

# ATLAS of ULTRASOUND-GUIDED MUSCULOSKELETAL INJECTIONS

Gerard Malanga • Kenneth Mautner



Mohammad Agha, MD,Douglas Murphy, MD

Atlas of Ultrasound-Guided Musculoskeletal Injections Gerard Malanga, Kenneth Mautner, 2014-03-22 Clear concise description of more than 100 US guided injections in musculoskeletal medicine Atlas of Ultrasound Guided Musculoskeletal Injections includes numerous tips and tricks from the field s most experienced and respected practitioners. This unique and state of the art text is ideal for physiatrists rheumatologists sports medicine physicians radiologists pain medicine specialists and orthopedic surgeons With a focus on safety and efficacy this atlas is a worthwhile investment for any practitioner looking to add ultrasound guided procedures to their practice or is looking to sharpen their skills The book opens with informative coverage of the fundamentals of MSK US including ultrasound physics preparation and set up for MSK US procedures and the rationale and evidence for performing these procedures The main body of the book dedicates one chapter to a specific US guided injection or procedure Each chapter design includes sections on key points pertinent anatomy common pathology US imaging indications and technique The book is divided into 8 sections Shoulder Elbow Hand and wrist Pelvis Knee Foot and ankle Special procedures rotator cuff Percutaneous Trigger finger release Ultrasound guided Carpal Tunnel release and Tenex Atlas of Ultrasound Guided Musculoskeletal Injections includes coverage of the full spectrum of procedures ranging from basic US guided joint injections to perinerual injections tenotomies and surgical procedures such as percutaneous A1 pulley release making the book the field s first true cornerstone text and the go to resource for any clinician interested in the Atlas of Ultrasound Guided Musculoskeletal Injections David A. Spinner, Jonathan S. Kirschner, Joseph E. subject Herrera, 2013-11-19 The use of ultrasound guidance to perform diagnostic and therapeutic injections is growing at a rapid rate as is the evidence to support its use Even with the increased popularity of ultrasound there remains a lack of formal training or a standard reference book Atlas of Ultrasound Guided Musculoskeletal Injections fills this void in the literature and will be useful to physiatrists orthopedists rheumatologists pain medicine and sports medicine specialists alike Broken down by anatomic structure and heavily illustrated this book is both comprehensive and instructive The Editors and their contributors break down the basics both the fundamentals of ultrasound to needle visibility and the role of injections and explore ultrasound guided injection for structures in the shoulder elbow wrist and hand hip and groin knee ankle and foot and spine Using a clear heavily illustrated format this book describes the relevant clinical scenarios and indications for injection the evidence to support ultrasound use relevant local anatomy injection methods and pearls and safety considerations It will be a valuable reference for trainees and experienced clinicians alike for experienced sonographers or Guide to Musculoskeletal Injections with Ultrasound Mohammad Agha, MD, Douglas Murphy, those just starting out MD,2015-10-08 The ABCs of ultrasound guided MSK injections This practical handbook covers all types of ultrasound guided injections of the joints and tendons Designed for use primarily by trainees and new practitioners the guide bridges the gap between the early steps of learning to perform injections and applying that knowledge to patient care With its concise user

friendly format and easy to follow instructions the book allows practitioners to quickly access precise information for performing procedures at the point of care High resolution photographs and images illustrate marking and probe placement and walk you through needle visualization on insertion and at target Chapters highlight key information that enables injectors to confidently execute basic skills and also flag potential pitfalls that can cause an adverse outcome While focused on the most common procedures for peripheral joint problems the book also covers selected injections for spine disorders and introduces some more advanced guided techniques Indications suggested medications and dosing approach in plane out of plane procedural steps lists of structures to avoid and clinical pearls and tips are provided for each injection Written by expert authors this guide will be indispensable to new practitioners building proficiency and more experienced clinicians who wish to refresh their knowledge performing ultrasound guided procedures Key Features Provides expert guidance for students residents fellows and attendings looking to add musculoskeletal ultrasound to their practice Covers the basics for most common peripheral joint and peripheral nerve procedures and introduces some more advanced spine injections Step by step descriptions photographs and images with needle visualization illuminate each procedure Clinical Atlas of Musculoskeletal Ultrasound in Rheumatology Janeth Yinh, Eugene Kissin, Paul J DeMarco, Minna J. Kohler, 2024-12-11 This atlas provides high quality ultrasound images of musculoskeletal mechanical autoimmune and inflammatory disorders encountered in rheumatology and other musculoskeletal clinic practices Standard scanning conventions of joint regions with pertinent high quality anatomic illustrations are used to facilitate understanding of sonographic images Useful scanning pearls and pitfalls encountered in daily clinical practice are highlighted in each chapter. The atlas summarizes the role of ultrasonography in various rheumatologic conditions identification of elemental sonographic lesions classic examples of sonography in various classification criteria and grading systems for the diagnosis and management of selected rheumatic conditions Expert authors provide case based presentations of sonographic pathology Supplementary video clips demonstrating common ultrasound guided procedures performed in rheumatology as well as dynamic ultrasonography are included This is an ideal guide for rheumatologists and musculoskeletal providers incorporating ultrasound into their clinical Atlas of Ultrasound-Guided Procedures in Interventional Pain Management Samer N. practice Narouze,2010-12-14 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 Ultrasound for Interventional Pain Management Philip Peng, Roderick Finlayson, Sang Hoon Lee, Anuj Bhatia, 2019-09-05 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 **Regenerative Medicine for Spine and Joint Pain Grant** Cooper, Joseph Herrera, Jason Kirkbride, Zachary Perlman, 2020-04-30 Regenerative medicine RM is a rapidly expanding topic within orthopedic and spine surgery sports medicine and rehabilitation medicine In the last ten years regenerative medicine has emerged from the fringes as a complement and challenge to evidence based medicine Both clinicians and patients alike are eager to be able to offer and receive treatments that don t just surgically replace or clean old joints or inject away inflammation or work as a stop gap measure Regenerative medicine encompasses everything from the use of stem cells and platelet rich plasma PRP to prolotherapy viscosupplementation and beyond This book will provide healthcare practitioners dealing with spine and joint pain with the most current up to date evidence based information about which treatments work which treatments don't and which are on the horizon as potential game changers Chapters are arranged in a consistent format and cover the spine shoulder elbow hand and wrist hip knee and foot and ankle providing a thorough top to bottom approach A concluding chapter discusses current and future directions and applications of RM over the next decade or two Timely and forward thinking Regenerative Medicine for Spine and Joint Pain will be a concise and practical resource for orthopedists spine surgeons sports medicine specialists physical therapists and rehabilitation specialists and primary care providers looking to expand their practice Video Atlas of Neuromusculoskeletal Ultrasound Reza Salman Roghani, Jose Juan Diaz, 2025-06-09 This video atlas is an essential resource for clinicians residents and students looking to integrate neuromusculoskeletal ultrasound into their practice Featuring over 500 high quality videos and images this comprehensive guide offers a clear step by step approach to normal anatomy common pathologies and ultrasound guided interventions It includes region specific instructions for performing joint muscle and tendon injections as well as nerve blocks Designed for practitioners in pain medicine physical medicine and rehabilitation musculoskeletal medicine orthopedic surgery rheumatology and neurology The Video Atlas of NMSK Ultrasound is the ultimate reference for mastering musculoskeletal ultrasound techniques from fundamental to advanced procedures A Practical Guide to Joint & Soft Tissue Injection Francis O'Connor, James McNabb, 2021-04-19 Featuring highly illustrated evidence based information along with high quality videos A Practical Guide to Joint Soft Tissue Injection is the definitive guide to effective injection procedures that can be performed with simple equipment in a variety of settings Expanded and updated for the fourth edition this practical award

winning guide thoroughly explains the rationale and step by step technique for each procedure helping you offer patients immediate relief from pain and discomfort <u>Ultrasound Evaluation of Focal Neuropathies</u> Jeffrey A. Strakowski, 2013-07-26 Honorable Mention 2015 PROSE Award in Clinical Medicine Practice With a how to approach the author meticulously describes the clinical evaluation of the peripheral nerves throughout the body using high frequency ultrasound Evaluations include both normal and pathologic findings as well as discussions of relevant non neurologic tissue The book opens with an introduction to ultrasound physics instrumentation and image optimization The remainder of the text is a highly visual tour through the multiple nerves of the shoulder neck and upper and lower limbs focusing on sonographic technique and correct interpretation of findings Clinical cases that integrate anatomic localization with clinical and electrodiagnostic assessment are incorporated throughout Also includes a bound in DVD with live motion video loops of the examinations to correspond with stills in the book to demonstrate the important dynamic information ultrasound provides Ultrasound Evaluation of Focal Neuropathies features Comprehensive yet practical text and atlas with detailed discussion of the strengths and weaknesses of clinical and electrodiagnostic assessments Thorough guide to ultrasound techniques and appearance of normal and abnormal peripheral nerves Clinical cases that pair the imaging information with clinical and electrodiagnostic findings are interwoven throughout with analysis of anatomy relevant to the peripheral nerves being studied Hundreds of high quality images and line drawings to correlate anatomy and reflect probe placement Companion DVD with motion loops is provided to facilitate understanding of the dynamic image **Joint Denervation** A. Lee Dellon, 2019-03-01 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 prosections 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 Introduction to Musculoskeletal Ultrasound Jeffrey A. Strakowski, 2015-09-17 This is the first truly foundational introductory text designed to help novice practitioners master the fundamentals of musculoskeletal ultrasound For the new practitioner who has yet to hold a transducer Dr

Strakowski makes beginning easy and presents detailed step by step instructions for operating the equipment obtaining good images and successfully interpreting sonograms Organized for maximum learning value the book is packed with high quality color images tables and tips to enhance understanding of proper technique and proficiency in musculoskeletal ultrasound The book's clear concise presentation will help new practitioners residents and medical students take the first steps in using ultrasound in the musculoskeletal clinic with confidence and skill Basics of Musculoskeletal Ultrasound James M. Daniels, William W. Dexter, 2021-08-09 The field of musculoskeletal ultrasound has rapidly advanced in the past several years The scanning protocols in particular have become more sophisticated and more standardized Now in its fully revised and expanded second edition this volume is the definitive resource on musculoskeletal ultrasound for the beginning practitioner A new first of its kind chapter has been added on ultrasound in Sports Medicine Emergencies This expands the book topic from using POCUS as an office tool to its use on the athletic field to assist with emergencies This new and detailed chapter includes the acute evaluation of an eye injury lung Morrison's pouch IV access fluid status soft tissue and DVT protocols Conforming to an identical chapter format all previous chapters have been expanded and updated Images have been reformatted to larger clearer versions in addition to probe placement images going from black and white to full color This book is divided into five different sections It begins with chapters on the upper extremity such as the hand and wrist The next section focuses on the lower extremity such as the foot and knee The third section is nerve based and describes brachial plexus and major peripheral nerves The fourth section covers Sports Medicine POCUS Emergencies The last section details specific procedures such as I D of abscess and hydrodissection Each chapter follows a standard structure They open with an approach to the patient which contains the main pathology and clinical exam The surface anatomy and ultrasound based anatomy are then addressed A discussion on patient positioning and probe settings follows Pearls pitfalls and red flags offer tips and pointers on scanning techniques as well as pathology not to be missed Finally each chapter is closed out with a summary report Basics of Musculoskeletal Ultrasound 2e is a must have reference for residents fellowship directors fellows and primary care physicians as well as athletic trainers physician assistants physical therapists and ultrasound technicians It is also an excellent resource for participants of the AMSSM MSK ultrasound courses Textbook of Radiology And Imaging, Vol 2 - E-Book Bharat Aggarwal, 2022-06-30 This book is a classic guide for trainees and practitioners with a comprehensive overhaul this book successfully bridges the gap between advancing technology terminology and the emergence of new diseases With its all encompassing approach this book serves as the ultimate resource for radiology professionals eliminating the need for multiple texts on various systems and recent updates Trainees and practitioners alike will find immense value as it caters to both skill enhancement and exam preparation for residents For trainees the book provides essential tools to elevate their expertise as it covers various topics Meanwhile community practitioners will greatly benefit from evidence based guidelines and protocols presented in the book The new edition of Sutton retains the overall format presentation style

and comprehensive coverage of the previous editions Significant advances in imaging techniques and newer applications of different modalities have been incorporated in all sections Radiology lexicons and updated classification systems for various diseases have been included There is emphasis on differential diagnosis appropriateness criteria and disease management Salient features have been highlighted as imaging pearls and teaching points New sections for Imaging Physics Principles of Imaging Emergency Radiology Pediatric Radiology and Nuclear Medicine have been added to make the book more comprehensive Crucial topics on patient safety quality assurance and structured reporting have been included to help radiologists become processes driven and ensure better patient care Chapters on Information technology and Artificial intelligence introduce residents to the digital environment that we live in and its impact on day to day practice A section on Interventional Radiology has been included to enable residents to get a deeper understanding of this subspeciality and explore its scope in modern medicine This edition of Sutton is aimed at presenting an exhaustive teaching and reference text for radiologists and other clinical specialists Atlas of Image-Guided Spinal Procedures E-Book Michael B. Furman, Leland Berkwits, Isaac Cohen, Brad Goodman, Jonathan Kirschner, Thomas S. Lee, Paul Sean Lin, 2017-10-25 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 unique and diagrams demonstrating cervical thoracic and lumbar radiofrequency probe placement and treatment zones on multiplanar views as well as new unique tables and examples differentiating between optimal and suboptimal epidural contrast flow Features new coverage of ultrasound techniques as well as new presentation of procedures for spine masqueraders such as the hip and shoulder Expert Consult eBook version included with purchase This enhanced eBook experience allows you to access and search all of the text figures images videos and references from the book on a variety of devices

Musculoskeletal Ultrasound-Guided Regenerative Medicine Yasser El Miedany, 2022-08-17 The book examines recent developments in regenerative medicine and the use of musculoskeletal ultrasound Musculoskeletal regeneration has become a prominent research topic no doubt due to the sociological and economic pressures imposed by the current ageing population The ever expanding role of regenerative medicine and the identification as well as characterization of stem cells have introduced a major paradigm shift in the field of musculoskeletal and sports medicine as well as orthopaedic surgery Whereas in the past diseased tissue was replaced with allograft material current trends in research revolve around regenerating damaged tissue Specifically regenerative medicine stands in contrast to the standard treatment modalities which impair the body s natural abilities to facilitate endogenous repair mechanisms such as anti inflammatory drugs or destructive modalities e g radiotherapy nerve ablation injections of botulinum toxin and surgical interventions that permanently alter the functioning of a joint bone or spine When compared to other allopathic options including knee and hip arthroplasty with a 90 day mortality rate of 0.7% regenerative medicine treatment modalities have a lower incidence of adverse events with a growing body of statistically significant medical literature illustrating both their safety and efficacy Focusing on the major values of regenerative medicine this book with its 21 chapters is expected to fill an important void in the current literature It will take that extra step to guide you in your day to day clinical practice Featuring contributions from a large international group of leaders in regenerative medicine and musculoskeletal ultrasonography this book is an authoritative reference for rheumatologists physiatrists sonographers radiologists physiotherapists and orthopaedic Bedside Pain Management Interventions Dmitri Souza, Lynn R Kohan, 2022-11-23 This book describes bedside specialists pain management interventions for basic clinical situations commonly encountered during the inpatient care It aims to provide clinicians with real world practical information including patient selection required equipment and procedure guidance that will optimize patient management Each chapter addresses a particular procedure or a set of procedures with specialties selected according to the subject matter Physicians of any specialty practicing in hospital settings residents fellows in training medical students physician assistants nurse practitioners nurses psychology chiropractors physical therapy and integrative medicine specialists will find this text to be comprehensive and practical Ultrasound Guided Musculoskeletal Procedures in Sports Medicine Dinesh Sirisena, 2021-06-12 Ultrasound Guided Musculoskeletal Procedures in Sports Medicine A Practical Atlas provides the support practitioners need based on practical first hand experience of a Sports and Exercise Medicine Physician who trained in musculoskeletal sonography Over the years and with much practice the lessons learned and techniques developed are summarized with relevant pictures that guide those undertaking the procedure As musculoskeletal ultrasound forms an important tool for physicians working in this field of medicine this book helps physicians provide increasing expectation for patients who want a safe guided procedure when clinically warranted While an understanding of ultrasound imaging is essential prior to ultrasound guided procedures there are few practical

quides that provide practicing clinicians with a quick reference when faced with a procedure This book fills that void Presents a standardized resource on ultrasound procedures including how to position patients and what equipment is required Includes straightforward injections hydrodilatations tendon stripping and facet nerve injections Provides images throughout the text to complement and guide the reader Sonoanatomy - High-Resolution Atlas - Ultrasound of the Musculoskeletal System Giorgio Tamborrini, 2025-01-01 SONOANATOMY High Resolution Atlas Musculoskeletal Ultrasound Nerve and Spine Ultrasound Arthroscopy Atlas and Ultrasound Guided Interventions In accordance with worldwide standards we include high resolution images of musculoskeletal ultrasound sonoanatomy in our textbook Including Over 2000 pictures The normal musculoskeletal tissues ultrasound patterns Arthroscopic and anatomical Images Using guidelines from SGUM EULAR EFSUMB DEGUM OEGUM ESSR and SSIPM Ultrasound techniques for guided injection Ultrasound of nerves and the spine Methods for spinal and specific nerve injections Point of Care Ultrasound POCUS Emergency ultrasound Vascular sonoanatomy in GCA Salivary Glands Ultrasound Editor and main Autor Giorgio Tamborrini Co authors of selected chapters Raphael Micheroli Konuk Sonoanatomy of the Joints Christian Dejaco George A W Bruyn Ultrasound guided Interventions Andreas A M M ller Gregor Sz ll sy Shoulder Arthroscopy Stefano Bianchi Ferdinando Draghi Shoulder Interventions the view of the radiologist Andreas A M M ller Sebastian A M ller Elbow Arthroscopy Lisa Reissner Andreas Schweizer Wrist Arthroscopy Richard F Herzog Floreana Kebaish Hip Arthroscopy Christian Egloff Yves Acklin Knee Arthroscopy Andr Leumann Foot Arthroscopy David Lorenzana Nerve Ultrasound Michael Sager Sonoanatomy of the nervs of the Head Neck and Spine Andreas Siegenthaler Ultrasound guided Interventions spine and nerve injection techniques Laure Brulhart Amara Pieren Sonoanatomy of Vessels in GCA Joseph Osterwalder Emergency Ultrasound Point of Care Ultrasound POCUS Atlas of Ultrasound-Guided Nerve-Targeted Procedures for Spasticity Paul Winston, Daniel Vincent, 2025-03-19 Dr Paul Winston is a Clinical Associate Professor in Physical Medicine and Rehabilitation He is the past president of the Canadian Association of Physical Medicine and Rehabilitation and cofounder of the Canadian Advances in Neuro Orthopedics for Spasticity Consortium Dr Vincent is an Interventional Anesthesiologist The University of British Columbia physicians cofounded the Victoria Peripheral Nerve and Spasticity Clinic to create optimal care pathways for patients with spasticity They are innovators in the use of ultrasound guided diagnostic nerve blocks to predict outcomes and select the best treatment as well as pioneers in new cryoneurolysis for spasticity The Atlas now in the second updated edition is the ultimate working aid for everyone wanting to improve clinical outcomes and offer optimal care to patients with spasticity The diagnostic nerve block is a technique to efficiently choose the most appropriate muscles and offer the best treatment from botulinum neurotoxin to phenolization to surgery to new interventions PRECISE CLEAR AND CLINICALLY ORIENTED Chapters include 33 international authors and experts that describe numerous topics from current definitions of spasticity an explanation of diagnostic nerve blocks and current concepts in surgical chemodenervation and

new interventions DETAILED PICTORIAL DEMONSTRATIONS High quality pictures illustrate the location of the nerve trunks and branches as well as muscle action injection sites and injection protocols techniques for each desired muscle or muscle group VIDEO DEMONSTRATION There are over 60 videos showing both the injection techniques and clinical vignettes and case studies really linked by your smartphone SHORT AND TO THE POINT THE IDEAL REFERENCE ATLAS Clinically oriented techniques are approached and visualized precisely in a compact form The book is ideal for looking up and optimizing your injection technique The continuous double page concept allows for effective navigation and for quick retrieval of the desired information with easy access to instructional videos from your smartphone

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