



© Robert Kneschke/Shutterstock, Inc.

CHAPTER 1

Introduction to the Physical Therapy Examination

CHAPTER OUTLINE

INTRODUCTION

WHAT IS THE PHYSICAL THERAPY EXAMINATION?

THE AIM OF THIS TEXT

ORGANIZATION OF THIS TEXT

Part I. The Patient Interview: Laying a Solid Foundation

Part II. Tests and Measures: Building on the Foundation

CLINICAL REASONING

Clinical Decision Making

Use of Case Examples to Enhance Learning

Self-Reflection

SUGGESTIONS TO HONE YOUR EXAMINATION SKILLS

FINAL WORDS

Introduction

Welcome to one of the most dynamic, challenging, and rewarding professions you could have chosen to study—physical therapy! You have every reason to be excited. Yes, you may have some apprehension, self-doubt, or even anxiety, all of which are quite normal, but a healthy dose of excitement is encouraged. If you are just beginning this journey, you will be amazed at how much there is to learn. You must have a thorough understanding of anatomy and neuroscience; you must grasp the intricacies of physiology and pathophysiology; you must appreciate human movement and biomechanics; you must be aware that your patients have emotional, social, vocational, and spiritual facets they will bring with them in addition to their physical concerns; you must have some understanding of the convoluted and ever-changing health care system, including aspects of insurance, billing, and diagnostic codes; and you must appreciate the legal, ethical, and moral components that go into daily clinical decisions. While that may sound incredibly daunting, the immense responsibilities you will have to your patients and to your profession require substantial breadth and depth of both knowledge and skills.

This text uses terminology and concepts that are consistent with the *Guide to Physical Therapist Practice 3.0* (the *Guide*).¹ However, for ease of reading, the term “patient/client” has been modified to “patient” throughout this text. While physical therapists see both patients and clients,¹ this text focuses on the examination process that would be most frequently conducted with a patient (see **BOX 1-1**).

WHAT IS THE PHYSICAL THERAPY EXAMINATION?

At the core of each new patient encounter in any physical therapy setting is the patient examination. This is the first component in a cycle that encompasses the entire physical therapy episode of care (see **FIGURE 1-1**).

The patient *examination* consists of (1) the patient history, (2) a systems review, and (3) tests and measures.¹ The patient *history* typically involves a verbal interview in which information relevant to the patient’s condition

is gathered. During this interview, a clinician begins to formulate hypotheses about the patient’s condition. A *systems review* is a brief assessment of the cardiovascular/pulmonary, integumentary, musculoskeletal, and neuromuscular systems as well as the patient’s cognitive, language, and learning abilities. The physical therapist then selects *tests and measures* based on hypotheses formed during the history-taking process and findings during the systems review. Data from tests and measures are used to support or refute the clinician’s theories until one or more predominant hypotheses remain.

The *evaluation* process requires synthesis of all data collected during the examination and helps to answer the question “What does it all mean?” *Diagnosis* and *prognosis* are actually two specific subfactors within the evaluation process. Determination of a patient’s physical therapy diagnosis requires an answer to the question “Into what clinical pattern does the patient’s presentation fall?” The physical therapy diagnosis is a label that describes a cluster of signs and symptoms typically associated with a disorder or syndrome leading to impairments, activity limitations, or participation restrictions.² This diagnosis guides the physical therapist in determining appropriate intervention strategies for each patient. Formulating a prognosis for the patient asks the question “What is the patient’s expected level of functional improvement based on all influential factors (including biological, psychological, and social)?” Because answers to these questions often rely on some degree of clinical experience, the evaluation, diagnosis, and prognosis portions of the patient management process are often difficult for students to grasp in the early phases of learning.

The *intervention* and *outcomes* components of the model are relatively self-explanatory. Interventions are selected and implemented based on findings from the examination and evaluation and may include things such as therapeutic exercise, functional training, training in self-care, and patient instruction. Outcomes are the results of the

BOX 1-1

Patient versus Client

The term “patient” typically refers to individuals with a disease, condition, impairment, or disability who receive physical therapy examination, evaluation (including diagnosis and prognosis), and intervention.

The term “client” typically refers to individuals who seek physical therapy services for consultation, professional advice, health promotion and wellness, or preventative services.

From: *The Guide to Physical Therapist Practice 3.0*¹

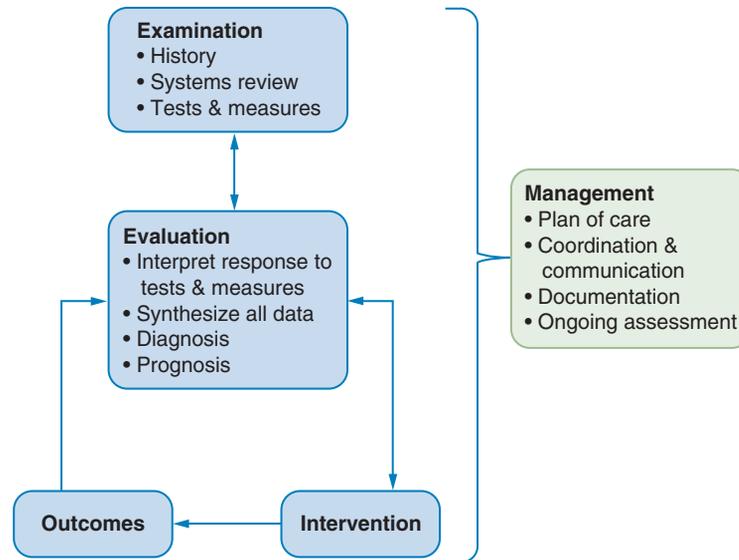


FIGURE 1-1 The patient management model for physical therapists.

interventions that can be assessed periodically during or at the end of an episode of care.

Global management of this model occurs throughout the process and includes creating and modifying (as needed) the patient's plan of care; coordinating, communicating, and documenting the plan of care, involving other providers as needed; and making an ongoing assessment of the patient's status and the efficacy of the care plan.¹

As might be discerned from the model, the entire process is dynamic, flexible, and interrelated. Because numerous factors can influence any component of this model at any point during the episode of care, this process is rarely linear. When changes occur within any component, the other components often require adjustment. The reader is referred to the *Guide*¹ for more detailed information specific to processes beyond examination within the patient management model.

THE AIM OF THIS TEXT

This text focuses on the first part of the patient evaluation and management system: the *patient examination*. Physical therapists are required to perform an examination on every patient prior to initiating any form of intervention.¹ If the examination is thoughtful, purposeful, skilled, and efficient, forming evaluative opinions and making decisions about a patient's care plan should not be difficult. If the examination is lacking in quality or substance, then the evaluation, care plan, and possibly the patient's outcomes may suffer. Thus, the purpose of this text is to provide you with the fundamental skills required to conduct an efficient, effective, and meaningful physical therapy examination with a wide variety of patient types that may be encountered in a number of different clinical settings.

The following analogy, which likens the patient evaluation and management system to the construction of a house, illustrates the importance of the initial patient examination as the basis for all that follows (see **FIGURE 1-2**). The first step in house construction is laying the foundation. Whether attempting to build a house of cards, a house of toothpicks, or an actual house, if the foundation is not solid and secure, the structure on top will crumble. In terms of patient management, the *initial patient interview* possesses the same level of importance as the foundation of the house.



FIGURE 1-2 Consider the patient examination analogous to the process of building a house.

Many factors contribute to a successful patient interview. The strength of the foundation will rely not only on the patient's answers to your questions but also on the rapport and trust you develop with the patient, the atmosphere you establish, your professional appearance and demeanor, and your ability to adjust to the patient's spoken and unspoken needs.

Once a solid foundation has been established, the framework of the house can be built. The framework must be well planned and skillfully constructed. In relation to patient management, the *tests and measures* portion of the examination creates this framework. A patient with a straightforward and uncomplicated condition may require very few tests and measures (the house will have a single story and few rooms); a patient with a difficult or complicated condition may require many tests and measures that examine a number of different body systems (the house will have several stories and many rooms).

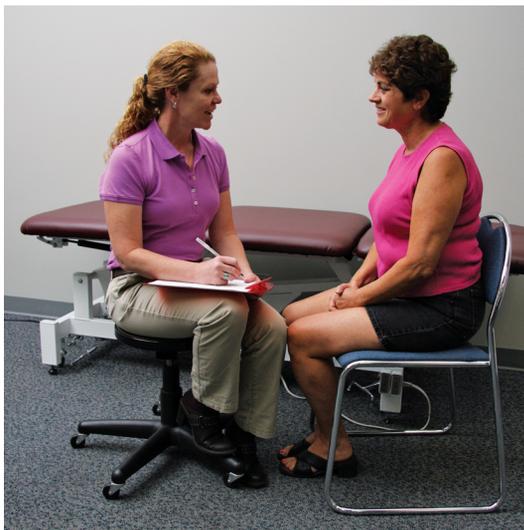
A solid foundation and sturdy framework provide the necessary structure for all components that remain. It is the purpose of this text to provide you with the skills to create that basic but valuable structure. Advanced courses, combined with clinical experience, will provide you with the tools to finish the construction: the evaluation, diagnosis, prognosis, and care management plan.

ORGANIZATION OF THIS TEXT

This text is separated into two parts: Part I describes all aspects related to the initial patient interview, and Part II describes a myriad of tests and measures that can be used with a wide variety of patient conditions.

Part I. The Patient Interview: Laying a Solid Foundation

Chapters 2 through 4 discuss various aspects of the initial patient interview, also considered the *subjective history* or *patient history*.



Although obtaining the patient's history in his or her own words is one component of the initial interview, the process is much broader than that. Chapters 2 and 3 cover essential aspects of the initial interview that are unrelated to the specific questions that may be asked. These include the safe and inviting atmosphere you are responsible for creating, the rapport you establish with the patient, biopsychosocial and cultural aspects that must be considered, recognition of judgments or stereotypes you may possess, the communication techniques you use, and the importance of recognizing nonverbal cues (the patient's and your own). Chapter 4 discusses both the conduct and content of the interview itself. This includes an introduction to red and yellow flags (concerning findings that may prompt referral to another health care provider); the importance of observation, which begins the first moment you see the patient and continues throughout the encounter; how to greet the patient and introduce yourself; and a detailed outline of categorical questions you may choose to ask.

Part II. Tests and Measures: Building on the Foundation

Chapter 5 provides an introduction to the remaining chapters of this text. These chapters (6–10) contain information about a wide variety of tests and measures, generally organized by the type of condition for which each test/measure would be most appropriate.



Realize that many tests/measures are quite appropriate to use for a variety of conditions that cross body systems. Balance problems, for example, are certainly not isolated to individuals who have a neuromuscular condition; thus, physical therapists should have a solid understanding of when and how to assess a patient's balance regardless of clinical setting. Similarly, considering the alarmingly high number of individuals who have hypertension (33% of the U.S. population³), physical therapists working in any setting should be prepared to assess a patient's cardiovascular

system. This highlights the author's primary rationale for presenting content based on particular tests/measures as opposed to affected body region or specific patient condition. If you can understand (1) the fundamental concepts that form the basis for each test/measure, (2) the techniques of performing each test/measure, and (3) when it is and is not appropriate to use each test/measure, then you will have a broad repertoire of assessment tools at your disposal that can be utilized with patients regardless of body region affected or presenting condition.

One of the most challenging aspects of learning the patient examination process, considering both the patient interview and tests/measures, relates to the "When?" question. Understanding *when* to utilize a line of questioning or a particular test/measure, and then making sense of the findings, is fundamentally more challenging than the skill required to ask the questions or perform a given test/measure. For this reason, information about when a particular assessment tool would be considered a *priority* and when it might not is consistently included throughout the text.

CLINICAL REASONING

Clinical Decision Making

Making decisions about whether to ask a question during the initial interview or to perform a particular test during the physical examination is the beginning of clinical

reasoning. Research in the area of clinical reasoning suggests that what separates expert from novice clinicians is the ability to apply knowledge and skill, in conjunction with the ability to intuitively alter the examination or intervention based on self-reflection, prior experience, and individual patient characteristics.⁴⁻⁶ Knowledge and skills that foster basic clinical decision making can be learned in the classroom setting; clinical intuition and understanding how individual patient characteristics may influence each encounter are critical components that must develop over time.

Clinical reasoning requires collaboration between the physical therapist and the patient.⁴ Clinical reasoning is used *as* the data are being collected from the patient, not simply *after* the data collection is complete. Bits of important information are gathered during the patient interview that continually guide the questioning in a specific direction (see **BOX 1-2**). From that information, it becomes evident that some tests/measures are vital to perform, some are completely unnecessary, and the rest fall somewhere in between. This decision-making process can be quite challenging for many physical therapy students at the outset. It is often difficult for new graduates as well. However, every encounter with actual patients will help to improve your decision-making skills and allow your confidence to grow.

Use of Case Examples to Enhance Learning

There are three progressive case examples presented throughout this text. These are introduced at the end of

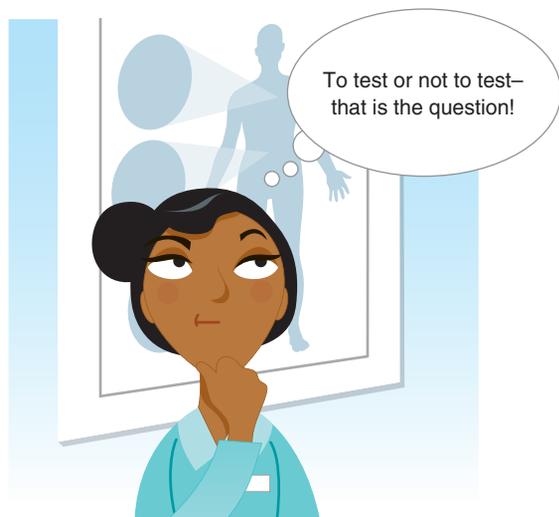
BOX 1-2

Information that Guides Interview Questions and Tests/Measures

A 58-year-old female who experienced a mild right cerebrovascular accident (CVA; stroke) two years ago was referred to physical therapy because of increasing balance difficulties. The patient reported that she thought her balance was worsening because she had dramatically decreased her activity since the stroke. When asked to describe what she experienced while attempting to maintain balance during functional activities, the patient stated, "Sometimes I just don't know where my feet are and then before I know it, I feel like I'm about to fall." This response, "I don't know where my feet are," prompted the physical therapist to suspect a sensory deficit. Therefore, additional questions, as well as tests and measures, were directed toward the patient's perception of sensation. Through this conversation and the physical examination that ensued, the physical therapist discovered that the patient not only was lacking sensation to touch and pressure on the bottom of both feet but also had developed a small wound on the plantar surface of the right middle toe of which she was unaware (she could not feel it). Because loss of sensation and development of wounds on the bottom of the feet are classic signs of diabetes, the physical therapist asked additional questions about the patient's activity level, diet, and maintenance of body weight. The patient reported that her activity level was very low, she primarily ate fast food because of its convenience, and she had gained roughly 40 pounds since the stroke. Recognizing that all of these findings are risk factors for type 2 diabetes, the physical therapist notified the patient's primary care physician, laboratory tests were ordered, and the patient was found to have (and began treatment for) this condition.

Depending on your academic program, your exposure to actual patients may be limited prior to your first full-time clinical experience. This can lead to a great deal of anxiety and fear of "not knowing what to do." Therefore, information is provided throughout this text regarding when you *would* and *would not* ask particular questions or perform particular tests/measures.

Chapter 4 as documentation examples from an initial patient interview. At the conclusion of each remaining chapter (6–10), additional documentation is provided for each case that is specific to the tests and measures presented in that chapter. For some chapters, very little will be added to each case’s documentation if those tests/measures were not appropriate to perform based on the patient’s presentation. Other times, extensive documentation will be added. These portions are then combined into complete documentation examples for each case (**Appendix A**).



In addition, this text contains a multitude of shorter case examples. For each test/measure presented throughout the text, one or two brief patient examples are offered that are specific to each test/measure covered. These examples are intentionally brief, as it is the author’s experience that novice learners appreciate focused examples that they can then appreciate in a broader context once additional learning has occurred. Included after each patient case is sample documentation to help you understand how findings might be recorded in a medical record.

A note about documentation format: All documentation examples presented throughout this textbook are in SOAP—Subjective, Objective, Assessment, Plan—format. Although several different documentation formats are taught in physical therapy programs, the SOAP note format was chosen for this text because of its continued widespread use in a variety of clinical settings.^{7–10} The rapid transition to the use of electronic medical records by health care organizations and private clinics is requiring many health care professionals to substantially alter their methods of documentation—many of which have been in place for decades.^{11,12} However, the SOAP (or modified SOAP) has been used as a basis for creating a number of the electronic documentation systems and remains widely used in physical therapy settings. Therefore, regardless of the documentation system you initially learn, you will be required to adapt to the system used by any facility in which you practice.

Self-Reflection

An essential component of clinical reasoning is judicious self-appraisal through *reflection*. This requires critical self-analysis of clinical experiences with the global purpose of developing an evolved system of clinical practice.^{13–15} Self-reflection plays a critical role in advancing patient examination skills from a novice to an expert level.^{4,15} You are encouraged to thoughtfully reflect on every experience you have with real or mock patients. During your early patient encounters, your mind may be fully occupied with the task at hand and trying to do everything “right.” Therefore, when first learning and applying patient examination skills, reflection typically occurs *after* a patient encounter is over. This is called *reflection-on-action*¹⁶ and has been identified as an important component of the learning process for novice clinicians.¹⁷ Reflection-on-action allows future behavior to be guided by judicious evaluation of past thoughts, behaviors, and actions.¹⁸ During this process, it is important that you identify aspects that went well in addition to those that could have gone better. Build on what went well, and adjust what did not. As your skills and confidence improve, you are encouraged to shift to the reflective process used by expert clinicians, called *reflection-in-action*.^{4,16,17,19} This is an ongoing and interwoven process that occurs *during* every patient encounter. Using this process, clinicians are able to call on previous experiences to make adjustments fluidly upon recognizing something that is not going quite right, along with fostering things that are going well.

SUGGESTIONS TO HONE YOUR EXAMINATION SKILLS

In addition to frequent and intentional self-reflection, it is strongly recommended that you seek constructive feedback at every opportunity. Students sometimes mistake feedback as criticism and therefore fear and avoid it. If this describes you, try to think of receiving feedback as an opportunity for professional growth and development. While it may be difficult to hear that your verbal instructions are not easily understood or that your handling skills cause discomfort, it is far better to learn these things early, before you have developed habits or before you encounter actual patients.

Practice, practice, practice! Every aspect of the patient examination process requires practice before any level of comfort or confidence is acquired. Something as simple as moving through a list of interview questions can be much more challenging than one would imagine. Performing a basic range of motion assessment may be equally challenging if you use your new vocabulary words (such as abduction, inversion, and deviation) instead of words the patient can understand. A simple tap on the patellar tendon to assess the deep tendon reflex may prove quite challenging with a small reflex hammer, especially if you are not one blessed with good aim! The point is that copious practice is needed to develop the verbal and psychomotor skills required on your journey to becoming an expert physical therapist.

As you are practicing and attempting to make clinical decisions, you are encouraged to think out loud. This is a strategy that can help both you and your instructor or clinical mentor. When you think out loud, it forces you to organize the concepts in your mind into coherent sentences. Articulating your thoughts also forces you to analyze your own method of thinking.^{19–21} This “thinking about thinking” describes a process called *metacognition*, which has been recognized as essential in the development of advanced clinical reasoning.^{14,20} In addition, if you practice thinking aloud while working with an instructor or clinical mentor, aspects of your clinical reasoning that need improvement can be identified and suggestions offered.²⁰

Learn from every patient encounter. While you may learn a great deal from lectures, textbooks, lab sessions, and your clinical instructors, you will come to find that your patients will be your best teachers. Some patients will teach you more about a disease or injury, some will teach you how to adapt in various situations, and some will teach you about life. You will have the opportunity to work with thousands of patients in your career—some you will forget and some you will remember forever. Regardless, learn from every one of them.

FINAL WORDS

Learn to accept ambiguity! If you seek “right” and “wrong” answers as you attempt to learn various aspects of the patient examination and intervention process, you will often be frustrated and disappointed.

Because of the countless variables that influence any given patient situation, the most fitting answer to questions raised during physical therapy practice is often “it depends.” If you can come to accept “it depends” as a learning opportunity, as opposed to a source of frustration, you will adapt well to the many clinical uncertainties that physical therapists face on a daily basis.



As a physical therapist, you will be entrusted with immense responsibility for your patients. Every patient under your care expects the best from you, regardless of the bad day you might be having, the personal problems crowding your every thought, or how far behind you might be in your paperwork. Patients expect the best, and you must find a way to give them your best—every time.

As stated in the opening paragraph, *be excited!* You are about to embark on an incredible journey that provides extraordinary opportunities and offers valuable rewards. The journey to become a physical therapist often is not easy, and it will not come without roadblocks and detours. The challenges do not end once you have graduated; they simply change. However, as many seasoned clinicians can attest, these challenges pale in comparison to the reward of knowing how many patients’ lives you will profoundly impact. The unexpected gift is how profoundly they will impact yours.

REFERENCES

1. *Guide to Physical Therapist Practice 3.0*. Alexandria, VA: American Physical Therapy Association; 2014. <http://guidetoptpractice.apta.org/>. Accessed December 23, 2015.
2. Diagnosis by Physical Therapists HOD P06-12-10-09. 2012. https://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/Practice/Diagnosis.pdf. Accessed December 27, 2015.
3. *Hypertension*. National Center for Health Statistics, Centers for Disease Control and Prevention; 2014. <http://www.cdc.gov/nchs/fastats/hypertension.htm>. Accessed January 7, 2016.
4. Jensen G, Gwyer J, Shepard K, Hack L. Expert practice in physical therapy. *Phys Ther*. 2000;80:28–43.
5. Jensen G, Shepard K, Gwyer J, Hack L. Attribute dimensions that distinguish master and novice physical therapy clinicians in orthopedic settings. *Phys Ther*. 1992;72:711–722.
6. Palisano R, Campbell S, Harris S. Evidence-based decision making in pediatric physical therapy. In: *Physical Therapy for Children*. 3rd ed. St. Louis, MO: Saunders-Elsevier; 2006:3–32.
7. Kettenbach G. *Writing Patient/Client Notes: Ensuring Accuracy in Documentation*. 4th ed. Philadelphia, PA: F.A. Davis; 2009.
8. Shamus E, Stern D. *Effective Documentation for Physical Therapy Professionals*. 2nd ed. New York: McGraw-Hill Medical; 2011.
9. Erickson M, Utzman R, McKnight R. *Physical Therapy Documentation*. 2nd ed. Thorofare, NJ: SLACK Inc.; 2014.
10. Quinn L, Gordon J. *Documentation for Rehabilitation: A Guide to Clinical Decision Making in Physical Therapy*. Maryland Heights, MO: Elsevier; 2016.
11. Weed L. Medical records that guide and teach. *N Engl J Med*. 1968;278(11):593–600.
12. Weed L. *Medical Records, Medical Education, and Patient Care: The Problem-Oriented Medical Record as a Basic Tool*. Cleveland, OH: Case Western Reserve Press; 1969.
13. Donaghy M, Morss K. Guided reflection: a framework to facilitate and assess reflective practice within the discipline of physiotherapy. *Physiother Theory Prac*. 2000;16:3–14.
14. Shepard K, Jensen G, eds. Techniques for teaching and evaluating students in academic settings. In: *Handbook of Teaching for*

- Physical Therapists*. 2nd ed. Boston, MA: Butterworth-Heinemann; 2002:71–132.
15. Wainwright S, Shepard K, Harman L, Stephens J. Novice and experienced physical therapist clinicians: a comparison of how reflection is used to inform the clinical decision-making process. *Phys Ther*. 2010;90:75–88.
 16. Schon D. *The Reflective Practitioner: How Professionals Think-in-Action*. New York: Basic Books; 1983.
 17. Roche A, Coote S. Focus group study of student physiotherapists' perceptions of reflection. *Med Educ*. 2008;42:1064–1070.
 18. Driessen E, van Tartwijk J, Dornan T. The self critical doctor: helping students become more reflective. *BMJ*. 2008;336(7648):827–830.
 19. Atkinson H, Nixon-Cave K. A tool for clinical reasoning and reflection using the *International Classification of Functioning, Disability and Health* (ICF) framework and patient management model. *Phys Ther*. 2011;91(3):416–430.
 20. Banning M. The think aloud approach as an educational tool to develop and assess clinical reasoning in undergraduate students. *Nurse Educ*. 2008;28:8–14.
 21. Borleffs J, Custers E, van Gijn J, ten Cate O. “Clinical reasoning theater”: a new approach to clinical reasoning education. *Acad Med*. 2003;78:322–325.