
Guide to Evidence-Based Physical Therapy Practice

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Dedication

To my teachers and colleagues, who inspire me to aim high and keep climbing;

To my students, who challenge me to become a world-class teacher;

To my family and friends, who love and encourage me even when they have taken a back seat to my computer.

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Contents

	Preface	ix
	Acknowledgments	xiii
PART I	PRINCIPLES OF EVIDENCE-BASED PHYSICAL THERAPY PRACTICE	1
<i>Chapter 1</i>	Evidence-Based Physical Therapy Practice	3
	Introduction	5
	Evidence-Based What?	6
	Evidence-Based Physical Therapy Practice	7
	Summary	13
<i>Chapter 2</i>	What Is Evidence?	19
	Introduction	21
	General Characteristics of Desirable Evidence	21
	Forms of Evidence	23
	Hierarchies of Evidence	28
	Summary	32
<i>Chapter 3</i>	The Quest for Evidence: Getting Started	35
	Introduction	36
	Formulating Clinical Questions	36
	Searching for Evidence	40
	Electronic Database for Evidence-Based Physical Therapy Practice	44
	U.S. National Library of Medicine—PubMed	44
	Cumulative Index of Nursing and Allied Health Literature (CINAHL)	56
	Cochrane Library	61
	Physiotherapy Evidence Database (PEDro)	64
	American Physical Therapy Association’s <i>Hooked on Evidence</i>	68
	Other Databases and Services	74

	Summary	75
PART II	ELEMENTS OF EVIDENCE	79
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Chapter 4	Questions, Theories, and Hypotheses	81
	Introduction	82
	The Research Question	83
	Background	84
	Theories, Concepts, and Constructs	88
	Hypotheses	91
	Summary	93
Chapter 5	Research Design	97
	Introduction	100
	General Features of Research Designs	101
	Research Designs for Questions About Diagnosis and Measurement	105
	Research Designs for Questions About Prognosis	106
	Research Designs for Questions About Interventions	109
	Research Designs for Questions About Outcomes	115
	Secondary Analyses	118
	Qualitative Studies	121
	Summary	122
Chapter 6	Research Subjects	127
	Introduction	129
	Subject Identification	130
	Subject Selection	133
	Subject Management Within the Study	138
	Sample Size	141
	Summary	141
Chapter 7	Variables and Their Measurements	145
	Introduction	148
	Variables	148
	Measurement	153
	Measurement Reliability	156
	Measurement Validity	160
	Responsiveness to Change	164
	Interpreting Change	165
	Summary	166
Chapter 8	Research Validity	169
	Introduction	171
	Research Validity	172
	Threats to Research Validity of Intervention Studies	173
	Threats to Research Validity in Diagnosis, Prognosis,	

	and Outcomes Studies	183
	The Role of Investigator Bias.	184
	Additional Solutions to Research Validity Threats	185
	Threats to Construct Validity	187
	External Validity.	189
	Summary.	190
Chapter 9	Unraveling Statistical Mysteries	193
	Introduction	195
	Descriptive Statistics	197
	Parametric Statistics	206
	Tests of Differences	207
	Tests of Relationships	208
	Nonparametric Statistics	213
	Additional Statistics in Evidence-Based Physical Therapy	217
	Statistical Importance.	224
	Clinical Relevance	226
	Summary.	227
PART III	APPRAISING THE EVIDENCE	233
Chapter 10	Appraising Evidence About Diagnostic Tests	235
	Introduction	237
	Study Credibility	238
	Study Results	241
	The Meaning of Study Results	253
	Evidence and the Patient/Client.	254
	Final Thoughts about Diagnosis in Physical Therapy	255
	Summary.	258
Chapter 11	Appraising Evidence About Prognoses	261
	Introduction	262
	Elements of Prognosis	264
	Study Credibility	265
	Study Results	269
	The Meaning of Study Results	273
	Evidence and the Patient/Client.	273
	Summary.	275
Chapter 12	Appraising Evidence About Interventions	279
	Introduction	281
	Study Credibility	282
	Additional Considerations.	287
	Study Results	289
	The Meaning of Study Results	294

	Evidence and the Patient/Client	295
	Summary	304
Chapter 13	Appraising Evidence About Outcomes	309
	Introduction	312
	Outcomes Research	312
	Study Credibility	314
	Study Results	319
	The Meaning of Study Results	320
	Evidence and the Patient/Client	320
	Evidence About Outcome Measures	321
	Important Clinimetric Properties	323
	Study Results	328
	The Meaning of Study Results	330
	Evidence and the Patient/Client	331
	Summary	331
Chapter 14	Appraising Systematic Reviews and Practice Guidelines	337
	Introduction	339
	Systematic Reviews	339
	Study Credibility	343
	Study Results	348
	The Meaning of Study Results	358
	Evidence and the Patient/Client	360
	Clinical Practice Guidelines	362
	Is the Guideline Valid?	365
	Is the Guideline Acceptable?	368
	Summary	369
PART IV	EVIDENCE IN PRACTICE	375
Chapter 15	Patient/Client Preferences and Values	377
	Introduction	378
	Patient-Centered Care	379
	Preferences, Expectancies, and Values	384
	Summary	390
Chapter 16	Putting It All Together	393
	Introduction	393
	Section One: Clinical Case Examples Using Evidence	394
	Section Two: Using Physiologic Studies as Evidence	412
	Appendix A: Evidence Hierarchies	421
	Appendix B: Additional Evidence Appraisal Worksheets	427
	Appendix C: Calculation of Confidence Intervals	449

Index. 455

Preface

This book was created to address a challenge I face each time I teach evidence-based physical therapy practice to professional and post-professional students—that is, the need to order two texts to cover the information in my course. What I really wanted was one resource that provided sufficient information regarding research methods to allow the nonresearcher to understand and appraise studies, but that also was sized and structured for routine application of evidence to actual patients in clinical settings. This book attempts to marry the best elements of multiple texts into a single accessible guide to evidence-based physical therapy practice for students and clinicians alike.

The content is organized in four parts. Part I, Principles of Evidence-Based Physical Therapy Practice (EBPT), is comprised of three chapters that set the stage for the use of evidence in patient/client management. Chapter 1 addresses the history behind the evidence-based practice movement in health care, the various labels and definitions used to describe this approach to patient care, and the barriers to its application in real-time clinical practice. The material is placed in the context of the disablement model, as articulated in the American Physical Therapy Association's *Guide to Physical Therapist Practice, 2nd ed.* Chapter 2 examines the nature of evidence and its different forms, including the uses and limitations of hierarchies structured according to the quality of different study designs. A key point is that different research designs are suited to answering different types of clinical questions therapists may have about their patients/clients. Chapter 3 guides readers in the development of clinical questions regarding diagnosis, prognosis, interventions, and outcomes, and describes tools and strategies available to help locate studies of interest.

Part II, Elements of Evidence, reviews the different components of a research article (Chapters 4–7) with an emphasis on features that enhance or diminish a study's quality. The goal is not to teach readers how to become researchers; rather it is to increase their understanding of and confidence in interpreting what they are reading. Chapter 8 is devoted to a discussion of research validity—a key consideration in the evidence appraisal process. Chapter 9 is an attempt to demystify the most intimidating feature of research for many readers by illustrating the parallels between statistical tools and the instruments used in clinical practice.

Part III, Appraising the Evidence, provides the information needed to evaluate evidence about diagnostic tests and measures (Chapter 10), prognostic factors (Chapter 11), interventions (Chapter 12), and outcomes (Chapter 13). To my knowledge, the chapter on outcomes is unique to this textbook. Chapter 14 focuses on the appraisal of summaries of evidence in the form of systematic reviews and practice guidelines. An underlying principle of all of these chapters is that EBPT requires students and clinicians to work with the best available evidence that oftentimes is weakly designed. Physical therapy research still has a long way to go to address (with sophisticated methods) all of the questions we have about the wide variety of patients/clients with whom we work. Until such studies are completed, readers must determine for themselves whether the evidence they locate is useful *despite* its limitations.

Part IV, Evidence in Practice, discusses applications of evidence in practice from the patient/client's point of view and presents illustrations using hypothetical patient/client scenarios. Chapter 15 considers the challenge of integrating evidence with patient/client values and preferences in the context of ethical decision making and patient-centered care. The influence of subjects' values and preferences on study outcomes, and efforts to conduct trials that address these challenges, also are discussed. Chapter 16 ties all of the material together in demonstrations designed to help readers "see how it is done."

Finally, the appendices provide additional information and resources to assist with critical appraisal of the evidence.

My intent throughout is to make this material user-friendly for students and clinicians who are new to the material, as well as for those who already have adopted an evidence-based approach to patient/client management. Terms are defined at the beginning of each chapter to help readers learn and remember the vocabulary of research and its applications. The exercises at the conclusion of each chapter are designed to reinforce the learning objectives stated at the beginning. The examples used to illustrate key concepts and points are specific to physical therapy and, where possible, are drawn directly from the published literature. Readers should recognize that inclusion of these works does not imply superior quality over other articles I may have selected. Similarly, these papers are not intended to reflect standards of practice to which readers should adhere. Readers must decide for themselves whether these studies are useful and relevant based on their own merits.

As readers will discover, I am but one of many authors who have tackled this subject over the years. In reality, this book was possible because of the fine work created by those who pioneered efforts to promote and commu-

nicate evidence-based medicine (practice) methods well before I ever heard those terms. David Sackett, MD, Gordon Guyatt, MD, Drummond Rennie, MD, and colleagues have written books and articles that are justifiably classics on this topic and that are cited frequently throughout this text. I have read and re-read their material and each time I do, I come away with a deeper understanding of the content and of my obligations in teaching it. My hope is that I have been able to reorient the information to reflect contemporary physical therapy practice while remaining faithful to the fundamental elements and concepts of evidence-based medicine (practice) that transcend professional disciplines.

In closing, I must remind readers of the principle of specificity of training. Just like any other skill we acquire, EBPT takes practice in order to increase one's efficiency and effectiveness with the process. My students have taught me that practice is easiest when they are working in a culture that encourages and guides their efforts. Not surprisingly, a didactic course on the topic is a natural setting in which to receive this level of support. Once in clinical practice, however, one's momentum may slow in the absence of colleagues and administrators who also are committed to this approach to patient/client management. The challenge is to avoid losing heart as we work to evolve our EBPT skills.

I am a firm believer in the value of small steps. We tell our patients/clients every day to appreciate little victories in their quest to recover or improve their abilities. We must allow ourselves that same opportunity where EBPT is concerned. My hope is that individuals will find this book to be an accessible resource with which to propel their efforts, even when they are "an n-of-1" in their clinical setting.

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