

Contents

Preface vii

Acknowledgments viii

1	Athlete Needs Analysis	1
	William J. Kraemer, PhD, Brett A. Comstock, MA, James E. Clark, MS, and Courtenay Dunn-Lewis, MA	
	Metabolic Demands of the Sport 2 · Biomechanical Demands of the Sport 6 · Injury Risks of the Sport 10 · Integrating the Needs Analysis 17	
2	Athlete Testing and Program Evaluation	23
	Jay R. Hoffman, PhD	
	Factors That Affect Performance Testing 24 · Test Selection 26 Practical Considerations for Test Administration 27 · Tests for Needs Assessment and Program Evaluation 30	
3	Dynamic Warm-Up	51
	Avery D. Faigenbaum, EdD	
	Static Stretching and Performance 52 · Dynamic Warm-Up and Performance 54 · Developing a Dynamic Warm-Up Protocol 56 Dynamic Warm-Up Exercises 58	
4	Resistance Training	71
	Nicholas A. Ratamess, PhD	
	Adaptations to Resistance Training 71 · Customizing Resistance Training Programs 74 · Resistance Training Program Variables 76	
5	Power Training	95
	Robert U. Newton, PhD, Prue Cormie, PhD, and William J. Kraemer, PhD	
	Factors Contributing to Power Output 96 · Targeting Power Development 99 · Training Methods for Power Development 105 Selecting Load and Velocity for Power Development 111	
6	Anaerobic Conditioning	119
	Jay R. Hoffman, PhD	
	Physiological Adaptations From Anaerobic Conditioning Programs 120 · Developing Anaerobic Conditioning Programs 124 Anaerobic Conditioning Exercises 127	

7	Endurance Training	131
	Joel T. Cramer, PhD, and Abbie E. Smith, PhD	
	Factors in Aerobic Endurance Performance 132 · Aerobic Endurance Training Variables 134 · Aerobic Endurance Training Strategies 136 · Periodization for Aerobic Endurance Training 139	
8	Agility Training	143
	Lee E. Brown, EdD, and Andy V. Khamoui, MS	
	Factors in Agility Performance 143 · Assessing Agility 144 Training for Agility 145 · Agility Program Design 160	
9	Speed Training	165
	Jay R. Hoffman, PhD, and John F. Graham, MS	
	Factors in Speed Performance 166 · Sprinting Mechanics and Technique 168 · Speed Program Design 170	
10	Balance and Stability Training	185
	Nejc Sarabon, PhD	
	Program Planning and Periodization 186 · Safe Progression for Balance Exercises 187 · Stability Training for Joint Systems 188	
11	Training Integration and Periodization	213
	G. Gregory Haff, PhD, and Erin E. Haff, MA	
	General Principles of Periodization 214 · Training Periods 220 Sequencing and Integration of the Training Process 234 Practical Guidelines 245	
12	Training Program Implementation	259
	Jay R. Hoffman, PhD, Lee E. Brown, EdD, and Abbie E. Smith, PhD	
	Workout Sessions 260 · Off-Season Training 261 · Competitive Season 281 · Considerations for Aerobic Endurance Athletes 282 Program Evaluation 283	
	References 289	
	Index 316	
	About the Editor 324	
	Contributors 325	