

RADT 1621

Radiography Clinical Simulation Experiences
Summer 2023

Please print off all worksheets and bring them to class. Please have #1 and #2 completed on both clinical reasoning worksheets prior to your Clinical Simulation.

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Spring Cohort Summer Clinical Simulation Schedule 2023

CLINICAL SIMULATION 1 : Lower Extremity and Hip	
May 11	12:00pm-3:00pm
CLINICAL SIMULATION 2: L-, T-, and C-Spines, Pelvis	
June 1	12:00pm-3:00pm
CLINICAL SIMULATION 3: Venipuncture and Final Practicum	
June 15	12:00pm-3:00pm

EDUCATIONAL OBJECTIVES

RADIOGRAPHIC POSITIONING

Demonstrate proper positioning and identify radiographic anatomy for the following examinations:

- a. Toes
- b. Feet
- c. Calcaneus
- d. Ankles
- e. Tib/Fib
- f. Knee
- g. Femur
- h. Hip
- i. Pelvis
- j. Spine (C, T, and L)

PATIENT CARE & PRICIPLES OF EXPOSURE

1. Demonstrate knowledge of proper techniques that enhance radiation protection.
2. Demonstrate professional behavior and communication appropriate for patient interaction.
3. Demonstrate critical thinking skills for various radiography situations.
4. Demonstrate proper patient handling for the following situations:
 - a. Infant, Toddler, Adult, and Geriatric Patients with various degrees of illness and pathology.
 - b. Assisting patients into and out of a wheelchairs and patient transfers onto radiographic tables.
 - c. Patient handling while on the radiographic table with the table in the erect and horizontal positions
 - d. Appropriate methods of immobilization
5. Identify and demonstrate the appropriate techniques for venipuncture.

**CLINICAL SIMULATION GRADE SHEET
SUMMER SEMESTER 2023
RADT 1621**

COURSE REQUIREMENT	POINTS AWARDED
Lab #1 Attendance With WSU faculty permission and a defensible cause, a Clinical Simulation may be made up due to absence. All requirements for Clinical Simulation must be met, and the completion of these requirements will be determined by the WSU Clinical Simulation oratory faculty.	30
Mock Exam Peer Evaluation(s) (20 pts per evaluation)	20
Phantom Imaging Evaluation (20 pts per evaluation) AP Foot Axial Calcaneus Oblique Ankle Lateral Knee AP Hip Lat tib/fib	120
Lower Extremity Clinical Reasoning #1	50
Lower Extremity Clinical Reasoning #2	50
Lab #2 Attendance	30
Phantom Imaging Evaluations (20 pts per evaluation) AP Pelvis Outlet View of Pelvis Oblique Right SI Joint Oblique L Spine Lateral T Spine Odontoid & Fuchs	120
Peer Positioning	40
Annotation of Scottie Dog	50
Spine Clinical Reasoning #1	50
Spine Clinical Reasoning #2	50
Lab #3 Attendance	30
Venipuncture	20
Final Practicum (40 pts per exam)	120
TOTAL POINTS AWARDED FOR RADT 1621	1780
ALL assignments should be printed, completed, stapled, and turned in at the final Clinical Simulation oratory experience.	

RADIOGRAPHY CLINICAL SIMULATION #1

Lower Extremity

The following assignments must be completed after completion of the first Clinical Simulation.

COURSE REQUIREMENT	POINTS AWARDED
Attendance	30
Mock Exam Peer Positioning (20 pts per evaluation) -Cross-Table Lateral Hip	20
Phantom Imaging Evaluation (20 pts per evaluation) AP Foot Axial Calcaneus Oblique Ankle Lateral Knee AP Hip Lateral Tib/Fib	Up to 120
Lower Extremity Clinical Reasoning (2)	100

MOCK EXAM PEER EVALUATIONS

Name: _____ Date: _____

Under the direction of your Clinical Simulation instructors, you may be required to mock examinations within the radiography rooms. These mock exams will be viewed by your peers via Clinical Simulation oratory cameras. Peer evaluations will be reviewed and discussed during the Clinical Simulation. During your evaluation, please respond to the following questions:

PEER POSITIONING CROSS-TABLE LATERAL HIP

1. How did the student radiographer(s) demonstrate good patient care? In what ways could the student(s) improve?

2. Did the student radiographer(s) appropriately position their patient for the required examination? Could the patient's position be improved? How did the student radiographer(s) demonstrate their understanding of radiation safety?

3. Did the student radiographer(s) appropriately use the equipment and select an effective technique? Why or why not?

Other Comments:

PHANTOM IMAGING EVALUATION: AP FOOT

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: AXIAL CALCANEUS

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: OBLIQUE (MORTISE) ANKLE

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING: LATERAL KNEE

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING: AP HIP

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: LATERAL TIB/FIB

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

Clinical Reasoning

Lower Extremity Xray (tib/fib)

(Each question worth 5 pts)

Name _____ Date _____

For questions 1 and 2, please refer to your Merrill's Atlas. These two questions should be completed prior to your Clinical Simulation.

1. What is the position of the patient, part, and central ray for this image?
2. Which evaluation criteria are used to determine the image is acceptable?
3. Identify the anatomy demonstrated on the image (at least 10 structures)
4. Evaluate the image for positioning, exposure, artifacts, markers, and evidence of radiation safety. Should this image be repeated and why?
5. Identify the possible pathologies present and be specific (i.e. pleural effusion, atelectasis, COPD, etc.) and indicate the radiographic signs present to identify these pathologies.

Clinical Reasoning

Lower Extremity Xray (cross table lateral hip)

(Each question worth 5 pts)

Name _____ Date _____

For questions 1 and 2, please refer to your Merrill's Atlas. These two questions should be completed prior to your Clinical Simulation.

1. What is the position of the patient, part, and central ray for this image?
2. Which evaluation criteria are used to determine the image is acceptable?
3. Identify the anatomy demonstrated on the image (at least 10 structures)
4. Evaluate the image for positioning, exposure, artifacts, markers, and evidence of radiation safety. Should this image be repeated and why?
5. Identify the possible pathologies present and be specific (i.e. pleural effusion, atelectasis, COPD, etc.) and indicate the radiographic signs present to identify these pathologies.
6. What are possible clinical signs and symptoms experienced by this patient?

7. Identify what lab results may show based on this pathological abnormality.

8. What special radiographic views and positions (i.e. lordotic imaging, decubitus imaging, etc.) may be required to demonstrate the pathology?

9. What special patient care considerations may need to be considered for a patient with this condition (can the patient hold still, stay in position, etc.)?

10. What treatment and follow-up might this patient expect as a result of the abnormality?

RADIOGRAPHY CLINICAL SIMULATION #2

Pelvis
L Spine
T Spine
C Spine

The following assignments must be completed after completion of the first Clinical Simulation.

COURSE REQUIREMENT	POINTS AWARDED
Attendance	30
Mock Exam Peer Evaluation(s) (20 pts per evaluation) Odontoid and Fuchs	40
Phantom Imaging Evaluations (20 pts per evaluation) AP Pelvis Outlet View of Pelvis Oblique Right SI Joint Oblique L Spine Lateral T Spine AP L Spine AP T Spine	Up to 120
Annotation of Scottie Dog	50
Spine Clinical Reasoning (2)	100

MOCK EXAM PEER EVALUATIONS

Name: _____ Date: _____

Under the direction of your Clinical Simulation instructors, you may be required to mock examinations within the radiography rooms. These mock exams will be viewed by your peers via Clinical Simulation oratory cameras. Peer evaluations will be reviewed and discussed during the Clinical Simulation. During your evaluation, please respond to the following questions:

PEER POSITIONING: Odontoid/Fuchs

1. How did the student radiographer(s) demonstrate good patient care? In what ways could the student(s) improve?

2. Did the student radiographer(s) appropriately position their patient for the required examination? Could the patient's position be improved? How did the student radiographer(s) demonstrate their understanding of radiation safety?

3. Did the student radiographer(s) appropriately use the equipment and select an effective technique? Why or why not?

Other Comments:

PHANTOM IMAGING EVALUATION: AP PELVIS

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: OUTLET PELVIS

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: RIGHT OBLIQUE SI JOINT

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: OBLIQUE L-SPINE

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: LATERAL T-SPINE

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: AP L Spine

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

PHANTOM IMAGING EVALUATION: AP T Spine

Name: _____ Date: _____

1. Evaluate your image.

Was the image properly marked and identified?

Was the pertinent anatomy included and positioned correctly?

Was the technique appropriate? Record the kVp and mAs.

Were there artifacts, misalignments, or other features that distracted from the image?

Did you provide evidence of radiation safety (i.e. collimation)?

2. If the initial image was substandard, summarize all changes that were made to successfully repeat the exam.

IMAGE ANNOTATION

Name: _____ Date: _____

With a pen or pencil, outline the “scotty dog” and annotate the pertinent anatomy including the superior articulating process, spinous process, lamina, inferior articulating process, pedicle, transverse process, and zygapophyseal joint.



Image Reference: <http://www.gentili.net/signs/20.HTM>

Clinical Reasoning Spine Xray (cervical)

(Each question worth 5 pts)

Name _____ Date _____

For questions 1 and 2, please refer to your Merrill's Atlas. These two questions should be completed prior to your Clinical Simulation.

1. What is the position of the patient, part, and central ray for this image?
2. Which evaluation criteria are used to determine the image is acceptable?
3. Identify the anatomy demonstrated on the image (at least 10 structures)
4. Evaluate the image for positioning, exposure, artifacts, markers, and evidence of radiation safety. Should this image be repeated and why?
5. Identify the possible pathologies present and be specific (i.e. pleural effusion, atelectasis, COPD, etc.) and indicate the radiographic signs present to identify these pathologies.

Clinical Reasoning Spine Xray (lumbar)

(Each question worth 5 pts)

Name _____ Date _____

For questions 1 and 2, please refer to your Merrill's Atlas. These two questions should be completed prior to your Clinical Simulation.

1. What is the position of the patient, part, and central ray for this image?
2. Which evaluation criteria are used to determine the image is acceptable?
3. Identify the anatomy demonstrated on the image (at least 10 structures)
4. Evaluate the image for positioning, exposure, artifacts, markers, and evidence of radiation safety. Should this image be repeated and why?
5. Identify the possible pathologies present and be specific (i.e. pleural effusion, atelectasis, COPD, etc.) and indicate the radiographic signs present to identify these pathologies.

RADIOGRAPHY CLINICAL SIMULATION #3

Final Practicum Venipuncture

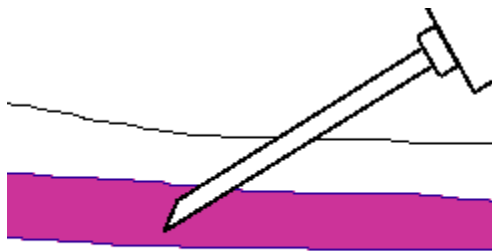
The following assignments must be completed after completion of the first Clinical Simulation.

COURSE REQUIREMENT	POINTS AWARDED
Attendance Students will be simulating venipuncture in the Clinical Simulation. This is a mandatory competency in your clinical log book. Please bring clinical log books to the Clinical Simulation oratory course to receive appropriate signatures.	30
Venipuncture	20
Final Practicum (40 pts per exam)	Up to 120

VENIPUNCTURE PROCEDURE

http://www.geisingermedicalClinicalSimulation.com/catalog/blood_specimens.shtml

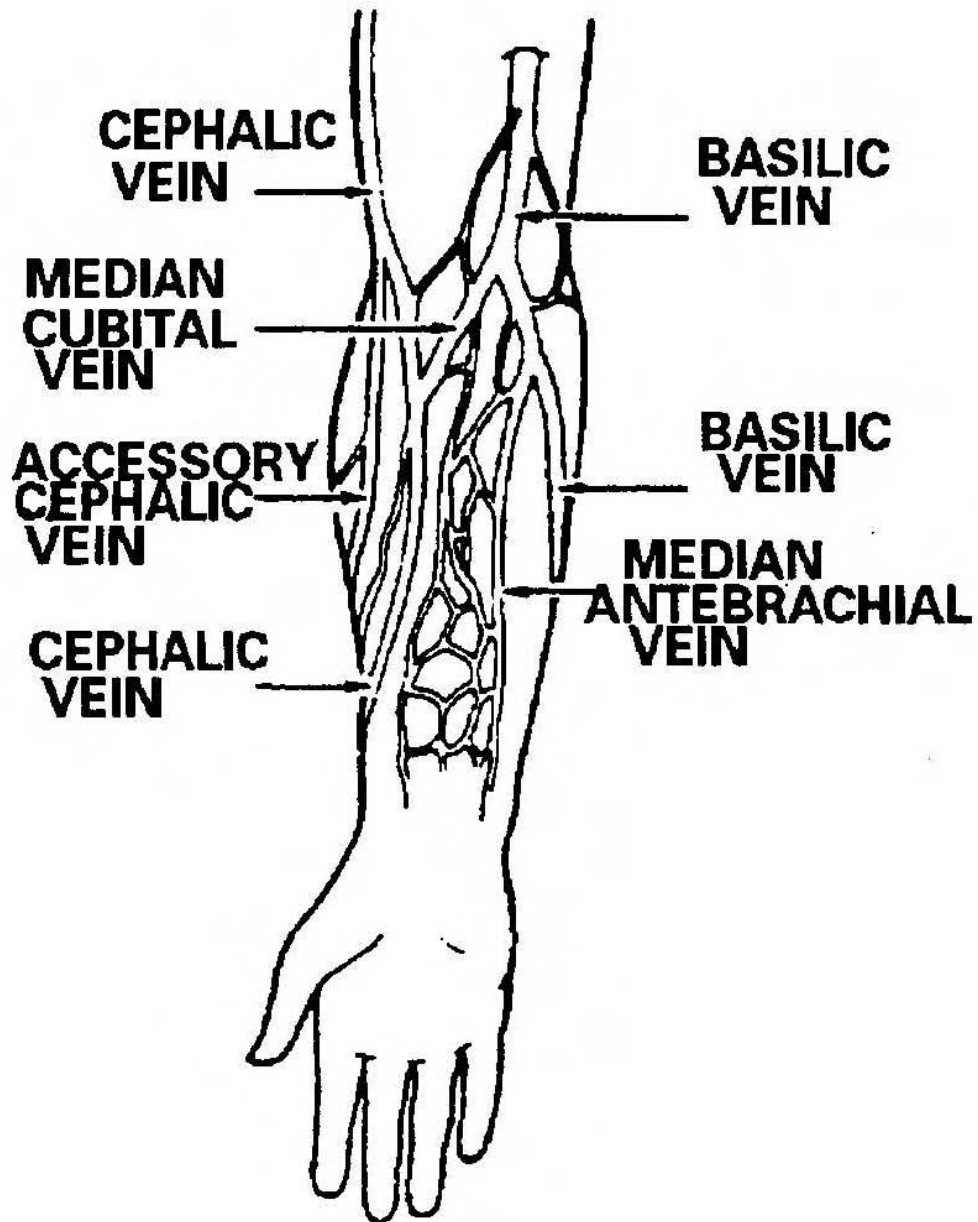
1. Be professional, courteous, and understanding with all patients.
2. The first step to the collection is to positively identify the patient by two forms of identification.
3. Check the requisition form for requested tests, other patient information and any special draw requirements. Gather the supplies that you will need.
4. Position the patient in a chair, or sitting or lying on a bed.
5. Wash your hands.
6. Select a suitable site for venipuncture, by placing the tourniquet 3 to 4 inches above the selected puncture site on the patient.
7. Do not put the tourniquet on too tightly or leave it on the patient longer than 1 minute.
8. Next, put on non-latex gloves, and palpate for a vein.
9. When a vein is selected, cleanse the area in a circular motion, beginning at the site and working outward. Allow the area to air dry. After the area is cleansed, it should not be touched or palpated again. If you find it necessary to reevaluate the site by palpation, the area needs to be re-cleansed before the venipuncture is performed.
10. Ask the patient to make a fist; avoid “pumping the fist”. Grasp the patient’s arm firmly using your thumb to draw the skin taut and anchor the vein. Swiftly insert the needle through the skin into the lumen of the vein. The needle should form a 15-30 degree angle with the arm surface. Avoid excess probing.



11. Remove the tourniquet when the catheter is in place and you identify a “flash”.
12. Complete a flush to assure proper catheter placement before administering contrast or medication.
13. Remove the needle from the patient's arm using a swift backward motion after completion of the procedure.
14. Place gauze immediately on the puncture site. Apply and hold adequate pressure to avoid formation of a hematoma. After holding pressure for 1-2 minutes, tape a fresh piece of gauze or Band-Aid to the puncture site.

15. Dispose of contaminated materials/supplies in designated containers.

Note: The larger median cubital and cephalic veins are the usual choice, but the basilic vein on the dorsum of the arm or dorsal hand veins are also acceptable. Foot veins are a last resort because of the higher probability of complications.



FINAL PRACTICUM

The final practicum is an exam used to determine imaging competency. If possible, the final practicum should be completed individually. All images acquired during the practicum will be stored on the WSU PACS system in the student's file (including repeats). Radiographs will be reviewed by the Clinical Simulation oratory faculty, and each exam will be graded according to the overall image quality and technical factors. Each practicum exam is worth a total of 40 pts.

Repeat of an examination does NOT indicate failure. Students should seek to demonstrate proficiency when repeats occur by exhibiting knowledge of image evaluation criteria in correlation to successful corrective action.

The number and type of exam will be determined by the Clinical Simulation oratory faculty. In general, each student will perform 2-3 examinations. The following practicum grading forms must be completed by the Weber State University Clinical Simulation oratory faculty the day of the student's practicum. Please bring a copy of these forms with you the day of your practicum.

FINAL PRACTICUM

Student Name: _____ Date: _____

Clinical Site: _____

EXAM PERFORMED:

On the first image , were the following evaluation criteria demonstrated?	Points Awarded
Right or Left Marker visualized and accurately placed (2 pts) <i>Yes or No</i>	
Evidence of good radiation protection (lead shielding, collimation, etc.) (2 pts) <i>Yes or No</i>	
Preventable artifacts not present on the radiograph (2 pts) <i>Yes or No</i>	
Correct Film Size Utilized (2 pts) <i>Yes or No</i>	
Correct detent of the machine and alignment of the film (2 pts) <i>Yes or No</i>	
Correct patient positioning and central ray alignment (10 pts) <i>Yes or No</i> <i>Comments:</i>	
Correct technical factors (KvP and mAs) utilized (10 pts) <i>Yes or No</i>	

What technical factors did the student utilize?

kVp _____ mAs _____

If the image was repeated, how many times was the image repeated? _____

What corrective action was observed?

How would you rate the student's overall competency at performing this examination on a scale from 1-10 (1 being unsatisfactory and 10 being above average)? (10 pts)

1 2 3 4 5 6 7 8 9 10

WSU Clinical Simulation oratory Instructor Comments:

WSU Clinical Simulation Instructor Signature: _____ Total Points

Awarded: _____/40

FINAL PRACTICUM

Student Name: _____ Date: _____

Clinical Site: _____

EXAM PERFORMED:

On the first image , were the following evaluation criteria demonstrated?	Points Awarded
Right or Left Marker visualized and accurately placed (2 pts) <i>Yes or No</i>	
Evidence of good radiation protection (lead shielding, collimation, etc.) (2 pts) <i>Yes or No</i>	
Preventable artifacts not present on the radiograph (2 pts) <i>Yes or No</i>	
Correct Film Size Utilized (2 pts) <i>Yes or No</i>	
Correct detent of the machine and alignment of the film (2 pts) <i>Yes or No</i>	
Correct patient positioning and central ray alignment (10 pts) <i>Yes or No</i> <i>Comments:</i>	
Correct technical factors (KvP and mAs) utilized (10 pts) <i>Yes or No</i>	

What technical factors did the student utilize?

kVp _____ mAs _____

If the image was repeated, how many times was the image repeated? _____

What corrective action was observed?

How would you rate the student's overall competency at performing this examination on a scale from 1-10 (1 being unsatisfactory and 10 being above average)? (10 pts)

1 2 3 4 5 6 7 8 9 10

WSU Clinical Simulation oratory Instructor Comments:

WSU Clinical Simulation Instructor Signature: _____ Total Points

Awarded: _____/40

FINAL PRACTICUM

Student Name: _____ Date: _____

Clinical Site: _____

EXAM PERFORMED:

On the first image , were the following evaluation criteria demonstrated?	Points Awarded
Right or Left Marker visualized and accurately placed (2 pts) <i>Yes or No</i>	
Evidence of good radiation protection (lead shielding, collimation, etc.) (2 pts) <i>Yes or No</i>	
Preventable artifacts not present on the radiograph (2 pts) <i>Yes or No</i>	
Correct Film Size Utilized (2 pts) <i>Yes or No</i>	
Correct detent of the machine and alignment of the film (2 pts) <i>Yes or No</i>	
Correct patient positioning and central ray alignment (10 pts) <i>Yes or No</i> <i>Comments:</i>	
Correct technical factors (KvP and mAs) utilized (10 pts) <i>Yes or No</i>	

What technical factors did the student utilize?

kVp _____ mAs _____

If the image was repeated, how many times was the image repeated? _____

What corrective action was observed?

How would you rate the student's overall competency at performing this examination on a scale from 1-10 (1 being unsatisfactory and 10 being above average)? (10 pts)

1 2 3 4 5 6 7 8 9 10

WSU Clinical Simulation oratory Instructor Comments:

WSU Clinical Simulation Instructor Signature: _____ Total Points

Awarded: _____/40