

# Contents

Preface	xi
Acknowledgments	xiii
Contributors	xv
<b>Part I: Techniques for Cervical Spinal Deformity Correction</b>	
1. Cervical Sagittal Balance <i>Yahya Güvenç, Onur Yaman, and Salman Sharif</i>	2
2. Basilar Invagination and Craniocervical Deformity Correction <i>Atul Goel</i>	10
3. Ponte Osteotomy for Cervical Spine <i>Yurdal Gezercan</i>	32
4. Pedicle Subtraction Osteotomy for Cervical Spine <i>Serkan Şimşek and Kazım Yiğitkanlı</i>	36
5. Anterior Cervical Osteotomy <i>Gökhan Gökçe and Onur Yaman</i>	42
6. Surgery for Cervical Spondylosis and Deformity <i>John J. Mangan, John Paul Wanner, Edward C. Benzel, and Jason W. Savage</i>	48
<b>Part II: Techniques for Congenital Spinal Deformity Correction</b>	
7. Kyphectomy in Newborns <i>Nail Özdemir and Özgür Akşan</i>	58
8. Surgery for Diastematomyelia <i>Adnan Yalçın Demirci and Óscar L. Alves</i>	62
9. Resection of Congenital Hemivertebra for Thoracic and Lumbar Spine <i>Alice Baroncini, Francesco Langella, Max Aebi, and Claudio Lamartina</i>	67
10. Vertical Expandable Prosthetic Titanium Rib (VEPTR) Procedure for Early-Onset Scoliosis <i>Ömer Akçalı</i>	73
11. Growing Rod Technique for Early-Onset Scoliosis <i>Rıza Mert Çetik and Muharrem Yazıcı</i>	78
<b>Part III: Spinal Osteotomy Techniques</b>	
12. Posterior Column Osteotomy <i>Can Yıldız, Yahya Güvenç, and Onur Yaman</i>	88

## Contents

---

13. Ponte Osteotomy 93  
*İsmail Bozkurt, Salim Şentürk, and Pedro Berjano*
14. Pedicle Subtraction Osteotomy 98  
*Kemal Paksoy and Onur Yaman*
15. Corner Osteotomy 102  
*Filippo Mandelli, Salvatore Petrone, and Pedro Berjano*
16. Vertebral Column Resection Osteotomy 108  
*Nuri Demirci, Çağlar Yılgör, and Ahmet Alanay*
17. Y-Shaped Osteotomy 114  
*Nicat Bayram, Salim Şentürk, and Onur Yaman*
18. Sacral Derotation Osteotomy 118  
*Bronek Boszczyk*
- Part IV: Sagittal Plane Correction Techniques**
19. Introduction to Sagittal Alignment 122  
*J. Manuel Sarmiento, Frank Schwab, and Virginie Lafage*
20. Correction Techniques for Scheurmann's Kyphosis 132  
*Sleiman Haddad, Susana Nuñez-Pereira, and Ferran Pellisé*
21. Correction Techniques for Lumbar Kyphosis 139  
*Nikolay Peev, Joseph S. Butler, Shahswar Arif, Zarina Brady, and Sandra O'Malley*
22. Sacropelvic Fixation Techniques 153  
*Mehmet Zileli, Habib Canberk Karakoç, and Onur Yaman*
23. Surgery for Kyphosis in Patients with Sharp Angle Deformity and Neurological Deficit 161  
*Marcos Masini, Joao Amorim, and Mehmet Zileli*
- Part V: Coronal Plane Correction Techniques**
24. Introduction to Coronal Balance 168  
*Jean Charles Le Huec, Abhishek Mannem, Emanuele Quarto, Wendy Thompson, Lisa Boue, and Stéphane Bourret*
25. Correction of Shoulder Balance for Adolescent Idiopathic Scoliosis 173  
*Emre Acaroğlu and Engin Çetin*
26. Using Kickstand and Tie Rod Technique for Coronal Imbalance 179  
*Andrea Redaelli and Claudio Lamartina*
27. Translation Maneuver for Spinal Deformities 185  
*D. Güçlühan Güçlü and Onur Yaman*
28. Single-Rod Derotation for Adolescent Idiopathic Scoliosis 190  
*Ülkün Ünlü Ünsal, Murat Baloğlu, and Çağrı Canbolat*

29.	Double-Rod Derotation Technique for Adolescent Idiopathic Scoliosis <i>İdris Avcı and Salim Şentürk</i>	195
30.	Direct Vertebral Segmental Derotation for Adolescent Idiopathic Scoliosis <i>Ender Ofluoğlu and Mehmet Zileli</i>	200
31.	Vertebral Body Tethering for Adolescent Idiopathic Scoliosis <i>Yunus Emre Özdemir, Çağlar Yılgör, and Ahmet Alanay</i>	204
32.	Less Invasive Instrumentation and Correction in Pediatric Deformity <i>Bronek Boszczyk and Areena D'Souza</i>	209
<b>Part VI: Special Topics</b>		
33.	Reduction of High-Grade Spondylolisthesis <i>Sedat Dalbayrak and Ahmet Öğrenci</i>	214
34.	Minimally Invasive Surgery for Adult Spinal Deformity <i>Assaker Jordan, Pierre Haettel, Henri-Arthur Leroy, Benoit Derre, and Richard Assaker</i>	218
35.	Dynamic Stabilization for Spinal Deformities <i>Ali Fahir Özer and Göktuğ Akyoldaş</i>	234
36.	Cervical Kyphosis and Arthroplasty: An Irreconcilable Relationship? <i>Óscar L. Alves, Rui Reinas, Leopoldina Pereira, and Margarida Luis Rios Alves</i>	247
37.	Anterior Lumbar Reconstruction and Correction for Degenerative Deformity <i>Bronek Boszczyk and Dileep N. Lobo</i>	253
38.	Lateral Access Surgery for Thoracolumbar Deformities <i>Turgut Akgül</i>	257
39.	Practical Points of Intraoperative Neurophysiologic Monitoring for Spinal Deformity Surgery <i>Muhammad Tariq Imtiaz and Faisal R. Jahangiri</i>	271
40.	Complication Avoidance for Adult Degenerative Deformity Surgery <i>Mehmet Zileli and Nevhis Akıntürk</i>	284
	<b>Index</b>	<b>289</b>