

Contents

Congenital	1
1 Congenital Malformations of the Spine, Spinal Cord, and Cranio-Cervical Junction ANDREA ROSSI, CARLO GANDOLFO, ARMANDO CAMA, and PAOLO TORTORI-DONATI	3
Pediatric Spine	41
2 The Spine and Spinal Cord in Children TURGUT TALI and OZNUR BOYUNAGA	43
Biomechanics	85
3 Biomechanics of the Spine STEPHEN M. BELKOFF	87
4 Scoliosis JOHAN W. M. VAN GOETHEM and ANJA VAN CAMPENHOUT	95
Degenerative Disease	109
5 Evidence-Based Medicine for Low Back Pain MAURITS VAN TULDER and BART KOES	111
6 Degenerative Disc Disease PAUL M. PARIZEL, JOHAN W. M. VAN GOETHEM, LUC VAN DEN HAUWE, and MAURITIS VOORMOLEN	127
7 Pathology of the Posterior Elements LUC VAN DEN HAUWE	157
8 Spinal Stenosis MASSIMO GALLUCCI, SILIVA CAPOCCIA, and MAURO COLAJACOMO	185
9 Spinal Instability – Axial Loaded Imaging of the Spine LUIGI MANFRÉ, ROBERTO CARTOLARI, GUIDO TRASIMENI, and CONCETTO CRISTAUDO.	211
10 Osteoporosis – Insufficiency Fractures MENNO MAES	235

Trauma	255
11 Whiplash Injuries JOSTEIN KRÅKENES	257
12 Cervical Trauma ÖZKAN ÖZSARLAK	279
13 Thoracolumbar Spine Trauma RITA G. BHATIA and BRIAN C. BOWEN	325
The Postoperative Spine	359
14 Surgical Procedures: Discectomy and Herniectomy ERIK VAN DE KELFT	361
15 Imaging of the Postoperative Spine: Discectomy and Herniectomy JOHAN W. M. VAN GOETHEM and RODRIGO SALGADO	371
16 Surgical Procedures: Cages, Prostheses, and Instrumentation ROBERT GUNZBURG and MAREK SZPALSKI	391
17 Imaging of the Postoperative Spine: Cages, Prostheses and Instrumentation PAUL E. KIM and CHI SHING ZEE	397
Tumors	415
18 Intradural Spinal Tumors DANIELLE BALÉRIAUX and NESLİHAN GÜLTAŞLI	417
19 Metastatic Disease of the Spine COSMA ANDREULA, MARIO MURRONE, and PAUL R. ALGRA	461
20 Primary Tumors of the Osseous Spine S. H. M. KAHN and ARTHUR M. DE SCHEPPER	475
Bone Marrow	501
21 Spinal Bone Marrow Disorders PHILIPPE DEMAEREL	503
Infection and Inflammation	519
22 Spinal Infections MAJDA M. THURNHER	521
23 Seronegative Spondylarthropathy CLAUDE MANELFE and FILIP M. VANHOENACKER	543
Sacrum	565
24 Imaging of the Sacrum ANDREW Y. CHOI, A. ORLANDO ORTIZ, DOUGLAS S. KATZ, and STEVEN J. LYPEN	567
Subject Index	589
List of Contributors	599