

# Atlas Of Neurosurgical Techniques Spine And Peripheral Nerves

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## Photo Atlas of Skull Base Dissection

A state-of-the-art neurovascular surgery atlas from internationally renowned neurosurgeon R. Loch Macdonald. *Neurosurgical Operative Atlas: Vascular Neurosurgery, Third Edition*, by R. Loch Macdonald and expert contributors, reflects the latest advances in endoscopic, endovascular, microsurgical, and bypass techniques used in the treatment of cerebrovascular disease. The entire atlas has been streamlined and updated with new content, including 38 videos that complement the concise step-by-step guidance in the text. The book begins with five chapters on vascular and microsurgical instrumentation and equipment, clipping versus coiling, aneurysm surgery techniques, the pterional approach, and minimally invasive approaches. Disease and procedure-specific chapters are organized by three sections: aneurysms and subarachnoid hemorrhage, vascular malformations, and ischemic and other cerebrovascular disease. Every chapter includes salient tips on patient selection and procedural indications, preoperative information and tests, patient positioning, operative nuances, and postoperative complications. **Key Highlights** Nearly 300 high-quality color illustrations detail impacted anatomy and procedures. The latest techniques for treating a full spectrum of aneurysms, such as ophthalmic segment, supraclinoid internal carotid artery, middle and anterior cerebral artery, basilar and posterior cerebral artery, and others. Treatment of vascular abnormalities including arteriovenous malformations, superficial and brainstem cavernous malformations, arteriovenous fistulae, Moyamoya disease, and more. Neurosurgical residents will benefit from the firsthand knowledge shared by international masters, while veteran neurosurgeons will glean invaluable insights on cutting-edge endovascular techniques to enhance

clinical practice.

## **Joint Denervation**

The go-to guide on safely performing state-of-the-art neuroendovascular procedures from top experts! Unlike traditional textbooks that detail natural history, physiology, and morphology, Video Atlas of Neuroendovascular Procedures presents basic and complex neuroendovascular procedures and cases with concise text and videos. Renowned neuroendovascular surgeons Leonardo Rangel-Castilla, Adnan Siddiqui, Elad Levy, and an impressive group of contributors have compiled the quintessential neuroendovascular resource. Organized into eight major subtopic sections, this superb video atlas covers a full spectrum of endovascular approaches to diagnose and treat intra- and extracranial neurovascular disease. The book starts with a section on vascular access and concludes with endovascular complications and management. Forty chapters includes succinct summaries, scientific procedural evidence, the rationale for endovascular intervention, anatomy, required medications, device selection, avoiding complications, and managing potential problems that can arise during procedures. The image-rich clinical cases feature insightful firsthand knowledge and pearls. Key Features More than 1,000 relevant, high quality neuroimaging findings and artist illustrations enhance understanding of impacted anatomy and approaches Specific techniques and key steps are brought to life through more than 140 outstanding videos narrated by highly experienced endovascular neurosurgeons — conveniently accessible via smart phones or tablets using QR technology Essential diagnostic procedures such as cerebral and spinal angiography, cerebral venogram, and balloon test occlusion Complex neuroendovascular procedures including various angioplasty and stenting approaches for extracranial vessel disease, carotid and vertebral arteries, and venous sinus; thrombectomy procedures to treat acute ischemic stroke; and coiling, flow diversion, and embolization techniques for intracranial aneurysms, brain/spinal AVMs and fistulas, and select CNS and extracranial tumors The content-rich reference is a must-have for all resident and veteran neurosurgeons, interventional radiologists, and neurologists. Learn to safely perform a wide array of cutting-edge neuroendovascular procedures — from access to closure — and achieve improved outcomes for your patients.

## **Atlas of Neurosurgical Techniques**

This book Surgical Atlas of Spinal Operations is divided into several sections in an attempt to provide the reader the best understanding of complex topics as well as to facilitate the search for specific information on any of these topics. The first section provides a comprehensive review of surgical anatomy through a step-by-step description of the most common surgical approaches to the spine. Each of these chapters consists of a discussion of the indications for using the approach, a review of the pertinent anatomy, a well-illustrated description of the surgical approach, a discussion of th.

## **Advanced Procedures for Pain Management**

A step-by-step guide to managing brain, skull base, and spinal tumors Neuro-

Oncology is the first volume in the second edition of the highly regarded Neurosurgical Operative Atlas series first published by the American Association of Neurological Surgeons. It provides an accessible, step-by-step guide to the newest approaches for managing brain, skull base, and spinal tumors. Organized into concise sections according to anatomical location, type of tumor, and surgical approach, this book enables the reader to rapidly review key concepts in preparation for surgery. In each chapter the author describes the case selection, the operative indications and contraindications, special points concerning anesthesia, the various operative approaches available, and the possible complications during and after surgery. Concise, yet thorough, this text will be an invaluable reference for both beginning and established neurosurgeons. Highlights: Covers the full range of neuro-oncological problems, including sellar and parasellar tumors, intraventricular tumors, spine and peripheral nerve tumors, malignant brain tumors, meningiomas, and posterior fossa tumors Features more than 500 high-quality illustrations that supplement descriptions of each step of the procedures, providing an indispensable visual aid to managing complex clinical situations Series Description: The American Association of Neurological Surgeons and Thieme have collaborated to produce the second edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Neuro-Oncology, the series features: Spine and Peripheral Nerves, edited by Christopher Wolfla and Daniel K. Resnick Vascular Neurosurgery, edited by R. Loch Macdonald Functional Neurosurgery, edited by Philip Starr, Nicholas M. Barbaro, and Paul Larson Pediatric Neurosurgery, edited by James Tait Goodrich

### **Endoscopic Spine Surgery**

This comprehensive, up-to-date textbook of modern cervical spine surgery describes the standard and advanced techniques recommended by the Cervical Spine Research Society – European Section (CSRS-E) with a view to enabling both young and experienced surgeons to further develop their skills and improve their surgical outcomes. Success in cervical spine surgery depends on the surgeon's awareness of the main challenges posed by distinct cervical spine diseases, theoretical understanding of treatment concepts, and knowledge of technical options and the related potential for complications. It is the surgeon who has to merge theory and practice to achieve the desired outcome, in each case appraising the details of surgical anatomy and weighing the challenges and complications associated with a surgical technique against the skills that he or she possesses. This excellently illustrated book, written by key opinion makers from the CSRS-E with affiliated surgeons as co-authors, presents the full range of approaches and techniques and clearly identifies indications, precautions, and pitfalls. It will be a superb technical reference for all cervical spine surgeons, whether orthopaedic surgeons or neurosurgeons.

### **Spine Surgery**

This book serves as an anatomic atlas of the nerves that innervate the joints of the human body in a format that also provides technical insight into pathways that both interventional pain management and surgical subspecialists can use to denervate those painful joints when traditional approaches to manage the pain are

no longer successful. This book avails the knowledge of how denervation can relieve joint pain available to the many groups of physicians who care for this problem. Each chapter is devoted to a joint and reviews the neural anatomy as it relates to the clinical examination of the patient. Chapters are user friendly and provide details on the indicated nerve blocks and the clinical results of partial joint denervation. Clinical case studies also serve as a helpful guide in each chapter. Extensive intra-operative clinical photographs and photographs from new dissections provide examples to guide those physicians providing care to the patients with joint pain. *Joint Denervation: Anatomic Atlas of Surgical Technique* should be of interest to surgical subspecialists from Neurosurgery, Plastic Surgery, Hand Surgery, Orthopedic Surgery, Podiatric Foot & Ankle Surgery, and Oral & Maxillofacial Surgeons. It may also interest those physicians trained in Anesthesia, Radiology, and Physical & Rehabilitation Medicine for their evaluation and treatment protocols using hydrodissection, cryoablation and pulsed radiofrequency approaches to pain.

### **Pediatric Neurosurgery**

written by knowledgeable, active practitioners of our specialty and as our field is rapidly progressing, I welcome this upgraded version. In conclusion, this 2nd edition offers some significant improvements over the 1st edition, which was also a very valuable contribution to our neurosurgical literature, and establishes itself as the authoritative atlas of neurosurgical techniques. -- *Acta Neurochirurgica* The second edition of this book, published as a two-volume set, is a thoroughly revised and expanded version of the original masterful work that incorporates these advances and addresses virtually all aspects of cranial neurosurgery. -- *World Neurosurgery* This thoroughly revised and expanded atlas is the ideal reference for residents, fellows, and clinicians to review surgical procedures before entering the OR. The authors provide step-by-step descriptions of techniques, clearly delineating indications and contraindications, goals, operative preparation and anesthesia, and postoperative management. The main focus of this book is on teaching neurosurgical techniques at the most detailed level. Features of the second edition: A new chapter on proton therapy An expanded section covering the latest radiosurgery techniques Nearly 3,000 high-quality images aid rapid comprehension of surgical procedures Online access to more than 100 surgical technique videos This book should be read cover to cover by young practitioners several times during their residency and it will keep more experienced neurosurgeons up-to-date on the latest surgical techniques in the field.

### **Spinal Injection Techniques**

As a result of the increasing number of surgical procedures on the brain, head, neck, and spine, postoperative changes are being encountered more frequently on neuroradiological examinations. However, these findings are often unfamiliar to neuroradiologists and neurosurgeons and can be difficult to interpret. This book, which contains numerous images and to-the-point case descriptions, is a comprehensive yet concise reference guide to postsurgical neuroradiology. It will enable the reader to identify the type of surgery performed and the hardware implanted and to differentiate expected sequelae from complications. Topics reviewed include trauma, tumors, vascular disorders, and infections of the head,

neck, and spine; cerebrospinal fluid abnormalities; and degenerative diseases of the spine. This book will serve as a unique and convenient resource for both neuroradiologists and neurosurgeons.

### **Pocket Atlas of Spine Surgery**

A highly-anticipated addition to Thieme's classic color atlas collection, *Color Atlas of Cerebral Revascularization* focuses on cerebral bypass techniques pioneered by leading surgeons at the world-renowned Barrow Neurological Institute in Phoenix, Arizona. Each procedure is presented with intraoperative photographs and exquisite anatomical illustrations to help surgeons master the complex microsurgical anatomy and subtle surgical technique used in managing the potential onset and condition of stroke and other causes of cerebral ischemia. Key Features: Side-by-side photo and illustration format aids in interpretation of intricate surgical procedures More than 1300 figures elucidate clinical cases from the Barrow Neurological Institute and other centers of neurosurgical excellence A DVD, featuring more than 30 related surgical cases and narrated by the authors, is included with the book Cases illustrate how to successfully achieve revascularization for conditions such as moyamoya disease, recurrent aneurysms after endovascular treatment, giant aneurysms, vertebral artery insufficiency, and severe stenosis The vascular anatomy related to each bypass technique is illustrated and described in the sections showcasing the clinical cases treated by the technique This comprehensive atlas is an ideal reference for practicing neurosurgeons, neurosurgical residents, and interventional neuroradiologists, and it will be a relevant volume in their medical library for years to come.

### **Color Atlas of Microneurosurgery**

This book presents neurosurgical anatomy by detailing approaches on cadavers in the same position patients would be placed in during a real operative procedure. Anatomy is described in: all commonly used cranial and cranial base approaches anterior, posterior, anterolateral and posterolateral approaches to all segments of the spine all commonly performed procedures on peripheral nerves endoscopic approaches to cranial and spinal neurosurgery Stresses the understanding of the anatomy rather than the performance of the procedure.

### **Operative Neurosurgical Anatomy**

*Pocket Atlas of Spine Surgery, 2nd Edition* by Kern Singh and Alexander Vaccaro is unique in its presentation, utilizing multilayered visuals to delineate the most commonly performed spine procedures. High-definition intraoperative photographs are juxtaposed with translucent anatomic drawings. This facilitates visualization of both the entire surgical field and complex anatomy never "seen" during surgery. It also provides greater insights into the subtleties of both open and technically demanding minimally invasive spine surgery techniques. Unlike many large spine surgery atlases, this is the perfect, on-the-go, pocket-size resource for busy spine surgeons who work in any clinical setting. From the cervical to lumbar spine, 21 concise chapters reflect the collective technical expertise of internationally renowned spine surgeons. Easy-to-follow guidance is provided on fundamental

open and minimally invasive techniques, including pedicle screw placement, fusion, discectomy, corpectomy, foraminotomy, laminoplasty, and laminectomy. Each procedural chapter focuses on the importance of accurate visualization, adequate homeostasis, and impacted anatomical structures. Insightful tips, pearls, and potential pitfalls throughout the book expedite acquisition of knowledge. Nearly 200 detailed, clearly labeled images of common spine procedures provide invaluable anatomical and clinical guidance. Expanded insights on positioning in spine surgery. Added discussion of surgical challenges, including warnings and descriptions of internervous planes. Orthopaedic surgeons, neurosurgeons, and surgical trainees will discover an indispensable and friendly white coat reference for everyday practice. The visually rich atlas will also benefit physician assistants, surgical nurses, and all practitioners involved in the operative care of spine surgery patients.

### **Surgical Care of the Painful Degenerative Lumbar Spine**

This video atlas covers a broad range of spinal surgical procedures. The volume includes a collection of high quality 3-to-8 minute videos of some of the most critical spine operations performed by internationally renowned expert surgeons. Key features of the book contents include:

- o Downloadable high quality video content with subtitles suitable for viewing on any display (A brief preview of the book content can be viewed at <https://www.youtube.com/watch?v=SxMi4UFj7HA> )
- o Detailed descriptions of surgical indications, preoperative planning, patient positioning, surgical technique, complications, postoperative care and outcomes for each procedure
- o Full color images and illustrations highlighting different key stages of each surgical technique

The video format allows skill development of its intended audience by conveying temporal and spatial details which often go unnoticed in photograph format. This volume will be of immense interest to both the novice and the experienced spinal surgeon as they can benefit from the visual guides presented in the book. It also serves as an ideal teaching tool for spine surgery units in medical schools.

### **The Craniotomy Atlas**

Focusing solely on must-know procedures, *Operative Techniques: Spine Surgery, 3rd Edition* by Drs. Alexander R. Vaccaro and Eli Baron, offers a highly visual, step-by-step approach to the latest techniques in the field. Thorough updates keep you current with recent changes in spine surgery, and new contributors bring a fresh perspective to this rapidly-changing specialty. Part of the popular *Operative Techniques* series, this practical reference focuses on individual procedures, each presented in an easy-to-follow format for quick reference. Step-by-step intraoperative photos depict each technique, and high-quality radiographs show presenting problems and post-surgical outcomes. Surgical videos available online demonstrate how to perform state-of-the-art procedures. Clean design layout features brief, bulleted descriptions, clinical pearls, and just the right amount of relevant science. Ideal for orthopaedic and neurosurgery residents, fellows, and practicing surgeons. Expert Consult eBook version included with purchase. This enhanced eBook experience allows you to search all of the text, figures, and references from the book on a variety of devices. Updated coverage includes hybrid surgery, coflex fusion, and modifications to the lateral transosseous

approach.

## **Neurosurgical Operative Atlas**

"... the neurosurgical primer that every resident will own and study" - Robert Spetzler Given that the great majority of brain surgeries are preceded by a craniotomy, mastering the procedure is essential for junior residents. Choosing the appropriate craniotomy and executing it safely is the difference between a straightforward case with good access to the target and a procedure where access to the target is needlessly traumatic and may even be impossible. Professor Raabe's *The Craniotomy Atlas* provides precise instructions for performing all common neurosurgical cranial exposures, including: convexity approaches, midline approaches, skull base approaches, transsphenoidal approaches and more. Instructions for each craniotomy include positioning, head fixation, aesthetic considerations, and protecting the dura mater. Special Features: More than 600 high-quality operative photographs and brilliant illustrations support the step-by-step descriptions, with all the precision and attention to detail that neurosurgeons have come to expect from the editor Professor Raabe, and the associate editors Professors Meyer, Schaller, Vajkoczy, and Winkler. Full coverage of complications and risk factors Checklist with summaries of the critical steps All residents and trainees in neurosurgery will treasure this essential resource, which will help build confidence when performing these critical neurosurgical procedures.

## **Atlas of Full-Endoscopic Spine Surgery**

The highly complex specialty of brainstem surgery requires many years of study, a focus on precision, and a passionate dedication to excellence to prepare the neurosurgeon for navigating significant anatomic challenges. Although the brainstem is technically surgically accessible, its highly eloquent structure demands rigorous surgical decision-making. An in-depth understanding of brainstem and thalamic anatomy and the safe entry zones used to access critical areas of the brainstem is essential to traversing the brainstem safely and successfully. This remarkable, one-of-a-kind atlas draws on the senior author's decades of experience performing more than 1,000 surgeries on the brainstem, thalamus, basal ganglia, and surrounding areas. Its content is organized by anatomic region, enabling readers to study separate subdivisions of the brainstem, each of which has its own unique anatomic and surgical considerations. From cover to cover, the atlas provides readers with technical guidance on approach selection, the timing of surgery, and optimization of outcomes-elucidated by more than 1700 remarkable color illustrations, dissections, clinical images, and line drawings. Key Highlights Beautifully detailed, highly sophisticated brain slices and dissections by Kaan Yagmurlu, who trained under the internationally renowned neuroanatomist and neurosurgeon Albert Rhoton Jr. Color illustrations clearly labeled with callouts and other indicators of foci of interest delineate multiple safe entry zones to the brainstem More than 50 detailed patient cases highlight each patient's history of previous neurological disorders, presenting symptoms, preoperative imaging, diagnosis, the planned surgical approach, patient positioning, intraoperative and postoperative imaging, and outcome Seven animations and more than 50 surgical videos elucidate approach selection, anatomy, and surgical outcomes of thalamic region and brainstem lesions This illuminating atlas provides insights into the

complexities of the hallowed halls of the brainstem. Neurosurgeons and neurosurgical residents alike who glean knowledge from the clinical pearls throughout each section will no doubt become more adept surgeons, to the ultimate benefit of their patients.

### **Neuroendoscopic Surgery**

This book is a practical guide for the use of simulation in neurosurgery, with chapters covering high fidelity simulation, animal models simulation, cadaveric simulation, and virtual reality simulation. Readers are introduced to the different simulation modalities and technologies and are guided on the use of simulation for a variety of learners, including medical students, residents, practicing pediatricians, and health-related professionals. Comprehensive Healthcare Simulation: Neurosurgery is written and edited by leaders in the field and includes dozens of high-quality color surgical illustrations and photographs as well as videos. This book is part of the Comprehensive Healthcare Simulation Series which provides focused volumes on the use of simulation in a single specialty or on a specific simulation topic, and emphasizing practical considerations and guidance.

### **Surgical Atlas of Spinal Operations**

Presents the techniques for managing the full range of spinal and peripheral nerve problems. This book includes chapters that address different surgical procedures, guiding the reader through patient selection, preoperative preparation, anesthetic techniques, patient monitoring, and surgical techniques and outcomes.

### **Atlas of Image-Guided Spinal Procedures E-Book**

The learning curve in the management of painful degenerative lumbar spine patients is steep because every case has singular characteristics. Surgical Care of the Painful Degenerative Lumbar Spine: Evaluation, Decision-Making, Techniques by Edgar Weaver reflects more than 35 years of neurosurgical practice devoted to refining degenerative spine disease evaluation and techniques. The book emphasizes and instructs a symptom-focused approach in the surgical decision-making process, with determinant radiographic features used mainly supportively. The text begins with a thorough overview of anatomy, spino-pelvic and sagittal balance metrics, stabilization, and clinical evaluations. Throughout 11 chapters, step-by-step guidance is provided on therapeutic decision-making to achieve optimal individualized outcomes. From the fundamentals of open and minimally invasive techniques to the impact of socioeconomic factors on the treatment of PDLs patients, the authors offer invaluable firsthand insights. Key Features Discussion of techniques including en bloc laminectomy, the U-turn approach to root decompression, hemilaminectomy – a safe and versatile decompressive technique, and the lateral intra-muscular planar (LIMP) procedure The use of a descriptive clinical sub-classification system for low back pain and grading scale based on a simple testing maneuver Extensive post-operative care chapter emphasizes pain and infection control Challenges including chronic axial lumbar pain, post-operative junctional stress, sagittal imbalance, spondylolisthesis, and coronal deformity Uniquely insightful, this concise guide covers the fundamental

clinical and technical skills necessary to care for patients with degenerative lumbar spine pain. It is essential reading for neurosurgical and orthopedic residents, spine fellows, spine surgeons and all clinicians involved in administering surgical and nonsurgical spine care.

### **Neurosurgical Operative Atlas: Functional Neurosurgery**

This didactic book clearly and systematically describes the anatomical-surgical fundamentals of cranial neurosurgery, relating them to norm variants, imaging modalities and interdisciplinary aspects. All illustrations, hand drawn in ink by the first author, are simple and self-explanatory. The book reflects the first author's lifetime experience as an academic neurosurgeon and teacher, as well as the second author's theoretical and practical knowledge of neurosurgical subspecialties such as epilepsy surgery. In addition to its core audience in neurosurgery, it provides all connected disciplines, in particular neuroradiology, neurology, neuropathology, ENT surgery, maxillofacial surgery and eye surgery, with unique anatomical insights into the neurosurgeon's perspective.

### **Neurosurgical Operative Atlas**

Atlas of Emergency Neurosurgery , part of the Neurosurgical Operative Atlas Series co-published by Thieme and the AANS, is a step-by-step visual guide to performing surgical procedures used in neurotrauma as well as non-traumatic emergency cases. The chapters address such topics as cerebral trauma and stroke, shunt failure, central nervous system infection, pituitary apoplexy, and reconstructive procedures. Special sections on pediatrics as well military-related injuries are also included. Key Features: More than 500 beautiful, full-color illustrations help clarify each procedure Contains the most current information on how to perform emergency neurosurgical procedures Concise presentation of procedures gives readers quick, easy access to key information This atlas is an ideal guide for neurosurgery residents who are participating in emergency procedures while on call and need to deal with operative trauma situations. It is also an excellent practical reference for neurosurgeons performing emergency neurosurgical interventions on a regular basis. Thieme eNeurosurgery is the worlds most comprehensive neurosurgical resource online. For a free trial, go to: <http://thieme.com/eneurotrial>

### **Video Atlas of Spine Surgery**

A high-yield and comprehensive text-and-video resource for managing commonly encountered spinal conditions Spine surgery has experienced several paradigm shifts during the past few decades, with highly complex techniques introduced at an astoundingly rapid pace. In order for new generations of spine surgeons to stay current and thrive in this innovative era of spine surgery, access to diverse multimedia learning tools is imperative. Video Atlas of Spine Surgery by renowned spine surgeon and educator Howard An and Rush University Medical Center colleagues Philip Louie, Bryce Basques, and Gregory Lopez, is a cutting-edge resource for non-operative and operative management of a diverse spectrum of cervical, thoracic, and lumbar spine conditions. Consisting of 19 chapters, the text

is streamlined to facilitate learning the most important steps for each procedure. The book begins with discussion of physical exam maneuvers used to accurately diagnose specific spinal pathologies. Subsequent chapters detail extensive spine surgery techniques for managing degenerative cervical and lumbar conditions. The remaining chapters cover spinal cord, cervical, and thoracolumbar injuries; idiopathic, degenerative, and early-onset scoliosis; kyphosis; spondylolisthesis; spinal infections and inflammatory disorders; and thoracic disc disorders. Key Features Concise, bulleted text and consistent chapter outlines feature epidemiology and prevalence, pathogenesis, clinical presentation, image findings, classification, conservative and surgical management, techniques, postoperative care, and more A myriad of meticulous diagrams and illustrations, spinal imaging and photographs, and 50 high-quality spine surgery videos maximize learning Technical pearls, case examples, and board-style orthopaedic surgery questions at the end of each section optimize comprehension and retention of information This remarkable resource is a must-have for orthopaedic and neurosurgery residents and fellows, as well as practicing spine surgeons.

### **Atlas of Neurosurgical Techniques**

Written by a multidisciplinary team of experts, *Spinal Injection Techniques* presents all common methods for the injection of local anesthetics to address pain from the cervical spine to the sacrum. The authors describe techniques that are viable alternatives to spine surgery and that do not rely on diagnostic imaging. The first section of the book covers a general overview of the basic principles, diagnostics, and causal as well as symptomatic pain therapy for the spine. Designed in atlas format, the second section includes chapters on spinal anatomy and pain signaling, techniques for injection therapy of the cervical, thoracic and lumbar spine, management of potential complications and side effects, and multimodal spine therapy. Illustrated by real-life photographs from the author's practice, each technique-related chapter guides the reader step-by-step and with great precision through the injection procedures. Highlights: Provides detailed coverage of injection therapy without the use of image guidance Features inpatient and outpatient minimally invasive spine therapy, and concomitant pharmaceutical treatments Includes essential information on contraindications and patient consent More than 400 color illustrations and photographs demonstrate the relevant anatomy, patient positioning, and accurate needle placement Designed as a practical guide and useful compendium, *Spinal Injection Techniques* is invaluable for orthopedists and practitioners in physical medicine and rehabilitation. It is also a handy reference for anesthesiologists, neurologists, and rheumatologists with a specific interest in pain therapy for the spine.

### **Atlas of Infections in Neurosurgery and Spinal Surgery**

Endoscopic technology has advanced to the point where practitioners can now access, visualize, and treat spine pathologies previously only accessible through open surgical approaches. *Endoscopic Spine Surgery 2nd Edition* provides a comprehensive background on endoscopic spine surgery and covers an unparalleled number of minimally invasive spine procedures that have revolutionized the spine treatment paradigm. Readers will greatly benefit from many years of expertise and wisdom shared by master spine surgeons Daniel Kim,

Gun Choi, Sang-Ho Lee, and Richard Fessler, and their expert contributors. Due to the narrow endoscopic view, subtle microanatomical differences in the lumbar, thoracic, and cervical regions are not always easy to visually discern. To address this challenge, the book contains detailed procedural descriptions and images mirroring endoscopic views spine surgeons encounter in the OR. Organized anatomically, 53 chapters guide readers systematically through lumbar, thoracic, cervical, and craniocervical junction procedures for pathologies ranging from low back pain and deformities to tumors, lesions, infections, and trauma. Key Features More than 1000 high quality images including color procedural photographs and medical illustrations provide in-depth visual understanding. Spinal pathologies and procedures delineated in 75 videos accessible via the Media Center - from case studies to step-by-step technique tutorials. Covers the full spectrum of spine endoscopy including percutaneous approaches, microdiscectomy, laminectomy, discectomy foraminotomy, hemilaminectomy, thoracic decompressions, fusion, fixation, and thoracoscopic procedures. The use of state-of-the-art technology such as ultrasonic bone dissectors, endoscopic radiofrequency denervation, the video telescope operating monitor (VITOM), minimally invasive tubular retractors, and 3D stereo-tubular endoscopic systems. Neurosurgical and orthopaedic residents, spine fellows, and seasoned spine surgeons will all greatly benefit from the significant knowledge and insights revealed in this remarkable multimedia resource. This book may also be of interest to neurosurgical and orthopaedic nurses, physical therapists, chiropractors, and medical device professionals.

### **Atlas of Postsurgical Neuroradiology**

The development and refinement of neuroendoscopy has been driven by the persistent desire of neurosurgeons to advance the field and offer less invasive, more efficacious options to patients. This remarkable multimedia book reflects the technological advances achieved in the last two decades in fiber optics, cold light, cameras, and endoscopic instrumentation. Written by an impressive Who's Who of international neurosurgeons, the outstanding text and videos reflect global contributions to neuroendoscopy. Current indications for intracranial and intraventricular endoscopy are described in depth, through detailed chapters, stellar videos, professional animations, and exquisite illustrations. The authors share their clinical expertise on procedures ranging from endoscopic third ventriculostomy to transventricular approach of the fourth ventricle. Cover to cover, this book details the differences, alternatives, advantages, and limitations of the flexible neuroendoscope. This hands-on learning tool will enable neurosurgeons to perform endoscopy of the ventricles and basal cisterns for exploratory purposes and conditions such as hydrocephalus, congenital aqueductal stenosis, tumors, hypothalamic hamartoma, arachnoid cysts, and neurocysticercosis. Additional topics include endoscopic-assisted microvascular decompression and aneurysm surgery, fluorescence, complications, anesthesia, utilization in developing countries, and future trends. Key Features: Comprehensive multimedia reference with online access to 70 superb videos and animations More than 300 meticulously drawn illustrations Beautifully illustrated anatomical chapters that facilitate in-depth understanding of endoscopic anatomy An entire chapter devoted to flexible neuroendoscopy Indications, preoperative preparation, procedure description, intraoperative complications and their management ("risk and rescue" techniques), expert pearls, postoperative management, and outcomes This volume is a must-

have resource for neurosurgery and neurology residents, neurosurgeons, pediatric neurosurgeons, and all physicians involved in the care of patients with intracranial and intraventricular disease.

### **Cervical Spine Surgery: Standard and Advanced Techniques**

This Atlas is the first reference Atlas covering exclusively all aspects of this multifaceted topic. It is designed to serve as a succinct appropriate resource for neurosurgeons, spinal surgeons, radiologists, neurologists, microbiologists, researchers and infectious disease specialists with an interest in cranio-cerebral and vertebro-medullary infections especially encountered in neurosurgery and spinal surgery. This Atlas is designed to deliver more information in less space than traditional texts, allowing for quick review of the essential facts of this complex infectious topic through pictures. Pertinent imaging and laboratory information are combined with intraoperative photographs and illustrations to help readers visualize variable presentations and enhance their perioperative management. The comprehensive content of this richly-illustrated book covers different infectious diseases seen on neurosurgical and spinal practices. The Atlas is divided into five sections, after a general introduction, the second section focuses on infections of the brain and its coverings. The third section focuses on vertebromedullary infections. The fourth section includes infections following cranial and spinal surgery, and the fifth section provides a description of the most important specific pathogens and other particular conditions. The format makes it easily accessible and includes a definition of each infection and its epidemiology, main clinical presentations, imaging features and laboratory findings, treatment options, and prognosis information. It will help the reader in choosing the most appropriate way to manage this multipart problem. In addition, the book supplies clinicians and investigators with both basic and more sophisticated information and procedures relating to the complications associated with neurosurgical and spinal infections.

### **Operative Techniques**

Pediatric Neurosurgery identifies and describes the theoretic concepts of clinical and operative neurosurgery in the different ages of childhood, emphasizing both clinical and surgical principles. It presents a comprehensive body of pediatric clinicopathologic entities, elaborating upon the anatomical and physiological criteria which distinguish individual age categories. This book is unique in that it establishes an holistic approach to perceiving spatially the dimensions of the child vis-a-vis the surgeon and his team, the disarticulation of individual states of operative procedures and the grouping of procedures common to the treatment of different clinicopathological entities, the presentation of clinical parameters indicative of surgical treatment and essential to determining which techniques are preferable. The extensive use of artwork and operative photographs highlights the systematic description of general and specific surgical techniques as it integrates the clinical principles into guidelines for therapy.

### **Video Atlas of Spine Surgical Techniques**

Provides guidance on how to perform a wide-variety of techniques in spine surgery.

Topics covered include immobilization techniques, anterior and posterior approaches, and thoracic spine surgery.

### **Rhoton's Cranial Anatomy and Surgical Approaches**

Masterful 2D and 3D head, neck, and brain dissections provide unsurpassed insights into head, neck, and brain anatomy. An internationally renowned and beloved author, educator, brain anatomist, and neurosurgeon, Professor Albert Rhoton has a special place in medical history. He was revered by students and colleagues and is regarded as one of the fathers of modern microscopic neurosurgery. A driving principle in his anatomy lab was the simple phrase, "Every Second." This was embraced in his philosophy that every second of every day, a patient's life was improved by a surgeon assisted by the anatomic knowledge his lab helped elucidate and distribute. Rhoton's Atlas of Head, Neck, and Brain is the visually exquisite crowning achievement of Dr. Rhoton's brilliant career and unwavering dedication to the intertwined pursuits of surgical anatomy and neurosurgery. The atlas reflects the unparalleled contributions Dr. Rhoton made to the contemporary understanding of neurosurgical anatomy. Dr. Peris-Celda, with the collaboration of an impressive cadre of international multidisciplinary experts, worked closely under Dr. Rhoton's tutelage on this project. This book is the culmination of 5 years of work and experience gleaned from more than 40 years of surgical anatomy research and exquisite dissection techniques performed in Dr. Rhoton's laboratory. **Special Features** Each anatomic dissection meticulously labeled with English and Latin descriptors for easy cross referencing with other resources. Multiple views of the most complex regions of the head, neck, and brain provide a deeper understanding of anatomy. More than 600 anatomical images systematically organized in four major sections: Osteology of the Head and Neck; Face and Neck; Ear, Nose, Pharynx, Larynx, and Orbit; and Neuroanatomy and Cranial Base. Superb 2D images presented in a large printed format to optimize the viewing experience. 3D digital images fully realize the beauty of the dissections and enhance the learning process. Specimens injected with colored silicone provide better visualization of arteries and veins. Breathtakingly stunning, this atlas is certain to be a treasured reference for medical students, residents, and clinicians specializing in neurosurgery, facial plastic surgery, otolaryngology, maxillofacial surgery, and craniofacial surgery for many years to come.

### **Color Atlas of Brainstem Surgery**

THE DEFINING WORK IN NEUROSURGERY, REISSUED FOR A NEW GENERATION OF TECHNICAL EXCELLENCE Cranial Anatomy and Surgical Approaches is the master work of the legendary neurosurgeon Albert L. Rhoton, Jr. -- a distillation of 40 years of work to improve safety, accuracy, and gentleness in the medical specialty the author helped shape. Newly reissued and featuring more than 2000 full-color illustrations, this definitive text on the microsurgical anatomy of the brain remains an essential tool for the education and enrichment of neurosurgeons at any career stage. It fulfills its author's hopes to make, in his words, the "delicate, fateful, and awesome" procedures of neurosurgery more gentle, accurate, and safe. Across three sections, Cranial Anatomy and Surgical Approaches details the safest approaches to brain surgery, including:

- Micro-operative techniques and instrument selection
- Microsurgical anatomy and approaches to the supratentorial

area and anterior cranial base, including chapters on aneurysms, the lateral and third ventricles, cavernous sinus and sella. · Anatomy and approaches to the posterior cranial fossa and posterior cranial base, including chapters on the fourth ventricle, tentorial incisura, foramen magnum, temporal bone, and jugular foramen · Supra- and infratentorial areas, including chapters on the cerebrum and cerebellum and their arteries and veins

### **Magnetic Resonance Imaging of the Brain and Spine**

A state-of-the-art guide to evolving functional neurosurgery approaches from world-renowned innovators Functional neurosurgery focuses on improving the lives of patients with epilepsy, movement disorders, pain, and psychiatric illnesses. In recent years, approaches ranging from open surgery to minimally invasive techniques have been leveraged to improve daily functioning and quality of life in people struggling with painful, highly disruptive, and/or treatment-resistant symptoms. These approaches focus on reducing or eliminating seizures, alleviating pain, decreasing abnormal movements or lessening debilitating symptoms associated with specific psychiatric disorders. Neurosurgical Operative Atlas: Functional Neurosurgery, Third Edition, by renowned functional neurosurgeons Robert Gross, Nicholas Boulis, and esteemed contributors reflects the latest advances in functional and stereotactic neurosurgical approaches. The entire atlas has been streamlined and updated with new content, including the use of stereotactic surgery to treat obsessive compulsive disorder, Tourette syndrome, and major depression. Key Highlights A full spectrum of epilepsy treatment techniques, including intracranial monitoring with stereo-electroencephalography, selective amygdalohippocampectomy, MRI-guided stereotactic laser ablation, vagus nerve stimulation, and more Deep brain stimulation (DBS) for Parkinson's disease, tremor, dystonia, epilepsy and medically intractable pain syndromes, with in-depth implantation guidance The use of neurosurgical and interventional techniques to treat pain including percutaneous ablation, peripheral nerve stimulation, spinal cord and motor cortex stimulators, and pumps More than 300 high quality color illustrations detail anatomy and surgical procedures This is the ultimate guide on functional neurosurgery for managing a wide range of incapacitating neurological conditions. Neurosurgical residents, fellows, and veteran neurosurgeons specializing in this rapidly evolving subspecialty will find this state-of-the-art book invaluable — reading it cover to cover will ultimately benefit patients. Series description The American Association of Neurological Surgeons and Thieme have collaborated to produce the third edition of the acclaimed Neurosurgical Operative Atlas series. Edited by leading experts in the field, the series covers the entire spectrum of neurosurgery in five volumes. In addition to Functional Neurosurgery, the series also features: Spine and Peripheral Nerves, edited by Christopher E. Wolfa and Daniel K. Resnick Vascular Neurosurgery, edited by R. Loch Macdonald Neuro-Oncology, edited by Behnam Badie and Mike Y. Chen Pediatric Neurosurgery, edited by James Tait Goodrich and Robert F. Keating

### **Neurosurgical Operative Atlas**

Winner of Association of American Publishers Best Book in Clinical Medicine, 2006 Highly Commended in Surgery by British Medical Association, 2007 Here is

complete coverage of state-of-the-art surgical techniques for the spine and peripheral nerves. This atlas engages the full range of approaches -- anterior, antero-lateral, posterior, and postero-lateral -- for operations on peripheral nerves and in every area of the spine. Each of the seven sections of the atlas opens with in-depth discussion of pathology, etiology and differential diagnosis conveying the underlying scientific principles of diseases and conditions of the spine and peripheral nerves. The authors then present technique-oriented chapters containing step-by-step descriptions of surgical procedures. These chapters delineate the goals, indications, contraindications, anesthesia considerations, positions, as well as the advantages and disadvantages of each technique in a concise manner, ideal for the busy practitioner seeking review. Lavishly illustrated with more than 1,200 images, including 811 beautiful full color drawings, this authoritative text covers all of the critical issues involved in surgeries for the spine and peripheral nerves. Here is an invaluable asset to neurosurgeons, orthopedic surgeons and residents seeking a carefully edited, didactic atlas.

### **Comprehensive Healthcare Simulation: Neurosurgery**

Edited by Sudhir Diwan, a former Director of Pain Medicine fellowship program at Ivy League Weill Cornell Medical College, and Timothy R. Deer, an internationally renowned expert in neuromodulation and minimally invasive spinal procedures, this atlas covers advanced procedures that normal residency and fellowship programs may not cover. It consolidates information pain fellows usually amass by traveling throughout the country to various specialized weekend courses. *Advanced Procedures for Interventional Pain Management: A Step-by-Step Atlas* is for physicians that know the fundamentals of pain medicine and want to push their knowledge further. Through easy-to-digest bullet points, extensive diagrams, hundreds of figures, and expanded legends beneath each illustration, this compendium covers techniques such as fluoroscopic guidance and radiation safety, endoscopic transforaminal discectomy, endoscopic direct-percutaneous discectomy, transforaminal myelogram, percutaneous facet fusion, percutaneous sacroplasty, vertebral augmentations, percutaneous tumor ablation, percutaneous spinal fusion, minimally invasive spinal decompression (MILD), Interspinous Spacer Placement and advanced neuroaugmentation techniques like high frequency stimulation and DRG stimulation. This book also has a dedicated section on Regenerative Medicine with chapters on platelet rich plasma, stem cell therapy, and intradiscal regenerative therapy. Each chapter has a strict chapter format that includes the indications and contraindications for each procedure, a list of equipment and drugs, a step-by-step illustration-focused how-to, a list of possible post-procedural complications, and bullet-pointed clinical pearls and pitfalls. Within each chapter the authors will also cover the variations of each procedure due to different equipment. This book is ideal for pain medicine fellows, spine surgeons, and interventional pain physicians who want access to the best minds and specialized procedures in a single package.

### **Advanced Techniques in Image-Guided Brain and Spine Surgery**

As minimally invasive surgery becomes the standard of care in neurosurgery, it is imperative that surgeons become skilled in the use of image-guided techniques. This outstanding new book provides an in-depth analysis of current and developing

applications in this rapidly growing field. A highly acclaimed team of authors share their experience with this exciting technology, outlining benefits and limitations of each technique. The book begins with an overview of image-guided neurosurgery, and then continues with specific cranial and spinal procedures. You'll get full coverage of clinical applications for topics such as: videotactic neurosurgery, needle biopsy, cranial and spinal navigation, and much more! Key features of the book: \* Full analysis of current and future applications of image-guided procedures \* Detailed descriptions of procedures, from basic to the most advanced \* An international who's who of contributors, all of whom have significantly advanced contributions to the field of image-guided surgery \* Valuable information that leads to more effective results and optimal patient care Increasing evidence shows there are many advantages to using image-guided techniques. It can make procedures more efficient, minimize exposure and invasiveness, define resection boundaries, and optimize hardware placement. Here is the clinical reference that neurosurgeons, orthopaedic surgeons, and residents need to get the most up-to-date assessment of this vital field. Stay on the cutting-edge of an exciting new technology; order your copy of **ADVANCED TECHNIQUES IN IMAGE-GUIDED BRAIN AND SPINE SURGERY** today!

### **Neurosurgical Operative Atlas: Vascular Neurosurgery**

From reviews of previous volumes: Ranks with the very best previous attempts at codifying neurosurgical operations. The attention to detail is excellent -The New England Journal of Medicine A valuable addition to any libraryI would recommend it to all neurosurgeons with an interest in cerebrovascular diseaseThe operative photographs are of extremely high quality.-Chicago Medicine The final volume in the acclaimed series provides coverage of the anatomy, surgical approaches, and techniques involved in performing cerebral revascularization. Filled with over 2,000 vibrant images, it provides the visual instruction neurosurgeons need. Highlights include: A complete section detailing intracranial vasculature and anatomy of the spinal cord A case material section featuring a rich diversity of clinical situations to illustrate a variety of microsurgical techniques Thorough coverage of bypasses, reconstructions, and the use of endarterectomy to achieve revascularization Presentation of both surgical and endovascular techniques for re-establishing blood flow through the carotid and cerebral arteries Information on tumors of the spinal cord and spinal vascular malformations, particularly cavernous and arteriovenous malformations

### **Rhoton's Atlas of Head, Neck, and Brain**

Established as the leading textbook on imaging diagnosis of brain and spine disorders, Magnetic Resonance Imaging of the Brain and Spine is now in its Fourth Edition. This thoroughly updated two-volume reference delivers cutting-edge information on nearly every aspect of clinical neuroradiology. Expert neuroradiologists, innovative renowned MRI physicists, and experienced leading clinical neurospecialists from all over the world show how to generate state-of-the-art images and define diagnoses from crucial clinical/pathologic MR imaging correlations for neurologic, neurosurgical, and psychiatric diseases spanning fetal CNS anomalies to disorders of the aging brain. Highlights of this edition include over 6,800 images of remarkable quality, more color images, and new information

using advanced techniques, including perfusion and diffusion MRI and functional MRI. A companion Website will offer the fully searchable text and an image bank.

### **Anatomical Basis of Cranial Neurosurgery**

Give your patients the non-surgical spine pain relief they need with help from the Atlas of Image-Guided Spinal Procedures by Dr. Michael Bruce Furman. This medical reference book features a highly visual atlas format that shows you exactly how to safely and efficiently perform each technique step-by-step. A unique, systematic, safe, and efficient approach makes Atlas of Image-Guided Spinal Procedures your go-to resource for spine pain relief for your patients. The highly visual format shows you exactly how to perform each technique, highlighting imaging pearls and emphasizing optimal and suboptimal imaging. Updated content includes ultrasound techniques and procedures for "spine mimickers," including hip and shoulder image-guided procedures, keeping you on the cutting edge of contemporary spine pain-relief methods. Safely and efficiently relieve your patients' pain with consistent, easy-to-follow chapters that guide you through each technique. Highly visual atlas presentation of an algorithmic, image-guided approach for each technique: trajectory view (demonstrates fluoroscopic "set up"); multi-planar confirmation views (AP, lateral, oblique); and safety view (what should be avoided during injection), along with optimal and suboptimal contrast patterns. Special chapters on Needle Techniques, Procedural Safety, Fluoroscopic and Ultrasound Imaging Pearls, Radiation Safety, and L5-S1 Disc Access provide additional visual instruction. View drawings of radiopaque landmarks and key radiolucent anatomy that cannot be viewed fluoroscopically. Includes new and unique diagrams demonstrating cervical, thoracic, and lumbar radiofrequency probe placement and treatment zones on multi-planar views. Features new coverage of ultrasound techniques, as well as image-guided procedures for "spine mimickers," such as hip and shoulder.

### **Color Atlas of Cerebral Revascularization**

### **Video Atlas of Intracranial Aneurysm Surgery**

Video Atlas of Intracranial Aneurysm Surgery is a content-rich reference that focuses on how to safely perform the full spectrum of surgical procedures for intracranial aneurysms. The work provides guidance on avoiding complications as well as anticipating and managing problems that may arise during surgery. Access to concise, high-quality videos that bring to life the tips and techniques described in the book is included on Thieme's MediaCenter. This atlas is informed with the experience of Dr. Nussbaum, a seasoned neurosurgeon at The National Brain Aneurysm Center who has performed over 2,000 aneurysm surgeries. Video Atlas of Intracranial Aneurysm Surgery brings the spectrum of microsurgical procedures for intracranial aneurysms to residents, fellows, and younger neurosurgeons in an increasingly endovascular-focused field.

### **Atlas of Emergency Neurosurgery**

Praise for this book:[Four stars] Populated with superb pictures of anatomical dissections highly recommend[ed] to any clinician dealing with skull base conditions.--Doody's Review A richly illustrated, step-by-step guide to the full range of approaches in skull base surgery, this book is designed to enable the surgeon to gain not only the technical expertise for common procedures, but to be able to confidently modify standard approaches when necessary. Full-color images of cadavers orient the surgeon to the clinical setting by presenting in precise detail the perspective encountered in the operating room. The images demonstrate surgical anatomy and the relevant structures adjacent to the exposures. Special emphasis on the relationship between the operative corridor and the surrounding anatomy helps the surgeon develop a clear understanding of whether tissues adjacent to the dissection can be exposed without complications. Features: More than 1,000 high-quality images demonstrate key concepts Brief lists of Key Steps guide the surgeon through each step of the dissection Concise text supplements each photograph, providing descriptions of technical maneuvers and clinical pearls Coverage of the latest innovative approaches enables surgeons to optimize clinical techniques Through detailed coverage of surgical anatomy and relevant adjacent structures, this book enables clinicians to develop a solid understanding of the entire operative region as well as the limits and possibilities of each skull base approach. It is an indispensable reference for neurosurgeons, head and neck surgeons, and otolaryngologists, and residents in these specialties.

### **Video Atlas of Neuroendovascular Procedures**

Endoscopic spine surgery essentials from expert spine surgeons Atlas of Full-Endoscopic Spine Surgery by internationally renowned spine surgeons Christoph Hofstetter, Sebastian Ruetten, Yue Zhou, and Michael Wang provides concise, step-by-step guidance on the latest full endoscopic spine procedures. The book is targeted at practicing spine surgeons, fellows, and residents currently not trained in endoscopic spine surgery who have the desire to learn and incorporate these techniques into clinical practice. It is also an excellent curriculum resource for cadaveric training courses taught at the national and international level. The book lays a solid foundation with opening chapters on anesthesia, OR setup and endoscopic tools, applied anatomy, basic endoscopic surgical tasks, and preoperative diagnostics. Additional sections include step-by-step descriptions of the full spectrum of cervical, thoracic, and lumbar endoscopic approaches. The last section provides invaluable pearls on overcoming challenges, avoiding pitfalls, and optimizing postoperative care. Key Features Transforaminal endoscopic lumbar and thoracic discectomy approaches Trans-SAP endoscopic approach for foraminal and lateral recess decompression Interlaminar endoscopic lumbar discectomy Cervical/thoracic and lumbar unilateral laminotomy for bilateral decompression Special topics including endoscopic management of challenging cases, endoscopic revision surgery, and management of complications. Neurosurgery residents, fellows, young practicing neurosurgeons, and all healthcare practitioners involved in the care of endoscopic spine surgery patients will gain invaluable insights from this book.

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