

**KIN 426 (Credits 3) Spring 2008**  
**Upper Body Injury Evaluation**  
**Location: 309 Jenison Fieldhouse**  
**Time: T/TH 10:20-11:40 AM**

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**Instructor:** Tracey Covassin, Ph.D., ATC  
**Office:** 106 Jenison Fieldhouse  
**Phone:** 517.355.1627

**Office Hours:** T Th 9:00-10:20AM  
or by appointment  
**Email:** [covassin@msu.edu](mailto:covassin@msu.edu)

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**COURSE DESCRIPTION:**

Knowledge and skills needed for evaluating upper extremity injuries in athletic training. Techniques and tests for evaluating acute and chronic injuries to the upper body.

**COURSE OVERVIEW:**

This course is designed to serve as an advanced course for athletic training students. The content of this course will focus on the clinical evaluation techniques of injury assessment of the upper body. An emphasis will be placed on the identification and palpation of bony landmarks, soft tissue structures, and ability to administer the proper special tests for various sports-related injuries. Laboratory experience will emphasize the proper hands-on methods of techniques in evaluating upper body injuries.

**PREREQUISITES:** KIN 320, KIN 421

**COURSE OBJECTIVES:**

- The students shall demonstrate the ability to palpate various anatomical structures.
- The students should be able to recognize and evaluate common injuries of the upper body using the proper techniques and special tests.
- The students should be able to interpret the results of tests used in the evaluation to determine the extent of an athlete's injury.
- The students shall be able to apply goniometric measurements when assessing upper extremity joints.

**REQUIRED TEXT:**

Starkey, Chad & Ryan, Jeff. Evaluation of Orthopedic and Athletic Injuries, F.A. Davis, Philadelphia, 2002

**OPTIONAL TEXT(S):**

- 1) Magee, David J. Orthopedic Physical Assessment, W.B. Saunders, Philadelphia, 1987
- 2) Netter, Frank H. Atlas of Human Anatomy, Novartis, New Jersey, 1997
- 3) Hoppenfeld, Stanley. Physical Examination of the Spine & Extremities. Appleton-Century-Crofts, 1976.

**COURSE REQUIREMENTS:**

*Attendance & Participation:*

Attendance to lectures and lab sessions is the responsibility of the student. The student is responsible for any information missed due to absences. Students are expected to participate in scheduled lab sessions.

*Examinations:*

Students will be evaluated through 4 examinations. Dates of examinations are listed in the syllabus. An unexcused absence on the day of the exam will result in a score of 0 for that exam. A student may reschedule the exam date if prior arrangements are made with the instructor.

**GRADING:**

<u>EXAMS</u>		<u>COURSE GRADE</u>	
Exam 1: 100 pts	Practical 1: 50 pts	92-100% = 4.0	64-70% = 2.0
Exam 2: 100 pts	Practical 2: 50 pts	85-91% = 3.5	57-63% = 1.5
Exam 3: 100 pts	Practical 3: 100 pts	78-84% = 3.0	50-56% = 1.0
Quizzes: 50 pts		71-77% = 2.5	< 50% = 0.5
<b>TOTAL = 550 pts</b>			

<b>SESSION</b>	<b>TOPIC:</b>
01/10	Introduction to course material, Thoracic and Lumbar Spine
01/12	Thoracic and Lumbar Spine
01/17	Thoracic and Lumbar Spine
01/19	Thoracic and Lumbar Spine Lab
01/24	Thoracic and Lumbar Spine Lab
01/26	Cervical Spine
01/31	Cervical Spine Lab
02/02	Cervical Spine Lab
02/07	Cervical Spine Lab
02/09	<b>WRITTEN EXAM/ PRACTICAL 1</b>
02/14	Shoulder
02/16	Shoulder
02/21	Shoulder Lab
02/23	Shoulder Lab
02/28	Shoulder Lab
03/02	Elbow
<b>03/07</b>	<b>SPRING BREAK</b>
<b>03/9</b>	<b>SPRING BREAK</b>
03/14	Elbow Lab
03/16	Elbow Lab
03/21	<b>WRITTEN EXAM 2/PRACTICAL TEST 2</b>
03/23	Wrist
03/28	Wrist Lab
03/30	Wrist Lab
04/04	Face
04/06	Face Lab
04/11	Face Lab
04/13	Head
04/18	Head
04/20	Head

04/25	Head Lab
04/27	<b>EXAM 3</b>
05/02	<b>FINAL PRACTICAL</b>

**CAATE Competencies and proficiencies covered in class:**

AC-C6 Differentiate the components of a secondary assessment to determine the type and severity of the injury or illness sustained.

AC-C12 Describe the characteristics of common life-threatening conditions that can occur either spontaneously or as the result of direct trauma to the throat, thorax and viscera, and identify the management of these conditions.

AC-C16 Describe the injuries and illnesses that require medical referral.

AC-C19 Identify the signs and symptoms of head trauma, including loss of consciousness, changes in standardized neurological function, cranial nerve assessment, and other symptoms that indicate underlying trauma.

AC-C20 Explain the importance of monitoring a patient following a head injury, including obtaining clearance from a physician before further patient participation.

AC-C21 Define cerebral concussion, list the signs and symptoms of concussions, identify the methods for determining the neurocognitive status of a patient who sustains a concussion and describe contemporary concepts for the management and return-to-participation of a patient who sustains a concussion.

AC-C22 Identify the signs and symptoms of trauma to the cervical, thoracic and lumbar spines, the spinal cord, and spinal nerve roots, including neurological signs, referred symptoms, and other symptoms that indicate underlying trauma and pathology.

AC-C24 Describe the indications, guidelines, proper techniques and necessary supplies for removing equipment and clothing in order to evaluate and/or stabilize the involved area.

AC-C25 Describe the effective management, positioning, and immobilization of a patient with a suspected spinal cord injury.

AC-C30 Identify information obtained during the examination to determine when to refer an injury or illness for further or immediate medical attention.

AC-P4b Closed-head trauma (using standard neurological tests and tests for cranial nerve function)

AC-P4h Acute musculoskeletal injuries (i.e. sprains, strains, fractures, dislocations)

AC-P4i Spinal cord and peripheral nerve injuries

DI-C8 Describe the nature of diagnostic tests of the neurological function of cranial nerves, spinal nerves, and peripheral nerves using myotomes, dermatomes, and reflexes.

DI-C9 Assess neurological status, including cranial nerve function, myotomes, dermatomes and reflexes, and circulatory status.

DI-C10 Explain the roles of special tests in injury assessment.

DI-C12 Describe strength assessment using resistive range of motion, break tests, and manual muscle testing.

DI-C13 Describe the use of diagnostic tests and imaging techniques based on their applicability in the assessment of an injury when prescribed by a physician.

DI-C15 Describe and identify postural deformities.

DI-P2 Perform inspection/observation of the clinical signs associated with common injuries including deformity, posturing and guarding, edema/swelling, hemarthrosis, and discoloration.

DI-P3 Perform inspection/observation of postural, structural, and biomechanical abnormalities.

DI-P4 Palpate the bones and soft tissues to determine normal or pathological characteristics.

DI-P5 Measure the active and passive joint range of motion using commonly accepted techniques, including the use of a goniometer and inclinometer.

DI-P6 Grade the resisted joint range of motion/manual muscle testing and break tests.

DI-P7 Apply appropriate stress tests for ligamentous or capsular stability, soft tissue and muscle, and fractures.

DI-P8 Apply appropriate special tests for injuries to the specific areas of the body as listed above.

DI-P9 Assess neurological status, including cranial nerve function, myotomes, dermatomes and reflexes, and circulatory status.

DI-P10 Document the results of the assessment including the diagnosis.

DI-CP1 Demonstrate a musculoskeletal assessment of upper extremity, lower extremity, head/face, and spine (including the ribs) for the purpose of identifying (a) common acquired or congenital risk factors that would predispose the patient to injury and (b) a musculoskeletal injury. This will include identification and recommendations for the correction of acquired or congenital risk factors for injury. At the conclusion of the assessment, the student will diagnose the patient's condition and determine and apply immediate treatment and/or referral in the management of the condition. Effective lines of communication should be established to elicit and convey information about the patient's status. While maintaining patient confidentiality, all aspects of the assessment should be documented using standardized record-keeping methods.

DI-CP1.6 Hip/Pelvis/Sacroiliac Joint

DI-CP1.7 Lumbar Spine

DI-CP1.8 Thoracic Spine

DI-CP1.9 Ribs

DI-CP1.10 Cervical Spine

DI-CP1.11 Shoulder Girdle

DI-CP1.12 Upper Arm

DI-CP1.13 Elbow

- DI-CP1.14 Forearm
- DI-CP1.15 Wrist
- DI-CP1.16 Hand, Fingers & Thumb
- DI-CP1.17 Head and Face
- DI-CP1.18 Temporomandibular Joint

MC-C4 Describe and know when to refer common eye pathologies from trauma and/or localized infection (e.g., conjunctivitis, hyphema, corneal injury, stye, scleral trauma).

MC-C17 Describe and know when to refer common neurological medical disorders from trauma, anoxia, drug toxicity, infection, and congenital malformation (e.g., concussion, postconcussion syndrome, second-impact syndrome, subdural and epidural hematoma, epilepsy, seizure, convulsion disorder, meningitis, spina bifida, cerebral palsy, chronic regional pain syndrome [CRPS], cerebral aneurysm).

MC-C21 Describe and know when to refer common injuries or conditions of the teeth (e.g., fractures, dislocations, caries).

MC-P3 Palpate the bones and soft tissues, including the abdomen, to determine normal or pathological characteristics.

MC-P4e Ear, nose, throat and teeth

MC-CP1 Demonstrate a general and specific (e.g., head, torso and abdomen) assessment for the purpose of (a) screening and referral of common medical conditions, (b) treating those conditions as appropriate, and (c) when appropriate, determining a patient's readiness for physical activity. Effective lines of communication should be established to elicit and convey information about the patient's status and the treatment program. While maintaining confidentiality, all aspects of the assessment, treatment, and determination for activity should be documented using standardized record-keeping methods.

MC-CP1.2 Head, including the Brain

MC-CP1.3 Face, including the Maxillofacial Region

MC-CP1.6 Eyes

MC-P2 Perform a visual observation of the clinical signs associated with common injuries and/or illnesses including deformity, edema/swelling, discoloration, and skin abnormalities.