Contents

1. Pediatric Spine Trauma **1**

Alan H Daniels, Eric D Lincoln, Craig P Eberson

- Pediatric Spinal Anatomy 1
- Initial Management and Examination 2
- Epidemiology 3
- Radiographic Evaluation 3
- Cervical Spine Injuries 5
- Nonsurgical Management of Cervical Spine Injuries 12
- Thoracolumbar Spine Injuries 13
- Long-Term Management of Thoracolumbar Spine Injuries 16

2. Fractures of the Shoulder and Humerus **22**

Allison Tenfelde, Michelle S Caird

- Clavicle 22
- Proximal Humerus Fractures 26
- Humerus Shaft 30

3. Fractures of the Pediatric Elbow I: Supracondylar Humerus, Lateral Condyle, Transphyseal Distal Humerus and Capitellum Fractures **35**

Joshua M Abzug, Scott H Kozin

- Anatomy 35
- Physical Examination 36
- Neurological Status 37
- Vascular Status 37
- Differential Diagnosis 37
- Supracondylar Fractures 37
- Lateral Condyle Fractures 50
- Transphyseal Distal Humerus Fractures 61
- Capitellum Fractures 64

4. Fractures of the Pediatric Elbow II: Fractures of the Medial Epicondyle, Radial Neck and Olecranon **70**

Joshua M Abzug, Sapan D Gandhi, Martin J Herman

- Medial Epicondyle Fractures 70
- Radial Neck Fractures 79
- Olecranon Fractures 88

5. Management of Forearm Fractures and Acute Monteggia Fractures in Children and Adolescents **97**

Kerwyn C Jones

Forearm Fractures

- Diagnosis 97
- Classification 98
- Nonsurgical Management 98
- Surgical Treatment 103

Monteggia Fracture-Dislocations

- Diagnosis 109
- Classification 110
- Nonsurgical Management 110
- Surgical Management 111
- Outcomes 113
- Complications 114

6. Fractures of the Hand and Wrist **116**

Robert B Carrigan

- Anatomy 116
- History and Physical Examination 117
- Radiographic Imaging 118
- Nonsurgical Treatment 118
- Surgical Setup 119
- Pediatric Phalanx Fractures 121
- Pediatric Metacarpal Fractures 124
- Scaphoid Fractures 131
- Distal Radius Fractures 133

7. Pediatric Pelvic Fractures and Fractures/Dislocations of the Hip **140**

Mandar Agashe, Mathew R Schmitz, Harish S Hosalkar

Pelvic Fractures

- Classification 141
- Diagnosis 143
- Treatment 144
- Complications 145

Acetabular Fractures

- Classification 145

Injuries of the Proximal Femur

- Hip Fractures 146
- Dislocations and Fracture Dislocations of the Pediatric Hip 150

8. Femoral Shaft Fractures 154

John M (Jack) Flynn, Wajdi W Kanj

- Introduction/Epidemiology 154
- Anatomy 154
- Mechanism of Injury 154
- Diagnosis 156
- Classification or Description of Types 156
- Treatment According to Age 156
- Treatment Options 159
- Complications of Femoral Shaft Fractures 173

9. Fractures About the Knee 180

Laura E Gill, J Todd R Lawrence

- Distal Femoral Physeal Fractures 180
- Tibial Eminence Fractures 188
- Patellar Fracture 195
- Tibial Tubercle Fractures 202

10. Tibial Shaft Fractures 211

Tamir Bloom, Sanjeev Sabharwal

- Diagnosis 211
- Classification, Common Variations and Associated Significant Injuries 212
- Nonsurgical Management 216
- Surgical Management 218
- Flexible Intramedullary Nail Fixation 223
- External Fixation 228
- Outcomes 237
- Complications 240

11. Fractures of the Pediatric Ankle and Foot 247

Susan A Scherl, M Layne Jenson

Pediatric Ankle Fractures

- Diagnosis 247
- Imaging 248
- Classification 248
- Transitional Ankle Fractures 248
- Nonsurgical Management 248
- Surgical Treatment of Salter-Harris I and II Fractures 251
- Surgical Management of Salter-Harris III and IV Fractures 253
- Transitional Fractures 253
- Outcomes 258
- Complications 258

Fractures of the Pediatric Foot

- Diagnosis 259
- Imaging 260
- Talus 260
- Calcaneus 264
- Other Tarsal Bones 268
- Metatarsal Fractures 270
- Fifth Metatarsal Base Fractures 271
- Phalangeal Fractures 273

12. Neglected Fractures and Dislocations in Children and Adolescents 267

David A Spiegel, Taral Nagda, Alaric Aroojis

- Femoral Shaft Fractures 278
- Femoral Neck Fractures 279
- Neglected Hip Dislocations 280
- Supracondylar Humerus Fractures 282
- Fractures of the Lateral Humeral Condyle 284
- Monteggia Fractures 286
- Neglected Elbow Dislocations 288

Index 293