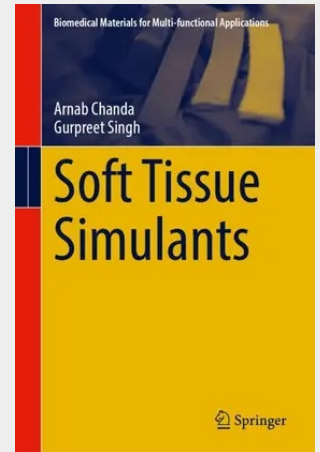


Soft Tissue Simulants

Soft tissue simulants, essential for automotive and ballistic testing, medical, and surgical training, have traditionally relied on cadavers and animal tissues. However, their biomechanical properties change with time due to dehydration after death and the biomechanics of the animal models cannot be translated and compared with the human tissues. This book compiles various synthetic tissues used in these applications, addressing their characterization and industry-wide applications. While older simulants lack biofidelity, recent advancements in biofidelic soft tissue simulants offer promising alternatives, yet technology transfer remains limited. This book fills the gap by exploring each simulant's characteristics and current trends, facilitating their adoption in clinical and academic settings. These synthetic tissues have the potential to replace live tissues in surgical training, streamlining biosafety approvals. They also benefit academic researchers by reducing costs and time in biomechanical testing. Anticipated to be the first of its kind, this comprehensive reference book will showcase recent advancements in soft tissue simulant development, serving as a cornerstone text in tissue engineering & biomedical engineering, medical simulation, biomechanics, and related fields.

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181,89 €

169,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9789819730599

Medium: Buch

ISBN: 978-981-97-3059-9

Verlag: Springer

Erscheinungstermin: 24.05.2024

Sprache(n): Englisch

Auflage: 2024

Serie: Biomedical Materials for Multi-functional Applications

Produktform: Gebunden

Gewicht: 442 g

Seiten: 146

Format (B x H): 160 x 241 mm

