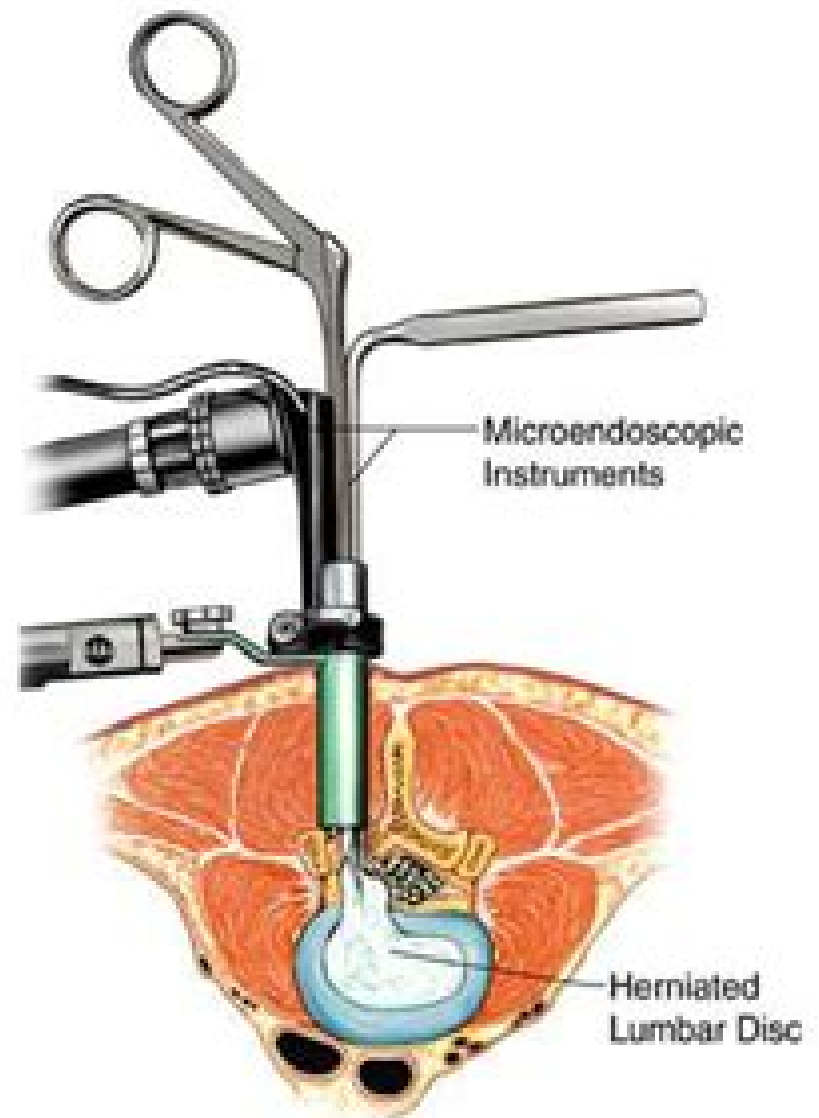
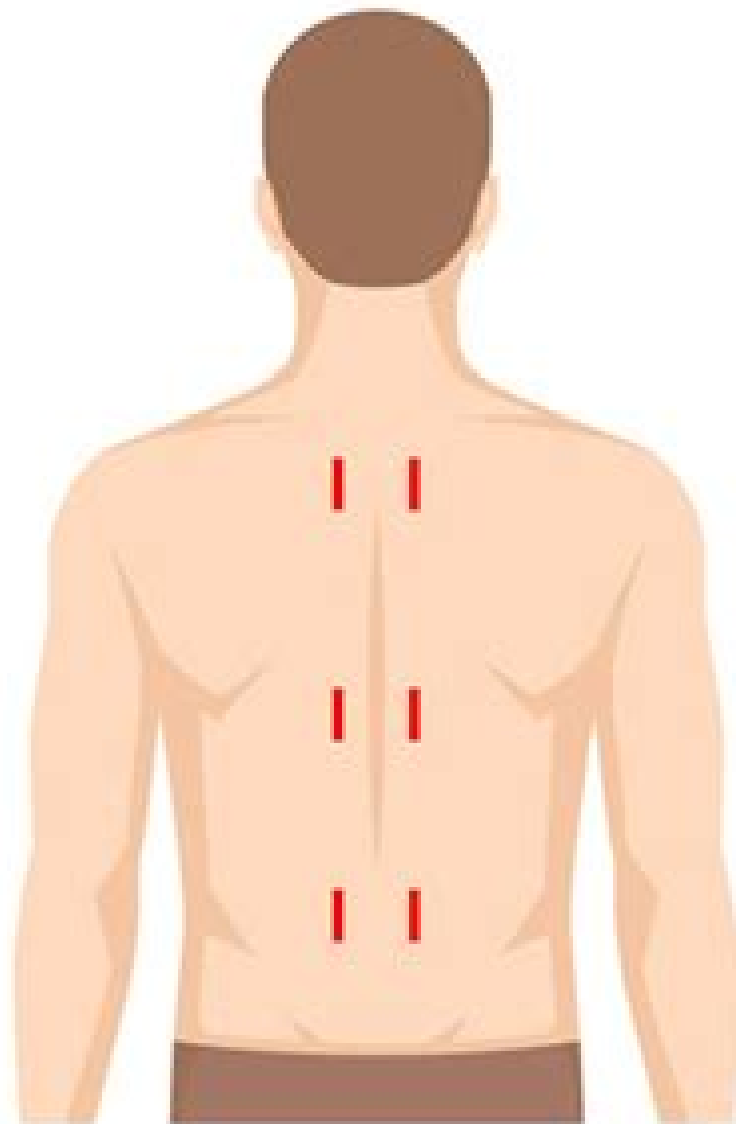


# MINIMALLY INVASIVE SPINE SURGERY



# Minimally Invasive Spine Surgery Minimally Invasive Spine Surgery

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## **Minimally Invasive Spine Surgery Minimally Invasive Spine Surgery:**

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 transposas 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 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 transposas 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

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 Hartl 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 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

**Minimally Invasive Spine Surgery: An Algorithmic Approach** Kern Singh, 2013-12-15 This book Minimally Invasive Spine Surgery An Algorithmic Approach is organized in a logical fashion with an introduction clinical evaluation intraoperative positioning surgical techniques potential pitfalls and pearls of treatment and discussion This book has written extremely well known surgeons who are experts in their respective fields of minimally invasive surgery This textbook attempts to formally describe a simple to understand decision making process that is the essence of minimally invasive surgery The chapters of this book are organized in a very technique focused text that provides intraoperative pearls pitfalls and technical descriptions The reader can quickly review the decision making algorithm at the beginning of each chapter and read the text for a more detailed description of the decision making surgical process Readers will enjoy a high level sophistication with the text The remainder of the chapter is devoted to the surgical pearls that are rarely mentioned in other surgical textbooks All aspects of minimally invasive spine surgery are covered especially special topics including Tumor Trauma and Deformity Routine procedures are covered in detail with particular emphasis given to surgical nuances and pearls learned from experienced MIS spine surgeons All levels of experience will truly appreciate the detail clarity and sophistication associated with this comprehensive MIS Spine Surgery algorithmic textbook Make this book well suited for medical students residents fellows and surgeons who not only want to be introduced to a new method of surgical management but also to refresh an experienced surgeon on a particular surgical technique

**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* 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

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 AOSpine 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 today's 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

**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** 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

**Decision Making for Minimally Invasive Spine Surgery** Faheem A. Sandhu, Jean-Marc Voyadzis, Richard Glenn 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* 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 Minimally Invasive Spine Fusion: Techniques and Operative Nuances Mick Perez-Cruet,Rudolf Beisse,Luiz Pimenta,Daniel H. Kim,2011-04-30 Minimally Invasive Spine Fusion Techniques and Operative Nuances provides spine surgeons with the comprehensive information they need to incorporate minimally invasive fusion techniques and instrumentation into their practices Edited and authored by the experts in spine surgery this comprehensive publication is filled with detailed clinical information to help the spine surgeon skillfully execute these procedures Every technique is described in precise step by step fashion and incorporates information on preoperative assessment and planning treatment options operative technique potential complications and management outcome data and tips and tricks Beautiful color illustrations and intraoperative photos highlight the key steps for performing these techniques safely and effectively Numerous preoperative and postoperative images demonstrate the possible results that can be achieved Instrumentation monitoring outcome analysis and complications are also discussed in detail *Minimally Invasive Spine Surgery* Roger Härtl,Andreas Korge,2012 Hear the authors discuss Minimally Invasive Spine Surgery 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 AOSpine 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 today's 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* 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, An Issue of Neurosurgery Clinics of North America* Richard G. Fessler, 2014-04-28 This issue of Neurosurgery Clinics of North America is devoted to Minimally Invasive Spine Surgery and is edited by Zachary A Smith MD and Richard G Fessler MD PhD Articles in this issue include Complications and complication avoidance of minimally invasive spine surgery Radiation exposure risk and avoidance Current techniques in the management of cervical myelopathy and radiculopathy Thoracic disc pathology management through minimally invasive routes Transforaminal Lumbar Interbody fusion Long term outcomes and complications Computer assisted navigation technique for minimally invasive transforaminal lumbar interbody fusion and lateral interbody fusion Safety and the Anatomy of the retroperitoneal lateral corridor Minimally invasive extracavitary transpedicular corpectomy for the management of spinal tumors Minimally invasive anterolateral corpectomy for spinal tumors Minimally invasive approaches for the management of intramedullary spinal tumors Percutaneous fixation of thoracolumbar fractures Advances and feasibility of advanced minimally invasive techniques in deformity correction Direct lateral approach Outcomes and Deformity Correction and Evidence basis and outcomes

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 endoscopes and the improvement of less invasive surgical techniques has opened a new dimension for spine surgery

*Update in Minimally Invasive Spine (mis) Surgery* James D. Bruffey, Ali Araghi, 2011-06-13 In this new reference text *Update in Minimally Invasive Spine MIS Surgery Clinical Examples of Anatomy Indications and Surgical Techniques* the editors attempt to give the reader a snapshot of this fast moving field by discussing topics of applied clinical spinal anatomy clinical indications and outcomes for MIS surgery instrumentation and biomechanics adjacent level disease and fusion biology as well as management of clinical complications and strategies for revision surgeries In the past spinal fusion meant long incisions significant blood loss prolonged hospitalization and recovery along with persistent pain less mobility and limited return to function Recently however less traumatizing techniques have found their way into mainstream spinal surgery and are being increasingly accepted as alternatives to traditional open procedures These new concepts of minimally invasive techniques have emerged and are withstanding the test of time Consequently there is increasing interest among spine surgeons to apply MIS approaches to common clinical problems Examples of these new trends include advanced endoscopic and percutaneous techniques to remove a herniated disc treat spinal stenosis debride spinal infections and the emergence of percutaneous adjunctive procedures to spinal fusion Other advances include percutaneous pedicle screw application instead of open screw placement and minimal invasive decompressions through small percutaneously placed tubes instead of open wide laminectomy procedures through large incisions In addition minimally invasive techniques are now aided by computerized navigation systems Moreover advances in osteobiologics have increasingly obviated the need for autologous bone graft harvest which has greatly enhanced the benefits of minimally invasive spinal surgery On the other hand complications have been reported with the routine use of MIS techniques such as transforaminal lumbar interbody fusion TLIF through small access portal or direct lumbar interbody fusion DLIF through a mini direct lateral access In other

words the field of minimally invasive spinal surgery continues to emerge and is expected to change rapidly as new technologies surface We have therefore taken a multidisciplinary approach by representing aspects ranging from anatomy biomechanics and biologics to surgical techniques and clinical outcome research with respect to state of the art technologies as well as biomaterials in reconstructive procedures of the spine Chapters are focused on the description of the clinical indications surgical techniques and clinical outcome assessments by discussing standards in analytical methodology and quality control Specific clinical examples are at the heart of this new reference text to illustrate the development of new devices and materials capable of improving minimally invasive spinal surgery We hope you find this text to be a valuable update in the discussion of MIS techniques in spinal surgery     Minimally Invasive Spine Surgery Mick Perez-Cruet,2022-09-28 This book illustrates some of the latest advances in minimally invasive surgical techniques and technology to treat a variety of spinal disorders Written by some of the leading minimally invasive spine surgeons this book teaches surgeons how to perform these procedures safely and effectively The goal is to advance the field of spinal surgery and ultimately improve the lives of patients suffering from spinal disorders The book reviews cervical thoracic and lumbar approaches     *Minimally Invasive Spine Surgery* Kern Singh,Alexander Vaccaro,2015-08-31 Minimally Invasive Spine Surgery combines up to date research on surgical techniques with high definition surgical video and concise algorithmic evidence Each of its sixteen chapters begins with a brief summary followed by imaging indications instrumentation a step by step surgical technique and video guide as well as the potential complications and adverse outcomes that may develop Techniques discussed in the text include Posterior Cervical Foraminotomy Percutaneous Posterior Pedicle Screw Placement Lumbar Discectomy Transforaminal Lumbar Interbody Fusion TLIF Lateral Lumbar Interbody Fusion LLIF Also included is a discussion on the types of implants and instrumentation available today and the potential advantages they offer making Minimally Invasive Spine Surgery an essential and relevant book for orthopaedic and neurosurgeons Key Points Authored by experts from Rush University Medical Centre and Thomas Jefferson University Hospital in the United States Includes DVD to enhance clinical instruction 273 full colour illustrations

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the editor in chief heads all departments of the organization and is held accountable for delegating tasks to staff members and managing them the term is often used at newspapers magazines yearbooks and television news programs the editor in chief is commonly the link between the publisher or proprietor and the editorial staff the term is also applied to academic journals where the editor in chief gives the ultimate decisi

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ethernet 3 what is the purpose of network interface card