

## Student Study Guide for

# INTRODUCTION TO **Physical Therapy** for **Physical Therapist Assistants**

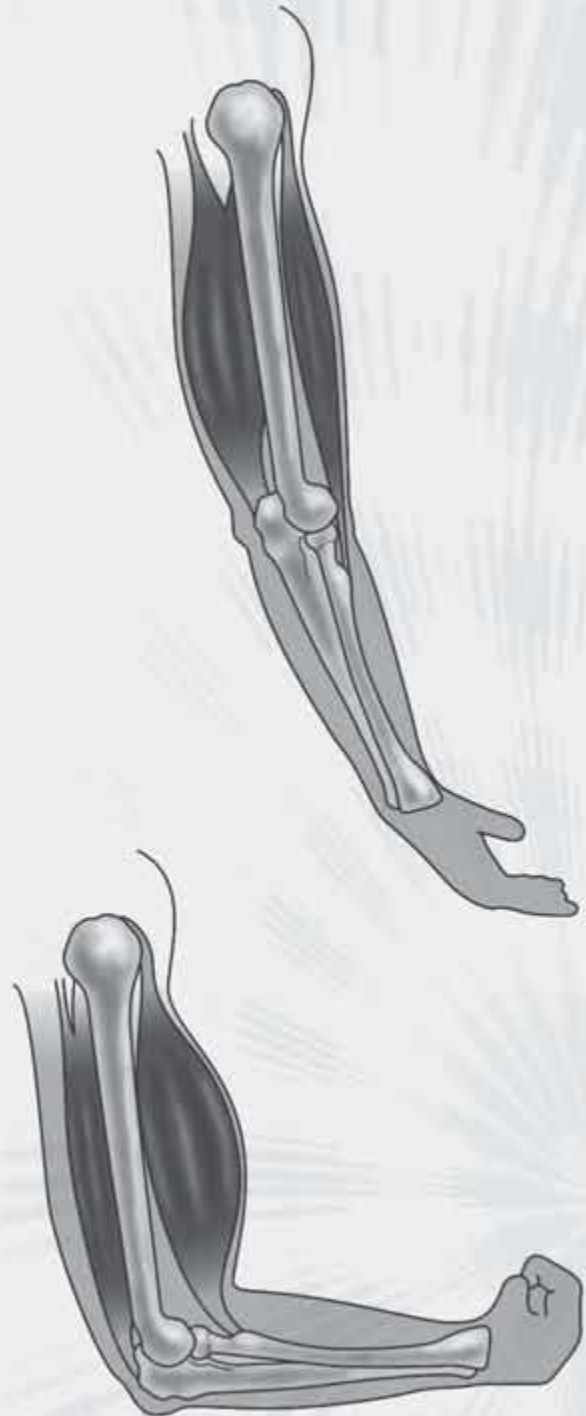
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## How This Book Can Help You Learn

All of us have different learning styles. Some of us are visual learners, some more auditory, some learn better by doing an activity. Some students prefer to learn new material using visual aids. Some learn material better when they hear it in a lecture; others learn it better by reading it. Cognitive research has shown that no matter what your learning style, you will learn more if you are actively engaged in the learning process.

This Student Study Guide will help you learn by providing a structure to your notes and letting you utilize all of the learning styles mentioned above. Students don't need to copy down every word their professor says or recopy their entire textbook. Do the assigned reading, listen in lecture, follow the key points your instructor is making, and write down meaningful notes. After reading and lectures, review your notes and pull out the most important points.

The Student Study Guide is your partner and guide in note-taking. Your Guide provides you with a visual guide that follows the chapter topics presented in your textbook. If your instructor is using the PowerPoint slides that accompany the text, this guide will save you from having to write down everything that is on the slides. There is space provided for you to jot down the terms and concepts that you feel are most important to each lecture. By working with your Guide, you are seeing, hearing, writing, and, later, reading and reviewing. The more often you are exposed to the material, the better you will learn and understand it. Using different methods of exposure significantly increases your comprehension.

Your Guide is the perfect place to write down questions that you want to ask your professor later, interesting ideas that you want to discuss with your study group, or reminders to yourself to go back and study a certain concept again to make sure that you really got it.

Having organized notes is essential at exam time and when doing homework assignments. Your ability to easily locate the important concepts of a recent lecture will help you move along more rapidly, as you don't have to spend time rereading an entire chapter just to reinforce one point that you may not have quite understood.

Your Guide is a valuable resource. You've found a wonderful study partner!

## Note-Taking Tips

1. It is easier to take notes if you are not hearing the information for the first time. Read the chapter or the material that is about to be discussed before class. This will help you to anticipate what will be said in class, and have an idea of what to write down. It will also help to read over your notes from the last class. This way you can avoid having to spend the first few minutes of class trying to remember where you left off last time.
2. Don't waste your time trying to write down everything that your professor says. Instead, listen closely and only write down the important points. Review these important points after class to help remind you of related points that were made during the lecture.
3. If the class discussion takes a spontaneous turn, pay attention and participate in the discussion. Only take notes on the conclusions that are relevant to the lecture.
4. Emphasize main points in your notes. You may want to use a highlighter, special notation (asterisks, exclamation points), format (circle, underline), or placement on the page (indented, bulleted). You will find that when you try to recall these points, you will be able to actually picture them on the page.
5. Be sure to copy down word-for-word specific formulas, laws, and theories.
6. Hearing something repeated, stressed, or summed up can be a signal that it is an important concept to understand.
7. Organize handouts, study guides, and exams in your notebook along with your lecture notes. It may be helpful to use a three-ring binder, so that you can insert pages wherever you need to.
8. When taking notes, you might find it helpful to leave a wide margin on all four sides of the page. Doing this allows you to note names, dates, definitions, etc., for easy access and studying later. It may also be helpful to make notes of questions you want to ask your professor about or research later, ideas or relationships that you want to explore more on your own, or concepts that you don't fully understand.
9. It is best to maintain a separate notebook for each class. Labeling and dating your notes can be helpful when you need to look up information from previous lectures.
10. Make your notes legible, and take notes directly in your notebook. Chances are you won't recopy them no matter how noble your intentions. Spend the time you would have spent recopying the notes studying them instead, drawing conclusions and making connections that you didn't have time for in class.
11. Look over your notes after class while the lecture is still fresh in your mind. Fix illegible items and clarify anything you don't understand. Do this again right before the next class.



# THE PROFESSION OF PHYSICAL THERAPY

## INTRODUCTION TO PART I

---

Part I of this textbook, called “The Profession of Physical Therapy,” is divided in two chapters:

- Chapter 1: Development of the Physical Therapy Profession
- Chapter 2: The Physical Therapist Assistant as a Member of the Health Care Team

In these two chapters, we will discuss the history of rehabilitation treatments including therapeutic exercises and the organization, history, values, and the culture of the profession of physical therapy. We will also explore the differences in role, function, and supervisory relationship of the physical therapist (PT), the physical therapist assistant (PTA), and other health care practitioners and ancillary personnel.

## LABORATORY ACTIVITIES FOR PART I

---

The following activities are suggested to the instructor to involve students in the application of laboratory performances:

- Go online at [www.apta.org/rt.cfm/About](http://www.apta.org/rt.cfm/About) and research information about the APTA.
- Create a brochure identifying the vision, mission, and function of the APTA and the benefits of belonging to the APTA.
- Participate in a district or chapter/subchapter meeting.
- Create a class presentation about what PTAs are and what they do.
- Interview a health care professional, such as a PT, OT, SLP or SW. Create a class presentation about the function, role, and interaction of the health care professional.
- Make a list of terminology found in the Guide related to physical therapy interventions.
- Interview a classmate or be interviewed by a classmate.
- Write a resume.
- Write at least one policy and one procedure.





# Development of the Physical Therapy Profession

## CHAPTER

# I

### LEARNING OBJECTIVES

---

After studying Chapter I, the reader will be able to:

- Discuss the history of rehabilitation treatments (including therapeutic exercises) from ancient times through the 1900s.
- Describe the history of the physical therapy profession and its five cycles of growth and development.
- Understand the values and culture of the physical therapy profession.
- Consider the American Physical Therapy Association's mission and its goals (especially goals two and six) in regard to physical therapists and physical therapist assistants.
- Explain the organizational structure of the American Physical Therapy Association.
- Discuss the benefits of belonging to a professional organization.
- Name the other organizations involved in the physical therapy profession.

### GLOSSARY

**Disability:** The inability to engage in age-specific, gender-related, and sex-specific roles in a particular social context and physical environment; it is also any restriction or lack (resulting from an injury) of ability to perform an activity in a manner or within the range considered normal for a human being.

**Dislocation:** Temporary displacement of the bone from its normal position in a joint; occurs with tearing of ligaments, tendons, and articular capsules.

**Electrotherapy:** The use of electrical stimulation modalities in physical therapy treatment.

**Hydrotherapy:** Physical therapy intervention using water.

**Proprioceptive neuromuscular facilitation (PNF):** A form of therapeutic exercise in which accommodating resistance is manually applied to various patterns of movement for the purpose of strengthening the muscles.



# Development of the Physical Therapy Profession

## Chapter 1

### CHAPTER 1

#### DEVELOPMENT OF THE PHYSICAL THERAPY PROFESSION

#### Notes

#### History of Rehabilitation Treatments

- 3000BC: China—therapeutic ex., massage, hydrotherapy
- 1000BC: China—Cong Fu ex.
- 500BC: Herodotus—Ars Gymnastica
- 400BC: Hippocrates—muscle strength
- 180BC: Ancient Rome—gymnastics
- 2<sup>nd</sup> century AD: Galen—moderate ex.
- 1735: Europe—ex. equipment
- Per Henrik Ling: Swedish Gymnastics and Massage

#### History of Rehabilitation Treatments

- 1864: Gustav Zander—machines
- 1860: electrical stimulation
- 1890: Nikola Tesla—diathermy
- Proprioceptive facilitation: Kabat
- 1889: Frenkel—sensory deficits ex.
- Lovett: polio muscle training
- Wright: gait training (crutches) and MMT
- Hydrotherapy: Lowman and Hubbard
- Exercises: Buerger, Williams, Codman, DeLorme (PREs)
- Isokinetic: Hislop and Perrine

## Notes

### History of the Physical Therapy Profession

**Formative Year: 1914–1920**

- Division of Special Hospitals and Physical Reconstruction–1917
- Reconstruction Therapy–rehabilitation program–World War I soldiers
- Physical therapy units–1917: gymnasium, whirlpool, massage/mechanotherapy rooms
- Reconstruction Aides–PT/OT pioneers
- Mary McMillan trained Reconstruction Aides–Reed College, Portland, Oregon–1918
- Mary McMillan–Walter Reed Hospital–1919

### History of the Physical Therapy Profession

**Development Years: 1920–1940**

- American Women's Physical Therapeutics (AWPT): January 1921
- Mary McMillan: AWPT President–1921–1923
- P.T. Review: 1921
- AWPT Constitution and Bylaws: 1921
- American Physiotherapy Association (APA): 1922
- Minimum standard curriculum for schools: 1926
- Great Depression and Poliomyelitis
- Code of Ethics and Discipline
- National Foundation for Infantile Paralysis

### History of the Physical Therapy Profession

**Fundamental Accomplishment Years: 1940–1970**

- Catherine Worthingham: President APA–1940–1945
- War Emergency Training Course of World War II: 1941–graduated Physiotherapy Aides
- United States Congress Bill–Physical Therapists: 1943
- APA's House of Delegates: 1944
- American Physical Therapy Association (APTA): 1946

## Notes

### History of the Physical Therapy Profession

#### Fundamental Accomplishment Years: 1940–1970

- Licensure laws: 1959
- PTs: clinical studies polio vaccine: 1948–1960
- Journal of Physical Therapy: 1964
- APTA–PTA creation: 1967
- Two PTA programs: 1969–Miami Dade CC in Miami; St. Mary's Campus of the College of St. Catherine in Minneapolis
- 15 PTA graduates: 1969

### History of the Physical Therapy Profession

#### Mastery Years: 1970–1996

- Affiliate membership: 1970
- Commission on Accreditation in Physical Therapy Education (CAPTE): 1977
- Specialty sections: 1978
- American Board of Physical Therapy Specialties (ABPTS)
- Federation of State Boards of Physical Therapy (FSBPT): 1986
- Direct Access: 1988
- Affiliate Assembly: 1989
- 55% PT programs–Masters level: 1994
- 75 years of APTA: 1995

### History of the Physical Therapy Profession

#### Adaptation and Vision Years: 1996 to present

- BBA: 1997 to present
- Normative Model of PTA Education: 1999
- PT Bulletin online: 2000
- Normative Model of PT Education: 2000
- *Guide to Physical Therapist Practice, Second Edition*: 2001
- Hooked on Evidence online: 2002
- Normative Model of PTA Education: 2006

## Notes

### History of the Physical Therapy Profession

Adaptation and Vision Years: 1996 to present

- Direct Access
- DPT programs
- PTA Caucus: 2005
- 66,037 APTA members: 2005
- APTA's 2020 Vision
- DPTs physical therapy providers
- PTAs assist DPTs
- PTAs: educated and licensed
- PTAs: physical therapist directed supervised components interventions

### APTA's Benefits for Student Members

- Career guidance
- Member discounts
- Mentoring program
- Scholarship and internship
- Legislative representation
- E-newsletter

### APTA's Goals

#### PTs

- Practitioners: choice, persons with conditions that affect movement and function
- Providers: fitness, health promotion, wellness, risk reduction programs, enhance quality of life persons across life span

#### PTs/PTAs

- Committed: meeting health needs patients/clients, society through ethical behavior, continued competence, collegial relationships other healthcare practitioners, advocacy profession

## APTA Components

### The House of Delegates

## Components

- 52 chapters
- 18 sections
- 2 assemblies (PTA Caucus and Student Assembly)

### Annual meetings

- CSM (February)
- Annual Conference and Exhibition (June)

**House of Delegates (HOD)**

- Highest policy making body of APTA
- Affiliate delegation (5 PTAs)

## APTA's Board of Directors and Headquarters

- Six officers
- President
- Vice President
- Secretary
- Treasurer
- Speaker of the House of Delegates
- Vice Speaker of the House of Delegates
- Headquarters: Alexandria, Virginia
- Online: [www.apta.org](http://www.apta.org)
- Toll-free: 800-999-2782

## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





# The Physical Therapist Assistant as a Member of the Healthcare Team

## CHAPTER

# 2

### LEARNING OBJECTIVES

---

After studying Chapter 2, the reader will be able to:

- Discuss the supervisory role of the physical therapist on the health care team.
- Describe the differences in role, function, and supervisory relationships of the physical therapist, physical therapist assistant, and other health care personnel.
- Identify the use of the *Guide to Physical Therapist Practice*.
- List the events taking place in the collaborative path between physical therapist and physical therapist assistant.
- Compare and contrast the types of health care teams.
- Identify the members of the rehabilitation team and their responsibilities.
- Describe the five elements of patient and client management in physical therapy practice.
- List employment settings for physical therapists and physical therapist assistants.
- Compare and contrast the three types of skilled nursing facilities.
- Discuss employment and physical therapy clinical practice issues such as interviews, policy and procedure manuals, meetings, budgets, quality assurance, and risk management.

### GLOSSARY

**Assessment data:** Data that include an appraisal or evaluation of a patient's condition based on clinical and laboratory data, medical history, and the patient's accounts of symptoms; data included in the "A" section of the SOAP note; in the SOAP note, they provide the rationale for the necessity of the skilled physical therapy services, interprets the data, and gives meaning to the data.

**Disability:** The inability to engage in age-specific, gender-related, and sex-specific roles in a particular social context and physical environment; it is also any restriction or lack (resulting from an injury) of ability to perform an activity in a manner or within the range considered normal for a human being.

**Functional limitation:** Restriction of the ability to perform a physical action, activity, or task in an efficient, typically expected, or competent manner.

**Impairment:** A loss or abnormality of psychological, physiological, or anatomical structure or function.

**Medical diagnosis:** Physician's identification of the cause of the patient's illness or discomfort.

**Physical abuse:** Abuse by grabbing, pinching, shoving, slapping, hitting, hair pulling, or biting; abuse by denying medical care or forcing alcohol and/or drug use.

**Physical therapy diagnosis:** The use of data obtained by physical therapy examination and other relevant information to determine the cause and nature of a patient's impairments, functional limitations, and disabilities.

**Treatment plan:** The projected series and sequence of treatment procedures based on an individualized evaluation of what is needed to restore or improve the health and function of a patient in physical therapy, the treatment plan gives direction to the medical care and provides an approach to measure the effectiveness of treatment.

## 13









## Notes

### PT's Responsibilities while Supervising the PTA in Off-Site Setting

- PT accessible to PTA: telecommunications—dependent on jurisdiction clinical site
- Scheduled and documented conferences between PT and PTA: dependent on patient's/PTA's needs
- Supervisory visits by the PT
  - Upon PTA's request patient's re-examination
  - When POC change needed
  - Prior planned discharge
  - In response: change patient's medical status
  - Once/month or higher frequency—patient's needs

### Collaboration Path Between the PT and the PTA

1. PT performs initial examination/evaluation, establishes POC and treatment plan
2. PTA helps PT: initial examination/evaluation; PTA takes notes and gathers data as requested by PT
3. PT interprets the results of the data—called evaluation
4. PT performs patient's interventions—PTA performs selected patient's interventions as directed by PT

### Collaboration Path Between the PT and the PTA

5. PTA performs data collection during interventions; PTA records patient's progress/lack of progress; PTA may ask PT for re-examination
6. PT performs re-examination and establishes new treatment plan
7. PT performs new patient's interventions—PTA performs new selected interventions as directed by PT
8. PT performs discharge examination and evaluation of patient











# MAJOR PHYSICAL THERAPY PRACTICE SPECIALTIES

## INTRODUCTION TO PART II

---

Part II of this textbook includes three chapters that describe the major physical therapy practice specialties. The chapters are:

- Chapter 3: Musculoskeletal (Orthopedic) Physical Therapy
- Chapter 4: Neurologic and Cardiopulmonary Physical Therapy
- Chapter 5: Pediatric, Geriatric, and Integumentary Physical Therapy

These three chapters classify physical therapy practices into six major divisions: musculoskeletal, neurologic, cardiopulmonary, pediatric, geriatric, and integumentary. Although physical therapists (PTs) can specialize in cardiovascular and pulmonary, clinical electrophysiologic, geriatric, neurologic, orthopedic, pediatric, and sports physical therapy, the clinical practices may include more than one of these specialties. For example, musculoskeletal (orthopedic) physical therapy clinical practices may contain physical therapy for rheumatologic conditions, orthopedic rehabilitation, sports injuries and treatments, manual therapy, low back pain, or aquatic physical therapy. Geriatric and pediatric patients can also be treated for musculoskeletal disorders in a musculoskeletal physical therapy practice.

However, as a specialty, musculoskeletal (orthopedic) physical therapy specializes in treating patients who have orthopedic disorders including sports injuries. Neurologic physical therapy specializes in treating patients who have neurologic disorders. Cardiopulmonary physical therapy specializes in treating patients who have cardiac and pulmonary conditions. Pediatric physical therapy specializes in treating children who have developmental dysfunction and specific pediatric disorders. Geriatric physical therapy specializes in treating older individuals who present with musculoskeletal and neuromuscular conditions and dysfunction common to the older adult. Integumentary physical therapy specializes in treating patients who have skin disorders including wounds and burns.

## LABORATORY ACTIVITIES FOR PART II

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The following activities are suggested to the instructor to involve students in the application of laboratory performances:

- Interview a PTA working in an orthopedic physical therapy clinical practice.
- Interview a PTA working in a neurologic physical therapy clinical practice.
- Interview a PTA working in a cardiopulmonary physical therapy clinical practice.
- Interview a PTA working in a pediatric physical therapy clinical practice.
- Interview a PTA working in a geriatric physical therapy clinical practice.
- Visit a wound care department, and then give a class presentation about wound physical therapy.



# Musculoskeletal (Orthopedic) Physical Therapy

CHAPTER

3

## LEARNING OBJECTIVES

---

After studying Chapter 3, the reader will be able to:

- Name the largest clinical specialty of physical therapy practice.
- Discuss the elements of a musculoskeletal examination. Compare and contrast examination, evaluation, and assessment.
- Identify the elements of patient history.
- Compare the two types of pain scales used frequently in physical therapy practice.
- Identify the basic activities of daily living and the instrumental activities of daily living.
- List the phases and subunits of the gait cycle.
- Identify the major orthopedic interventions and their roles in physical therapy practice.
- Discuss the types of therapeutic exercises used in musculoskeletal physical therapy including a home exercises program.
- Describe basic physical agents used in musculoskeletal physical therapy.
- Discuss patient education.
- Describe signs and symptoms and physical therapy interventions for degenerative osteoarthritis versus rheumatoid arthritis.
- Identify other musculoskeletal disorders (such as osteoporosis, tendonitis, bursitis, fractures, strains and sprains, and dislocations) and physical therapy interventions.
- Describe major types of orthopedic surgeries and physical therapy interventions.

## GLOSSARY

**Arthrography:** A contrast medium such as iodine is injected into the joint and X-rays are taken to create images of the contours of the joint.

**Capsular pattern:** Pattern of limitation and restriction at the joint due to tightness or rigidity of the joint capsule.

**Cryotherapy:** Therapeutic application of cold such as ice or cold pack.

**Computed Tomography (CT) scan:** A scanning procedure that produces a type of X-ray image in a cross-sectional view; used to scan internal body structures.

**Contralateral:** Affecting the opposite side of the injury.

**Electrotherapy:** The use of electrical stimulation modalities in physical therapy treatment.

**Hydrotherapy:** Physical therapy intervention using water.

**Hypertrophy:** Increased cell size leading to increases in tissue size.

**Hypomobility:** Condition of restricted motion in a joint; decreasing mobility of the joint.

**Ischemia:** Reduced oxygen supply to a body organ or part; lack of blood supply to a body organ or part due to functional constriction or actual obstruction of a blood vessel.

**Proprioceptive neuromuscular facilitation (PNF):** A form of therapeutic exercise in which accommodating resistance is manually applied to various patterns of movement for the purpose of strengthening the muscles.

**Magnetic resonance imaging (MRI):** A scanning technique using magnetic fields and radio frequencies to produce a precise image of the body tissue; the images have very good anatomic detail.

**Microtrauma:** Very small injury.

**Noncapsular pattern:** Pattern of limitations and restrictions at the joint indicating fragments of bone or tissue floating around the joint.

**Orthopedic shoes:** Shoes specially made for sensitive deformed structures of the foot that distribute the weight toward a pain-free area.

**Orthosis:** A device added to a person's body to support, position, or immobilize a part to correct deformities; to assist weak muscles; and restore function.

**Parenteral:** Any medication route other than the alimentary canal, such as intravenous, subcutaneous, intramuscular, or mucosal.

**Pronation:** The act of assuming the prone position; turning or rotation of the hand so that the palm is facing down towards the floor.

**Resorbed:** Absorbed.

**Slow stroking:** A neurological technique consisting of continuous slow stroking to spinal posterior primary rami to produce a calming effect and generalized inhibition.

**Subchondral:** Below or under a cartilage.

**Subluxation:** Partial or incomplete dislocation of the joint.

**Thermotherapy:** Intervention through the application of heat.

**Vasodilation:** Increase in the diameter of blood vessels, which increases blood flow.









## Notes

### Musculoskeletal Disorders and Interventions

Sprain–ligament tear

Strain–muscle/tendon tear

- Sprain grade 3–may require surgery
- Sprain/strain–no surgery interventions: RICE, maintain ROM, decrease pain, stretching, functional strengthening, patient education

Fractures

- During immobilization–strengthen uninvolved extremity and body conditioning
- After surgery–PROM and AROM exercises, later PREs

### Post Surgery Orthopedic Physical Therapy Interventions

THR

- Patient education for hip precautions, bed mobility, transfers and gait training with weight bearing restrictions, isometric exercises, return to function

ACL Reconstruction

- Bracing, isometric exercises, patellar mobs, modalities for swelling, OKC, CKC, and proprioceptive and balance exercises

Discectomies

- Patient education for back protection (no bending, lifting, twisting), return to function

# Neurologic and Cardiopulmonary Physical Therapy

## CHAPTER

# 4

### LEARNING OBJECTIVES

---

After studying Chapter 4, the reader will be able to:

- List Kubler-Ross' five stages of adjustment to disease or loss.
- List specific elements of the neurologic examination.
- Describe specific neurologic physical therapy treatments to improve motor control and motor learning.
- Identify the major neurologic disorders (such as stroke, traumatic brain injury, or Parkinson's disease) and related physical therapy treatments.
- Describe the specific physical therapy examination and evaluation elements used by the physical therapist (PT) in cardiopulmonary physical therapy practice.
- Name specific interventions used in cardiopulmonary physical therapy.
- Discuss the major cardiopulmonary diseases (such as coronary artery disease or chronic obstructive pulmonary disease) and related physical therapy interventions.

### GLOSSARY

**Angina pectoris:** Substernal chest pain or pressure due to insufficient flow of blood to the heart muscle.

**Aphasia:** Neurological impairment of language comprehension, formulation, and use; patients have deficits in speech, writing, or sign communication.

**Apraxia:** The inability to initiate and perform voluntary purposeful movements.

**Approximation:** Neurological intervention using compression forces applied to joints by gravity acting on the body weight.

**Atherosclerosis:** Fatty or cholesterol-lipid-calcium deposited in the walls of arteries, veins, and the lymphatic system.

**Atherosclerotic:** Caused by atherosclerosis.

**Barrel chest:** An increased anteroposterior chest diameter caused by increased functional residual capacity due to loss of elastic recoil in the lung.

**Bradykinesia:** Slowness of body movement and speech; can be found in Parkinson's disease.

**Cardiac decompensation:** Failure of the heart to maintain adequate circulation; failure of other organs to work properly.

**Cerebral embolism:** The obstruction of a blood vessel by an embolus in the brain.

**Cerebral hemorrhage:** Abnormal bleeding as a result of rupture of a blood vessel.

**Congestive heart failure:** The inability of the heart to pump enough blood to maintain adequate circulation of the blood to meet the body's metabolic needs.

**Dementia:** A progressive, irreversible decline in mental function.

**Demyelination:** Destruction or removal of the myelin sheath of nerve tissue.

**Denervated muscles:** Muscles in which the afferent and efferent nerves are cut.

**Dyspnea:** Inability or difficulty breathing (shortness of breath).

**Dystonia:** Impaired tone due to prolonged muscular contractions causing twisting of body parts.

**Edema:** Accumulation of large amounts of fluid in the tissues of the body; swelling.

**Egophony:** Abnormal change in tone of voice; sounds like a bleat of a goat; patients with pleural effusions or pneumonia sound egophony during auscultation of the chest.

**Embolus:** A mass of undissolved matter present in a blood or lymphatic vessel and brought there by the blood or lymph; can produce occlusion in the arteries, veins, or lymph system.

**Encephalitis:** Inflammation of the white and gray matter of the brain; can be caused by viruses, rabies, flu, acquired immune deficiency syndrome (AIDS), or fungi.

**Flaccidity:** A state of low tone in the muscle that produces weak and floppy limbs.

**Hemiparesis:** Weakness of the left or right side of the body.

**Hemiplegia:** Condition in which half of the body is paralyzed; paralysis.

**Homonymous hemianopsia:** Blindness of the nasal half of the visual field of one eye and temporal half of the visual field of the other eye.

**Hypertonia:** Increased tone above normal resting level.

**Hypotonia:** Decreased tone below normal resting level.

**Idiopathic:** Designating a disease whose cause is unknown.

**Impairment:** A loss or abnormality of psychological, physiological, or anatomical structure or function.

**Kinesthetic sense:** The ability to sense the direction of movement.

**Myocardial infarction (MI):** Heart attack resulting from obstruction of blood circulation to an area of the heart.

**Paranoia:** A condition in which patients show persistent persecutory delusions or delusional jealousy; in patients who are middle age or older, paranoia can also manifest with resentment, anger, and violence.

**Pectoriloquy:** The vocal sounds seem to emanate from the patient's chest (upon auscultation with a stethoscope); patient may have a pleural effusion.

**Plasmapheresis:** The removal of plasma from a patient to treat an illness and replacement with normal plasma.

**Postencephalitic:** Occurring after encephalitis; an abnormal state remaining after the acute stage of encephalitis.

**Proprioception:** The awareness of posture, movement, and changes in equilibrium and the knowledge of position, weight, and resistance of objects in relation to the body; proprioception includes awareness of the joints at rest and with movement.

**Proprioceptive neuromuscular facilitation (PNF):** A form of therapeutic exercise in which accommodating resistance is manually applied to various patterns of movement for the purpose of strengthening the muscles.

**Resting tremor:** Tremor present when the involved part is at rest but absent or diminished when active movement is attempted; can be found in Parkinson's disease.

**Rigidity:** Hypertonicity of muscles offering a constant, uniform resistance to passive movement; the affected muscles are unable to relax and in a state of contraction even at rest.

**Rhythmic initiation:** A neurological facilitation technique of PNF; therapeutic exercise performed in physical therapy using a voluntary relaxation followed by passive movements, then active assisted movements progressing to resisted movements; it may be used in Parkinson's disease to facilitate movement.

**Spasticity:** Increase in muscle tone and stretch reflex of a muscle resulting in increased resistance to passive stretch of the muscle and high response to sensory stimulation.

**Thrombosis:** Coagulation of the blood in the heart or a blood vessel forming a clot or a thrombus.

**Tracheostomy:** The surgical opening of the trachea to provide an open airway.

**Ventilation:** The movement of air into and out of the lungs.





[illegible]

- Cranial nerve examination
- Muscle tone assessment
- Posture assessment
- Balance and coordination assessments
- Attention–environmental awareness; orientation–awareness to time, person, place; cognition assessments–memory, judgment, language
- Hearing and vision assessments
- Sensory assessments: pain, temperature, light touch, kinesthesia, proprioception

## Notes

### Neurophysiological Approaches

- Neurodevelopmental treatment (NDT)—Karl and Berta Bobath—promotes normal movement sequence; inhibits abnormal tone
- Proprioceptive neuromuscular facilitation (PNF)—Kabat, Knott, Voss—spiral and diagonal patterns for function
- Sensory stimulation techniques—Rood—facilitation and inhibition techniques
- Movement therapy—Brunnstrom—used in hemiplegia—relearn the movement

### Examples of Neurological Disorders and Interventions

- Acute CVA
  - Positioning supine, sidelying, prone, sitting
  - Skin integrity
  - No traction injuries to affected arm Facilitation techniques: tapping vibration
  - Weight bearing position—involved extremity
  - Rolling onto affected side with sidelying position; sidelying on elbow position
  - Supine to sit transfers, sitting, bridging
  - Standing, walking, lateral/rotational weight shifts
  - Scooting in sitting—ensures mobility dressing

### Examples of Neurological Disorders and Interventions

- TBI—Rancho LOCF I, II, III
  - ROM, prevent contracture: PROM, positioning, splinting, serial casting
  - Skin integrity
  - Respiratory status: postural drainage, percussion, vibration
  - Sensory stimulation for arousal and to elicit movement—use auditory, visual, olfactory, gustatory, tactile stimuli
  - Functional mobility skills—upright positioning and proper body alignment



## Notes

### Examples of Cardiopulmonary Diseases and Interventions

- ❑ CAD: patient education vital signs prior, during, after exercises/activities; cardiac rehab stages
- ❑ COPD: vital signs; patient/family education deep coughing; deep breathing exercises; postural/shoulders ROM exercises
- ❑ Asthma: pursed lip/diaphragmatic breathing; relaxation exercises
- ❑ Pneumonia: postural drainage, percussion, vibration, diaphragmatic breathing, coughing techniques

# Pediatric, Geriatric, and Integumentary Physical Therapy

## CHAPTER

# 5

### LEARNING OBJECTIVES

---

After studying Chapter 5, the reader will be able to:

- List the specific physical therapy examination and evaluation elements used by the physical therapist in pediatric physical therapy practice.
- Describe specific interventions common in pediatric physical therapy.
- Discuss the major pediatric diseases (such as cerebral palsy, Down's syndrome, or Duchenne muscular dystrophy) and related physical therapy interventions.
- Name specific elements used by the physical therapist in the initial examination and evaluation of the geriatric patient.
- List specific age-related changes of the older adult significant when providing physical therapy interventions.
- Describe specific geriatric diseases and limitations (such as immobility or fractures) and related physical therapy treatments.
- List elements of wound and burn assessment.
- Describe major physical therapy interventions for wound and burn care.

### GLOSSARY

**Apgar score:** A system of evaluating an infant's physical condition at birth, discovered by Virginia Apgar, an American anesthesiologist; the infant's heart rate, respiration, muscle tone, response to stimuli, and color are rated at 1 minute, and again at 5 minutes after birth.

**Asphyxia:** Condition of insufficient intake of oxygen.

**Cerebral hemorrhage:** Abnormal bleeding as a result of rupture of a blood vessel.

**Hydrotherapy:** Physical therapy intervention using water.

**Hypertonia:** Increased tone above normal resting level.

**Impairment:** A loss or abnormality of psychological, physiological, or anatomical structure or function.

**Perinatal:** Time period immediately before and after birth.

**Spasticity:** Increase in muscle tone and stretch reflex of a muscle resulting in increased resistance to passive stretch of the muscle and high response to sensory stimulation.

[illegible]

**PEDIATRIC, GERIATRIC, AND  
INTEGUMENTARY PHYSICAL  
THERAPY**

- PT: direct care provider—Early Intervention Programs (EIPs)
- PTA: under PT direct supervision—dependent jurisdiction
- Patient and Patient family
- MD/DO
- RN
- OTR/L and COTA
- SLP and Psychologist
- Teachers and Special educators

- Neonatal reflexes
  - Babinski: 0–12 months—stroking lateral aspect of plantar surface of foot = toes extension/fanning
  - Symmetrical Tonic Neck Reflex (STNR): 6–8 months—neck flexion = arms in flexion and legs in extension; neck extension = arms in extension and legs in flexion
- Developmental Milestones by Age: assess gross and fine motor functions, language, social, adaptive skills (such as coordination), and cognitive skills—from birth to adolescence (13–18 years)

## Notes

### Examples of Pediatric Interventions

- Orthopedic: bracing, PROM/AROM exercises, stretching, strengthening, mobility training (rolling walker), orthotics, balance/endurance, compensatory techniques
- Neurological: positioning, neurophysiological approaches, adaptive equipment (prone stander), ROM, mobility training, exercises, family education, functional skills
- Pulmonary: percussion, postural drainage, aerobic activity (loosen secretions)
- Developmental disability: orthosis, mobility training, adaptive equipment

### Examples of Pediatric Disorders and Interventions

- CP: individualized interventions—team approach – example: hypertonia CP—positioning hips and knees > 90 degrees of flexion, inhibition of abnormal reflexes, weight bearing activities
- Down Syndrome: facilitate lip closure, inhibit tongue protrusion, positioning, strengthening, education C1–C2 vertebral instability
- Duchenne Muscular Dystrophy: stretching, ambulation assistive devices, braces, ADLs, recreation (pool therapy)

### Examples of Pediatric Disorders and Interventions

- Scoliosis: bracing (Milwaukee orthosis), stretching tight muscles (concave), strengthen weak muscles (convex)
- Spina Bifida
  - Family education
  - Positioning: minimize deformity
  - Strengthening: playing
  - Stretching
  - Static/dynamic stander: positioning upright
  - Orthotic devices





## Notes

### Examples of Integumentary Assessments

#### Skin assessments

- Lesion characteristics—ex: elevated
- Edema or swelling; nail condition
- Skin temperature, color, and pigmentation
- Pain, increased perspiration, unusual growths

#### Wound assessments

- Location and measurement—edges, depth
- Size, drainage, and granulation
- Edema and skin changes

Burn assessments: classification of burn area, degree, complications, healing, management

### Examples of Integumentary Interventions

#### □ Skin disorders/dysfunctions

- Patient education; Exercises; ADLs
- Skin protection; Modalities: ultrasound, ultraviolet, aquatic, paraffin, fluidotherapy

#### □ Wounds

- Cleansing: whirlpool, pulsatile lavage
- Modalities: as per PT treatment plan
- Debridement; Dressing: as per MD/DO

#### □ Burns

- Debridement and positioning
- ROM exercises, pressure garments, breathing exercises, infection control

# ETHICAL AND LEGAL ISSUES

## INTRODUCTION TO PART III

---

Part III of the text describes ethical issues encountered in physical therapy, including professionalism and laws and regulations pertaining to the physical therapist and physical therapist assistant. Part III contains two chapters:

- Chapter 6: Ethics and Professionalism
- Chapter 7: Law and Regulations

## LABORATORY ACTIVITIES FOR PART III

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The following activities are suggested to the instructor to involve students in the application of laboratory performances:

- Read the APTA's guide for professional conduct for PTs, and identify at least four directive ethical principles that, if broken, can also constitute a violation of the law.
- Read the APTA's guide for conduct for PTAs and identify at least four directive ethical principles that, if broken, can also constitute a violation of the law.
- Give at least two examples of the beneficence principle that can apply to physical therapy.
- Give at least two examples of the nonmaleficence principle that can apply to physical therapy.
- Interview a PTA about standards of cultural and linguistic competence in his or her clinical settings.
- Give a class presentation about patient confidentiality in physical therapy practice including HIPAA's standards in regard to reasonable safeguards that a physical therapy provider must implement.
- Give a class presentation about a patient's informed consent in physical therapy practice.
- Perform an accessibility audit at your school to identify barriers and obstacles faced by students or faculty with disabilities.
- Interview a PTA working in a pediatric setting or a school about the IDEA and physical therapy interventions.
- Perform an Internet search about your state's licensure statutes determining physical therapy practice criteria.
- Perform an Internet search about the OSHA's news in regard to health care.
- Perform an Internet search about OSHA's blood-borne pathogens standard (BPS).
- Write a paper about domestic violence issues in your state and the applicable laws.
- Write a case scenario about a PTA who caused harm to a patient, being liable for negligence.



# Ethics and Professionalism

## CHAPTER

# 6

### LEARNING OBJECTIVES

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After studying Chapter 6, the reader will be able to:

- Define morals and ethics.
- Delineate the difference between medical law and medical ethics.
- List six biomedical ethical principles and their roles in health care.
- Discuss patient confidentiality.
- Describe the Health Insurance Portability and Accountability Act (HIPAA) of 1996.
- Discuss the patient's bill of rights and its importance to physical therapy practice.
- Explain cultural competence in health care and physical therapy.
- List the elements of full informed consent.
- Explain the guide for professional conduct that physical therapists are morally bound to follow.
- Explain the guide for conduct of the affiliate member that physical therapist assistants are morally bound to follow.
- Identify at least five directive ethical provisions expected of the physical therapist assistant.

### GLOSSARY

**Emotional abuse:** Undermining a person's sense of self-worth such as criticizing constantly, calling names, belittling one's abilities, or damaging a partner's relationship with the children.

**Ethnocentrism:** The universal tendency of human beings to think that their ways of thinking, acting, and believing are the only right, proper, and natural ways; universal phenomena in that most people tend to believe that their ways of living, believing, and acting are right, proper, and morally correct.









## Notes

### Confidentiality

- Patient entitled receive from CE
  - PHI during six years prior to request date
  - Name entity received/used PHI
  - Brief description PHI
  - Brief statement: purpose of disclosure
- CE can not use PHI marketing
- Violation of HIPAA—complaint driven
  - Civil penalties—fines
  - Criminal sanctions

### Elements of Informed Consent

- Clear description of intervention—layperson's terms
- Reasonable alternatives proposed intervention
- Risks or benefits: uncertainties—each intervention
- Assessment patient's understanding
- Patient's acceptance intervention
- Patient competent
- Patient's consent voluntary
- Legal guardian's consent: minor or adult who is not competent

### Role of Cultural Diversity

- Awareness/understanding/acceptance—Patient
  - Racial characteristics
  - National origin
  - Religious affiliations
  - Physical size—spoken language
  - Age—gender
  - Sexual orientation
  - Physical/mental disability
  - Socioeconomic/occupational status
  - Political orientation—geographical location

## Notes

### Cultural Competence

#### Ethical perspective

- ☐ Evolving process
- ☐ Acceptance/respect differences
- ☐ Self-assessment
- ☐ Expansion cultural knowledge/resources
- ☐ Vigilance toward dynamics of differences
- ☐ Adaptation to services

#### Legal perspective

- ☐ Federal standards
- ☐ JCAHO
- ☐ National Committee for Quality Assurance
- ☐ CAPTE

### Develop Cultural Competence in Physical Therapy

- ☐ Identify personal cultural biases
- ☐ Understand cultural differences—seek knowledge about different cultures
- ☐ Diversity: acknowledge, accept, appreciate, value, and respond; do not avoid, minimize, tolerate, or be afraid
- ☐ Apply cultural competence clinical practice
- ☐ Developing cultural competence
  - An ongoing learning process
  - A slow process
  - Not an unmistakable process

# Laws and Regulations

## CHAPTER

# 7

### LEARNING OBJECTIVES

---

After studying Chapter 7, the reader will be able to:

- Identify the four primary sources of law in the United States.
- Describe the American with Disabilities Act of 1990.
- List the main points of Title I of the Americans with Disabilities Act and its effect on businesses and employers.
- Discuss the Individuals with Disabilities Education Act of 1997.
- Describe the role of licensure laws.
- List the name of the organization responsible for creating and managing the National Physical Therapy Examination for physical therapists and physical therapist assistants.
- Explain four minimum standards to enter the profession for physical therapists and physical therapist assistants.
- Describe the Occupational Safety and Health Administration and its role in health care.
- Discuss the importance of the blood-borne pathogens standard in health care, including physical therapy practice.
- Identify the Violence Against Women Act of 2000 and domestic violence issues in the United States.
- Describe domestic violence responses in health care and physical therapy.
- Identify two types of malpractice laws that can affect physical therapist assistants.

### GLOSSARY

**Blood-borne pathogens:** Pathogenic microorganisms that are present in human blood and that can infect and cause disease in persons who are exposed to blood containing these pathogens; examples of blood-borne pathogens are hepatitis B and HIV.

**Disability:** The inability to engage in age-specific, gender-related, and sex-specific roles in a particular social context and physical environment; it is also any restriction or lack (resulting from an injury) of ability to perform an activity in a manner or within the range considered normal for a human being.

**Domestic violence:** A pattern of abusive behavior, which keeps one partner in a position of power over the other partner through the use of fear, intimidation, and control.

**Economic abuse:** Attempting or making a person financially dependent such as maintaining total control over financial resources, withholding access money, or forbidding attendance at school or employment.

**Emotional abuse:** Undermining a person's sense of self-worth such as criticizing constantly, calling names, belittling one's abilities, or damaging a partner's relationship with the children.

**Exposure incident:** A specific exposure to the eye, mouth, other mucous membrane; nonintact skin; or parenteral exposure to blood or other potentially infectious materials that results from the performance of an employee's duties.

**Psychological abuse:** Abuse causing fear by intimidation; threatening physical harm to self, partner, or children; destruction of pets and property; mind games or forcing isolation from friends, family, school and/or work.

**Sexual abuse:** Abuse by coercing or attempting to coerce any sexual contact without consent, abuse by marital rape, forcing sex after physical beating, attacks on sexual parts of the body, or treating another in a sexually demeaning manner.



## Notes

### Americans with Disabilities Act (ADA)

- Reasonable accommodations: changes to work environment—permit employee or applicant to:
  - Participate in job application process
  - Perform essential functions of job
  - Enjoy equal benefits and privileges of employment
- Employer: changing accommodation—undue hardship
  - Disruptive and very costly
  - Difficult to implement
  - Fundamentally alters nature business

### Individuals with Disabilities Education Act (IDEA)

- Purposes
  - Free public education: special education and related services—children with disabilities from 3–21 years
  - Protected rights: children with disabilities and parents
  - Early intervention services infants and toddlers with disabilities from birth to 2 years
  - Necessary tools: educators/parents
  - Assess/ensure IDEA effectiveness

### Individuals with Disabilities Education Act (IDEA)

- Related services
  - Physical and Occupational therapy
  - Audiology and Psychological services
  - Transportation and Speech pathology
  - Recreation, Counseling and Medical service
- Physical therapy services: promotion of sensorimotor function to enhance:
  - Musculoskeletal/cardiopulmonary status
  - Neurobehavioral organization
  - Perceptual and motor development
  - Environmental adaptation







# COMMUNICATION

## INTRODUCTION TO PART IV

---

Part IV of this text discusses communication in health care and physical therapy and is divided into four chapters. These chapters are:

- Chapter 8: Communication Basics
- Chapter 9: Documentation and the Medical Record
- Chapter 10: Teaching, Learning, and Medical Terminology
- Chapter 11: Reimbursement and Research

## LABORATORY ACTIVITIES FOR PART IV

---

The following activities are suggested to the instructor to involve students in the application of laboratory performances:

- Perform a role-play situation using correct verbal communication while trying to establish a rapport with the patient.
- Adapt verbal communication to reflect sensitivity to cultural differences in a role-play situation while trying to establish a rapport with the patient.
- Engage in communication role-play using the components of active listening while performing a physical therapy intervention.
- Engage in nonverbal communication role-play contrasting open posture and closed posture situations while trying to establish a rapport with the patient.
- Observe and critique in the clinic the interaction between a PTA and a patient, recognizing effective and ineffective techniques.
- Compare and contrast in the clinic a SOAP progress note with a SOAP initial examination and evaluation report.
- Write a HEP describing the principles of proper body mechanics.
- Prepare and present a 15-minute presentation about communication methods for patients from other cultures.
- Perform three role-play situations using empathy, sympathy, and pity. Create a student panel to examine and contrast all three role-play situations.
- Interview a PT in private practice about his or her opinion of insurance reimbursement. Give a class presentation about the interview.
- Write a paper about insurance reimbursement in physical therapy.
- Critique a research article in class.



# Communication Basics

## CHAPTER

# 8

### LEARNING OBJECTIVES

---

After studying Chapter 8, the reader will be able to:

- Discuss the role of therapeutic communication in physical therapy.
- Contrast empathy and sympathy.
- Describe the significance of verbal and nonverbal communication.
- Differentiate between verbal and nonverbal communication skills.
- Identify the elements required to establish a therapeutic relationship with the patient.
- List the seven kinds of listening skills and their importance to physical therapy.
- Discuss effective listening skills.
- Contrast open and closed postures.
- Describe written communication.
- Name the primary purpose of the home exercise program (HEP) handout.
- Describe the main elements of the home exercise program (HEP).

### GLOSSARY

**Ethnocentrism:** The universal tendency of human beings to think that their ways of thinking, acting, and believing are the only right, proper, and natural ways; universal phenomena in that most people tend to believe that their ways of living, believing, and acting are right, proper, and morally correct.

**Treatment plan:** The projected series and sequence of treatment procedures based on an individualized evaluation of what is needed to restore or improve the health and function of a patient in physical therapy, the treatment plan gives direction to the medical care and provides an approach to measure the effectiveness of treatment.













# Documentation and the Medical Record

## CHAPTER

# 9

### LEARNING OBJECTIVES

---

After studying Chapter 9, the reader will be able to:

- Describe the significance and the purpose of the physical therapy medical record.
- Identify the American Physical Therapy Association's (APTA's) guidelines in regard to physical therapy documentation.
- Discuss documentation elements of the initial examination (including the patient history), daily/weekly reports, progress reports, and discharge reports.
- Define the SOAP mnemonic and its meaning.

### GLOSSARY

**Assessment data:** Data that include an appraisal or evaluation of a patient's condition based on clinical and laboratory data, medical history, and the patient's accounts of symptoms; data included in the "A" section of the SOAP note; in the SOAP note, they provide the rationale for the necessity of the skilled physical therapy services, interprets the data, and gives meaning to the data.

**Disability:** The inability to engage in age-specific, gender-related, and sex-specific roles in a particular social context and physical environment; it is also any restriction or lack (resulting from an injury) of ability to perform an activity in a manner or within the range considered normal for a human being.

**Documentation data:** All information related to patient's reasons for seeking medical care and patient's response to the medical care provided.

**Medical diagnosis:** Physician's identification of the cause of the patient's illness or discomfort.

**Objective data:** Data included in the "O" section of the SOAP note; they include information gathered by the health care provider through examination or assessment (or reassessment) of the patient; in the SOAP note are information that can be observed, measured, or reproduced by another health care provider with the same training as the initial provider.

**Subjective data:** Data included in the “S” section of the SOAP note; they include information gathered through an interview of the patient or a representative of the patient; all information gathered by the health care provider.

**Treatment plan:** The projected series and sequence of treatment procedures based on an individualized evaluation of what is needed to restore or improve the health and function of a patient in physical therapy, the treatment plan gives direction to the medical care and provides an approach to measure the effectiveness of treatment.



## Notes

### Physical Therapy Documentation Reports

- Initial examination and evaluation report
  - Foundation all other reports
  - Written PT
  - Written in SOAP, POMR, FOR formats
- Daily/weekly notes
  - Written PT/PTA
- Progress reports
  - Written PT
  - Continuum of care documentation
- Discharge reports
  - Written PT (as per APTA)

### Daily/Weekly SOAP Format Notes

- S-Subjective data
  - Patient's/patient's family information
  - Patient own response to prior treatment, description of functional improvements
  - Patient complaints of pain: Lifestyle situations
  - Patient own goals: Compliance/difficulties HEP
- O-Objective data
  - Physical therapy measurements/tests
  - Description interventions/patient function
  - PT/PTA objective observations: increase reps., patient education/instruction

### Daily/Weekly SOAP Format Notes

- A-Assessment data
  - Summary Subjective and Objective
  - PT/PTA assessment patient response and effectiveness treatment
  - PTA assessment patient progress STGs/LTGs
  - Reasons interventions
  - Interventions' effects on patient's impairments and functional limitations
- P-Plan data
  - Written future tense: "will increase reps."
  - PTA plan next session: "will add ex."
  - PTA plan: need PT re-examination or PT discharge

## Legal Issues

- ❑ Comply: jurisdictional, regulatory, insurance requirements
- ❑ Patient's rights privacy
- ❑ Patient's authorization: release medical information
- ❑ Medical information inquiries: PT directed
- ❑ Physical therapy records: locked safe/secure place for 7 years

### Telephone Referral Requirements

- ☐ Date/time call
- ☐ Name person called
- ☐ Name person took referral
- ☐ Name patient and referral details
- ☐ Date written copy referral
- ☐ Name PT: examine/evaluate referred patient

## Notes

[illegible]



# Teaching, Learning, and Medical Terminology

CHAPTER

10

## LEARNING OBJECTIVES

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After studying Chapter 10, the reader will be able to:

- Discuss the teaching and learning aspects of physical therapy.
- Describe patient education methods for people who have difficulty reading, for patients who are older adults, for patients who have visual and hearing impairments, for patients who cannot speak English, and for patients from other cultures.
- Define medical terminology and its role in physical therapy.
- List the standardized terminology used in physical therapy.





## TEACHING, LEARNING, AND MEDICAL TERMINOLOGY

- Modes
  - Discussions/demonstrations
  - Presentations/lectures
  - Videotape/DVD: Return demonstrations
  - Illustrations/written information
- PT/PTA responsibilities
  - Gain learner attention: clear objectives
  - Recall prior: relate present to future learning—break down learning units/steps
  - Sequence: practice, progress comfort pace, feedback—knowledge results
  - Reward success: no negativity, fear, frustration, failure

- Visual: symbols, charts, diagrams
  - Use mind mapping: visual aids, imaging techniques, no visual distractions
- Auditory, hear lectures: discuss topic
  - Use study groups, take lecture notes, tape lectures, quiet study
- Kinesthetic: "doing"—lab/clinical
  - Read material; use illustrations, case studies, write practice answers
- Analytic: read/think/organize—detail
  - See "big picture": organize material—no detail—not stuck on one concept

## Notes

### Strategies for Improving Learning Skills

- Supportive relationships
- Expand personal learning style
- Study groups
- Improve match learning style and life
  - Change career, reorganize priorities: use learning style strengths/weaknesses
- Flexible learner
  - Long-term plan, long-term payoffs
  - Practice new skills, no punishment failure
  - Reward self

### Test Exam Strategies

- Answer items student knows: skip others
- Focus on skipped items: eliminate incorrect answers
- Think critically
  - Cautious items: "always", "never", "invariably", "none", "all", "every", "must"
  - Substitute qualified term for absolute term: statement more/less valid than original

### General Tips for Teachers and Learners

- Learner: sets own goals, freely expresses ideas/beliefs/concerns
- Teacher does not dictate learning
- Respect/trust: learner/teacher
- Teacher: supportive/nonjudgmental
- PT/PTA: academic/clinical teacher
  - Individuals learn at different rates
  - Learning: trial, error, introspection
  - Effective experiential learning
  - Learner reinforcement: competence and success





# Reimbursement and Research

CHAPTER



## LEARNING OBJECTIVES

---

After studying Chapter 11, the reader will be able to:

- Describe reimbursement for Medicare, Medicaid, private insurance companies, and health maintenance organizations.
- Discuss the main elements of research study, and describe how to write a research report.

## GLOSSARY

**Disability:** The inability to engage in age-specific, gender-related, and sex-specific roles in a particular social context and physical environment; it is also any restriction or lack (resulting from an injury) of ability to perform an activity in a manner or within the range considered normal for a human being.













# PATIENT CARE ESSENTIALS FOR THE PHYSICAL THERAPIST ASSISTANT

## INTRODUCTION TO PART V

---

Part V of this text includes the following three chapters:

- Chapter 12: Infection Control, Patient Preparation, and Vital Signs
- Chapter 13: Patient Positioning, Body Mechanics, and Transfer Techniques
- Chapter 14: Wheelchairs, Assistive Devices, and Gait Training

The physical therapist (PT) and the physical therapist assistant (PTA) have complex and varied responsibilities during clinical practice. Some of these responsibilities may change depending on the type of clinical facility. For example, working in an outpatient orthopedic physical therapy department may require treating patients who in the majority would present with musculoskeletal disorders. In this orthopedic environment, the PT or the PTA may not be involved with elements of patient care such as positioning or transfers. Gait training may be taught on occasion to patients who postoperatively need to learn how to use crutches or walkers. In contrast, when working in a skilled nursing facility or in an inpatient hospital department, the PT and the PTA would almost constantly need to use positioning, transfers, gait training, wheelchair measurements, assistive devices, and other factors significant to patient care. Considering the variety of clinical practices, PTA students should become familiar early in their technical education with the varied elements of patient care. These should include vital signs, area and patient preparation, patient positioning, body mechanics and transfers, hand washing and infection control, wheelchair features, and gait training.

## LABORATORY ACTIVITIES FOR PART V

---

The following activities are suggested to the instructor to involve students in the application of laboratory performances:

- Describe and demonstrate assessing vital signs.
- Role-play the therapist and patient by preparing the area for the patient's arrival, draping the patient prior to treatment, and establishing a therapeutic relationship with the patient.
- Demonstrate positioning for a patient with hemiplegia.
- Perform lifting techniques using the "five Ls."
- List and demonstrate bed mobility transfers.
- List and demonstrate sitting and standing transfers including the sliding board transfer.
- Practice hand washing for medical asepsis. Watch and critique another student's hand-washing technique.
- Give a class presentation describing the components of a wheelchair.
- Participate in a wheelchair training session at the local hospital.

- Working in groups of two, perform wheelchair measurements.
- Practice wheelchair training activities indoors.
- Analyze a classmate's subphases of gait and identify the major muscle groups involved in each subphase.
- Describe different types of assistive devices and perform the necessary measurements.
- Practice gait training using different assistive devices and gait sequencing patterns; practice on even surfaces and stairs.
- Perform guarding techniques on even surfaces and stairs.
- Demonstrate getting up with crutches or a walker from a wheelchair.

# Infection Control, Patient Preparation, and Vital Signs

## CHAPTER

# 12

### LEARNING OBJECTIVES

---

After studying Chapter 12, the reader will be able to:

- Employ proper hand washing and infection control techniques.
- Prepare the treatment area.
- Prepare the patient for treatment.
- Describe and assess blood pressure, pulse, respiration, and temperature.

### GLOSSARY

**Anemia:** A condition in which there is a reduction in the number of red blood cells or hemoglobin in the bloodstream; the patient having anemia may exhibit generalized weakness and paleness.

**Arteriosclerosis:** Thickening and hardening of the arteries.

**Asepsis:** A condition free from germs, infections, and any form of living organism.

**Dyspnea:** Inability or difficulty breathing (shortness of breath).

**Foley catheter:** A urinary tract catheter with a balloon attachment at one end.

**Hypertension:** Any abnormally high blood pressure; blood pressure above 120/80.

**Renal dialysis:** The process of diffusing blood across a semipermeable membrane to remove toxic materials and to maintain fluid, electrolyte, and acid–base balance in cases of impaired kidney function or absence of the kidneys.

**Vasodilation:** Increase in the diameter of blood vessels, which increases blood flow.





## Notes

### Microorganisms Nosocomial Infections

- Microorganisms
  - Viruses and bacteria
  - Fungi, protozoans, or intercellular parasites
- Nosocomial infections: hospital and hospital-like settings
  - Pathogen: staphylococci, enterococci
  - Hosts: patients, compromised immune system
  - Transmission: skin-to-skin, airborne, water, food, soil, animal sources
  - Nosocomial infections: UTI, RTI, blood stream, surgical site, skin, gastrointestinal, CNS, fungal, pneumonia, MRSA, VRE

### CDC Guidelines Infection Control

- Use gloves when touching: blood, bodily fluids, secretions, excretions, contaminated items
- Apply clean gloves touching mucous membranes and nonintact skin
- Change gloves between tasks on same patient: high concentration microorganisms
- Wash hands immediately after glove removal
- Remove soiled gown after use and wash hands
- Soiled patient care equipment: do not touch skin and mucous membranes, clean and reprocess or discard single-use items

### CDC Guidelines Infection Control

- Airborne: tuberculosis, measles, chickenpox
  - Respiratory isolation room—limit patient movement outside
  - PTA mask—patient mask outside room
- Coughing, sneezing, talking—mumps, rubella, flu, pertussis
  - Isolation room—limit patient movement outside
  - PTA mask—patient mask outside room
- Direct patient contact—hand or skin-to-skin
  - Isolation room—PTA gloves and gowns—touching patient/environment—limit patient movement
  - Single-patient use equipment





## Notes

### Draping Procedures

- Patient consent: explain procedure
- Position patient: supine, sidelying, or prone
- Patient permission/reason disrobe: treatment gown, linens to cover
- Privacy: patient undressing, storage for patient clothes and valuable items
- Drape area to be treated: tuck in/tape linens not tightly
- Treatment: patient comfortable
- After treatment: remove draping, clean area
- Privacy: patient dressing street clothes and valuable items
- Dispose used linens: use proper container, prepare treatment area for next patient

### Vital Signs

- BP
  - Systolic: heart contracting—healthy people—90 mmHg and 120 mmHg
  - Diastolic: heart relaxes—healthy people—60 mmHg and 80 mmHg
  - Hypertension: above 120/80 mmHg
  - Infants: low BP—80/50 mmHg, children low BP - 100/55 mmHg
  - BP increases proportional exercises/activities
  - Instruments: stethoscope, sphygmomanometer, BP cuff (wide for adults, narrow for infants and children)
  - Assess: typical—brachial artery

### Procedures Taking BP

- PTA washes hands, gets patient consent, takes BP same arm
- Patient relaxed, arm horizontal at heart level
- BP cuff appropriate width/length
- Deflated BP cuff, position evenly and snugly on upper arm, 1–2 inches above antecubital fossa, close BP cuff valve
- Diaphragm stethoscope, brachial artery, sphygmomanometer zero
- Inflate BP cuff to 30 mmHg above patient normal BP prior readings
- Deflate BP cuff slowly, 2–3 mmHg
- First sound heard—systolic pressure, no longer sounds heard—diastolic pressure





# Patient Positioning, Body Mechanics, and Transfer Techniques

CHAPTER

13

## LEARNING OBJECTIVES

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After studying Chapter 13, the reader will be able to:

- Position the patient for treatment and to prevent pressure ulcers.
- Use proper body mechanics during patient's transfer or ambulation.
- Perform different types of bed mobility with patients
- Perform sitting transfers, and standing transfers with patients.

## GLOSSARY

**Decubitus ulcers:** Open sores due to lowered circulation.

**Hemiplegia:** Condition in which half of the body is paralyzed; paralysis.

**Joint contracture:** Shortening of muscle and connective tissue limiting the range of motion at a joint.



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## PATIENT POSITIONING, BODY MECHANICS, AND TRANSFER TECHNIQUES

- Prevent pressure ulcers (decubitus ulcers)
  - Patient confined to bed: turn every 2 hours
  - Patient confined chair: relieve pressure on buttocks every 15 minutes with push-ups or leaning forward/side-to-side
  - Patient confined chair : sensory deficits, poor circulation, frail skin, relieve pressure on buttocks every 10 minutes
  - Patients hemiplegia/amputations: special positioning techniques

- Bony prominences at risk: supine
  - Occipital tuberosity
  - Medial epicondyle humerus
  - Spine/inferior angle scapula
  - Vertebral spinous process, posterior iliac crest
  - Sacrum, greater trochanter, head fibula
  - Lateral malleolus, posterior calcaneus
- Positioning supine, face upward
  - Cervical roll or small pillow under head
  - Small pillow under popliteal areas and/or knees
  - Rolled towel under ankles

## Notes

### Positioning Sidelying

- Bony prominences at risk: sidelying
  - Lateral ear/ribs/acromion process
  - Lateral head humerus, Medial/lateral epicondyle humerus
  - Greater trochanter, medial/lateral femoral condyles, tibial/fibular malleolus
- Positioning sidelying
  - 1 to 2 pillows under head
  - Uppermost upper limb: pillow hold—not roll forward
  - Uppermost lower limb: slightly forward—1 or 2 pillows between knees and lower leg
  - Lowermost lower limb: slightly backward

### Positioning Prone

- Bony prominences at risk: prone
  - Forehead, lateral ear, tip acromion process
  - Anterior head humerus, sternum, anterosuperior iliac spine, patella
  - Tibial ridge, dorsum foot
- Positioning prone, horizontal face downward
  - 1 pillow under head or table face cutout
  - 1 pillow under lower abdomen: decrease lumbar lordosis
  - Rolled towel under each anterior shoulder: elbows bent at 90 degrees in T position
  - Pillow under anterior ankles

### Positioning Sitting

- Bony prominences at risk: sitting
  - Scapula
  - Vertebral spinous processes
  - Ischial tuberosities
- Positioning sitting
  - Feet: footstool, WC footrest
  - Hips/knees: 90 degrees flexion
  - Ankles: neutral





## Notes

### Types of Transfers

- Bed mobility transfers—patient turning in bed
  - Independent
  - Assisted
- Sitting transfers
  - Assisted—sliding board
  - Independent
  - Dependent lift: one or two PTAs, draw sheet, zero lifting: power/manual lifts
- Standing transfers
  - Assisted pivot
  - Independent pivot
  - Standby pivot

### Sliding Board Transfer Procedures

- PTA obtains: safety belt, WC, sliding board, gets patient consent, explains procedure to patient
- WC 45 degrees bed: adjust surfaces WC/bed
- Remove WC armrest/footrest near bed, safety belt patient
- Sliding board one side under patient buttocks/thighs, other side WC seat
- PTA guards/instructs patient not catch fingers under sliding board
- Patient push ups sliding board, leaning slightly forward, completes transfer, positioned WC

### Sitting Dependent Transfer Procedures

- PTA plans: safety belt, WC, gets patient consent, explains procedure to patient
- WC 45 degrees bed: remove WC armrest and footrest near bed, safety belt patient
- Folds patient arms in lap, slides patient EOB
- PTA wide BOS: braces patient's involved limb
- PTA bends patient trunk, head on PTA hip
- PTA lifts patient by safety belt, on each side
- PTA moves feet, slowly lowers patient WC
- PTA positions patient comfortable in WC

## Standing Assisted Pivot Transfer Procedures

- PTA obtains safety belt, WC and patient consent
- PTA explains procedure patient, applies safety belt patient, WC 45 degrees bed
- PTA instructs: patient strong limb near WC—patient lock WC, elevate foot-plate, strong limb backward, weak limb forward
- PTA instructs: patient lean forward—place arm near WC on armrest, rock body back/forth, get momentum, stand
- PTA instructs: patient balance—switch armrests, patient pivot back toward WC, lower down slowly WC, patient position WC

## Notes

[illegible]



# Wheelchairs, Assistive Devices, and Gait Training

## CHAPTER

# 14

### LEARNING OBJECTIVES

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After studying Chapter 14, the reader will be able to:

- Discuss the types of wheelchairs and wheelchair components.
- Measure the wheelchair for the patient.
- Identify wheelchair training techniques.
- Describe the two phases of human gait: the stance and the swing phase.
- List the types of assistive devices used in physical therapy.
- Explain and perform preambulatory activities at the parallel bars.
- Follow guarding techniques during ambulation on even surfaces and stairs.
- Discuss patients' weight-bearing categories.
- Differentiate between different weight-bearing categories such as non-weight bearing, partial weight bearing, toe touch weight bearing, and weight bearing as tolerated.
- List the six gait sequencing patterns used in gait training.
- Perform the six gait sequencing patterns using different assistive devices.
- Discuss standing and sitting activities using assistive devices.
- Describe ascending and descending stairs using crutches and the cane.

### GLOSSARY

**Hemiplegia:** Condition in which half of the body is paralyzed; paralysis.



## CHAPTER 14

## WHEELCHAIRS, ASSISTIVE DEVICES, AND GAIT TRAINING

## Wheelchairs

- ❑ WC Purposes
  - Correct and straighten deformity
  - Increase and maintain level of function
  - Allow patient maximum functional use
- ❑ Proper WC seating/positioning
  - Prevents deformity and pressure ulcers
  - Normalizes tone
  - Promotes efficient use of upper limbs
  - Enhances respiratory function
  - Body alignment
  - Increases sitting comfort and tolerance

## Wheelchair Types

- Standard: patients < 200 pounds
- Heavy duty: patients > 200 pounds
- Child: up to 6 years old, junior, adolescents, and smaller patients
- Amputation: bilateral limbs, drive wheels 2 inches back, WC not to tip backward
- Hemiplegia: 2 inches lower, propels with unaffected upper and lower limb
- One-arm drive: propels with one hand
- Tilt-in-space: tone/spasm hip/knee extensors, pressure relief
- Reclining: maintains upright sitting position
- Sport: plays sports
- Electric: joystick drive











## Notes

### Ascending and Descending Stairs with Assistive Devices

- ❑ Ascending stairs: unaffected lower limb goes up first
- ❑ Descending stairs: affected lower limb goes down first
- ❑ Ascending/descending stairs: affected lower limb goes up/down together with assistive device
- ❑ PTA one foot: on step where patient stands, PTA other foot: on step below
- ❑ Assistive devices—stairs: standard cane, small-based quad cane, crutches