

# Minimally Invasive Lumbar Fusion



# Minimally Invasive Surgery Of The Lumbar Spine

**Luis Manuel Tumialan**

## **Minimally Invasive Surgery Of The Lumbar Spine:**

Minimally Invasive Spine Surgery Luis Manuel Tumialan, 2020-10-01 Unique resource provides spine surgeons with the right tools and mindset to perform minimally invasive surgery. Minimally Invasive Spine Surgery A Primer by Luis Manuel Tumialan is the ideal introduction to minimally invasive spine approaches especially for neurosurgery and orthopedic residents fellows and spine surgeons who want to incorporate minimally invasive approaches into their practice. The Primer offers a treasure trove of 3D illustrations and animations that virtually brings the aspiring minimally invasive spine surgeon into the operating room alongside their professor. The text starts with a discussion of open spine surgery versus minimally invasive procedures and the optimal mindset required to convert from one to the other. The book is divided into lumbar, cervical and thoracic spine sections and a fourth section dedicated to the fundamentals of fluoroscopy and radiation exposure. The text begins with an overview history and evolution of each procedure followed by a discussion of the anatomical basis for using a minimally invasive approach. Each anatomical section starts with the least complicated surgeries thereby laying the foundation for more complex procedures discussed in subsequent chapters. The third section focuses on thoracic decompression nerve sheath tumors in the lumbar and thoracic spine and management of metastatic disease and intradural extramedullary lesions. Key Features Single authored text provides uniform readability and philosophy cover to cover. Lumbar approaches include microdiscectomy, laminectomy, transforaminal interbody fusions and the transpsoas approach. Cervical procedures encompass posterior foraminotomy, laminectomy and anterior discectomy. Superb illustrations, high fidelity anatomical animations based on computer modeling and procedural videos enhance understanding of minimally invasive spine principles. This unique single author Primer is a must have resource for early career spine surgeons who wish to learn minimally invasive principles as well as veteran surgeons who have a desire to incorporate minimally invasive spine surgery into clinical practice.

Minimally Invasive Surgery of the Lumbar Spine Pier Paolo Maria Menchetti, 2013-10-01 Minimally invasive procedures are increasingly utilized and are replacing open surgery to reduce scarring and pain, enhance patient recovery and minimize cost. This guide provides step by step guidance, expert instruction and detailed illustration of the most recent minimally invasive orthopedic spine procedures. With a variety of chapters covering critical developments in the field including the utilization of biologic materials, image guided surgery and bone fusion, this guide delves into discussions of indications, methods for preoperative planning, complication avoidance strategies and patient outcomes.

Minimally Invasive Spine Surgery Luis Manuel Tumialan, 2020-10-01 Unique resource provides spine surgeons with the right tools and mindset to perform minimally invasive surgery. Minimally Invasive Spine Surgery A Primer by Luis Manuel Tumialan is the ideal introduction to minimally invasive spine approaches especially for neurosurgery and orthopedic residents fellows and spine surgeons who want to incorporate minimally invasive approaches into their practice. The Primer offers a treasure trove of 3D illustrations and animations that virtually brings the aspiring minimally invasive spine surgeon into the operating room.

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**Minimally Invasive Spinal Surgery** Kai-Uwe Lewandrowski, Michael Schubert, Jorge F Ramírez Léon, Richard G Fessler, 2018-03-13 This book provides a timely comprehensive and evidence based review of minimally invasive surgery of the cervical thoracic and lumbar spine Minimally invasive techniques are now aided by more advanced endoscopic instruments video and computerised navigation systems broadening the range of surgical procedures that can be carried out with similar efficacy as traditional open spinal surgeries without the significant burden on the patient recovery and rehabilitation This book thoroughly reviews the preclinical and clinical data on minimally invasive spinal surgery and describes and illustrates the current effective techniques An authoritative international team of contributors add their clinical experience and expertise to provide a clear authoritative and practical guide The book is organised in four sections covering cervical thoracic and lumbar spine regions with a final section on the latest advances in technologies and the cost effectiveness of current treatments

**Minimally Invasive Spine Surgery: An Algorithmic Approach** Kern Singh, 2013-06-30 This book is a concise guide to minimally invasive spine surgery MISS with emphasis on techniques procedures and equipment Divided into five sections the authors discuss MISS for different areas of the spine cervical thoracic and lumbar Each section is presented with a step by step approach with an introduction clinical evaluation intraoperative positioning surgical techniques and potential pitfalls The final sections discuss the instruments used for MISS and some special topics Written by a highly experienced author team from the USA this book covers all aspects of MISS including tumours trauma and deformity Nearly 120 full colour images and illustrations are included to enhance learning Key points Concise guide to minimally invasive spine surgery MISS emphasising techniques procedures and equipment Covers all

aspects of MISS tumours trauma and deformity in all areas of the spine cervical thoracic and lumbar Highly experienced author team from the USA Includes nearly 120 full colour images and illustrations     **Minimally Invasive Spine Surgery**  
H. Michael Mayer,2006-01-26 Don t miss it The second completely revised and expanded edition of the successful surgical manual on minimally invasive spine surgery includes 51 chapters including more than 20 new chapters covering all current minimally invasive techniques in spine surgery A complete survey of all microsurgical and endoscopic techniques with a special focus on semi invasive injection techniques for diagnostic and therapeutic purposes in low back pain is given The clear chapter structure with terminology history surgical principles advantages disadvantages indications access principles complications and results facilitates navigation through the manual Topics include the principles of microsurgical and endoscopic treatment spinal navigation and computer assisted surgery minimally invasive reconstruction fusion dynamic stabilization in fractures degenerative disc disease spinal stenosis low back pain and deformities The didactic presentation of surgical steps makes the reader familiar with all types of new minimally invasive techniques in clinical use or still in ongoing clinical trials such as minimally invasive spine arthroplasty     Minimally Invasive Surgery of the Lumbar Spine Pier Paolo

Maria Menchetti,2013-10-31     Minimally Invasive Spine Surgery Chadi Tannoury,2017-04-24 The field of spine surgery is in a state of flux with minimally invasive and open surgical procedures vying for dominance A new volume in the Minimally Invasive Orthopaedic Surgery series Minimally Invasive Spine Surgery weighs the pros and cons of today s open versus minimally invasive techniques allowing you to choose the approaches that will best meet your patients needs In each chapter accomplished experts describe the advantages indications setup technical aspects and problem areas associated with a given minimally invasive procedure including critiques from surgeons who favor a standard open approach to give you a balanced objective foundation for surgical decision making     *State of the Art for Minimally Invasive Spine Surgery* A. Dezawa,P.-Q. Chen,J.-Y. Chung,2006-03-20 The second congress of the Pacific Asian Society of Minimally Invasive Spine Surgery PASMISS held in Phuket Thailand August 5 6 2002 was highly successful Dr Akira Dezawa the president had worked hard in organizing the congress which was well attended All scientific papers presented were of the highest standard and were worthy of publication in book form This scientific meeting brought to light the practice of this modern surgical technique as it is being performed by spine surgeons in the Asia Pacific region Dr Dezawa has made a great effort to collect the papers from the congress and to have them edited and published as a text that covers all aspects of the minimally invasive spine surgical approach Minimally invasive spinal surgery will be a highlight of operative approaches in the twenty first century and already has been popularized worldwide This procedure will provide surgical options that address several pathological conditions in the spinal column without producing the types of morbidity commonly seen in open surgical procedures The contents of this book provide highly relevant and detailed information I certainly believe that it will be a great benefit to all orthopedic surgeons who are interested in performing minimally invasive spine surgery Charoen Chotigavanich M D Chairman Spinal

Section The Royal College of Orthopedic Surgeons of Thailand V Preface Recent decades have been characterized by revolutionary changes in spinal surgery Concurrent progress in implant technology and functional en scopes and the improvement of less invasive surgical techniques has opened a new dimension for spine surgery **Minimally Invasive Spine Surgery** Frank Phillips,Isador Lieberman,David Polly,2014-06-23 Over the past decade minimally invasive techniques have developed rapidly and are widely applied in the management of spine disorders With the development of enabling technologies including specifically designed spinal retractor systems intraoperative imaging and navigation technologies and real time neural monitoring minimally invasive spine surgery MISS techniques are safe effective and reproducible Indeed studies have confirmed the clinical and economic advantages of these procedures Minimally Invasive Spine Surgery includes detailed discussions of enabling technologies surgical techniques including posterior decompression and fusion approaches to specific diseases and conditions as well as strategies to manage the unique risks and complications of MISS Generously illustrated this will be an essential reference for orthopedic surgeons neurosurgeons and all health care professionals who treat the spine **Essential Step-by-Step Techniques for Minimally Invasive Spinal Surgery** Roger Hartl,Rodrigo Navarro-Ramirez,2022-05-27 The ultimate resource for learning and mastering minimally invasive spine surgery techniques An estimated 1 5 million instrumented spinal procedures are performed every year in the US The majority of decompressions and about 50% of fusion procedures can be performed completely or partially using minimally invasive spine surgery MISS techniques The full potential of MISS techniques has yet to be realized Essential Step by Step Techniques for Minimally Invasive Spinal Surgery by internationally renowned MISS neurosurgeon Roger H rtl spine neurosurgeon Rodrigo Navarro Ramirez and an impressive group of global multidisciplinary contributors is the most comprehensive and detailed textbook written to date on this topic The foundation of the book is built on six interacting principles critical to surgical success and MISS in particular Target Technology Technique Teaching and Training Testing and Talent The text starts with an opening chapter on the definition of MISS and introduction of these principles Fifty six subsequent chapters provide a comprehensive discussion on how to utilize an MISS approach for a full spectrum of spinal pathologies using nuanced variations specific to the operating surgeon To ensure readers are well versed in all aspects of MISS these chapters include painstaking details on indications contraindications pathoanatomy operating room set up step by step techniques and postoperative management Key Highlights Contributions from master spine surgeons across the world provide a balanced global perspective on mastering and incorporating diverse techniques into practice Invaluable clinical pearls including tips tricks and complication avoidance High quality images figures anatomic drawings and imaging studies illustrate relevant anatomic approaches and corridors and delineate why anatomic mastery is critical to MISS Twenty five videos enhance the ability to learn and implement MISS approaches This is a must have resource for practicing spine surgeons interested in MISS who wish to learn the latest techniques from master surgeons and achieve optimal patient outcomes The text and videos also provide a robust

training tool for senior level orthopaedic and neurosurgery residents and spine fellows     ***Minimally Invasive Spine Surgery - Techniques, Evidence, and Controversies*** Roger Haertl,Andreas Korge,2012-12-12 Minimally invasive spine surgery in some form or other has historical roots dating back more than 100 years and recent advances in technology now make it increasingly effective in treating suitable spine patients While minimally invasive approaches have shown to reduce muscle damage blood loss and post operative pain to perform this type of surgery correctly even highly skilled modern day surgeons must prepare themselves for a demanding learning curve For this reason AOSSpine proudly presents Minimally Invasive Spine Surgery Techniques Evidence and Controversies the most comprehensive book of its kind which includes more than 500 pages of surgical techniques illustrations case images tips and tricks and research providing an invaluable tool for spine surgeons around the world Each technique is fully examined The pros and cons of each is objectively reviewed Its spectrum of indications and contraindications is summarized Historical and modern day controversies relating to each technique are discussed Uniquely chapters in the text are further supported by an evidence based section summarizing research studies analysis and conclusions into each technique from peer reviewed journals The text covers more than just a range of interesting medical techniques By including brief historical introductions on each technique and the surgeons that explored and founded its methods their early sometimes self made instrumentation right through to todays current best practice this book provides an interesting informative and topical instruction on minimally invasive surgery and its increasingly encouraging results for spine patient care     **Minimally Invasive Spine Surgery** Frank M. Phillips,Isador H.

Lieberman,David W. Polly Jr.,Michael Y. Wang,2020-01-13 The use of minimally invasive spine surgery MISS has grown rapidly over the last decade and remains the fastest growing area in spine surgery Now in a revised and expanded second edition including 19 new chapters this comprehensive textbook provides an updated presentation of the field of MISS highlighting surgical techniques and clinical outcomes as well as providing a unique focus on how these techniques are applied for specific spinal conditions Minimally Invasive Spine Surgery Second Edition includes detailed discussions of enabling technologies surgical techniques approaches to specific diseases and conditions a new section on out patient ambulatory spine surgery and strategies to manage the unique risks and complications associated with MISS Each chapter whether revised or new is formatted in a consistent manner including bulleted key learning points as well as review questions pearls and pitfalls and generous illustrations and intra operative photographs Written and edited by thought leaders in the field this user friendly textbook will be an essential resource for orthopedic and neurosurgery trainees as well as a valuable reference and review for spine surgeons and health care professionals who treat the spine     **Lateral Access Minimally Invasive Spine Surgery** Michael Y. Wang,Andrew A. Sama,Juan S. Uribe,2016-11-26 This well illustrated textbook is the first comprehensive and authoritative source of information on minimally invasive lateral access spine surgery It covers all aspects of the subject including patient selection approach and monitoring techniques soft tissue management

application in a variety of pathologies technical nuances and the prevention and management of complications In addition current controversies in the field are discussed and the biomechanics of lateral spinal reconstruction the physiologic benefits and cost implications are explained As use of the lateral approach in spinal surgery has become more popular so its diversity and complexity have increased Nevertheless publications devoted entirely to the technique are lacking and Lateral Access Minimally Invasive Spine Surgery is designed to fill this vacuum Written by the world's experts on the topic it will be an excellent resource for both beginning and experienced surgeons

### **Minimally Invasive Spine Surgery**

Michael Y. Wang,Yi Lu,D. Greg Anderson,Praveen V. Mummaneni,2014-01-17 Contemporary spinal surgeons whether orthopedic or neurosurgeons are increasingly recognizing minimally invasive spine surgery MISS as a desirable option to manage advanced degenerative diseases MISS techniques minimize blood loss surgical site pain and speed recovery Thus the marriage of MISS with adult spinal deformity was a natural one Currently the techniques technologies and education of surgeons have finally reached a point where MISS deformity surgeries are becoming commonplace Nevertheless the field is young enough that no comprehensive texts have addressed the unique challenges faced by surgeons exploring this evolving field This book will fill the gap

**Minimally Invasive Spine Surgery** Burak Ozgur,Edward Benzel,Steven Garfin,2009-10-08

Minimally Invasive Spine Surgery is a beautifully illustrated atlas describing the 18 most widely accepted minimally invasive procedures in spine surgery Written by leaders in both neurologic and orthopedic spine surgery this book offers the most up to date material and the broadest perspective on the subject Procedures range from simple to complex and cover the cervical thoracic and lumbar regions of the spine

**Minimally Invasive Spine Surgery** H.M. Mayer,2013-03-09 In the past few years spine surgery has undergone revolutionary changes leading towards minimally invasive techniques This book is a survey of microsurgical as well as endoscopic surgical techniques for the treatment of a variety of spinal disorders The structure of the individual chapters includes terminology history surgical principles advantages disadvantages indications surgical technique complications and hazards as well as results However all chapters are focused on a very didactic presentation of surgical steps Thus the reader will get familiar with a variety of new techniques some of which are already integrated into clinical routine others still being part of ongoing clinical trials and development

**Minimally Invasive Spine Surgery Techniques**

Gabriel Tender,2018-03-07 This book includes operative videos and teaches the reader how to perform all currently available minimally invasive spine surgery MISS techniques Each chapter covers a MISS procedure and includes an introduction indications and contraindications surgical technique pitfalls and pearls discussion conclusion references videos and figures Minimally Invasive Spine Surgery Techniques is aimed at spine surgeons who are interested in learning or improving their MISS skills

**Decision Making for Minimally Invasive Spine Surgery** Faheem A. Sandhu,Jean-Marc Voyadzis,Richard G. Fessler,2011-01-06 The essential decision making primer for minimally invasive spine procedures Decision Making for

Minimally Invasive Spine Surgery provides the critical tools needed to determine exactly when for whom and why minimally

invasive spine surgery MISS is a viable option Ten tightly focused chapters each begin with a decision making algorithm that explains how to ascertain if MISS will benefit the patient more than traditional open surgery Following each algorithm concise yet detailed information on the preoperative evaluation surgical techniques and possible outcomes helps the reader to formulate a clear surgical strategy The book closes with an incisive analysis of radiosurgery instrumentation systems image guidance and promising advances in MISS that will stimulate further discussion of this emerging area Features A realistic assessment of both the advantages and drawbacks of MISS by pioneers in the field Evaluative algorithms allow readers to form rapid fully informed treatment decisions Intuitive organization by spinal region facilitates quick reference Spine surgeons residents or fellows in orthopedic surgery or neurosurgery will refer to this easily accessible manual every time they consider performing a minimally invasive spine procedure    **Minimally Invasive Spine Surgery** Alexander R. Vaccaro,Christopher M. Bono,2007-05-22 Minimally invasive procedures are increasingly utilized and are replacing open surgery to reduce scarring and pain enhance patient recovery and minimize cost Minimally Invasive Spine Surgery provides step by step guidance expert instruction and detailed illustration of current minimally invasive orthopedic spine procedures With a variety of c

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