

Shirley Ryan AbilityLab/Northwestern Feinberg School of Medicine Sports Medicine Fellowship Didactic Curriculum

Monthly Fellow Chairman's Rounds

Dr. Elliot Roth is the chair of the department of PM&R for Northwestern and meets with all of the fellows once per month starting in August.

The content of each month's meeting is as follows:

August	Introductions and Fellowship Descriptions; Preliminary Research Proposals
September	Research Proposal Methodology; Developing Your <i>Curriculum Vitae</i>
October	Applying for and Interviewing for Practice Positions
November	Employment Contracts
December	Quality Improvement
January	Medicolegal Issues; Malpractice
February	Promotion and Tenure Issues; Developing an Academic Career
March	Developing Teaching Skills
April	Coding, Billing, and Documentation Oral Board Preparation
May	Coding, Billing, and Documentation II; Teaching Skills Updates
June	Building a Practice; Referral Development

Didactic Sessions with Joe Ihm

The fellows meet with the program director for 30-60 minutes an average of every other week at 7am on Wednesdays. During that time the objectives listed below are covered. Dr. Ihm signs off on topics that are covered. Only fellows attend this meeting and no meeting occurs without both fellows present. Certain sessions are covered at certain times of the year, starting with physical exam techniques at the beginning of the year.

July-September

Neck

1. With regards to assessing outpatient cervical spine disorders, discuss performance of neurologic exam including manual muscle testing of the C5-T1 myotomes, light touch and pin-prick testing of the C4-T1 dermatomes, testing the muscle stretch reflexes for biceps brachii, brachioradialis, and triceps brachii, and Hoffman's test. Discuss utility of performing neural tension testing for the upper limb, including median, ulnar and radial nerve biases.
Signature _____ Date _____

Shoulder

1. Identify physical landmarks in the shoulder region including SC joint, clavicle, AC joint, subacromial space, bicipital tendon, greater tuberosity, acromion, trapezius, levator scapula, and deltoid.
Signature _____ Date _____
2. Discuss at least 5 important historical questions to ask a patient with shoulder pain and discuss their potential clinical significance. Discuss the differential diagnosis for shoulder pain including mechanical, neurologic, and referred causes. Discuss performance of a physical examination on a patient presenting with shoulder pain including appropriate neurological testing and provocative testing for major clinical diagnostic categories.
Signature _____ Date _____

Elbow

1. Identify by palpation major anatomical areas about the elbow region, including the radial head, radiocapitellar joint, extensor musculature, biceps tendon, medial and lateral epicondyles, ulnar nerve, and area of the medial collateral ligament?
Signature _____ Date _____
2. Demonstrate an examination for a patient with lateral elbow tendinopathy, including at least three provocative tests and differential palpation of the lateral elbow. Outline a treatment plan for this diagnosis.
Signature _____ Date _____

Low Back

1. Discuss key components of the physical exam to evaluate patients with low back pain. This would include performance of manual muscle testing of the L2-S1 myotomes, testing light touch and pin-prick testing of the L2-S1 dermatomes, testing of muscle stretch reflexes at

the patellar, medial hamstring, and Achilles. Included in the physical exam would be checking provocation of symptoms with the femoral nerve stretch, slump sit test and straight leg raise. Also included with be testing for ankle clonus and the Babinski maneuver. Also included would be palpation of the following boney landmarks: iliac crest, anterior superior iliac spine, posterior superior iliac spine, greater trochanter, sacral sulcus.

Signature _____ Date _____

2. Discuss performance the following maneuvers as each relates to testing for pain originating from the SI joint: FABER/Patrick's test, thigh thrust, sacral compression test, Gillet's test.

Signature _____ Date _____

Hip

1. Review physical exam of hip girdle including manual muscle testing with assessment of hip strength using both open and closed chain activities. Also, review assessment of hip range of motion, including popliteal angle, modified Thomas's test, Ely's maneuver, internal and external rotation, FABER/FADIR testing, and traction (both axial traction and traction with internal rotation).

Signature _____ Date _____

Knee

1. Perform a physical examination on a patient presenting with knee pain including: testing the four major ligaments (ACL, PCL, MCL, LCL), for the meniscal pathology (McMurray's test or variant), and appropriate neurological testing; identify landmarks on palpation of the knee region, including patella, medial femoral condyle, fibular head, hamstring tendons, quadriceps tendon, patellar tendon, medial and lateral joint line, MCL, LCL, and pes anserine bursa.

Signature _____ Date _____

Ankle/Foot

1. Review physical exam of the ankle including: palpation of physical landmarks in the ankle-foot region including the medial and lateral malleoli, talar dome, calcaneus, navicular tuberosity, fifth metatarsal (including tuberosity), Achilles tendon, peroneal (fibular) tendons, posterior and anterior tibialis tendons, and plantar fascia; ligamentous testing of medial, lateral and syndesmotic aspects of ankle; manual muscle testing, including evaluation of peroneal subluxation.

Signature _____ Date _____

October-December

Neck

1. Discuss the clinical presentation and management for cervical myelopathy.

Signature _____ Date _____

2. Discuss the clinical presentation and management for cervical radiculopathy.

Signature _____ Date _____

3. Discuss appropriate reading of a cervical spine x-ray, identifying the following elements on AP, lateral, and oblique views: spinous process, pedicles, articular processes, zygapophysial joints, transverse foramen, uncal processes, neuroforamina. Also identify the following lines on lateral view: anterior longitudinal line, posterior longitudinal line, spinolaminar line, and spinal line.

Signature _____ Date _____

4. Read a cervical MRI, identifying the following elements: spinous process, pedicles, articular processes, and zygapophysial joints. Identify both the descending and exiting nerve roots. Distinguish between T1- and T2-weighted images.

Signature _____ Date _____

Shoulder

1. Identify standard shoulder radiographic views. Demonstrate major osseous structures on these radiographs, including the glenohumeral joint, greater and lesser tuberosities, acromio-humeral interval, glenoid, and AC joint.

Signature _____ Date _____

2. Identify major osseous and musculotendinous structures on a shoulder MRI scan. Discuss the potential relevance of "abnormal findings". Are all structural changes clinically significant?

Signature _____ Date _____

3. Discuss the historical and physical findings in a typical patient with rotator cuff disease, including demonstration of impingement signs and manual muscle testing. Outline an initial treatment plan for a patient with rotator cuff disease, including medications, modalities, exercise, and activity restrictions. Discuss physical therapy prescription and rationale.

Signature _____ Date _____

4. Discuss the historical and physical findings in a typical patient with glenohumeral joint instability, including demonstration of apprehension signs and manual muscle testing. Discuss how instability and rotator cuff disease may be related.

Signature _____ Date _____

5. Discuss the role of the scapular stabilizer muscles in optimizing scapulothoracic function; identify the main muscles involved and describe exercises that will work each muscle effectively.

Signature _____ Date _____

6. Outline an initial treatment plan for a patient with an acute traumatic anterior shoulder dislocation, s/p reduction? When can the athlete return to play? When is surgery an option?

Signature _____ Date _____

7. Describe and demonstrate at least two physical examination maneuvers for evaluation of the glenoid labrum.

Signature _____ Date _____

8. Discuss the importance of evaluating kinetic chain mechanics and sport specific technique in an athlete with shoulder pain.

Signature _____ Date _____

Elbow

1. Discuss the differential diagnosis of lateral and medial elbow pain.

Signature _____ Date _____

2. Discuss injury of the ulnar collateral ligament and treatment plan for patients with pain and/or instability related to injury of this ligament.

Signature _____ Date _____

January-March

Low Back

1. Discuss the clinical presentation and management for lumbosacral radiculopathy.

Signature _____ Date _____

2. Discuss the diagnostic approach to zygapophysial joint arthropathy, including history, physical examination, z-joint injections, medial branch blocks, and radiofrequency ablation.

Signature _____ Date _____

3. Discuss the clinical presentation and management for lumbar spinal stenosis.

Signature _____ Date _____

4. Explain the concept of directional preference and centralization of pain as these relate to lumbosacral radiculopathies.

Signature _____ Date _____

5. Review the following structures as seen on AP, lateral, and oblique views of the lumbar spine: spinous processes, pedicles, articular processes, zygapophysial joints, transverse processes, neuroforamina.

Signature _____ Date _____

6. Read a lumbar MRI, identifying the following elements: spinous process, pedicles, anulus fibrosus, ligamentum flavum, articular processes, and zygapophysial joints. Identify both the descending and exiting nerve roots. Distinguish between T1- and T2-weighted images.

Signature _____ Date _____

7. Discuss the evaluation and treatment of the young athlete with spondylolysis, including utility and appropriateness of imaging studies and management to maximize resolution and pain.

Signature _____ Date _____

Hip

1. Discuss differential diagnosis of an athlete presenting with groin pain.

Signature _____ Date _____

2. Discuss the presentation of femoroacetabular impingement, physical exam findings, potential plain film findings, and management.
Signature _____ Date _____
3. Discuss “snapping hip,” including proposed mechanisms for etiology and treatment interventions.
Signature _____ Date _____
4. Discuss the two types of femoral neck stress fractures, including history, physical examination, and treatment differences between the 2 most common types.
Signature _____ Date _____
5. Discuss physical exam and treatment for patient with hip osteoarthritis. Discuss nonoperative and operative treatment in the athlete who presents with this problem.
Signature _____ Date _____
6. Review a hip x-ray, identifying views and locating the following landmarks: acetabulum, femoral head, greater trochanter, lesser trochanter, superior and inferior pubic rami. Discuss indications for ordering hip imaging, including views.
Signature _____ Date _____

Knee

1. Discuss general issues related to patient presenting with knee pain including: 5 important historical questions to ask a patient with knee pain and discuss their potential clinical significance; regional (anterior, lateral, medial) differential diagnosis for knee pain including mechanical, neurologic, and referred causes.
Signature _____ Date _____
2. Review structure on standard knee radiographs. Demonstrate major osseous structures on these radiographs, including the medial and lateral tibiofemoral joint space, medial and lateral femoral condyles, patella, fibula, and medial tibial plateau.
Signature _____ Date _____
3. Identify major structures on a knee MRI scan, including the four major ligaments, both menisci, and the patellar tendon. Discuss clinical relevance of findings seen on MRI of the knee.
Signature _____ Date _____
4. Discuss the historical and physical findings in a typical patient with an acute ACL injury including demonstration of tests for effusion, Lachman test, and anterior drawer test. How can a PCL tear look like an ACL tear on exam?
Signature _____ Date _____
5. Discuss the historical and physical findings in a typical patient with a posterior horn medial meniscal tear including specific location of joint line testing, bounce home test, hyperflexion test, and McMurray’s test. Discuss possible findings on plain films and MRI. Describe the treatment of acute meniscal tears in detail.
Signature _____ Date _____

6. Outline an initial treatment plan for a patient with either a degenerative meniscal tear or knee OA including options for medications, modalities, assisted weight bearing, bracing, exercise, and activity modification. Discuss physical therapy prescription and rationale.
Signature _____ Date _____
7. Outline a treatment plan for patellofemoral pain, including medications, modalities, bracing, exercise, and activity restrictions, as appropriate. Describe the rationale for any stretching or strengthening you prescribe. Discuss the potential value of a foot orthosis in these patients? Discuss physical therapy prescription and rationale.
Signature _____ Date _____

April-June Session

Leg

1. Discuss history, physical and differential diagnosis of leg pain in an athlete.
Signature _____ Date _____
2. Discuss diagnosis and management of a calf strain.
Signature _____ Date _____
3. Discuss diagnosis and management of medial tibial stress syndrome.
Signature _____ Date _____
4. Discuss diagnosis and management of a tibia or fibula stress fracture.
Signature _____ Date _____

Ankle/Foot

1. List at least 5 important historical questions to ask a patient with an acute ankle injury and discuss their potential clinical significance. List a regional (anterolateral, anteromedial, posterolateral, posteromedial) differential diagnosis for ankle pain including mechanical, neurologic, and referred causes.
Signature _____ Date _____
2. Outline the Ottawa ankle rules for obtaining radiographs in acute ankle-foot injury and demonstrate their application to the history and physical examination on a patient.
Signature _____ Date _____
3. Discuss presentation of a high ankle sprain (a.k.a. syndesmotic injury)? Demonstrate at least two physical examination signs for a syndesmotic injury in addition to palpation for a Maisonneuve fracture.
Signature _____ Date _____
4. Identify standard ankle radiographic views. Demonstrate major osseous structures on these radiographs including the tibia, fibula, malleoli, calcaneus, anterior process of the calcaneus, talar dome, and visible mid-foot and forefoot bones.
Signature _____ Date _____

5. Discuss the historical and physical findings in a typical patient with Achilles tendinopathy including demonstration of the Thompson test, ROM testing, and differentiation of soleus vs gastrocnemius length. List at least three risk factors for Achilles' tendinopathy. Discuss treatment of Achilles tendinopathy and return to running.
Signature _____ Date _____
6. Discuss the historical and physical findings in a typical patient with posterior tibial tendon dysfunction including palpation of the tendon, functional testing, and manual muscle testing.
Signature _____ Date _____
7. Outline an initial treatment plan for a patient with an inversion ankle sprain including medications, modalities, assisted weightbearing, bracing, exercise, and activity modifications. Discuss osteochondral injuries as they relate to ankle sprains and ongoing ankle pain. Discuss physical therapy prescription and rationale.
Signature _____ Date _____
8. Compare operative and non-operative treatment options after Achilles tendon rupture.
Signature _____ Date _____

Exercise Prescription

1. Discuss physiologic adaptations to different intensities of aerobic exercise. Compare threshold of physical activity for health benefits to exercise for aerobic and fitness benefits.
Signature _____ Date _____
2. Discuss environmental effects on exercise.
Signature _____ Date _____
3. Discuss recommendations for resistance training to improve strength and endurance.
Signature _____ Date _____
4. Discuss ways to counsel a patient on the importance of aerobic exercise and a healthy lifestyle.
Signature _____ Date _____
5. Discuss the effects of disease (e.g., diabetes, cardiac conditions, and arthritis) on exercise and the use of exercise in the care of medical problems.
Signature _____ Date _____

Didactics sessions while on rotation at Shirley Ryan AbilityLab

Melissa Kolski – physical therapist on 15S

1. Mechanical diagnosis and treatment
Signature _____ Date _____
2. Pain classifications
Signature _____ Date _____
3. The kinetic chain
Signature _____ Date _____

Dan Blatz

1. Preparticipation Physical Examination
Signature _____ Date _____
2. Sports Sideline coverage
Signature _____ Date _____
3. Dermatologic issues in the athlete
Signature _____ Date _____

Maria Reese

1. Female Athlete Triad/Bone Health in Sports Medicine
Signature _____ Date _____
2. Endurance Event Coverage
Signature _____ Date _____
3. Psychological aspects of exercise, performance, and competition
Signature _____ Date _____

Monica Rho

1. Functioning as a team physician
Signature _____ Date _____
2. Introduction to Musculoskeletal Ultrasound: Principles, Knobology,
and Identifying Anatomic Structures
Signature _____ Date _____
3. Ultrasound of the Upper Extremity: Shoulder, Wrist, Elbow, and Hand
Signature _____ Date _____

4. Ultrasound of the Lower Extremity: Hip, Knee, Ankle, and Foot
Signature _____ Date _____

5. Interventional MSK Ultrasound
Signature _____ Date _____

Alex Sheng and Spine Course

1. Cervical Z-Joint pain and interventional management
Signature _____ Date _____

2. Lumbar Z-joint pain and interventional management
Signature _____ Date _____

3. Cervical interlaminar and Transforaminal Epidural injections: Indications, procedure techniques/complications.
Signature _____ Date _____

Sam Chu

1. Cardiac and pulmonary issues in the athlete
Signature _____ Date _____

2. Growth plate injuries
Signature _____ Date _____

3. Growth and development related to exercise
Signature _____ Date _____

4. Understanding pharmacology and effects of therapeutic, performance enhancing, and mood-altering drugs
Signature _____ Date _____

Prakash Jayabalan

1. Guidelines for evaluating and treating concussion in sport
Signature _____ Date _____

2. Ethical principles as applied to exercise and sports
Signature _____ Date _____

3. Medical-legal aspects of exercise and sports
Signature _____ Date _____

Joe Ihm

1. Physical conditioning requirements for various activities
Signature _____ Date _____
2. Special considerations for exercise related to age, gender, and disability
Signature _____ Date _____

Sabrina Siboski – lead dietician SRALAB

1. Basic nutritional principles and their application to exercise
Signature _____ Date _____

Separate didactic session with Dr. George Chiampas, medical director for the Chicago Marathon

1. Environmental effects on exercise
Signature _____ Date _____

Radiology Conference

Once per month at 7am Dr. Ruth Ramsey visits SRALAB for one hour to discuss cervical, thoracic and lumbar spine cases and to review how to assess images for pertinent findings. Faculty, residents from the core residency program, and sports fellows attend these meetings.