

Borut Marincek
Robert F. Dondelinger
Editors

Emergency Radiology



Imaging
and Intervention

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Borut Marincek · Robert F. Dondelinger (Eds.)

EMERGENCY RADIOLOGY – Imaging and Intervention

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EMERGENCY RADIOLOGY – Imaging and Intervention

With 483 Figures, 25 in Color and 49 Tables

 Springer

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Preface

Why write a book on emergency radiology? In many countries, hospital emergency departments have become a major part of the healthcare safety net. In the last decade economically-driven structural changes in health care delivery have caused a dramatic increase in emergency department visits. In response to capacity and staffing pressures, hospitals are developing and implementing a variety of strategies designed to improve patient flow and reduce overcrowding in the emergency department. Several factors are considered critical for success, such as having the right multidisciplinary teams in place and optimizing the use of imaging tests. For a critical care physician it is paramount to obtain the images quickly and for them to be interpreted accurately.

To accomplish this, the emergency radiology division should be located adjacent to or within the emergency department. High quality emergency radiology services combine state-of-the art equipment and unsurpassable expertise available 24 hours a day. The demands for radiologists with specific knowledge in diagnostic and interventional emergency radiology is continuously increasing. The emergency radiology services should be equipped with sophisticated imaging (especially Multidetector Computed Tomography, MDCT) and information technologies (Picture Archiving and Communication System, PACS). The rapid development of MDCT technology has dramatically changed CT applications. In many imaging centers the volume of MDCT scans is growing at least 10% annually while the number of radiographic studies

decline. There is an increasing trend towards the use of MDCT to evaluate traumatic injuries and non-traumatic emergencies. The use of workstations for reporting and for further image reconstruction becomes standard practice. On the occasion of the European Congress of Radiology (ECR) 2003 and 2004 a Categorical Course on “Emergency Radiology” has been organized to assess current developments and concepts in this rapidly growing field. Numerous radiologists, all outstanding and internationally renowned experts in their field, have made superb contributions in an ECR syllabus. These authors have now made a second effort and updated their contributions for this book. The chapters in the book mirror the topics presented in the ECR course, encompassing imaging approaches as well as interventional aspects. A separate section is devoted to pediatric emergencies.

We would like to express our thanks and appreciation to all contributors for their excellent written material. This comprehensive work would not have been accomplished without their enthusiasm.

We hope this book will be a “Go-To” reference to general radiologists who have to deal with traumatic and non-traumatic emergencies. Similarly, it should serve as reference for emergency medicine physicians. Finally, radiology residents should find this book useful when covering the emergency department.

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Foreword

As emergency medicine continues to evolve as a formal clinical discipline, the need for emergency radiology to be integrated in its four essential fields of action, including clinical practice, a defined body of knowledge, a rigorous training program, and an active research environment are of primary importance.

Radiological diagnosis and management presently play an instrumental role in providing the highest standards of care in the acutely ill or multitrauma patient who enters the emergency department, and it is imperative that radiologists and other clinicians be well aware and adequately informed of the actual trends and concepts, as well as the latest advances, in this rapidly growing field.

The book provides unique and authentic descriptions of the role of imaging and intervention in practically all facets of traumatic and non-traumatic, as well as acute and life-threatening, conditions of modern medicine.

The book is divided into seven sections. Following introductory in-depth coverage of the present use of 3D imaging in the dedicated emergency room and the role of imaging in the management of polytrauma patients, the book describes in great detail imaging and intervention of all common, and less common, traumatic and non-trau-

matic neurological, thoracic, abdominal, gastrointestinal, pelvic, musculoskeletal, vascular, and pediatric emergencies.

The editors, Borut Marincek and Robert Dondelinger, are internationally renowned authorities with unparalleled clinical experience in emergency radiology. In addition to writing their own contributions to several individual chapters, they have been very successful in involving a number of leading specialists in the field, from both Europe and the United States, who convey a breadth and depth of experience and insight, and enrich our understanding and capabilities of imaging and intervention in emergency medicine.

I congratulate the editors and all the distinguished contributors to this comprehensively written and superbly illustrated volume, most sincerely, for their outstanding work. I am confident that this excellent book will meet with success among specialists in all disciplines involved in emergency medicine, and will serve as the main reference source in the field.

Nick C. Gourtsoyiannis, MD, PhD, FRCR (Hon)
Heraklion, 22 May 2006

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