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Sinopsis

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There is already a wealth of literature covering cumulative trauma disorders and medical management, as well as the biomechanics of manual material handling and lower back problems. However, despite a spike in the number of work-related musculoskeletal disorders (WRMSDs) in the upper limbs_due to a sharp increase in the amount of computer-related jobs_few if any books have focused exclusively on WRMSDs, until now.

Biomechanics of the Upper Limbs: Mechanics, Modeling and Musculoskeletal Injuries, Second Edition offers vital information and tools to improve analysis of external forces and their effects on the human body. This can help ergonomists better understand job stressors and the role they play in the development of disorders, enabling them to modify the work environment and educate practitioners to better control harmful situations.

Using the author's medical and engineering expertise to distill essential subject matter and useful technical data, this comprehensive text explores:

¦Biomechanics of the upper limbs and the motor control system
¦The structure and physiology of the human musculoskeletal and neuromuscular systems
¦Recent research findings and solutions to various ergonomic problems
¦Models of various components of the neuromuscular systems, as well as larger systems in the upper limbs
¦Risk factors for disorders and tools used to identify their causes

Designed as a textbook for a typical semester-long graduate-level engineering or kinesiology course, this book includes a link to an ancillary website that offers materials such as PowerPoint® slides, sample exams, and an instructor's manual with complete solutions. It also serves as a practical, up-to-date, engineering-oriented resource for researchers, industrial ergonomists, industrial hygienists, and medical professionals who require supplementary material.