Contents

List of contributors xii
Foreword (1) xiii
Foreword (2) xv
Preface xvii
Acknowledgments xix

Section 1—Organization of neonatal transport

History and challenges of neonatal emergency transport services (NETS) 1
Alan C. Fenton and Georg Hansmann

Interdisciplinary approach for neonatal emergencies 5
Georg Hansmann

Neonatal emergency call: what the neonatology team would like to know from obstetricians and midwives 9
Georg Hansmann

Coordinating health care providers after a neonatal emergency call 11
Georg Hansmann

What the neonatologist would like to find in the delivery room 13
Georg Hansmann

What the neonatologist does not want to find in the delivery room 15
Georg Hansmann

Definitions and abbreviations in neonatology, pediatric cardiology, neonatal emergency transport service (NETS), and obstetrics 16
Georg Hansmann

References (Section 1) 24

Section 2—Basics in cardiopulmonary resuscitation of newborn infants

Basic equipment setup for initial neonatal care and resuscitation 25
Georg Hansmann

Drugs for neonatal emergencies 41
Georg Hansmann

Postnatal cardiopulmonary adaptation 63
Georg Hansmann

ABC techniques and procedures

Suctioning 67
Georg Hansmann

Stimulation, oxygen supplementation, bag-and-mask ventilation (M-PPV), pharyngeal/bi-nasal CPAP, and pharyngeal positive pressure ventilation 71
Georg Hansmann

Endotracheal intubation and gastric tube placement 82
Georg Hansmann
Contents

Laryngeal mask airway (LMA) 96
Georg Hansmann

Chest compressions 101
Georg Hansmann

Peripheral venous access 105
Georg Hansmann

Umbilical vein/artery catheterization (UVC, UAC) 107
Andrea Zimmermann

Central venous access (internal jugular vein) 112
Juan C. Ibla

Intraosseous access 117
Andrea Zimmermann and Georg Hansmann

Cord clamping 121
Georg Hansmann

Management of high-risk infants in the delivery room 124
Georg Hansmann

Monitoring in the delivery room and during neonatal transport 131
Georg Hansmann

Hygiene in the delivery room and during neonatal transport (infection control) 133
Andrea Zimmermann

When to call a pediatrician to the delivery room 134
Georg Hansmann

Checklist for the postnatal treatment of newborn infants 136
Georg Hansmann

Assigning individual duties in the delivery room 140
Georg Hansmann

Clinical assessment of the newborn infant 142
Georg Hansmann

Cardiopulmonary resuscitation of newborn infants at birth 150
Georg Hansmann and Sam Richmond

Volume therapy and sodium bicarbonate supplementation in preterm and term newborn infants 173
Georg Hansmann

Absolute and relative indications for neonatal transport and NICU admission 179
Georg Hansmann

Communication with mother and father 181
Georg Hansmann

Coordinating neonatal transport and patient sign-out to the NICU team 182
Georg Hansmann

Documentation and feedback after neonatal emergency transport 183
Georg Hansmann

Ethics in neonatal intensive care 184
Christoph Bührer

Perinatal images of preterm and term infants 191
Georg Hansmann and Andrea Zimmermann
## Mechanical ventilation of the neonate
Juan C. Ibla and John H. Arnold

## Questions for review (basics)

## References (Section 2)

### Section 3–Classic and rare scenarios in the neonatal period

#### Management of healthy, term newborn infants (vaginal delivery, cesarean section, vacuum extraction, forceps delivery)
Georg Hansmann

#### Management of preterm and moderately depressed term newborn infants with a birth weight $\geq 1500g$
Georg Hansmann

#### Management of very preterm newborn infants (VLBW, ELBW)
Christoph Bührer and Andrea Zimmermann

#### Twin–twin (feto–fetal) transfusion syndrome
Andrea Zimmermann

#### An apparently trivial call from the term baby nursery
Andrea Zimmermann

#### Out of hospital birth
Tilman Humpl

#### Hypoglycemia
Tilman Humpl

#### Meconium aspiration
Georg Hansmann

#### Chorioamnionitis and early-onset sepsis in the newborn infant
Georg Hansmann

#### Perinatal hemorrhage
Andrea Zimmermann, Shannon E. G. Hamrick, and Georg Hansmann

#### Perinatal hypoxia-ischemia
Shannon E. G. Hamrick, Andrea Zimmermann, and Georg Hansmann

#### Cerebral seizures
Shannon E. G. Hamrick and Andrea Zimmermann

#### Infants born to mothers on psychoactive substances
Christoph Bührer

#### Prenatal and postnatal arrhythmias
Tilman Humpl

#### Critical congenital cardiovascular defects
Georg Hansmann and Tilman Humpl

#### Patent ductus arteriosus of the preterm infant
Georg Hansmann

#### Persistent pulmonary hypertension of the newborn (PPHN)
Georg Hansmann

#### Congenital diaphragmatic hernia
Christoph Bührer and Andrea Zimmermann

#### Pneumothorax
Andrea Zimmermann
Aortic blood pressure during the first 12 hours of life in infants with birth weight 610–4220g 517

Laboratory: normal values 518

Unit conversions 525

References (Section 5) 526

Color plate section pp. 220 and 221.

Index 527