

Clinical Cardiac Mri 2nd Edition

Medical Imaging in Clinical Practice is a compendium of the various applications of imaging modalities in specific clinical conditions. It captures in an easy to read manner, the experiences of various experts drawn from across the globe. It explores the conventional techniques, advanced modalities and on going research efforts in the ever widening horizon of medical imaging. The various topics would be relevant to residents, radiologists and specialists who order and interpret various medical imaging procedures. It is an essential for the inquisitive mind, seeking to understand the scope of medical imaging in clinical practice.

This book offers practical guidelines for performing efficient and cost-effective MRI examinations. By adopting a practical protocol-based approach the work-flow in a MRI unit can be streamlined and optimized. All chapters have been thoroughly reviewed, and new techniques and figures are included. There is a new chapter on MRI of the chest. This book will help beginners to implement the protocols and will update the knowledge of more experienced users.

Obtaining and interpreting images of the heart is critical to the successful management of any cardiac disorders. Several imaging modalities are used to help cardiologists correctly diagnose these disorders and initiate the most appropriate form of treatment. Since the first publication of this book, the use of cardiovascular CT imaging has increase

The last 10 years has seen explosive expansion of the number of centres performing cardiovascular magnetic resonance (CMR) imaging. The majority of this expansion has been in the field of adult ischaemic imaging, but congenital heart disease remains one of the main indications for CMR. Importantly, the greatly improved survival of patients with congenital heart disease gives us a burgeoning adult population living with the sequelae of the disease (grown-up congenital heart disease – GUCH). Without previous experience or formal training, the interpretation of CMR images of patients with congenital heart disease can be difficult. The main aim of this book is to create a portable resource that offers efficient access to high-quality MR (and where appropriate, CT) images of the common congenital and structural heart abnormalities. We hope that by providing key images for each condition and a clear interpretation of the MR appearances, we will improve the reader's understanding of the conditions, facilitate their interpretation of images and optimise the planning of the imaging protocols during their own practice of congenital CMR. As with any publication from a single institution, the contents of this book represent our own practice. We have not written a definitive or exhaustive description of the conditions.

Now in its updated Third Edition, MRI: The Basics is an easy-to-read, clinically relevant introduction to the physics behind MR imaging. The book features large-size, legible equations, state-of-the-art images, instructive diagrams, and questions and answers that are ideal for board review. The American Journal of Radiology praised the previous edition as "an excellent text for introducing the basic concepts to individuals interested in clinical MRI." This edition spans the gamut from basic physics to multi-use MR options to specific applications, and has dozens of new images. Coverage reflects the latest advances in MRI and includes completely new chapters on k-space, parallel imaging, cardiac MRI, and MR spectroscopy.

The popular QUESTIONS AND ANSWERS IN MAGNETIC RESONANCE IMAGING is thoroughly revised and updated to reflect the latest advances in MRI technology. Four new chapters explain recent developments in the field in the traditional question and short answer format. This clear, concise and informative text discusses hundreds of the most common questions about MRI, as well as some challenging questions for seasoned MRI specialists.

MRI from Picture to Proton presents the basics of MR practice and theory in a unique way: backwards! The subject is approached just as a new MR practitioner would encounter MRI: starting from the images, equipment and scanning protocols, rather than pages of physics theory. The reader is brought face-to-face with issues pertinent to practice immediately, filling in the theoretical background as their experience of scanning grows. Key ideas are introduced in an intuitive manner which is faithful to the underlying physics but avoids the need for difficult or distracting mathematics. Additional explanations for the more technically inquisitive are given in optional secondary text boxes. The new edition is fully up-dated to reflect the most recent advances, and includes a new chapter on parallel imaging. Informal in style and informed in content, written by recognized effective communicators of MR, this is an essential text for the student of MR.

Cardiovascular Magnetic Resonance (CMR) is a rapidly expanding imaging method in cardiology which provides unparalleled diagnostic information about the heart. It is however a complex technique and though the availability of scanners is increasing quickly, the expertise required to perform the scans is limited. While no book is a substitute for experience, this handbook provides an invaluable guide to performing and interpreting the scans which should aid both new and experienced operators. Cardiovascular Magnetic Resonance is an indispensable guide to performing and interpreting CMR scans. What to look for, which sequences to include, how to acquire them, and how to interpret the images are all included in the handbook. The information is provided in a quick-reference, easy-to-use format with many images from real cases, and is designed to sit on the scanning console or in the office, providing a step-by-step guide to aid the CMR practitioner at every stage. All areas of cardiovascular imaging are covered, including tips and tricks for optimal imaging and how to avoid and spot artefacts. From patient safety to differential diagnoses of tricky images, to an easy to understand section on the science behind magnetic resonance, all aspects are covered in this concise yet comprehensive guide to this specialist area. Whether a novice or expert in the field, all readers should find this book a useful tool. It is an invaluable reference that no CMR department should be without.

The Mayo Clinic Guide to Magnetic Resonance Imaging, Second Edition, is a thoroughly handy reference text and soon to be classic text is designed to educate physicists, technologists, and clinicians in the basics of cardiac MRI. A significantly expanded and reworked clinical imaging section provides numerous imaging protocols for the most commonly indicated cardiac MRI examinations as well as a plethora of well illustrated and described clinical examples. This text is a must have for anyone interested in developing their own cardiovascular MR imaging practice or advancing their existing skills. The addition of case-based questions and answers add a new dimension to this expanded second edition.

This careful revision keeps pace with developments in the field, with new chapters on PET Metabolism, CT and MRI in the Emergency Department, Image-Guided Electrophysiology Mapping and Ablation, and Identification of Vulnerable Atherosclerotic Plaque by Radionuclide and CT techniques, plus the introduction of new contributors Udo Hoffman and Stephan Achenbach. Praised in its previous edition as a concise source of essential information, this new edition presents the most recent information in an accessible format and serves as an excellent reference source for all cardiologists, radiologists and nuclear medicine physicians.

Cardiovascular Magnetic Resonance provides you with up-to-date clinical applications of cardiovascular MRI for the broad spectrum of cardiovascular diseases, including ischemic, myopathic, valvular, and congenital heart diseases, as well as great vessel and peripheral vascular disease. Editors Warren J. Manning and Dudley J. Pennell and their team of international contributors cover everything from basic MR physics to sequence design, flow quantification and spectroscopy to structural anatomy and pathology. Learn the appropriate role for CMR in a variety of clinical settings with

reference to other modalities, practical limitations, and costs. With the latest information on contrast agents, MR angiography, MR spectroscopy, imaging protocols, and more, this book is essential for both the beginner and expert CMR practitioner. Covers both the technical and clinical aspects of CMR to serve as a comprehensive reference. Demonstrates the full spectrum of the application of cardiac MR from ischemic heart disease to valvular, myopathic, pericardial, aortic, and congenital heart disease. Includes coverage of normal anatomy, orientation, and function to provide you with baseline values. Discusses advanced techniques, such as interventional MR, to include essential information relevant to the specialist. Features appendices with acronyms and CMR terminology used by equipment vendors that serve as an introduction to the field. Uses consistent terminology and abbreviations throughout the text for clarity and easy reference. Covers both the technical and clinical aspects of CMR to serve as a comprehensive reference. Demonstrates the full spectrum of the application of cardiac MR from ischemic heart disease to valvular, myopathic, pericardial, aortic, and congenital heart disease. Includes coverage of normal anatomy, orientation, and function to provide you with baseline values. Discusses advanced techniques, such as interventional MR, to include essential information relevant to the specialist. Features appendices with acronyms and CMR terminology used by equipment vendors that serve as an introduction to the field. Uses consistent terminology and abbreviations throughout the text for clarity and easy reference.

The book provides an introduction to CMR imaging that is understandable and focused on the relevant information needed to using CMR imaging in clinical practice. Cardiovascular magnetic resonance (CMR) imaging has become an established imaging modality with an expanding range of clinical indications. While in the past the availability of CMR imaging was limited to a few specialist centres the method is becoming more widely available. Most clinicians therefore need to have a general understanding of the diagnostic information that can be obtained from CMR imaging, the indications for referral as well as contraindications and limitations of the method. For cardiologists and radiologists in particular, CMR imaging will become a routine diagnostic tool and training curricula in Cardiology or Radiology reflect this trend by increasingly demanding training in CMR imaging.

This new volume in the best-selling Case ReviewT series helps readers test their mastery of all of today's core knowledge in cardiac imaging. Hundreds of case studies-with over 350 superb images as well as questions, answers, rationales, and references-cover everything from basic principles through the latest diagnostic imaging techniques, equipment, and technology. The result is an outstanding review source for the American Board of Radiology's oral exam in cardiopulmonary radiology as well as for other exams in the field. Organizes case studies into "Opening Round," "Fair Game," and "Challenge" sections that present varying levels of difficulty. Features more than 350 high-quality, state-of-the-art images representing a wide range of clinical situations encountered in cardiac imaging. Includes page references to Miller: Cardiac Imaging: The Requisites, 2nd Edition (0-323-01755-X) as well as to other current works in the literature, making it easy to find in-depth explanations of any subject. Mirrors the format and content of the American Board of Radiology's oral exam in cardiopulmonary radiology, offering readers highly effective preparation assistance.

This textbook is alone in focusing on the subject of cardiac magnetic resonance (CMR) imaging in pediatric and adult patients with congenital heart disease. The topic of congenital heart disease imaging is usually relegated to a single chapter in most general CMR texts. The expanding scope of CHD warrants a text dedicated to covering CHD and CMR imaging in detail. Our proposed book aims to be a comprehensive and authoritative text on this subject. This book is be a multi-authored, illustrated text that includes supplementary access to a number of clinical videos. Authors have been selected from imaging experts in the most medically advanced areas of the world, heavily weighted by experts in the US and Europe to produce the quintessential reference in this topic.

This pictorial instructional pocket guide, derived from Cardiovascular MRI Tutorial, is a quick reference for MRI technologists, technologist trainees, and radiology or cardiology residents or fellows. Routine cardiac imaging protocols are presented in step-by-step fashion for immediate reference during an MRI examination. Each chapter displays a specific protocol from start to finish, including positioning, anatomy, and sequence terminology, with easy-to-follow illustrative images. Coverage includes protocols for cardiac function; cardiac function/viability; cardiac function/non-ischemic viability; arch; arrhythmogenic right ventricular dysplasia/cardiomyopathy (ARVD/C); pulmonary vein electrophysiology (EP) ablation; constrictive pericarditis; atrial or ventricular septal defect (ASD or VSD); anomalous coronaries; and cardiac thalassemia.

Cardiac SPECT Imaging, Second Edition offers the best of all possible worlds--a critical topic, internationally recognized authors and cutting-edge coverage. It guides you through all aspects of the modality--from basic principles (acquiring and processing images, quality control)...and clinical applications (evaluating myocardial infarction and coronary artery disease)...to the very latest equipment. It even compares SPECT with other modalities (PET, CT, MRI, and echocardiography) to ensure smart, cost-effective decisions by both the cardiologist and nuclear medicine physician. Look for new chapters on attenuation correction, gated perfusion SPECT, radiopharmaceuticals, and myocardial perfusion SPECT, as well as the very latest on myocardial perfusion SPECT in conjunction with exercise and pharmacologic stress, assessment of perfusion/viability with Tc-99m agents, how SPECT compares with other advanced cardiac imaging modalities, and more!

This highly comprehensive and informed textbook has been prepared by the Cardiovascular Magnetic Resonance section of the European Society of Cardiology association on imaging, the EACVI. The EACVI Textbook of Cardiovascular Magnetic Resonance is the authority on the subject. The textbook is aligned with ESC Core Curriculum and EACVI Core Syllabus for CMR. It is a practical resource and provides a disease orientated outlook on the subject. Structured with thirteen clear and detailed sections, ranging from Physics to Methodology, and featuring specific sections on ischemic heart disease, myocardial disease, pericardial disease, and congenital heart disease and adult congenital

heart disease, The EACVI Textbook of Cardiovascular Magnetic Resonance provides extensive knowledge across the entire subject area in CMR. Beautifully illustrated and physical principles enriched with schematic animations, the textbook is advanced further with key video content based on clinical cases. Written by leading experts in the field from across the world, the textbook aims to summarise the existing research and clinical evidence for the various CMR indications and provide an invaluable resource for cardiologists and radiologists across the board. The textbook is ideal for cardiologists and radiologists new to the field of Cardiovascular Magnetic Resonance, those preparing for ESC certification in CMR, and those established in the field wishing to gain a deep understanding of CMR. Online access to the digital version is included with purchase of the print book, with accompanying videos referenced within the text available on Oxford Medicine Online.

Provides state-of-the-art coverage of CMR technologies and guidelines, including basic principles, imaging techniques, ischemic heart disease, right ventricular and congenital heart disease, vascular and pericardium conditions, and functional cardiovascular disease. Includes new chapters on non-cardiac pathology, pacemaker safety, economics of CMR, and guidelines as well as new coverage of myocarditis and its diagnosis and assessment of prognosis by cardiovascular magnetic resonance, and the use of PET/CMR imaging of the heart, especially in sarcoidosis. Features more than 1,100 high-quality images representing today's CMR imaging. Covers T1, T2 and ECV mapping, as well as T2* imaging in iron overload, which has been shown to save lives in patients with thalassaemia major Discusses the cost-effectiveness of CMR.

Cardiovascular Magnetic Resonance (CMR) is well established in clinical practice for the diagnosis and management of a wide array of cardiovascular diseases. This expertly written source offers a wealth of information on the application and performance of CMR for diagnosis and evaluation of treatment.

This text equips radiologists with a firm working knowledge of the physical principles underlying cardiovascular MR image generation. Emphasis is on practical applications of MR physics in customizing and optimizing imaging sequences and protocols and minimizing artifacts. Section I covers basic principles of MR physics and includes a chapter on safety. Section II applies these principles to vascular imaging, including gadolinium-enhanced MR angiography. Section III examines various techniques and applications of cardiac MR imaging. Each chapter includes boxed Key Concepts, Challenging Questions, and Review Questions, and many chapters include sample protocols. More than 400 drawings and scans complement the text.

The Physics of Clinical MR Taught Through Images Fourth Edition by Val Runge, Wolfgang Nitz, and Johannes Heverhagen presents a unique and highly practical approach to understanding the physics of magnetic resonance imaging. Each physics topic is described in user-friendly language and accompanied by high-quality graphics and/or images. The visually rich format provides a readily accessible tool for learning, leveraging, and mastering the powerful diagnostic capabilities of MRI. Key Features More than 700 images, anatomical drawings, clinical tables, charts, and diagrams, including magnetization curves and pulse sequencing, facilitate acquisition of highly technical content. Eight systematically organized sections cover core topics: hardware and radiologic safety; basic image physics; basic and advanced image acquisition; flow effects; techniques specific to the brain, heart, liver, breast, and cartilage; management and reduction of artifacts; and improvements in MRI diagnostics and technologies. Cutting-edge topics including contrast-enhanced MR angiography, spectroscopy, perfusion, and advanced parallel imaging/data sparsity techniques. Discussion of groundbreaking hardware and software innovations, such as MR-PET, 7 T, interventional MR, 4D flow, CAIPRINHA, radial acquisition, simultaneous multislice, and compressed sensing. A handy appendix provides a quick reference of acronyms, which often differ from company to company. The breadth of coverage, rich visuals, and succinct text make this manual the perfect reference for radiology residents, practicing radiologists, researchers in MR, and technologists.

Incorporating the latest advances in MR technology and cardiac imaging, this pocket atlas is a rapid guide to interpretation of cardiac MR images. This edition features over 120 sharp new images of normal anatomy and abnormalities and includes new sections on coronary arteries, thoracic MR angiography, three-dimensional surface anatomy, surgical repairs, and imaging protocols. Each page presents a high-resolution image, with anatomic landmarks clearly labeled. Above the image is a key to the labels and a thumbnail illustration that orients readers to the plane of view (sagittal, axial, or coronal). This format enables readers to identify features quickly and accurately.

This extensively illustrated volume has been specifically geared towards optimal use of MRI systems. The text provides essential theoretical background information: Imaging acquisition and potential pitfalls are also examined in detail. Most importantly, structured guidelines are provided on the interpretation of clinical data in the wide range of cardiac pathology that can be encountered.

Written by many of the best-known names in cardiac and vascular imaging, Diagnostic Imaging: Cardiovascular, 2nd edition contains a vast amount of concentrated information about cardiovascular disease entities and numerous high quality state of the art images. Unlike other cardiovascular imaging textbooks this text focuses not just on one imaging modality such as MRI or CT, but rather highlights the imaging findings and appropriate role of all current imaging modalities that are pertinent to individual diagnoses. The imaging material is superb throughout and the author list includes experts from all aspects of modern cardiac and vascular imaging. Images are clear and convey typical and atypical examples of specific diagnoses as well as "mimics" and potential pitfalls that may affect diagnostic accuracy. As the 2nd edition to Diagnostic Imaging: Cardiovascular, the reader can expect the most up-to-date information. This is a must-have new edition! FEATURES: Published by Amirsys, a globally recognized medical information publisher. Authored by the leading experts in cardiovascular imaging within radiology and cardiology. Unique case based format is complimented by prosaic introduction to categories of disease entities and by detailed anatomic reviews. Heavily

illustrated along with hundreds of annotated images. Bulleted, easy-scan, and succinct text puts the most pertinent information at your fingertips Comes with Amirsys eBook Advantage(tm), an online eBook featuring expanded content, additional eBook images, and fully searchable text.

Invasive Cardiology: A Manual for Cath Lab Personnel, Third Edition was recently honored with 4 Stars from Doody's Book Review! Completely revised and updated, the Third Edition of Invasive Cardiology: A Manual for Cath Lab Personnel, is written specifically for nurses, technologists, and allied health personnel working in the catheterization laboratory. Topics cover all aspects of the catheterization laboratory including cardiovascular anatomy, radiography, angiography, technical duties of the staff, right and left heart catheterization, PCI, invasive ultrasound, valvuloplasty, hemostasis, pediatric interventions, pharmacology, emergency procedures, and many others.

Accounting for more than 40% of all heart failure problems, diastolic heart failure is a complex and often difficult diagnosis with rapidly evolving diagnostic management protocols. Diastology: Clinical Approach to Heart Failure with Preserved Ejection Fraction, 2nd Edition, brings you up to date and equips you to successfully diagnose and manage even the most challenging incidences of diastolic heart failure and their comorbidities. It incorporates the latest guidelines for the diagnostic evaluation of the patient with suspected or known diastolic dysfunction, provides a comprehensive review of clinical conditions associated with heart failure with preserved ejection fraction, and describes the complementary role of imaging modalities and novel therapeutic approaches. Keeps you current with recent extensive changes in the understanding of the mechanisms of diastolic heart failure with preserved ejection fraction (HFpEF) that have resulted in dramatic changes in treatment guidelines. Covers the latest molecular, genetic, and cellular mechanisms behind diastolic heart failure as a basis for the latest clinical approaches, diagnosis, and treatment of common and uncommon pathological conditions such as hypertensive heart disease, cardiomyopathies, arterial and valvular diseases, pericardial diseases, congenital heart disease, diabetes mellitus, and metabolic syndrome. Features 50 video cases, new key summary points, new multiple-choice review questions, and six new chapters: Evaluation of Diastolic Function by Radionuclide Techniques; Diastology Stress Test; ASE/EACVI Diastolic Guidelines; Valve Disease; Perioperative Assessment of Diastolic Dysfunction; and Pulmonary Hypertension. Reviews new techniques and indices for assessing diastolic function, such as 3D echo, strain rate imaging, late gadolinium enhancement and T1-mapping by CMR, and novel nuclear scintigraphic methods – as well as the traditional indices of LV filling, LA function, and tissue Doppler indices. Covers emerging topics such as the role of neurohormones, global and regional systolic function of the left ventricle, chronotropic incompetence and pacing, aging, perioperative assessment, and more. Presents information in a quick-retrieval format, covering Epidemiology, Pathophysiology, Diagnostic Evaluation, Differential Diagnosis, Treatment, and Future Directions. Helps you learn efficiently and prepare for self-assessment with key summaries and multiple-choice questions and answers for each chapter.

This text/DVD package is ideally suited for training courses for cardiologists and radiologists seeking certification to perform and interpret cardiovascular MRI (CMR) examinations. The authors present 37 lectures that systematically explain all key aspects of CMR. Coverage begins with an overview of principles, equipment, and imaging methods and proceeds to imaging protocols and clinical applications. An Advanced Training section includes details of imaging techniques, vascular imaging techniques, specialized cardiac imaging, and artifacts. The text and the PowerPoint lectures on the DVD complement each other in a unique way. The book mirrors the content of the lectures and provides full explanations of concepts that are well illustrated in the slides. DVD for Windows (PC only; Mac is available upon request).

Clinical Cardiac MRI is a comprehensive textbook intended for everyone involved in magnetic resonance imaging of the heart. It is designed both as a useful guide for newcomers to the field and as an aid for those who routinely perform such studies. The first edition, published in 2004-5, was very well received within the cardiac imaging community, and has generally been considered the reference because of its completeness, its clarity, and the number and quality of the illustrations. Moreover, the addition of a CD-ROM showing 50 real-life cases significantly enhanced the value of the book. In this second edition, the aim has been to maintain the same quality while incorporating the newest insights and developments in this rapidly evolving domain of medical imaging. The four editors, all experts in the field, have taken great care to ensure a homogeneous high standard throughout the book. Finally, the selection of 100 real-life cases, added as online material, will further enhance the value of this textbook.

This book is a comprehensive and authoritative text on the expanding scope of CMR, dedicated to covering basic principles in detail focusing on the needs of cardiovascular imagers. The target audience for this book includes CMR specialists, trainees in CMR and cardiovascular medicine, cardiovascular physicists or clinical cardiovascular imagers. This book includes figures and CMR examples in the form of high-resolution still images and is divided in two sections: basic MRI physics, i.e. the nuts and bolts of MR imaging; and imaging techniques (pulse sequences) used in cardiovascular MR imaging. Each imaging technique is discussed in a separate chapter that includes the physics and clinical applications (with cardiovascular examples) of a particular technique. Evolving techniques or research based techniques are discussed as well. This section covers both cardiac and vascular imaging. Cardiovascular magnetic resonance (CMR) imaging is now considered a clinically important imaging modality for patients with a wide variety of cardiovascular diseases. Recent developments in scanner hardware, imaging sequences, and analysis software have led to 3-dimensional, high-resolution imaging of the cardiovascular system. These developments have also influenced a wide variety of cardiovascular imaging applications and it is now routinely used in clinical practice in CMR laboratories around the world. The non-invasiveness and lack of ionizing radiation exposure make CMR uniquely important for patients whose clinical condition requires serial imaging follow-up. This is particularly true for patients with congenital heart disease (CHD) with or without surgical corrections who require lifelong clinical and imaging follow-up.

Clinical Cardiac MRI Springer

Accompanying DVD-ROM contains ... "high-quality three-dimensional displays of cardiac anatomy and more than 100 cine displays of cardiac function in real clinical applications."--Page 4 of cover. Fuller description of DVD-ROM contents on pp. ix-xi.

The detection and measurement of the dynamic regulation and interactions of cells and proteins within the living cell are critical to the understanding of cellular biology and pathophysiology. The multidisciplinary field of molecular imaging of living subjects continues to expand with dramatic advances in chemistry, molecular biology, therapeutics, engineering, medical physics and biomedical applications. Molecular Imaging: Principles and Practice, Volumes 1 and 2, Second Edition provides the first point of entry for physicians, scientists, and practitioners. This authoritative reference book provides a comprehensible overview along with in-depth presentation of molecular imaging concepts, technologies and applications making it the foremost source for both

established and new investigators, collaborators, students and anyone interested in this exciting and important field. The most authoritative and comprehensive resource available in the molecular-imaging field, written by over 170 of the leading scientists from around the world who have evaluated and summarized the most important methods, principles, technologies and data. Concepts illustrated with over 600 color figures and molecular-imaging examples. Chapters/topics include, artificial intelligence and machine learning, use of online social media, virtual and augmented reality, optogenetics, FDA regulatory process of imaging agents and devices, emerging instrumentation, MR elastography, MR fingerprinting, operational radiation safety, multiscale imaging and uses in drug development. This edition is packed with innovative science, including theranostics, light sheet fluorescence microscopy, (LSFM), mass spectrometry imaging, combining in vitro and in vivo diagnostics, Raman imaging, along with molecular and functional imaging applications. Valuable applications of molecular imaging in pediatrics, oncology, autoimmune, cardiovascular and CNS diseases are also presented. This resource helps integrate diverse multidisciplinary concepts associated with molecular imaging to provide readers with an improved understanding of current and future applications. Cardiovascular MR imaging has become a robust, clinically useful modality, and the rapid pace of innovation and important information it conveys have attracted many students whose goal is to become adept practitioners. In turn, many excellent textbooks have been written to aid this process. These books are necessary and useful in helping the student learn the underlying pulse sequences used in CMR, as well as the imaging findings in a variety of disorders. However, one of the difficulties inherent in learning CMR from a book is that the printed format is not the ideal medium to display the dynamic imaging that comprises a typical CMR case. For instance, it may be difficult to perceive focal areas of wall motion abnormality on serial static pictures, but these abnormalities are often easily seen on cine loops. One might say that trying to learn CMR solely from a standard textbook with illustrations is like trying to learn to drive by looking at snapshots obtained through the windshield of a moving car. The learner needs to see the cardiac motion and decide if it is normal or abnormal; he or she needs to be in the driver's seat. An additional limitation of the available textbooks on CMR is that while they often have superb illustrations of abnormal findings, these images have been preselected.

This clinical resource of cardiac MR imaging is a straightforward how-to text for technologists, physicians, and physicists. Written by internationally eminent experts in cardiovascular imaging, this volume provides state-of-the-art information on the use of MRI and CT in the assessment of cardiac and vascular diseases. This third edition, now in four-color, reflects recent significant advances in cardiovascular MRI technology and the continuing emergence of multi-detector CT as an important diagnostic modality, particularly for ischemic heart disease. Seven new chapters have been added including chapters on anatomy, cardiovascular MR in infants/children, assessing myocardial viability, risk assessment in ischemic heart disease and MR guidance. This title provides an easily digestible and portable synopsis of the technique which will suit the needs of cardiologists and cardiothoracic surgeons wishing to acquaint themselves with what CMR can do, and what it cannot. Beginning with an outline of some of the basic principles of MRI, the following chapters concentrate on the cardiac side of CMR with a later section on its more established vascular uses.

The significantly updated second edition of this important work provides an up-to-date and comprehensive overview of cardiovascular magnetic resonance imaging (CMR), a rapidly evolving tool for diagnosis and intervention of cardiovascular disease. New and updated chapters focus on recent applications of CMR such as electrophysiological ablative treatment of arrhythmias, targeted molecular MRI, and T1 mapping methods. The book presents a state-of-the-art compilation of expert contributions to the field, each examining normal and pathologic anatomy of the cardiovascular system as assessed by magnetic resonance imaging. Functional techniques such as myocardial perfusion imaging and assessment of flow velocity are emphasized, along with the exciting areas of atherosclerosis plaque imaging and targeted MRI. This cutting-edge volume represents a multidisciplinary approach to the field, with contributions from experts in cardiology, radiology, physics, engineering, physiology and biochemistry, and offers new directions in noninvasive imaging. The Second Edition of Cardiovascular Magnetic Resonance Imaging is an essential resource for cardiologists and radiologists striving to lead the way into the future of this important field. Written by internationally eminent experts in cardiovascular imaging, this volume details the newly recognized advantages of using MR to evaluate cardiovascular disease--including more comprehensive data, no radiation exposure, reduced cost, and less patient discomfort. The book explains how to obtain reliable anatomic and functional information about the heart and vascular system--noninvasively and with a single imaging study. Six chapters provide must-have advice on techniques, blood flow measurements, contrast media, and more. Twenty-three chapters reveal the superior diagnostic capabilities of MRI and MRA for a full range of acquired and congenital cardiovascular disorders. The authors show how to evaluate myocardial and pericardial disorders, assess myocardial viability by contrast enhancement, examine coronary artery bypass grafts, image atherosclerotic plaque, and much more. An unmatched collection of more than 700 images presents diagnostic information in unprecedented detail, improving the reader's interpretation of clinical studies.

Cardiac Magnetic Resonance (CMR) is a rapidly evolving imaging technology and is now increasingly utilized in patient care. Its advantages are noninvasiveness, superb image resolutions, and body tissue characterization. CMR is now an essential part of both cardiology and radiology training and has become part of the examination for Board certification. This book provides a condensed but comprehensive and reader friendly educational tool for cardiology fellows and radiology residents. It contains multiple choice questions similar to board examinations with concise comment and explanation about the correct answer. Get quick answers to the most important clinical questions with Cardiology Secrets! Using the popular and trusted Secret Series® Q&A format, this easy-to-read cardiology book provides rapid access to the practical, "in-the-trenches" know-how you need to succeed both in practice, and on cardiology board and recertification exams. Get the evidence-based guidance you need to provide optimal care for your patients with cardiac heart diseases. Explore effective solutions to a full range of clinical issues including the general examination, diagnostic procedures, arrhythmias, symptoms and disease states, valvular heart disease, cardiovascular pharmacology, and other medical conditions with associated cardiac involvement. Zero in on key information with bulleted lists, mnemonics, practical tips from the leading cardiologists, and "Key Points" boxes that provide a concise overview of important board-relevant content. Review essential material efficiently with the "Top 100 Secrets in Cardiology" - perfect for last-minute study or self-assessment. Apply all the latest advances in clinical cardiology techniques, technology, and pharmacology. Access the complete text and illustrations online at Expert Consult, fully searchable.

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