

Contents

Part I Physiology and Development of Enteric Neuromuscular System and Gastrointestinal Motility

1 Introduction to Gut Motility and Sensitivity	3
Christophe Faure, Nikhil Thapar, and Carlo Di Lorenzo	
2 Development of the Enteric Neuromuscular System	9
Tiffany A. Heanue and Alan J. Burns	
3 Development of Gut Motility	21
Elizabeth A. Beckett, Heather M. Young, Joel C. Bornstein, and Sudarshan R. Jadcherla	
4 Visceral Sensitivity	39
Christophe Faure and Franziska Righini Grunder	
5 The Microbiome in Neurogastroenterology	53
Geoffrey A. Preidis, Bruno P. Chumpitazi, and Robert J. Shulman	
6 Integration of Biomedical and Psychosocial Issues in Pediatric Functional Gastrointestinal and Motility Disorders	71
Miranda A.L. van Tilburg	

Part II Motility and Sensory Testing

7 Esophageal Manometry	83
Rossella Turco and Annamaria Staiano	
8 Antroduodenal Manometry	93
Efstratios Saliakellis, Anna Rybak, Nikhil Thapar, and Osvaldo Borrelli	
9 Colonic Manometry	107
Desale Yacob and Carlo Di Lorenzo	
10 Anorectal Manometry	117
Claire Zar-Kessler and Jaime Belkind-Gerson	
11 Assessment of Feeding and Swallowing Disorders	129
Nathalie Rommel	
12 Esophageal pH and Impedance Monitoring	135
Eric Chiou and Rachel L. Rosen	
13 Barostat and Other Sensitivity Tests	149
Christophe Faure	
14 Radionuclide Gastrointestinal Transit Tests	155
Lorenzo Biassoni, Marina Easty, and Osvaldo Borrelli	

15	Electrogastrography, Breath Tests, Ultrasonography, Transit Tests, and SmartPill.....	169
	Ricardo A. Arbizu and Leonel Rodriguez	
16	Autonomic Nervous System Testing.....	181
	Gisela Chelimsky and Thomas C. Chelimsky	
 Part III Disorders of Digestive Motility		
17	Pathology of Enteric Neuromuscular Disorders.....	191
	Raj P. Kapur	
18	Genetics of Motility Disorders: Gastroesophageal Reflux, Triple A Syndrome, Hirschsprung Disease, and Chronic Intestinal Pseudo-Obstruction.....	211
	Jonathan M. Gisser and Cheryl E. Gariepy	
19	Allergy and Neurogastroenterology.....	223
	Osvaldo Borrelli, Roberto Conti Nibali, and Nikhil Thapar	
20	Swallowing and Oropharyngeal Disorders.....	235
	Daniel R. Duncan and Rachel L. Rosen	
21	Esophageal Achalasia.....	243
	Ann Aspirot	
22	Other Esophageal Motility Disorders.....	253
	Hayat Mousa	
23	Gastric Motor Disorders.....	261
	John M. Rosen and Miguel Saps	
24	Pediatric Chronic Intestinal Pseudo-obstruction.....	273
	Efstratios Saliakellis, Christophe Faure, and Nikhil Thapar	
25	Hirschsprung Disease.....	291
	Robert O. Heuckeroth	
26	Motility Problems in Developmental Disorders: Cerebral Palsy, Down Syndrome, Williams Syndrome, Autism, Turner's Syndrome, Noonan's Syndrome, Rett Syndrome, and Prader-Willi Syndrome.....	303
	Massimo Martinelli and Annamaria Staiano	
27	Familial Dysautonomia and Mitochondrial Disorders.....	311
	Massimo Martinelli and Annamaria Staiano	
 Part IV Motility Disorders After Surgery and Developmental Anomalies of the Enteric Neuromuscular System Secondary to Anatomical Malformations		
28	Esophageal Atresia.....	317
	Franziska Righini Grunder and Christophe Faure	
29	Anorectal Malformations.....	323
	Ann Aspirot	
30	Motility After Small Bowel and Colonic Surgery.....	333
	Roberto Gomez and John E. Fortunato	

31 Gastric Function After Fundoplication.....	343
Samuel Nurko	
 Part V Functional Gastrointestinal Disorders	
32 Rome Criteria for Functional Gastrointestinal Disorders	351
Samuel Nurko and Carlo Di Lorenzo	
33 Infant Regurgitation and Pediatric Gastroesophageal Reflux Disease.....	355
Yvan Vandenplas	
34 Infant Colic.....	369
Valerie Sung and Ian St James-Roberts	
35 Functional Diarrhea in Toddlers (Chronic Nonspecific Diarrhea)	381
Ernesto Guiraldes and José Luis Roessler	
36 Functional Dyspepsia.....	385
John M. Rosen and Miguel Saps	
37 Irritable Bowel Syndrome.....	399
Jasmeet S. Mokha and Jeffrey S. Hyams	
38 Functional Abdominal Pain	411
Manu R. Sood and Katja Kovacic	
39 Cyclic Vomiting Syndrome: Comorbidities and Treatment.....	423
B.U.K. Li and Katja Kovacic	
40 Aerophagia.....	433
Carlo Di Lorenzo	
41 Rumination Syndrome.....	437
Anthony Alioto and Carlo Di Lorenzo	
42 Functional Constipation in Children	445
Ilan J.N. Koppen and Marc A. Benninga	
43 Fecal Incontinence in Children.....	459
Ilan J.N. Koppen and Marc A. Benninga	
 Part VI Treatments	
44 Drugs Acting on the Gut: Prokinetics, Antispasmodics, Laxatives	469
Aileen F. Har and Joseph M.B. Croffie	
45 Drugs That Work in the Brain.....	489
Paul E. Hyman and Rami Arrouk	
46 Electrical Stimulation of the GI Tract.....	499
Steven Teich	
47 Cognitive Behavioral Therapy for Functional Gastrointestinal Disorders	507
Miranda A.L. van Tilburg	
48 Complementary and Alternative Treatments for Motility and Sensory Disorders.....	515
Arine M. Vlieger and Marc A. Benninga	

49 Cellular-Based Therapies for Paediatric GI Motility Disorders	523
Ryo Hotta, Dipa Natarajan, Alan J. Burns, and Nikhil Thapar	
50 Chronic Intestinal Pseudo-obstruction Syndrome: Surgical Approach and Intestinal Transplantation	533
Olivier Goulet and Sabine Irtan	
Index.....	541