

CONTENTS

Contributing Authors
Preface

vii
xiii

PART I: CHRONIC KIDNEY DISEASE MANAGEMENT 1

- 1 Approach to Patients with Chronic Kidney Disease, Stages 1–4 2**
Ajay Singh
- 2 Management of CKD Stages 4 and 5: Preparation for Transplantation, Dialysis, or Conservative Care 22**
Ajay Singh and Jameela Kari

PART II: BLOOD-BASED THERAPIES 33

- 3 Physiologic Principles and Urea Kinetic Modeling 34**
John T. Daugirdas
- 4 Hemodialysis Apparatus 66**
Suhail Ahmad, Madhukar Misra, Nicholas Hoenich, and John T. Daugirdas
- 5 Dialysis Water and Dialysate 89**
Richard A. Ward and Todd S. Ing
- 6 Arteriovenous Fistulas and Grafts: The Basics 99**
Tushar J. Vachharajani, Steven Wu, Deborah Brouwer-Maier, and Arif Asif
- 7 Venous Catheter Access: The Basics 121**
Michael Allon and Arif Asif
- 8 Arteriovenous Vascular Access Monitoring and Complications 137**
Alexander Yevzlin, Anil K. Agarwal, Loay Salman, and Arif Asif

9	Venous Catheter Infections and Other Complications	155
	Loay Salman, Arif Asif, and Michael Allon	
10	Acute Hemodialysis Prescription	172
	Edward A. Ross, Allen R. Nissenson, and John T. Daugirdas	
11	Chronic Hemodialysis Prescription	192
	John T. Daugirdas	
12	Complications during Hemodialysis	215
	Richard A. Sherman, John T. Daugirdas, and Todd S. Ing	
13	Dialyzer Reuse	237
	Peter B. DeOreo	
14	Anticoagulation	252
	Andrew Davenport, Kar Neng Lai, Joachim Hertel, and Ralph J. Caruana	
15	Continuous Renal Replacement Therapies	268
	Boon Wee Teo, Jennifer S. Messer, Horng Ruey Chua, Priscilla How, and Sevag Demirjian	
16	Home and Intensive Hemodialysis	305
	Gihad E. Nesrallah, Rita S. Suri, Robert M. Lindsay, and Andreas Pierratos	
17	Hemodiafiltration	321
	Bernard Canaud, Sudhir Bowry, and Stefano Stuard	
18	Therapeutic Apheresis	333
	Dobri D. Kiprof, Amber Sanchez, and Charles Pusey	
19	The Relevance of Sorbent Technology Today	360
	Jose A. Diaz-Buxo, Stephen A. Merchant, David Updyke, and Susan E. Bentley	
20	Use of Dialysis and Hemoperfusion in the Treatment of Poisoning	368
	James F. Winchester, Nikolas B. Harbord, Elliot Charen, and Marc Ghannoum	
PART III: PERITONEAL DIALYSIS		391
21	Physiology of Peritoneal Dialysis	392
	Peter G. Blake and John T. Daugirdas	
22	Apparatus for Peritoneal Dialysis	408
	Olof Heimbürger and Peter G. Blake	

23	Peritoneal Dialysis Catheters, Placement, and Care	425
	John H. Crabtree and Arsh Jain	
24	Peritoneal Dialysis for the Treatment of Acute Kidney Injury	451
	Daniela Ponce, André Luis Balbi, and Fredric O. Finkelstein	
25	Adequacy of Peritoneal Dialysis and Chronic Peritoneal Dialysis Prescription	464
	Peter G. Blake and John T. Daugirdas	
26	Volume Status and Fluid Overload in Peritoneal Dialysis	483
	Neil Boudville and Peter G. Blake	
27	Peritonitis and Exit-Site Infection	490
	Cheuk-Chun Szeto, Philip K.-T. Li, and David J. Leehey	
28	Hernias, Leaks, and Encapsulating Peritoneal Sclerosis	513
	Joanne M. Bargman	
29	Metabolic, Acid-Base, and Electrolyte Aspects of Peritoneal Dialysis	521
	Rajnish Mehrotra	
PART IV: CLINICAL PROBLEM AREAS		527
30	Psychosocial Issues	528
	Scott D. Cohen, Daniel Cukor, and Paul L. Kimmel	
31	Nutrition	535
	Michael V. Rocco and T. Alp Ikizler	
32	Diabetes	555
	David J. Leehey, Mary Ann Emanuele, and Nicholas Emanuele	
33	Hypertension	578
	Carmine Zoccali and Francesca Mallamaci	
34	Hematologic Abnormalities	592
	Steven Fishbane and Hitesh H. Shah	
35	Infections	615
	David J. Leehey, Jacqueline T. Pham, Tran H. Tran, and Joseph R. Lentino	
36	Bone Disease	665
	Daniel W. Coyne, Derek S. Larson, and James A. Delmez	

37	Dialysis in Infants and Children	693
	Susan R. Mendley	
38	Cardiovascular Disease	713
	Daniel E. Weiner and Mark J. Sarnak	
39	Obstetrics and Gynecology in Dialysis Patients	736
	Susan Hou and Susan Grossman	
40	Nervous System and Sleep Disorders	754
	Christopher W. McIntyre	
	Appendix A: Tools for Estimating Glomerular Filtration Rate and Daily Creatinine Excretion	777
	Appendix B: Nutritional Tools	783
	Appendix C: Urea Kinetic Modeling	795
	Appendix D: Molecular Weights and Conversion Tables	799
	Index	803