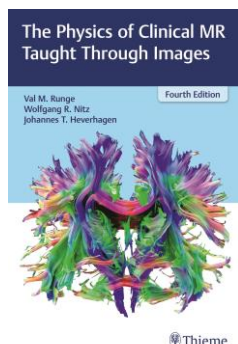


## Book shelf

# The Physics of Clinical MR Taught Through Images, fourth edition

Runge, Nitz, Heverhagen

### REVIEW INFO



Publisher:  
Thieme

ISBN:  
978-1-62623-427-7

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£53.50

RAD Magazine price:  
£46.81\*

*\*Prices correct as at June 19, 2019, please call (01371) 812960 for current prices.*

### REVIEW

*Book reviewed by Dr Martin Graves, consultant clinical scientist, Cambridge University Hospitals.*

This is the fourth edition of this soft-bound book primarily authored by editor in chief of Investigative Radiology Val M Runge, senior patent manager at Siemens Healthineers Wolfgang Nitz and Professor at the University of Berne Johannes Heverhagen. Seven other contributors are also acknowledged, together with the fact that the book was created with the support of an educational grant from Siemens Healthineers. It is therefore unsurprising that the book primarily uses terminology and examples from Siemens MR systems. The authors do provide an appendix at the end where they endeavour to match many of the clinical image examples to the acronyms used by Siemens, GE and Philips.

The unique selling point of this book is the extensive use of clinical images to illustrate the physical principles being discussed. There are a number of line diagrams that primarily illustrate individual pulse sequences as well as other MR physics concepts, but there are several chapters in which an additional diagram or two may have further aided understanding. The authors make the point that this is a non-mathematical approach, so the text is free of even the most basic equations. The book is divided into sections covering hardware, basic imaging physics, basic image acquisition, advanced image acquisition, flow, tissue specific techniques, artefacts including those due to motion and the reduction thereof, further improving diagnostic quality and technologic innovation. In total there are 141 individual topics, up from 124 in the previous edition, that are each primarily covered in two pages.

Overall this is a very comprehensive and well-illustrated text, with high quality image reproduction and with some excellent colour figures used to illustrate concepts such as diffusion tractography and 4D flow. The content is up-to-date with topics that include compressed sensing, simultaneous multislice (excitation), hepatic fat and iron quantification, synthetic MR and

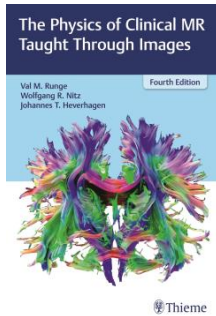
*review continues ...*

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*... review continued*

a brief mention of concerns around retained gadolinium. It is, of course, challenging to describe the complexity of MR physics topics in one or two pages so it is a little disappointing that there are no references to which the reader could follow-up further.

This book will not teach you the physics of MR. It is a good reference book if you want to see clinical examples of a concept, but the relatively concise descriptions often assume a reasonable prior understanding of MR physics. It would be a useful adjunct to a departmental library

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