



Department of Kinesiology

ATR 388: Orthopedic Assessment of the Head, Spine and Upper Extremity

3 Units

Spring, 2018

Meeting days: MW 1:30-2:45	Instructor title and name: Jeff Sullivan, PhD, ATC
Final Exam: (day/time)	Phone: 619 508-1267
Additional info:	E-mail: jeffsullivan@pointloma.edu
	Office location and hours: MW 9:30am-1pm or any time by apt.

PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

COURSE DESCRIPTION

This course equips students to implement the S.O.A.P. method of orthopedic assessment to specific injuries of the axial skeleton, central nervous system, thorax, abdomen and upper extremity. Clinical role-playing in the lab setting will allow students to practice and master injury/illness examination through the use of the differential diagnosis process.

Course Aim

This course aims to provide you with in-depth study and emerging mastery of the knowledge and skills you will need as a health professional to differentially diagnose injuries to the:

- | | |
|---|-------------------------|
| ✦ Pelvis/SI Joint | ✦ Shoulder |
| ✦ Spine (cervical, thoracic, lumbar and sacral) | ✦ Elbow |
| ✦ Thorax and Abdomen | ✦ Wrist, Hand & Fingers |
| | ✦ Head and Brain |

Through class lectures, course readings and the textbook, you will be asked to engage in the critical process of differential diagnosis while conducting orthopedic assessments for the above joints. Most classes will be in a lecture format in order to enable us to cover the wide expanse of material. We will also use segments of class meetings as labs to refine your clinical assessment skills by using your colleagues as patients. This course is technology-enhanced in the sense that I've made all lecture slides, readings and discussion boards available on Canvas. You are upper division students and should naturally be actively engaged with the course material. My goal in taking this approach is for you to take ownership of

your learning and to actively seek knowledge and develop the “clinical mind” rather than being passive ‘receivers of knowledge’.

*To be successful in this course, you should always take the mindset of actively synthesizing information presented in lecture and lab and applying it to the clinical setting. Specifically, this means that studying for quizzes and tests should involve reviewing and integrating the essential ideas by asking the “Why?” and “So what does this mean?” questions.

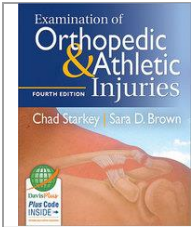
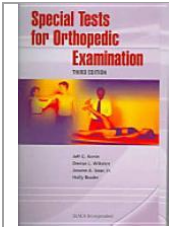
COURSE LEARNING OUTCOMES

ATR 388 will prepare you to:

1. Utilize and master the components of the *orthopedic examination process* (i.e., perform a thorough History, Inspect, Palpate, and utilize Special Tests) to determine the presence of physical problems in patients.
2. Discover and execute the process of *differential diagnosis*, which involves determining which pathology—from among a variety of possible conditions—is the probable cause of an individual’s symptoms.
Note: You will create video tutorials and differential diagnosis algorithms to aid in learning the differential diagnosis process; you will edit and refine the work of your colleagues in this process.
3. Describe and appraise the etiology, symptoms, signs and management of upper extremity injuries.
4. Research, summarize and critique contemporary literature on the evaluation and management of potentially catastrophic injuries to the cervical spine and brain.
5. Through laboratory sessions, practice and become proficient in the clinical evaluation of upper extremity posture, flexibility, neurological status and muscular strength.

REQUIRED AND RECOMMENDED TEXTS

Required:

	Title	Examination of Orthopedic and Athletic Injuries, 4th Ed. (you may buy 3 rd or 4 th edition of this book)
	Author	Chad Starkey; Sara D. Brown
	ISBN	978-0-8036-3918-8
	Publisher	F. A. Davis Company
	Publication Date	2015
	Title	Special Tests for Orthopedic Examination, 3rd edition
	Author	Jeff G. Konin; Holly Brader; Jerome A. Isear; Denise L. Wiksten
	ISBN	ISBN 978-1-55642-741-1
	Publisher	SLACK, Inc
	Publication Date	January 28, 2006
	Price	\$47.95

Optional: Hoppenfeld S. *Physical Examination of the Spine and Extremities*. Norwalk: Connecticut: Appleton & Lange.

ASSESSMENT AND GRADING

I. Discussion Board

We will use discussion boards to expand upon topics raised in class and from your reading of the textbook and outside journals. You will have the opportunity, via the Discussion Boards, to interact with your fellow students and with me and to discuss topics of interest to you. You are invited to become engaged with others in this class as you debate issues raised in the questions, examine and analyze case studies related to the content, and respond to the comments of your classmates. In the process, my hope is that you will refine each other, acting as colleagues to improve learning.

For each Discussion Board topic, you will be required to post one response of your own and also at times to post a reply to a classmate's response (e.g. the tutorials). Thus, you must respond at least once and sometimes twice to each Discussion Board topic on Canvas. Your response to a classmate's post may include one or more of the following:

- Ask a probing question
- Share an insight from having read your classmate's post
- Offer and provide evidence to support an opinion
- Validate a classmate's idea with reference to your own experiences
- Make a suggestion for improvement
- Expand on your classmate's post.

To receive full credit for your participation, your posts must also be made in a timely way. Specifically, this means that you must post a response during the week after we first encounter a new topic and your colleagues have posted their tutorial assignment. So, for instance, if a colleague posts a tutorial on the Shoulder on November 1st, then you will need to make your posts on the Discussion Board topic by November 8th in order to receive full credit.

I will review the input that you have given to these Discussion Boards and will award up to 3 points for each Discussion Board posting that you have made, based on the quality of your post. The maximum points available for Discussion Board participation is 30 points. I will also post these instructions with some ground rules on eclass.

II. Clinical Examination Video Tutorials: *Manual muscle testing and special tests*

You will be asked to partner with two colleagues to produce a tutorial video on the Clinical Examination of a specific joint of your choosing. In your video tutorial, make sure to include an *Evidence-Based Approach*: this means you should choose to demonstrate the most clinically useful Manual Muscle Tests and Special Tests used to evaluate the joint. You will share your video tutorial with your colleagues via *YouTube* for their education and constructive feedback. You will each also comment on the other tutorials created by your colleagues via Discussion Board on eclass.

Your tutorial should include and discuss:

- At least 10 of the most commonly used special tests to evaluate the joint that you select.
- Demonstration of specific direction on patient positioning, direction of testing, S/S of a positive test, and pathology that each test rules in/out
- Wherever possible, comment on the reliability, sensitivity, specificity and predictive ability of the special tests that you choose (*It is critical that your colleagues have a sense about which are the most clinically useful and valuable tests to choose when conducting a differential evaluation. Consult research articles in this area since these psychometric properties are continuing to be reported on.*)
 - Indicate if a cluster of special tests might be used to increase your ability to diagnose a condition (e.g. SI joint tests)

This is a helpful YouTube channel for your review: <http://www.youtube.com/user/bigesor>

Please choose 1 joint below for your tutorial. Remember, you will each also comment on the other tutorials via Discussion Board on eclass.

- Lumbar Spine
- Sacroliac Joint
- Cervical Spine
- Shoulder & Scapula
- Instability and Impingement
- Elbow & Wrist
- Eyes, Ears, Throat

III. Quizzes

Quizzes will be accomplished through various forms: (iPad anatomy app, partner quiz, online quiz, mid-class session polling, etc) and through take-home assignments.

IV. Public Service Announcement: “Best Practices in Managing Concussions in Sports”

MTBI is the most publicized injury in sports today. The classification, etiology, assessment and treatment of concussion in sports is currently being studied at an extremely rapid pace, with various organizations either changing their rules or considering such changes. It is essential that Athletic Trainers stay at the forefront of the most current evidence. This assignment is intended for you to create a public service announcement that effectively summarizes and communicates to a target audience the *evaluation, classification, and treatment* guidelines for MTBI. *Return to play criteria* that will insure patient safety should also be discussed. You may use powerpoint, narrated PPT (screencast-o-matic), video, or other media to produce and communicate your PSA. You may work in groups of 3 on this assignment. Your time limit is 10 minutes for the finished product!

Alternate assignment: read [this opinion piece](#) (current Tx of concussions from a Neurologist’s perspective) and identify at least two remaining questions you have, then present a PSA that addresses the questions.

***In preparation for this assignment, please review the following links (there are many more that will be given in class or in the course reader on eclass)

<http://www.nata.org/jat/readers/archives/40.3/i1062-6050-40-3-153.pdf>

<http://www.nata.org/jat/readers/archives/41.2/i1062-6050-41-2-137.pdf>

<http://www.nata.org/statements/position/concussion.pdf>

V. Lab Practicals

Lab practicals will occur at the completion of each anatomically specific unit to evaluate student mastery of the psychomotor skills required of the allied health care professional. You will most likely take these lab practicals with a partner.

VI. Lecture Exams

We will have unit examinations to measure your mastery of the material. The final exam will be comprehensive and will require that you have a firm grasp of the orthopedic evaluation process for all joints of the upper extremity that we cover in class. It benefits you to speak with me early about if you will be traveling with a team, or if a family emergency has come up. There are no provisions for early or make-up examinations if you do not communicate clearly in advance. Examinations should be regarded as an assessment of your readiness to progress toward your given allied health care profession. They will also serve as a learning experience because I will provide detailed feedback for you. Finally, they are an opportunity to be accountable for your learning.

VII. Differential Diagnosis Injury Assessment Outlines (IAO):

These outlines require you to demonstrate the *differential diagnosis* process for various joints. The process refines your ability to determine (“rule in”) an injury from which a patient is suffering while excluding (“ruling out”) conditions that the examination findings do not support.

1. Utilizing an outline format, outline the History, Inspection, Palpation, and Special Tests (including Functional, Ligamentous, and Neurological tests) used to assess pathologies in the following regions:

- Face/Eye
- Head/Neck (C spine)
- Lumbar Spine (We will interact in class to produce this differential dx algorithm)
- Shoulder

2. Outlines are due at the completion of each of the anatomically specific units.

- Utilize and reference at least two sources in addition to your textbook.
- For the *History section*: after listing a specific question, *provide specific rationale for asking that question* (i.e., When you ask what a patient ate for breakfast, what specific symptom are you evaluating?)
- For *Special Tests* section: *provide the specific pathology* ruled-out with each test (e.g., When you perform the Halo test, what specific pathology are you attempting to rule out? Straight Leg Raise?).

VIII. Executive Summary: Review of Current Literature: *An Experience in Scientific Writing*

Requirements:

A formal paper is required based upon a thorough review and critical analysis of the current literature on one of the topics below. While a traditional research paper requires extensive analysis and writing, an **executive summary** summarizes or reviews the main points of a current topic for an audience that may not have time to read the literature on that topic. An effective executive summary **analyzes and summarizes** the most important points of the topic, and will often make a **recommendation** based on the analysis. Executive summaries are “stand alone” documents that give an audience the best current advice on a topic.

Expectations are high for this paper; the finished product should be of such quality as to be eligible for submission to a peer-reviewed journal or to a student-writing contest (such as the NATA, APTA, or other foundation). You may select one of the following topics on which to write your executive summary (your title does not have to match these exactly. Be innovative, but please have your professor review your working title if it deviates from those below.) I will have you turn in your Abstract, Introduction and Sources on a separate occasion before the final paper.

1. Evidence-based diagnosis and treatment of the Sacroiliac Joint
2. Assessment of the Cervical Spine: pathomechanics, injuries and management strategies
3. Classification systems for lumbar spine pathology: which classification system is best?
4. Evidence based treatment and return to play guidelines for Mild Traumatic Brain Injury.
5. “Differential Diagnosis of Glenohumeral Impingement Syndromes”
6. “Differential Diagnosis of Glenohumeral Instability” or “Surgical options for treating anterior glenohumeral instability”.
7. Another topic which has been approved by Dr. Sullivan.

Format:

AMA Style (Consult American Medical Association *Manual of Style*.)

Minimum length: at least 5 pages, double-spaced

Title page-see Appendix C

Include ****Abstract** on a separate leaf following title page-see example on Canvas

Abstracts and references will be submitted prior to 1st draft

References page-see example on Eclass

At least 5 references minimum.

- References must be from peer-reviewed medical and/or allied health journals (i.e., Am J Sports Med, JAMA, Arch. Phys. Med. Rehab, JAT, Sport Health, JSR, JOSPT, PT, etc).

IX. Current Concepts Critique/NATA Position Statement Review:

To supplement the textbook and our in-class discussions, you will be asked to read 2 “current concepts” articles published recently in sports medicine journals and write a 1-page synthesis paper. The topics of the articles will be of your choosing and must coincide with topics covered in class lecture. The intent of this assignment is for you to be exposed to recent advances in the assessment, surgical repair, and prevention of particular upper extremity injuries. **You will be asked to share key findings with the class via Discussion Board while we cover the material in lecture. It will benefit you to choose articles for this assignment that coincide with your Executive Summary paper.

Format: each critique should be no longer than 2 double-spaced pages, 12pt font

Specific contents: the four components required for each critique are:

- Bibliographic information (e.g., author, title, journal, volume, pages, year)
- Key points of article (focus on new information/new perspective learned)
- Critique: Strengths & Weaknesses of the article
- Synthesis: Practical applications of the information presented (cite the “take-home” lesson)

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the [Class Schedules](#) site. No requests for early examinations or alternative days will be approved.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one’s own when in reality they are the results of another person’s creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See [Disability Resource Center](#) for additional information.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See [Academic Policies](#) in the Undergraduate Academic Catalog.

GRADING

A total of 1000 points is possible in this class as follows:

Assignment	Point Possible	Your Points
Clinical Examination Video Tutorial 1@40 pts	40	
Participation: Discussion Board: 5-10 posts @5 pts each	25-50	
Quizzes 4@10 pts each	40	
Public Service Announcement: MTBI	40	
Lab Practicals 4@60 pts each	240	
Written Exams 3@100 pts each	300	
Differential Diagnosis: Inj Assess Outlines 4@20 pts	80	
Review of Lit. Paper 2@75 each	50	
Current Concepts Critique 2@20 pts each	40	
Final Exam	120	

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Executive Summary Paper
Entitled:

XXXXXXXXXX XXXXX XXXXX
XXXXXX
XXXXXX XXXXX XXXXX

By
Your Name

Submitted as
partial fulfillment of the requirements for
ATR 388
Assessment of Head, Spine, and Upper Extremity Pathology

Point Loma Nazarene University
November, 2018

