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-- Rhythmic Gymnastics -- Weight Lifters -- Hamstring Muscles and Posture -- Limitations of Studies -- Conclusion -- References -- Chapter 4: Human Standing Posture: Mathematical Models, their Biofidelity and Applications -- Abstract -- Introduction -- Mathematical Models -- One-Link Inverted Pendulum Model. Multi-Link Inverted Pendulum Model -- Coupled 2d Multi-Link Inverted Pendulum Model -- 3d Model -- Validation of the Models -- Biofidelity of the Models -- Conclusions -- References -- Chapter 5: The Relationship between Muscle-Tendon Unit Stiffness, Joint Stability and Posture, The Risk of Injury, Performance, Resonance and Energy Expenditure -- Abstract -- Introduction -- Definition of Stiffness and Methods -- Used in Stiffness Evaluation -- Stiffness, Resonance and Energy Expenditure -- Stiffness and Performance -- Stiffness and the Risk of Injury -- Conclusion and Proposed Directions for Future Work -- References -- Chapter 6: H-Reflex Assessment as a Tool for Understanding Motor Functions in Postural Control -- Abstract -- 1. Introduction -- 2. Physiology of H-Reflex -- 2.1. The H-Reflex Pathway -- 2.2. Influence of the Supraspinal Inputs -- 2.3. Influence of the Peripheral Inputs -- 2.4. Assessment of the H-Reflex -- 3. H-Reflex Modulation During Postural Tasks -- 3.1. Upright Standing -- 3.2. Postural Perturbation -- 3.3. Body Orientation -- 3.4. Isolated Joint Movement -- Static Ankle Joint Position -- Dynamic Ankle Joint Movement -- 3.5. Sit-To-Stand, Walking, and Drop Jump -- Sit-to-Stand -- Walking -- Drop Jump -- 3.6. Adaptations to Exercise Training Interventions -- 4. Summary -- References -- Chapter 7: Body Support and Driving Operation of a Vehicle for Wheelchair Users -- Abstract -- 1. Introduction -- 2. Questionnaire Survey -- 2.1. Method -- 2.1.1. Subjects -- 2.1.2. Questionnaire items -- 2.2. Results and Discussion -- 2.2.1. Remodeling and Financial Grant Status -- 2.2.2. Driving Seat and Seat Position -- 2.2.3. Experience of Risk Behavior -- 3. Driving Measurement -- 3.1. Method -- 3.1.1. Procedure for Measurement -- 3.1.2. Measuring Steering Angle -- 3.1.3. Measuring Acceleration-Velocity. 3.1.4. Characteristics of the Subjects -- 3.1.5. Characteristics of the Course -- 3.2. Results and Discussion -- 3.2.1. Steering Control Performance -- 3.2.2. Changes of Acceleration-Velocity -- Conclusion -- References -- Index.

Sommario/riassunto

Standing is the static posture most commonly evaluated in balance assessments. This is because of its ubiquitous nature and because the act of precariously balancing two thirds of our body mass some distance from the ground imposes critical demands on the postural control system. This book presents topical research in the study of posture.
