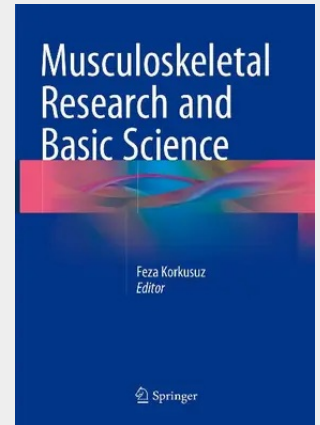


Musculoskeletal Research and Basic Science

Strong roots in basic science and research enhance clinical practice. This book is a rich source of information for basic scientists and translational researchers who focus on musculoskeletal tissues and for orthopedic and trauma surgeons seeking relevant up-to-date information on molecular biology and the mechanics of musculoskeletal tissue repair and regeneration. The book opens by discussing biomaterials and biomechanics, with detailed attention to the biologic response to implants and biomaterials and to the surface modification of implants, an important emerging research field. Finite element analysis, mechanical testing standards and gait analysis are covered. All these chapters are strongly connected to clinical applications. After a section on imaging techniques, musculoskeletal tissues and their functions are addressed, the coverage including, for example, stem cells, molecules important for growth and repair, regeneration of cartilage, tendons, ligaments, and peripheral nerves, and the genetic basis of orthopedic diseases. State-of-the-art applications such as platelet rich plasma were included. Imaging is a daily practice of scientists and medical doctors. Recent advancements in ultrasonography, computerized tomography, magnetic resonance, bone mineral density measurements using dual energy X-ray absorptiometry, and scintigraphy was covered following conventional radiography basics. Further extensive sections are devoted to pathology, oncogenesis and tumors, and pharmacology. Structure is always related with function. Surgical anatomy was therefore covered extensively in the last section.

Strong roots in basic science and research enhance clinical practice. This book is a rich source of information for basic scientists and translational researchers who focus on musculoskeletal tissues and for orthopedic and trauma surgeons seeking relevant up-to-date information on molecular biology and the mechanics of musculoskeletal tissue repair and regeneration. The book opens by discussing biomaterials and biomechanics, with detailed attention to the biologic response to implants and biomaterials and to the surface modification of implants, an important emerging research field. Finite element analysis, mechanical testing standards and gait analysis are covered. All these chapters are strongly connected to clinical applications. After a section on imaging techniques, musculoskeletal tissues and their functions are addressed, the coverage including, for example, stem cells, molecules important for growth and repair, regeneration of cartilage, tendons, ligaments, and peripheral nerves, and the genetic basis of orthopedic diseases. State-of-the-art applications such as platelet rich plasma were included. Imaging is a daily practice of scientists and medical doctors. Recent advancements in ultrasonography, computerized tomography, magnetic resonance, bone mineral density measurements using dual energy X-ray absorptiometry, and scintigraphy was covered following conventional radiography basics. Further extensive sections are devoted to pathology, oncogenesis and tumors, and pharmacology. Structure is always related with function. Surgical anatomy was therefore covered extensively in the last section.



213,99 €

199,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319793177

Medium: Buch

ISBN: 978-3-319-79317-7

Verlag: Springer

Erscheinungstermin: 30.03.2019

Sprache(n): Englisch

Auflage: Softcover Nachdruck of the original 1. Auflage 2016

Produktform: Kartoniert

Gewicht: 1663 g

Seiten: 788

Format (B x H): 178 x 254 mm

