

## Imaging Strategies For The Knee

Covering the entire spectrum of this fast-changing field, *Diagnostic Imaging: Musculoskeletal Trauma*, third edition, is an invaluable resource for general radiologists, musculoskeletal imaging specialists, and trainees—anyone who requires an easily accessible, highly visual reference on today’s imaging of musculoskeletal injury and trauma. World-renowned authorities provide updated information on more than 200 adult and pediatric trauma-related diagnoses, all lavishly illustrated, delineated, and referenced, making this edition a useful learning tool as well as a handy reference for daily practice. Serves as a one-stop resource for key concepts and information, highlighted by thousands of extensively annotated digital images and 350 full-color illustrations Features updates from cover to cover including new literature, new images, and refined diagnoses, plus new content on hardware and surgical approaches, femoroacetabular impingement (AIF), athletic pubalgia, and more Contains new chapters in the foot and ankle section on Chopart joint injury, nerve injury, and anterolateral impingement Presents the advantages and disadvantages of particular imaging techniques for diagnosis and characterization of specific musculoskeletal injury and trauma Includes material specific to pediatric patients, including detailed, dedicated chapters on child abuse and growth plate injuries Contains a traumatic injury overview and section on special topics including fracture healing and pathologic fracture coverage Provides numerous ultrasound examples and explanations to increase your knowledge and skill with this often-challenging modality in the evaluation of musculoskeletal injury Uses bulleted, succinct text and highly templated chapters for quick comprehension of essential information at the point of care This book, featuring a practical hands-on format, describes an up-to-date and comprehensive approach to the management of complex knee injuries. The aim is both to equip practitioners with reliable expert guidance and to foster consensus in a field characterized by continuing debate. Initial response and diagnostic evaluation are explained, surgical techniques appropriate for different injuries are fully documented, and advice is provided on the response to injuries in specific scenarios and patient groups. Emphasis is placed on the vital role of precise diagnosis in establishing the optimal treatment approach, and full account is taken of the implications of the most recent anatomical and biomechanical data. Readers will also find recommendations on controversial topics, including the role of early surgical management, the use of autograft or allograft tissue, and the benefits of reconstruction (as opposed to repair alone) of the fibular collateral ligament and posterolateral corner structures. The authors are leading authorities from around the world with extensive clinical and research expertise in the field of knee dislocations.

This authoritative book provides state-of-the-art practices and new developments in the imaging of cartilage, associated pathologies, and repair procedures. With a main focus on MRI, major advances in cartilage imaging are put into clinical context relevant for radiologists, rheumatologists, and orthopedic surgeons. International experts provide their insights on cartilage pathologies associated with such conditions as osteoarthritis, osteochondral trauma, and cartilage repair. Morphological MRI techniques are outlined, including new sequences and high field imaging. Molecular imaging techniques able to characterize the biochemical composition of the cartilage matrix are discussed, such as T2 relaxation time, T1rho, and dGEMRIC methods. The first book of its kind, *Cartilage Imaging: Significance, Techniques, and New Developments* encompasses the full scope of knowledge in this rapidly evolving field. Identifying key techniques for characterizing disease processes as well as objectively and quantitatively evaluating the results of therapy, this outstanding resource is of benefit to all physicians interested in assessing cartilage disease and repair.

Written by three authorities in the field, and including more than 600 images, this compendium helps professionals understand the recent advances in the use of magnetic resonance imaging and ultrasound for the diagnosis and treatment of arthritis.

SPECT and SPECT/CT

Parallel Imaging in Clinical MR Applications

MR Imaging Strategies for the Lower Extremities

Advanced Imaging of Arthritis

Arthroplasty

Physical Principles, Related Applications, and Ongoing Developments

This book presents the first in-depth introduction to parallel imaging techniques and, in particular, to the application of parallel imaging in clinical MRI. It will provide readers with a broader understanding of the fundamental principles of parallel imaging and of the disadvantages of specific MR protocols in clinical applications in all parts of the body at 1.5 and 3 Tesla.

The focus of this book is to create a comprehensive analysis of cartilage injury and repair strategies. Twenty chapters cover proven and emerging procedures and methodologies. Readers will be able to understand the clinical problem, appropriate diagnosis, and treatment options to first line and secondary cartilage repair procedures.

Cartilage injuries of the knee are common, and diagnosis and treatment options have continued to evolve. This book focuses on current non-operative and surgical treatment strategies for articular cartilage injuries, highlighting the controversies and different international perspectives. This book includes information on the basic science of cartilage structure and function, expert perspectives on imaging and diagnosing, as well as work-up of athletes and patients presenting with acute or chronic cartilage injury. It is also of interest for current cutting-edge cartilage repair and restoration. Written by leading experts in the field, the book, published in collaboration with ISAKOS and ICRS, is vital reading for orthopaedic and sports medicine surgeons, fellows and residents. It is also of interest to physiotherapists, medical students, postgraduate students, and physical medicine and rehabilitation specialists.

This book addresses the need for improved diagnostic and treatment guidelines for patients in whom total knee arthroplasty (TKA) has had an unsatisfactory outcome. It opens by discussing the basics of TKA and the various causes of failure and pain. Diagnosing the cause of failure, in detail, with attention to advances in clinical investigation, laboratory analysis and in particular, imaging techniques. In addition, helpful state of the art diagnostic algorithms are presented. Specific pathology-related treatment options, including conservative and revision TKA strategies, are then explained, with identification of pitfalls and key points. A series of illustrative cases cover clinical scenarios frequently encountered in daily clinical practice. The evidence-based, clinically focused guidance provided in this book, written by internationally renowned experts, will assist surgeons in achieving the most effective management of these challenging cases.

State of the Art Imaging of Osteoarthritis

Emergency and Trauma Radiology, An Issue of Radiologic Clinics of North America,

Techniques and Applications

Physical Medicine and Rehabilitation Q&A Review

Significance, Techniques, and New Developments

The Unhappy Total Knee Replacement

The first question-and-answer review book in this field, it will help professionals quickly and efficiently review specific topics in PM&R. The book covers in detail the entire field of physical medicine and rehabilitation with more than 1,500 multiple-choice questions with answers and detailed rationales. Broken into 15 topic areas, this book highlights all of the key concepts in the PM&R curriculum for learning and individual self-assessment. Designed to test recall and sharpen skills, the book addresses the fundamental components of PM&R training and practice. Suggested readings are provided at the end of each section for further study.

The aim of this book is to be a guide to general practitioners and paediatricians under the light of the current concepts. It will not only help the reader to understand the pathogenesis of common childhood rheumatic diseases, but also provide the general practitioners with a current algorithm that will help them to decide what to do and when to seek reference. It is the child with arthritis, recurrent fever, or a non-specific rash that is a diagnostic dilemma, and that is waiting for someone to solve the problem. For this reason, this book includes real case histories with their photos, radiographic findings, and further investigations, where necessary.

**LEARNING OBJECTIVES:**1. Review the anatomy of the anterior knee2. Discuss the pathology and pathophysiology of several conditions affecting the anterior knee3. Describe the characteristic imaging manifestations for the common sources of anterior knee pain with emphasis on MRIBACKGROUND: Anterior knee pain frequently presents to primary care and orthopedic clinics. Medical imaging plays a vital role in the diagnosis of many conditions presenting with anterior knee pain. A few of these conditions may constitute a clinical diagnostic challenge as they often share a somewhat similar clinical picture. Anterior knee pain can be secondary to abnormalities related to the osseous structures such as the patella, patellofemoral joint disorders such as chondral damage and patellar maltracking, and conditions affecting the ligaments, plicae, fat pads and bursae. Knowing the appropriate imaging tests to perform and being able to distinguish the common pathologic entities affecting the anterior knee is crucial to make the accurate diagnosis.CONCLUSION: Patients with anterior knee pain often require imaging to elucidate the cause of their symptoms. It is paramount for the radiologists to be familiar with the various pathologic entities that affect the anterior knee in order to make the accurate diagnosis and assist the clinician in formulating the appropriate management strategies.

The next best thing to a mentor in learning how to understand the technique and interpretation of MR imaging of the lower extremities. Features of this book include: a double-page concept, with schemes and illustrations on the right explanatory text on the left a total of more than 1000 MR images and illustrations provide a comprehensive visual overview of the normal and pathologic musculoskeletal tissues of the lower extremities practice cases are included to test what one has learned from the book When you have worked through this book you will understand why certain exams are performed: why certain protocols are used: what you actually see: what is normal, artifact or pathologic: which clinical context is involved: and what your reactions should be. This is a marvelous introduction to MR imaging of the lower extremities, and is particularly valuable for the way it integrates imaging findings with the clinical context.

A Clinical Casebook

Knee Fractures

Surgical Techniques and Strategies

Diagnostic Imaging: Musculoskeletal Trauma E-Book

Cartilage Repair Strategies

An up-to-date and comprehensive review of the discipline of imaging of the knee. The first part discusses the various techniques employed when imaging the knee. Individual chapters are devoted to radiography, arthrography, computed tomography and CT arthrography, magnetic resonance imaging and MR arthrography, and ultrasonography. The second part then documents the application of these techniques to the diverse clinical problems and diseases encountered in the knee. Among the many topics addressed are: congenital and developmental abnormalities, trauma, meniscal pathology, and others. Each chapter is written by an acknowledged expert in the field.

Internationally renowned authorities in the field of hybrid imaging contribute firsthand expertise on the practical application of single-photon emission computed tomography (SPECT) and SPECT/CT. By combining clear anatomic markers from CT with functional knowledge from SPECT, SPECT/CT provides added value for patient evaluation and is becoming increasingly prevalent in routine clinical practice. Indeed, hybrid imaging is touted by many as a game changer in nuclear medicine. The first two chapters of this book provide a foundation for understanding SPECT and SPECT/CT technological principles, including the associated radiopharmaceuticals. The remaining chapters detail the utility of SPECT and SPECT/CT in clinical practice including neuroscience and pediatrics, as well as specific pathologies. The book concludes with in-depth discussion of select case studies. Key Features Efficacious use of SPECT and SPECT/CT for primary body systems, including the central nervous, cardiovascular, respiratory, and skeletal systems Value for the assessment of neoplastic disease, infection/inflammation, thyroid and parathyroid gland disorders Fourteen high-quality videos delineate specific techniques and clinical applications Meticulous, four-color graphics clearly elucidate key concepts Illustrative case studies offer educational teaching pearls Together, the concise, evidence-based text and wealth of SPECT/CT images deliver a solid knowledge base, enabling practitioners to learn the effective use of this technology. This must-have book is certain to be an invaluable resource for a diverse spectrum of practicing and trainee clinicians in fields such as radiology, nuclear medicine, and radiation oncology.

Osteoarthritis (OA) is a degenerative disease of the joints, but treatment options have remained limited largely due to an inability to detect and monitor OA in its earliest stages. Medical imaging is a valuable tool to non-invasively evaluate changes in bone, soft tissues like cartilage, and the synovium in OA onset and progression. However, there is a need for improved methods that can not only detect structural and compositional changes in these tissues, but also changes in joint function early in the course of disease. This work develops and progresses the application of medical imaging tools to assess whole joint health in early OA. First, I focus on a magnetic resonance imaging (MRI) technique called gagCEST which aims to image glycosaminoglycan depletion, thought to be the earliest degenerative cartilage changes in OA, with high specificity. However, technical challenges have limited its translational potential at clinical field strengths like 3 Tesla. Here, I make improvements to the gagCEST technique to enable rapid, 3D imaging of the whole knee with improved dynamic range and good repeatability and apply it to study cartilage in a healthy cohort and a cohort with mild to moderate OA. While MRI is a valuable tool to probe structural changes in soft tissues and bone, imaging of bone function remains a challenge with MRI. Combining MRI with <sup>18F</sup>sodium fluoride positron emission tomography (PET) imaging allows for simultaneous assessment of structure and function. I advance the application of PET-MR imaging in OA by comparing quantitative measures of bone vascularization and mineralization in healthy and OA knees and examining spatial relationships between altered bone metabolism and degenerative changes in bone, cartilage, and the synovium. I further applied hybrid PET-MR imaging to study knee joint function by quantifying the short-term response of bone and cartilage to exercise. Results suggest that this technique has strong potential to detect early joint dysfunction after loading. Overall, this work represents a shift toward whole-joint imaging to assess spatial relationships between structure and function of multiple joint tissues.

Editor Savvas Nicolaou, MD and authors provide a comprehensive review of Emergency and Trauma Radiology. Articles will include: Improving outcomes in the polytrauma patient: a review of the role of whole body CT; Advanced imaging in the emergency department: dual energy CT in the acute setting; Imaging of traumatic brain injury: basic concepts and future direction; Imaging patterns and management algorithms in acute stroke: an update for the emergency radiologist; Imaging of non-traumatic neuroradiology emergencies; Pearls and pitfalls in C-spine trauma with new concepts; Face and neck infections: What the emergency radiologist needs to know; Negative CT for acute pulmonary embolism: important differentials in acute dyspnea; Imaging of penetrating thoracic injury; Imaging of easily missed fractures in the upper extremity; Imaging of easily missed fractures in the lower extremity; Imaging of genitourinary trauma; Imaging of ischemia, obstruction and infection in the abdomen; Imaging of pancreatic and duodenal trauma; and more!

Primary Total Knee Arthroplasty

Imaging of the Knee

Ultrasound Imaging & Guidance for Musculoskeletal Interventions in Physical and Rehabilitation Medicine

A Practical Approach

Specialty Imaging: Acute and Chronic Pain Intervention E-Book

A Comprehensive Review and Management Guide

This issue takes a multimodality approach to imaging of osteoarthritis. Clinical issues including an overview of the disease and imaging as an aid to evaluate patient functionality are also reviewed. Not only are current standards for imaging covered, but also newer techniques under development.

This cutting-edge guide to value-based radiology provides readers with the latest information on all aspects of the subject. Healthcare delivery is experiencing a rapid transition towards a value-based model, the underlying idea being that providers are paid on the basis of patient’s health outcomes rather than the total services delivered. Radiology departments are facing many challenges as they attempt to improve operational efficiency, performance, and quality in order to keep pace with this transition. In the first part of this book, readers will find information on the theoretical basis and general concepts of value-based radiology. The second part focuses on value-based practice in specific areas of radiology: neuro/head and neck, thoracic, abdominopelvic, musculoskeletal, breast, cardiovascular, and pediatric. All topics are discussed by prominent experts in a clearly organized and well-illustrated form that will help readers to gain the most from each chapter. The book will be a valuable resource for radiologists and healthcare managers working in public or private institutions, as well as an excellent quick reference guide for all other physicians interested in the topic.

This comprehensive book grants readers exclusive insight into current advancements in the field of osteoarthritis (OA). Contributions from leading scientists and clinicians provide a detailed introduction into current understanding of the pathogenesis of OA, different joint structures affected by this debilitating disease (hip, knee, elbow, shoulder, foot, ankle, hand, wrist, and spine), current knowledge and practice in imaging, joint conservative strategies, OA biomarkers as well as currently available treatments, their safety profile and future therapeutic targets.

This book further discusses the potential of regenerative therapies and recent advances in OA Personalized Medicine, and how collection of OA patient’s phenotypic, genetic and proteomic data is able to direct treatment strategies through Bio-Informatics.

James V. Bono, MD, and Richard D. Scott, MD, two leading authorities in the field, edited this invaluable how-to book on corrective surgery for failed total knee arthroplasty. The text has an in-depth, comprehensive approach geared for orthopedic surgeons, sports medicine specialists, and residents. All fundamental aspects of revision total knee arthroplasty and its complications are covered. More than 350 illustrations in full color complement well-written explanations of general principles, surgical procedures, and special considerations. Top experts in orthopedics offer clinical pearls on topics such as diagnosis and evaluation, pre-op planning and component selection, surgical approach, revision technique, post-op complications, and salvage. Radiologists also detail the use of imaging for evaluation. Economics and reimbursement are addressed as well. Readers will find that this thorough and accurate book is an unprecedented guide that unravels the complexity of revision total knee arthroplasty.

Imaging in Anterior Knee Pain

Cartilage Imaging

Imaging Strategies for the Knee

American Book Publishing Record

Etiology, Diagnosis and Management

Imaging Strategies in Pediatric Orthopaedics

This book, written by authors with national and international reputations in the field, covers all aspects of radionuclide and hybrid bone imaging. Introductory sections present the basic science and consider the current status and limitations of conventional radiological techniques. The underlying principles of PET-CT and SPECT-CT are carefully explained, and the value of different PET and SPECT tracers, assessed. The role of single- and dual-modality approaches in the imaging of benign bone diseases and malignancies is then discussed in detail in a series of well-illustrated chapters. The pathologies addressed include metabolic bone disease, arthritis, bone and joint infections, primary bone and soft tissue tumors, and metastases from breast and prostate cancer. A further section considers the role of bone scintigraphy in the pediatric patient, and the closing chapters focus on miscellaneous subjects, including bone densitometry and radionuclide targeted therapy.

New technologies, developments in implant design and advances in surgical technique have improved outcomes after joint replacement and decreased rate of complications. It is not a surprise that the number of arthroplasties increases steadily every year and nowadays more than one million patients undergo the procedure annually worldwide. This book is a sequel of a successful series dedicated to one of the fastest growing fields in orthopedics - arthroplasty. Aiming at dissemination of scientific research this book provides a profound overview of the recent evolution of technology and surgical techniques. New developments of implant design and current treatment strategies have been critically discussed by the contributing authors. The process of improving care for patients and standards of treatment requires straightforward access to up-to-date research and knowledge. The format of the publication allows easy and quick reference to shared ideas and concepts. We hope, that the current book will add significant contribution to the success of this endeavor.

In the past few decades, Magnetic Resonance Imaging (MRI) has become an indispensable tool in modern medicine, with MRI systems now available at every major hospital in the developed world. But for all its utility and prevalence, it is much less commonly understood and less readily explained than other common medical imaging techniques. Unlike optical, ultrasonic, X-ray (including CT), and nuclear medicine-based imaging, MRI does not rely primarily on simple transmission and/or reflection of energy, and the highest achievable resolution in MRI is orders of magnitude smaller than the smallest wavelength involved. In this book, MRI will be explained with emphasis on the magnetic fields required, their generation, their concomitant electric fields, the various interactions of all these fields with the subject being imaged, and the implications of these interactions to image quality and patient safety. Classical electromagnetics will be used to describe aspects from the fundamental phenomenon of nuclear precession through signal detection and MRI safety. Simple explanations and illustrations combined with pertinent equations are designed to help the reader rapidly gain a fundamental understanding and an appreciation of this technology as it is used today, as well as ongoing advances that will increase its value in the future. Numerous references are included to facilitate further study with an emphasis on areas most directly related to electromagnetics.

More than 200 trauma-related diagnoses that are delineated, referenced, and lavishly illustrated highlight the second edition of *Diagnostic Imaging: Musculoskeletal Trauma*. Comprehensive coverage of musculoskeletal trauma imaging keeps you current with what’s new in the field. Succinct text, outstanding illustrations, and up-to-date content make this title a must-have reference for both general radiologists and musculoskeletal imaging specialists who need a single, go-to clinical guide in this rapidly evolving area. Concise, bulleted text provides efficient information on more than 200 diagnoses that are clearly illustrated with 3,400 superb images Meticulously updated throughout, with new literature, new images, expanded ultrasound content, and updates to pearls and pitfalls in every chapter Expert guidance on ischiofemoral impingement and femoral acetabular impingement (FAI), as well as new information on sports medicine injuries and hip and pelvic imaging techniques and treatment options All-new chapters on elbow posterior impingement, fracture healing, and tibia-fibula shaft fractures In-depth coverage of traumatic cases support the surgeon’s preoperative and postoperative imaging requirements

Radionuclide and Hybrid Bone Imaging

A Clinical Guide

Update

Evidence-Based Imaging

Joint Preservation of the Knee

From Key Performance Indicators to Balanced Scorecard

This book presents a compilation of topics related to primary total knee arthroplasty. The chapters cover, in a clear and didactic way, the current themes, written by experts from the area, from different parts of the world. Topics related to the three surgical phases (before surgery, during surgery, and after surgery) are discussed here. This is very important because the surgeon is not a "factory worker." First of all, it is a medicine doctor who has to feel and understand the particularities of each patient. Demographic studies show an aging population. Osteoarthritis and inflammatory diseases are becoming much more prevalent. In addition, a worldwide epidemic of trauma has led to the need for arthroplasties much more frequently. Therefore, total knee arthroplasty will be an increasingly important subject.

This book reports changes in GP ordering of imaging tests in Australia from 2002-03 to 2011-12, and evaluates alignment between guidelines and recent GP test ordering for selected problems. Over the decade, 9,802 GPs participated in BEACH, providing details of 980,200 GP-patient encounters. The likelihood of GPs ordering imaging in the management of a problem increased over time. In recent practice, at least one imaging test was ordered at 9% of encounters, at a rate of 10 imaging tests per 100 encounters. Diagnostic radiology was the most commonly ordered type of imaging test, but the order rate decreased over time, with a shift toward orders for ultrasound, CT and MRI, which all significantly increased. Eight selected problems accounted for one-third of all imaging orders. Imaging ordering behaviour suggests broad compliance with published guidelines in the management of osteoarthritis, shoulder problems, bursitis/tendonitis/synovitis, abdominal pain and other musculoskeletal injuries. Current ordering patterns for knee problems and some sprains/strains have potential for improvement. The ordering pattern for new presentations of back problems was inconsistent with all established guidelines for management of back problems.

Evidence-Based Imaging is a user-friendly guide to the evidence-based science and merit defining the appropriate use of medical imaging in both adult and pediatric patients. Chapters are divided into major areas of medical imaging and cover the most prevalent diseases in developed countries, including the four major causes of mortality and morbidity: injury, coronary artery disease, cancer, and cerebrovascular disease. This book gives the reader a clinically-relevant overview of evidence-based imaging, with topics including epidemiology, patient selection, imaging strategies, test performance, cost-effectiveness, radiation safety and applicability. Each chapter is framed around important and provocative clinical questions relevant to the daily physician's practice. Key points and summarized answers are highlighted so the busy clinician can quickly understand the most important evidence-based imaging data. A wealth of illustrations and summary tables reinforces the key evidence. This revised, softcover edition adds ten new chapters to the material from the original, hardcover edition, covering radiation risk in medical imaging, the economic and regulatory impact of evidence-based imaging in the new healthcare reform environment in the United States, and new topics on common disorders. By offering a clear understanding of the science behind the evidence, Evidence-Based Imaging fills a void for radiologists, family practitioners, pediatricians, surgeons, residents, and others with an interest in medical imaging and a desire to implement an evidence-based approach to optimize quality in patient care.

Comprised of clinical cases demonstrating strategies for both common and complex knee preservation, this concise, practical casebook will provide orthopedic surgeons with the best real-world strategies to properly manage the many kinds of knee injuries and disorders they may encounter. The opening section presents the knee joint as a unique structure, reviewing the anatomy and function of articular cartilage and the meniscus, the effects of joint malalignment, the role of the synovium, and how joint failure is defined. The next two sections are comprised of clinical cases with a unique presentation, followed by a description of the diagnosis, assessment and management techniques used to treat it, as well as the case outcome, and clinical pearls and pitfalls. Cases included illustrate small and large cartilage defects, osteochondritis dessicans, chondral defects and lesions, meniscal allograft transplantation, and tibial and tibiofemoral cartilage defects, among others. The final section examines the current evidence for the treatment of articular cartilage lesions and emerging techniques in knee joint preservation and cartilage restoration. Pragmatic and reader-friendly, Joint Preservation of the Knee: A Clinical Casebook is an excellent resource for orthopedic surgeons and sports medicine specialists treating common and complex injuries of the knee.

Performance Management in Healthcare

Value-based Radiology

Problem Solving in Musculoskeletal Imaging

Current Opinions in Pediatric Rheumatology

Arthritis in Color

Diagnostic Imaging: Musculoskeletal Trauma,E-Book

**Pushed by the progress of biology, technology and biomechanics, knee surgery has dramatically evolved in the last decades. This book is a "state of the art" concerning all aspects of knee surgery from ligament reconstruction to Total Knee Arthroplasty. An international panel of renowned authors have worked on this didactic fully illustrated book. It will help young surgeons to understand basic sciences and modern sugical techniques. The experienced surgeon will find help to deal with difficult cases and clarifications in recent technologic advances such as cartilage surgery, navigation and mini invasive surgery.**

**Practical and clinically oriented, Specialty Imaging: Acute and Chronic Pain Intervention provides unique, authoritative guidance on the use of image-guided techniques for periprocedural analgesia and pain management procedures. Ideal for practicing and trainee interventional radiologists, pain physicians, and anesthesiologists, this one-stop resource is tailored to your decision support needs, with coverage of everything from neuroanatomy and specific pain conditions to interventional procedures for acute and chronic pain. Provides up-to-date content informed by best practices and the perspectives of both interventional radiology and anesthesiology Discusses key topics such as multimodal opioid sparing techniques as adjuncts and alternatives to the use of opioids for acute pain management, as well as shared decision making in interventional radiology pain management Demonstrates the new fascial pain blocks as well as sympathetic nerve blocks for periprocedural analgesia during interventional procedures Covers adult and pediatric acute and chronic pain conditions Integrates neuroanatomy and the "why" of clinical procedures for a better understanding of the pathways and various options for therapeutic intervention Presents information consistently, using a highly templated format with bulleted text for quick, easy reference Begins each section with a discussion of neuroanatomy, followed by succinct chapters that provide "how-to" information on a clinically useful, imaging-guided interventional procedure for treating a specific acute or chronic pain condition Features procedural videos and clear, high-quality drawings for visual reinforcement, e.g., sequential illustrations that show where nerves are located through successive peeling of anatomic layers The human knee, with its complex anatomy and frequent disorders, undergoes radiologic examination more than any other joint. Imaging Strategies for the Knee organizes all of the relevant information clinicians need to help them reach a sound diagnosis, accurately and efficiently.Features include:-More than 400 illustrations that show vividly how to recognize and compare morphological details-Complete coverage of all examination techniques including ultrasound, CT and MRI-Clinical background information for every finding-An innovative layout: three columns of text, additional information in the margins and images provide essential information at a glance-Keywords and concise text boxes in the margins on disease, pathology, clinical manifestations, first-line examination methods, imaging requirements, and treatment options-Helpful summaries at the end of each chapter to facilitate rapid review-Comprehensive coverage of all disorders, logically grouped according to disease classification An ideal introduction for students and residents, Imaging Strategies for the Knee is also a convenient, durable resource that radiologists, orthopedists, and trauma surgeons will reach for again and again in their daily practice.**

**This book attempts to provide a comprehensive look at all of the pathologies of muscles that are likely to be encountered in treating sports-related injuries. Its purpose is to give the practitioner a guide for identifying injuries and choosing the best therapeutic strategy. The first part presents the consensus view of current knowledge: the physiology of lesions and their prognosis as well as their anatomy, clinical imaging, and treatment. Then each of the muscles is described in turn, with a review of anatomy, clinical examination, the results of imaging, and therapeutic choices for acute and chronic injuries. A major section is dedicated to imaging, with the emphasis on which diagnostic methods are best for specific injuries and how to use diagnostic imaging to determine the most suitable therapeutic strategies. Special care has been taken to provide high-quality illustrations that clearly show how to identify the lesion of the damaged muscle. A wealth of illustrations, many in color, are included. Finally, the book concludes with some clinical cases and technical notes relevant to treatment of sports-related muscle injuries.**

**Imaging Strategies for Quantitative, Whole-joint Assessment of Structure and Function Related to Knee Osteoarthritis**

**Complex Knee Ligament Injuries**

**Clinical Essentials and Imaging Findings**

**Muscle Injuries in Sport Athletes**

**From Diagnosis to Management**

**Revision Total Knee Arthroplasty**

Elsevier's 'Problem Solving in Radiology' series offers an instructional approach to common imaging questions. In this musculoskeletal volume, readers will find guidance on how to accurately read what they see and how to perform common office procedures, including arthrography and biopsy.

Practical and user-friendly, this book is a simple and straightforward clinical guide to understanding the common problems and pathologies seen in the patellofemoral joint, clearly outlining the most prevalent problems encountered and highlighting the latest surgical techniques. Divided into two major sections on patellofemoral pain and instability, it discusses etiology, making the correct diagnosis, and how to manage these problems in both adults as well as in the skeletally immature, using outcomes-based approaches for each condition. Part I covers topics such as anterior knee pain, malalignment and overload syndromes, and arthritis, while part II describes conditions such as acute patellar dislocation, recurrent instability and how to avoid complications. Both parts also include chapters on imaging strategies for the knee. Providing the most current research on these topics in a field that is rapidly changing and evolving, and explaining the treatments and their support in the current literature, Patellofemoral Pain and Instability is an up-to-date, straightforward resource for orthopedic surgeons and residents, sports medicine specialists, and any clinical professional treating conditions of the knee.

Pathogenesis, Diagnosis, Available Treatments, Drug Safety, Regenerative and Precision Medicine

Electromagnetics in Magnetic Resonance Imaging

Patellofemoral Pain and Instability

State-of-the-Art Treatment and Controversies

Cartilage Injury of the Knee

Improving the Quality of Imaging in Patient Care