

Anatomic Basis of Neurologic Diagnosis



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Anatomic Basis Of Neurologic Diagnosis:

Anatomic Basis of Neurologic Diagnosis Cary D. Alberstone, Edward C. Benzel, Imad M. Najm, 2011-01-01 A visual guide to diagnosing neurologic disorders 2010 Benjamin Franklin Silver Award Winner Anatomic Basis of Neurologic Diagnosis is a lavishly illustrated book that places special emphasis on the paramount importance of signs and symptoms for the accurate diagnosis of neurologic disorders It opens with a comprehensive review of neuroembryology enabling readers to gain knowledge of normal nervous system development and related developmental disorders. The second section of the book comprises an easily accessible presentation of the anatomy of regional parts and to the point information on the cardinal manifestations of disease Separate chapters in the third section of the book present the anatomy of different functional systems and provide practical approaches to diagnosing patients with system disorders A final chapter covers the anatomy of the vascular system and cerebrospinal fluid Highlights Practical organization of chapters according to regions and functional systems reflects the clinician's approach to patient care Full color illustrations provide an indispensable visual aid to learning and reviewing clinically relevant neurologic anatomy and pathways Numerous tables summarize key points Ideal for reading cover to cover this book is essential for residents and students seeking to fully understand the complexity of clinical neuroanatomy Seasoned clinicians will find the book a valuable refresher **Anatomic Basis of Neurologic Diagnosis** Cary D. Alberstone, Edward C. Benzel, Stephen E Jones, Zhong Irene Wang, Michael P. Steinmetz, 2023-04-05 An anatomical patient oriented approach to neurologic diagnosis from renowned neurosurgeons Despite strides in advanced neuroimaging techniques what remains constant in the practice of neurology and neurosurgery is the enduring value of observing and interpreting patient signs and symptoms at bedside Authored by renowned neurosurgeons Cary D Alberstone Edward C Benzel Michael P Steinmetz and distinguished colleagues Anatomic Basis of Neurologic Diagnosis Second Edition details neuroanatomy in an organized thorough manner tipping its hat to the art and science of neurologic diagnosis Like the widely acclaimed first edition the updated volume emphasizes a logical patient oriented approach to neurologic diagnosis conspicuously absent from most standard neuroanatomy texts New to this second edition are a portfolio of carefully curated MRI images and sections on neuroplasticity peripheral nerve architecture peripheral nerve injury and recovery electrodiagnostic diagnosis of radiculopathy tremor deep brain stimulation targets and side effects autonomic disorders altered states of consciousness and spontaneous intracerebral hemorrhage Two sophisticated new chapters address our current understanding of Memory and Neural Networks Key Features Clinically pertinent anatomy is described succinctly and in plain language The cardinal manifestations of regional nervous system disorders facilitate localization of lesions Logical approaches to system based complaints aid in differential diagnosis Learning objectives begin each chapter graced by a variety of easy to grasp conceptual drawings MRI images new to this edition enrich and amplify the text The authors present a practical reader friendly and patient centric approach to diagnosing neurological disorders Residents fellows and

practitioners in neurology neurosurgery and neuroradiology and those studying for board examinations will enjoy reading this indispensable resource The Anatomic Basis of Neurologic Diagnosis C. Albertstone, E. C. Benzel, 1997 Smartbook of Neurosugery Elizabeth Ogando-Rivas, Jesus Q. Beltran, Alfredo Quiñones-Hinojosa, This book has been done thinking about the most common challenging situations and guestions that come during the daily activities as a resident or young neurosurgeon Introducing The Smartbook of Neurosurgery is a concise informative useful and evidence based guide for residents young neurosurgeons and health care professionals interested in neurosurgery This book has been thought about the most common challenging situations and questions that come during the daily activities as a resident or young neurosurgeon This book contains over 2 000 questions divided into 8 chapters and these chapters include basic translational clinical and surgical scenarios The question and answer for the topics Neuroanatomy Neurophysiology neurological surgery Neuropharmacology Neuroradiology cranial and brain surgery Neuroradiology Neuropathology Neurology Pediatric Neurosurgery Spine Surgery Peripheral Nerve Tips and Tricks on the cranial approach intracranial tumor neurosurgery endoscopic neurosurgery acromegaly cerebrovascular surgery and cranial trauma neurosurgery are clearly defined as The Smartbook of Neurosurgery This book represents a resource for on the fly consults on a busy hospital day as a refresher for boards and to prepare medical students for their neurosurgical rotations or before getting into the residency

Neuroscience Arthur L. Foley, 1978 The Neurologic Diagnosis Jack N. Alpert, 2018-11-27 An introductory text that transitions into a moderately advanced case based analysis of neurologic disorders and diseases this book emphasizes how to simplify the process of making a neurologic diagnosis Medical students and residents are often intimidated by a deluge of data perception of anatomic complexity extensive differential diagnoses and often have no organized structure to follow Diagnostic methods of general medicine are not applicable Indeed neurology is a unique specialty since it requires the intermediary step of an anatomic diagnosis prior to proffering a differential diagnosis Yet the required knowledge of neuroanatomy need not be profound for the student or resident who will not specialize in neurology or neurosurgery The Neurologic Diagnosis A Practical Bedside Approach 2nd Edition is primarily directed to neurology and neurosurgery residents but it will be useful for medical and family practice residents who will discover that a great percentage of their patients have neurologic symptoms A one month neurology rotation out of four years of medical school is not sufficient to make a cogent neurologic diagnosis The aim of this concise practical book which includes an in depth video of how to perform a neurologic examination is to facilitate the process of establishing a neuroanatomic diagnosis followed by a rigorous analysis of symptoms and signs to reach a well thought out differential diagnosis Focused and succinct this book is an invaluable resource for making a lucid neurologic diagnosis **Neuroscience Fundamentals for Communication** Sciences and Disorders, Second Edition Richard D. Andreatta, 2022-10-13 Neuroscience Fundamentals for

Communication Sciences and Disorders Second Edition is a comprehensive textbook primarily designed for undergraduate

neural bases or graduate neuroscience courses in communication sciences and disorders programs CSD The text can also be used as an accessible go to reference for speech language pathology and audiology clinical professionals practicing in medical and rehab settings Written with an engaging and conversational style the author uses humor and analogies to explain concepts that are often challenging for students Complemented by more than 400 visually rich and beautifully drawn full color illustrations the book emphasizes brain and behavior relationships while also ensuring coverage of essential neuroanatomy and neurophysiology in an integrative fashion With a comprehensive background in the principles processes and structures underlying the workings of the human nervous system students and practitioners alike will be able to better understand and apply brain behavior relationships to make appropriate clinical assessments and treatment decisions Extending well beyond traditional neuroanatomy based textbooks this resource is designed to satisfy three major goals Provide neuroanatomical and neurophysiological detail that meets the real world needs of the contemporary CSD student as they move forward toward clinical practice and into the future where advancements in the field of health and brain sciences are accelerating and contributing more and more each day to all areas of rehabilitation Provide clear understandable explanations and intuitive material that explains how and why neuroanatomical systems processes and mechanisms of the nervous system operate as they do during human behavior Provide a depth and scope of material that will allow the reader to better understand and appreciate a wide range of evidence based literature related to behavior cognition emotion language and sensory perception areas that all directly impact treatment decisions New to the Second Edition 40 new full color illustrations Reorganization and division of content from Chapters 4 5 and 6 of the previous edition into six new and more digestible chapters A new standalone chapter on the cranial nerves Addition of a major section and discussion on the neural bases of swallowing Addition of more summary tables and process flowcharts to simplify the text and provide ready made study materials for students Revisions to most figures to improve their clarity and coherence with the written material Disclaimer Please note that ancillary content such as documents audio and video etc may not be included as published in the original print version of this book Neuroanatomy and Neurophysiology for Speech and Hearing Sciences, Second Edition J. Anthony Seikel, Kostas Konstantopoulous, David G. Drumright, 2025-09-24 For undergraduate or graduate courses Neuroanatomy and Neurophysiology for Speech and Hearing Sciences Second Edition provides a thorough yet readable examination of the neuroanatomical underpinnings within communication sciences and disorders Each chapter begins with clear learning outcomes and a concise overview that sets the context helping students understand the relevance and importance of the material Additionally each chapter ends with a number of clinical cases intended to prime the student s problem solving clinical skills in their future profession After an introduction to the field and to anatomical concepts the text takes the student from discussion of neurons and other basic components to examination of basic reflexes and sensorimotor integration The following chapters focus on the cerebral cortex and its function particularly as related to neurophysiology of

speech and hearing The next section of the text discusses subcortical structures the brainstem cranial nerves cerebellum and pathways The subsequent chapters include discussion of neural control of speech and swallowing and the anatomy and physiology of hearing The chapter on prenatal and postnatal development and aging of the brain and hearing mechanism explores the neurophysiological elements that contribute to changes in speech and hearing that are seen throughout the lifetime The final chapter examines large brain networks and neural plasticity of the systems of speech language and hearing New to the Second Edition New original artwork presented in full color A chapter dedicated to the auditory mechanism and auditory pathways A chapter discussing prenatal and postnatal development of the brain and auditory mechanisms as well as effects of aging on these systems A chapter that examines large brain networks and neural plasticity as related to speech language and hearing New illustrative case studies Key Features More than 92 tables that provide succinct depth and detail to the content 29 neurological fully annotated case studies with SLP diagnostic information as well as 6 cases from neurosurgeons that include MRI and or video 59 boxed notes give informative and fascinating support to the content including focus on neuroscience as it relates to speech language pathology and audiology Coverage of the neurophysiology of swallowing Detailed discussion of auditory pathway and signal analysis Clearly written with abundant supporting citations Key terms are highlighted throughout the text and included in a glossary Listing of abbreviations for each chapter Please note ancillary content such as Neuroquest study software and student guizzes are not included as with the print version of Anatomy & Physiology for Speech, Language, and Hearing, Seventh Edition J. Anthony Seikel, David G. this book Drumright, Daniel J. Hudock, 2023-10-06 With many exciting enhancements and robust online resources the seventh edition of Anatomy Physiology for Speech Language and Hearing provides a solid foundation in anatomical and physiological principles relevant to the fields of speech language pathology and audiology This bestselling text is organized around the five classic systems of speech language and hearing the respiratory phonatory articulatory resonatory nervous and auditory systems Integrating clinical information with everyday experiences to reveal how anatomy and physiology relate to the speech language and hearing systems the text introduces all the essential anatomy and physiology information in a carefully structured way helping students to steadily build their knowledge and successfully apply it to clinical practice Hundreds of dynamic full color illustrations and online lessons make the complex material approachable even for students with little or no background in anatomy and physiology Key Features 560 figures and tables provide visual examples of the anatomy processes body systems and data discussed Photographs of human specimens provide a real life look at the body parts and functions Chapter pedagogy includes Learning objectives call outs to related ANAQUEST lessons bolded key terms and chapter summaries Clinical notes boxes relate topics directly to clinical experience to emphasize the importance of anatomy in clinical practice Margin notes identify important terminology root words and definitions that are highlighted in color throughout each chapter To summarize sections provide a succinct listing of the major topics covered in a chapter or chapter

section Muscle tables describe the origin course insertion innervation and function of key muscles and muscle groups Glossary with 2 000 terms and definitions Comprehensive bibliography in each chapter with 600 references throughout the text Multiple online appendices include an alphabetical listing of anatomical terms useful combining forms and listings of sensors and cranial nerves New to the Seventh Edition Addition of clinical cases related to neurophysiology and hearing Revised and updated physiology of swallowing includes discussion of postnatal development and aging effects of the swallowing mechanism and function Brief discussion of the basics of genetics and trait transmission Overview of prenatal development as it relates to the mechanisms of speech and hearing Presentation of prenatal and postnatal development for each of the systems of speech and hearing as well as the effects of aging on each system Learning objectives have been added to the beginning of each chapter Please note that ancillary content such as documents audio and video etc may not be included as published in the original print version of this book A Clinician's Guide to Balance and Dizziness Charles M. Plishka, 2024-06-01 With an increasing number of referrals to treat balance impairment gait disorders and dizziness A Clinician's Guide to Balance and Dizziness Evaluation and Treatment by Dr Charles M Plishka looks to address these issues and provides tests measures and interventions that are matched to research studies when available for evidence based practice It begins with a review of the anatomy and physiology of the systems used to balance With a basic understanding of how we balance the signs and symptoms of patients will be understood with much greater ease A Clinician's Guide to Balance and Dizziness enables the reader to perform a complete and thorough evaluation and helps to provide treatment options for identified deficits that place the patient at risk for falls Along with numerous diagrams and photos this text comes with access to a web site containing video clips that demonstrate key evaluation and treatment techniques The result will be a better evaluation treatment plan and outcome Topics and Features Include How do we balance Tests to evaluate the balance impaired patient Tests and interventions for conditions such as Benign Paroxysmal Positional Vertigo BPPV Vestibular Loss and the central and peripheral causes of dizziness Therapy treatments How to instructions throughout Companion web site with video clips demonstrating evaluation and treatments A Clinician's Guide to Balance and Dizziness Evaluation and Treatment is an easy to use reference perfect for professionals who assess and treat balance impairments and dizziness While it is an instructional text for physical therapy students and clinicians it is also a great reference for established physicians vestibular and balance therapy specialists occupational therapists nurse practitioners physician assistants audiologists and athletic trainers Neuro ICU Procedure Atlas Jack I. Jallo, David Slottje, 2021-01-21 Atlas provides insightful guidance on how to perform core procedures in the neuro ICU Neuro ICU Procedure Atlas by distinguished neurosurgeons Jack I Jallo and David F Slottje is a visually rich step by step atlas describing technical aspects of common bedside procedures performed in patients with grave neurological conditions With contributions from an impressive group of contributors the book features 13 chapters encompassing fundamental techniques such as shunt

externalization shunt tap lumbar puncture lumbar drain ICP monitor PbtO2 and JvO2 monitors central and arterial line cervical traction intubation cricothyrotomy chest tube and more Key Highlights In depth reader friendly discussion of vital clinical issues including indications and contraindications relevant anatomy physiology and complications Clinical pearls and troubleshooting sections for each approach Illustrations of ventricular drain or ICP monitor placement non conventional ventricular drain insertion points trajectory lines for ventricular drain insertion and more provide detailed visual learning guides This essential resource will help neurosurgical residents and early career neurosurgeons intensivists nurse practitioners and physician assistants accelerate the learning curve for the bedside care of critically ill patients and Winn Neurological Surgery E-Book H. Richard Winn, 2022-01-21 Widely regarded as the definitive reference in the field Youmans and Winn Neurological Surgery offers unparalleled multimedia coverage of the entirety of this complex specialty Fully updated to reflect recent advances in the basic and clinical neurosciences the 8th Edition covers everything you need to know about functional and restorative neurosurgery deep brain stimulation stem cell biology radiological and nuclear imaging and neuro oncology as well as minimally invasive surgeries in spine and peripheral nerve surgery and endoscopic and other approaches for cranial procedures and cerebrovascular diseases In four comprehensive volumes Dr H Richard Winn and his expert team of editors and authors provide updated content a significantly expanded video library and hundreds of new video lectures that help you master new procedures new technologies and essential anatomic knowledge in neurosurgery Discusses current topics such as diffusion tensor imaging brain and spine robotic surgery augmented reality as an aid in neurosurgery AI and big data in neurosurgery and neuroimaging in stereotactic functional neurosurgery 55 new chapters provide cutting edge information on Surgical Anatomy of the Spine Precision Medicine in Neurosurgery The Geriatric Patient Neuroanesthesia During Pregnancy Laser Interstitial Thermal Therapy for Epilepsy Fetal Surgery for Myelomeningocele Rehabilitation of Acute Spinal Cord Injury Surgical Considerations for Patients with Polytrauma Endovascular Approaches to Intracranial Aneurysms and much more Hundreds of all new video lectures clarify key concepts in techniques cases and surgical management and evaluation Notable lecture videos include multiple videos on Thalamotomy for Focal Hand Dystonia and a video to accompany a new chapter on the Basic Science of Brain Metastases An extensive video library contains stunning anatomy videos and videos demonstrating intraoperative procedures with more than 800 videos in all Each clinical section contains chapters on technology specific to a clinical area Each section contains a chapter providing an overview from experienced Section Editors including a report on ongoing controversies within that subspecialty Enhanced eBook version included with purchase Your enhanced eBook allows you to access all of the text figures and references from the book on a variety of devices Thieme Test Prep for the USMLE®: Medical Neuroscience Q&A Manas Das, Lee A. Baugh, 2018-12-12 Ensure readiness for the USMLE or any other high stakes exam covering neuroscience Thieme Test Prep for the USMLE Medical Neuroscience by Manas Das and Lee Baugh fills a void in available board prep materials

with its focus on neuroscience Readers will learn to recall analyze integrate and apply biochemical and molecular biological knowledge to solve clinical problems Key Highlights Approximately 520 USMLE style multiple choice questions on neuroscience classified as easy moderate and difficult with detailed explanations Questions cover clinical neurology as well as basics of neuroscience such as development structure and function Chapters are organized based on neuroanatomical structure and systems from the spinal cord to the automatic nervous system Neuroimaging section and final exam chapter are invaluable tools for students to utilize before the boards Questions begin with a clinical vignette and approximately 35% are image based mirroring the USMLE format This essential resource will help you assess your knowledge and fully prepare for the USMLE Step 1 or COMLEX Level 1 exam Be prepared for your board exam with the Thieme Test Prep for the USMLE series Das Histology and Embryology Q A Fontes and McCarthy Medical Biochemistry Hankin et al Clinical Anatomy Q A Harriott et al Medical Microbiology and Immunology Q A Kemp and Brown Pathology Q A Waite and Sheakley Medical Physiology Q A Integration and Bridging of Multiscale Bioengineering Designs and Tissue Biomechanics Jun Liao, Joyce Y. Wong, 2025-05-13 This book covers up to date knowledge of how designs found in nature use tissue hierarchies to achieve optimal functions and how these principles are applied in bioengineering. The hierarchy based multiscale approach has the potential to drive novel biomaterial designs advance tissue engineering and regeneration assist in tissue function integration improve high fidelity computational modeling aided by machine learning and enhance the development of innovative characterization tools and methodologies This book presents the latest high impact research achievements in bioengineered and natural hierarchical systems within a clinical context Our aim is two fold i to emphasize the importance of integrating and bridging bioengineering designs at various tissue hierarchical levels and ii to foster dialogue and collaboration among bioengineers biomechanists and clinicians de Lahunta's Veterinary Neuroanatomy and Clinical Neurology -E-Book Alexander de Lahunta, Eric N. Glass, Marc Kent, 2020-10-09 Selected for Doody's Core Titles 2024 in Veterinary Medicine Master the diagnosis and effective treatment of veterinary neurologic disorders de Lahunta s Veterinary Neuroanatomy and Clinical Neurology 5th Edition provides in depth coverage of the anatomy physiology and pathology of the nervous system With this knowledge you will be able to accurately diagnose the location of neurologic lesions in small animals horses and food animals Practical guidelines explain how to perform neurologic examinations interpret examination results and formulate treatment plans Descriptions of neurologic disorders are accompanied by clinical case studies photos and drawings and radiographs Written by neurology experts Alexander de Lahunta Eric Glass and Marc Kent this resource includes hundreds of online videos depicting the patients and disorders described in the text Logical case description format presents diseases in a manner that is similar to diagnosing and treating neurologic disorders in the clinical setting 1 Description of the neurologic disorder 2 Neuroanatomic diagnosis and how it was determined the differential diagnosis and any ancillary data and 3 Course of the disease the final clinical or necropsy diagnosis and a brief discussion of the syndrome

More than 380 videos on a companion website hosted by the Cornell University College of Veterinary Medicine bring concepts to life and clearly demonstrate the neurologic disorders and examination techniques described in case examples throughout the text More than 250 high quality radiographs and over 800 vibrant color photographs and line drawings depict anatomy physiology and pathology including gross and microscopic lesions and enhance your ability to diagnose challenging neurologic cases High quality state of the art MRI images correlate with stained transverse sections of the brain showing minute detail that the naked eye alone cannot see A detailed Video Table of Contents in the front of the book makes it easier to access the videos that correlate to case examples NEW case descriptions offer additional practice in working your way through real life scenarios to reach an accurate diagnosis and an effective treatment plan for neurologic disorders NEW Content updates reflect the latest evidence based research NEW Clinical photos and illustrations are updated to reflect current practice Neurocirurgia Ross C. Puffer, 2022-06-13 NEUROCIRURGIA Revis o Atualiza o e Prepara o para Provas apresenta um banco de perguntas e respostas atualizado e projetado para preparar neurocirurgi es para o exame escrito do ABNS bem como para demais provas Abrange sete se es da neurocirurgia neuroanatomia neuroci ncias neuropatologia neuroimagem neurologia cl nica neurocirurgia cuidados intensivos habilidades cl nicas fundamentais e compet ncias essenciais composto por 600 quest es multidisciplinares no formato de m ltipla escolha com resposta comentada para refer ncia r pida Est organizado por categorias de perguntas que replicam o formato do exame do ABNS Trata se de um excelente recurso essencial para todos os residentes de neurocirurgia e neurocirurgi es que se preparam para provas incluindo as do ABNS Tamb m extremamente til para os neurocirurgi es que se preparam para a manuten o dos exames de certifica o

Spine Essentials Handbook Kern Singh,2019-01-07 A unique visually appealing and easy to read guide on spinal anatomy pathology and management The management of patients with spinal conditions involves a team based approach with professionals and trainees contributing through their respective roles As such medical trainees need resources that enable them to quickly and adeptly learn spine basics such as performing spinal examinations This handbook is a concise compact guide on key principles of spine surgical knowledge from the atlanto occipital joint to the coccyx It provides both professionals and medical trainees with user friendly insightful text gleaned from the hands on insights of seasoned spinal surgeons Core fundamentals cover spine anatomy clinical evaluations spine imaging diagnostic spine tests and select spine procedures Common surgical approaches are delineated in succinct bulleted text accompanied by case studies and radiographic pathology This format is conducive to learning and provides an ideal spine surgery review for medical students postgraduate trainees participating in spine rotations and residents Key Highlights The only book on spinal pathology and management created with contributions from medical students and residents High impact citations and questions at the end of each chapter highlight key topics Detailed drawings diagrams radiographic images and MRIs elucidate and expand upon chapter topics Tables provide a quick reference with concise information including impacted anatomy nerves and procedural

maneuvers utilized in exams Spine Essentials Handbook A Bulleted Review of Anatomy Evaluation Imaging Tests and Procedures is a must have resource for orthopaedic and neurosurgery residents and medical students It will also benefit physiatrists spine practitioners orthopaedic and neurosurgical trainees and nurses and chiropractors **Traumatic Brain Injury: A Neurosurgeon's Perspective** Gary Kraus, 2023-06-06 This new book from leading neurosurgeon and author Gary Kraus is an account of traumatic brain injury TBI from the time a brain injured patient arrives in the emergency department through to the wide range of clinical outcomes of such an injury Written with the voice of experience the author examines causation of TBI the patient s stay in the neuro intensive care unit and the many neurological assessments and tests that inform the outcomes that the patient and their families will encounter A wide range of medical professionals will benefit from Dr Kraus s acute insights into TBI including Neurosurgical residents Neurosurgeons with a sub specialist interest in Neuro Trauma Neurologists managing patients with post traumatic brain injury Neuro Intensivists Neuro Psychologists Researchers scientists involved in Clinical trial in traumatic brain injury and those with a specialist interest in Neuro rehabilitation

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 $\underline{\text{Disorders}}$,1970

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Anatomic Basis Of Neurologic Diagnosis Introduction

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