

Contents

Schedule of Controlled Drugs Inside Front Cover
Key Features vi
Preface ix
Authors xi

SECTION I BASIC PRINCIPLES 1

- 1. Introduction**
Bertram G. Katzung, MD, PhD 1
- 2. Drug Receptors & Pharmacodynamics**
Mark von Zastrow, MD, PhD, & Henry R. Bourne, MD 15
- 3. Pharmacokinetics & Pharmacodynamics: Rational Dosing & the Time Course of Drug Action**
Nicholas H. G. Holford, MB, ChB, FRACP 37
- 4. Drug Biotransformation**
Maria Almira Correia, PhD 53
- 5. Development & Regulation of Drugs**
Barry A. Berkowitz, PhD 67

SECTION II AUTONOMIC DRUGS 77

- 6. Introduction to Autonomic Pharmacology**
Bertram G. Katzung, MD, PhD 77
- 7. Cholinceptor-Activating & Cholinesterase-Inhibiting Drugs**
Achilles J. Pappano, PhD 95
- 8. Cholinceptor-Blocking Drugs**
Achilles J. Pappano, PhD 113
- 9. Adrenoceptor Agonists & Sympathomimetic Drugs**
Italo Biaggioni, MD, & David Robertson, MD 127
- 10. Adrenoceptor Antagonist Drugs**
David Robertson, MD, & Italo Biaggioni, MD 149

SECTION III CARDIOVASCULAR-RENAL DRUGS 167

- 11. Antihypertensive Agents**
Neal L. Benowitz, MD 167
- 12. Vasodilators & the Treatment of Angina Pectoris**
Bertram G. Katzung, MD, PhD, & Kanu Chatterjee, MB, FRCP 191
- 13. Drugs Used in Heart Failure**
Bertram G. Katzung, MD, PhD, & William W. Parmley, MD 209
- 14. Agents Used in Cardiac Arrhythmias**
Joseph R. Hume, PhD, & Augustus O. Grant, MD, PhD 225
- 15. Diuretic Agents**
Harlan E. Ives, MD, PhD 251

SECTION IV DRUGS WITH IMPORTANT ACTIONS ON SMOOTH MUSCLE 271

- 16. Histamine, Serotonin, & the Ergot Alkaloids**
Bertram G. Katzung, MD, PhD 271
- 17. Vasoactive Peptides**
Ian A. Reid, PhD 293
- 18. The Eicosanoids: Prostaglandins, Thromboxanes, Leukotrienes, & Related Compounds**
Emer M. Smyth, PhD, & Garret A. FitzGerald, MD 313

19. **Nitric Oxide**
Samie R. Jaffrey, MD, PhD 331
20. **Drugs Used in Asthma**
Homer A. Boushey, MD 339

SECTION **V**
**DRUGS THAT ACT IN THE
CENTRAL NERVOUS SYSTEM** 357

21. **Introduction to the Pharmacology
of CNS Drugs**
Roger A. Nicoll, MD 357
22. **Sedative-Hypnotic Drugs**
*Anthony J. Trevor, PhD, &
Walter L. Way, MD* 371
23. **The Alcohols**
Susan B. Masters, PhD 387
24. **Antiseizure Drugs**
*Roger J. Porter, MD, &
Brian S. Meldrum, MB, PhD* 399
25. **General Anesthetics**
*Paul F. White, PhD, MD, &
Anthony J. Trevor, PhD* 423
26. **Local Anesthetics**
*Bertram G. Katzung, MD, PhD, &
Paul F. White, PhD, MD* 439
27. **Skeletal Muscle Relaxants**
*Paul F. White, PhD, MD, &
Bertram G. Katzung, MD, PhD* 451
28. **Pharmacologic Management of
Parkinsonism & Other Movement
Disorders**
Michael J. Aminoff, MD, DSc, FRCP 469
29. **Antipsychotic Agents & Lithium**
Herbert Meltzer, MD, PhD 487
30. **Antidepressant Agents**
Charles DeBattista, MD 509
31. **Opioid Analgesics & Antagonists**
*Mark A. Schumacher, PhD, MD,
Allan I. Basbaum, PhD, &
Walter L. Way, MD* 531
32. **Drugs of Abuse**
Christian Lüscher, MD 553

SECTION **VI**
**DRUGS USED TO TREAT DISEASES
OF THE BLOOD, INFLAMMATION,
& GOUT** 569

33. **Agents Used in Anemias; Hematopoietic
Growth Factors**
Susan B. Masters, PhD 569
34. **Drugs Used in Disorders of Coagulation**
James L. Zehnder, MD 587
35. **Agents Used in Dyslipidemia**
*Mary J. Malloy, MD, & John P. Kane, MD,
PhD* 605
36. **Nonsteroidal Anti-Inflammatory Drugs,
Disease-Modifying Antirheumatic Drugs,
Nonopioid Analgesics, & Drugs Used in Gout**
*Daniel E. Furst, MD, Robert W. Ulrich, PharmD,
& Cissy Varkey-Altamirano, BS* 621

SECTION **VII**
ENDOCRINE DRUGS 643

37. **Hypothalamic & Pituitary Hormones**
Susan B. Masters, PhD 643
38. **Thyroid & Antithyroid Drugs**
*Betty J. Dong, PharmD, FASHP, FCCP, &
Francis S. Greenspan, MD, FACP* 665
39. **Adrenocorticosteroids & Adrenocortical
Antagonists**
George P. Chrousos, MD 681
40. **The Gonadal Hormones & Inhibitors**
George P. Chrousos, MD 699
41. **Pancreatic Hormones & Antidiabetic Drugs**
Martha S. Nolte, MD 727
42. **Agents That Affect Bone Mineral Homeostasis**
Daniel D. Bikle, MD, PhD 753

SECTION **VIII**
CHEMOTHERAPEUTIC DRUGS 773

43. **Beta-Lactam & Other Cell Wall- &
Membrane-Active Antibiotics**
*Henry F. Chambers, MD, & Daniel H. Deck,
PharmD* 773

44. **Tetracyclines, Macrolides, Clindamycin, Chloramphenicol, Streptogramins, & Oxazolidinones**
Henry F. Chambers, MD, & Daniel H. Deck, PharmD 795
45. **Aminoglycosides & Spectinomycin**
Henry F. Chambers, MD, & Daniel H. Deck, PharmD 807
46. **Sulfonamides, Trimethoprim, & Quinolones**
Henry F. Chambers, MD, & Daniel H. Deck, PharmD 815
47. **Antimycobacterial Drugs**
Henry F. Chambers, MD, & Daniel H. Deck, PharmD 823
48. **Antifungal Agents**
Don Sheppard, MD, & Harry W. Lampiris, MD 835
49. **Antiviral Agents**
Sharon Safrin, MD 845
50. **Miscellaneous Antimicrobial Agents; Disinfectants, Antiseptics, & Sterilants**
Henry F. Chambers, MD, & Daniel H. Deck, PharmD 877
51. **Clinical Use of Antimicrobial Agents**
Harry W. Lampiris, MD, & Daniel S. Maddix, PharmD 885
52. **Antiprotozoal Drugs**
Philip J. Rosenthal, MD 899
53. **Clinical Pharmacology of the Antihelminthic Drugs**
Philip J. Rosenthal, MD 923
54. **Cancer Chemotherapy**
Edward Chu, MD, & Alan C. Sartorelli, PhD 935
55. **Immunopharmacology**
Douglas F. Lake, PhD, Adrienne D. Briggs, MD, & Emmanuel T. Akporiaye, PhD 963

SECTION IX TOXICOLOGY 987

56. **Introduction to Toxicology: Occupational & Environmental**
Daniel T. Teitelbaum, MD 987

57. **Heavy Metal Intoxication & Chelators**
Michael J. Kosnett, MD, MPH 999
58. **Management of the Poisoned Patient**
Kent R. Olson, MD 1013

SECTION X SPECIAL TOPICS 1025

59. **Special Aspects of Perinatal & Pediatric Pharmacology**
Gideon Koren, MD 1025
60. **Special Aspects of Geriatric Pharmacology**
Bertram G. Katzung, MD, PhD 1037
61. **Dermatologic Pharmacology**
Dirk B. Robertson, MD, & Howard I. Maibach, MD 1047
62. **Drugs Used in the Treatment of Gastrointestinal Diseases**
Kenneth R. McQuaid, MD 1067
63. **Therapeutic & Toxic Potential of Over-the-Counter Agents**
Robin L. Corelli, PharmD 1103
64. **Dietary Supplements & Herbal Medications**
Cathi E. Dennehy, PharmD, & Candy Tsourounis, PharmD 1113
65. **Rational Prescribing & Prescription Writing**
Paul W. Lofholm, PharmD, & Bertram G. Katzung, MD, PhD 1127
66. **Important Drug Interactions & Their Mechanisms**
John R. Horn, PharmD, FCCP 1137
- Appendix: **Vaccines, Immune Globulins, & Other Complex Biologic Products**
Harry W. Lampiris, MD, & Daniel S. Maddix, PharmD 1151

Index 1159