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Titolo	3D Printing in Medicine : A Practical Guide for Medical Professionals / / edited by Frank J. Rybicki, Gerald T. Grant
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Descrizione fisica	1 online resource (VIII, 138 p. 78 illus., 77 illus. in color.)
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Soggetti	Radiology Surgery Nervous system - Surgery Personal Protective Equipment Printing, Three-Dimensional COVID-19 Imaging / Radiology Neurosurgery
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction.- 3D printing technologies -- Post-processing of DICOM images -- Establishing a 3D Service in your medical facility.- The 3D printing lab in a radiology practice -- Training and education of a 3D medical printing technologist -- Cranio-Maxillofacial 3D printing -- 3D printing in Neurosurgery and Neurointervention. - Cardiovascular 3D printing.- Musculoskeletal 3D printing.- Virtual Surgical applications.- Design and Fabrication of Customized Patient Devices.- 3D printing in Radiation Oncology.- FDA interests in the 3D printing of medical models and devices.- Bioprinting.
Sommario/riassunto	This book describes the fundamentals of three-dimensional (3D) printing, addresses the practical aspects of establishing a 3D printing service in a medical facility, and explains the enormous potential value of rendering images as 3D printed models capable of providing tactile feedback and tangible information on both anatomic and pathologic

states. Individual chapters also focus on selected areas of applications for 3D printing, including musculoskeletal, craniomaxillofacial, cardiovascular, and neurosurgery applications. Challenges and opportunities related to training, materials and equipment, and guidelines are addressed, and the overall costs of a 3D printing lab and the balancing of these costs against clinical benefits are discussed. Radiologists, surgeons, and other physicians will find this book to be a rich source of information on the practicalities and expanding medical applications of 3D printing.