PTA 4

MODALITIES AND PROCEDURES I
SYLLABUS AND COURSE INFORMATION PACKET

FALL 2018

5 credits
2 hour lecture/6 hour laboratory
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Kingsborough Community College
Of the
City University of New York

Physical Therapy Assistant Program

Course Syllabus

PTA 4
Modalities and Procedures I

Course Description: This course is designed to introduce students to physical therapy thermal modalities including physiological principles, indications, precautions, and contraindications. The origins and management of pain are also discussed. This course also introduces the student to basic assessment techniques necessary to evaluate the efficacy of therapeutic interventions, and the maintenance of patient safety including length and girth assessments, height and weight measurements, as well as integument, basic balance, and sensation assessments. Emphasis is also placed on effective patient/family communication and education.

Textbook Requirements:


Pre-requisites: PTA 1, PTA 2, PTA 3, PTA 10, PTA 20, Bio 11
Co-requisites: PTA 5, BIO 12
Student Learning Objectives

As evidenced by successful performance and completion of role playing activities, assignments, research article reviews, lab presentations, and analysis of clinical scenarios, the student will:

1.0. Implement basic assessment techniques consistent with the plan of care. Effectively perform these techniques in an effort to maintain patient safety and assess the efficacy of therapeutic activities. Such assessment techniques include sensation and skin integrity tests, goniometry, muscle length, girth, and anthropometric measures.

  1.1. Identify basic assessment techniques.
  1.2. State the rationale for the use or selection of specific assessment and measurement techniques.
  1.3. Relate the significance of various assessments to the rehabilitation process.
  1.4. Perform pain assessments using analog and other visual tools, as well as pain questionnaires.
  1.5. Demonstrate the ability to recognize normal and abnormal assessment values and responses.
  1.6. Demonstrate the ability to measure, recognize and appropriately document asymmetry related to muscle mass, edema, extremity length, muscle length, and sensation.
  1.7. Perform and document muscle length assessments including Ober, Thomas, 90-90 and other tests.
  1.8. Correlate changes in function with muscle tightness/shortening.
  1.9. Perform and document basic sensation assessments including pin prick, light touch, kinesthesia, and proprioception.
  1.10. Discuss the clinical and function significance of changes in sensation.
  1.11. Discuss the benefits and limitations of circumferential measurements in assessing edema.
  1.12. Perform and document extremity edema assessments using circumferential measurement techniques.
  1.13. Discuss the importance of anthropometrical measurements of height and weight.
  1.15. List normal and abnormal integumentary changes including color, hair growth, vascularity, etc.
  1.16. Describe and document changes including color, changes in hair growth, blanching, etc.
  1.17. Correlate changes in the integument with the effectiveness or ill-effects of therapeutic modalities.
  1.18. Identify parameters of respiratory status including respiratory rate and the presence of cyanosis.
  1.19. List activities or physiological events that may produce pain, precipitate respiratory compromise, cause edema, or produce other adverse signs and symptoms.
  1.20. Perform therapeutic activities that relieve edema and respiratory compromise including positioning, extremity elevation, and postural activities.
  1.21. State basic parameters of mental status including orientation to person place, time and event.
  1.22. Demonstrate ability to recognize and monitor changes in mental status.
1.23. Recognize changes in states of arousal including confusion, stupor, and other changes.

1.24. Perform and integrate vital sign monitoring, manual muscle testing, and goniometry into assessment activities and clinical practice.

1.25. Analyze the results of basic assessment techniques.

1.26. Contrast results of basic assessment techniques with modality selection, intervention outcomes and responses to interventions.

1.27. Select and implement therapeutic techniques appropriately considering results of basic assessments and measurements and the plan of care.

1.28. Perform basic functional interventions/assessments such as TUG and Tinetti.

2.0. Demonstrate an understanding of the role of thermal modalities in rehabilitation.

2.1. State the historical perspective of thermal modalities.

2.2. Define and recognize the physiological responses to heat and cold.

2.3. State the adjunctive nature of physical agents in rehabilitation.

2.4. Discuss general indications and contraindications of thermal modalities.

2.5. Define the affective aspects of therapeutic modality administration.

2.6. Identify and describe pathologies treated with thermal modalities.

2.7. Describe the nature of acute and chronic pain conditions as they relate to the administration of thermal modalities.

2.8. Describe the therapeutic role of thermal modalities in physical therapy.

2.9. Describe inflammation and its physiological events.

2.10. Describe the physiological events associated with tissue repair.

2.11. Identify basic concepts and theories of pain, pain management, and tissue repair as they relate to the application of thermal modalities.

2.12. State the usage and application of thermal modalities and theories of pain, pain management and tissue repair.

3.0. Implement superficial thermal interventions including: hot packs, cold packs, paraffin, infrared, and fluidotherapy.

3.1. Define superficial thermal modalities in regard to type, modes of transmission, application methods, indications and contraindications.

3.2. Define the physiological effects of heat and cold and their relationship to pathology.

3.3. Define and list the laws and properties of radiant heat and light.

3.4. State the adjunctive nature of superficial thermal modalities in rehabilitation.

3.5. State the rationale for selection of various forms of thermal modalities.

3.6. Administer superficial thermal modalities for the management of pain, relaxation, the promotion of healing, and range of motion.

4.0. Implement deep thermal interventions including ultrasound.

4.1. Define deep thermal modalities in regard to type, modes of transmission, application methods, indications and contraindications.

4.2. Discuss the biophysics of ultrasound.

4.3. Describe the uses, indications and contraindications, and rationales of ultrasound.

4.4. Perform ultrasound interventions considering anatomical factors, dosage, mode of delivery, and pathological condition.

4.5. Describe the biophysics of shortwave diathermy.

4.6. Describe the indications and contraindications of shortwave diathermy.
5.0. **Implement hydrotherapy interventions for the management of pain, muscle weakness, soft tissue pathologies and open wounds.**

5.1. Discuss the history, usage, indications and contraindications of hydrotherapy.
5.2. Discuss and outline the physical characteristics of water including buoyancy, temperature, and viscosity.
5.3. Outline the phases of wound healing and tissue repair recognizing the presence of necrotic and viable tissue.
5.4. Apply the principles of hydrotherapy and the characteristics of water to: wound healing, therapeutic exercise, soft tissue pathology, and pain management.
5.5. Identify precautions for dressing removal including the use of gloves, appropriate disposal of gloves, instruments and soiled dressings.
5.6. Perform sterile technique including the application and removal of dressings.
5.7. Perform hydrotherapy techniques utilizing universal precautions.
5.8. Perform aquatic therapy activities demonstrating knowledge of principles and characteristics of water.
5.9. Recognize situations that require isolation techniques.
5.10. Perform isolation techniques including donning and doffing gloves, gowns, masks, etc.

6.0. **Assist in administering cold laser intervention for the management of pain associated with carpal tunnel treatment.**

6.1. Define the physics of light energy.
6.2. Define laser and lasing medium.
6.3. Discuss the differences and uses of low and higher level laser.
6.4. Discuss the physiological effects and indications for low level laser.
6.5. Demonstrate knowledge of appropriate laser dosage.
6.6. Demonstrate knowledge of precautions and contraindications of low level laser.
6.7. Perform appropriate documentation of low level laser administration.

7.0. **Perform basic Grade I and Grade II joint mobilization techniques on selected extremity joints.**

7.1. Define joint mobilization.
7.2. Explain the convex concave rule.
7.3. Correlate glide directions with anatomical features.
7.4. Discuss differences in mobilization grades and their clinical significance.
7.5. Perform basic mobilization techniques (Grades I and II) for the shoulder, wrist, hand, knee, and ankle.

8.0. **Given patient scenarios implement comprehensive physical therapy plan of care as directed by a physical therapist.**

8.1. Perform therapeutic techniques demonstrating an understanding of the role of the physical therapist assistant in rehabilitation.
8.2. Perform therapeutic techniques appropriately, employing universal precautions and sound body mechanics.
8.3. Perform therapeutic techniques demonstrating an understanding of organizational structure, levels of authority, and fiscal considerations of the health care delivery system.
8.4. Practice teaching patients, families, and other health workers, the uses, applications and responses of modalities and procedures with emphasis on safety and rationale as directed by the physical therapist.

8.5. Demonstrate the adjunctive nature of modalities and procedures by integrating their use in complete intervention applications utilizing knowledge and skills attained in previous and concurrent courses.

8.6. Implement therapeutic interventions within the plan of care considering knowledge of assessment and measurement, functional activity, thermal modality, pathology, kinesiology, and therapeutic exercise.

8.7. Demonstrate appropriate documentation of modality and procedure use considering patient response, intervention parameters, long/short term goals, and effectiveness.

8.8. Perform physical therapy interventions and interact with mock patient and families considering influencing factors (psychosocial, cultural, economic, patient satisfaction, legal, ethical, etc.).

8.9. Assist in mock discharge planning and alternative levels of care decision making with supervising physical therapist.

8.10. Identify clinical responses and situations that require the attention of the supervising physical therapist or immediate interventions such as basic first aid or cardiopulmonary resuscitation and take appropriate action.

8.11. Practice communicating patient status and response to supervising physical therapist.

8.12. Analyze the effectiveness of modalities and procedures in specific clinical situations.

8.13. Assess mock patient status and response to treatment and appropriately alter or progress therapeutic interventions within the plan of care.


8.15. Analyze relationships of thermal modalities with other therapeutic procedures (therapeutic exercise, range of motion, functional activities) as they relate to the achievement of rehabilitation goals.


8.17. Recognize aspects of the plan of care that may be outside the PTA’s scope of practice and act accordingly.

9.0. Demonstrate appropriate professional behavior

9.1. Attend and be on time for class, lab, and scheduled appointments.

9.2. Be prepared for lab activities; attend to assigned tasks.

9.3. Accept constructive criticism and respond and or follow through appropriately.

9.4. Express self in a clear and easily understood manner.

9.5. Maintain appropriate personal hygiene.

9.6. Treat others with positive regard, dignity, and respect.

9.7. Analyze and examine professional literature considering; specific scientific methods, interpretation of results, and clinical significance, in order to foster further personal investigation and clinical effectiveness.

9.8. Explain the importance of lifelong learning.

9.9. Describe how professional development can occur.
**Student Assessment**

As indicated in the student handbook, to receive a passing grade in this course students must successfully complete all comprehensive examinations (practical and didactic) with a grade of “C” or better. Additionally, the instructor assesses student competencies in skills critical to this course using the standardized skills checklists, located in the laboratory, requiring a passing score of at least 90%. Critical skills in this course include:

1. Performance and application of basic assessment skills including: pain, limb girth and length, and sensation, and anthropometric assessments.
2. Application of the following modalities: hot/cold packs, paraffin, infrared, fluidotherapy, and ultrasound.
3. Administration of hydrotherapy for wound healing and thermal effects.
5. Instruction of the effects and uses of thermal modalities and other rehabilitation procedures.
6. Performance of physical therapy interventions using thermal modalities and therapeutic exercise.
7. Reporting to supervising physical therapist.

**Grade Determination**

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<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Research Activity with Article</td>
<td>5%</td>
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<tr>
<td>Quizzes</td>
<td>30%</td>
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<tr>
<td>Patient Education Electronic Presentation</td>
<td>5%</td>
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<tr>
<td>Computer Assessment Project</td>
<td>5%</td>
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<tr>
<td>Mid-Term Examination</td>
<td>15%</td>
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<tr>
<td>Practical Examination</td>
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<tr>
<td>Final Examination</td>
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**Research Activity with Article**

Students are subdivided into working groups. Each group performs an assigned research project. The project includes the development of a hypothesis, literature review, experimental design, data collection, statistical analysis, report of results, and the drawing of conclusions. Each group is responsible for the development of a research article that conforms to APTA publication standards. Potential research projects are appended to this syllabus.

**Quizzes**

Students complete 3-5 topical quizzes. These quizzes consist of short essay type questions.

**Multiple Choice Quizzes**

Students complete a series of electronic multiple choice quizzes. These quizzes cover current as
well as past information encompassing all PTA education to date.

**Patient Education Electronic Presentation**
Students are subdivided into pairs. Using Microsoft Powerpoint, each student pair is required to produce a 15 to 20 minute stand alone patient education module on an assigned topic. The presentation must reflect appropriate use of graphic and audio media, research, and analysis. Potential presentation projects are appended to this syllabus.

**Mid-Term Examination**
Students take a cumulative examination covering the first six weeks of the course. The examination includes mainly short essay questions.

**Computer Assessment Project**
Students are provided with clinical data. Using a spreadsheet program, students must devise an assessment form that transforms the provided data into useful information. Additional information about this assignment is provided by the instructor.

**Laboratory Practical Examination**
All students are required to take and pass a practical examination. This examination tests students’ proficiency in thermal modality application, basic assessment, documentation and other aspects of the course. The laboratory examination is scheduled during or just before finals week.

**Final Examination**
Students take a cumulative final examination. The examination includes mainly short essay type questions.

**Week #1: Introduction to Modalities and Clinical Decision Making**

**Lecture**

Assignment: Michlovitz, Chapter 1  
Skinner, McVey (2011) Chapters 1 & 2

Students are introduced to modalities. Historical perspectives and usage indications are studied. The basics of effective clinical decision making are presented and discussed. Origins and theories of pain are discussed.

**Laboratory**
Students review and analyze complex patient care scenarios and discuss the parameters of clinical decision making associated with each. Hot and cold pack application is demonstrated. Students practice applying hot and cold to the body. Students identify physical responses to hot and cold.

**Week #2 – Tissue Repair**

**Lecture**

Tissue repair is reviewed. Specifically, tissue response to trauma (including burns), phases of repair, and influencing factors are addressed. Effective modalities used for tissue repair are discussed.

**Laboratory**
Given patient scenarios, graphic and video presentations, students practice identifying phases and influencing factors of tissue repair. Basic assessment techniques including: pain ratings, analog scales, mobility/function, integumentary changes, are demonstrated and practiced. Respiratory and cardiac danger signs are reviewed. Students perform and practice basic assessment techniques including vital signs and goniometry.

**Week #3 – Introduction to Assessment Techniques**

**Lecture**
Assignment: Skinner, McVey (2013), Chapter 1

The rationale for assessment is presented. Assessment is subdivided into metabolic, integumentary, musculoskeletal, neurological, and cognitive/mental. Strategies for assessment and specific assessment techniques are presented.

**Laboratory**

Students perform circumferential measurement, volumetric displacement and sensation testing, and goniometric assessments. Students perform and practice reporting results of basic assessments to supervising physical therapist.

**Treatment Application Activity**
Students exhibit critical thinking and sound technical skills in the management of a total knee replacement case as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, circumferential measurements, manual muscle testing, goniometry and functional training activities appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students demonstrate appropriate documentation of their activities. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #4- Assessment Techniques**

**Lecture**
Assignment: Skinner, McVey (2013) Chapter 1
Computer Assessment Project Due

Assessment of the musculo-skeletal system is presented, including a presentation of selected special tests, muscle-length tests. Special attention is paid to the functional and anatomical considerations.

**Laboratory**
Students practice selected musculo-skeletal assessments including Thomas, Ober, and 90-90 hamstring tests. Assessments for ligamentous and cartilaginous integrity are also reviewed.

*Treatment Application Activity*
Students exhibit critical thinking and sound technical skills in the management of a extremity lymphedema case as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, circumferential measurements, manual muscle testing, goniometry and functional training activities appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students demonstrate appropriate documentation of their activities. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #5—Introduction to Superficial Heat**

**Lecture**
Assignments: Michlovitz, Chapter 3
Superficial heat in regard to heat exchange, physiological effects, indications and contraindications and methods of application are presented.

**Laboratory**
Students practice applying hot packs to the upper quarter while considering positioning and draping techniques. Students also practice paraffin application. Given patient scenarios, students perform patient education activities related to physiological responses to heat, and indications/contraindications. Additionally students practice application techniques including, patient preparation, proper placement, safety techniques, etc. Students also practice reporting patient response and intervention to supervising physical therapist.

*Treatment Application Activity*
Students exhibit critical thinking and sound technical skills in the management of a rheumatoid arthritis case as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, goniometry, range of motion activities and thermal modality interventions appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #6—Superficial Heat**
Lecture

Assignment: Skinner, McVey (2011) Chapter 5

Superficial heat discussion continues with emphasis on the intervention’s objective. Superficial heat in the reduction of pain, diminution muscle spasms and enhancement of soft tissue extensibility are studied.

Laboratory

Students practice hot pack application to the lower quarter while considering positioning and draping techniques. Students also practice paraffin application for the lower extremity. Given patient scenarios, students perform patient education activities related to physiological responses to heat, and indications and contraindications. Additionally students practice application techniques including, patient preparation, proper placement, safety techniques, etc. Fluidotherapy is also introduced and practiced.

Treatment Application Activity.

Students exhibit critical thinking and sound technical skills in the management of a low back strain case as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, range of motion activities, functional training, and thermal modality interventions appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

Week #7—Phototherapy

Lecture

Assignments: Michlovitz, Chapter 6

The physical properties and laws of light are presented. Thermal and athermal therapeutic uses of light are presented. Specifically, radiant heat energy as provided by infrared light is presented. Additionally, the therapeutic use of cold or low level laser is presented.

Laboratory

Students practice applying infrared and low level laser. Given patient scenarios, students administer phototherapy to various parts of the body while explaining its effects and precautions. Students continue to practice in the use and application of all superficial heat modalities. Students practice reporting patient response, intervention, and assessment of goals to the supervising physical therapist.

Treatment Application Activity

Students exhibit critical thinking and sound technical skills in the management of a degenerative lumbar disc disease case as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, range of motion activities, functional training, and thermal modality interventions appropriate to the scenario. While performing interventions,
students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques

**Week #8—Deep Heat**

**Lecture**

Assignments: Michlovitz, Chapter 4
Individual Presentations Begin

The student is introduced to deep heat, specifically ultrasound. The biophysics of ultrasound is studied. Indications, contraindications and precautions of ultrasound are discussed. Phonophoresis is also presented. Shortwave diathermy is discussed.

**Laboratory**

Given patient scenarios, students apply ultrasound interventions considering, anatomical factors, treatment goals, positioning, dosage, mode of delivery, and pathological condition. In preparation for their roles as physical therapy care educators, students explain the physiological effects and physical perceptions of the intervention.

**Treatment Application Activity**

Students exhibit critical thinking and sound technical skills in the management of a rotator cuff strain as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessments, range of motion activities, goniometry, manual muscle testing, therapeutic exercise and ultrasound therapy appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #9—Cryotherapy**

**Lecture**

Assignment: Michlovitz, Chapter 2

The student is introduced to cryotherapy. The physiological effects, methods and guideline, indications and contraindications of cryotherapy are studied.

**Laboratory**

Using patient scenarios, students practice applying cold packs, ice massages and cold/ice baths
while considering precautions, indications and contraindications, and positioning and draping techniques. Students practice reporting consequences of intervention to the supervising physical therapist. In preparation for their roles as physical therapy care educators, students practice relating physiological effects of cryotherapy to each other.

**Treatment Application Activity**
Students exhibit critical thinking and sound technical skills in the management of an acute ankle sprain as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessments, range of motion activities, functional and gait training activities, and thermal modality interventions appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #10—Aquatic Therapy**

**Lecture**

Assignment: Michlovitz, Chapter 5


The properties of water, including cohesion, thermal stability, and adhesion are presented. The principles of frictional resistance and buoyancy are discussed. Therapeutic activities are presented and discussed.

**Laboratory**
The student is introduced to the physical principles of water, aquatic therapy benefits and temperature regulation. Given patient scenarios, the students perform aquatic therapy activities and explain the rationale of treatment.

**Treatment Application Activity**

Students exhibit critical thinking and sound technical skills in the management of a below the knee amputee with an open wound as presented by the instructor and implement the prescribed plan of care. Students perform pain assessments, and functional and transfer training, appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #11—Hydrotherapy**

**Lecture**

Assignment: Pulsatile lavage bests whirlpool for irrigation and healing – The range of intensities available with PLWS helps make it the gold standard for hydrotherapy. Harriet Baugh Loehne. *Biomechanics*, June 1, 2004, p59

The principles and components of hydrotherapy are presented. Open wound management and
sterile technique are presented.

**Laboratory**
Students continue to study hydrotherapy. Students practice performing hydrotherapy using universal precautions and sterile technique in the dressing of wounds. Students practice transfers to hydrotherapy chair. Students further practice the reporting of observations and consequences of the intervention to the supervising physical therapist.

**Treatment Application Activity**
Students exhibit critical thinking and sound technical skills in the management of a great toe amputee as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessments, functional and gait training, hydrotherapy and sterile technique appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including, psycho-social issues and other issues that impact the health care delivery system. Students practice reporting and documenting consequences of treatment to supervising physical therapist. Following this treatment application activity, students discuss patient management and therapeutic techniques.

**Week #12—Joint Mobilization**

**Lecture**
Assignment: Skinner, McVey (2011) Chapter 12

Joint mobilization for extremities is introduced. Applied anatomy and kinesiology concepts related to arthrokinematics are reviewed. Mobilization grades are introduced. Clinical advantages of joint mobilization are presented.

**Laboratory/Treatment Application Activities**
Joint mobilization techniques are practiced.

**Potential Research Project Topics**
The instructor may assign the following topics to student groups for investigation and documentation:

- Comparison of manual caliper, electronic caliper, and bio-impedance in determining body composition (likely statistical treatment: ANOVA)

- Correlation of muscle bulk as measured by cross-section area (CSA) and ROM at the ankle (likely statistical treatment: r coefficient)

- Comparison of plantar and palmar light touch in male and female physical therapist assistant students (likely statistical treatments: r coefficients/t-tests)

- Relationship between muscle cross-section area and peak torque generated by the plantar flexors (peak torque proportion as measured by the percent difference between of lowest torque and
peak torque low:high ratio/likely statistical treatment:  \( r \) coefficient

The development of anthropometric and physical fitness profile of a group of physical therapist assistant students with analysis, predictions, and suggestions (descriptive statistics)

Comparison of the effectiveness of standard gel cold packs and insulated cryotherapy devices.

**Potential Patient Education Electronic Presentation Topics**

Your Physical Therapy Team  
The Therapeutic Use of Hot and Cold  
Physical Therapy Management of Your Diabetes  
Management of Your Low Back Pain  
Your Physical Therapy Evaluation  
The Benefits of Aquatic Therapy  
Physical Therapy Management of Pain Assistive Devices to Improve Your Gait  
The Importance of Muscular Flexibility  
So Your Loved One Has Had a Stroke  
Gait Training in Physical Therapy:  What to Expect  
Physical Therapy Management of Multiple Sclerosis  
Welcome to our Rehabilitation Center  
As We Age: Helpful Hints to Keep Fit  
Physical Therapy Management of Osteoarthritis  
Introduction to Resistive Exercise  
Physical Therapy Management of Tendonitis

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***Class attendance is a vital part of the learning experience. A student who has been absent 15% or more of the total instructional hours that a class meets may be considered excessively absent by the instructor. The instructor may consider excessive absences as a factor in the assignment of a student’s grade.***

****The course professor utilizes a variety of teaching methodologies to facilitate accomplishment of student learning objectives. These methodologies may include interactive lecturing, supervised group and simulation activities, web-based instruction, use of custom computer based study guides, and active learning strategies.