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Clinical Cardiac MRI

Foreword by
Maximilian Reiser

 Springer

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Foreword

For this second edition of the highly successful reference book on *Clinical Cardiac MRI* the editorial team has been enlarged and several chapters have been added or rewritten in order to take the developments of the last 7 years into account. MRI has only recently been established as diagnostic as well as prognostic method in cardiovascular imaging and is now also used for cardiovascular intervention.

Cardiovascular diseases are the leading cause of death, counting for about 30% percent of global deaths. The value of an up to date, thoroughly researched and comprehensive textbook on cardiac imaging written by leading international experts in the field can therefore not be overestimated.

Clinical Cardiac MRI includes chapters on physics, anatomy, cardiac functions as well as MRI imaging techniques, contrast agents, guidelines for imaging interpretation and—where applicable—interventions for all common cardiac pathologies. Additionally 100 life cases can be found in the online material for the book. These also include less frequent cardiac diseases.

I would like to sincerely thank the editors as well as the authors of this textbook for their time and expertise and am very confident that this edition will, as its predecessor, be a very useful tool for everyone involved in cardiac MRI imaging.

Maximilian Reiser

Preface

By the time a book preface is written, usually most of the work has been accomplished, chapter proofs have been forwarded for correction to the authors, while the book index is still waiting to be finished. It is also the moment the editors get a first glimpse whether the book will match their expectations. About 7 years after the first edition, and almost two years after we agreed with Springer to edit a second edition of our textbook on 'Clinical Cardiac MRI', we are pleased to present you with a new, completely updated textbook. The decision to write a second version was largely driven by the huge success of the first edition, with almost exclusively positive comments not only by reviewers but by the many readers of our book throughout the world, readers that appreciated our book for being a highly useful guide for daily use, for the high-quality of the images and the addition of a CD ROM with 50 real-life cases. Their enthusiasm has been the strongest drive to edit a new version, while their comments have been most helpful to prepare an improved second edition.

For the new edition, we welcome Dr. Vivek Muthurangu, from Great Ormond Street Hospital for Children, London as the fourth member of the editorial board. Dr. Muthurangu has great expertise in the field of cardiac MR physics, pulmonary hypertension and cardiac modeling.

At the end of 2004, when the first edition of 'Clinical Cardiac MRI' was released, cardiac MRI had been through five truly exciting years that had caused a paradigm shift in cardiovascular imaging. Balanced steady-state free precession bright imaging had rapidly become the reference technique to assess cardiac function, and moreover yielded promise for other applications such as coronary artery imaging. Non-invasive comprehensive cardiac tissue characterization was no longer a far off dream. For instance, T2-weighted imaging offered the possibility of in-vivo imaging of reversible myocardial injury, while the nature of the underlying disease could often be deduced by the pattern of myocardial enhancement using (inversion-recovery) contrast-enhanced imaging, thus obviating the need for other, more invasive procedures. Besides its diagnostic role, cardiac MRI was beginning to show promise as a prognostic tool that could provide predictive information about future cardiac events.

Ever since MRI was proposed to have a role in the assessment of cardiovascular disease, cardiac MRI has experienced some resistance from the broader cardiology community with regard to its clinical value and the daily use of this 'exotic' technique. Fortunately, things have moved in the right direction. Cardiac MRI has now become the technique of choice when it comes to the

depiction of therapeutic effects (e.g. regenerative cell therapy), and for an increasing number of clinical indications a cardiac MRI study is becoming a crucial investigation that guides patients care. This is due in great extent to an increased visibility and awareness of cardiac MRI at congress meetings and in scientific journals, and the integration of this technique into appropriateness criteria and guidelines. Also the availability of dedicated textbooks has helped toward a broader recognition of cardiac MRI.

For this edition, a new chapter on cardiac modeling has been added; the chapter on heart failure, pulmonary hypertension and heart transplantation has been split in two separate chapters, yielding a total of twenty chapters. Some of the chapters have been extensively rewritten and also extended, aiming to appropriately highlight the rapidly evolving role of cardiac MRI. In particular, this was the case for ischemic heart disease and heart muscle diseases. For other chapters, such as the chapter on congenital heart disease, the emphasis is now on daily clinical applications to investigate simple and more complex cardiac malformations. Throughout the textbook, practical schemes are provided indicating how to apply cardiac MRI for a wide variety of cardiac diseases. And last, but by no mean least, a series on 100 new clinical cases is available as online material. These cases cover a wide spectrum of cardiac diseases, including some less frequent cardiac abnormalities, which have been selected to underscore the added value of cardiac MRI. The online material has the advantage of bringing the dynamic features of cardiac MRI (e.g., functional or stress imaging).

We sincerely hope that readers will receive this edition with the same enthusiasm as our first effort.

Jan Bogaert
Steven Dymarkowski
Andrew M. Taylor
Vivek Muthurangu

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