

# PTAT-2200: PHYSICAL THERAPY IN ACUTE CARE SETTING

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## Cuyahoga Community College

**Viewing: PTAT-2200 : Physical Therapy in Acute Care Setting**

**Board of Trustees:**

May 2024

**Academic Term:**

Fall 2024

**Subject Code**

PTAT - Physical Therapist Assist

**Course Number:**

2200

**Title:**

Physical Therapy in Acute Care Setting

**Catalog Description:**

Explores the procedures, equipment and common pathologies encountered in the practice of physical therapy in the acute care environment. Physical therapy techniques for intervention are also presented, demonstrated and practiced.

**Credit Hour(s):**

2

**Lecture Hour(s):**

1.5

**Lab Hour(s):**

1.5

## Requisites

**Prerequisite and Corequisite**

PTAT-1312 Fundamentals of Physical Therapy, and departmental approval.

## Outcomes

**Course Outcome(s):**

A. Apply therapeutic foundational concepts and principles to interventions in the acute care cardiopulmonary patient.

**Objective(s):**

1. Outline common clinical findings and medical surgical management strategies for common cardiac diseases and disorders, coronary artery disease, myocardial infarction, hypertension, congestive heart failure, angina pectoris, and cardiac arrhythmias.
2. Differentiate between obstructive and restrictive lung disease.
3. Discuss the pathophysiology and clinical manifestations of lung diseases frequently encountered in physical therapy.
4. Describe the grades of dyspnea and instruct patient in proper positioning, breathing techniques, and energy conservation techniques to relieve dyspnea.
5. Discuss and demonstrate physical therapy interventions for airway clearance, including assisted coughing and postural drainage techniques.
6. Accurately document sputum production including amount, color, consistency and odor.
7. Recognize various pulmonary procedures and surgeries and the precautions therapists must take following each.
8. Distinguish the parameters for stopping treatment as it relates to vital signs, cardiac status and respiratory status.
9. Identify factors that are associated with or contribute to hypertension.
10. Identify major independent, predisposing, and conditional risk factors for heart disease.
11. Discuss the pathogenesis of arteriosclerosis and atherosclerosis.
12. Recognize precautions therapists must follow with patients following various cardiac procedures and surgeries.
13. Locate and palpate various sites on the human body where an arterial pulse may be taken. Measure and record with accuracy the pulse, including qualities of the pulse.

14. Demonstrate ability to assess orthostatic hypotension by taking and recording blood pressure with patient sitting, standing, and lying down.
15. Identify the primary respiratory organs, inspiratory muscles, and expiratory muscles.
16. Recognize the general manifestations of infectious diseases of the respiratory system.

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**Course Outcome(s):**

B. Apply therapeutic foundational concepts and principles to interventions in the acute care orthopedic patient.

**Essential Learning Outcome Mapping:**

Oral Communication: Demonstrate effective verbal and nonverbal communication for an intended audience that is clear, organized, and delivered effectively following the standard conventions of that language.

**Objective(s):**

1. List the major types of orthopedic diagnoses seen in physical therapy including but not limited to: degenerative joint disease, spinal disorders, and fractures associated with trauma.
2. Identify weight bearing limitations and range of motion restrictions within physician orders.
3. Recognize various equipment needs of patients including braces, orthotics and assistive devices.
4. Identify factors that contribute to bone healing.
5. Describe complications that may arise from fractures and orthopedic surgeries.
6. Recognize total joint arthroplasty surgeries and the precautions following each.
7. Recognize various spinal procedures and the precautions following each.

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**Course Outcome(s):**

C. Apply therapeutic foundational concepts and principles to interventions in the acute care neurological patient.

**Objective(s):**

1. Describe common neurological diseases and disorders, such as clinical findings and medical surgical management including but not limited to: traumatic brain injury, spinal cord injury, stroke, subarachnoid hemorrhage, dementia, ventricular dysfunction, and vestibular dysfunction.
2. Identify abnormal lab values in patients at increased risk of stroke.
3. Identify swallowing precautions and diet restrictions to reduce risk of patient aspiration.
4. Discuss measures used to determine level of consciousness and responsiveness.
5. Describe various levels of tone and how it will affect physical therapy treatments.
6. Differentiate between a transient ischemic attack (TIA) and a cerebral vascular accident (CVA).
7. Describe the use of tissue-type plasminogen activator (tPA) and the implications for physical therapy treatment.
8. Identify various types of dementia and physical therapy treatment strategies for them.
9. Describe common degenerative central nervous system diseases, including clinical findings and medical surgical management.
10. Discuss various types of neurosurgery procedures and the effects they will have on patients receiving physical therapy interventions.

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**Course Outcome(s):**

D. Apply therapeutic foundational concepts and principles to interventions in the acute care oncology patient.

**Objective(s):**

1. Outline various systemic and localized cancers of the various body systems and their impact on physical therapy intervention.
2. Differentiate between benign and malignant tumors.
3. Identify common sites of metastases and precautions for different sites.
4. Identify risk factors for developing cancer.
5. Identify signs and symptoms of cancer manifestation.
6. Discuss treatment strategies including radiation, chemotherapy, and surgeries and their side effects.
7. Identify screening strategies to detect cancer early.
8. Identify any weight bearing or range of motion limitations post-operatively.
9. Discuss treatment strategies for lymphedema management.

10. Discuss strategies for monitoring exercise progress during lengthy hospital stays.
11. Recognize lab values that will place a patient on reverse isolation precautions.

**Course Outcome(s):**

E. Apply therapeutic foundational concepts and principles to interventions in the acute care medical surgical patient.

**Objective(s):**

1. Diagram a cross section of the skin, identify each layer and discuss the function of skin structures.
2. Classify degrees of burns, and identify and discuss terminology related to burns.
3. Classify the level of tissue damage for the various degrees of burns, the expected healing process and types of grafts.
4. Discuss systemic complications of burn injuries.
5. Differentiate various types of burns including but not limited to: thermal, electrical, and chemical burns.
6. Utilize the appropriate measures to determine percentage of total body surface area burned.
7. Identify various types of wounds including traumatic, surgical, arterial/venous insufficiency, and diabetic ulcers, and describe the pathophysiology of each.
8. Compare wound healing for various types of wounds including traumatic, surgical, arterial/venous insufficiency, and diabetic ulcers, and discuss various modalities used to treat them.
9. Discuss precautions and contraindications for physical therapy treatments including range of motion (ROM) limitations, weight bearing status, and fall risk to maximize the patients healing.
10. Delineate the proper procedure for the application, removal and disposal of dressings.
11. Establish and maintain a sterile field. List the guidelines for maintaining a sterile field.
12. Describe the signs, symptoms, and treatments of gastrointestinal disorders, including but not limited to: esophageal, gastric, intestinal, hepatic, biliary, and pancreatic disorders.
13. Describe signs, symptoms, and treatments of renal system, lower urinary tract, and prostate dysfunctions and disorders.
14. Identify the various types of organ transplantations and the criteria for obtaining an organ transplant.
15. Discuss the clinical manifestations of organ rejection.
16. Describe the organ transplantation process, including preoperative and post-operative care.
17. Discuss the considerations for treatment, exercise and activity for the patient with organ transplantation.
18. Describe the impact fluid and electrolyte imbalances have on patients in the acute care setting.
19. Identify factors that affect the immune system.
20. Identify the signs and symptoms of infectious disease.
21. Classify the more common types of viral and bacterial infections encountered in the practice of physical therapy.
22. Discuss lifestyle management including the effect role smoking, alcohol intake, and nutrition have on the immune system.
23. Describe signs and symptoms of endocrine system dysfunctions.
24. Differentiate between Type I and Type II Diabetes.
25. Identify signs and symptoms of hypoglycemia and hyperglycemia.
26. Perform diabetic foot care assessment and education.

**Course Outcome(s):**

F. Apply foundational concepts and principles to the acute care environment.

**Essential Learning Outcome Mapping:**

Oral Communication: Demonstrate effective verbal and nonverbal communication for an intended audience that is clear, organized, and delivered effectively following the standard conventions of that language.

Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

**Objective(s):**

1. Identify patient situations during physical therapy sessions when vital signs should be measured and monitored.
2. List the normal values for vital signs and discuss factors that may alter those values.
3. Describe the actions appropriate for abnormal vital signs.
4. Recognize lab values and vital signs that would contraindicate physical therapy.
5. Take and record with accuracy pulse, blood pressure, and respiratory rate.
6. Identify risk factors for blood clots, treatment for blood clots, and physical therapy management following blood clots.
7. Discuss pharmacological interventions and how medications can affect physical therapy treatment sessions.
8. Identify functional tests to complete with various patient populations and recognize what their outcomes mean.

9. Organize and adjust lines, tubes, and equipment to minimize risks to patient during therapy session.
10. Identify and discuss the various lines and catheters including but not limited to: peripheral IV lines, central lines, urinary catheters, ostomy pouch systems, and rectal tubes.
11. Organize a patient's room for physical therapy treatment.
12. Identify the various types of room isolation and specific precautions for each.
13. Demonstrate use of standard precautions.
14. Identify psychological and psychosocial impacts on patients including but not limited to: fear of falling, Intensive Care Unit (ICU) psychosis, delirium, and substance abuse and withdrawal.
15. Discuss the unique characteristics and requirements of patients in the acute care setting.
16. Interview patient and caregiver to obtain pertinent subjective information related to the current therapy session.
17. Identify appropriate conversations to have within the physical therapist/physical therapist assisting (PT/PTA) team including requests for plan of care updates, need for a reevaluation, and updates to discharge recommendations.
18. Perform thorough review of patient medical record prior to physical therapy intervention.
19. Interpret findings in the physical therapy evaluation and medical record to create physical therapy interventions appropriate to progress patients in the acute care environment.
20. Produce timely and accurate documentation for patient interactions in the acute care environment.
21. Demonstrate competence in the reading and interpretation of professional literature, specific to the acute care setting.
22. Discuss the requirements for providing physical therapy interventions in the acute care setting including the ability to treat medically complex patients.
23. Discuss the need for interdepartmental team approach in the acute care.
24. Make use of the foundational elements of patient interaction with all simulated patient interactions.
25. Document patient treatment in subjective, objective, assessment, plan (SOAP) note format with increased accuracy and efficiency.

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**Methods of Evaluation:**

1. Written exams and quizzes
2. Laboratory skill checks
3. Written assignments
4. Practical laboratory exams
5. Oral presentations or discussion boards
6. Homework assignments

**Course Content Outline:**

1. Acute care environment.
  - a. ICU Therapy
  - b. Lines & tubes
  - c. Contraindications to therapy
  - d. Room setup and organization
  - e. Pharmacological intervention
  - f. Laboratory values
  - g. Functional testing for acutely ill patients
  - h. Patient interview
  - i. Discharge planning
  - j. Patient education
  - k. Documentation
  - l. Mobilizing bariatric patients
  - m. Post-surgical diabetic patients
2. Cardiac system
  - a. Surgeries and procedures
  - b. Measurement of vital signs to determine treatment
  - c. Arrhythmias
  - d. Sternal precautions
  - e. Angina, myocardial infarction (MI), congestive heart failure (CHF), left ventricular assistive device (LVAD) and myopathy
  - f. Aneurysm
3. Pulmonary System
  - a. Breathing techniques, exercises and assisted coughing
  - b. Surgeries and procedures

- c. Postural drainage
  - d. Grades of dyspnea and positioning
  - e. Obstructive and restrictive lung disease
  - f. Pneumonia
4. Musculoskeletal system
    - a. Surgical procedures and equipment
    - b. Transfers and bed mobility
    - c. Weight bearing, precautions, and range of motion (ROM) limitations
    - d. Total joint replacement surgery-acute post-op considerations
    - e. Spine surgery
    - f. Trauma
  5. Vascular system
    - a. Blood clots and pulmonary embolisms
    - b. Surgical interventions and amputations
  6. Neurological system
    - a. Swallowing precautions and diet restrictions
    - b. Cognitive changes and dysfunction
    - c. Various neurosurgery procedures and precautions
    - d. Cerebrospinal fluid (CSF) and intracranial pressure (ICP)
  7. Oncology
    - a. Lymphedema management
    - b. Protective precautions
    - c. Chemotherapy, radiation, and stem cell transplants
    - d. Metastatic disease
  8. Infectious disease
    - a. Isolation
    - b. Standard precautions
    - c. Bacterial infections including resistant strains
    - d. Viral infections
  9. Organ Transplantation
    - a. Types of surgeries
    - b. Types of organ rejection
    - c. Criteria for organ recipient to qualify for transplant
  10. Fluid and electrolyte imbalances
    - a. Hyponatremia and hypernatremia
    - b. Dehydration and hypervolemia
    - c. Electrolyte imbalances
  11. Burns and wounds
    - a. Total body surface area burn measurement tools
    - b. Healing strategies
    - c. Systemic complications
    - d. Weight bearing and ROM limitations
    - e. Treatment strategies
  12. Gastrointestinal and genitourinary systems
    - a. Surgeries and procedures
    - b. Abdominal splinting
    - c. Incontinence

## Resources

Paz, J. and West, M. *Acute Care Handbook for Physical Therapists*. 5th ed. Philadelphia: Elsevier Health Sciences, 2020.

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O'Sullivan, S. & Schmitz, T. *Physical Rehabilitation*. 7th ed. Philadelphia: FA Davis, 2019.

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Hillegass. *Essentials of Cardiopulmonary Physical Therapy*. 4th ed. Philadelphia: Elsevier, 2016.

**Resources Other**

1. *Guide to Physical Therapist Practice 3.0*, Alexandria, VA: American Physical Therapy Association, 2023. Available at: <http://guidetoptpractice.apta.org/>. Only available online.
2. Physical Therapy Journal, American Physical Therapy Association. Published annually. Available at: <https://academic.oup.com/ptj>. (<https://academic.oup.com/ptj.html>)

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