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Titolo	Basic Radiotherapy Physics and Biology // by David S. Chang, Foster D. Lasley, Indra J. Das, Marc S. Mendonca, Joseph R. Dynlacht
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Soggetti	Radiotherapy Radiology Diagnostic Radiology
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Atomic and Nuclear Structure -- Radioactive Decay -- Properties and Production of Radiation -- Interactions of Electromagnetic Radiation with Matter -- Interactions of Particulate Radiation with Matter -- Quantification and Measurement of Dose -- Characteristics of Photon Beams -- Dosimetry of Photon Beams in Water -- Dosimetry of Photon Beams in a Patient -- Dosimetry of Electron Beams -- Physics and Dosimetry of Brachytherapy -- Advanced Treatment Planning for EBRT -- Linac Quality Assurance -- Radiation Protection and Safety -- Quality Management Program -- Special Topics: Hyperthermia and Computers -- Molecular Biology and Signaling -- Cancer Genetic and Molecular Characteristics -- Molecular Mechanisms of DNA Damage and Repair -- Cell Death and Survival Assays -- Fractionated Radiation Survival Models -- Oxygen Effect, Relative Biological Effectiveness and Linear Energy Transfer -- Tumor Microenvironment -- Cell and Tissue Kinetics -- Acute Effects of Total Body Irradiation (TBI) -- Normal Tissue Radiation Responses -- Therapeutic Ratio -- Combined Modality Therapy -- Biology of Brachytherapy, Particle Therapy, and Alternative Radiation Modalities -- Hyperthermia -- Carcinogenesis and Heritable Effects -- Radiation Effects in the Embryo and Fetus. .

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## Sommario/riassunto

This book is a concise and well-illustrated review of the physics and biology of radiation therapy intended for radiation oncology residents, radiation therapists, dosimetrists, and physicists. It presents topics that are included on the Radiation Therapy Physics and Biology examinations and is designed with the intent of presenting information in an easily digestible format with maximum retention in mind. The inclusion of mnemonics, rules of thumb, and reader-friendly illustrations throughout the book help to make difficult concepts easier to grasp. Basic Radiotherapy Physics and Biology is a valuable reference for students and prospective students in every discipline of radiation oncology.

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