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### PT 516.01: Musculoskeletal Evaluation I – Pathology/ Pharmacology

Steve Fehrer

*University of Montana - Missoula*

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**PT 516 Musculoskeletal Evaluation I – Pathology/Pharmacology  
Fall 2002**

**Instructor:** Steve Fehrer, Ph.D., P.T.  
107 Skaggs Building  
(406) 243-2429  
[sfehrer@selway.umt.edu](mailto:sfehrer@selway.umt.edu)

**Office hours:** By appointment

There is **no required textbook** for this portion of the course. You will be provided with handouts. These handouts may contain more material than was presented in class. You will be held accountable for all the material presented in class, handouts, and required journal/book articles.

**Reference materials** for your enrichment:

Cameron, M.H. Physical Agents in Rehabilitation from Research to Practice. W.B. Saunders, 1999, pages 13 - 38 (Inflammation and Repair).

Nordin, M. and V.H. Frankel, Basic Biomechanics of the Musculoskeletal System, 3<sup>rd</sup> edition, Lippincott Williams and Wilkens, 2001.

Ciccone, C.D., Pharmacology in Rehabilitation, 3<sup>rd</sup> edition, F.A. Davis, 2002.

Goodman, C.C. and W.G. Boissonnault, Pathology Implications for the Physical Therapist, W.B. Saunders Company, 1998. Please note a new edition is expected November 2002.

**Evaluation:** The material presented in these 6 class periods will be covered in the first course examination and in the final examination. There will NOT be a separate examination for this material.

**Study questions:** Periodically you will be provided with a series of study questions covering the material in this section. These questions will be similar to the types of questions you will be asked on the first examination and the final examination. You are not required to answer these questions. Dr. Fehrer will be willing to discuss your answers to these questions by appointment.

**Schedule:**

9/4/2002 Model of Tissue Repair, Wound Repair Process

**Required reading:** Mueller, MJ and KS Maluf, Tissue Adaptation to Physical Stress: A Proposed “Physical Stress Theory” to Guide Physical Therapist Practice, Education, and Research. Physical Therapy Volume 82, number 4, April 2002, pp. 383-403. Two copies of this article have been placed in the PT 516 folder in the learning center SB 219.

**Required reading:** Wound repair handout.

9/5/2002 Bone – formation, repair, fractures, compartment syndrome, metabolic bone disease.

**Required reading:** Bone handout.

9/11/2002 8:10- 9:00 Tendons and Ligaments

**Required reading:** Tendon handout.

9:00 – 10:00 Presentation by Dr. Cathy Bartels on The Drug Information Center and the use of drug data bases. This will be held in SB 214 (Computer lab).

**Required assignment:** Dr. Fehrer will provide you with an assignment (Using the drug data bases) to be completed and returned to him at the start of class Sept 18, 2002.

9/12/2002 Joint types, cartilage repair, joint inflammatory diseases

**Required reading:** Joint handout.

9/18/2002 Skeletal muscle repair, immobilization, myasthenia gravis, and muscular dystrophy

**Required reading:** Skeletal muscle handout.

9/19/2002 Principles of Pharmacology, pharmacology of inflammation and pain.

**Required reading:** Eddy, L. Physical Therapy Pharmacology. Mosby Year Book, 1991, pages 3 -13. Two copies of this book chapter have been placed in the PT 516 folder in the learning center SB 219.

**Required reading:** Pharmacology handout.

**MS exam and evaluation , PT 516**  
Syllabus Fall 2002

Professors: Elizabeth (Beth) Ikeda, PT, MS,OCS  
Steve Fehrer, PT, PhD  
Patsy Mangan PT, MS

Course Description:

Musculoskeletal pathology- 15 hours with Dr Fehrer  
Musculoskeletal exam and evaluation-special tests 69 hours

Time: Monday and Wednesday 8-10, Thursdays 10-12

Location: Lectures- Skaggs 113 on M + W , 117 on Friday  
Labs (most classes will be labs)- 020

Required Texts:

Clarkson: Musculoskeletal Assessment, 2<sup>nd</sup> ed  
Magee, D: Orthopedic Assessment 4th ed  
O'Sullivan, S: Physical Rehabilitation 4<sup>th</sup> ed  
Hall and Brody: Therapeutic Exercise  
Faculty packet- notebook in LSS  
Neumann DA: Kinesiology of the Musculoskeletal System  
American Physical Therapy Association Guide to PT Practice  
Kisner and Colby: Therapeutic Exercise

Recommended resource texts:

Cyriax J: Textbook of Orthopedic Medicine  
Donatelli: Orthopedic Physical Therapy  
Hertling: Management of Common  
Musculoskeletal Disorders  
Hoppenfeld: Physical Examination of the  
Spine and Extremities  
Kendall: Muscles- Testing and Function

Recommended videos: Orthopedic Special tests (in storage area)

**SEPTEMBER**

4+5	Pathology – Dr Fehrer
9	Introduction/ decision making/ tests and measures (principles) <b>reading:</b> Hypothesis oriented algorithm (Fac pac for PT 503) O’Sullivan, 3 <sup>rd</sup> ed, chapter 5 (notebook in LSS) – "Model of Orthopedic dysfunc..."(notebook in LSS) Magee- start to review chapter 1
11+12	Pathology- Dr Fehrer

16 Chart review/ interviewing  
**reading:** Magee: pgs 1-10

18+19 Pathology- Dr Fehrer

23 Interviewing  
**reading:** O'Sullivan, chapter 4

25 Vital signs

26 Vital signs lab

30 Posture- basic principles/scoliosis  
**reading:** Magee, pp 10-12 and chapter 15  
Hall and Brody, pp 128-140

## OCTOBER

2 Posture lab/ observation

3 Intro to palpation, goniometry, decision making  
**reading:** Clarkson, Chapter 1  
Magee- pp23-29, 49-52

Assessing joint integrity and mobility (joint play), special tests, function  
**reading:** Magee pp 44-45, 49-50

Intro to muscle testing, palpation, decision making  
**reading:** Clarkson, Chapter 1  
Magee pp 30-34

Neurologic screening- sensation and reflexes  
**reading:** Magee pp12-22, 45-48

SO BASICALLY ALL OF CHAPTER ONE EXCEPT THE FUNCTIONAL ASSESSMENT  
AND RADIOLOGY(this part is helpful, though). Be sure to use the chart on page 61.

7 Cervical spine- pathology- STEVE FEHRER (1hour)  
**reading:** TBA

9 TEST

10 C spine impairments, function, posture/position, palpation, ROM, MMT, special  
tests  
**reading:** Magee, Chapter 3

14 C spine -myotomes, reflexes, sensation, circulation,

- 16+17 C spine- ROM, MMT, Spec tests  
**reading:** Clarkson, pp34-42, 61-67, 94-95
- 21 Case- cervical
- 23 Shoulder surgery/ pathology- Dr Fehrer  
**reading: TBA**
- 24+28+30+31 **Shoulder exam, cont**  
**reading:** Magee: Chapter 5  
**Clarkson: Chapter**

## NOVEMBER

- 4+6 Shoulder
- 7 Elbow/forearm exam  
**reading:** Magee: Chapter 247  
Clarkson: chapter 166
- 11- HOLIDAY
- 13 Elbow, cont
- 14 TEST- practical exams this week
- 18 +20 Elbow, cont
- 21+25 Wrist and Hand  
**reading:** Magee: Chapter 7  
Clarkson: Chapter 5
- 27-28 Holidays

## DECEMBER

- 2+4+5 Wrist and Hand, cont
- 9+11 TMJ  
**reading:** Magee: Chapter 4  
Clarkson: Chapter p38
- 12 Review

FINAL EXAM – Thursday, December 19<sup>th</sup>, 8-10

\*\*\*This class is designed to have a large lab component, you will be expected to dress in appropriate clothing to fully expose the body part we are examining that day. Inappropriate

dress hurts your partner, not you. You may be asked not to participate if you are not dressed properly!

\*\*\* You are expected to read the assignment for the day **BEFORE** coming to class. This will help you appreciate the subtleties of the in-class demonstrations and will save you time and energy in the long run. You should also plan on reviewing the videotapes. A list of the "special tests" which you are expected to know will be given to you (Some of them are not described in your text and some are not on the video, which is currently being revised).

\*\*\*Class participation is expected, attendance will not be taken. You will be responsible for obtaining information from missed classes. You must contact me on or before the day of a test if you are sick (243-5190 or 728-6858) or leave a message with Sheila (243-4753).

\*\*\*Points will be deducted for late assignments at the rate of 10 percent per day, unless otherwise arranged.

\*\*\*Grading (grades will be calculated for all units on the basis of percentage of hours):

**PT 516 grades**

Test 1	100 points
Test 2	100 points
Comprehensive Final	200 points
case studies	15 points each
quizes ?	25 pts

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practical 1	50 points
practical 2- comprehensive	50 points

**NOTE ON PRACTICAL EXAMINATIONS:**

Practical exams are given over a period of days, so there are times when some students have completed the exam while others are still studying. In order to insure equality of testing procedures for all students please adhere to the following regulations:

1. Do not solicit any information from students who have already taken the exam.
2. Do not discuss any part of the exam with classmates who have not taken the exam (or with someone else in their presence).
3. While practical exams are being given do not use the equipment that might be used during the exam.
4. While practical exams are in session do not study, practice, or otherwise loiter in the exam area.

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Please contact me if you have any questions or problems at 243-5190, 728-6858(home) or leave a message in the office. Remember that I am available to help you outside of class, but you must take the responsibility to come to me. Asking for help is **NOT** a sign of weakness- we (PT's) would be out of business if people did not ask for help.