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Nota di contenuto	Introduction to 3D Printing and Printers in a clinical setting -- Filaments and Resins for 3D medical printing -- Softwares for building an Office-Based 3D printing Lab -- 3D Printing for Rhinoplasty -- 3D Printing for Ear reconstruction -- 3D Printing for Oculoplasty -- 3D Printing in Maxillofacial Surgery -- 3D Printing for Whole Body Reconstruction -- 3D Printing for surgical simulations -- 3D Printing and Bioprinting -- Ethical and Legal Implicaitons of 3D printing in the clinical context -- Safety and quality in 3D printing in the clinical context -- The Near Future of Bioprinting.

Sommario/riassunto

This handy volume illustrates the basics of clinical three-dimensional (3D) printing, addressing the practical aspects of establishing a simple and effective 3D printing service in a medical facility. No longer confined to makers and workshops, this very recent technology has been fast developing and rapid prototyping has proven its potential in the clinical field as well, leading to new approaches. The declared aim of this work is enabling medical professionals to create bespoke anatomical models from a series of CT or MRI images, and assisting them in choosing the best suited 3D printers and materials for each specific clinical need. The text includes original, full-color step-by-step photos for better guidance, and a complete review of related publications in literature. Single chapters devoted to specific areas of 3D printing application, such as rhinoplasty, ear reconstruction, oculoplasty, maxillofacial surgery, as well as for surgical simulations. Contents are completedby a review of the legal aspects and the safety and quality considerations, as well as a thorough examination of the variety of 3D printers, compatible materials as filaments and resins, and including the available online resources. Plastic, Ophthalmologic and Maxillofacial surgeons, and professionals dealing with surgical reconstruction, will find this guide to be a valuable companion for the understanding of 3D printing in clinical practice.