Master Syllabus

Course Number, Hours, and Title: PTH 123A, 2 credit, Physical Agents I Theory

COURSE DESCRIPTION: Students will be able to describe the theories and physiological effects of physical therapy interventions such as superficial and deep heat, cryotherapy, hydrotherapy, massage and laser therapy.

PREREQUISITES: Restricted to program major.

CO-REQUISITES: PTH 123B

PREREQUISITE TO: PTH 233A, 233B, 321A, 321B

COURSE OBJECTIVES:

Upon successful completion of this course, the student will be able to discuss, explain, and identify selected components of interventions identified in the plan of care established by the physical therapist as determined by written examination. These include:

1. Describe the principles of physics appropriate to this course.
2. Describe the basic physiological response to massage, heat, cold, radiant heat, and laser and how they may be evident in a patient’s reaction to treatment.
3. Discuss the importance of testing for sensation and circulation prior to applying heat and cold.
4. Determine the need, when given a patient scenario, for a physical agent treatment modification within the plan of care by:
   a. Identifying changes in a patient’s physical status, mental status and tolerance to treatment.
   b. Identifying any deviation from anticipated rate of progress.
   c. Identifying all objective and subjective indications of patient intolerance to treatment.
   d. Identifying and listing all physiological, biomechanical, and psychological secondary effects of treatment.
5. Determine the appropriate modification of ongoing physical agent intervention by:
   a. Determining whether appropriate modifications are within the limits specified in the treatment plan.
   b. Verbally and/or orally communicating with the physical therapist the proposed modification and reason behind modification. Preparing the patient intervention in supine, prone, and side-lying positions preparing proper draping, support, comfort, and good alignment.
6. Demonstrate the ability to measure a classmate’s response to heat or cold treatment by pre and post treatment observation and measurement of: respiratory rate, pulse rate, blood pressure,
color of body part, palpated temperature of body part, local and/or general perspiration, skin turgor, and capillary refill.

7. Demonstrate the ability to provide adequate explanations to patients (student lab partner) prior to, during, and following application of a physical agent.

8. Demonstrate the ability to correctly name, describe and prepare equipment including conductive heat, hydrotherapy, fluidotherapy, ultrasound, infrared, ultraviolet, diathermy and cryotherapy by:
   a. Identifying and correctly describing the modalities’ characteristics, indications, contraindications, precautions, safety considerations and safety requirements.
   b. Describing accurately the requirements, idiosyncrasies and contraindications of the different body areas and medical conditions.

9. Demonstrate the ability to correctly and safely apply the intervention by:
   a. Correctly identifying and manipulating all controls and switches.
   b. Correctly performing all operations in correct sequence.
   c. Establishing, monitoring, and varying dosage according to patient tolerance and appropriate to the modality, the patient’s condition, and treatment goals.
   d. Describing and applying the safety and comfort rules.
   e. Describe, apply, and manipulate the time, distance, and intensity rules.
   f. Recognize and respond to objective and/or subjective patient response to therapeutic heat and cold 100% of the time.

10. Determine the need for a physical agent treatment modification within the plan of care by:
   a. Recognizing changes in patient’s physical status, mental status, and tolerance to treatment.
   b. Recognizing any deviation from anticipated rate of progress.
   c. Recognizing all objective and subjective indications of patient intolerance to treatment.

11. Determine the appropriate modification of ongoing physical agent intervention by:
a. Determining whether appropriate modifications are within limits specified in the treatment plan.

b. Verbally and/or orally communicating with the physical therapist the proposed modification and the reason for the modification.

c. Correctly implementing modification of the treatment plan.

12. Describe the knowledge of sterile techniques for wound care by:

a. Describing the purpose and methods of providing “isolation” for specific patients in a health care setting.

b. Identifying personal and patient related hazards that may result from poor technique.

c. Describing sterile gowning and gloving techniques.

d. Defining universal precautions and identifying sources of infection control.

13. Describe the steps, sequence and techniques used to obtain and measure vital signs by:

a. Describing the basic physiology, characteristics and normal values of pulse, blood pressure, and respiration.

b. Describing the factors which influence vital signs and their implications.
## TOPICAL OUTLINE

<table>
<thead>
<tr>
<th>Topics</th>
<th>Percentage of Time</th>
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<tbody>
<tr>
<td>I. Introduction</td>
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<tr>
<td>II. Patient Positioning</td>
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<tr>
<td>III. Inflammation, healing, and repair</td>
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<td>IV. Physiology of Heat</td>
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<td>V. Conductive Heat</td>
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<tr>
<td>a. Hot packs</td>
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<td>b. Paraffin</td>
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<td>VI. Convection</td>
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<td>a. Fluidotherapy</td>
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<td>b. Hydrotherapy</td>
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<td>VII. Sterile Technique</td>
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<tr>
<td>VIII. Vital Signs</td>
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**Textbook**


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