Contents

SECTION 1: LABOR

1. Preparation before Labor and Delivery 3
Emily Rosenthal
- Antenatal Classes/Childbirth Preparation 3
- Fear of Childbirth 3
- Pelvimetry 4
- Antenatal Perineal Massage 4
- Balloon Birth Training Device 4
- Group B *Streptococcus* (GBS) Screening 4
- Indications and Timing of Delivery 4

2. Prediction of the Onset of Labor 8
Maria Letizia Falco, Laura Sarno, Giuseppe Maria Maruotti
- Brief Physiology of the Onset of Spontaneous Labor 8
- Diurnal Rhythms 8
- Prediction of the Onset of Labor via the Cervix: Bishop Score and Cervical Length 8
- Atmospheric Pressure and Lunar Cycle 9

3. Quality and Safety in Labor and Delivery 11
Christian Pettker, Krista Mehlhaff
- Quality and Safety in Labor and Delivery 11
- Safety Program(S)/Measuring Patient Safety 12
- Team Training and Communication 15
- Simulation in Obstetrics 16

4. Place of Labor and Delivery 20
Jeffrey L Ecker, William H Barth Jr
- History and Incidence 20
- Maternal and Neonatal Risk and Selection of Place of Birth 20
- Place of Birth: Definitions 24
- Factors Important in Evaluating Outcomes Associated with Place of Birth 25
- Variation in Birth Outcomes with Place of Delivery 26
- Outcomes from Birth Center Deliveries (Freestanding and Alongside) 27
- Transfer from Birth Centers to Obstetric Units 28
- National Recommendations 28

5. Providers 31
Sharon L Holley
- Types of Providers 31
- Evidence for Effectiveness of Type of Provider 34

6. Admission to Labor and Delivery 36
Ahizechukwu Eke
- Assessment in Triage 36
- Labor and Delivery Admission Timing (Early vs Delayed) 36
- Maternal Assessment on Admission to Labor and Delivery 37
- Admission Cardiotocography 37
- Enemas 39
- Shaving of Pubic Hair 39
- Morphine Sleep 39

7. First Stage of Labor 42
Tullio Ghi, Andrea Dall'Asta
- Definition and Management 42
- Active Management of the First Stage of Labor 50

8. Arrest in the First Stage of Labor 56
Tullio Ghi, Andrea Dall'Asta
- Diagnosis and Definition of Arrested First Stage of Labor 56
- Use of Intrauterine Pressure Catheter 57
- Use of Ultrasound in the Slow or Arrested First Stage of Labor 58

9. Second Stage of Labor 61
Alexis C Gimovsky
- Prophylactic Interventions 61
- Management 61

10. Abnormal Second Stage of Labor 68
Alexis C Gimovsky, Tullio Ghi
- Diagnosis and Definition 68
- Management 69

11. Intrapartum Fetal Monitoring 75
Edwin Chandraharan
- Fetal Heart Rate Definitions 75
- pH Definitions 75
- Incidence 76
- Risk Factors and Predictors of Abnormal FHR 76
- Fetal Heart Monitoring 83
- Other Fetal Monitoring Tests 86

12. Management of Abnormal Fetal Heart Rate 91
Edwin Chandraharan
- Cardiotocography Interpretation and Guidelines 91
- Analysis of the CTG Trace 91
- Prophylactic use of Betamimetics during Labor 93
- Conservative Measures to Improve Fetal Oxygenation ("Intrauterine Resuscitation") 93
- Interpretation of Different Guidelines: An Urgent Need for Physiology-based CTG Interpretation 96

- Role of Inflammatory Mediators and Infection 96
- Preexisting Fetal Compromise 96
- Recognition of Intrapartum Hypoxic Stress 96

13. Anesthesia and Analgesia 100
Lindsay Gibeault, Michele Mele
- Preanesthetic Evaluation 100
- Anesthesia and Analgesia during Vaginal Delivery 100
- Systemic Analgesia 101
- Anesthesia and Analgesia during Operative Vaginal Delivery 105
- Neuraxial Anesthesia during CD 105
- General Anesthesia in Labor and Delivery 106
- Complications during Anesthesia in Labor and Delivery 108

14. Third Stage of Labor 111
Jennifer Salati, Jorge E Tolosa
- Definitions 111
- Management 111
- Medications 111
- Active Management of the Third Stage of Labor 114
- Cord Blood Collection 115

15. Postpartum Care 118
Elena Rita Magro Malosso, Daniele Di Mascio
- Postpartum Care after Vaginal Delivery 118
- Postpartum Care after Cesarean Delivery 127

16. Operative Vaginal Delivery 143
Jorge E Orjuela E, Catalina Valencia, Tullio Ghi, Jorge E Tolosa
- Indications for the Use of OVD 143
- Classification of OVD 143
- Conditions for the Safe use of OVD 144
- Contraindications for the use of OVD 144
- Forceps-assisted Delivery 144
- Vacuum-assisted Delivery 147
- US before Instrumental Vaginal Delivery 148
- Efficacy and Safety of OVD 149
- Alternatives to OVD 150
- Sequential use of Instruments 150
- Postpartum Management of Mother and Newborn 151
- Legal Aspects 151
- Documentation 151
- Training Programs 151

17. Trial of Labor after Cesarean or Myomectomy 155
Anju Suhag
- Trial of Labor after Cesarean 155
- Trial of Labor after Myomectomy 166

SECTION 2: CESAREAN DELIVERY

18. Cesarean Delivery: Indications and Optimal Rate 175
Aaron B Caughey
- Optimal Rate of Cesareans 175
- Iatrogenic Consequences of Cesareans 178
- Indications for Cesarean 179
- Prevention of Cesareans 180
- Vaginal Birth after Cesarean 180
- Labor Management 181
- Abnormal Fetal Heart Rate Tracings 182
- Malposition 182
- Malpresentation 182
- Twin Gestations 182
- Induction of Labor 183
- Other Management Issues 183

19. Cesarean Delivery: Preoperative Care 188
G Saccone, V Berghella
- Before Operating Room 188
- In Operating Room 190

20. Cesarean Delivery Technique 194
Rebekah McCurdy
- Standard Technique 194

SECTION 3: SPECIAL LABOR

21. Induction of Labor 213
Corina N Schoen
- Indication and Timing 213
- Contraindications 213
- Labor Induction Protocols and Guidelines 215
- Fetal Monitoring during Induction 215
- Outpatient versus Inpatient 215
- Induction of Labor in Fetal Disease 216
- Induction of Labor in Preterm 216
- Induction with Prior Cesarean Delivery 216

22. Prelabor Rupture of Membranes at Term or Late-preterm 218
Laura Felder, Johanna Quist-Nelson
- Definitions 218
- Diagnosis 218
- Incidence 219
- Etiology 219

- Risk Factors 219
- Complications 220
- Management 220

23. Labor Complications 226
Jayasree Khosla
- Intra-amniotic Infection and Inflammation 226
- Placental Abruption 228
- Shoulder Dystocia 231
- Meconium-stained Amniotic Fluid 235
- Umbilical Cord Prolapse 238

24. Malpresentation and Malposition 245
Tullio Ghi, Andrea Dall'Asta
- Malpresentation 245
- Breech Presentation 245
- Transverse Lie 256
- Oblique Lie 256
- Compound Presentation 256
- Face and Brow Presentation 257
- Malposition 260
- Asynclitism 264

25. Twins and Higher-order Multiple Gestations 272
Hannah B Anastasio, Linda M Szymanski
- Delivery of Twins 272
- Preterm Twins 273
- Vaginal Delivery Management 273
- Cesarean Delivery 276
- Higher-order Multiples 276

26. Third Stage Complications 279
Jennifer Salati, Jorge E Tolosa
- Postpartum Hemorrhage 279
- Retained Placenta 284
- Uterine Inversion 285

27. Breastfeeding and Contraception 288
Daniele Di Mascio, Elena Rita Magro Malosso
- Breastfeeding 288
- Postpartum Contraception 294

Index 303