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Nota di contenuto	1. Developmental biology of musculoskeletal tissues for tissue engineers -- 2. The mechanics of skeletal development -- 3. Development, tissue engineering, and orthopedic diseases -- 4. Limb synovial joint development from the hips down: implications for articular cartilage repair and regeneration -- 5. Stem cell-based approaches for cartilage tissue engineering: what can we learn from developmental biology -- 6. Endochondral ossification: recapitulating bone development for bone defect repair -- 7. Challenges in cell-based therapies for intervertebral disc regeneration: lessons learned from embryonic development and pathophysiology -- 8. Developmental biology in tendon tissue engineering -- 9. Biomimetic tissue engineering for musculoskeletal tissues -- 10. Clinical translation of cartilage tissue engineering, from embryonic development to a promising long-term solution.
Sommario/riassunto	Developmental Biology and Musculoskeletal Tissue Engineering: Principles and Applications focuses on the regeneration of orthopedic tissue, drawing upon expertise from developmental biologists specializing in orthopedic tissues and tissue engineers who have used and applied developmental biology approaches. Musculoskeletal tissues have an inherently poor repair capacity, and thus biologically-based

treatments that can recapitulate the native tissue properties are desirable. Cell- and tissue-based therapies are gaining ground, but basic principles still need to be addressed to ensure successful development of clinical treatments. Written as a source of information for practitioners and those with a nascent interest, it provides background information and state-of-the-art solutions and technologies. Recent developments in orthopedic tissue engineering have sought to recapitulate developmental processes for tissue repair and regeneration, and such developmental-biology based approaches are also likely to be extremely amenable for use with more primitive stem cells.--
