Contents

Preface ix Acknowledgments xiii

	Overview and Historical Background of Evidence-Based Practice	1
Chapter 1	The Need for Evidence-Based	
	Practice in Exercise Science	3
	Evidence-Based Practice in Action	4
	Defining Evidence-Based Practice	7
	Applying Evidence-Based Practice in Exercise	
	Science	12
	Team Approach to Evidence-Based Practice Becoming an Evidence-Based Practitioner	15 16
	Conclusion	17
Chapter 2	The Process of Evidence-Based	
	Practice	19
	The Importance of Evidence in Exercise Science	20
	Applying the Five Steps of Evidence-Based	
	Practice	21
	The Case for Evidence-Based Practice	25
	Criticisms of Evidence-Based Practice Conclusion	31 37
	Conclusion	3/
Chapter 3	Philosophy, Science, and	
	Evidence-Based Practice	39
	Epistemology	40
	Epistemology of Modern Science	44
	The Paradigm of Evidence-Based Practice	45
	Conclusion	47
Chapter 4	Sources of Evidence	49
	Sources of Knowledge	50
	Types of Evidence	52
	Conclusion	64

vi Contents

Chapter 5	Reading and Interpreting	
	Research Evidence	65
	Consumers of Research	66
	What Is Research?	69
	Components of a Research Paper	69
	Steps to Critically Reading Research	80
	Conclusion	84
PART II Th	e Six Steps of Evidence-Based	
Pra	actice	85
Chapter 6	Developing a Question	87
	Question Development Areas	88
	Types of Questions	90
	Components of a Foreground Question	92
	Conclusion	102
Chapter 7	Searching for Evidence	103
	Searching for Preliminary Information	104
	Finding Peer-Reviewed Sources	106
	Searching a Research Database Conducting a Secondary Search From Reference	106
	Lists	114
	Conclusion	115
Chapter 8	Evaluating the Evidence	117
	Why Is It Important to Rank the Evidence?	118
	Critically Appraising the Literature	119
	Levels of Evidence	141
	Conclusion	146
Chapter 9	Incorporating Evidence	
	Into Practice	147
	Translating Research Into Practice	148
	Deciding When to Act on Evidence	150
	The Influence of Evidence	157
	Implementing Research-Based Evidence	159
	Conclusion	161

Contents

Chapter 10	Confirming the Evidence in the Individual	163
	Generalizability of Research n-of-1 as a Model for Confirming the Evidence Confirming the Evidence With Systematic	164 168
	Testing Basic Principles in Testing and Measurement Deciding to Continue or Discontinue	170 171
	an Intervention Collaboration in Evidence-Based Practice Conclusion	179 181 181
Chapter 11	Reevaluating the Evidence	183
	Prompts to Reevaluate Techniques to Stay Current Conclusion	183 190 191
	se Studies in Evidence-Based	193
Chapter 12	Exercise Prescription Case Study 1: Strength Training and Cycling Case Study 2: Static Stretching and Soccer	195 195 199
	Case Study 3: ACL Injury Prevention in Female Athletes	204
	Case Study 4: Single Versus Multiple Sets for Strength Improvement	207
	Case Study 5: Models of Periodization Conclusion	211 215
Chapter 13	Exercise for Special Populations	217
	Case Study 1: Resistance Exercise and Functional Outcomes in Those Who Are Elderly	218
	Case Study 2: Exercise and Cancer Cachexia	222
	Case Study 3: Exercise and Traumatic Brain Injury Conclusion	226 230
Chapter 14	Nutrition and Supplementation	231
	Case Study 1: Creatine Monohydrate and Cycling Case Study 2: Caffeine, Coffee, and Performance	232
	Enhancement	235

viii Contents

	Case Study 3: Protein Intake for Endurance Athletes Case Study 4: HMB and Strength–Power Athletes Conclusion	239 242 247
Chapter 15	Exercise Devices, Equipment,	
,	and Apparel	249
	Case Study 1: Chains	250
	Case Study 2: Vibration and Muscle Strength	
	and Power	253
	Case Study 3: Instability Training and Muscle Strength	257
	Case Study 4: Minimalist or Barefoot Running	207
	and Running Economy	262
	Conclusion	266
	tegrating Evidence-Based Practice to Exercise Science	267
Chapter 16	Disseminating and Sharing	
1-1-	Knowledge	269
	Local Discussion and Networking	270
	Conferences	274
	Formal and Informal Publications	275
	Conclusion	278
Chapter 17	The Future of Evidence-Based	
	Practice in Exercise Science	279
	Ability, Judgment, and Evidence	280
	Review of the Rationale for Evidence-Based	
	Practice	281
	The Future of Exercise Science Spreading the Evidence-Based Practice	283
	Philosophy	285
	Working With Scientists	288
	Becoming an Evidence-Based Practitioner	290
	Conclusion	293

References 295 Index 322

About the Authors 328