
Preface to the Third Edition

Within 30 months of the release of both the first and second editions of *Contrast Media: Safety Issues and ESUR Guidelines*, the book had sold out, even though more copies were printed than is usual for a radiology book, and at a time when electronic media have increasing impact. There have been changes in the field of contrast media since the second edition, mainly because of increased knowledge about current agents rather than because new agents have been introduced. We therefore decided to update the book and have a new edition, instead of reprinting the second edition.

All of the chapters have been updated where appropriate and new chapters have been added. The chapter on non-gadolinium-based contrast agents has been omitted because the manganese- and iron-based agents are currently not marketed. There is a new chapter on the hot topic of off-label use of contrast media. Previously a contrast medium was approved, for example, for intravenous administration for all applications, but now it must also be approved for use in different parts of the body, based on efficacy data. All the currently available agents are not approved for imaging all parts of the body. The radiologist must know whether the agent which is to be used is approved for the particular examination that is to be undertaken. If the agent is not approved, special informed consent must be obtained in some countries. Another new chapter deals with the use of contrast media in pediatrics. Off-label use is often necessary in pediatrics because contrast media are not usually evaluated in children. Also, when administering contrast media to children, it is important to allow for some of the physiological differences between children and adults. A chapter on measurement of the glomerular filtration rate (GFR) has been added. Nowadays, this is an important topic because GFR decides which gadolinium-based agent can be used and whether or not there should be volume expansion before iodine-based contrast media are given. The CKD-EPI equation seems to be the best option for estimating GFR. The chapter on *Contrast Media Classification and Terminology* has been updated with more physicochemical data for the various commercially available agents. The chapter on prevention of acute contrast medium reactions has been rewritten to include the concept that hypersensitivity to contrast media may be allergic or non-allergic, and the increasing recognition of the fact that mild symptoms may follow CT and MR scans even when no contrast medium is given. The importance of recording acute reactions correctly is stressed, so that patients who have mild symptoms not requiring medical treatment are not inappropriately denied contrast medium in future. The chapters on late adverse reactions, contrast-induced nephropathy and nephrogenic systemic fibrosis have been revised. The European Society of Urogenital Radiology Contrast Medium Safety Committee (ESUR CMSC) recently reviewed the literature on these three topics and published update papers in *European Radiology* based on its conclusions. The conclusions are included in this book, and references to the guideline papers are given in Official publications from the Contrast Medium Safety Committee of the European Society of Urogenital Radiology.

We are very grateful to all the contributors to the book: without their support the project would not have been possible. We are also grateful to our academic colleagues in the ESUR CMSC for their continued and invaluable participation in our many debates and discussions. We thank Prof. Albert Baert and Prof. Maximilian Reiser as well as Corinna Schaefer and her colleagues at Springer Verlag, for supporting the book, which we hope will be an important source of reference on contrast media for all radiologists.

And finally, Henrik again thanks his wife Pia for her continuous support of this project since it started in 1996.

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Preface to the Second Edition

A new edition of *Contrast Media: Safety Issues and ESUR Guidelines* has become necessary relatively soon after the first edition. Unusually for a book on contrast media (CM), the first edition sold out in 30 months. Since the first edition, nephrogenic systemic fibrosis, a serious adverse reaction after some of the gadolinium-based contrast agents, has been recognised, and this has necessitated a reappraisal of these agents.

This second, fully revised edition continues to provide a unique and invaluable source of information on the safety issues relating to CM. It contains a number of completely new chapters, for example, on gadolinium-based CM, meta-analyses in CM research and various regulatory issues. Comprehensive consideration is given to the many different safety issues relating to iodine-based, MR, barium and ultrasound CM. There are chapters on both acute and delayed non-renal adverse reactions and on renal adverse reactions. All the questions that commonly arise in radiological practice are addressed, and the latest version of the well-known European Society of Urogenital Radiology guidelines on CM is included. We hope that all radiologists will find this book helpful in their everyday practice.

We are very grateful to our academic colleagues in the European Society of Urogenital Radiology Contrast Medium Safety Committee for their invaluable help. They deserve thanks for their continuing involvement in our many debates and discussions. We also thank Prof. Albert L. Baert, as well as Ursula N. Davis and her colleagues at Springer Verlag, for their continuous support of this book.

Finally, Henrik thanks his wife, Pia, for endorsing this project again and again.

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Preface to the First Edition

The European Society of Urogenital Radiology established its Contrast Media Safety Committee in 1994. Over the years, it has consisted of between 12 and 14 members, the majority of whom are experts in the field of contrast media research. There is currently one member from the scientific section of each of the pharmaceutical companies producing contrast agents (Bracco, Italy; GE Healthcare Diagnostics, USA; Guerbet, France; Schering, Germany). Although the members of the committee have diverse views, the Contrast Media Safety Committee works as one group for the good of patients. The committee benefits from the wealth of knowledge on contrast agents brought to it by the representatives of the pharmaceutical companies. However, the rules of the Contrast Media Safety Committee forbid any commercial promotion and the committee deals with all types of contrast agents based purely on objective analysis, sound scientific data, well-documented clinical experience and clinical common sense. Disagreement within the committee is discussed rationally and without commercial influence. All contrast media are referred to by their generic names, except when the generic name is confusing (e.g. ultrasound contrast agents). After 11 years of work, the committee has covered all the topics of clinical importance regarding the safe use of contrast media. The current book is mainly a collection of this work together with a few new chapters. The chapters have been prepared by the individual authors based on their original papers (see Appendix) when applicable and an up to date review of the literature. Some chapters are new and have never been published as papers by the committee. The chapters have not been circulated among or discussed by the members of the committee and have been edited by myself. In the appendix, the latest version of the ESUR guidelines agreed at the meeting of the committee in Copenhagen, February 2005, is presented. The ESUR guidelines have been well received by the radiological community. They are frequently cited in the literature. They have been incorporated into the protocols of many departments all over the world. They are also used by the health authorities in many countries as a reference for good radiological practice. Several of the guidelines have been translated into languages other than English, for example Spanish, Russian and Japanese.

I am sure the readers will agree that this book offers an invaluable, unique, practical and unparalleled resource dealing with safety issues related to radiographic, MR and ultrasound contrast media, and that it will ultimately benefit patients.

It has been a great honor for me to serve as chairman of this prestigious committee for 9 years. Special mention goes to the secretary of committee, Dr. Sameh Morcos, whose close cooperation has always been highly productive and inspirational. Without his energy and enthusiasm, we would never have accomplished what we have. Also, the past and current members of the committee deserve sincere thanks for their continuing involvement and for the outstanding discussions at the annual committee meeting.

Despite disagreements, we have always reached a consensus. A special thank you goes to Dr. Judith Webb, who has not only participated actively in our work but has also ensured that our manuscripts were published in correct English. Dr. Webb has revised

the English throughout this book and I am most grateful for her outstanding and continuous support.

We also thank Prof. Albert L. Baert, Editor-in-Chief of European Radiology and Editor-in-Chief of this book series, as well as Springer-Verlag for their immediate endorsement and support of the book.

Finally, I wish to thank my family, especially my wife Pia, for allowing me to invest so many hours of family time in this project.

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Contrast Media

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