Contents

1 Obesity: Nature or Nurture? .................................. 1
Robert H. Lustig

Part I Genetic Disorders Leading to Obesity

2 The Contribution of Heredity to Clinical Obesity ............. 25
Johanna C. Andersson and Andrew J. Walley

3 Monogenic Disorders Within the Energy Balance Pathway ... 53
Ivy R. Aslan, Sayali A. Ranadive, and Christian Vaisse

4 Ciliary Syndromes and Obesity ................................ 71
David S. Parker and Nicholas Katsanis

5 Genome-Wide Association Studies and Human Population Obesity .................. 95
Ruth J.F. Loos and Tuomas O. Kilpeläinen

Part II Epigenetic Changes and the Development of Obesity

6 Known Clinical Epigenetic Disorders with an Obesity Phenotype: Prader–Willi Syndrome and the GNAS Locus ........ 115
Merlin G. Butler

7 Evidence for Epigenetic Changes as a Cause of Clinical Obesity ........................................ 147
Graham C. Burdge and Karen A. Lillycrop

8 Epigenetic Changes Associated with Intrauterine Growth Retardation and Adipogenesis ............................. 167
Sara E. Pinney and Rebecca A. Simmons

Part III Developmental Programming and the Development of Obesity

9 Exposure to Diabetes In Utero, Offspring Growth, and Risk for Obesity ......................... 193
Tessa Crume and Dana Dabelea
10 Maternal Weight Gain During Pregnancy and Obesity in the Offspring .......................... 205
Naomi E. Stotland and Janet C. King

11 Intrauterine Growth Restriction, Small for Gestational Age, and Experimental Obesity ........................................... 215
Michael G. Ross, Ivan Huber, and Mina Desai

12 Experimental Models of Maternal Obesity and High-Fat Diet During Pregnancy and Programmed Obesity in the Offspring .................................................. 241
Larissa Jane Prior, Geoffrey Albert Head, and James Andrew Armitage

13 High-Carbohydrate Intake Only During the Suckling Period Results in Adult-Onset Obesity in Mother as well as Offspring .................................................. 261
Mulchand S. Patel and Malathi Srinivasan

14 Prenatal Stress, Glucocorticoids, and the Metabolic Syndrome ........................................ 279
Amanda J. Drake and Jonathan R. Seckl

15 Hypothalamic Fetal Programming of Energy Homeostasis ........................................ 301
Clement C. Cheung and Holly A. Ingraham

16 Adipocyte Development and Experimental Obesity .................................................. 321
Elvira Isganaitis and Mary-Elizabeth Patti

Part IV Environmental Obesogens

17 The Obesogen Hypothesis of Obesity: Overview and Human Evidence ........................................ 355
Jerrold J. Heindel

18 Perinatal Exposure to Endocrine Disrupting Chemicals with Estrogenic Activity and the Development of Obesity ........................................ 367
Retha R. Newbold

19 The Role of Environmental Obesogens in the Obesity Epidemic ........................................ 383
Bruce Blumberg and Amanda Janesick

Index ................................................................. 401
Obesity Before Birth
Maternal and prenatal influences on the offspring
Lustig, R. (Ed.)
2011, XIV, 414 p., Hardcover
ISBN: 978-1-4419-7033-6