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Titolo	A Practical Guide to MR-Linac [[electronic resource]] : Technical Innovation and Clinical Implication // edited by Indra J. Das, Filippo Alongi, Poonam Yadav, Bharat B. Mittal
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Nota di contenuto	Section I: General -- Introduction -- Role of MRI in Radiation Oncology -- Clinical necessity & Patient Selection -- MRL: Education and Training -- Section II: MRL Physics and Technology -- Imaging sequence -- Motion Management and Tracking -- Synthetic CT and dose calculation -- Treatment planning -- View Ray system -- Elekta Unity System -- Aurora, Magneton system -- Section III: Clinical -- Oligometastatic -- Pancreas -- Liver -- Lung -- Prostate -- Gynecology -- Breast -- Spine -- Brain -- Head and neck -- Sarcoma -- Section IV: Future and outlook -- New MRL System -- Low field Imaging -- AI, Radiomics and Texture analysis -- MRL and biomarkers.
Sommario/riassunto	This book offers a detailed guide to MR-Linac, a unique and fast growing radiation treatment modality. MR-linac is new technology that is a fusion of an MRI and a linear accelerator on the same gantry. It can change both target volume delineation and tumor visualization in real time using MR-cine images and treatment. Tumor location changes moment to moment as radiation is delivered, but this cannot be visualized in current radiation therapy practices. This new and rapidly

growing technology can provide adaptive therapy that was not possible before. This book presents current knowledge on MR-linac technology, clinical practices, and ultimately patient outcome where dose escalation is not possible due to limiting normal tissue structures in the vicinity of tumor. There are two commercial MR-linac machines under consideration and both will be covered in detail. The book is divided into four sections. The first gives a general introduction to MR-Linac, covering the role of MRI in radiation oncology, the clinical necessity of this technology, and patient selection. The next section details the physics and technology of MR-Linac, covering image sequence, motion management, and treatment planning. Section three offers the clinical applications of MR-Linac and is divided by body area, including lung, prostate, and breast. Finally, the fourth section looks to the future and what this technology can mean for radiation oncology. This is an ideal guide for radiation oncologists, medical physicists, and relevant trainees. .
