DPT 820 MUSCULOSKELETAL THERAPEUTICS I
Units: 4, Clock Hours: Lecture 30, Lab 90
Fall 2013
TIME
LOCATION

Instructor: Edward W. Bezkor PT, DPT, OCS, MTC
Office: ENS 220
Phone: (917) 698-3578
E-mail: ebezkor@mail.sdsu.edu

Course Prerequisites
DPT 610, DPT 682, DPT 625, DPT 626

Course Materials
Required Text and Readings: *(Please note that these same texts will be used in DPT 821 Musculoskeletal Therapeutics II during Spring semester)*

Required Texts for this course (and to be used in DPT 821 as well) are


Additional or Recommended Text and Readings


Purpose/Course Overview
This course covers common disorders of the musculoskeletal system emphasizing the five steps of patient/client management: examination, evaluation, diagnosis, prognosis, selection and application of interventions, and measurement of outcomes for patients/clients with non-surgical and surgical orthopedic conditions.

In recognition of the responsibilities of the clinician dealing with direct access of patients, emphasis is placed upon the ability to perform a comprehensive examination, interpret the findings of that examination, develop and implement a plan of care, and communicate findings with other members of the patient’s health care team.
The skills of joint and soft tissue mobilization will be progressed from Foundations in Physical Therapy, Therapeutic Exercise, and Clinical Anatomy I and II. These skills will require great amounts of practice to do comfortably, correctly, and safely. These skills, plus the ability to perform any musculoskeletal tests and measures, will be assessed on the practical exams.

**Teaching Methods and Learning Experiences**

The format of this course will be primarily laboratory and lecture. Slide presentations and the use of video to analyze intervention techniques will be used.

Discussion of the relationship between musculoskeletal basic sciences and current examination and intervention theories will be strongly encouraged. Learning in the discussion format is a cooperative effort and everyone is expected to offer questions, ideas, and criticisms of the issues at hand. Specific readings will be assigned by the instructor.

**Student Learning Outcomes**

Upon successful completion of this course, the student shall be able to:

1. Demonstrate continued competence for all learning objectives, including satisfactory performance of all tests and measures, listed for DPT 610 - Foundations of Physical Therapy Evaluation, DPT 682 - Therapeutic Exercise, DPT 625 and 626 (Clinical Anatomy I and II);
2. Evaluate the following variables listed (VARIABLE) as well as select and perform the appropriate age-related test and measure (T&M) for data gathering:

   A. VARIABLE: Joint integrity and mobility (AROM/PROM/Muscle length) for all joints of the axial and appendicular skeletal system
      T&M: Apprehension, compression, distraction, drawer, glide, impingement, shear, varus/valgus tests, arthrometry, and palpation
   B. VARIABLE: Joint play movements, including end feel for all joints of the axial and appendicular skeletal system
      T&M: Palpation
   C. VARIABLE: Muscle strength, power, and endurance during functional activities
      T&M: Activities of Daily Living (ADL) scales, Instrumental Activities of Daily Living (IADL) scales, functional muscle tests, and observation
   D. VARIABLE: Pain in specific body parts
      T&M: Pain indexes and questionnaires, and structural provocation tests
   E. VARIABLE: Hand function
      T&M: Gross and fine motor control tests, finger dexterity tests, hand manipulation tests, and observation
3. State the level of reliability and validity for each of the tests and measures listed in DPT 820 objective #2.
4. Evaluate data from a thorough systems review to determine the anatomical and physiological status of the cardiovascular, integumentary, musculoskeletal, and neuromuscular systems;
5. Assess the data gathered from the history, systems review, and performed tests and measures, state a physical therapy diagnosis and prognosis for the patient/client
6. Develop, write and execute a comprehensive, safe, and effective plan of care that identifies specific procedural interventions including: therapeutic exercise; functional training in self-care and home
management; functional training in work, community, or leisure activities; manual therapy techniques; and, electrotherapy modalities, physical agents and mechanical modalities.

7. Given a mock patient scenario, decide when a referral for further examination or consultation to another health care practitioner is appropriate.

8. Critically analyze assigned case studies to: Determine patient goals and outcomes and specify expected length of time to achieve them.

9. Critically analyze assigned case studies to: Re-examine the patient each visit and adjust the plan of care as appropriate.

10. Critically analyze assigned case studies to: Complete comprehensive documentation for the initial, progress and discharge visits.

11. Describe several ways in which patient/clients are not symmetrical.

12. Discuss awareness of how a patient/client’s asymmetry may contribute to their chief complaints.

13. Demonstrate ability to perform self and peer reviewed evaluation of musculoskeletal exam and therapeutic skills.


15. Demonstrate a commitment to excellence, lifelong learning, critical inquiry, and clinical reasoning by skillfully incorporating current evidence into physical therapy practice for musculoskeletal disorders.

16. Demonstrate ability to find and discuss “best available evidence” for various musculoskeletal conditions and how to incorporate such evidence into practice.

17. Discuss the ethical and legal use of different assistive personnel, including physical therapist assistants and physical therapy aides/technicians as it relates to direction and supervision of various musculoskeletal interventions, data collection and documentation.

Course Outline
Module I. Course Introduction; Principles of Examination, Evaluation, Diagnosis, Prognostication and Outcome Assessment in the Management of Musculoskeletal Disorders

A. Principles of Patient Examination
   1. Patient history - chief complaint
      a. pain
      b. dysfunction
      c. deformity
      d. neurologic loss
      e. miscellaneous
   2. Medical history
   3. Physical Examination
      a. Assessment of the complete patient
      b. Components of the musculoskeletal examination
         1. Inspection
         2. Palpation
         3. Deformity
         4. Active and passive motion
         5. Measurement
         6. Muscle testing
Module II. Orthopaedic Management of the Upper Extremity

I. Assessment and Management of the Shoulder
   A. Clinical biomechanics of the shoulder girdle
   B. Examination
   C. Differential diagnosis considerations
      a. cervical spondylosis
      b. postural disorders contributing to impingement syndromes
      c. disorders of the abdominal and thoracic viscera referring shoulder pain
   D. Common shoulder problems - assessment and management
      a. bursitis
      b. tendinitis\tenosynovitis
      c. capsular problems
      d. tears of the rotator cuff
      e. instability of the shoulder
      f. common fractures\dislocations of the shoulder girdle

II. The Elbow, Wrist and Hand
   A. Clinical biomechanics of elbow, forearm, and hand
   B. Unique considerations concerning examination
      1. relevance of upper extremity injuries to industrial injury, incidence and prevalence
      2. objective assessment of upper extremity function
   C. Physical examination principles
   D. Differential diagnosis considerations
      1. Congenital and post traumatic deformities
      2. Infections of the upper extremity
      3. Referral from cervical spine
      4. Rheumatoid, gouty, lupus and psoriatic arthritic conditions of the hand and wrist
   E. Activity related disorders of elbow, wrist and hand - assessment and management
      1. Epicondylitis
      2. Nerve entrapment syndromes
      3. Tendinitis\tenosynovitis\tendon rupture
      4. Fractures\dislocations of the elbow, hand and wrist
      5. Myositis ossificans\Osteochondritis dessicans
      6. Ligament sprain\rupture
   F. Special considerations in the management of the surgically repaired elbow, forearm and hand
      1. arthroscopic approaches to hand surgery
      2. tendon repairs
      3. common fractures of forearm and hand

Module III Orthopaedic Management of the Lower Extremity

I. Assessment and Management of the Hip
A. Clinical biomechanics
B. Relevance of vascular anatomy to hip disorders
C. Relevance of age to hip disorders
   1. Coxa vara
   2. Legg-Calvé Perthes
   3. Slipped capital femoral epiphysis
   4. Congenital dislocation of the hip
   5. Infections
   6. Neoplasms
   7. Degenerative joint disease
D. Physical examination
   1. Assessment of neck-shaft angle and iliac crest elevation
   2. Gait analysis
   3. Passive/accessory motions
   4. Active and passive ROM
   5. Muscle performance and strength
   6. Neurological screening
   7. Special tests
E. Activity related disorders of the hip - assessment and management
   1. Degenerative joint disease
   2. Bursitis
   3. Nerve entrapment syndromes
   4. Disorders of muscle-tendon unit
   5. Capsular lesions
   6. Fracture/dislocations of the hip
   7. Impingement and acetabular labral tears
F. Management of the patient with total hip arthroplasty

II. Assessment and Management of the Knee
A. Clinical biomechanics
B. Comparative aspects of patient history and knee disorder
C. Physical examination
   1. Alignment considerations
   2. Utilizing functional tests in the assessment of knee mobility and stability
   3. Objective measurements of instability
   4. Assessment of swelling
   5. Assessment of knee joint instability
      a. Straight vs. rotatory instability
   6. Assessment of meniscus tears
   7. Assessment of patellofemoral pain and function
D. Medical management of knee disorders
   1. Total knee arthroplasty
   2. Surgical management of ligament disorders
   3. Current trends in management of meniscal lesions
E. Conservative management (surgical and non-surgical) of knee disorders
1. Rehabilitation of the surgically repaired ligaments
2. Rehabilitation of the non-surgically managed ligament injury
3. Rehabilitation of surgically repaired patellofemoral disorders
   a. dislocations
   b. fractures
   c. realignment procedures
4. Rehabilitation of non-surgically managed patellofemoral pain
5. Contemporary developments in the management of meniscal lesions

III. Assessment and Management of the Foot and Ankle
   A. Clinical biomechanics
   B. Developmental considerations of the foot
   C. Terminology used in defining foot and ankle positions and movements
   D. Physical examination of the foot and ankle
   E. Differential diagnosis considerations
      1. rheumatoid arthritis
      2. gouty arthritis
      3. osteochondritis dessicans
      4. vascular disorders
   F. Assessment and management of common orthopedic foot and ankle problems
      1. congenital clubfoot
      2. pes planus
      3. tarsal coalition
      4. pes cavus
      5. plantar fascitis
      6. disorders of the hallux
      7. metatarsalgia
      8. disorders of the muscle\tendon units
      9. ligamentous injuries of the foot and ankle
     10. fracture-dislocations of the foot and ankle

Schedule

<table>
<thead>
<tr>
<th>Wk</th>
<th>Date</th>
<th>Day</th>
<th>Lec #</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aug 30</td>
<td>F</td>
<td>1.2</td>
<td>Shoulder Biomechanics</td>
<td>Dutton Ch 16: pp. 469 – 493</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sep 3</td>
<td>T</td>
<td>2.1</td>
<td>Shoulder Examination</td>
<td>Dutton Ch 16: pp. 493 – 542</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sep 6</td>
<td>F</td>
<td>2.2</td>
<td>Shoulder Examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sep 10</td>
<td>T</td>
<td>3.1</td>
<td>Elbow Biomechanics &amp; Examination</td>
<td>Dutton Ch 17: pp. 601 - 612 Dutton Ch 17: pp. 612 – 630</td>
<td>Quiz # 1 (start of class 9/10)</td>
</tr>
<tr>
<td>Date</td>
<td>Day</td>
<td>Event Description</td>
<td>References</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----</td>
<td>------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Sep 13     | F   | 3.2 Forearm, Wrist, Hand Biomechanics & Examination                                 | *Dutton Ch 18* pp. 668 - 693  
*Dutton Ch 18* pp. 693 – 722 |                                            |
| Sep 17     | T   | 4.1 Hip Biomechanics & Examination                                                  | *Dutton Ch 19* pp. 756 - 775  
*Dutton Ch 19* pp. 775 – 800 | Quiz # 2 (start of class 9/17)                            |
| Sep 20     | F   | 4.2 Knee Biomechanics & Examination                                                 | *Dutton Ch 20* pp. 837 – 856  
*Dutton Ch 20* pp. 856 – 892 |                                            |
| Sep 24     | T   | 5.1 Ankle & Foot Biomechanics & Examination                                         | *Dutton Ch 21* pp. 943 – 965  
*Dutton Ch 21* pp. 965 – 989 |                                            |
| Sep 27     | F   | 5.2 Midterm Review                                                                  |                                                                           | Quiz # 3 (start of class 9/27)                            |
| Oct 1      | T   | 6.1 Running analysis (lect and lab) Midterm Practical and Written                   |                                                                           | Midterm Practical & Written (10/1)                   |
| Oct 8      | T   | 7.1 Myofascial, Trigger Points & Acupressure Release                                 | *Biel A: Trail Guide to the Body’s Quick Reference to Trigger Points*      |                                            |
| Oct 11     | F   | 7.2 Instrument Assisted Soft Tissue Mobilization                                    |                                                                           |                                            |
| Oct 15     | T   | 8.1 Arthrokinematics and Joint Mobilization                                         | *Kisner C: Therapeutic Exercise Ch 5* pp. 119 – 155                       |                                            |
| Oct 18     | F   | 8.2 Shoulder Interventions (NAGS, SNAGS & MWMs)                                     | *Dutton Ch 16* pp. 542 – 588                                            | Quiz #4 (start of class 10/18)                      |
| Oct 25     | F   | 9.2 Elbow Interventions (Neurodynamic Mobility & Mobilizations)                    | *Dutton Ch 17* pp. 630 – 662  
*Dutton Ch 11* pp. 406 – 419 |                                            |
| Oct 29     | T   | Forearm, Wrist & Hand Interventions (Static & Dynamic Splinting)                   | *Dutton Ch 18* pp. 722 – 749                                             |                                            |
| Nov 1      | F   | Forearm, Wrist & Hand Interventions (cont.)                                         |                                                                           |                                            |
| Nov 5      | T   | Hip Interventions (NAGS, SNAGS & MWMs)                                             | *Dutton Ch 19* pp. 800 – 831                                             | Quiz #5 (start of class 11/5)                      |
| Nov 8      | F   | Hip Interventions (cont.)                                                           | *Mulligan B: Manual Therapy Part 2* pp. 109 – 143                        |                                            |
| Nov 12     | T   | Knee Interventions                                                                  | *Dutton Ch 20* pp. 892 –                                                  |                                            |
Grading Criteria
The student will be graded on six written quizzes, one written midterm, one practical midterm, one final practical during the semester, one written final exam during Finals Week, video presentation, case study, and class participation.

Grades will be calculated on the basis of 70% (C), 80% (B), and 90% (A) of the total points earned for the semester. The Practical Exams are Pass/Fail. Minimal passing is thus 70% of total points. The student is also expected to participate in each assigned Wednesday afternoon clinic activity, and satisfactory performance in these patient care cases, including demonstration of essential professional behaviors and psychomotor skill competency, is required to successfully complete the class.

Course Policies
Any form of academic dishonesty is a serious breach of confidence and trust between faculty in the Program and the collective body of students, and will be handled promptly as per department regulations and student handbook policies. Because clinical competencies will be developed, and the Program has an obligation to the public to assure these competencies, two unexcused absences from the labs will result in the student being given an Incomplete and being ineligible to take the second sequence of this course - DPT 821. While class attendance is required per the above stated policy, please be cautious about attending class if you are feeling ill. Please inform the current lecturing professor by phone or email if you are feeling unwell; if you are experiencing flu-like symptoms, you should not attend class; please take precautions not to infect others, and seek medical attention if your symptoms worsen.

The following statement is required to be included for all SDSU classes:

Classroom Management Statement
Membership in the academic community places a special obligation on all members to preserve an atmosphere conducive to a safe and positive learning environment. Part of that obligation implies the responsibility of each member of the SDSU community to maintain an environment in which the behavior of any individual is not disruptive.

It is the responsibility of each student to behave in a manner which does not interrupt or disrupt the delivery of education by faculty members or receipt of education by students, within or outside the classroom. The
determination of whether such interruption or disruption has occurred has to be made by the faculty member at the time the behavior occurs. It becomes the responsibility of the individual faculty member to maintain and enforce the standards of behavior acceptable to preserving an atmosphere for teaching and learning in accordance with University regulations and the course syllabus.

At a minimum, students will be warned if their behavior is evaluated by the faculty member as disruptive. Serious disruptions, as determined by the faculty member, may result in immediate removal of the student from the instructional environment. Significant and/or continued violations may result in an administrative withdrawal from the class. Additional responses by the faculty member to disruptive behavior may include a range of actions from discussing the disruptive behavior with the student to referral to the appropriate academic unit and/or the Office of Student Life for administrative review, with a view to implement corrective action up to and including suspension or expulsion.

Professional Behavior Statement
Entrance into the program of study in physical therapy at San Diego State University signifies a commitment to a doctoring profession, which entails a consistent demonstration of specific knowledge, skills and attitudes. Professional behaviors are a defining element of a doctoring profession. Thus, integration of professional behaviors is a key aspect of the professional socialization process, which begins in the educational program. The following professional behaviors (adopted from objectives 1-6 of the APTA Clinical Performance Instrument) are expected of all doctoral physical therapy learners:

- Practice in a safe manner that minimizes risk to the patient, self, and others;
- Demonstrate professional behavior in all situations;
- Practice in a manner consistent with established legal and ethical practice standards;
- Communicate in ways that are congruent with situational needs;
- Adapt delivery of physical therapy services with consideration for patient’s differences, values, preferences, and needs;
- Participates in self-assessment to improve clinical and professional performance.

Statement on Cheating and Plagiarism
Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one’s grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term ‘cheating’ not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one’s own work. Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the University. For more information on the University’s policy regarding cheating and plagiarism, refer to the General Catalogue or the Graduate Bulletin section 41304.

Students with Disabilities
The University is committed to providing reasonable academic accommodation to students with disabilities. The Student Disability Services Office provides university academic support services and specialized assistance to students with disabilities. Individuals with physical, perceptual, or learning disabilities as addressed by the
Americans with Disabilities Act should contact Student Disability Services office for information regarding accommodations at (619) 594-6473 (http://www.sa.sdsu.edu/dss/dss_home.html). Moreover, you should notify me so that reasonable efforts can be made to accommodate you.

This syllabus and schedule are subject to change in the event of extenuating circumstances.