

Contents

List of Contributors	IX
Preface	XIV
1 Specific Aspects of Childhood Nutrition	
1.1 Child Growth	
Kim F. Michaelsen	1
1.2 Nutritional Assessment	
1.2.1 Clinical Evaluation and Anthropometry	
John W L Puntis	6
1.2.2 Diet History and Dietary Intake Assessment	
Pauline Emmett	14
1.2.3 Use of Technical Measurements in Nutritional Assessment	
Babette S Zemel • Virginia A Stallings	19
1.2.4 Use of Laboratory Measurements in Nutritional Assessment	
Ryan W Himes • Robert J Shulman	23
1.3 Nutritional Needs	
1.3.1 Nutrient Intake Values: Concepts and Applications	
Berthold Koletzko	29
1.3.2 Energy Requirements of Infants, Children and Adolescents	
Nancy F Butte	34
1.3.3 Protein	
Johannes B van Goudoever	41
1.3.4 Digestible and Non-Digestible Carbohydrates	
Iva Hojsak	46
1.3.5 Fats	
Patricia Mena • Ricardo Uauy	51
1.3.6 Fluid and Electrolytes	
Esther N Prince • George J Fuchs	56
1.3.7 Vitamins and Trace Elements	
Noel W Solomons	62
1.4 Physical Activity, Health and Nutrition	
Robert M Malina	68

1.5	Early Nutrition and Long-Term Health	
	Berthold Koletzko	72
1.6	Food Safety	
	Hildegard Przyrembel	78
1.7	Gastrointestinal Development, Nutrient Digestion and Absorption	
	Michael J. Lentze	83
1.8	Gut Microbiota in Infants	
	Akihito Endo • Mimi L.K. Tang • Seppo Salminen	87
2	Nutrition of Healthy Infants, Children and Adolescents	
2.1	Breastfeeding	
	Kim F. Michaelsen	92
2.2	Formula Feeding	
	Berthold Koletzko	97
2.3	Marketing of Breast Milk Substitutes	
	Neelam Kler • Naveen Gupta • Anup Thakur	104
2.4	Complementary Foods	
	Mary Fewtrell	109
2.5	Allergy Prevention through Early Nutrition	
	Sibylle Koletzko	113
2.6	Toddlers, Preschool and School Children	
	Hildegard Przyrembel	118
2.7	Adolescent Nutrition	
	Rehana A. Salam • Zulfiqar A. Bhutta	122
2.8	Nutrition in Pregnancy and Lactation	
	Lenka Malek • Maria Makrides	127
2.9	Vegetarian Diets	
	Claire T. McEvoy • Jayne V. Woodside	134
3	Nutritional Challenges in Special Conditions and Diseases	
3.1	Primary and Secondary Malnutrition	
	Lubaba Shahrin • Mohammad Jobayer Chisti • Tahmeed Ahmed	139
3.2	Micronutrient Deficiencies in Children	
	Ali Faisal Saleem • Zulfiqar A. Bhutta	147
3.3	Enteral Nutritional Support	
	Sanja Kolaček	152
3.4	Parenteral Nutritional Support	
	Berthold Koletzko	158
3.5	Management of Child and Adolescent Obesity	
	Louise A. Baur	163
3.6	Reducing the Burden of Acute and Prolonged Childhood Diarrhea	
	Jai K. Das • Zulfiqar A. Bhutta	168

3.7	HIV and AIDS	Haroon Saloojee • Peter Cooper	173
3.8	Nutritional Management in Cholestatic Liver Disease	Bram P Raphael	178
3.9	Malabsorptive Disorders and Short Bowel Syndrome	Olivier Goulet	182
3.10	Celiac Disease	Riccardo Troncone • Marco Sarno	190
3.11	Food Intolerance and Allergy	Ralf G Heine	195
3.12	Regurgitation and Gastroesophageal Reflux	Noam Zevit • Raanan Shamir	203
3.13	Childhood Feeding Problems	Maureen M Black	209
3.14	Preterm and Low-Birth-Weight Infants	Ekhard E Ziegler	214
3.15	Nutritional Management of Diabetes in Childhood	Carmel Smart	218
3.16	Inborn Errors of Metabolism	Anita MacDonald	226
3.17	Hypercholesterolemia	Berthold Koletzko	234
3.18	Enteral Nutrition for Paediatric Inflammatory Bowel Disease	Marialena Mouzaki • Anne Marie Griffiths	239
3.19	Nutrition in Cystic Fibrosis	Michael Wilschanski	244
3.20	Heart Disease	Michelle M Steltzer • Terra Lafranchi	250
3.21	Nutritional Management in Children with Chronic Kidney Disease	Lesley Rees	254
3.22	Nutrition Rehabilitation in Eating Disorders	Berthold Koletzko	259
3.23	Haemato-Oncology	John WL Puntis	266
3.24	Intensive Care	Jessie M Hulst • Koen FM Joosten	271
4	Annexes		
4.1	The WHO Child Growth Standards	Mercedes de Onis	278
4.2	The CDC and Euro Growth Charts	Ekhard E Ziegler	295

4.3	Reference Nutrient Intakes of Infants, Children and Adolescents	
	Berthold Koletzko • Katharina Dokoupil	308
4.4	Feeding My Baby – Advice for Families	
	Berthold Koletzko • Katharina Dokoupil	316
4.5	Increasing Dietary Energy and Nutrient Supply	
	Katharina Dokoupil • Berthold Koletzko	320
4.6	Dietary Assessment in Children	
	Pauline Emmett	322
5	Index	
	Author Index	326
	Subject Index	327