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Nota di contenuto	Use of Multi-parametric MRI in Radiotherapy -- MRI Guided Radiotherapy -- MRI Guided Focused Ultrasound and Thermal Oncology -- Use of PET and Novel Molecular Imaging in IGRT -- The Impact of IGRT on Normal Tissue Toxicity -- Image Guided Brachytherapy -- Hypofractionated IGRT for the treatment of primary cancers -- SBRT and the treatment of oligometastatic disease -- Molecular and image guided systemic targeted radiotherapy -- Integrating Radiotherapy and Immunotherapy -- Biomarkers and Radiotherapy -- Application of Mathematical and Systems Biology to Radiotherapy -- The Importance of Cancer Stem Cells in Radiotherapy -- Targeting DNA repair mechanisms in radiotherapy. .
Sommario/riassunto	This book concisely reviews important advances in radiation oncology, providing practicing radiation oncologists with a fundamental understanding of each topic and an appreciation of its significance for the future of radiation oncology. It explores in detail the impact of newer imaging modalities, such as multiparametric magnetic resonance imaging (MRI) and positron emission tomography (PET) using fluorodeoxyglucose (FDG) and other novel agents, which deliver

improved visualization of the physiologic and phenotypic features of a given cancer, helping oncologists to provide more targeted radiotherapy and assess the response. Due consideration is also given to how advanced technologies for radiation therapy delivery have created new treatment options for patients with localized and metastatic disease, highlighting the increasingly important role of image-guided radiotherapy in treating systemic and oligometastatic disease. Further topics include the potential value of radiotherapy in enhancing immunotherapy thanks to the broader immune-stimulatory effects, how cancer stem cells and the tumor microenvironment influence response, and the application of mathematical and systems biology methods to radiotherapy.