
Physiologic and Pharmacologic Bases in Anesthesiology is a textbook of 46 chapters written by a multi-author team comprised largely of anesthesiologists. The strengths of the book are respiratory and cardiovascular physiology; physiology of other systems is added. A large pharmacology section on drugs used in anesthesia emphasizes sedative-hypnotic agents and volatile anesthetics. Four supplemental chapters complete the text. The book contains many detailed tables and diagrams useful for reference; black and white pictures and drawings supplement the text.

The first five chapters detailing respiratory physiology are well written. Equations included in this part help the reader understand principles of pulmonary medicine; yet, these calculations are not used to excess, as in some texts on respiratory physiology. The tables are detailed and serve as a good resource for measures of pulmonary function and normal laboratory values. The discussion on central control of respiration is quite thorough; however, a chapter on respiratory pathophysiology and perioperative management of bronchospasm, chronic obstructive pulmonary disease, and restrictive lung disease is missing.

There is a large series of chapters broadly covering cardiac and circulatory physiology, including hemostasis and shock; particular strong are discussions on perioperative arrhythmias, fluids and electrolytes, and transfusion therapy. Review of coagulation mechanisms was satisfactory; however, surprisingly, there was no mention of low molecular weight heparin and its implications to the anesthesiologist, even though it is referred to in a table on thrombosis prophylaxis. Chapters on the autonomic nervous system, temperature regulation, immune responses, and renal physiology are well written and easily understandable. Unusually, sections covering renal and gastrointestinal physiology are followed by anesthesia for patients with hepatobiliary disease and anesthesia for joint surgery, respectively — no corresponding chapters for other systems and anesthesiology for those patients are included.

Although some overlap in physiology and pharmacology is present, chapters 25 through 42 address mechanisms and drugs in general anesthesia with a strong emphasis on volatile anesthetics. Also well covered are barbiturates, benzodiazepines, and opioids; particularly welcome topics reviewed are opiate receptor antagonists and anesthesia for the chemically dependent patient. A separate chapter on diethyl ether and chloroform is interesting from a historical perspective, but chapters covering neuromuscular blocking agents and local anesthetics are missing. Also, the book contains very little review of propofol, etomidate, and ketamine. The final four chapters covering miscellaneous topics, including the physiology of pregnancy, physiology of the normal pediatric patient, acute and chronic disorders, and resuscitation, are interesting, worthy additions.

Overall, this text has a number of superb chapters and several well represented areas. There are missing subjects, particularly in pharmacology, and some "throw-in" chapters disturb the focus of the book. Overall, this effort to incorporate the pharmacology and physiology of anesthesia into a single text falls short of being complete.