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Altri autori (Persone)	LaurienzoPaola OlivaAdriana
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Nota di bibliografia	Includes bibliographical references (p. [52]-64) and index.
Nota di contenuto	Principles of tissue engineering --- Biocompatibility testing of medical devices: "tests for in vitro cytotoxicity (EN ISO 10993-5)" -- Principles of synthetic bone substitutes -- Polymers for bone tissue engineering -- Silica-based materials and nanoparticles for bone regeneration -- The use of calcium sulphate in bone regeneration -- Realization and performance analysis of PCL/silica nanocomposites for bone regeneration -- Mechanical alloys (chemical physical and mechanical properties) -- Chemical modification and characterization of nanocomposites -- Morphologic analysis (SEM) : biological evaluation -- Experimental materials -- Preparation of silica nanoparticles -- Preparation of nanocomposites -- Differential thermal analysis (DSC) -- Preparation and characterization of bone marrow MSCs -- Novel injectable alginate/n-succinylchitosan/calcium sulphate composites as bone-defects : biological evaluation.
Sommario/riassunto	In the present book, after briefly summarizing recent literature concerning modification and applications of these materials, several recent developments of bio-composites containing silica nanoparticles or calcium sulphate intended for bone regeneration are reported. The composites are characterized with respect to their chemical-physical and mechanical properties. Their bio-compatibility and capacity to

induce the osteoblastic phenotype in human bone marrow mesenchymal stem cells have been assessed. The authors focus on two particular systems based on either natural or synthetic bio-polymers with different biofillers: alginate/chitosan blends with calcium sulphate and poly(-caprolactone) with silica nanoparticles.
