NOTICE

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required. The authors of this work have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication. However, in view of the possibility of human error or changes in medical sciences, neither the authors nor the publisher nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they disclaim all responsibility for any errors or omissions or the results obtained from use of the information contained in this work. Readers are encouraged to confirm the information contained herein with other sources. For example and in particular, readers are advised to check the product information sheet included in the package of each drug they plan to administer to be certain that the information contained in this work is accurate and that changes have not been made in the recommended dose or in the contraindications for administration. This recommendation is of particular importance in connection with new or infrequently used drugs.
## Contents

Preface ................................................................. ix  
Acknowledgments ......................................................... x

### SECTION 1: BONE AND JOINT DISORDERS

*Edited by Terry L. Schwinghammer*

1. Gout and Hyperuricemia ............................................. 1  
2. Osteoarthritis ....................................................... 9  
3. Osteoporosis ....................................................... 16  
4. Rheumatoid Arthritis ............................................... 26

### SECTION 2: CARDIOVASCULAR DISORDERS

*Edited by Terry L. Schwinghammer*

5. Acute Coronary Syndromes .......................................... 37  
6. Arrhythmias ....................................................... 48  
7. Cardiac Arrest ..................................................... 59  
8. Dyslipidemia ........................................................... 65  
9. Heart Failure .......................................................... 75  
10. Hypertension ....................................................... 87  
11. Ischemic Heart Disease ............................................ 102  
12. Shock ........................................................................ 111  
13. Stroke ................................................................. 120  
14. Venous Thromboembolism .......................................... 125

### SECTION 3: DERMATOLOGIC DISORDERS

*Edited by Terry L. Schwinghammer*

15. Acne Vulgaris ....................................................... 135  
16. Dermatologic Drug Reactions and Common Skin Conditions .................................................. 141  
17. Psoriasis ............................................................... 147

### SECTION 4: ENDOCRINOLOGIC DISORDERS

*Edited by Terry L. Schwinghammer*

18. Adrenal Gland Disorders ............................................. 155  
19. Diabetes Mellitus .................................................... 161  
20. Thyroid Disorders .................................................. 176

### SECTION 5: GASTROINTESTINAL DISORDERS

*Edited by Joseph T. DiPiro and Terry L. Schwinghammer*

21. Cirrhosis and Portal Hypertension .................................. 185  
22. Constipation .......................................................... 194  
23. Diarrhea ............................................................. 200  
24. Gastroesophageal Reflux Disease .................................. 206  
25. Hepatitis, Viral ...................................................... 213
Contents

26. Inflammatory Bowel Disease .................................................. 221
27. Nausea and Vomiting ............................................................. 231
28. Pancreatitis ...................................................................... 244
29. Peptic Ulcer Disease ............................................................ 251

SECTION 6: GYNECOLOGIC AND OBSTETRIC DISORDERS
Edited by Barbara G. Wells
30. Contraception ................................................................. 257
31. Menopausal, Perimenopausal, and Postmenopausal Hormone Therapy ...... 276
32. Pregnancy and Lactation ................................................... 291

SECTION 7: HEMATOLOGIC DISORDERS
Edited by Cecily V. DiPiro
33. Anemias ...................................................................... 301
34. Sickle Cell Disease ............................................................ 308

SECTION 8: INFECTIOUS DISEASES
Edited by Joseph T. DiPiro
35. Antimicrobial Regimen Selection ....................................... 313
36. Central Nervous System Infections .................................... 323
37. Endocarditis .................................................................. 333
38. Fungal Infections, Invasive ............................................... 347
39. Gastrointestinal Infections ................................................. 361
40. Human Immunodeficiency Virus Infection ......................... 368
41. Influenza ...................................................................... 387
42. Intraabdominal Infections ................................................ 394
43. Respiratory Tract Infections, Lower .................................. 405
44. Respiratory Tract Infections, Upper .................................. 418
45. Sepsis and Septic Shock .................................................... 427
46. Sexually Transmitted Diseases ......................................... 433
47. Skin and Soft-Tissue Infections ........................................ 448
48. Surgical Prophylaxis .......................................................... 466
49. Tuberculosis .................................................................. 476
50. Urinary Tract Infections ..................................................... 490
51. Vaccines, Toxoids, and Other Immunobiologics. ................ 500

SECTION 9: NEUROLOGIC DISORDERS
Edited by Barbara G. Wells
52. Alzheimer's Disease ........................................................... 511
53. Epilepsy ...................................................................... 518
54. Headache: Migraine and Tension-Type ............................... 543
55. Pain Management .............................................................. 557
56. Parkinson's Disease ........................................................... 578
57. Status Epilepticus ............................................................... 587
# Contents

## SECTION 10: NUTRITION SUPPORT

*Edited by Cecily V. DiPiro*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>58. Obesity</td>
<td>599</td>
</tr>
<tr>
<td>59. Nutrition Evaluation and Support</td>
<td>605</td>
</tr>
</tbody>
</table>

## SECTION 11: ONCOLOGIC DISORDERS

*Edited by Cecily V. DiPiro*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>60. Breast Cancer</td>
<td>619</td>
</tr>
<tr>
<td>61. Colorectal Cancer</td>
<td>631</td>
</tr>
<tr>
<td>62. Lung Cancer</td>
<td>642</td>
</tr>
<tr>
<td>63. Lymphomas</td>
<td>647</td>
</tr>
<tr>
<td>64. Prostate Cancer</td>
<td>654</td>
</tr>
</tbody>
</table>

## SECTION 12: OPHTHALMIC DISORDERS

*Edited by Cecily V. DiPiro*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>65. Glaucoma</td>
<td>665</td>
</tr>
</tbody>
</table>

## SECTION 13: PSYCHIATRIC DISORDERS

*Edited by Barbara G. Wells*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>66. Anxiety Disorders</td>
<td>673</td>
</tr>
<tr>
<td>67. Bipolar Disorder</td>
<td>694</td>
</tr>
<tr>
<td>68. Major Depressive Disorder</td>
<td>712</td>
</tr>
<tr>
<td>69. Schizophrenia</td>
<td>731</td>
</tr>
<tr>
<td>70. Sleep-Wake Disorders</td>
<td>747</td>
</tr>
<tr>
<td>71. Substance-Related Disorders</td>
<td>755</td>
</tr>
</tbody>
</table>

## SECTION 14: RENAL DISORDERS

*Edited by Cecily V. DiPiro*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>72. Acid–Base Disorders</td>
<td>771</td>
</tr>
<tr>
<td>73. Acute Kidney Injury</td>
<td>779</td>
</tr>
<tr>
<td>74. Chronic Kidney Disease</td>
<td>787</td>
</tr>
<tr>
<td>75. Electrolyte Homeostasis</td>
<td>798</td>
</tr>
</tbody>
</table>

## SECTION 15: RESPIRATORY DISORDERS

*Edited by Terry L. Schwinghammer*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>76. Allergic Rhinitis</td>
<td>813</td>
</tr>
<tr>
<td>77. Asthma</td>
<td>821</td>
</tr>
<tr>
<td>78. Chronic Obstructive Pulmonary Disease</td>
<td>835</td>
</tr>
</tbody>
</table>

## SECTION 16: UROLOGIC DISORDERS

*Edited by Cecily V. DiPiro*

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>79. Benign Prostatic Hyperplasia</td>
<td>845</td>
</tr>
<tr>
<td>80. Erectile Dysfunction</td>
<td>850</td>
</tr>
<tr>
<td>81. Urinary Incontinence</td>
<td>865</td>
</tr>
</tbody>
</table>
Contents

APPENDICES
Edited by Barbara G. Wells

Appendix 1. Allergic and Pseudoallergic Drug Reactions ......................... 873
Appendix 2. Geriatrics ................................................................. 877
Appendix 3. Drug-Induced Hematologic Disorders ............................... 882
Appendix 4. Drug-Induced Liver Disease ........................................ 887
Appendix 5. Drug-Induced Pulmonary Disease .................................... 889
Appendix 6. Drug-Induced Kidney Disease ....................................... 898
Index ........................................................................................... 903
Preface

The pocket companion to *Pharmacotherapy: A Pathophysiologic Approach*, 9th edition, is designed to provide practitioners and students with critical information that can be easily used to guide drug therapy decision making in the clinical setting. To ensure brevity and portability, the bulleted format provides the user with essential textual information, key tables and figures, and treatment algorithms. In order to reduce the number of pages and thus allow it to fit more easily in a pocket, the publisher undertook a slight redesign to save space, and the authors made every effort to write as clearly and succinctly as possible.

Corresponding to the major sections in the main text, disorders are alphabetized within the following sections: Bone and Joint Disorders, Cardiovascular Disorders, Dermatologic Disorders, Endocrinologic Disorders, Gastrointestinal Disorders, Gynecologic and Obstetric Disorders, Hematologic Disorders, Infectious Diseases, Neurologic Disorders, Nutritional Disorders, Oncologic Disorders, Ophthalmic Disorders, Psychiatric Disorders, Renal Disorders, Respiratory Disorders, and Urologic Disorders. Drug-induced conditions associated with allergic and pseudoallergic reactions, hematologic disorders, liver diseases, pulmonary disorders, and kidney disease appear in five tabular appendices. Information on the management of pharmacotherapy in the elderly is also included as an appendix.

Each chapter is organized in a consistent format:

- Disease state definition
- Pathophysiology
- Clinical presentation
- Diagnosis
- Treatment
- Evaluation of therapeutic outcomes

The treatment section may include goals of treatment, general approach to treatment, nonpharmacologic therapy, drug selection guidelines, dosing recommendations, adverse effects, pharmacokinetic considerations, and important drug-drug interactions. When more in-depth information is required, the reader is encouraged to refer to the primary text, *Pharmacotherapy: A Pathophysiologic Approach*, 9th edition.

It is our sincere hope that students and practitioners find this book helpful as they continuously strive to deliver highest-quality patient-centered care. We invite your comments on how we may improve subsequent editions of this work.

Barbara G. Wells
Joseph T. DiPiro
Terry L. Schwinghammer
Cecily V. DiPiro

Please provide your comments about this book—Wells et al, *Pharmacotherapy Handbook*, 9th edition—to its authors and publisher by writing to pharmacotherapy@mcgraw-hill.com. Please indicate the author and title of this handbook in the subject line of your e-mail.
Acknowledgments

The editors wish to express their sincere appreciation to the authors whose chapters in the 9th edition of *Pharmacotherapy: A Pathophysiologic Approach* served as the basis for this book. The dedication and professionalism of these outstanding practitioners, teachers, and clinical scientists are evident on every page of this work. The authors of the chapters from the 9th edition are acknowledged at the end of each respective handbook chapter.