New technologies in radiation oncology /

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Monografía

This book provides an overview of recent advances in radiation oncology, many of which have originated from physics and engineering sciences. After an introductory section on basic aspects of 3D medical imaging, the role of 3D imaging in the context of radiotherapy is explored in a series of chapters on the various modern imaging techniques. A further major section addresses 3D treatment planning for conformal radiotherapy, with consideration of both external radiotherapy and brachytherapy. Subsequently the modern techniques of 3D conformal radiotherapy are described, including stereotactic radiotherapy, intensity-modulated radiation therapy, image-guided and adaptive radiotherapy, and radiotherapy with charged particles. More clinically oriented chapters explore the use of brachytherapy in patients with prostate cancer, cardiovascular disorders and breast cancer. The book concludes with a section on quality assurance. The text is specifically designed to be accessible to professionals and students with a medical background as well as to newcomers to radiation oncology from the field of physics

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Contenido: Cover -- Foreword -- Preface -- Contents -- 1 New Technologies in 3D Conformal Radiation Therapy: Introduction and Overview -- Basics of 3D Imaging -- 2 3D Reconstruction -- 3 Processing and Segmentation of 3D Images -- 4 3D Visualization -- 5 Image Registration and Data Fusion for Radiotherapy Treatment Planning -- 6 Data Formats, Networking, Archiving, and Telemedicine -- 3D Imaging for Radiotherapy -- 7 Clinical X-Ray Computed Tomography -- 8 4D Imaging and Treatment Planning -- 9 Magnetic Resonance Imaging for Radiotherapy Planning -- 10 Potential of Magnetic Resonance Spectroscopy for Radiotherapy Planning -- 11 PET and PET/CT for Radiotherapy Planning -- 12 Patient Positioning in Radiotherapy Using Optical Guided 3D-Ultrasound Techniques -- 3D Treatment Planning for Conformal Radiotherapy -- 13 Definition of Target Volume and Organs at Risk. Biological Target Volume -- 14 Virtual Therapy Simulation -- 15 Dose Calculation Algorithms -- 16 Monte Carlo Dose Calculation for Treatment Planning -- 17 Optimization of Treatment Plans, Inverse Planning -- 18 Biological Models in Treatment Planning -- 19 2D and 3D Planning in Brachytherapy -- New Treatment Techniques -- 20 Beam Delivery in 3D Conformal Radiotherapy Using Multi-Leaf Collimators -- 21 Stereotactic Radiotherapy/Radiosurgery -- 22 Extracranial Stereotactic Radiation Therapy -- 23 X-IMRT -- 24 Control of Breathing Motion: Techniques and Models (Gated Radiotherapy) -- 25 Image-Guided/Adaptive Radiotherapy -- 26 Predictive Compensation of Breathing Motion in Lung Cancer Radiosurgery -- 27 Proton Therapy -- 28 Heavy Ion Radiotherapy -- 29 Permanent-Implant Brachytherapy in Prostate Cancer -- 30 Vascular Brachytherapy -- 31 Partial Breast Brachytherapy After Conservative Surgery for Early Breast Cancer: Techniques and Results -- Verification and QA -- 32 3D Quality Assurance (QA) Systems -- 33 Quality Management in Radiotherapy -- Subject Index

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