

## Contents

*List of Contributors* vii

### Section 1 Basic Principles, Assessment, and Planning of Airway Management

- 1 **Developmental Anatomy of the Airway** 1  
Rebecca S. Isserman and Ronald S. Litman
- 2 **The Difficult Pediatric Airway: Predictors, Incidence, and Complications** 8  
Nicholas E. Burjek
- 3 **Universal Algorithms and Approaches to Airway Management** 20  
Thomas Engelhardt and Andreas Machotta

### Section 2 Devices and Techniques to Manage the Abnormal Airway

- 4 **Direct Laryngoscopy Equipment and Techniques** 27  
Maria Matuszczak and Cheryl K. Gooden
- 5 **Supraglottic Airway Equipment and Techniques** 38  
Andrea S. Huang, Lisa E. Sohn, Suman Rao, and Narasimhan Jagannathan
- 6 **Oxygenation Techniques for Children with Difficult Airways** 55  
Paul A. Baker
- 7 **Video Laryngoscopy Equipment and Techniques** 69  
Agnes I. Hunyady, James Peyton, Sarah Lee, and Raymond Park
- 8 **Flexible Bronchoscopy Techniques: Nasal and Oral Approaches** 90  
Paul Stricker and Pete G. Kovatsis
- 9 **Optical Stylet and Light-Guided Equipment and Techniques** 103  
Rajeev Subramanyam and Mohamed Mahmoud

### 10 **Rigid Bronchoscopy Equipment and Techniques** 112

Jessica M. Van Beek-King and Jeffrey C. Rastatter

### 11 **Hybrid Approaches to the Difficult Pediatric Airway** 118

Patrick N. Olomu, Grace Hsu, and Justin L. Lockman

### 12 **Muscle Relaxants** 129

Annery Garcia-Marcinkiewicz and John E. Fiadjoe

### 13 **Management of the “Can’t Intubate, Can’t Oxygenate” Scenario** 132

Vivian Man-ying Yuen, Stefano Sabato, and Birgitta Wong

### 14 **Ultrasonography for Airway Management** 143

Michael S. Kristensen, Wendy H. Teoh, and Thomas Engelhardt

### 15 **Difficult Airway Cart** 155

Alyson Walker and Britta S. von Ungern-Sternberg

### Section 3 Special Topics

### 16 **Extubation in Children with Difficult Airways** 161

Luis Sequera-Ramos, Alec Zhu, Benjamin Kiesel, and Narasimhan Jagannathan

### 17 **Airway Management in the Child with an Airway Injury** 169

Somaletha T. Bhattacharya

### 18 **Airway Management Outside of the Operating Room: the Emergency Department** 177

Aaron Donoghue

**Contents**

- 19 **Airway Management of the Neonate and Infant: the Difficult and Critical Airway in the Intensive Care Unit Setting** 185  
Janet Lioy, Erin Tkach, and Luv Javia
- 20 **Airway Management in EXIT Procedures** 204  
Debnath Chatterjee and Timothy M. Crombleholme
- 21 **One-Lung Ventilation** 212  
T. Wesley Templeton and Eduardo Goenaga-Diaz
- 
- Appendix Airway Management Videos* 229  
Michelle Tsao, Anthony Tantoco, and Narasimhan Jagannathan
- Index* 230