

# Atlas of Minimal Access Spine Surgery

*SECOND EDITION*

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# Contents

## **Part I. BASICS**

- 1 Collaborative Surgery 3  
*Ronald J. Aronoff, M.D.*
- 2 Anatomic Considerations 5  
Thoracoscopic Anatomy of the Spine 5  
*Anthony D. McBride, M.D.*  
Laparoscopic Anatomy of the Lumbar Spine 15  
*Larry M. Parker, M.D.*
- 3 Equipment and Instrumentation for Endoscopic Spine Surgery 29  
*John J. Regan, M.D., and Alan T. Villavicencio, M.D.*
- 4 Endoscopic Approach Strategies 43  
*John J. Regan, M.D., and Alan T. Villavicencio, M.D.*
- 5 Training and Credentialing 63  
*David S. Thoman, M.D., and Edward H. Phillips, M.D.*
- 6 Complications 67  
*Paul C. McAfee, M.D., and Jed S. Vanichkachorn, M.D.*
- 7 Anesthetic Issues 87  
*Isador H. Lieberman, B.Sc., M.D., M.B.A., F.R.C.S.(C).*  
*Leonardo J. Lozada, M.D., Michael J. Mack, M.D.,*  
*and Ronald J. Aronoff, M.D.*

## **Part II. DECISION MAKING**

- 8 Lumbar Spine 99  
*John J. Regan, M.D.*
- 9 Thoracic Spine 103  
*Neel Anand, M.D., Mch.Orth., and John J. Regan, M.D.*
- 10 Spinal Deformity 115  
Adolescent Spinal Deformity 115  
*Lawrence G. Lenke, M.D.*  
Adult Spinal Deformity 122  
*Isador H. Lieberman, B.Sc., M.D., M.B.A., F.R.C.S.(C)*

## **Part III. SURGICAL TECHNIQUES**

### **Lumbar Spine**

- 11 Laparoscopic Discectomy and Fusion (L5-S1) 131  
*James H. Maxwell, M.D., Dimitrius E.M. Litwin, M.D.,*  
*John J. Regan, M.D., and John R. Romanelli, M.D.*
- 12 Laparoscopic Fusion of the Lumbar Spine (L4-5) 161  
*John J. Regan, M.D., and Ronald J. Aronoff, M.D.*

- 13 Laparoscopic Lateral L4-5 Disc Exposure 183  
*Fred Brody, M.D., and Isador H. Lieberman, B.Sc., M.D., M.B.A., F.R.C.S.(C)*
- 14 Lateral Retroperitoneal Approach to the Lumbar Spine: The Lateral Bagby and Kuslich Procedure (T12-L5) 189  
*Paul C. McAfee, M.D.*
- 15 Gasless Endoscopic Lumbar Surgery: Balloon-Assisted Retroperitoneal Approach to the Anterior Lumbar Spine 205  
*John S. Thalgott, M.D., and James M. Giuffre, B.A.*
- 16 Microsurgical Techniques in Lumbar Spinal Stenosis 221  
*K. Daniel Riew, M.D., and John M. Rhee, M.D.*

**Thoracic Spine**

- 17 Treatment of Thoracic Disc Disease 235  
*Curtis A. Dickman, M.D.*
- 18 Endoscopic Anterior Repair in Spinal Trauma 285  
*Rudolf Beisse, M.D.*  
  
*Section on Surgical Technique for Reconstruction of Spinal Tumors 310*  
*Michael Potulski, M.D., Daniel H. Kim, M.D., and Tae-Ahn Jahng, M.D., Ph.D.*
- 19 Thoracoscopic Sympathectomy 321  
*Curtis A. Dickman, M.D.*

**Spinal Deformity**

- 20 Pediatric Spinal Deformities 341  
*Alvin H. Crawford, M.D., and Atiq Durrani, M.D.*
- 21 Alternative Approaches to Thoracoscopic Anterior Spinal Release and Fusion for Spinal Deformity 385  
*Peter O. Newton, M.D.*
- 22 Prone-Position Endoscopic Approach for Deformity Surgery 399  
*Isador H. Lieberman, B.Sc., M.D., M.B.A., F.R.C.S.(C)*

- 23 Anterior Spinal Instrumentation in Spinal Deformity 409  
  
*Thoracoscopic Anterior Release and Fusion Using MOSS-Miami Instrumentation 409*  
*Randal R. Betz, M.D., Peter O. Newton, M.D., David H. Clements III, M.D., and Rohinton K. Balsara, M.D., F.A.C.C.P.*  
  
*Endoscopic Techniques for Treatment of Thoracic and Thoracolumbar Scoliosis 423*  
*George D. Picetti III, M.D., Janos P. Ertl, M.D., and H. Ulrich Bueff, M.D.*

**Part IV. NEW TECHNOLOGY**

- 24 Minimally Invasive Vertebral Body Augmentation and Reconstruction for Osteoporotic and Osteolytic Wedge Compression Fractures 441  
*Isador H. Lieberman, B.Sc., M.D., M.B.A., F.R.C.S.(C), and Mark A. Reiley, M.D.*
- 25 Intradiscal Electrothermal Therapy 451  
*Jeffrey A. Saal, M.D., and Joel S. Saal, M.D.*
- 26 Microendoscopic Discectomy 465  
*Robert E. Isaacs, M.D., Faheem A. Sandhu, M.D., Ph.D., and Richard G. Fessler, M.D., Ph.D.*
- 27 Percutaneous Discectomy 487  
*Anthony T. Yeung, M.D.*
- 28 Nucleus Pulposus Replacement 517  
*Qi-Bin Bao, Ph.D., and Hansen A. Yuan, M.D.*
- 29 Link SB Charité Total Disc Replacement 525  
*Paul C. McAfee, M.D.*
- 30 Extreme Lateral Interbody Fusion (XLIF) 539  
*Marc I. Malberg, M.D.*

Index 555



## Extreme Lateral Interbody Fusion (XLIF)

*Marc I. Malberg, M.D.*

Lumbar and lumbosacral fusion is commonly performed for intractable back pain and/or instability.<sup>1,2</sup> An evolution of technique since the first lumbar fusion in 1911 has resulted in improvement in the rate of fusion, hospital stay, and morbidity. However, lumbar fusion is still a major procedure, which can result in considerable postoperative pain and prolonged recovery. Techniques designed to improve fusion rates, such as transpedicular screws and circumferential fusions, potentially add to the morbidity. Minimally invasive and endoscopic approaches attempt to reduce morbidity without compromising long-term outcomes.

Attempts to reduce surgical dissection from a posterior approach suffer from the limited exposure of bone surface for a posterolateral fusion mass. Posterior lumbar interbody fusion (PLIF) minimizes muscle dissection but exposes the cauda equina to scar and possible injury.<sup>3-5</sup> Anterior and laparoscopic interbody fusion (ALIF) exposes the viscera and retroperitoneal vessels to injury<sup>4,6-10</sup> and frequently requires another surgeon specialist. In addition, controversy remains as to whether an anterior cage is adequate as a stand-alone procedure.<sup>11-14</sup> If supplemental posterior support proves advisable, then the advantage of the laparoscopic approach fades.

Access to the lumbar disc spaces through a lateral approach has, until recently, been infrequently employed for fusion procedures.<sup>15-18</sup> When it is performed, it is often by a lateral retroperitoneal technique, which, like laparoscopic surgery, also frequently requires a second surgeon for exposure. Renewed interest in a posterolateral or far-lateral approach may have resulted from the success reported from intradiscal procedures for nerve root decompression.<sup>19-21</sup>

Posterolateral disc procedures typically access the disc near the foramen through Kambin's triangle.<sup>19</sup> The low complication rate of these disc procedures is attributable to the diminutive size of the endoscopes used for discectomy. Larger scopes or cannulas in-

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