Contents

Par	t I The Impact of ACL Injuries: Short- and Long-Term Effects on the Knee Joint
1	The ACL: Anatomy, Biomechanics, Mechanisms of Injury, and the Gender Disparity
2	Consequences of Complete ACL Ruptures
3	Muscle Dysfunction After Anterior Cruciate Ligament Rupture and Reconstruction: Implications for Successful Recovery
4	Risks of Future Joint Arthritis and Reinjury After ACL Reconstruction. 67 Frank R. Noyes and Sue Barber-Westin
Par	t II Proposed Risk Factors of Noncontact ACL Injuries
5	The Role of Shoe-Surface Interaction and Noncontact ACL Injuries
6	Gender Differences in Muscular Protection of the Knee 119 Benjamin Noonan and Edward M. Wojtys
7	Neuromuscular Differences Between Men and Women 133 Timothy C. Sell and Scott M. Lephart
8	Effects of Alterations in Gait Mechanics on the Development of Osteoarthritis in the ACL-Deficient Knee
9	Analysis of Male and Female Athletes' Muscle Activation Patterns During Running, Cutting, and Jumping 167 William P. Ebben and Timothy J. Suchomel



10	Proximal Risk Factors for ACL Injury: Role of Core Stability	
11	Proximal Risk Factors for ACL Injury: Role of the Hip Joint and Musculature	
12	Recovery of Hip Muscle Strength After ACL Injury and Reconstruction: Implications for Reducing the Risk of Reinjury	
13	Gender Differences in Core Strength and Lower Extremity Function During Static and Dynamic Single-Leg Squat Tests	
14	Effect of Fatigue and Gender on Lower Limb Neuromuscular Function	
15	Multivariate Analyses of Risk Factors for Noncontact Anterior Cruciate Ligament Injuries	
16	Testing for Neuromuscular Problems and Athletic Performance	
Part III ACL Injury Prevention Programs		
17	Sportsmetrics ACL Intervention Training Program: Components and Results	
18	Sports-Specific Programs for Soccer, Basketball, Volleyball, and Tennis	
19	ACL Injury Prevention in Soccer: The Santa Monica Experience	
20	ACL Injury Prevention Warm-Up Programs	
21	Effect of Intervention Programs on Reducing the Incidence of ACL Injuries, Improving Neuromuscular Deficiencies, and Enhancing Athletic Performance	

Part IV Reducing the Risk of Reinjury After ACL Reconstruction		
22	Rehabilitation After ACL Reconstruction	
23	Restoration of Proprioception and Neuromuscular Control Following ACL Injury and Surgery	
24	Role of Isokinetic Testing and Training After ACL Injury and Reconstruction	
25	Determination of Neuromuscular Function Before Return to Sports After ACL Reconstruction: Can We Reduce the Risk of Reinjury?	
Par	t V Future Directions	
26	Promotion of ACL Intervention Training Worldwide 609 Sue Barber-Westin and Frank R. Noyes	
27	Implementation Strategies for ACL Injury Prevention Programs	
28	Current Understandings and Directions for Future Research	