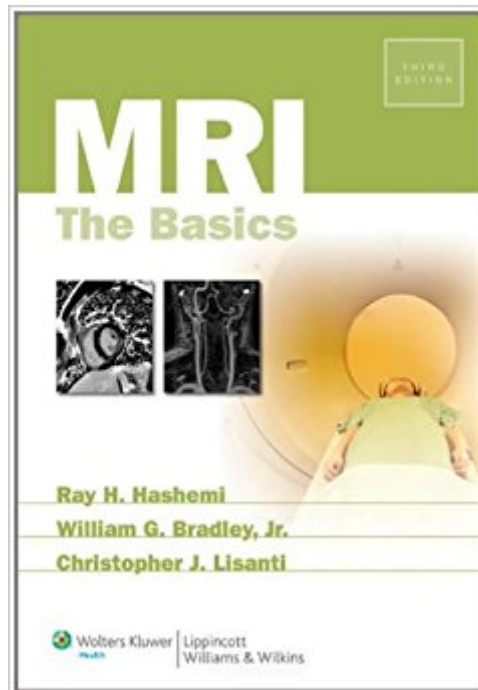




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# MRI: The Basics



## Synopsis

Now in its updated Third Edition, *MRI: The Basics* is an easy-to-read introduction to the physics behind MR imaging. The subject is presented in a clear, user-friendly, clinically relevant fashion, with large-size, legible equations, state-of-the-art images and 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.

## Book Information

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## Customer Reviews

I bought the Kindle edition of this text for a class and have quickly discovered some flaws in this edition. They are easily seen in the sample of chapter 1. Figures 1-2 through 1-4 are supposed to be graphs showing  $\sin(x)$ ,  $\cos(x)$ , and  $\sin(x)$  and  $\cos(x)$  on the same plot, but they all show  $\sin(x)$  in the Kindle edition. From the sample of the print edition, it appears to be correct. It just makes me wonder what other errors the Kindle edition contains if something that simple is wrong.

I recently had to study for a board exam and was struggling with really grasping how MRI works,

and I have a Bachelor's in physics! My mentor suggested this book, and after thumbing through her copy I immediately purchased one for myself. It gives an excellent overview and simple breakdown of everything from magnetization physics to how pulse sequences work. This is a great resource for anyone from the average consumer who's curious about MRI to the tech just starting in his/her studies.

A lot of figures . The text is well and comprehensively written. The book is worth acquiring by the exercises at the end of each chapter, which make sure you have grasped the main topics. I recommend this book to every radiologist or technologist involved in MRI.

Great intro to the math needed to have a proper "vocabulary" to understand MR physics. While most readers have had the math in college, most have also forgotten much of it. Enjoyed the approach throughout the book. Strongly recommend.

This 300 page paper back has 400 high quality and relevant illustrations (mainly diagrams and line drawings) that greatly help to illustrate some otherwise difficult-to-grasp concepts. The emphasis is on the how and why of magnetic resonance imaging, not on the interpretation of the images. The authors have successfully negotiated the narrow difference between a book that is filled with mind numbing details and one which is over simplified with a trivial approach. While not getting bogged down in minutia that are endlessly fascinating to physicists, but demoralizing to many physicians, they haven't avoided the concepts which form the basis of MRI such as, K-space, Fourier transform and pulse sequences. Nor have newer scanning techniques that involve tissue suppression and MRA been slighted. At the end of each chapter a succinct "Key Points" section emphasizes the most relevant features of the preceeding chapter. Also included at the end of each chapter is a self-assessment quiz (with answers at the end of the book). This book is excellent for MR technologists, radiology residents in board preparation and non-radiologist physicians who want to get up-to-speed in this exciting and rapidly growing subdiscipline of diagnostic imaging. If this book were a movie, I would give it an enthusiastic, "Two Thumbs Up."

My feeling about this book is mixed. It was my first introductory book to MRI, and it did get me into the field very quickly. However the chapter that describes frequency encoding and phase encoding is so badly written (the description is misleading, if not completely wrong at some points) that the treatment of k-space does not make sense. This makes the understanding of more advanced pulse

sequences difficult, if not impossible without extra sources of information. Since there really isn't that many choices for a beginner, this is a passable book. Just remember that the signal processing part of the book is inconsistent and misleading. Always consult a more technical book (for example, Liang and Lauterbur) when in doubt.

"MRI:the Basics" was my first introduction to MRI. It did get me into the field quickly. However, there are some major flaws in this book. The chapters on frequency/phase encoding is badly written. The basic mechanics is described in an imprecise way that it is misleading, if not completely wrong at some points. This leads to inconsistencies in many places, and makes the treatment of k-space unsatisfying. (That's pretty much all the major important topics in basic MRI!) I still recommend it to newbies. But always consult a more technical book (for example, Liang and Lauterbur) when in doubt.

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