

# Contents

---

---

Contributing Authors, ix

Preface, xiii

Acknowledgments, xv

## Section I: Structure and Function of the Large Intestine

- 1 Embryology and Developmental Abnormalities of the Large Intestine ..... 3  
*R. A. Cobb and R. C. N. Williamson*
- 2 Gross and Microscopic Anatomy of the Large Intestine..... 13  
*James Christensen*
- 3 Structure-Function Relationships: Lessons from Other Species ..... 37  
*Michael I. McBurney and Peter J. Van Soest*
- 4 The Colonic Flora, Fermentation, and Large Bowel Digestive Function ..... 51  
*G. T. Macfarlane and J. H. Cummings*
- 5 Motor Functions of the Colon..... 93  
*Jan D. Huizinga and Edwin E. Daniel*
- 6 Functions of the Anorectum: Defecation and Continence..... 115  
*Ghislain Devroede*
- 7 Colonic Fluid and Electrolyte Transport in Health and Disease..... 141  
*Henry J. Binder, Geoffrey I. Sandle, and V. M. Rajendran*
- 8 Regulation of Colonic Transport by the Autonomic Nervous System..... 169  
*Helen J. Cooke*
- 9 Response of the Colon to Injury: Inflammation, Immunity, and Mucus ..... 181  
*Steven R. Martin and W. Allan Walker*

## Section II: General Clinical Features of Colorectal Disease

- 10 Limitations of Epidemiologic Methods in the Study of Colonic Disorders ... 199  
*Albert I. Mendeloff*
- 11 Diet, Fiber, and Colorectal Disease: Critical Appraisal..... 209  
*Martin Eastwood*
- 12 Radiology of the Large Intestine..... 223  
*Claire E. Bender*
- 13 Endoscopy of the Colon..... 241  
*Jonathan E. Clain*

14	Clinical Application of Diagnostic Tests in Selected Colonic Disorders.....	253
	<i>M. O. Blackstone and J. B. Kirsner</i>	
15	Value of Colorectal Biopsies: A Critical Appraisal .....	303
	<i>Teri A. Longacre and Cecilia M. Fenoglio-Preiser</i>	
16	Screening for Colorectal Disease .....	335
	<i>Douglas B. McGill and David A. Ahlquist</i>	

### Section III: Specific Diseases of the Large Intestine

17	Novel Aspects of the Pathophysiology of Parasitic Infections of the Colon..	359
	<i>Stephen M. Collins</i>	
18	Parasitic Infections of the Large Intestine .....	375
	<i>Henry Zaiman and Roy G. Shorter</i>	
19	Bacterial Infections: Pathophysiology, Clinical Features, and Treatment.....	395
	<i>Mitchell B. Cohen and Ralph A. Giannella</i>	
20	Viral Colitis.....	429
	<i>Christina M. Surawicz and David Y. Graham</i>	
21	Infections of the Large Intestine in the Immunocompromised Host.....	437
	<i>Phillip D. Smith, Sarbjit S. Saini, and Jan M. Orenstein</i>	
22	Etiology of Chronic Ulcerative Colitis and Crohn's Disease .....	445
	<i>V. S. Chadwick</i>	
23	Challenges in Inflammatory Bowel Diseases .....	465
	<i>Gary Gitnick</i>	
24	Critical Evaluation of the Medical Therapy of Inflammatory Bowel Disease	475
	<i>Henry D. Janowitz and Jeffrey J. Bilotta</i>	
25	Etiology of Large Bowel Cancer.....	501
	<i>Dennis J. Ahnen</i>	
26	Neoplasia of the Colorectum: Natural History and Prognosis of Colorectal Cancer.....	521
	<i>Richard E. Wilson and John H. Donohue</i>	
27	Diverticular Disease of the Colon .....	549
	<i>Adam N. Smith</i>	
28	Megacolon.....	579
	<i>Sidney F. Phillips</i>	
29	Irritable Bowel Syndrome .....	593
	<i>W. Grant Thompson</i>	
30	Bleeding from the Colon .....	611
	<i>Paul C. Shellito and Leslie W. Ottinger</i>	
31	Surgical Approaches to Proctocolectomy for Inflammatory Bowel Disease	629
	<i>John H. Pemberton</i>	
32	Surgical Therapy of Colorectal Tumors.....	657
	<i>R. J. Nicholls and R. K. S. Phillips</i>	
33	Approach to Therapy of Large Bowel Cancer.....	687
	<i>Bernard Levin</i>	

<b>34</b>	Pathophysiology of Incontinence .....	697
	<i>Michael Swash</i>	
<b>35</b>	Pathophysiology of Constipation .....	709
	<i>Michael A. Kamm</i>	
<b>36</b>	Diagnostic Procedures for Incontinence, Constipation.....	727
	<i>David C. C. Bartolo</i>	
<b>37</b>	Medical Treatment of Constipation and Fecal Incontinence .....	747
	<i>Maurice A. Cerulli and Marvin M. Schuster</i>	
<b>38</b>	Surgical Therapy of Constipation and Incontinence.....	757
	<i>Norman S. Williams and N. R. Womack</i>	
<b>39</b>	Anorectal Diseases.....	775
	<i>Santhai Nivatvongs</i>	
<b>40</b>	Special Problems of the Pediatric Patient: Medical Aspects .....	833
	<i>Barbara S. Kirschner</i>	
<b>41</b>	Special Problems of the Pediatric Patient: Surgical Aspects .....	851
	<i>Eric W. Fonkalsrud</i>	
	Subject Index.....	875