HOW TO USE THIS BOOK

The purpose of this book is to serve as a clinical resource and reference manual for a collection of clinical prediction rules pertinent to the outpatient, orthopedic physical therapist. This book is intended to augment clinical decision making in areas where further research is required. CPRs should not be used in isolation while making decisions, but rather as one component of the larger clinical decision-making process. We believe that when considered within the larger context of evidence-based practice, prediction rules can be very helpful in uncovering associations that unstructured clinical observation might otherwise miss. We therefore recommend that one considers these CPRs along with the current existing evidence, patient preferences, and clinical experience when reaching clinical decisions. When used in this manner, CPRs strengthen clinical decision making.

As autonomous practitioners with the potential to be frontline health care providers, it is the physical therapist's responsibility to recognize conditions that may require a medical examination. For this reason, we provide a large section on diagnostic imaging prediction rules as well as others to help screen for conditions beyond the scope of physical therapy treatment. The rules that we provide include those that contain subjective and/or objective variables that can be obtained within a physical therapy examination or treatment session. Rules that contain variables that cannot currently be obtained by physical therapists have not been included in this book. We therefore do not claim to provide an exhaustive list of CPRs, but rather those that we feel are the most pertinent to the practicing orthopedic physical therapist.

The book has been divided into two primary sections. The first section includes prediction rules to assist physical therapists with screening for conditions that will require referral to another medical practitioner. The rules have been separated based upon imaging type and body systems. They have also been further subdivided into diagnostic or prognostic categories. Section two includes the musculoskeletal prediction rules that are most pertinent to physical therapists. They are divided into body regions and then subdivided into the individual joints. Lastly, to help improve

the utility of the reference manual we have listed the rules as diagnostic, prognostic, or interventional.

Each individual prediction rule has been organized to provide clinicians with readily available information to help determine whether it applies to the patient sitting before them. Immediately after the title, information regarding the primary category of the rule (diagnostic, prognostic, or interventional) as well as the level of development (IV–I) is listed. For Level IV prognostic or interventional CPRs, a score is provided to indicate the methodological quality of the rule. Prognostic CPRs contain a quality assessment score reflective of the tool utilized by Kuijpers et al.,[1] and interventional CPRs contain a quality assessment score indicative of the tool adapted by Beneciuk et al.[2] Individual item scoring for each CPR can be found in Appendices A, B, and D. Level IV diagnostic-level CPRs do not contain a quality score because an analytical tool currently does not exist; however, we propose a tool to help guide the quality analysis of these rules that can be found in Appendix C. The header section of each rule is followed by a "blink" box that provides a definition of "positive" for that particular CPR as well as the defining statistics. Next, the reader is introduced to the parsimonious set of predictor variables. Finally, a summative "clinical bottom line" providing an explanation of the findings and their potential clinical impact completes the first page. The next page(s) contain(s) the specifics of the clinical tests, measures, and interventions, with descriptions and pictures as well as a brief summary of the study's background information. This information includes the inclusion/exclusion criteria, patient demographic information, a definition of positive or "success," as well as the validation and impact studies that have been published. The summary of background information is not meant to replace the original works, and readers are strongly encouraged to obtain and read the studies to have a more complete understanding of the CPR, which will further strengthen clinical decision making. A summary of the validation studies has been included to provide a more informed decision regarding the similarity of a particular patient to the population from which the CPR was tested. PT intervention validation studies also contain a quality score reflective of the tool utilized by May and Rosedale as a component of the validation synopsis to provide the reader with further information upon which to base clinical decisions.[3] Lastly, a full list of available references applicable to each rule is provided. Although the above information will provide readers with the means to determine whether the CPR is appropriate for the patient sitting before them, it is recommended that they refer to the original study for the full details before implementing the findings.

The primary aim of this reference manual is to provide a readily available list of clinical prediction rules. We have arranged the data to maximize clinical utility as well as provide pertinent information so that clinicians can determine whether the

rule and its outcomes are appropriate for their patient scenario. It is important to remember that CPRs are not a substitute for decision making; rather they are tools to help guide the decision-making process, whether diagnostic, prognostic, or interventional. By combining experience, patient's values, and the best current evidence, which includes prediction rules, clinicians can make informed decisions as to the most effective and efficient way to care for their patients.

References

1. Kuijpers T, van der Windt D, van der Heijden G, Bouter LM. Systematic review of prognostic cohort studies on shoulder disorders. *Pain*. 2004;109:420–431.
2. Beneciuk JM, Bishop MD, George SZ. Clinical prediction rules for physical therapy interventions: a systematic review. *Phys Ther*. 2009:89:114–124.
3. May S, Rosedale R. Prescriptive clinical prediction rules in back pain research: a systematic review. *JMMT*. 2009;17:36–45.