

Ultrasound Guided Regional Anesthesia Workshops

A quick-access practical handbook for the use of ultrasound in critical care and emergency department settings Point-of-care ultrasound offers a readily available, noninvasive, reproducible modality that can expedite and improve care in the critical care and the emergency setting. This handy guide clarifies basic concepts and provides the hands-on guidance necessary for clinicians to arrive at better therapeutic decisions and perform safer procedures with the use of ultrasound. Handbook of Critical Care and Emergency Ultrasound opens with important chapters on ultrasound basics, ultrasound orientation, and probe selection, machine controls, and equipment. 22 additional chapters cover organ or system-specific procedural applications and approaches to the trauma patient. You will also find algorithms for the patient with undifferentiated chest pain, dyspnea, hypotension, and abdominal pain. 259 drawings and photographs support the text, illustrating patient positioning, basic views, anatomy, and common pathology. Handbook of Critical Care and Emergency Ultrasound is the perfect resource for critical care and emergency providers who wish to deepen their knowledge of sonography and broaden their use of ultrasound in the care of their patient.

Regional anesthesia is a fast-growing field, fuelled by the application of ultrasound technology over the last decade. This book is a technique-oriented guide, which introduces the use of ultrasound technology with practical instruction in the placement of peripheral nerve blocks and continuous perineural catheters. Each procedure is summarized for quick, easy reference, and supplemented by ultrasound images, color photos, and detailed illustrations. Helpful hints and instructions are provided to further optimize block success. Chapters are organized into four sections, focusing on introductory concepts, upper extremity peripheral nerve blocks, lower extremity peripheral nerve blocks and continuous perineural catheters. Written by instructors from a major academic medical center who work in a fast-paced ambulatory setting, this is a key text for residents, fellows and staff physicians who wish to incorporate the use of ultrasound into the scope of their anesthetic practice.

This book illustrates ultrasound and guided nerve stimulation techniques to achieve consistently good anesthesia results. Also included are demonstrations of peripheral nerve block techniques for the trunk, and upper and lower extremities. Images are correlated with MRIs for better anatomic identification.

Regional Anaesthesia: A Pocket Guide is the ultimate quick-reference pocketbook for trainees and consultants working in regional anaesthesia. Step-by-step guidelines for essential procedures are accompanied by quality clinical photographs and diagrams covering the four core areas of

the specialty.

Ultrasound-Guided Regional Anesthesia in Children

Regional Anaesthesia, Stimulation, and Ultrasound Techniques

Atlas of Regional Anesthesia

Regional Anaesthesia

Handbook of Critical Care and Emergency Ultrasound

A comprehensive full-color anatomical atlas designed specifically for the anesthesiologist and pain physician. A clear understanding of relevant anatomy is essential for physicians who wish to master ultrasound guided nerve blocks. This innovative resource includes high-resolution CT, MRI, cadaver anatomy, anatomical illustrations, and 2D and 3D ultrasound images of the neck, upper and lower extremity, trunk, thorax, thoracic spine, sacral spine, lumbar paravertebral region, and thoracic paravertebral region that are relevant to ultrasound guided regional anesthesia.

Although other texts may provide some of this imaging information, this is the first book to systematically and comprehensively gather all the imaging modalities for side-by-side comparison. • Bulleted pearls impart how to obtain optimal ultrasound images at each site • Hundreds of full-color photographs and illustrations throughout

Compact, hand-carried ultrasound devices are revolutionizing how healthcare providers practice medicine in nearly every specialty. The 2nd Edition of this award-winning text features all-new chapters, a greatly expanded video library, and new review questions to keep you fully up to date with the latest technology and its applications. Helps you interpret findings with a peer-reviewed, online video library with more than 1,000 ultrasound videos of normal and pathologic findings. These videos are complemented by anatomical illustrations and text descriptions to maximize learning. Offers new online resources, including over 60 clinical cases and review questions in every chapter.

Features fully updated content throughout, plus all-new chapters on hemodynamics, transesophageal echocardiography, transcranial Doppler ultrasound, pediatrics, neonatology, and 2nd/3rd trimester pregnancy. Shares the knowledge and expertise of expert contributors who are internationally recognized faculty from more than 60 institutions. Recipient of British Medical Association's President's Choice Award and Highly Commended in Internal Medicine at the BMA Medical Book Awards 2015 (first edition).

This book is the first and definitive reference in the growing field of ultrasonography in pain medicine. Each chapter details all you need to know to perform a specific block. Comparative anatomy and sonoanatomy of the various soft tissues are featured, and tips and tricks for correct placement of the ultrasound probe and administration of the injection are described in detail. All the major peripheral nerve blocks are discussed as well as the various injections of the spine, pelvis, and musculoskeletal system.

Regional anesthesia has progressively evolved and currently occupies a predominant place in our daily practice. The development of skills for the safe practice of regional anesthesia requires in-depth knowledge of anatomy, physiology, pharmacology, and the pathology of each patient candidate to receive some type of regional block, as well as special and prolonged training beyond residence, particularly in this era of the COVID-19 pandemic, during which the training of thousands of anesthesiology residents has been impaired. Undoubtedly, the benefits of regional anesthesia techniques are enormous, as are their complications. Countless guidelines for regional

anesthesia have been described based on the classic anatomical recommendations, the search for paresthesias, neurostimulation, and medical images. The introduction of ultrasound guidance and the rational use of local anesthetics and their adjuvants have favorably revolutionized regional anesthesia, making it safer and more effective. This book addresses several contemporary topics in regional anesthesia in a variety of interesting clinical settings with practical importance.

Regional Anesthesia and Chronic Pain

Textbook of Regional Anesthesia and Acute Pain Management

Anesthesiology In-training Exam Review

Topics in Regional Anesthesia

Ultrasound Guided Regional Anesthesia

Ultrasound has revolutionized the practice of regional anesthesia, yet there remains a paucity of good resources on ultrasound-guided regional anesthesia in children. This book offers a much-needed practical guide to all the major ultrasound-guided blocks in pediatric patients, including neuraxial, truncal, upper and lower limb blocks. The core principles of good clinical practice in regional anesthesia are described and discussed, including the pharmacology of local anesthetics in children, the performance of regional anesthesia, the management of complications, and the clinical anatomy of each block. Every block chapter provides both a 'how to' section and also a comprehensive literature review, with an up-to-date and relevant bibliography for reference and further reading. Chapters are illustrated with unique anatomical images and detailed descriptions. Both trainee and experienced anesthesiologists will find this an essential resource for the safe and effective performance of modern regional anesthesia in children.

The management of pain can often be achieved by medications, physical therapies, or by various procedural techniques that have evolved in recent decades. With the trend towards more outpatient surgeries and less invasive surgeries to decrease perioperative risk, perioperative time, and costs, the practice of anesthesia is evolving to utilize regional anesthesia techniques both for inpatients and outpatients. Regional anesthesia is being performed for outpatient surgeries, obstetric anesthesia, trauma, chronic pain states, and for acute post-operative pain management.

Therefore, it is paramount for physicians and nurses practicing anesthesia to understand the essentials of regional anesthesia, its evolving techniques, and appropriate utilization of modern equipment and technology to provide care safely. Essentials of Regional Anesthesia, Second edition, is a concise, up-to-date, evidence-based handbook that enables every resident, physician and nurse to understand the basics of regional anesthesia and the standard of care guidelines for the practice of regional anesthesia in a comprehensive fashion. This new edition includes:

- Updated and new chapters on Ambulatory, Critical Care, and Obstetrics topics
- Full color, clear, detailed, anatomic drawings
- Clinically relevant, practical aspects of regional anesthesia
- International contributing authors who are experts in their field
- Latest ultrasound techniques and images

Review of 1st edition: “ There are many books available on regional anesthesia, and the trend is either to focus on illustrations, forgoing any discussion, or on text descriptions, making them bulky and hard to read. This book maintains that perfect balance between text and illustrations. It is truly a master companion book on regional anesthesia. ” (Tariq M. Malik, Doody 's Book Reviews, April, 2012)

Ultrasound technology is enabling anesthesiologists to perform regional anesthetic procedures with greater confidence in accuracy and precision. With improvements in

visualizing neural anatomy and needle movement, ultrasound guidance improves patient safety and operating room efficiency. This book offers a detailed, stepwise approach to this technique, identifying pearls and pitfalls to ensure success. Topics are organized into four chapters. The first chapter provides the basic principles behind ultrasound guided regional anesthesia, setting a strong context for the rest of the book. The last three cover the nerve blocks: upper extremity, lower extremity, and chest, trunk and spine. Each nerve block is comprehensively explained, divided up by introduction, anatomy, clinical applications, technique, alternate techniques, complications, and pearls. This new edition includes discussions of 6 new blocks: the suprascapular block, axillary nerve block for shoulder surgery, fascia iliaca block, lateral femoral cutaneous block, and the adductor canal block. This edition also contains over 40 new procedural and imaging figures, an appendix on what blocks to perform for specific surgeries, and new information on choice of local anesthetic agent, types of catheters and practical ultrasound physics to help improve scanning. Ultrasound Guided Regional Anesthesia provides authoritative, in-depth coverage of ultrasound guided regional anesthesia for the anesthesiologist beginning to use ultrasound and makes a great reference for the more seasoned physician. This is a highly informative and carefully presented book for trainees and postgraduate students of anaesthesiology as well as practicing clinicians. This book aims to help them in selecting and implementing the most suitable regional block in each clinical scenario and successfully use the techniques of ultrasound-guided regional anaesthesia (USRA) in their practice. This book covers basics of ultrasound imaging, anatomical aspects and techniques of all nerve blocks that are commonly used in clinical practice in a lucid and illustrated presentation. Regional anaesthesia can be a safe alternative to general anaesthesia. When combined with general anaesthesia, it can provide excellent postoperative analgesia too. With the advent of ultrasound, the scope, safety and reliability of regional anaesthesia have expanded manifold. However, there is a lack of formal clinical training in regional anaesthesia in most of the anaesthesia postgraduate curricula and this book intends to bridge this gap. The book serves as a useful resource to the anaesthetist; trainee or practitioner who wants to master the nerve blocks.

Atlas of Image-Guided Intervention in Regional Anesthesia and Pain Medicine
A Pocket Guide

Regional Nerve Blocks in Anesthesia and Pain Therapy

Atlas of Sonoanatomy for Regional Anesthesia and Pain Medicine

Peripheral Nerve Blocks: Principles and Practice

Safely and effectively perform regional nerve blocks with Atlas of Ultrasound-Guided Regional Anesthesia, 2nd Edition. Using a wealth of step-by-step videos and images, Dr. Andrew T. Gray shows you how to use the latest methods to improve the success rate of these techniques. Consult this title on your favorite e-reader with intuitive search tools and adjustable font sizes. Elsevier eBooks provide instant portable access to your entire library, no matter what device you're using or where you're located. Master essential techniques through step-by-step videos demonstrating paravertebral block, transversus abdominis block, psoas nerve block, subgluteal nerve block, and more. Test your knowledge and prepare for the ABA exam with board-style review questions. Ensure correct needle placement with numerous 3-D and long-axis views that clearly depict surrounding structures. Update your skills with completely rewritten chapters on Infraclavicular, Neuraxial, and Cervical Plexus Blocks as well as entirely new chapters on Fascia Iliaca, Anterior Sciatic, Transversus

Abdominis Plane (TAP), and Stellate Ganglion Blocks. Review a full range of nerve block techniques in an easy-to-follow, step-by-step manner using new quick-reference summary tables. View author-narrated videos and access the complete contents online at www.expertconsult.com; assess your knowledge with the aid of a new "turn labels off" feature for each image.

The 2nd Edition of this popular text is revised and updated to provide the information readers need to deepen their understanding and to better apply regional techniques to the full range of patients, surgical operations, and diagnostic and therapeutic pain procedures. Expert contributors emphasize regional anesthesia and analgesia techniques and their practical clinical application. This edition includes a number of new techniques and the addition of 5 new chapters on facet block, sacroiliac block, superior hypogastric plexus block, infraclavicular block, and cervical, thoracic, and prolonged catheter block. Features new and revised illustrations!

Due to a wide-spread developing interest in ultrasound-guided pain intervention by clinicians, the demand for a practical reference material on this topic has grown simultaneously. This book thoroughly satisfies the need for such a reference, as it contains text written by experts in the field and a multitude of unique, educational illustrations. Spinal pain, the musculoskeletal system, and peripheral structures function as the fundamental items of discussion across three divided sections. In order to augment the reader's learning experience, the high-quality images found within each chapter provide step-by-step guidance on the various ultrasound scanning procedural processes. Additionally, tips and pearls for scan and injection supplement each chapter conclusion. **Ultrasound for Interventional Pain Management: An Illustrated Procedural Guide** is a pragmatic, indispensable resource that helps interested clinical practitioners enhance their visual memory and overall understanding of this method.

Focused on rotations in regional anesthesia and chronic pain, this book provides a structured review of the concepts covered in the American Board of Anesthesiology in-training exam. The first section of the book covers regional anesthesia with dedicated chapters on basic science, acute postoperative pain, and nerve blocks for neuraxial, lower and upper extremity blocks, and head and neck. The second section on chronic pain includes chapters on basic science and common pain conditions - including craniofacial pain, CRPS, neuropathic pain, and cancer pain. This section closes on multimodal analgesia and other treatment approaches. Each chapter presents a common clinical topic and is organized by indications, preparation, technique, complication, prevention, clinical pearls, and related ABA key points. Highlights must-know information in bold throughout the text. Concise, practical, and easy-to-read, this book will aid anesthesiology residents, certified nurse anesthetists, and medical students in their study regarding patient care practices on regional anesthesia and chronic pain. The book will also be useful to residents going into regional anesthesia and pain medicine subspecialties during the year of their anesthesiology training. .

Atlas of Ultrasound-guided Regional Anesthesia

Acute Pain Medicine

Expert Consult - Online

Atlas of Ultrasound- and Nerve Stimulation-Guided Regional Anesthesia

Principles and Practice of Regional Anaesthesia

Step-by-step images, board-style review questions, and coverage of new blocks make this highly respected title a must-have reference for clinical practice. Written by Andrew T. Gray, MD, PhD, one of the pioneers of the use of ultrasound to guide needle placement, *Atlas of Ultrasound-Guided Regional Anesthesia, 3rd Edition*, shows you how to safely and effectively use the latest methods and applications of this technique. Helps ensure correct needle placement with numerous 3-D and long-axis views that clearly depict surrounding structures. Includes coverage of 11 new blocks: Adductor Canal, Posterior Femoral Cutaneous, Pectoral, Quadratus Lumborum, Pudendal, Paravertebral, Transversus thoracis, Supraorbital, Transtracheal, Greater Occipital and Lesser Occipital. Presents several new chapters, including Regional Anesthesia in Resource-Constrained Environments and Safety of Ultrasound Guided Regional Blocks.

Acute Pain Medicine is the first comprehensive, case-based text of its kind that explores the essential topics of acute pain medicine, including interventional, pharmacologic, and diagnostic considerations. Written and edited under the auspices of the American Academy of Pain Medicine by members of the Academy's Shared Interest Group for Acute Pain Medicine, the text includes an introduction to acute pain medicine and an easily referenced interventional section. Chapters focus on patients experiencing acute pain from either surgery or other medical conditions and include detailed information on the diagnosis and treatment of specific cases in acute pain medicine. The text is rounded out by the complete content of the thoroughly revised *Military Advanced Regional Anesthesia and Analgesia Handbook (MARAA II)*. Although the *MARAA* handbook gained its reputation as a useful resource for managing the pain associated with battlefield trauma, its beautifully illustrated step-by-step guidance is useful for providing vital acute pain services in all settings. *Acute Pain Medicine* is an ideal, complete resource for physicians, fellows, and residents managing acute pain patients.

Ultrasound Guided Procedures and Radiologic Imaging for Pediatric Anesthesiologists is intended as a ready resource for both experts and novices. It will be useful to both those with extensive training and experience as well as beginners and those with distant experience or training. A wealth of knowledge in the human factors of procedure design and use has been applied throughout to ensure that desired information can be easily located, that steps are clearly identified and comprehensible, and that additional information of high relevance to procedure completion is co-located and salient. This book begins with the basics, but quickly progresses to advanced skill sets. It is divided into four parts. Part I starts with a primer on ultrasound machine functionality as well as procedural chapters on lung ultrasound to detect a mainstem intubation or pneumothorax, and gastric ultrasound to assess gastric contents in incompletely fasted patients. Part II covers ultrasound guided peripheral intravenous line placement through the 'incremental advancement' method, ultrasound guided arterial line placement, and ultrasound guided central line

placement. Part III details several ultrasound guided regional anesthesia techniques. Part IV covers radiology of the pediatric airway and mediastinum, lungs, gastrointestinal, genitourinary, musculoskeletal, neurologic systems.

This atlas is a practical guide for practitioners who perform interventional procedures with radiographic guidance to alleviate acute or chronic pain. The author provides an overview of each technique, with detailed full-color illustrations of the relevant anatomy, technical aspects of each treatment, and a description of potential complications. For this revised and expanded Second Edition, the author also discusses indications for each technique, as well as medical evidence on the technique's applicability. The new edition features original drawings by a noted medical artist and for the first time includes three-dimensional CT images that correlate with the radiographic images and illustrations for a fuller understanding of the relevant anatomy.

Ultrasound Guided Procedures and Radiologic Imaging for Pediatric Anesthesiologists

Principles and Practical Implementation

Point of Care Ultrasound E-book

A Practical Guide for Ultrasound Guided Regional Anaesthesia

Atlas of Ultrasound-Guided Regional Anesthesia E-Book

Get up-to-date on all of the techniques that are rapidly becoming today's standard of care with *Ultrasound-Guided Regional Anesthesia and Pain Medicine, 2nd Edition*. With this extensively revised edition, you'll see how the increased use of ultrasound for diagnosis and treatment of chronic pain and other medical conditions can transform your patient care. Noted authorities discuss the techniques you need to know for upper and lower extremity blocks, truncal blocks, pain blocks, trauma and critical care, and more.

Focused on rotations in regional anesthesia and chronic pain, this book provides a structured review of the concepts covered in the American Board of Anesthesiology in-training exam. The first section of the book covers regional anesthesia with dedicated chapters on basic science, acute postoperative pain, and nerve blocks for neuraxial, lower and upper extremity blocks, and head and neck. The second section on chronic pain includes chapters on basic science and common pain conditions - including craniofacial pain, CRPS, neuropathic pain, and cancer pain. This section closes on multimodal analgesia and other treatment approaches. Each chapter presents a common clinical topic and is organized by indications, preparation, technique, complication, prevention, clinical pearls, and related ABA key points. Highlights must-know information in bold throughout the text. Concise, practical, and easy-to-read, this book will aid anesthesiology residents, certified nurse anesthetists, and medical students in their study regarding patient care practices

on regional anesthesia and chronic pain. The book will also be useful to residents going into regional anesthesia and pain medicine subspecialties during the year of their anesthesiology training.

With a focus on anatomy and sonoanatomy, this beautifully illustrated updated edition captures the latest advances in the rapidly growing field of ultrasound-guided pain medicine and MSK procedures. This atlas is divided into seven sections that provide an overview and focus on interventional approaches and advancements. Authored by international experts, each clinical chapter features a maximal number of instructive illustrations and sonograms and provides a description of sonoanatomy, instructions on performing the procedure and how to confirm appropriate needle placement. This book will help encourage and stimulate physicians to master approaches in interventional MSK and pain management.

The single most comprehensive hands-on guide to the practice of Regional Anesthesia and Pain Management -- in full color! 4 STAR DOODY'S REVIEW! "This is an enormous book. It weighs in at just under eight and a half pounds with a list price that makes it comparable to an equal quantity of sushi grade tuna! It is a beautiful and powerful text/reference book. The composition corresponds particularly well with the subject. The wealth of detail, the high quality photos and drawings, the well composed text, and the engaging layout are enticing. Handling and reading such an exceptional book brings great pleasure. Forget the fish. Buy the book."--Doody's Review Service Here at last is a reference that covers the practice of Regional Anesthesia in its entirety, providing practitioners and students with both the physiologic principles and specific, state-of-the-art patient-management protocols and techniques. Recognized leaders in the specialty have filled this richly illustrated volume with authoritative, completely practical help. You'll find algorithms for managing or avoiding a wide range of common clinical dilemmas or complications. You'll get time-saving tools such as intravenous-to-oral opioid conversion tables and PCA setup guides as well as no-nonsense selection of nerve block techniques and advice on their strengths and pitfalls. This handy reference helps you make wise choices about anesthetics, dosing intervals, equipment, and perioperative management of patients receiving single-injection or continuous nerve blocks or spinal or epidural anesthesia. It tells you how to successfully manage patients with suspected epidural hematoma or neurologic injuries -- and much more. Filled with full-color, high-quality, detailed illustrations and clinical images of actual patients Covers the entire field of regional anesthesia,

including nerve stimulator and ultrasound-guided peripheral nerve blocks, from imaging and instrumentation to step-by-step instructions for employing them in adults and children Details how to achieve reliable anesthesia and analgesia for surgical interventions on the face and upper and lower extremities Provides information on the advantages and disadvantages of using regional anesthesia in patients with coexisting diseases Offers guidance on acute pain management of adults and children in the perioperative period and in the ER Features up-to-date information on the etiology, prevention, and management of a wide range of complications

A Practical Approach to Peripheral Nerve Blocks and Perineural Catheters

Hadzic's Peripheral Nerve Blocks and Anatomy for Ultrasound-Guided Regional Anesthesia

Ultrasound for Interventional Pain Management

Ultrasound Guidance in Regional Anaesthesia

The BOOK of Ultrasound-Guided Regional Anesthesia

The concept of using Doppler ultrasound to guide regional anaesthesia performance was first described in 1978. It was, however, the introduction into clinical practice in the last 15 years of portable, affordable, high resolution, bedside ultrasound machines that has revolutionised the practice of regional anaesthesia. Visualising anatomical structures, and guiding a needle to target structures under direct ultrasound guidance, is now considered best practice. Ultrasound-guided regional anaesthesia, compared to traditional nerve localisation techniques such as nerve stimulation and paraesthesia, has been shown to improve efficacy and efficiency, and reduce the risk of local anaesthesia systemic toxicity and pneumothorax. Ultrasound has allowed the introduction of novel approaches to thoracoabdominal and neuraxial blocks. This imaging technique is increasingly being used in pain medicine, complementing and in some instances replacing, the image intensifier and computed tomography-guided interventional procedures. In contrast, novices attempting ultrasound guided regional anaesthesia exhibit suboptimal behaviours, including visual-spatial disorientation, rigid procedural thinking, and needle manipulation without confirmation of positioning. The root problem is that teaching of regional anaesthesia is variable in quality and is non-systematic. The reasons are complex, but include variability in supervision, worsening production pressures in busy tertiary hospitals curtailing time for teaching, shortening of trainee training times, and resistance by clinicians for new techniques. Compounding these problems was a lack of validated, reliable and objective tools to assess ultrasound-guided regional anaesthesia performance. This is addressed in the first four studies of this thesis. Studies 1 and 2 evaluated the psychometric properties of the direct observation of procedural skills assessment tool used in the current training curriculum of the Australian and New Zealand College of

Anaesthetists. I found that inter-assessor reliability is poor, which has important consequences as this tool is used for trainee assessment and structured feedback. Study 3 evaluated a checklist and global rating scale designed specifically for ultrasound-guided regional anaesthesia. This tool showed good construct validity, and that a deconstructed, itemised checklist is useful for teaching complex skills such as regional anaesthesia. Study 4 described the design, creation, and validation of the Regional Anaesthesia Procedural Skills (RAPS) assessment tool. RAPS has evidence for face validity, construct validity, test-retest reliability, external reliability, and feasibility as an assessment tool for all regional anaesthesia blocks, including ultrasound-guided techniques. The RAPS tool can thus be used for clinical assessment of trainees, as well as a reliable measure of performance in participants in education research. The next two studies investigated factors by which training in ultrasound-guided regional anaesthesia can be improved. Study 5 was a randomised controlled trial comparing whether fresh-frozen human cadavers were superior to meat-based models for teaching ultrasound guided regional anaesthesia. I found that while face validity and qualitative satisfaction was superior for cadavers, there was no quantitative difference in efficacy, efficiency or errors committed in a part-task technical skills test. Study 6 was an exploratory study in whether visuospatial ability influences sonography performance. In novices performing brachial plexus sonography and reliant only on discovery learning, three visuospatial factors were found to be influential: spatial visualisation, spatial relations, and speed of closure. The standardised visuospatial test battery can thus identify novices who will likely struggle with sonography. This opens an avenue for training tailored to an individual's strengths and weaknesses.

4 STAR DOODY'S REVIEW! "The book can serve as an introduction, a refresher, or a supplement, depending on the experience and background of the reader. The authors are well regarded for their teaching, research, and clinical abilities....The book covers basic and advanced regional anesthesia techniques. It includes mostly classic approaches, but also offers some novel techniques for both single shot and continuous nerve blockade. The illustrations are superb, especially those that reveal the underlying structures, providing an almost three-dimensional view of the relevant anatomy."--Doody's Review Service Authored by the world's leading authorities, this is an authoritative, full-color instructional manual for mastering nerve block techniques. Beautifully illustrated with 350 color illustrations, including 175 clinical photographs of actual patients.

This book, written by an international team of experts, is intended to support any physician beginning an ultrasound-guided regional anesthesia practice or for an expert looking to quickly refresh their knowledge of a specific procedure. The first six chapters deal with core anatomy, physical principles, and needling skills, providing readers with the information necessary prior performing blocks. The following 38 chapters address ultrasound-guided blocks for surgeries and chronic pain medicine, with newly described procedures included, such as the Pecs block

and approaches to the quadratus lumborum block. Each of these chapters follow a consistent structure including indications, anatomic reminders, a procedural description, clinical tips and tricks, literature review and references. Finally, the remaining five chapters contain bullet-points for a safe and easy daily practice. Regional anaesthesia is used across specialties within anaesthesia, and is a rapidly growing sub-specialty. This new handbook covers both traditional and ultrasound guided techniques, concentrating on the differences between them. Offering readers a comprehensive overview for clinical practice, it includes paediatric and acute pain applications. Each topic covers anatomy, contraindications, landmark/US settings, technique, complications, and clinical notes. Discrete sections on pharmacology, principles, and training further the book's use for teaching purposes. It will appeal to both trainees and consultants in regional anaesthesia, as well as anaesthetic nurses and anaesthetic practitioners. Presented in the Oxford Specialist Handbook series, it offers practical advice as well as background information in a convenient pocket-sized title.

Education and Training in Ultrasound-Guided Regional Anaesthesia

A Practical Guide

Trauma Anesthesia

Traditional and Ultrasound-Guided Techniques

Anesthesiology In-Training Exam Review

This book examines every aspect of anesthesia in patients undergoing cesarean section. Anesthetic and surgical techniques are clearly described, with detailed guidance on indications and contraindications and identification of potential complications. Practical information is provided on postoperative analgesia, postoperative course and nursing, the significance of cesarean section for breastfeeding, and the occurrence of long-term problems and chronic pain after cesarean section. Other topics to be addressed include the history and epidemiology of cesarean delivery, effects on the fetus and neonate, ethical issues, the humanization of childbirth, and maternal expectations and satisfaction. While many books are available on obstetric anesthesia, none is exclusively devoted to cesarean section although it is one of the most frequently performed surgeries. Anesthesia for Cesarean Section will be appreciated by all anesthesiologists and will be a useful source of information for obstetricians, gynecologists, midwives, nurses, medical students, and trainees.

"Step-by-step videos and images, board-style review questions, and coverage of new blocks make this highly respected title a must-have reference for clinical practice. Written by Andrew T. Gray, MD, PhD, one of the pioneers of the use of ultrasound to guide needle placement, Atlas of Ultrasound-Guided Regional

Anesthesia, 3rd Edition, shows you how to safely and effectively use the latest methods and applications of this technique"--Publisher's description.

The fourth edition of this highly successful textbook discusses the practical applications of the various methods of regional anaesthesia, including ultrasound, as well as giving an account of their theoretical aspects. The well-established author team use their experience to provide a practical and stimulating book which reflects everyday clinical activity, supplemented by high definition ultrasound images and schematic diagrams. The book will also discuss the place of regional anaesthesia in current medical practice, particularly with regard to pain processes, ultrasound imaging, and patient outcomes. Regional anaesthesia is a rapidly expanding sub-speciality of anaesthesia: routine provision of long-lasting pain relief and the introduction of real-time ultrasound block has fuelled a demand for cadaver and ultrasound-based anatomy training courses. Thus, it is more important than ever to have a thorough grounding in this exciting subspecialty.

Ultrasonographic guidance for regional anaesthetic blocks is an innovative technique that allows for the direct visualization of nerves, adjacent structures and the position of the needle, as well as for the precise observation of the spread of local anaesthetic. The advantages of the technique allow for the exact administration of moderate volumes of local anaesthetic, reducing the risk of complications. Written by a physician with 16 years' experience in ultrasound-guided regional anaesthesia, this second edition of the well-received practical handbook provides a concise summary of the basics of ultrasound technology and the most recent techniques in the use of ultrasound to guide peripheral nerve blocks, focusing specifically on ultrasound-guided peripheral nerve block techniques. All chapters have been carefully revised to provide the most recent knowledge in the topic of ultrasound in regional anaesthesia. A strong focus has still been attached on anatomical descriptions and subsequent practical implementations. Paediatric applications are now included in this new edition to aid paediatric anaesthesiologists, as well as the incorporation of neuraxial techniques to complete the entire topic. With illustrated colour images throughout, this book is highly relevant to anaesthesiologists and pain specialists with an interest in regional anaesthesia.

Ultrasound Imaging for Regional Anesthesia

Ultrasound Guided Regional Anesthesia and Pain Medicine

Ultrasound-Guided Regional Anesthesia and Pain Medicine

An Illustrated Procedural Guide

Ultrasound-Guided Regional Anesthesia

This eBook addresses the impact of prenatal exposure to alcohol, and Fetal Alcohol Spectrum Disorders (FASD). It presents a compilation of current research by leading experts in the field and serves as a guide to future directions in FASD research, interventions and treatment. The book includes a comprehensive compendium of our knowledge of the dangers of prenatal alcohol exposure and covers ways to screen and intervene with pregnant women, diagnosis and treatment to ameliorate the effects of prenatal alcohol exposure (through the lifespan), and other related issues, such as building a state infrastructure of health services and legislation. The eBook is intended as a textbook for graduate courses relevant to FASD.

Abstract Advancement in Ultrasonography has increased the interest among anesthesiologists to learn regional anesthesia techniques specially the ultrasound guided peripheral nerve blocks. But to become an expert in USG guided regional techniques it takes a long learning curve and training models like blue phantom are expensive and not freely available. Other commercially available phantom models like gelatin based phantom and agar based phantoms though cheap have less shelf life. Igel which is freely available and cost effective. It has a long shelf life also. We devised a novel and cost effective learning phantom using Igel for needling training using USG with good visibility of needle. Further studies are warranted for improving the quality of needling visibility and increasing the shelf life of Igel phantom.

Key words: ultrasonography, Igel, phantom

Introduction Regional anesthesia techniques specially USG guided peripheral nerve blocks has become very popular in recent times among the practicing anesthesiologists and residents. This was because of the advancement of ultrasonography and availability of ultrasound machines. The advances in needles including echogenic needles has changed the perception of regional anesthesia among the anaesthesiologists. Attaining skill in USG guided regional anesthesia technique takes a long learning curve. The availability of cost effective training phantoms also a major hindrance. The cheaper training phantoms described are agar based phantom and gelatin based phantoms(1,2). Both are cost effective but are time consuming and cumbersome procedure to produce, it also lacks shelf life(3). Igel is a second generation supraglottic device developed by Dr Muhammed Nasir. It is routinely used by anesthesiologists for securing airway and maintenance of general anesthesia. The use of Igel as a training phantom has never been explained earlier. We report the use of Igel as an innovative method and training phantom for needling under USG guidance. **Materials and method** No.4/NO.5 Igel Transparent jelly 16G intracath needle USG machine with linear probe (5-13MHz) Igel is placed over a flat surface and the hollow of the Igel is filled with transparent jelly and both sides of Igel are closed during an adhesive tape(fig1). This will create a hyperechoic linear artefact which simulates the target on the sonoimage(fig2). The USG probe is placed longitudinally along the long axis of Igel just proximal to the non inflatable cuff (fig3). The 16G needle is placed near the USG probe at around 30 degree angle to the surface of Igel and try to pierce the Igel and the needle will pass smoothly through the Igel surface. You will find the entire length of needle passing through the Igel and a linear hyperechoic line will be seen as the target(fig4). This will create a real time simulation of parenchymal tissue. Needling can be repeated several times without damaging the Igel. **Discussion** The advances in ultrasound technology like 3D and 4D USG and in needles like echogenic needles has increased the interest in regional anesthesia techniques specially USG guided peripheral nerve blocks(5). Both practicing anesthesiologists and trainees have shown enormous interest in learning USG guided peripheral nerve blocks in recent times. But for acquiring proper skill set in these techniques it takes a long learning curve. The major hindrance in this regard is the nonavailability of proper

training tools . The commercially available training tools are namely phantoms and simulation videos. The training phantom include blue phantom, gelatin based phantom and agar based phantom. The most popular among these is the blue phantom. but it is expensive and not freely available. The other phantoms like gelatin based phantom and agar based phantom lack shelf life and is time consuming to prepare(1,2,3). I gel is routinely used by anesthesiologist as a supraglottic device and is freely available . We tried its use as an innovative tool as a training phantom for needle manipulation under USG guidance. the advantages of Igel phantom are: easy availability, durability, cost effectiveness and shelf life. The image quality is comparable with other available phantom models. The image also simulates real time body tissue. Further we should experiment and invent other cost effective training model so as to encourage and train young regional anesthesia enthusiasts about USG guided peripheral nerve blocks

Conclusion Igel phantom can be a cost effective and durable training phantom for learning needle manipulation under USG guidance specially for novice interest in USG guided peripheral nerve blocks. With further studies and modifications Igel phantom can be a go to training tool for learning the skill of needle manipulation under USG guidance for regional anesthesiologists.

References

Fredfeldt KE: An easily made ultrasound biopsy phantom. J Ultrasound Med 5:295

Silver B, Metzger TS, Matalon TA: A simple phantom for learning needle placement for sonographically guided biopsy. AJR 154:2347

Hocking G, Hebard S, Mitchell CH. A review of the benefits and pitfalls of phantoms in ultrasound-guided regional anesthesia. Reg Anesth Pain Med 2011;36:162-170.

Nelson, T. R. & Pretorius, D. H. 1992 Three-dimensional ultrasound of fetal surface features. Ultrasound Obstet. Gynecol. 2, 166-174

Deam RK, Kluger R, Barrington MJ, McCutcheon CA. Investigation of a new echogenic needle for use with ultrasound peripheral nerve blocks. Anaesthesia and Intensive Care 2007; 35: 582-586.

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Trauma patients present a unique challenge to anesthesiologists, since they require resource-intensive care, often complicated by pre-existing medical conditions. This fully revised new edition focuses on a broad spectrum of traumatic injuries and the procedures anesthesiologists perform to care for trauma patients perioperatively, surgically, and post-operatively. Special emphasis is given to assessment and treatment of co-existing disease, including surgical management of trauma patients with head, spine, orthopaedic, cardiac, and burn injuries. Topics such as training for trauma (including use of simulation) and hypothermia in trauma are also covered. Six brand new chapters address pre-hospital and ED trauma management, imaging in trauma, surgical issues in head trauma and in abdominal trauma, anesthesia for oral and maxillofacial trauma, and prevention of injuries. The text is enhanced with numerous tables and 300 illustrations showcasing techniques of airway management, shock resuscitation, echocardiography and use of ultrasound for the performance of regional anesthesia in trauma. This second edition of the well-illustrated practical handbook provides a concise summary of the basics of ultrasound technology, and includes the most recent knowledge in the topic of ultrasound in regional anaesthesia.

Principles and practical implementation

IGEL PHANTOM: A INNOVATIVE MODEL FOR USG GUIDED NEEDLING TRAINING

Prenatal Alcohol Use and Fetal Alcohol Spectrum Disorders: Diagnosis, Assessment and New Directions in Research and Multimodal Treatment

Essentials of Regional Anesthesia
Anesthesia for Cesarean Section

In recent years the field of regional anesthesia, in particular peripheral and neuraxial nerve blocks, has seen an unprecedented renaissance following the introduction of ultrasound-guided regional anesthesia. This comprehensive, richly illustrated book discusses traditional techniques as well as ultrasound-guided methods for nerve blocks and includes detailed yet easy-to-follow descriptions of regional anesthesia procedures. The description of each block is broken down into the following sections: definition; anatomy; indications; contraindications; technique; drug choice and dosage; side effects; potential complications and how to avoid them; and medico-legal documentation. A checklist record for each technique and a wealth of detailed anatomical drawings and illustrations offer additional value. Regional Nerve Blocks in Anesthesia and Pain Medicine provides essential guidelines for the application of regional anesthesia in clinical practice and is intended for anesthesiologists and all specialties engaged in the field of pain therapy such as pain specialists, surgeons, orthopedists, neurosurgeons, neurologists, general practitioners, and nurse anesthetists. This full-color text/atlas describes all of the nerve blocks for which ultrasound guidance has proved efficacious, including upper and lower limb blocks. The chapter organization is similar to Chelly's Peripheral Nerve Blocks book: each block is described by concise text covering the indications for use, necessary equipment, anatomic landmarks, approach, and technique. The blocks are richly illustrated by ultrasound stills and relevant anatomy. A companion Website will have video modules on 1. principles of sonography, including how to turn on the machine, set up the transducers, move the transducers, change the contrast, depth, frequency and dynamic range compression settings, how to use color Doppler flow imaging and align the needle with the beam and 2. ultrasound-guided blocks of the interscalene, supraclavicular, infraclavicular, axillary, femoral, subgluteal, popliteal, and caudal regions.

Blockmate

Atlas of Ultrasound-Guided Procedures in Interventional Pain Management