

## Preface

Magnetic resonance (MR) imaging has developed into the most versatile cross-sectional imaging method in clinical practice. Improvements in both hardware and sequences are broadening the scope of clinical applications with breathtaking speed. From the start MR gained an early foothold in neuroradiology and musculoskeletal radiology; however, recent developments have widened its application to include abdominal, cardiovascular, breast, chest and whole-body applications.

As a result of novel technical developments, MR imaging offers to medical practitioners a palette of high-quality anatomical imaging, and, more recently broader functional imaging applications. Diffusion-weighted imaging, a technique for the detection of early cerebral ischemia, is no longer regarded as a brain only study and offers advantage for anatomical and functional assessment of tumours outside the nervous system. The many paradigm shifts in MR imaging frequently present an obstacle not only to beginners who may find it difficult to get started while the goal-posts are changing so rapidly, but also to more experienced users who find it hard to keep abreast of recent advances and new applications. Comprehensive information about all aspects of MR imaging can be found in many excellent textbooks and reference works, several of which have become encyclopaedic in scope and sheer volume, and examining the subject matter in such detail is beyond the scope of this textbook. However, in recognition of the fact that routine diagnostic questions account for more than 90% of examinations in most departments, the editors and authors of this book, endeavoured to present a more clinically relevant approach. This lead to a practical protocol-based approach to the routine workflow in the MR unit, which can be streamlined considerably, which is increasingly critical in today's economic environment. We have aimed to equip the reader with such information, to allow best use of MR technology and capability, based on our collective experience gleaned from years of cutting-edge clinical practice.

The third edition of this book thus offers practical guidelines for efficient and cost-effective MR imaging examinations in daily practice. The authors and editors have rewritten all chapters, included new techniques where appropriate, added new figures and replaced older ones, reflecting best clinical practice. Major changes include new chapters on whole-body imaging and on the technical background of MR imaging, a new subchapter on the GI tract within the abdominal chapter, a combined chapter on musculoskeletal MR, in addition to complete revisions of all other chapters.

As editors, we hope that this book will lead to a better practical understanding of MR imaging and improved appreciation of new sequences and protocols, which will

contribute to enhanced clinical problem solving. As such, we believe this book will continue to help beginners to advance their starting point in tailoring protocols and aiding more experienced users in updating their knowledge.

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