

TERRY L. SCHWINGHAMMER

JULIA M. KOEHLER

Pharmacotherapy Casebook

A Patient-Focused Approach



seventh edition

CONTENTS

Contributors	xi
Preface	xix
Acknowledgments	xxi

SECTION 1

Principles of Patient-Focused Therapy

1. Introduction: How to Use This Casebook	1
<i>Terry L. Schwinghammer</i>	
2. Active Learning Strategies	7
<i>Cynthia K. Kirkwood and Gretchen M. Brophy</i>	
3. Case Studies in Patient Communication	11
<i>Richard N. Herrier</i>	
4. Care Planning: A Component of the Patient Care Process	21
<i>Terry L. Schwinghammer</i>	
5. Documentation of Pharmacotherapy Interventions	29
<i>Bruce R. Canaday, Peggy C. Yarborough, Robert M. Malone, and Timothy J. Ives</i>	

SECTION 2

Cardiovascular Disorders

6. Cardiac Arrest	37
<i>Tate N. Trujillo and Christopher M. Scott</i>	
7. Hypertension	39
<i>Julia M. Koehler and James E. Tisdale</i>	
8. Hypertensive Urgency/Emergency	42
<i>James J. Nawarskas</i>	
9. Heart Failure: Systolic Dysfunction	44
<i>Jon D. Horton</i>	
10. Heart Failure: Diastolic Dysfunction	47
<i>Jon D. Horton</i>	

11. Ischemic Heart Disease and Acute Coronary Syndrome	49
<i>Shawn R. Hansen and Matthew J. Thill</i>	
12. Acute Coronary Syndrome: ST-Elevation Myocardial Infarction	52
<i>Kelly C. Rogers and Robert B. Parker</i>	
13. Drug-Induced Arrhythmia	54
<i>Kwadwo Amankwa</i>	
14. Atrial Fibrillation	56
<i>Bradley G. Phillips</i>	
15. Deep Vein Thrombosis	58
<i>James D. Coyle and Patrick J. Fahey</i>	
16. Pulmonary Embolism	61
<i>Kristen L. Longstreth</i>	
17. Chronic Anticoagulation	64
<i>Mikayla Spangler and Beth Bryles Phillips</i>	
18. Ischemic Stroke	66
<i>Alexander J. Ansara and Julia M. Koehler</i>	
19. Hyperlipidemia: Primary Prevention	68
<i>Laurajo Ryan</i>	
20. Hyperlipidemia: Secondary Prevention	70
<i>Laurajo Ryan</i>	
21. Peripheral Arterial Disease	72
<i>Tracy L. Bottorff</i>	
22. Hypovolemic Shock	74
<i>Brian L. Erstad</i>	

SECTION 3

Respiratory Disorders

23. Acute Asthma	77
<i>Jennifer A. Donaldson</i>	
24. Chronic Asthma	79
<i>Julia M. Koehler and Carrie Maffeo</i>	

- 25.** Chronic Obstructive Pulmonary Disease 80
Joel C. Marrs
- 26.** Pulmonary Arterial Hypertension 83
Brian C. Sedam
- 27.** Cystic Fibrosis 85
Kimberly J. Novak
- 44.** Chronic Pancreatitis. 122
Joseph J. Kishel
- 45.** Viral Hepatitis A Vaccination 124
Juliana Chan
- 46.** Viral Hepatitis B 125
Juliana Chan
- 47.** Viral Hepatitis C 128
Randolph E. Regal

SECTION 4

Gastrointestinal Disorders

- 28.** Gastroesophageal Reflux Disease 89
Brian A. Hemstreet
- 29.** Peptic Ulcer Disease 91
John W. Devlin
- 30.** NSAID-Induced Ulcer Disease. 93
Craig Williams
- 31.** Stress Ulcer Prophylaxis/Upper GI Hemorrhage.. 95
Kristie C. Reeves-Cavaliero and Henry J. Mann
- 32.** Crohn's Disease 98
Brian A. Hemstreet
- 33.** Ulcerative Colitis 100
Nancy S. Yunker and William R. Garnett
- 34.** Nausea and Vomiting 102
Kelly K. Nystrom and Pamela A. Foral
- 35.** Diarrhea 104
Marie A. Abate and Charles D. Ponte
- 36.** Irritable Bowel Syndrome. 106
Nancy S. Yunker and William R. Garnett
- 37.** Pediatric Gastroenteritis 108
William McGhee and Christina M. Lehane
- 38.** Constipation 110
Michelle O'Connor and Beth Bryles Phillips
- 39.** Ascites Management in Portal Hypertension and Cirrhosis 112
Laurel Rodden Andrews and Jeffery Evans
- 40.** Esophageal Varices 114
Cesar Alaniz
- 41.** Hepatic Encephalopathy. 116
Carrie A. Sincak
- 42.** Drug-Induced Liver Disease: Acetaminophen Toxicity 118
Elizabeth J. Scharman
- 43.** Acute Pancreatitis 120
Robert MacLaren

SECTION 5

Renal Disorders

- 48.** Drug-Induced Acute Kidney Injury 131
Mary K. Stamatakis
- 49.** Acute Kidney Injury 133
Scott Bolesta and Reina Bendayan
- 50.** Progressive Renal Disease 135
Michelle D. Furler and Reina Bendayan
- 51.** End-Stage Kidney Disease 137
Edward F. Foote
- 52.** Syndrome of Inappropriate Antidiuretic Hormone Release 138
Jane Gervasio and Maria Tsoras
- 53.** Electrolyte Abnormalities in Chronic Kidney Disease 140
Mary K. Stamatakis
- 54.** Hypercalcemia of Malignancy. 142
Laura L. Jung and Lisa M. Holle
- 55.** Hypokalemia and Hypomagnesemia 145
Denise R. Sokos and W. Greg Leader
- 56.** Metabolic Acidosis 147
Brian M. Hodges
- 57.** Metabolic Alkalosis 148
Stephanie D. Vail and Thomas D. Nolin

SECTION 6

Neurologic Disorders

- 58.** Multiple Sclerosis 151
Jacquelyn L. Bainbridge and John R. Corboy
- 59.** Complex Partial Seizures 153
James W. McAuley
- 60.** Generalized Tonic-Clonic Seizures. 156
Sharon M. Tramonte

- 61.** Status Epilepticus 158
Sharon M. Tramonte
- 62.** Acute Management of the Brain Injury Patient... 160
Denise H. Rhoney and Dennis Parker, Jr.
- 63.** Parkinson's Disease 162
Mary Louise Wagner and Margery H. Mark
- 64.** Acute Pain 164
Gina M. Carbonara and Charles D. Ponte
- 65.** Chronic Pain Management 166
Christine K. O'Neil
- 66.** Headache Disorders 168
Susan R. Winkler and Sandra L. Kim

SECTION 7

Psychiatric Disorders

- 67.** Attention-Deficit Hyperactivity Disorder 173
Darin C. Ramsey and Jasmine D. Gonzalvo
- 68.** Eating Disorders: Anorexia Nervosa..... 175
Jasmine D. Gonzalvo and Darin C. Ramsey
- 69.** Alzheimer's Disease 177
Cynthia P. Koh-Knox and Robert W. Bennett
- 70.** Alcohol Withdrawal..... 179
Kevin M. Tuohy
- 71.** Nicotine Dependence..... 181
Julie C. Kissack
- 72.** Schizophrenia 183
Lawrence J. Cohen
- 73.** Major Depression 185
Brian L. Crabtree and Victor G. Dostrow
- 74.** Bipolar Disorder 188
Lawrence J. Cohen
- 75.** Generalized Anxiety Disorder 190
Sarah T. Melton and Cynthia K. Kirkwood
- 76.** Obsessive-Compulsive Disorder..... 194
Sarah T. Melton and Cynthia K. Kirkwood
- 77.** Insomnia 196
Mollie Ashe Scott and Amy M. Lugo

SECTION 8

Endocrinologic Disorders

- 78.** Type 1 Diabetes Mellitus and Ketoacidosis 199
Amy S. Nicholas and Holly S. Divine

- 79.** Type 2 Diabetes Mellitus: New Onset 201
Deanne L. Hall and Scott R. Drab
- 80.** Type 2 Diabetes Mellitus: Existing Disease..... 203
Sharon B. S. Gatewood and Jean-Venable "Kelly" R. Goode
- 81.** Hyperthyroidism: Graves' Disease..... 205
Kristine S. Schonder
- 82.** Hypothyroidism 207
Michael D. Katz
- 83.** Cushing's Syndrome 209
Christopher M. Terpening and John G. Gums
- 84.** Addison's Disease 211
Cynthia P. Koh-Knox and Bruce C. Carlstedt
- 85.** Hyperprolactinemia 213
Amy Heck Sheehan and Karim Anton Calis

SECTION 9

Gynecologic Disorders

- 86.** Contraception 215
Julia M. Koehler
- 87.** Premenstrual Dysphoric Disorder..... 217
Kelly R. Ragucci
- 88.** Managing Menopausal Symptoms 219
Nicole S. Culhane

SECTION 10

Urologic Disorders

- 89.** Erectile Dysfunction 223
Cara Liday
- 90.** Benign Prostatic Hyperplasia 224
Kevin W. Cleveland and Catherine A. Heyneman
- 91.** Urinary Incontinence 227
Mary Lee and Roohollah R. Sharifi

SECTION 11

Immunologic Disorders

- 92.** Systemic Lupus Erythematosus 231
Nicole M. Paolini and Holly V. Coe
- 93.** Allergic Drug Reaction 233
Lynne M. Sylvia
- 94.** Solid Organ Transplantation 235
Kristine S. Schonder

SECTION 12**Bone and Joint Disorders**

- 95.** Osteoporosis 237
Emily C. Farthing-Papineau and Julia M. Koehler
- 96.** Rheumatoid Arthritis 239
Amy L. Whitaker
- 97.** Osteoarthritis 241
Christopher M. Degenkolb
- 98.** Gout and Hyperuricemia 243
Geoffrey C. Wall

SECTION 13**Disorders of the Eyes, Ears, Nose, and Throat**

- 99.** Glaucoma 247
Tien T. Kiat-Winarko
- 100.** Allergic Rhinitis 249
W. Greg Leader

SECTION 14**Dermatologic Disorders**

- 101.** Cutaneous Reaction to Drugs 253
Rebecca M. T. Law
- 102.** Acne Vulgaris 255
Rebecca M. T. Law and Wayne P. Gulliver
- 103.** Psoriasis 256
Rebecca M. T. Law and Wayne P. Gulliver
- 104.** Atopic Dermatitis 258
Rebecca M. T. Law and Poh Gin Kwa

SECTION 15**Hematologic Disorders**

- 105.** Iron Deficiency Anemia 261
William J. Spruill and William E. Wade
- 106.** Vitamin B₁₂ Deficiency 263
Elaine M. Ladd, Joseph R. Ineck, and Barbara J. Mason
- 107.** Folic Acid Deficiency 265
Joseph R. Ineck, Elaine M. Ladd, and Barbara J. Mason
- 108.** Sickle Cell Anemia 267
Christine M. Walko

SECTION 16**Infectious Diseases**

- 109.** Using Laboratory Tests in Infectious Diseases ... 271
Steven J. Martin and Eric G. Sahloff
- 110.** Bacterial Meningitis 273
Sherry A. Luedtke
- 111.** Acute Bronchitis 275
Justin J. Sherman and W. Greg Leader
- 112.** Influenza: Prevention and Treatment 277
Margarita V. DiVall
- 113.** Community-Acquired Pneumonia 279
Trent G. Towne and Sharon M. Erdman
- 114.** Otitis Media 281
Rochelle Farb and Nicole S. Culhane
- 115.** Rhinosinusitis 282
Michael B. Kays
- 116.** Acute Pharyngitis 284
John L. Lock and Jarrett R. Amsden
- 117.** Cellulitis 286
Jarrett R. Amsden
- 118.** Diabetic Foot Infection 288
A. Christie Graham and Renee-Claude Mercier
- 119.** Infective Endocarditis 290
Manjunath P. Pai and Keith A. Rodvold
- 120.** Tuberculosis 292
Sharon M. Erdman
- 121.** *Clostridium difficile*-Associated Disease 295
Michael J. Gonyeau
- 122.** Intra-Abdominal Infection 297
Renee-Claude Mercier and A. Christie Graham
- 123.** Lower Urinary Tract Infection 299
Sharon M. Erdman and Keith A. Rodvold
- 124.** Acute Pyelonephritis 301
Brian A. Potoski
- 125.** Pelvic Inflammatory Disease and Other Sexually Transmitted Diseases 304
Denise L. Howrie and Pamela J. Murray
- 126.** Syphilis 307
Marc H. Scheetz
- 127.** Genital Herpes, Gonococcal, and Chlamydial Infections 309
Suelyn J. Sorensen
- 128.** Osteomyelitis and Septic Arthritis 311
Edward P. Armstrong and Allan D. Friedman

129.	Sepsis	313
	<i>Christopher M. Scott and Tate N. Trujillo</i>	
130.	Dermatophytosis	315
	<i>Scott J. Bergman and Douglas Slain</i>	
131.	Bacterial Vaginosis	316
	<i>Charles D. Ponte</i>	
132.	<i>Candida</i> Vaginitis	318
	<i>Rebecca M. T. Law</i>	
133.	Invasive Fungal Infections	320
	<i>Douglas Slain</i>	
134.	Infections in Immunocompromised Patients	322
	<i>Douglas Slain</i>	
135.	Antimicrobial Prophylaxis for Surgery	324
	<i>Curtis L. Smith</i>	
136.	Pediatric Immunization	326
	<i>Jean-Venable "Kelly" R. Goode</i>	
137.	Adult Immunization	328
	<i>Jean-Venable "Kelly" R. Goode</i>	
138.	HIV Infection	329
	<i>Mariela Díaz-Linares and Keith A. Rodvold</i>	
139.	HIV and Hepatitis C Co-Infection	331
	<i>Jennifer J. Kiser, Peter L. Anderson, and Courtney V. Fletcher</i>	

SECTION 17

Oncologic Disorders

140.	Breast Cancer	335
	<i>Chad Barnett</i>	
141.	Non-Small Cell Lung Cancer	337
	<i>Michelle L. Rockey and Jane M. Pruemer</i>	
142.	Colon Cancer	340
	<i>Lisa E. Davis</i>	
143.	Prostate Cancer	342
	<i>Diana Hey Cauley</i>	
144.	Non-Hodgkin's Lymphoma	344
	<i>Keith A. Hecht</i>	
145.	Hodgkin's Disease	347
	<i>Cindy L. O'Bryant</i>	
146.	Ovarian Cancer	349
	<i>William C. Zamboni and Margaret E. Tonda</i>	

147.	Acute Lymphocytic Leukemia	351
	<i>Mark T. Holdsworth</i>	
148.	Chronic Myelogenous Leukemia	355
	<i>Christine M. Walko</i>	
149.	Melanoma	357
	<i>J. Michael Vozniak</i>	
150.	Hematopoietic Stem Cell Transplantation	359
	<i>Christopher A. Fausel</i>	

SECTION 18

Nutrition and Nutritional Disorders

151.	Parenteral Nutrition	363
	<i>Michael D. Kraft</i>	
152.	Adult Enteral Nutrition	365
	<i>Carol J. Rollins</i>	
153.	Obesity	368
	<i>Dannielle C. O'Donnell</i>	

SECTION 19

Emergency Preparedness and Response

154.	Cyanide Exposure	371
	<i>Colleen Terriff</i>	
155.	Chemical Exposure	373
	<i>Colleen Terriff</i>	

SECTION 20

Complementary and Alternative Therapies (Level III)

Charles W. Fetrow

Appendix A: Conversion Factors and Anthropometrics	381
Appendix B: Common Laboratory Tests	385
Appendix C: Part I: Common Medical Abbreviations; Part II: Prevent Medical Errors By Avoiding These Dangerous Abbreviations or Dose Designations.	391
Appendix D: Sample Responses to Case Questions	399