Neha Garg</i> | 186 |
| 20. Anesthesia for Patients with Neuromuscular Diseases
<i>Neha Garg</i> | 191 |
| 21. Anesthesia for Immune-Mediated and Infectious Diseases
<i>Ruchi Kapoor</i> | 195 |
| 22. Anesthesia for Disorders of Blood
<i>Neha Garg</i> | 200 |

Section V: Subspecialty Management

- | | |
|---|-----|
| 23. Neurosurgical Anesthesia
<i>Ranjitha Nethaji and Puneet Khanna</i> | 207 |
| 24. Anesthesia for Obstetrics
<i>Anju Gupta and Bhavya Krishna</i> | 215 |
| 25. Pediatric Anesthesia
<i>Anju Gupta</i> | 230 |
| 26. Geriatric Anesthesia
<i>Ganasekran Srinivasan</i> | 238 |
| 27. Anesthesia for Obese Patients
<i>Ganasekran Srinivasan</i> | 242 |
| 28. Anesthesia for Laparoscopy
<i>Ajisha Aravindan and Avishek Roy</i> | 247 |
| 29. Anesthesia for Ophthalmic Surgeries
<i>Ankur Sharma</i> | 255 |
| 30. Anesthesia for ENT Surgery
<i>Ajisha Aravindan and Avishek Roy</i> | 263 |
| 31. Anesthesia in Trauma Patients
<i>Ajit Kumar and Niyati Arora</i> | 278 |

32. Anesthesia for Orthopedic Surgery <i>Ajit Kumar and Roshan</i>	298
33. Nonoperating Room Anesthesia <i>Nitika Goel</i>	309
34. Anesthesia at Remote Locations <i>Nitika Goel</i>	312
35. Anesthesia for Daycare Surgeries <i>Ajit Kumar and Kritika Saini</i>	316
36. Pain and Anesthesia <i>Praveen Talawar and Vijaybabu Adabala</i>	325
Section VI: Miscellaneous	
37. Gases Used in Anesthesia: Road to Mountain <i>Ranjitha Nethaji and Puneet Khanna</i>	337
38. Complications in Anesthesia <i>Abhishek Singh</i>	340
39. The Newer Concept in Anesthesiology: Artificial Intelligence <i>Ajit Kumar and Ravishankar Kumar</i>	362
40. Cardiopulmonary Resuscitation <i>Ajay Singh and Michelle Sirin Lazzar</i>	366
41. Anesthesiology: Ethics, Career, Medication, and Medical Errors <i>Ranjitha Nethaji, Tazeen Khan, and Puneet Khanna</i>	385
42. Postanesthesia Care Unit <i>Tazeen Khan and Puneet Khanna</i>	390
43. Basics of Ventilator <i>Gourav Mittal and Puneet Khanna</i>	396
44. Intensive Care Unit <i>Gourav Mittal and Puneet Khanna</i>	400
Section VII: Equipment in Anesthesia	
45. Anesthesia Workstation <i>Damarla Haritha and Akhil Kant Singh</i>	409
46. Equipment for Airway Management <i>Damarla Haritha and Puneet Khanna</i>	421
47. Oxygen Delivery Devices <i>Damarla Haritha and Puneet Khanna</i>	433
48. Sterilization of Anesthesia Equipment <i>Ankur Sharma</i>	437
Index	439