

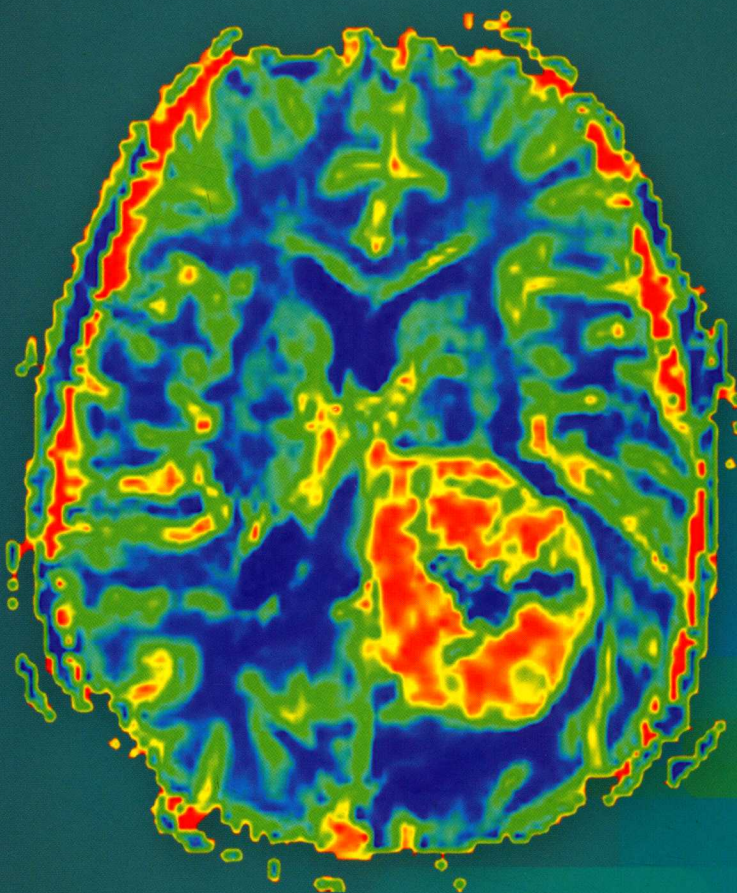


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Neuroradiology Companion

Methods, Guidelines, and Imaging Fundamentals

FIFTH EDITION



Carlos Zamora
Mauricio Castillo

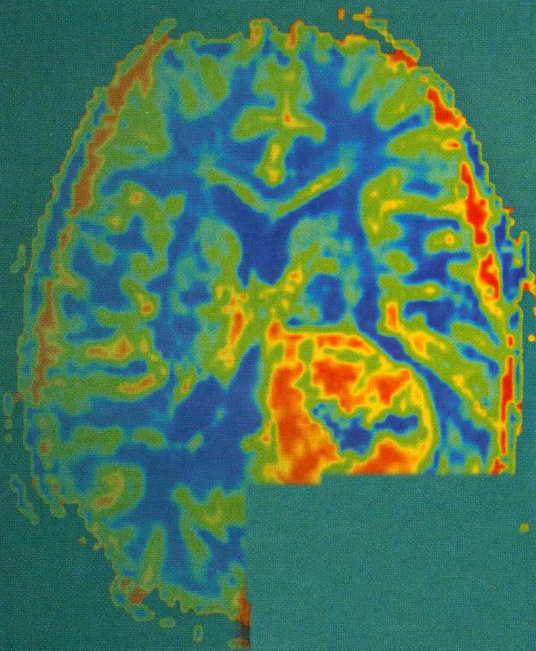


Wolters Kluwer

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Neuroradiology Companion

Methods, Guidelines, and Imaging Fundamentals

FIFTH EDITION

To Hajnalka, Sophie, David, Moisés, and Ninette.

C.Z.

Preface

There is no doubt that neuroimaging plays a central role in the ever-advancing field of the neurosciences. The extensive body of knowledge that has been generated over the past several years is not only daunting but certainly impossible to assimilate in its entirety. Updating the previous edition of the *Neuroradiology Companion* to include not only advances in radiology but also basic current concepts of neuropathology, neurosurgery, and neurology, all while keeping the text relevant to the neuroradiologist, has been a challenging but at the same time interesting and hopefully fruitful task.

The fifth edition of the *Companion* continues to be focused on residents and fellows and includes fundamental information that trainees should be familiar with by the end of their program. I am confident that they will benefit from reading the book from cover to cover. At the same time, the pathologies presented here are extracted from every day practice and likely to be encountered in both private and academic settings, such that a practicing radiologist will most likely find it valuable for quick reference. As with prior editions, the content of this book is presented in a succinct fashion. Because of the ever-increasing breadth of neuroradiology, the reader is encouraged to make the most of the resources listed as suggested reading, which have been thoroughly updated, as they will expand on the topics covered in each section.

The first part of the book has been updated to reflect some of the more relevant protocols utilized at our institution, again noting that these are continuously changing along with advances in technology and that they will vary from place to place and according to the individual needs and different vendors. The section on contrast media reactions has been updated to reflect the most recent guidelines. We have removed the chapter on sample dictations as the use of macros is commonplace at most institutions and many of these can be found online.

Finally, in an attempt to make the book more physically manageable, some of the sections have been merged and a few less relevant or redundant topics and images have been removed. On the other hand, some of the individual sections have been expanded. Overall, the book will be somewhat thinner than the prior edition. Care has also been taken to present the most illustrative images and to make the best use of labeling as an educational tool and to highlight subtle findings. This edition of the *Companion* features many recent cases and includes more than 800 new images.

I hope that you will enjoy this book as much as have I enjoyed going through every detail of the prior edition.

Carlos Zamora, MD, PhD

Acknowledgments

First and foremost, I am thankful to Dr. Castillo for his mentorship and for giving me the opportunity to contribute to this project whose preparation I have found intellectually stimulating and educational. Some of the new cases presented here come from pathology that I encountered during my training at Johns Hopkins Hospital and for that I am grateful to this institution and to its faculty, particularly Dr. Nafi Aygun and Dr. David Yousem, educators and clinicians extraordinaire. I would like to thank my new colleagues at the Neuroradiology Division who have welcomed me to UNC and whose tremendous support has proven instrumental for my academic endeavors. They are the best group of individuals I could possibly ask to work with and I have found my interactions with them to be enriching and rewarding. I am also grateful to Dr. Matthew Mauro and Dr. Paul Molina for their continued support to our division. Finally, I would like to acknowledge our supporting staff, whose tireless daily work makes ours much easier, and our trainees, whose keen curiosity continues to be an endless source of inspiration.

Carlos Zamora, MD, PhD

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PART

1

Imaging Protocols and Guidelines

As in the prior editions of this book, the protocols for CT, MRI, DSA, and myelography are provided in this section. These protocols should serve as general guidelines, may vary from those utilized in other imaging centers, and need to be adapted to the needs of the readers and their patients. Care Dose refers to our equipment radiation reduction feature. Indications refer to the most common ones and are not all-inclusive. We have also included the charge codes that we use.