

WASHINGTON ADVENTIST UNIVERSITY
DEPARTMENT OF MEDICAL IMAGING
RADIOLOGIC TECHNOLOGY PROGRAM

CLINICAL POLICY MANUAL

Revised

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INTRODUCTION TO THE CLINICAL HANDBOOK

Welcome to WAU's Department of Medical Imaging, Radiologic Technology Program. You are now a member of an elite group of students. The educational program available to you will prepare you to graduate with excellent professional and technical qualifications.

The Department of Medical Imaging will provide you with a structured program designed to achieve your goals, the resources to enhance your skills, and a guarantee that every opportunity will be made available for you to become successful.

YOUR RESPONSIBILITY WILL BE:

1. to participate in meeting the class, laboratory, and clinical objectives
2. to develop the skills and proficiency to be successful
3. to meet the demands and obligations of a professional workplace.

The four functions of this handbook are as follows:

1. Present the purposes and objectives of the clinical experience.
2. Define the structure, policies, procedures and regulations which will guide your conduct and education in laboratory or department settings.
3. Provide the forms which will be used to evaluate your expertise when performing patient exams.
4. Serve as a reference for information about the Radiologic Technology program.

Because this handbook contains examples of the forms for evaluating your clinical performance, it will be essential for you to have this manual with you during clinical rotations.

WAU's Radiologic Technology Program Director reserves the right, with due notice, to change, modify, revoke, suspend, or terminate, in whole or part at anytime, policies, procedures, regulations or general information stated herein.

I. PURPOSES

- A. The purpose of clinical assignments in WAU's Radiologic Technology program is to allow the student to apply theoretical principles of radiographic procedures, imaging, radiation protection, imaging equipment, patient care, and departmental procedures to practical experience.
- B. During this 23-month training period students will play an active role as learners, and will NOT replace departmental personnel in any area.
- C. Students will be active participants during their assigned clinical rotations, and during their free time are encouraged to become better acquainted with the equipment and exams/procedures performed in their assigned clinical setting. Clinical time is not to be used as study time for classes.

II. ORIENTATION

The purpose of the orientation period is to familiarize the student with departmental procedures, personnel, and locations of supplies.

A. Patient Care

Student should be able to:

- 1. Practice proper hand-washing technique.
- 2. Practice proper body mechanics when handling equipment and/or patients.
- 3. Practice standard precautions, and isolation techniques.
- 4. Respond to patients physical and emotional needs.

B. Equipment manipulation, image acquisition and procedures

Student should be able to:

- 1. Identify the types and sizes of image receptors used for routine procedures on CR and DR imaging systems.
- 2. Properly identify radiographs.
- 3. Properly identify patients.
- 4. Operate locks on radiographic tube.
- 5. Set up various source-to-image distances as instructed.
- 6. Shield patient whenever possible.
- 7. Make exposure.
- 8. Manipulate all radiographic control panels in the general, and fluoroscopic areas of the general radiology department.

C. General Hospital

Student should be able to:

- 1. Locate and perform basic operation of portable radiographic equipment.

2. Locate central supply, lab, patient floors, nuclear medicine, ultrasound, MRI, CT, cath lab, and special procedures.

III. LEVEL OF CLINICAL ASSESSMENT

A. Clinical Participation

1. The student begins his/her clinical participation by first assisting a radiologic technologist in the execution of duties.
2. This participation moves from observation to assisting the radiologic technologist in radiographic examinations. The rate of student progress is dependent upon the ability of the student to comprehend, and perform the various tasks assigned to them.
3. As the student gains experience in various procedures, he/she gradually moves into a competency level.

B. Competency Level

1. The student first obtains didactic knowledge in anatomy, radiographic positioning, and patient care.
2. These cognitive, psychomotor, and clinical skills are then demonstrated in the non-energized lab. During these lab sessions with WAU Radiologic Technology program faculty or assigned clinical instructor, the student is able to see radiographic procedures demonstrated in a small group setting. Student's positioning skills, problem solving and critical thinking ability is evaluated during this time.
3. The student then practices these skills in the radiology department under the direct supervision of a qualified technologist. During this time, **the student must perform required number of practice procedures of each required procedure competency with little or no assistance from the technologist.** The qualified technologist must observe these examinations, and document their successful completion. Documentation is the technologist's signature on the Procedure Signature Form. This must be completed prior to the student performing a simulated lab competency.
4. The student must next perform a simulated lab competency for each required competency procedure. This simulated lab competency is performed after the acquisition of required number of practice procedures, evaluated by WAU Radiologic Technology program faculty or CI and **must have a minimum passing grade of 92%.**
5. When all the above requirements have been successfully completed, the student is then allowed to attempt a clinical competency on a given procedure. This must be performed in the presence of a qualified technologist, who will evaluate the student on their technical and clinical

skills. **It is the student's responsibility to ensure the technologist is aware of the student's intention of demonstrating clinical competency prior to the procedure being performed.**

6. If the student does not attain the minimum passing grade at any point in this process, they must return to the previous step before attempting the next level of competency.

C. Clinical Education Objectives

The student should be able to:

1. Perform and/or assist the radiologic technologist with the radiographic procedures assigned to that room. Level of clinical supervision – WAU Radiologic Technology program faculty, clinical instructor and qualified technologist.
 - a) Evaluate and complete each requisition, including chart work and tracking of patient and procedure
 - b) Demonstrate proper facilities readiness
 - c) Demonstrate proper patient-technologist relationship
 - d) Demonstrate correct positioning skills
 - e) Manipulate equipment effectively
 - f) Show evidence of radiation protection
 - g) Evaluate the radiographic image for:
 1. anatomical parts
 2. proper IR-tube-part alignment
 3. radiographic technical factors
 4. image identification
- 2 All procedure images shall show evidence of radiation protection.

IV. GENERAL OBJECTIVES

A. Patient Handling Tasks

Throughout the student's endeavors within the clinical environment, they are expected to develop the patient handling skills necessary to be a caring and compassionate professional radiographer.

An acceptable level of competence has been attained when the student is able to perform the following patient handling tasks:

1. Drape or gown patient for examination
2. Transfer patients safely to and from stretchers and wheelchairs
3. Use Standard Precautions so as to protect the patient as well as themselves from pathogens
4. Check patient's chart for contraindications in reference to procedure, e.g. allergies, pregnancy
5. Ascertain if the patient is prepared for the procedure

6. Use immobilization devices to immobilize patients during exposure
 7. Explain the x-ray procedure to the patient
 8. Reassure apprehensive parents of pediatric patients
 9. Reassure and calm pediatric patients
 10. Review printed patient instructions on procedures with patient or patient's family
 11. Review patient's clinical history
 12. Check for clarification of conflicting doctor's orders
 13. Receive patients on arrival, i.e. introduce self, obtain patient's name
 14. Give precise and adequate direction to patient concerning procedure
 15. Use proper procedure for identifying patients
 16. Observe care to maintain the IV flow integrity
 17. Change dressings if appropriate
 18. Make notations of significant patient physical or emotional response to procedure
 19. Label specimens
 20. Provide radiation protection for personnel and patient
 21. Inspect for electrical and mechanical hazards and observe rules of safety
 22. Respect the rights and expectations of the patients
 23. Comply with legal requirements pertaining to safe handling of patients
- At no time are students permitted to hold a patient or Image Receptor during x-ray procedures.**

V. CLINICAL INSTRUCTION

Application of theory learned in the classroom and correlation with clinical procedures performed in radiology will be accompanied by the following three methods of clinical instruction.

A. Non-energized Demonstration Lab

This aspect of the clinical program is designed to accomplish the objectives set forth in the academic program, and is arranged to complement the courses of Radiologic Positioning and Procedures, Anatomy & Physiology, and Patient Care.

1. Students will meet with program faculty or CI at the site of their assigned clinical rotation.
2. *Method of instruction:* Instructor demonstration of procedures. Evaluation of non-patient simulated procedures occurs during these lab sessions. Students will also be evaluated on their problem solving and critical thinking abilities using situational role playing.
3. *Rationale:* To serve as the laboratory practice portion of the Radiologic Positioning course. The demonstration lab will allow the student to demonstrate competency in the application of technique manipulation, patient care, radiation protection, problem solving, critical thinking, and interpersonal skills.

B. Radiographic Evaluation

This aspect of the clinical program provides classroom time for the student to report on procedures performed by them as well as observe a fellow student's work. Class discussion and review of radiographic principles is encouraged. Program faculty moderates and directs learning activities.

1. Students will report monthly for Departmentals in which radiographic evaluations will occur.
2. *Method of instruction:* Two to three students will present exams which they have either performed or observed. The radiologist's report of the findings is also included. After presentation, program faculty invites class discussion and comments on the exam presented, and radiologist findings.
3. *Rationale:* The student has an opportunity to play an active role in their academic and clinical training as well as gaining interpersonal communication skills while presenting to classmates.

VI. OVERALL CLINICAL GRADE

The student's clinical grade is made up of the following parts:

1. Clinical Performance Evaluation grade (25%)
2. Attendance (25%)
3. Clinical Competency grade (25%)
4. Faculty Clinical Assessment of Student (25%)

The student's overall clinical grade will be formulated by averaging all of the above. A passing clinical grade is, at minimum, a 75%. Students must maintain a passing clinical grade at all times. Any student who does not achieve a 75% or better for their clinical grade will receive a failing clinical score and will be dismissed from the program

A. Clinical Performance Evaluation Grade

Clinical Performance Evaluation grade is an average of your rotation evaluation sheets.

Students will be evaluated every two weeks or at the end of a rotation by the qualified technologist that they worked with most. At the end of each session, all of the Clinical Performance Evaluation forms will be graded and the average will be the student's Clinical Performance Evaluation grade which is 25% of each student's overall clinical grade.

B. Attendance

Attendance in the clinical setting is vital for the student to develop the skills necessary to become technically proficient in radiologic procedures. Therefore, 25% of the student's clinical grade is determined by the student's attendance. If a student exceeds the allowable number of absences in a session, they will receive a score of zero for their attendance grade. This policy does not affect scheduled university breaks, holidays, or approved leave of absence.

C. Clinical Competency Grade

The Clinical Competency grade will be formulated using the Procedure Competency Evaluation form. Each grade from the student's completed competencies will be averaged together at the end of the session to arrive at the student's Clinical Competency grade.

1. Procedure Competency Completion Regulations

- Any qualified (ARRT registered) technologist may evaluate the student for their Procedure Competency Evaluation.
- Students are NOT allowed to repeat projections while performing a Procedure Competency Evaluation.

The following steps MUST be achieved before the student may attempt an exam for a clinical competency:

1. Didactic: The material must have been covered in procedures courses.
2. Lab: Student must have participated in a non-energized lab with program faculty or CI on that particular exam.
3. Signatures: Student must acquire the required number of signatures on the procedure under direct supervision of a registered technologist. Signatures are given only for procedures performed by the student with little or no assistance and under the direct supervision of a qualified technologist.
4. Lab Evaluation: Student must demonstrate knowledge of the exam to either program faculty or clinical instructors. It is the students responsibility to keep all Lab Competency Evaluations. Students will be asked to present their Lab Evaluation for each procedure to faculty at the time of competency review.
5. Competency: Must be attempted after the preceding steps have been successfully completed. Demonstration of competency may be achieved with any registered technologist. Completed Procedure Competency Evaluation form shall be submitted to program faculty within 1 week of completion.

When the student is prepared to attempt a procedure competency, a Procedure Competency Evaluation form should be given to the registered technologist along with the requisition of the patient. The technologist shall be informed of the student's intention of performing competency prior to the start of the procedure. A procedure already in progress may not be used for a competency. The student shall use his/her markers when performing each projection. If any of the following occur, the student will automatically fail the competency.

1. Failure to use lead markers or use them correctly
2. Repeat film necessary due to technique or positioning error
3. Performing the wrong exam, or an improper exam on a patient
 - a. failure to check armband
 - b. verify doctor's orders in chart
 - c. performing procedure without prescription from doctor
4. Failure to follow radiation protection procedures
5. Inability to perform procedure without assistance

A grade of 92% or higher must be achieved in order to pass each Procedure Competency Evaluation. If a passing grade is not achieved the student must repeat the procedure. The repeat must be performed within 3 months of the failed competency. After 3 months, the signatures and Lab Competency Evaluation must be performed again. **The highest grade that can be obtained on a repeated competency is 92%.**

Once the student has successfully completed a procedure competency, they may perform that exam on patients with indirect supervision.

2. Number of Procedure Competencies Required Each Session

The following is a schedule of the minimum number of procedure competencies the student must complete each session. In addition, the cumulative minimum must be met at the termination of each session.

Session	Minimum # of Comps	Cumulative Comp Total
1	0	0
2	4	4
3	7	11
4	10	21
5	12	33
6	7	40
7	7	47
8	5	52
Total		52

*If the minimum number of competencies is not completed in a session, the student is given 0% for all incomplete competencies.

*No student will graduate unless all of the required procedure competencies are completed.

3. Attendance

Attendance in the clinical setting is vital for the student to develop the skills necessary to become technically proficient in radiologic procedures. Therefore, a portion of the student's clinical grade is determined by the student's attendance. Three (3) points will be deducted from this portion of the student's grade for occurrence of tardiness or leaving early. Unexcused absences will result in a six (6) point reduction off of the attendance grade. This policy does not affect scheduled vacation times, holidays, or other time off approved by program faculty.

D. Faculty Clinical Assessment of Student

At the end of each session the Clinical Coordinator will evaluate the student as to his or her clinical and effective skills. This evaluation will be reviewed by the Program Director and student and will account for 25% of the student's clinical grade.

The following pages contain examples of the evaluation forms used for:

All necessary clinical forms are located at WAU in the Radiologic Technology classroom.

1. Examination/Repeat Log
2. Clinical Performance Evaluation
 - a. Clinical performance (Session 1 & 2, Junior and Senior)
 - b. CT rotation
 - c. Special Procedures
 - d. Equipment Performance Evaluation
3. Faculty Assessment of Student Clinical Performance
4. Signature Record
5. Lab Competency Evaluation
6. Procedure Competency Evaluation
7. Procedure Competency Requirement Log (for student's record)

**Washington Adventist University
Radiologic Technology Program
Examination/Repeat Log**

Date	Procedure	Technologist	Observed (O) Assisted (A) Performed (P)

Repeat Log

DATE	Procedure	Reason for Repeat	Direct Supervisor

Clinical Performance Evaluation (Junior Eval, Session 1 & 2)

Student: _____

Session: _____

Clinical Assignment: _____

Rotation Dates: _____

Technologist/Supervisor: _____

Rotation #: _____

1. Personal Appearance

Did Student meet dress code? Yes No

2. Clinical Participation

Dependable and responsible (punctual/conscientious)? Yes No

Shows interest in exam/procedure being performed? Yes No

Asked questions, eager to learn about exam/procedure? Yes No

Eagerly performs examinations learned? Yes No

Accurately documents exams and repeat exams? Yes No

3. Patient Care

Practices proper handwashing technique/universal precautions? Yes No

Practices proper body mechanics in patient transfer? Yes No

Uses effective communication skills with patients? Yes No

4. IR Handling/Processing

Can identify type and size of IR holders/cassettes? Yes No

Developing knowledge of PACS and CR system? Yes No

5. Equipment Manipulation

Demonstrates ability to move tube/table top? Yes No

Demonstrates proper tube warm-up? Yes No

Manipulate control panel for examinations as instructed? Yes No

Clinical Performance Evaluation—(Junior Eval, Session 3 & 4)

Student: _____

Session: _____

Clinical Assignment: _____

Rotation Dates: _____

Technologist/Supervisor: _____

Rotation #: _____

Please circle one of the following options for each question:
4 = above average, 3 = average, 2 = marginal, 1 = unsatisfactory

1)	Student/Patient relationship Communication, attitude, compassion	4	3	2	1
2)	Student/Radiographer relationship Cooperation, communication, attitude	4	3	2	1
3)	Dependability and responsibility Punctual available, conscientious	4	3	2	1
4)	Personal appearance Grooming, cleanliness, meets dress code			Yes or No	
5)	Personal characteristics Self-confidence, maturity, ethical	4	3	2	1
6)	Attitude toward technologist comments Accepts constructive criticism, direction and suggestion	4	3	2	1
7)	Attitude toward procedure	4	3	2	1
8)	Initiative Performs daily duties without being asked	4	3	2	1
	Tries unfamiliar cases	4	3	2	1
	Eagerly performs exams learned	4	3	2	1
9)	Critical thinking Adapts to situations and exams	4	3	2	1
	Applies organization in procedures & utilized foresight	4	3	2	1
	Ability to correct error on images	4	3	2	1
10)	Clinical ability Confidence of positioning	4	3	2	1
	Confidence in exposure factors	4	3	2	1
	Focuses on fundamentals	4	3	2	1
	Practices proper radiation protection on self and patient	4	3	2	1
	Completes procedures in a timely manner	4	3	2	1
	Accurately documents all exams and repeat exams	4	3	2	1
11)	Quality of images Proper contrast and density (low repeat ratio)	4	3	2	1
12)	Equipment and supplies Careful/professional use of	4	3	2	1
	Knowledge of	4	3	2	1
	Routine stocking of room	4	3	2	1

Clinical Performance Evaluation—(Senior Eval, Session 5-8)

Student: _____

Session: _____

Clinical Assignment: _____

Rotation Dates: _____

Technologist/Supervisor: _____

Rotation #: _____

Please circle one of the following options for each question:

4 = above average, 3 = average, 2 = marginal, 1 = unsatisfactory

- | | | | | | |
|------------|--|---|---|-----------|---|
| 1) | Student/Patient relationship | | | | |
| | Communication, attitude, compassion | 4 | 3 | 2 | 1 |
| 2) | Student/Radiographer relationship | | | | |
| | Cooperation, communication, attitude | 4 | 3 | 2 | 1 |
| 3) | Dependability and responsibility | | | | |
| | Punctual available, conscientious | 4 | 3 | 2 | 1 |
| 4) | Personal appearance | | | | |
| | Grooming, cleanliness, meets dress code | | | Yes or No | |
| 5) | Personal characteristics | | | | |
| | Self-confidence, maturity, ethical | 4 | 3 | 2 | 1 |
| 6) | Attitude toward technologist comments | | | | |
| | Accepts constructive criticism, direction and suggestion | 4 | 3 | 2 | 1 |
| 7) | Attitude toward procedure | 4 | 3 | 2 | 1 |
| 8) | Ability and drive to perform routine procedures independently | 4 | 3 | 2 | 1 |
| 9) | Initiative | | | | |
| | Performs daily duties without being asked | 4 | 3 | 2 | 1 |
| | Tries unfamiliar cases | 4 | 3 | 2 | 1 |
| | Eagerly performs exams learned | 4 | 3 | 2 | 1 |
| 10) | Critical thinking | | | | |
| | Adapts to situations and exams | 4 | 3 | 2 | 1 |
| | Applies organization in procedures & utilized foresight | 4 | 3 | 2 | 1 |
| | Ability to correct error on images | 4 | 3 | 2 | 1 |
| 11) | Clinical ability | | | | |
| | Confidence of positioning | 4 | 3 | 2 | 1 |
| | Confidence in exposure factors | 4 | 3 | 2 | 1 |
| | Focuses on fundamentals | 4 | 3 | 2 | 1 |
| | Practices proper radiation protection on self and patient | 4 | 3 | 2 | 1 |
| | Completes procedures in a timely manner | 4 | 3 | 2 | 1 |
| | Accurately documents all exams and repeat exams | 4 | 3 | 2 | 1 |
| 12) | Quality of images | | | | |
| | Proper contrast and density (low repeat ratio) | 4 | 3 | 2 | 1 |
| 13) | Leadership towards underclassmen | | | | |
| | Sets good example | 4 | 3 | 2 | 1 |
| | Mentor and develop | 4 | 3 | 2 | 1 |
| 14) | Equipment and supplies | | | | |
| | Careful/professional use of | 4 | 3 | 2 | 1 |
| | Knowledge of | 4 | 3 | 2 | 1 |
| | Routine stocking of room | 4 | 3 | 2 | 1 |

Department of Medical Imaging – Clinical Performance Evaluation
CT Rotation: # _____ Session _____
Student _____ Dates _____

1. The student can describe the basic theory of C.T.	Yes	No		
2. The student can explain exams performed, patient preps and contrast media utilized.	Yes	No		
3. The student can explain the scanning procedure from scout to programming of cuts.	Yes	No		
4. The student can demonstrate operation of the console.	Yes	No		
5. The student can demonstrate the manipulation of the table.	Yes	No		
6. The student can demonstrate the performance of a head scan. (with assistance)	Yes	No		
7. The student can demonstrate the performance of an abdominal scan. (with assistance)	Yes	No		
8. The student can demonstrate image retrieval from the computer and transfer to film and/or prepare for dictation.	Yes	No		
9. The student can identify basic anatomy from cross-sectional images.	Yes	No		
			(circle one)	
10. Student/Patient Relationship attitude, communication, concern, pt safety	4	3	2	1
11. Student/Radiographer Relationship cooperation, communication, attitude	4	3	2	1
12. Dependability/Responsibility punctuality, conscientious	4	3	2	1
13. Personal Characteristics self confidence	4	3	2	1
14. Attitude toward technologist comments accepts constructive criticism, direction, and suggestion well	4	3	2	1
15. Attitude toward procedure interest in procedure being performed eager to learn, asks questions, takes initiative	4	3	2	1

Special Procedures/ Angiography Rotation #: _____ Session: _____

Student _____ Dates _____

1. The student can identify and describe the operation of the following equipment

A. Radiographic control panel	Yes	No
B. Automatic injector and its controls	Yes	No

2. The student can load the automatic injector. Yes No

3. The student can position the imaging system and table. Yes No

4. The student can list the basic components of a typical angiographic tray. Yes No

5. The student can prepare the room (including tray set up) for a given angiographic procedure. Yes No

6. The student can select a requested catheter and appropriate guidewire for/during a given procedure. Yes No

7. The student can describe the anatomy and positioning of the various angiographic procedure(s) performed. Yes No

8. The student can demonstrate image retrieval from the imaging system and transfer it to film and/or prepare for dictation. Yes No

9. Student/Patient Interaction (circle one)
 attitude, communication, concern, pt safety 4 3 2 1

10. Student/Radiographer Interaction 4 3 2 1
 cooperation, communication, attitude, accepts direction and suggestion well

11. Dependability/Responsibility 4 3 2 1
 punctuality, conscientious

12. Personal Characteristics 4 3 2 1
 Self-confidence, takes initiative, eager to learn

Faculty Clinical Assessment of Student

Student: _____

Session: _____

Please circle one of the following options for each question:

4 = above average, 3 = average, 2 = marginal, 1 = unsatisfactory

- | | | | | |
|--|---|---|---|---|
| 1. Follows program dress code and maintains a neat appearance. | 4 | 3 | 2 | 1 |
| 2. Follows and respects all WAU, program and hospital policies. | 4 | 3 | 2 | 1 |
| 3. Consistently uses good judgment in clinical setting. | 4 | 3 | 2 | 1 |
| 4. Accepts challenges and does not avoid difficult situations. | 4 | 3 | 2 | 1 |
| 5. Uses clinical time appropriately. | 4 | 3 | 2 | 1 |
| 6. Shows initiative within assigned rotation. | 4 | 3 | 2 | 1 |
| 7. Demonstrates compassion and respect for all patients. | 4 | 3 | 2 | 1 |
| 8. Respects the rights and maintains confidentiality of patients. | 4 | 3 | 2 | 1 |
| 9. Remains within assigned clinical rotation. | 4 | 3 | 2 | 1 |
| 10. Is punctual (daily attendance, lunch breaks, etc...). | 4 | 3 | 2 | 1 |
| 11. Is attentive to patient, hospital staff and classmate needs. | 4 | 3 | 2 | 1 |
| 12. Acts professionally at all times. | 4 | 3 | 2 | 1 |
| 13. Consistently documents repeat examinations | 4 | 3 | 2 | 1 |
| 14. Is self-motivated and demonstrates desire to learn new skills. | 4 | 3 | 2 | 1 |
| 15. Serves as a positive role model for patients and students. | 4 | 3 | 2 | 1 |
| 16. Making appropriate progress in clinical performance. | 4 | 3 | 2 | 1 |
| 17. Completes all work in a timely manner. | 4 | 3 | 2 | 1 |
| 18. Responds positively to faculty and staff remediation. | 4 | 3 | 2 | 1 |
| 19. Demonstrates effective communication. | 4 | 3 | 2 | 1 |
| 20. Demonstrates leadership abilities. | 4 | 3 | 2 | 1 |
| 21. Demonstrates desire to pursue knowledge outside classroom. | 4 | 3 | 2 | 1 |

Department of Medical Imaging
Radiologic Technology Program
Signature Record

Student Name: _____

Procedure: _____

1. Clinical Affiliate: _____

Date of Procedure: _____

Accession Number: _____

Technologist Signature

2. Clinical Affiliate: _____

Date of Procedure: _____

Accession Number: _____

Technologist Signature

Lab Evaluation

Student: _____

Final Grade: Pass or Fail

Procedure: _____

Date: _____

Clinical Affiliate: _____

Faculty Signature: _____

- | | | |
|--|-----|----|
| 1. Did the student use his/her lead markers: | YES | NO |
| 2. Facility readiness - equipment / room: | YES | NO |
| 3. Evaluation of request; including patient history: | YES | NO |
| 4. Professionalism; patient rapport: | YES | NO |
| DID THE STUDENT DEMONSTRATE: | | |
| 5. Correct patient positioning: | YES | NO |
| 6. Radiation Protection: | YES | NO |
| 7. Appropriate grid selection/film size | YES | NO |
| 8. Appropriate selection of exposure factors: | YES | NO |
| 9. Proper Equipment Management: | | |
| a. correct part-tube-film relationship | YES | NO |
| b. correct focal – film distance | YES | NO |
| 10. Critical Thinking: | | |
| a. technical adjustments | YES | NO |
| b. positioning adjustments | YES | NO |

Comments:

CI Signature & Date

Student Signature & Date

*Completed lab evaluation must be submitted to program faculty within 1 week of the date performed.
Competency must be performed within 6 months of completion of lab, after 6 months the lab will expire.

Procedure Competency Evaluation

Student: _____

Final Grade: _____%

Procedure: _____

Date of Procedure: _____

Clinical Affiliate: _____

Accession #: _____

Please check the appropriate box for each question:

3 = Acceptable, 2 = Needs minor improvement, 1 = Needs major improvement, 0 = Unacceptable

Performance Evaluation

0 1 2 3

Performance Evaluation																				0	1	2	3							
Evaluation of request including patient history																														
Professionalism, patient rapport, patient communication																														
Projection																														
kVP & mAs																														
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3										
Patient Positioning																														
Radiation Protection: shielding, collimation																														
Selected appropriate technical factors																														
Correct identification marker																														
Equipment Management: beam alignment																														
Totals																														

Image Evaluation (To be completed by WAU faculty only)

Image Evaluation (To be completed by WAU faculty only)																				0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Anatomy Identification																																							
Critique of image quality																																							
Evidence of radiation protection																																							
Correct marker placement and artifact removal																																							
Critical thinking: technical factors or positioning																																							
Totals																																							

Student Competency Record

Procedure	Signature 1	Signature 2	Lab Comp	Procedure Comp	Faculty Review	Special Instructions
Chest & Thorax						
Chest Routine						PA & Lateral
Chest (wheelchair or stretcher)						AP & Lateral
Chest Later Decubitus		X				Min. of 3 projections
Ribs						Min. of 3 projections
Soft-Tissue Neck		X				Must include lateral projection
Upper Extremity						
Thumb/Finger		X				Min. of 3 projections
Hand						Min. of 3 projections
Wrist						Min. of 3 projections
Forearm						Min. of 3 projections
Elbow						Min. of 3 projections
Humerus						AP or PA & Lateral
Shoulder						Min. 2 projections
*Trauma: Shoulder		X	X			Must include Scapular Y or Axillary
*Multi-Trauma: Upper Extremity	X	X	X			Must include 1 spine, 1 non-shoulder upper extremity & 1 other
Clavicle						2 projections
Lower Extremity						
Toes		X				Min. of 3 projections
Foot						Min. of 3 projections
Ankle						Min. of 3 projections
Patella		X				Min. of 2 projections
Knee						Min. of 3 projections
Tibia-Fibula						AP & Lateral

Femur						AP & Lateral
*Multi-Trauma: Lower Extremity	X	X	X			Must include 1 spine, 1 lower extremity & 1 other
Head						
Skull		X				Min. of 2 projections
Nasal Bones		X				Min. of 3 projections
Mandible		X				Min. of 3 projections
Spine & Pelvis						
Cervical Spine						Min. of 4 projections
Trauma: Cervical Spine		X				Must include a cross-table lateral
Thoracic Spine						Min. of 3 projections
Lumbar Spine						Min. of 4 projections
Sacrum & Coccyx		X				Min. of 3 projections
Pelvis						AP
Hip						Min. of 2 projections
Cross-Table Lateral Hip						Min. of 2 projections
Abdomen						
Abdomen Supine (KUB)						KUB
Abdomen Upright						Must include abd upright & KUB
Abdomen Decubitus						Left lateral abdomen decubitus
Fluoroscopy Studies						
Upper GI Series		X				Min. of 2 projections
Esophagus		X				Min. of 1 projection
Small Bowel		X				Min. of 2 projections
Cystography/ Cystourethrography	X		X			No images needed
ERCP	X		X			No images needed
Surgical Studies						

C-Arm: Orthopedic						Must obtain more than one projection
C-Arm: Non-Orthopedic						Must operate C-arm around sterile field
Mobile Studies						
Chest						Min. of 1 projection Grid recommended
Abdomen						Min. of 1 projection Must use grid
Orthopedic: Extremity		X	X			Min. of 2 projections PACU Hip or Knee
Pediatric						
Chest Routine			X			AP or PA and Lat. 2 years old or less
Mobile Study		X	X			Min. of 1 projection
Geriatric Patient						
Chest Routine	X	X	X			PA and Lat. 65+ years old
Upper Extremity	X	X	X			65+ years old
Lower Extremity	X	X	X			65+ years old

* Trauma is considered a serious injury or shock to the body. Modifications may include variations in positioning, minimal movement of the body part, etc.
X, not required for procedure competency.

VII. NON-ENERGIZED LABORATORY

A. General Rules and Regulations

All students participating in laboratory instruction must abide by the following rules and regulations.

1. All accessory equipment will be properly stored at the end of each class.
2. Students must utilize all locks when moving the x-ray tube, table, and/or bucky
3. Safety for all students, faculty and staff must be maintained at all times.

Once the student successfully completes the non-energized lab class, they will then be able to perform the procedure under DIRECT SUPERVISION of a qualified technologist in assigned clinical rotation.

VIII. JUNIOR CLINICAL EVALUATIONS

At the end of the first year, all students will be evaluated on their clinical abilities. This evaluation process will consist of:

1. Student self-evaluation (see section IX)
2. Evaluation from both program director and clinical coordinator

IX. STUDENT SELF-EVALUATION

The student will evaluate themselves as to their strengths and weaknesses in the clinical, didactic, and affective areas. The student will complete a total of three self-evaluations during the program. The first is completed at the beginning of the first year. The second is completed at the end of the first year. The third is completed at the end of the second year. These evaluations are intended to assist the student in determining their own strengths and weaknesses, and to help program faculty in tracking the student's progress in overcoming their weaknesses, and use their strengths to the best of their ability.

The following pages contain examples of student self-evaluations.

**Washington Adventist University
Department of Medical Imaging
Radiologic Technology Program**

INITIAL SELF-EVALUATION

Student Name: _____ Date _____

What personal characteristics do you feel are necessary to be an effective and professional radiographer?

Which of the above characteristics do you feel you possess now?

Which characteristics do you feel you need to work on during the next two years?

**Washington Adventist University
Department of Medical Imaging
Radiologic Technology Program**

STUDENT SELF-EVALUATION

Name: _____

Date: _____

Please evaluate your performance in the field of radiologic technology based on your perspective of yourself. This evaluation will be used by WAU faculty for the purpose of helping you in your weaker areas. In no way will your comments be calculated into a numerical grade or be used in a negative way on any evaluation. It is used ONLY to improve the quality of your education.

STRENGTHS:

WEAKNESSES:

At this point in your training, indicate how you perceive yourself based on the following criteria (check one):

_____ I feel that I am able to perform above acceptable standards in most situations

_____ I feel that I am able to perform acceptable standards in most situations

_____ I do not feel comfortable performing acceptable standards in most situations

Student Signature: _____

**Washington Adventist University
Department of Medical Imaging
Radiologic Technology Program**

STUDENT FINAL SELF-EVALUATION

Student Name: _____

Date: _____

As a graduate of Washington Adventist University's Radiologic Technology Program, you are entering into a field in which the expectations for professionalism and technical ability are extremely high. It is therefore beneficial for you and our program to assess your strengths and weaknesses in the field of medical imaging. We would like an honest evaluation of yourself both technically and professionally.

STRENGTHS:

WEAKNESSES:

At this point in your training, indicate how you perceive yourself based on the following criteria (check one):

_____ I feel I am able to perform above acceptable technical and professional standards in most situations.

_____ I feel that I am able to perform at acceptable technical and professional standards in most situations

_____ I do not feel comfortable performing at acceptable technical and professional standards in most situations.

Student's signature: _____

X. FINAL COMPETENCY EVALUATION

The final step in evaluating the clinical competency of a student is conducted by the Program Director. A student is eligible for the Final Competency Evaluation after successfully completing all of the required procedure competencies. Scheduling of final competencies will be done by the program director. At this time, the student conducts the procedures (outlined below) with complete control over the patients care and safety, procedure/exam, utilizing proper technical factors, manipulation of equipment and supplies, and completion of the tracking of the films and requisition.

The Program Director may be requested to assist with spot films or other supportive activities, but will primarily be an observer. The student will demonstrate a minimum of 92% efficiency with each separate exam.

The Program Director will choose one exam from each category listed below for the student to complete. A total of 5 final competencies will be performed. If the student does not receive the minimum of 92% on any of the exams, they will be required to perform that procedure competency again before retaking the final competency.

One procedure from each category must be performed.

1. **Chest:** PA and Lateral, Portable, Decubitus, or Pediatric
2. **Abdomen:** KUB, Abd-2 view, or Abdomen complete
3. **Contrast Study:** UGI, Esophagram
4. **Extremity:** hand, wrist, forearm, humerus, shoulder, foot, ankle, lower leg, knee, femur, or hip
5. **Spine/Skull:** C-spine, T-spine, L-spine, skull, sinuses, facial bones, or nasal bones

XI. EXIT INTERVIEW

During the student's senior year, they should be developing a portfolio to present to the program faculty at the end of their senior year. The portfolio must include one exam from each of the categories listed above for final competency. Upon completion of all final competencies, the student will present their portfolio at a time scheduled by the program director.

Students should be able to:

1. Demonstrate knowledge of anatomy
2. Demonstrate knowledge of radiographic positioning
3. Demonstrate knowledge of technical factors
4. Discuss indications and contraindications for exam
5. Present patient history
6. Report radiologist's findings
7. Use correct terminology
8. Demonstrate critical thinking on technique or positioning adjustments

XII. CLINICAL ROTATION OBJECTIVES

Upon completion of clinical rotation in the following areas, the student should be able to demonstrate knowledge, skills, and understanding necessary to:

A. Surgery Objectives

1. Follow proper dress code including scrubs, cap, foot covering, and mask
2. Maintain sterile field
3. Familiarity with the orientation of the surgical suite
4. Familiarity with correct film used and processing for OR procedures
5. Hook-up, start-up, and orient the C-arm
6. Manipulate C-arm to perform AP and Lateral projections
7. Print or expose film from C-arm
8. Perform procedures using cystography equipment
9. RIS system

B. Portable Objectives

1. Patient Care
 - a. Safely transport and transfer patients
 - b. Check patient for correct identification
 - c. Correctly care for patients with infectious diseases
 - d. Provide safe storage for patient's personal possessions which may be removed during the exam
 - e. Communicate with patient in a concerned and professional manner
 - f. Explain and instruct patient regarding procedures to be performed
 - g. Provide for patient's modesty and comfort using sheets, pads, sponges, etc.
 - h. Practice good medical asepsis to prevent the spread of disease by using correct handwashing procedures

- after each patient and routinely clean equipment between patients.
2. Accurately provide a detailed description of the mobile radiographic equipment to include:
 - a. focal spot sizes
 - b. heat capacity or tube rating
 - c. unit output capacity and type (mA and kVp)
 - d. current phase (single, multi phase)
 - e. 110v power source, conventional, battery operated or capacitor discharge
 - f. type of rectification
 - g. special features or accessories
 3. Perform and evaluate a portable radiographic examination in terms of:
 - a. Interpretation of radiographic request
 - b. Positioning accuracy
 - c. Identification of anatomy
 - d. Collimation
 - e. Technical factors
 - f. Radiographic quality
 4. Select proper technical factors for routine situations and make appropriate adjustments for the non-routine examination. The factors to be selected include:
 - a. kVp
 - b. mA
 - c. time
 - d. SID
 - e. AEC
 5. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, patient immobilization devices, filters

C. Emergency Department and Diagnostic Radiographic Rooms Objectives

1. Patient Care and Safety. (as previously outlined)
2. Perform and evaluate radiographic exams to include:
 - a. Radiographic image quality
 - b. Accuracy of interpretation of requisition
 - c. Correct positioning of anatomical parts
 - d. Correct use of lead markers and identification
 - e. Correct beam limitation
 - f. Correct selection of technical factors
3. Select the proper technical factors for routine situations and make appropriate adjustments for non-routine examinations. The factors to be selected include:
 - a. kVp

- b. mA
 - c. time
 - d. SID
 - e. AEC
4. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters
 5. Describe the type of x-ray tube and equipment in use by listing:
 - a. Manufacturer
 - b. Focal spot size
 - c. Heat capacity or tube rating chart
 - d. Generator size and type (mA and kVp)
 - e. Current phase (single, multi)
 - f. Type of rectification
 - g. Upright or table bucky
 6. Explain emergency room protocol pertaining to radiology

D. Fluoroscopy Objectives

1. Patient Care and Safety (as previously outlined)
2. Perform fluoroscopic contrast studies and evaluate in terms of:
 - a. Radiographic and diagnostic quality
 - b. Accuracy of interpretation of request
 - c. Correct positioning of anatomical parts
3. Correct use of lead markers and identification
4. Correct beam limitation
5. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
 - a. kVp
 - b. mA
 - c. time
 - d. SID
 - e. AEC
6. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters
7. Describe the type of x-ray tube and equipment in use by listing:
 - a. Manufacturer
 - b. Focal spot size
 - c. Heat capacity or tube rating chart
 - d. Generator size and type (mA and kVp)
 - e. Current phase (single, multi)
 - f. Type of rectification
 - g. Special features of various radiographic/fluoroscopic units (i.e., video tape, spot film devices, digital imaging, etc.)

8. Properly use the various imaging recording devices
9. Prepare contrast agents for various prescribed studies (i.e., barium sulfate, iodinated compounds)
10. Explain various examination preparation procedures, and the importance of a well-prepared patient for specific contrast studies.

E. Evening Rotation Objectives

1. Patient Care and Safety (as previously outlined)
2. Perform and evaluate radiographic exams to include:
 - i. Radiographic image quality
 - ii. Accuracy of interpretation of requisition
 - iii. Correct positioning of anatomical parts
 - iv. Correct use of lead markers and identification
 - v. Correct beam limitation
 - vi. Correct selection of technical factors
- b. Experience the type of exams, patient flow, and paper work during the afternoon change of shift, and evening hours through an increase in work flow with Emergency Room, outpatients and more one on one time with the Technologists.
- c. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
 - i. kVp
 - ii. mA
 - iii. time
 - iv. SID
 - v. AEC
- d. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filter

F. Heart Cath Lab Objectives

1. Patient Care and Safety (as previously outlined)
2. Heart Cath Lab procedures
 - a. Distinguish between a right and left heart catheterization
 - b. Understand coronary angioplasty indications and outcomes
 - c. Placement of electrodes and hook up of EKG monitors
 - d. Recognize the left and right coronary arteries on fluoro and cine
3. Heart Catheterization equipment and accessories

- a. Load and unload the pressure injector for left ventricular grams
 - b. Assemble and flush pressure transducers for hemodynamic monitors
 - c. Understand loading and developing of 35mm cine film
 - d. Safe and correct usage of IV infusion pumps
4. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screen, collimation, immobilization devices and three cardinal principles of x-ray – time, distance, shielding

G. CT Objectives

1. Patient Care and Safety (as previously outlined)
2. Describe the capability of the software/equipment used in terms of:
 - a. Programs available
 - b. Applications of programs to procedures performed
3. Equipment and accessories located in each of the following areas:
 - a. Scan room
 - b. Control room
 - c. Computer room
 - d. Immobilization devices
 - e. Accessory parts needed to obtain special positions
4. Basis of CT
 - a. X-ray production
 - b. Data acquisition
 - c. Data processing
 - d. Image display
 - e. Windows and levels
5. Evaluate patient scanning/studies in terms of:
 - a. Patient positioning
 - b. Pediatric scanning
 - c. Identifying range and landmarks
 - d. Scout scans
 - e. Axial scans
 - f. Dynamic scans
6. Evaluate image quality in terms of:
 - a. Patient factors
 - b. Positioning factors
 - c. System factors
 - d. Technique factors
 - e. Resolution factors

H. MRI Objectives

1. Patient Care and Safety (as previously outlined)
2. Describe the capability of the software/equipment used in terms of:
 - a. Programs available
 - b. Applications of programs to procedures performed
3. Equipment and accessories located in each of the following areas:
 - a. Scan room
 - b. Control room
 - c. Computer room
 - d. Immobilization devices
 - e. Accessory parts needed to obtain special positions
4. Basis of MRI
 - a. X-ray production
 - b. Data acquisition
 - c. Data processing
 - d. Image display
 - e. Windows and levels
5. Assist in positioning and scanning of patients
6. Evaluate MRI studies in terms of:
 - a. Patient factors
 - b. Positioning factors
 - c. System factors
 - d. Technique factors
 - e. Resolution factors

I. Mammography Objectives

1. Patient Care and Safety (as previously outlined)
2. Radiographic Equipment and Accessories
3. Perform mammographic studies and evaluate in terms of:
 - a. Radiographic and diagnostic quality
 - b. Accuracy of interpretation of request
 - c. Correct position of anatomic part
 - d. Correct use of markers and identification information
 - e. Correct beam limitation devices, and filters
4. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
 - a. kVp
 - b. mA
 - c. time
 - d. SID
 - e. AEC

5. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters

J. Nuclear Medicine Objectives

1. Patient Care and Safety (as previously outlined)
2. Explain how doses are drawn up, their activity calculated, and how “HOT” trash must be handled
3. Accurately label all films with information required for each study, especially L and R orientation
4. Describe various equipment needed to perform nuclear medicine studies
5. Explain basics of nuclear medicine
 - a. Observe correct radiation safety standard for patient and personnel
 - b. Define radionuclide and radiopharmaceutical

K. Radiation Therapy Objectives

1. Patient Care and Safety (as previously outlined)
2. Under direct supervision, assist in the operation of the linear accelerator and demonstrate in-out, and up-down movements of table.
3. Operate gantry clockwise or counter clockwise as indicated
4. Proper use of block tray and blocks for any posterior treatment
5. Explain basics of radiation therapy in terms of:
 - a. Interpreting patient’s treatment chart
 - b. Define rad, rem, fractionation, protocols
6. Assist in patient set-ups

L. Special Procedures Objectives

1. Patient Care and Safety (as previously outlined)
2. Describe the type of x-ray tube and equipment in use by listing the:
 - a. Manufacturer
 - b. Focal spot size
 - c. Heat capacity or tube rating chart
 - d. Generator size and type (mA and kVp)
 - e. Current phase (single, multi)
 - f. Type of rectification
 - g. Special features (i.e., power injector, automatic film changer, film magazine)
3. Assist with preparation of power injector
4. Under direct supervision, properly prepare sterile trays for procedures
5. Properly operate automatic film changer, film magazines, and exposure program format

6. Assist with angiography studies in terms of:
 - a. Radiographic and diagnostic quality
 - b. Accuracy of interpretation of request
 - c. Correct position of anatomic part
 - d. Correct use of markers and identification information
 - e. Correct beam limitation devices, and filters
 - f. Selection of technical factors
 - g. Properly hang films for radiologist
 - h. Properly prepare jackets for each vessel studied
7. Correct selection of exposure factors for routine exams and appropriate adjustments for non-routine exams. The factors to be selected include:
 - a. kVp
 - b. mA
 - c. time
 - d. SID
 - e. AEC
8. Provide radiation protection for patients and personnel by utilizing lead aprons, gloves, screens, collimation, immobilization devices, and filters

M. Ultrasound Objectives

1. Patient Care and Safety (as previously outlined)
2. Explain basis of ultrasound in terms of:
 - a. Transducer
 - b. Sound-wave production
 - c. Multi-image camera
3. Describe the following:
 - a. Mode
 - b. Filter
 - c. Auxiliary
 - d. Gain
 - e. Depth
 - f. Image reverse
4. Perform:
 - a. Images of transverse planes
 - b. Images of sagittal planes
 - c. Gallbladder study with minimal supervision
5. Identify areas of interest

Department of Medical Imaging
Radiologic Technology Program

Student Acknowledgement

I, _____, have received a copy of the radiologic technology program Student Handbook, Clinical Policy Manual and WAU Student Handbook. I understand all university and radiologic technology program policies and procedures and will abide by them. I understand that failure to abide by said policies and procedures will result in my dismissal from the radiologic technology program. I understand that I will be informed of any changes to policies and procedures before a change will go into effect.

Student Signature

Date