

1. Record Nr.	UNINA9910300081203321
Titolo	Medical Imaging in Clinical Trials // edited by Colin G. Miller, Joel Krasnow, Lawrence H. Schwartz
Pubbl/distr/stampa	London : , : Springer London : , : Imprint : Springer, , 2014
ISBN	1-84882-710-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (422 p.)
Disciplina	610 616.0754 616.07543 616.07548
Soggetti	Medicine Radiology Nuclear medicine Interventional radiology Medicine/Public Health, general Imaging / Radiology Diagnostic Radiology Nuclear Medicine Interventional Radiology Ultrasound
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	""Foreword""; ""Preface""; ""References""; ""Contents""; ""Contributors""; ""Part I: Overview and Trial Management""; ""Chapter 1: Medical Imaging Modalities""; ""Introduction""; "" Image Orientation""; "" Planar Imaging: X-Ray Techniques""; ""Radiography/X-Ray""; "" Dual Energy X-Ray Absorptiometry""; ""Computed Tomography""; "" Magnetic Resonance Imaging""; ""Diffusion Weighted Imaging""; "" Magnetic Resonance Spectroscopy""; "" Functional MRI""; ""MRI Summary""; "" Nuclear Medicine Imaging""; ""Positron Emission Tomography""; "" Single-Photon Emission Computed Tomography""

"" Ultrasound Techniques""""Grayscale Ultrasound""; "" Doppler
 Ultrasound""; "" Echocardiography""; "" Bone Ultrasonometry""; ""
 Radiation Dosages Among Imaging Modalities""; "" Conclusion"";
 ""References""; ""Chapter 2: The Metrics and New Imaging Marker
 Qualification in Medical Imaging Modalities""; ""Introduction""; ""
 Discrimination or Sensitivity and Specificity""; "" Precision and
 Accuracy""; "" Reliability""; "" Relevant""; "" Accepted by Regulatory
 Agencies""; "" Acceptable Cost""; "" Acceptable to the Subject""; "" Safe
 for the Subject and Operator""
 "" Development of New Biomarkers"""" Identification of Systematic and
 Random Errors""; "" Conclusion""; ""References""; ""Chapter 3: Radiation
 Risks and Dosimetry Assessment""; ""Introduction""; "" How Do We
 Assess the Radiation Dose?""; "" What Are the Risks?""; "" What Do I Tell
 Participants?""; "" What Will the IRB/REC Want to Know?""; "" Training
 and Quality Assurance""; "" Appendix 3.1: Units of Radiation Dose, Risk
 Estimates and Measurement of Radiation Dose""; ""References"";
 ""Chapter 4: Imaging Review Charters and Operational Considerations"";
 ""Background""
 ""Historical Development and Use of Imaging Review Charters""""
 Current Use of Imaging Charters""; "" State-of-the-Art Imaging Review
 Charters""; ""Standard Content""; "" Defining the Response Criteria""; ""
 Designing the Read""; ""Reader Allocation for Oncology Trials"";
 ""Purpose of the Global Session""; "" The Eligibility Read""; "" Reading for
 Confirmation of PD in Oncology""; "" Selecting and Screening Readers"";
 "" Reader Training/Mock Read""; "" Reader Monitoring""; ""Adjudication
 in Oncology""; "" Use of the Imaging Charter in Adaptive Design Clinical
 Trials""
 "" Efficacy and Safety Reads""

Sommario/riassunto

Medical Imaging in Clinical Trials is a key text in understanding the methodology and the metrics that are required in the field of medical imaging. As the pharmaceutical, biotech and medical device industries continue to identify ways to improve and speed up product development, medical imaging plays a more significant role. Medical Imaging in Clinical Trials aims to educate and provide a hands-on text for those involved in clinical trials and either new to medical imaging and having to assimilate it into clinical trials or requiring to understand the key differences between clinical trial imaging and “routine” clinical imaging. It is targeted to those professionals involved in clinical trials at the clinical research site, pharmaceutical and medical device industries, and regulators. This is not the “how to image” book written for the radiologist or Radiological Technologist, but covers the critical aspects of clinical trial methodology that are important for these individuals to understand. This book addresses the ethics and radiation dosages of the different modalities, the end points commonly used for the different trial phases, the acquisition and analysis techniques, as well as the logistics management of medical imaging and the role of the central imaging lab or imaging core lab (ICL) which is now the standard requirement for clinical trials. Furthermore this text delves into the details of the major therapeutic areas where medical imaging plays a primary or secondary efficacy or safety end point.