Western University of Health Sciences

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College of Osteopathic Medicine of the Pacific

Syllabus Radiology

Department of Clinical Education Contact Information

Course No.:	OM 7020, 7021, 7022	Course Title:	Radiology
Credit Hours:	2-4 weeks, 2-4 credit hours for each rotation	Chair: Clerkship director:	David Connett, DO
Term - Dates:	Variable OMS III and OMS IV academic year	Level:	OMS III, OMS IV

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Rotation Faculty

Physician/Specialist Support:
David Connett, DO
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Educational Goal

This elective rotation is a two-four (2-4) week introductory, structured clinical experience under direct supervision designed to provide the student experience diagnosing, treating and caring for patients with radiological disorders. There is no post-rotation exam for the elective. Most students electing to take this rotation will be in the third or fourth year of osteopathic medical school.

Purpose of Rotation

Clinical experiences are intended to assist the student's transition from didactic to integrated clinical evaluation and patient management. The goals of this rotation are to prepare the student to recognize common acute and chronic radiological disorders. The student should further understand the causes, prevention, and appropriate treatment options for those disorders. The student should also develop fundamental psychomotor skills by performing routine basic procedures under direct supervision.

Radiology Clerkship Learning Objectives

The College recognizes that two-four (2-4) weeks is insufficient time to cover a comprehensive list of objectives; experience gained is dependent on the numbers of patients and types of disease entities presenting to a particular clinic. Nevertheless, certain minimum content must be addressed, either by clinical exposure or by didactic material to assist the student in preparing for national Board examinations and other evaluation measures.

The following AOA competencies have been incorporated into the objectives: Osteopathic Principles and Practice, Medical Knowledge, Patient Care, Interpersonal and Communication Skills, Professionalism, Practice-Based Learning and Improvement, and Systems-Based Practice.

The student will be expected to:

1. Apply basic knowledge of the anatomy and physiology of the organ systems to the care of the acutely and chronically ill or injured medical, psychiatric, surgical, obstetrical/gynecological, and pediatric patients. (COMP/AOA core competencies 2; Institutional outcomes 1, 2)

2. Apply basic knowledge of the molecular, biochemical, and cellular mechanisms for maintaining homeostasis in the care of the acutely and chronically ill or injured medical, psychiatric, surgical, obstetrical/gynecological, and pediatric patients .. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 7)

3. Refine skills to obtain appropriately comprehensive history and physical examination on acute care patients presenting to the Emergency Department. (COMP/AOA core competencies 2, 3; Institutional outcomes 1, 2, 3, 4, 7)

4. Formulate and communicate a focused differential diagnostic problem list on each psychiatric, surgical, obstetrical/gynecological, pediatric and medical patient. (COMP/AOA core competencies 2, 4; Institutional outcomes 1, 2, 3, 4, 7)

5. Identify knowledge deficits and search the medical literature for the most current aspects of diagnostic and management strategies to thereby apply the principles of evidence-based medicine to the care of the individual acutely and chronically ill or injured medical, psychiatric, surgical, obstetrical/gynecological, and pediatric patient. This will be supported by ACEP on-line material such as guidelines review. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 6, 7)

6. Formulate strategies for disease prevention based on knowledge of disease pathogenesis and mechanisms of health maintenance, with the support of ACEP on-line guidelines and the United States Preventative Task Force Recommendations. (COMP/AOA core competencies 2, 6, 7; Institutional outcomes 1, 2, 7, 8)

7. Integrate concepts of epidemiology and population-based research methods into the care of the individual acutely and chronically ill or injured medical, psychiatric, surgical, obstetrical/gynecological, and pediatric patient. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

8. Formulate diagnostic and treatment plans taking into consideration a cost-benefit analysis and access to healthcare. (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 4, 5, 6, 7, 8)

9. Skillfully present patient history, physical and diagnostic information in a systematic, coherent and concise manner, which addresses the chief complaint/problem, identifies pertinent positive and negative findings and supports a logical assessment. (COMP/AOA core competencies 2, 3, 4; Institutional outcomes 2,3)

10. Respect the cultural and ethnic diversity of their patients' beliefs in evaluating and managing their emergent medical care. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 2, 3, 4, 5, 6, 8)

11. Display honesty, integrity, respect, and compassion for patients and their families. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 23, 4, 5, 6, 8)

12. Participate in the education of patients, families, and other students. (COMP/AOA core competencies 1, 2, 3, 4, 5; Institutional outcomes 1, 2, 3, 4, 5, 8)

13. Participate in an inter-professional team to enhance patient safety and improve patient care. (COMP/AOA core competencies 1, 2, 3, 4, 5, 6, 7; Institutional outcomes 1, 2, 3, 4, 5)

14. Display collegiality, professionalism and respect toward all members of the healthcare team. (COMP/AOA core competencies 4, 5, 7; Institutional outcomes 3, 4)

15. Follow all infection control policies and guidelines as established by the Centers for Disease Control and Prevention (CDC) and the Society for Healthcare Epidemiology of America (SHEA). (COMP/AOA core competencies 2, 4, 6, 7; Institutional outcomes 1, 2, 7)

16. Obtain a greater understanding of the patient-physician relationship and consistently apply the "bio psychosocial model." (COMP 1,2,3,5,7; Institutional Outcomes 1,2,3,4,5,6,8)

17. Apply Osteopathic Principles and Practice as an integral part of patient treatment and care. (COMP 1,2,3,4,5, 6,7; Institutional Outcomes 1,2,3,4,5,6,7,8)

At the end of the rotation, the student should be able to:

- Assist in the evaluation, treatment, and disposition of patients.
- Complete an accurate History and Physical
- Write accurate, organized and legible progress notes
- Establish a differential diagnosis for patients
- Recommend to the intern/resident or attending physician a treatment plan for assigned patients
- Demonstrate a knowledge of library use quoting references on patients
- Identify abnormal laboratory values, then create an appropriate treatment plan and present it to your resident or attending.
- Demonstrate knowledge of specific medical procedures (indications and contraindications)

In addition, the expectation of the student is to:

1. Accompany attendings, residents and interns as directed.
2. Effectively communicate with attendings, residents and interns about patients and studies.
3. Participate in all conferences, morning reports, lectures, Tumor Boards and meetings as directed by the attending and COMP faculty.
4. Lecture or present case histories/topics as requested by interns, residents or attending.
5. Complete reading assignments as directed by your attendings and required educational assignments/ECM assignments as directed by COMP..
6. Use the literature to review evidence-based diagnosis and management of cases encountered on the service
7. Be timely.
8. Wear appropriate attire.
9. Be professional at all times.

Core Topics of Study

During the two-four (2-4)-four-week elective, the student will be exposed to a wide variety of common radiological disorders. These exposures will occur both during patient sessions and through didactic sessions and outside reading assignments. At a minimum, it is expected that each student will learn to diagnose and treat the following radiological disorders:

Cardiothoracic Imaging

1. Identify the different radiographic views of the chest (AP, PA, Lateral, Decubitus, Inspiratory/Expiratory, Cross-table lateral) and describe clinical benefits and limitations of each.
2. Employ a systematic search pattern for interpreting chest radiographs.
3. List different types of pathologies that can produce focal "opacity" on chest radiographs.
4. Discuss the radiographic findings that may help characterize lung opacity as atelectasis.
5. Discuss the radiographic findings that help characterize lung opacity as "consolidation" and formulate a differential diagnosis based on CXR findings.
6. Describe signs of and be able to identify pneumothorax, pneumomedistinum, and pneumopericardium on chest radiographs.
7. Learn to describe osseous and soft tissue findings on CXR exams
8. Differentiate between pulmonary vascular congestion, interstitial pulmonary edema, and alveolar edema on chest radiographs.
9. Discuss the criteria for diagnosis of cardiomegaly on chest radiographs.
10. Recognize the correct positioning of venous lines, arterial lines, and endotracheal tubes on chest radiographs.
11. Discuss the role of CT in evaluating the chest.
12. Compare the conspicuity of chest "masses" on CXR and CT.
13. Discuss the utility of Fleischner Society guidelines in management of solitary pulmonary nodules seen on CT.
14. Describe imaging modalities available for imaging the heart and great vessels.
15. Identify the appropriate indications for cardiac CT, cardiac MRI, thoracic CT angiography and the role of NUCLEAR MEDICINE in the cardiothoracic workup.
16. Identify the appropriate indications for cardiac CT, cardiac MRI, and thoracic CT angiography.
17. Choose an appropriate imaging algorithm for common diagnostic scenarios including:
    - o Suspected pneumonia
    - o Suspected pulmonary embolism
    - o Solitary pulmonary nodule
    - o Suspected aortic dissection

Abdominal Imaging

1. Identify the different radiographic views of the abdomen (KUB, upright and supine AP, Decubitus) and describe the utility of each.
2. Employ a systematic search pattern for interpreting abdominal radiographs.
3. Recognize free intra-abdominal air on radiographs and describe how patient positioning affects sensitivity for detection.
4. Differentiate between dilated small bowel and large bowel on radiographs.
5. Describe indications for GI fluoroscopy procedures.
6. Describe indications for GI fluoroscopy procedures including the reasons for utilization of barium versus water soluble agents.
7. Recommend appropriate cross-sectional imaging modality (CT vs. MRI) for given abdominal complaints including appropriate use of contrast, when necessary.
8. Describe appropriate indications for common ultrasound studies.
9. Describe clinical situations in which ultrasound is used to guide interventional procedures.
10. Recognize the correct and incorrect position of feeding tubes.
11. Construct the appropriate imaging algorithm for common diagnostic scenarios including:
    - o Suspected SBO
    - o Right upper quadrant pain

- o Renal colic
- o Suspected acute appendicitis
- o Suspected pancreatitis
- o Suspected diverticulitis
- o Pelvic pain in women of child-bearing age

Musculoskeletal Imaging

1. Create an imaging plan to evaluate patients with acute musculoskeletal trauma.
2. Explain the critical utility of obtaining multiple radiographic views in fracture evaluation.
3. Accurately and succinctly describe fractures based on their radiographic appearance.
4. Identify and explain the significance of intra-articular fracture extension.
5. Identify an elbow joint effusion on radiographs and provide a differential diagnosis based on patient presentation.
6. Identify glenohumeral dislocation on radiographs and differentiate between anterior and posterior dislocation.
7. Explain the important role of radiographs in the evaluation of MSK problems.
8. Understand the differences in imaging protocols as related to the clinical indication (e.g.- traumatic neck pain vs. radiculopathy)
9. Learn what examinations are considered unnecessary in certain skeletal clinical scenarios (see "Fundamentals of Skeletal Radiology, 4e" by Clyde Helms, MD)
10. Identify the important radiographic landmarks used to evaluate the cervical spine in the setting of acute trauma.
11. Discuss indications for CT and MRI for spine and differentiate this from the use of these modalities in the evaluation of extremity trauma.
12. Identify thoracic and lumbar spine fracture patterns based on imaging appearance and mechanism of injury.
13. Discuss most common associated injuries and predisposing conditions for various spinal injury types.
14. Describe the classic features of osteoarthritis and contrast these with the features of rheumatoid arthritis, seronegative spondylo-arthropathy, gout, and erosive osteoarthritis.
15. Characterize arthritis patterns based on the radiographic appearance of patients with joint pain.
16. Construct the appropriate imaging algorithm for common diagnostic scenarios including:
    - o Chronic or acute joint pain
    - o Extremity trauma
    - o Spinal trauma
    - o Acute hip pain
    - o MSK infection
    - o MSK Neoplasm

Pediatric Imaging

1. Discuss the unique challenges faced when imaging children and how these may affect choice of imaging modality.
2. Contrast normal chest radiographic anatomy of an infant compared to that of an adult.
3. Discuss indications for ordering Upper GI and Contrast enema in newborn infants.
4. Identify normal bowel rotation on Upper GI.
5. Discuss pathophysiology, imaging findings, and treatment of ileocolonic intussusception.
6. Describe steps of a voiding cystourethrogram (VCUG) and discuss utility of imaging study in pediatric patient with febrile UTI.
7. Recognize growth plates as a normal finding in pediatric MSK imaging.

8. Explain the significance of epiphyseal involvement of a fracture.

9. Identify injuries that raise suspicion for non-accidental trauma.
10. Localize the position of vascular lines, endotracheal tubes, and feeding tubes in pediatric patients and identify misplaced devices.
11. Construct the appropriate imaging algorithm for common diagnostic scenarios including:
    - o Bilious vomiting in newborn infant
    - o Suspected pyloric stenosis
    - o Suspected intussusception
    - o Limping child
    - o First febrile UTI
    - o Suspected non-accidental trauma
    - o Hirschsprung's disease

Breast Imaging
1. Explain how a mammogram is performed in terms a patient would understand.
2. Differentiate between CC and MLO positioning on a mammogram.
3. Explain the rational for breast compression in mammography.
4. Describe the four major mammographic imaging findings.
5. Discuss current recommendations for screening mammography.
6. Compare the role of screening mammography vs diagnostic mammography and list the indications for a diagnostic mammogram.
7. Summarize the risks and benefits of screening mammography.
8. Discuss the utility of the BI-RADS atlas and how it standardizes terminology, assessment, and treatment and follow-up imaging recommendations.
9. Describe the utility of ultrasound in the work-up of a breast mass.
10. List indications for breast MRI.
11. Construct the appropriate imaging algorithm for common diagnostic scenarios including:
    - o Palpable breast mass in young female
    - o Palpable breast mass in older female
    - o Young female with family history of BRCA-1 gene mutation

Interventional Radiology
1. Explain the indications for commonly performed Interventional Radiology procedures including transjugular intrahepatic portocaval shunt (TIPS), percutaneous nephrostomy, abscess drainage, tumor ablation and embolization, central venous access, vascular occlusion, IVC filter placement, and re-vascularization techniques.
2. Advise patients of the preparation regimen for the most commonly performed interventional procedures including necessary laboratory studies and their reference values as well as pertinent patient precautions and restrictions.
3. Assess the position of central venous and drainage catheters on imaging studies and successfully identify malpositioned devices.
4. Name and identify important complications following interventional radiology procedures including retroperitoneal hematoma, pseudoaneurysm, arterial dissection, thromboembolism, and AV fistula.
5. Describe how different imaging modalities are used to guide interventional and diagnostic procedures.
6. Understand the placement of peripherally inserted central catheters (PICC)

Nuclear Medicine

1. Educate patients on the basic differences between general nuclear medicine studies and radiography including the basic functions of the gamma camera and radionuclides.
2. Recognize images from common nuclear medicine studies including bone scan, GI bleeding study, V/Q scan, Cardiac stress test, and PET/CT.
3. Discuss benefits and limitations of common Nuclear Medicine studies.
4. Discuss the risks and benefits of nuclear imaging in the pregnant patient, mothers who are breast feeding and women of childbearing age.
5. Discuss role of PET/CT exam in evaluation of metastatic disease and seizure disorders.
6. Construct the appropriate imaging algorithm for common diagnostic scenarios including:
    - o Acute cholecystitis
    - o GI bleed
    - o Suspected occult fractures
    - o Suspected pulmonary embolism
    - o Evaluation of metastatic disease

Ultrasound Skills

1. Describe the basic physics behind ultrasound image acquisition.
2. Successfully acquire key images from the abdominal ultrasound protocol.
3. Identify abdominal and pelvic organs based on their ultrasound appearances.
4. Describe the utility of ultrasound in evaluation of patients with right upper quadrant pain, lower abdominal pain, and pelvic pain.
5. Summarize the advantages and limitations of ultrasound as an imaging modality.
6. Explain advantages of transvaginal pelvic ultrasound compared to transabdominal pelvic ultrasound.
7. Review the anatomy of the upper and lower extremity venous systems distinguishing between deep and superficial structures

Neuroradiology

Texts and Media

It is strongly recommended that students spend approximately 10 hours per week reading independently. Students should not rely solely on the review books to be adequately prepared for the rotation as they do not provide the knowledge base needed to successfully pass the rotation.

Reading Assignments

1. Review all core topics and diseases listed above.
2. Supplemental readings are encouraged to augment pathology seen in a dermatology office. Students must make a concerted effort to read supportive material to assist in achieving the goals and objectives of the rotation.

Implementation

Course objectives are to be accomplished under supervision. Course objectives should be covered during the rotation to assure adequate student preparation for board examinations and clinical practice.

The use of diverse methods appropriate to the individual and the clinical site are encouraged, but patient-centered teaching is optimal.

Didactic methods to achieve required objectives include:

- Reading assignments
- Lectures
- Computer-assisted programs (if available)
- Student attendance at/participation in formal clinical presentations by medical faculty

Clinically oriented teaching methods may include:

- Assignment of limited co-management responsibilities under supervision
- Participation in clinic visits, daily patient rounds and conferences
- Supervised and critiqued clinic work-ups of patients admitted to the service
- Assigned, case-oriented reading and case presentations

Recommended Texts

Textbook:
1. Learning Radiology: Recognizing the Basics – With STUDENT CONSULT Online Access (320 pages, 510 Illustrations). Philadelphia: Mosby Elsevier, May 2007 (first edition).
Written by William Herring, MD, a seasoned radiology instructor and creator of an award-winning radiology teaching web site "Learning Radiology", efficiently presents just the radiology knowledge you need to know to get through clinical rotations and USMLEs.And, bonus online access via Student Consult where you will find the complete text.
2.Clinical Radiology, the Essentials, Richard H. Daffner, Lippincott Williams & Wilkins Edition 3.
3. Felson's Principles of Chest Roentgenology, A Programmed Text, 4th edition, Ben Felson, MD:
4. Thoracic Radiology, the Requisites, 2nd edition, Theresa McLoud, MD
5. Fundamentals of Skeletal Radiology, 4th edition, Clyde Helms, MD
Online Resources:

- Radiology cases: http://www.mypacs.net/
- Auntminnie.com (http://www.auntminnie.com/index.asp?Sec=edu);
- Learning Radiology.com (http://www.learningradiology.com/);
- https://www.med-ed.virginia.edu/courses/rad/
- American College of Radiology (acr.org); Daily cases at: http://caseinpoint.acr.org/;
- https://www.usuhs.edu/rad/medpix
- Pediatric Cases of ACR Case in Point
  https://3s.acr.org/CIP/ShowArchiveCases.aspx?Status=Unknown&CName=Pediatric
- Web Based Modules on pediatric topics
  https://www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm

Evidence-Based Medicine:

- ACP's PIER- Stat! Ref- PIER© is a collection of over 400 evidence summaries published by the American College of Physicians. Each module provides authoritative guidance to improve the quality of care.

- Cochrane Library for Evidence-Based Medicine- The Cochrane Library contains high-quality, independent evidence to inform healthcare decision-making.
- DynaMed- Point-of-care reference resource designed to provide doctors and medical researchers with the best available evidence to support clinical decision-making
- Essential Evidence Plus- A powerful resource packed with content, tools, calculators and alerts for clinicians who deliver first-contact care.
- ACP Medicine- ACP Medicine is a comprehensive, evidence-based reference for fast, current answers on the best clinical care.

Recommended downloads for handheld devices:

- Epocrates
- Medscape
- Medical Calc
- AHRQ ePSS

Electronic Texts

- Cecil Medicine-MD Consult
- Harrison's Online-AccessMedicine
- Current Medical Diagnosis and Treatment 2021 -AccessMedicine
- MD Consult- Provides full-text access to approximately 40 medical textbooks, 50 medical journals, comprehensive drug information, and more than 600 clinical practice guidelines
- Ebsco A-to-Z- Database provides links and coverage information to more than 124,000 unique titles from more than 1,100 database and e-journal packages.
- The Medical Letter on Drugs and Therapeutics- An independent, peer-reviewed, nonprofit publication that offers unbiased critical evaluations of drugs, with special emphasis on new drugs.

Rotation Schedule

Each site will provide students with a schedule on their first day of the rotation. These schedules are rarely available prior to the start the rotation. It is solely your responsibility to read and understand all information provided to you by the site. Some sites have additional requirements above and beyond those set forth by the College of Osteopathic Medicine.

Expectations:

During this rotation, the student is expected to do the following:

1. Function as an essential member of the office team.

2. Report to the office daily. If you are going to be late or absent, you must notify the resident or attending that you are assigned to and the WesternU/COMP Rotations Office.
3. Report to the resident or attending physician you are assigned to daily. They will assign patients for you to take care of during your rotation.
4. Write progress notes and orders as allowed by the attending physician.

5. Attend all educational conferences and grand rounds as required by the resident or attending physician.
6. Read about the anatomy, physiology, and pathology of the patients encountered in the required textbooks.
7. Complete the assigned reading.
8. Apply osteopathic principles and practices to every patient.

Evaluations:
The evaluation of the student is based upon, but not limited to the following:
1. Knowledge of the dermatological disease, pathology, and management for assigned patients.
2. Knowledge of the diagnosis and treatment of common dermatological diseases.
3. Presentation of assigned patients.
4. Completion of paperwork (history and physicals, progress notes, orders, etc.) on assigned patients.
5. Performance of an independent presentation as assigned by the resident or attending physician.
6. Professionalism and rapport with patients, residents, attendings, and ancillary staff.
7. Attendance at lectures, conferences, and meetings.
8. Submission of completed case log and procedure log in New Innovations. Failure to submit the logs will count as failure to complete the clerkship.

KEYS TO SUCCESS:

1. READ, READ, READ!!!!!! It is imperative that you read for this clerkship. If you read the required text, it will make it easier for you to understand the medical management of your patients and to answer questions from your resident and attendings.
2. Know your patients well. Read up on the disease process of your patients, which includes diagnosis and treatment. These practices will help you understand the manifestation of the disease process and why certain treatment modalities are being used.
3. Practice and learn how to orally present patients. This will be a skill that you will use for all rotations and will have to master as a physician.

There is no post-rotation examination for this rotation. At the beginning of the rotation, the physician/mentor should review expectations/guidelines of performance with the student. On the last day of service, the supervising physician should review the student's performance with the student and have the student review the evaluation form before submission.

Additional information is located in the Clinical Education Manual at:
https://www.westernu.edu/media/osteopathic/pdfs/cem.pdf

Documentation

A. Patient Encounters

Students are required to document each patient encounter in a case log on T-Res. Failure to submit the log will count as failure to complete the clerkship for every third- and fourth-year clinical rotation.

B. Procedures

Students are also required to document each procedure performed in a procedure log on T-Res application for every third- and fourth-year clinical rotation. **Fourth year students must document 10 OMM procedures over the academic year that were performed and documented on T-Res as a graduation requirement.**

C. T-Res Encounter/ Procedure Resources

Links:
T-Res help Center - https://resilience.zendesk.com/hc/en-us/articles/200113817-Contact-T-Res-Support
T-Res Intro Guide - https://resilience.zendesk.com/hc/en-us/articles/229416407-T-Res-101-T-Res-tutorial-for-Trainees
T-Res Tutorials - https://resilience.zendesk.com/hc/en-us/sections/200386696-T-Res-Tutorials-Troubleshooting
T-Res IOS link - https://apps.apple.com/ca/app/t-res-2/id1062685078
T-Res Android link - https://play.google.com/store/apps/details?id=com.resiliencesw.tres.android.app

D. Evaluating and Documenting the Entrustable Professional Activities During a Student Rotation

Entrustable Professional Activities, or better known as EPA's, are clinical skills that physicians are entrusted to perform independently. EPAs are tasks or responsibilities that can be entrusted to unsupervised execution by a trainee once he or she has obtained sufficient specific competence. EPAs are independently executable, observable, and measurable in their process and outcomes.

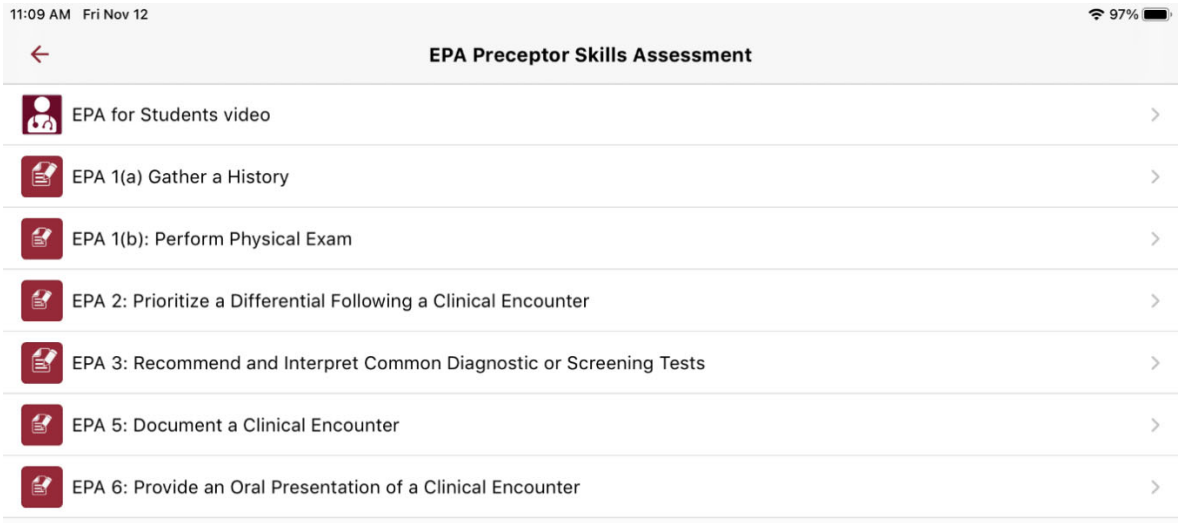
During your rotation you will be required every week to be evaluated on your entrustment to perform a particular clinical skill independently, such as performing a physical exam or documenting a patient encounter in a note. Being entrusted to perform an EPA independently is what is required during your first year of residency. The purpose of this exercise is to allow students to have immediate practical feedback regarding their clinical skills and measure their progress as they develop their ability to be entrusted in performing these skills. As a medical student your "Level of EPA Entrustment" would be expected to be at a beginner's level. Your EPA's will progress in post graduate training, but you will become familiar with the process in your medical school clinical rotations.

Once a week, students will ask a resident (PGY1-5) or and attending to **answer a single question** in the **EPA Preceptor Skills Assessment** that is accessed through the EPA app on COMP Connect using your iPad or iPhone. Following this one question, students will be asked to answer a single self-reflection question. We ask that you select two EPAs in each rotation and repeat these EPAs with the same or different evaluator later in the rotation to see if your skills have improved. You are encouraged to have some of the same EPAs evaluated on different rotations. This method of evaluation will allow you to start a conversation with your evaluator on ways that you can improve your clinical skills, and because it

is “in the moment” of caring for your patient, you will learn practical learning points that will improve your skills and your patient care. Please see the ISSM syllabus for further information.

Directions for Documenting your EPA’s

1. Using your iPad or iPhone, go to the Comp Connect App
2. Under Academics, go to the EPA Preceptor Skills Assessment
3. Select an EPA of your choosing.
4. Present your iPhone or iPad to your evaluator to have him or her click on the bar that corresponds to your level of entrustment as indicated above the bar. Then select “next.”
5. Ask the evaluator to sign.
6. At this point ask your evaluator for any feedback.
7. Answer the question on how you will improve your performance for your next EPA assessment.
8. Enter your full name as you're registered for your WesternU courses.
9. Enter your student ID number.
10. Enter the evaluators name.
11. Enter the evaluators specialty. If the evaluator is a family medicine resident on a surgery rotation, then the evaluator’s specialty would be family medicine.
12. Please select the rotation name. If the name is not present, please select “other”.
13. Please select title of the evaluator. Click “submit.”



Grading

Evaluation/Grading

Grading for your clerkship will be calculated according to the Clinical Education Manual (https://www.westernu.edu/media/osteopathic/pdfs/cem.pdf)

Please note, your attending/preceptor’s evaluation is based on, but not limited to the following:

- Communication skills regarding patients
- Care provided to assigned patients
- Attendance and participation at conferences, morning reports lectures and meetings
- Demonstration of library references on patients
- Completion and accuracy of paperwork on patients (Histories and Physicals, progress notes, treatment plans, presentations, hand-outs, etc.)
- Interaction with attendings, residents, students, medical staff, nursing and ancillary personnel
- General knowledge base and knowledge applied to specific patients
- Motivation in the learning process
- Overall performance, participation, enthusiasm to learn, and effort to improve
- Mid-rotation grades should be given by the intern/resident/attending. The final grade should be given/reviewed with the student on the last day of the rotation.

Evaluation/grading of your performance on the rotation will be based on the following scenarios:

1. **Four-Week In-Person/On-site Clinical Rotation**
   - Clinical rotation site will grade your performance during the rotation (4 credit hours).

2. **Hybrid Clinical Rotation (Part of rotation is in-person and part is virtual)**
   - Clinical rotation site will grade your performance during the rotation (4 credit hours).
   - Student must complete all activities and assignments specified by Department of Radiology faculty to receive final grade.

3. **Two Weeks of Virtual Rotation and Two Weeks On-site Clinical Rotation**
   - Department of Radiology faculty will grade your performance during the 2 weeks of virtual rotation (2 credit hours).
   - Clinical rotation site will grade your performance during 2 weeks of on-site rotation (2 credit hours).
   - Student must attend all mandatory teleconference learning sessions during the virtual portion of the rotation.

4. **Four-Week Virtual Rotation**
   - Department of Radiology faculty will grade your performance during the 4 weeks of virtual rotation (4 credit hours).
   - Student must complete all activities and assignments specified by Department of Department of Radiology faculty to receive final grade
   - Student must attend all mandatory teleconference learning sessions during the virtual portion of the rotation.

Osteopathic Principal and Practices - Osteopathic Manipulation

The principal and practices of osteopathic medicine are interwoven in the practice of every osteopathic physician. Many specialties may utilize the osteopathic principals but not provide an opportunity for osteopathic manipulative medicine. If the provider and specialty lends itself to the use of osteopathic

manipulative medicine you are encouraged to provide this treatment option and document your procedure on T-Res. **As a graduation requirement for the fourth-year medical student at WesternU COMP and COMP/NW you must document in T-Res at least 10 patients over the academic year of patients you have performed OMT during your fourth year of medical school. This requirement could be completed on one rotation or distributed throughout the academic year.**

General Policies

General Policies Policy on Disability Accommodations: To obtain academic accommodations for this rotation, students with disabilities should contact the Harris Family Center for Disability and Health Policy and the Clinical Education Department within 10 days of the beginning of the system. The Harris Family Center for Disability and Health Policy can be reached at (909)469-5441 or via email at disabilityaccommodations@westernu.edu

Remediation Policy: Refer to the Clinical Education Manual. (https://www.westernu.edu/media/osteopathic/pdfs/cem.pdf)

Attendance Policy: Refer to the Clinical Education Manual. (https://www.westernu.edu/media/osteopathic/pdfs/cem.pdf)

Academic Dishonesty: Complete confidence in the honor and integrity of the health professions student and health care professional is essential. Such confidence depends entirely on the exemplary behavior of the individual health care provider in his or her relations with patients, faculty and colleagues. Strict honesty as a personal way of life should be nurtured during the period of education for professional service. The student shall conduct all aspects of his or her life with honor and integrity. This includes accountability to oneself and to relationships with fellow students, future colleagues, faculty, and patients who come under the student's care or contribute to his or her training and growth, and members of the general public. This applies to personal conduct that reflects on the student's honesty and integrity in both academic and non-academic settings, whether or not involving a University sponsored activity. Upon accepting admission to the University, each student subscribes to and pledges complete observance to the Standards of Academic and Professional Conduct as outlined in the University Catalog for each academic program. A violation of these standards is an abuse of the trust placed in every student and could lead to suspension or dismissal. (https://www.westernu.edu/media/osteopathic/pdfs/cem.pdf)

WU INSTITUTIONAL OUTCOMES	Health Professional Education
1. Critical Thinking	The graduate should be able to identify and solve problems that require the integration of multiple contexts when performing patient care.
2. Breadth and Depth of Knowledge in the Discipline/Clinical Competence	The graduate should be able to perform appropriate diagnostic and therapeutic skills, to apply relevant information to patient care and practice, and to educate patients regarding prevention of common health problems.

3. Interpersonal Communication Skills	The graduate should be able to effectively use interpersonal skills that enable them to establish and maintain therapeutic relationships with patients and other members of the health care team.
4. Collaboration Skills	The graduate should be able to collaborate with clients and with other health professionals to develop a plan of care to achieve positive health outcomes for their patients.
5. Ethical and Moral Decision Making Skills	The graduate should be able to perform the highest quality of care, governed by ethical principles, integrity, honesty and compassion.
6. Life-Long Learning	The graduate should be able to engage in life-long, self-directed learning to validate continued competence in practice.
7. Evidence-Based Practice	The graduate should be able to utilize research and evidence-based practice and apply relevant findings to the care of patients.
8. Humanistic Practice	The graduate should be able to carry out compassionate and humanistic approaches to health care delivery when interacting with patients, clients, and their families. They should unfailingly advocate for patient needs.

COMP/AOA CORE COMPETENCIES	Competency: Osteopathic Medical Students are part of an educational continuum that leads to residency and the curriculum provides the foundation for the following outcomes:
1. Osteopathic Philosophy and Osteopathic Manipulative Medicine	Residents are expected to demonstrate and apply knowledge of accepted standards in Osteopathic Manipulative Treatment (OMT) appropriate to their specialty. The educational goal is to train a skilled and competent osteopathic practitioner who remains dedicated to life-long learning and to practice habits in osteopathic philosophy and manipulative medicine.
2. Medical Knowledge	Residents are expected to demonstrate and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remain current with new developments in medicine, and participate in life-long learning activities, including research.
3. Patient Care	
4. Interpersonal and Communication Skills	Residents are expected to demonstrate interpersonal/communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.
5. Professionalism	Residents are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Residents should be cognizant of their own physical and mental health in order to effective care for patients.
6. Practice-Based Learning and Improvement	Residents must demonstrate the ability to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.

7. Systems-based Practice	Residents are expected to demonstrate an understanding of health care delivery systems, provide effective and qualitative patient care within the system, and practice cost-effective medicine.

COMPARISON OF OUTCOMES STANDARDS: WU AND COMP	**WU**	**COMP**
Critical Thinking	1	1,2,3,6
Breadth and Depth of Knowledge in the Discipline/Clinical Competence	2	1,2,3,4,5,6,7
Interpersonal Communication Skills	3	4
Collaboration Skills	4	4
Ethical and Moral Decision-Making Skills	5	1,3,5,6
Lifelong Learning	6	1,2,3,6,7
Evidence-Based Practice	7	1,2,3,6,07
Humanistic Practice	8	3,4,5