

**Reading Hospital School of Health Sciences
Medical Imaging Program**

**Clinical Seminar Manual 2021-2022
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Clinical Assignments and Attendance

It is necessary that students fulfill and take an active role in all clinical components in order to satisfactorily prove clinical competence and to perform entry-level tasks upon graduation. The process by which this will be achieved is through clinical assignments to different clinical education areas. Orientation to each clinical setting is provided in conjunction with an observation period. In order to direct and assist clinical assignments, students are provided learning objectives for each Clinical Seminar course at the beginning of each academic semester. Students are evaluated on his/her ability to perform the objectives throughout the semester.

Areas of Clinical Assignment

Students may be assigned to the Main Diagnostic Department, Emergency Department, Surgical Suite (OR), Mobile Radiography (Portables), Spring Ridge Imaging Center, Exeter Imaging Center, Berkshire Heights Imaging Center, Gateway Imaging Center, Douglassville Imaging Center, Leesport Imaging Center, and Radiologists/Imaging Informatics. Students may also have opportunities to be assigned to the advanced imaging areas.

Clinical Assignment Index

I. Possible Level I Clinical Assignments (Semesters II-IV)

Room/Area

Main Department Radiographic Rooms 2 and 4

Emergency Department

Emergency Department Portables

Spring Ridge Imaging Center

Exeter Imaging Center

Berkshire Heights Imaging Center

Gateway Imaging Center

Douglassville Imaging Center

Leesport Imaging Center

Fluoroscopic Suite Rooms 5 and 7

Surgical Suite (OR)

Mobile Radiography (Portables)

Radiologist/Imaging Informatics

Advanced Imaging Modalities:

- Computerized Tomography
- Magnetic Resonance Imaging
- Radiation Oncology
- Ultrasound
- Mammography
- Nuclear Medicine

III. Possible Level II Clinical Assignments (Semester V-VII)

Room/Area

Main Department Radiographic Rooms 2 and 4

Emergency Department

Emergency Department Portables

Spring Ridge Imaging Center
Exeter Imaging Center
Berkshire Heights Imaging Center
Gateway Imaging Center
Douglassville Imaging Center
Leesport Imaging Center
Fluoroscopic Suite Rooms 5 and 7
Surgical Suite (OR)
Mobile Radiography (Portables)
Radiologist/Imaging Informatics
Advanced Imaging Modalities:

- Computerized Tomography
- Interventional Radiology
- Magnetic Resonance Imaging
- Radiation Oncology
- Ultrasound
- Mammography
- Cardiac Cath Lab
- Nuclear Medicine
- Radiologist Assistant

Absence or Tardiness to Clinical Seminar Educational Assignments

Details pertaining to absence or tardiness from Clinical Seminar educational assignments can be found in each Clinical Seminar syllabus.

Clock-In/Out Requirement for Clinical Assignments

Each day, students are expected to personally clock in and clock out from clinical assignments using the Trajecsyst software system from a computer and/or cell phone **in the assigned clinical area**. If the student's clinical assignment is at an outpatient imaging center, the student must use their cell phone to perform the clock in/out process once he/she has arrived in the radiographic room. When using a cell phone, Students **must** allow their location to be recorded by the Trajecsyst software system.

Students should clock in no earlier than 15 minutes before his/her clinical assignment begins or clock out no later than 15 minutes after his/her clinical assignment ends unless prior authorization from a MI Program faculty member was obtained.

If a student is absent (full or partial day) from a scheduled clinical assignment, the student must file a Time Exception for the date of absence selecting absence as the reason for the time exception along with a comment stating the hours he/she was absent.

Repeatedly failing to clock in/out and filing a Time Exception without faculty approval, having another student clock in/out, or failing to share location will result in a disciplinary warning and will be documented as a tardiness/absence event. Repeated non-compliance will result in disciplinary action up to and including dismissal from the program.

If at any time a student identifies technology problems prohibiting him/her to properly clock-in/out as identified in this policy, he/or she should contact the Program Secretary at 1-484-628-0200 from the clinical area phone to report his/her arrival or departure from the clinical area. If the Program Secretary is unavailable, the student must leave a voicemail.

Leaving/Returning During a Clinical Seminar Educational Assignment

Students are expected to communicate to faculty any time they need to leave their area of educational assignment. If this occurs during a clinical assignment, the following must also occur:

- Personally notify the clinical area supervising technologist **and**
- Personally contact the Clinical Seminar Faculty by phoning the Clinical Seminar Faculty Office at 1-484-628-8904 or via Vocera x3300 **and**
- Clock out using the Trajecsyst software system **and**
- Upon return to scheduled clinical assignment, personally contact the Clinical Seminar Faculty by phoning the Clinical Seminar Faculty Office at 1-484-628-8904 or via Vocera x3300 and clock back in using the Trajecsyst software system and

Expectation is that students remain in their educational assignment as scheduled unless previously approved by Clinical Seminar faculty. Any student that leaves a clinical assignment early or without approval will be addressed by faculty and documented on corresponding Clinical Seminar Progress Reports. Repeated non-compliance will result in disciplinary action up to and including dismissal from the program.

Mealtime and Breaks During Clinical Assignments

Students are provided a 30 minute mealtime break during each clinical assignment. Student meal time will coincide with that of the clinical area of assignment and will be determined by the supervising technologist. Students are expected to promptly return to assignments following mealtime breaks.

Evening Clinical Assignments

- Level II students are assigned to evening educational assignments for the purpose of gaining additional clinical experience in the care and handling of traumatically injured critically ill and pediatric trauma cases.
- Hours of evening clinical assignments:
 - 11:30 a.m. to 8:00 p.m. or 12:30 p.m. to 9:00 p.m.
- Students are assigned to evening clinical assignments on a rotational basis.
- Students scheduled for evening clinical assignments are supervised by a qualified radiographer.
- Scheduled clinical assignments are considered part of the student's educational assignment. Any circumstances that result in a student being involved in didactic or clinical activities for greater than 40 hours per week or greater than 10 hours per day are voluntary on the student's part. Educational assignments in total typically do not exceed 40 hours per week (academic and clinical combined).

Supplementary Clinical Experience

All students are encouraged to take advantage of opportunities for supplementary experience in clinical areas. Supplementary clinical experience may be scheduled during day, evening and weekend hours when the School of Health Sciences (SHS) is in session (supplementary clinical

time will not be scheduled during program/school closures or during finals/variable clinical week). In order to best meet the needs of all students involved, arrangements for supplementary clinical experience are made through the Clinical Coordinator. Note: A minimum of 2 hours must be scheduled in the clinical area.

- Once scheduled, students must clock-in/out following the 'Clock In/Out Requirement For Clinical Assignments' policy
- If a student wants to extend the length of time previously scheduled and approved, further approval must be obtained from the on-call clinical seminar faculty member (evening and/or weekend hours) or the Clinical Coordinator (daytime hours).
- Any non-emergent changes to arrangements should provide sufficient time for other students to take advantage of vacated clinical areas.
- Students failing to arrive for scheduled supplementary clinical experience will lose the privilege of early-scheduling for supplementary clinical time for the remainder of that semester and the subsequent semester.

Supplementary time requested will be considered by the Clinical Coordinator on an individual basis. Decisions of availability will be made based on previously scheduled clinical assignments.

Procedure to Voluntarily Schedule Supplementary Clinical Experience

1. Contact the Clinical Coordinator in person, at 1 484 628 0235 or via e-mail. For evening or weekend hours, contact needs to be made at least one week in advance.
2. Communicate the date(s), time(s) and area(s) you wish to schedule.
3. The Clinical Coordinator will either:
 - provide approval for the dates, times and areas requested or;
 - provide alternative opportunities if requested dates, times and areas are already scheduled by other students.

Performance Mandated Supplementary Clinical Experience

- If, based upon student clinical performance records it is determined that a student is in need of supplementary clinical experience, free time on academic class days will be scheduled in an available clinical area which supports performance improvement. At no time will students be scheduled for assignments which exceed 10hrs/day or 40hrs/week. The Clinical Coordinator will oversee scheduling and student progress.

Compensatory Time

In the interest of continuity of patient care, students actively participating in a procedure are encouraged to remain through its completion. If a student is involved in a radiographic procedure expected to extend beyond scheduled hours of clinical assignment (meal or end of day), the student is to notify any clinical seminar faculty member.

- If the scheduled meal break is disrupted, the student will be reassigned a 30 minute mealtime break when the procedure is completed. Alternatively, the student may request early dismissal from the assigned clinical area on that day.
- If it is expected that a procedure will extend beyond the scheduled time of dismissal, the student must notify supervising Clinical Seminar Faculty at the time of occurrence and a

"Compensatory Time Submission" form should be completed and submitted to the supervising technologist for signature within one week of the occurrence.

- The student submits the form, complete with RT signature, to the Clinical Seminar Course Coordinator, who will make compensatory time arrangements.
- Using an hour-for-hour format, appropriate arrangements will be made for an early dismissal within that clinical assignment.
- The form will then be entered into the student's file.

In the unusual circumstance that an early dismissal cannot be arranged within that clinical assignment, compensatory time will be recorded for future use within the same semester, using an hour-for-hour format. This time will be recorded in the student's permanent file. Requests for use of this compensatory time must be

- scheduled in advance
- approved by the Clinical Seminar Course Coordinator
- used within the same/similar clinical area.

Procedure for Documentation & Use of Compensatory Time

1. Notify a supervising Clinical Seminar Faculty member that the procedure will extend beyond dismissal time.
2. Complete a Compensatory Time Submission Form to include the time, date, and full name of the student, and reason for additional time beyond dismissal time. This form may be obtained in the C-1 Clinical Seminar Faculty Office.
3. Have the supervising technologist sign the form.
4. Submit the signed form to the Clinical Seminar Course Coordinator.
5. Make arrangements with the Clinical Seminar Course Coordinator for early dismissal within that clinical assignment.
 - a. If early dismissal within that assignment cannot be arranged. The compensatory time must be scheduled and approved for a later date within the same/similar clinical assignment area (if possible) and within the same semester.
6. When using compensatory time, students must clock out using the Trajecsys software system from a computer in the clinical assignment area.

Revised 4/26/19; 8/7/2019, 8/2020, 4/2021, 8/2021

Clinical Dress Code and Expectations

Whether in the classroom, hospital, cafeteria, lab suite or clinical setting, students enrolled in the Medical Imaging program are expected to present a professional image and dress in a manner that reflects attention to safety, respect for self and others, cleanliness and preparedness for educational assignment. The Faculty or Director will address infractions of the dress code on an individual basis.

UNIFORM

Students are required to wear the designated Medical Imaging Program uniform. Uniforms may be purchased in one of two ways: by visiting the local CBL store, or through the CBL website as outlined below.

CBL (brick and mortar store)

4634 Penn Ave, Sinking Spring, PA 19608
Phone (610) 670-7840 for hours of operation.

CBL orders via website

1. Log onto Edvance and click on 'Medical Imaging Uniforms'
 - a. Required uniforms will appear on this page. **(MI Program Color is pewter) *Students with questions about sizes are advised to go to the store's location for a fitting; see address above.**
2. Proceed with order
3. Proceed to checkout.
 - a. Create an account as directed
4. Orders may be shipped to the student's home address or to the store's location.

The following guidelines also apply to uniforms:

- Uniforms are to be clean, free of wrinkles, well-fitting and in good condition. Soiled or untidy uniforms should never be worn for clinical assignment.
- RH photo ID badge must be worn in accordance with the guidelines identified in SHS Policy 385: Identification Badge. Additionally, the radiation badge must be worn during all energized lab assignments when ionizing radiation will be employed and all clinical assignments. The ID badge must be worn at approximately chest height. The radiation badge needs to be worn on the collar.
- Personalized lead markers must be with the student in accordance with the guidelines established in the 'Personalized Lead Markers' policy.
- Students may elect to wear a white or black tee shirt beneath the scrub top. Printed tee shirts are not permitted.
- RH issued scrub uniforms are acceptable dress only when the area of clinical assignment requires their use (Interventional Radiology, Cardiac Cath Lab, surgical suite (OR) and mobile radiography (portables)). When assigned to these areas, appropriate garments must be obtained each morning from the clinical area. Scrub uniforms may not be worn when leaving the hospital.
- Accessories with words or symbols that could be deemed controversial, annoying to patients, visitors, employees or other students cannot be worn. For example, clothing or

accessories with words or symbols that are obscene, profane, sexually explicit, or refer to drugs, alcohol, violence, or weapons or are otherwise improper are prohibited.

- For pewter uniforms, white or black jackets sold by SHS can be purchased to wear over scrubs.

FOOTWEAR

- White or black uniform shoes, white or black sneakers and white or black Croc style footwear are permitted. Footwear must be clean, in good repair and promote safety.
- Solid colored footwear styles with as little additional color/pattern/graphic as possible should be selected.
- High-top sneakers are not permitted.
- For safety reasons, open-toe or open heeled shoes without a strap are not considered acceptable footwear during clinical assignments.
- Crocs with vent holes across the top are not permitted
- Crocs with side vent holes are acceptable.
- Open-toe shoes are not permitted in the Medical Imaging Skills Lab Suite.

GROOMING

- Hairstyles and makeup should be simple and neat.
- Artificial nails and ALL nail enhancements (including nail polish—colored or clear) will not be permitted while on duty for any student involved in direct patient care in accordance with The Centers for Disease Control and Prevention Guidelines for Hand Hygiene in Health Care Settings.
- Nails should be less than ¼ inch long.
- Hair must be clean, well groomed and if length permits, pulled back. Extreme hairstyles – such as Mohawks and shaved designs – are not permitted.
- All students must be odor and fragrance free to respect those sensitive to fragrances.

PINS AND JEWELRY

- Other than ear piercing and small nose piercing, visible body piercing, inclusive of tongue piercing, is unacceptable.
- Excessive or extreme jewelry, such as rings on every finger, is not permitted.
- No jewelry is permitted in the OR area, including watches and rings.
- Commemorative pins and badges that honor various healthcare professions (eg: a badge for National Radiologic Technology Week) are permitted.
- Accessories with words or symbols that could be deemed controversial, annoying to patients, visitors, employees or other students cannot be worn.

TATTOOS

- Tattoos considered excessive or offensive must be covered.

CHEWING GUM

- Students must refrain from chewing gum during clinical assignments while interacting with others.

ELECTRONIC DEVICES

- All electronic devices must be placed on a silent setting during class and lab assignments.

- Electronic devices are not permitted in patient care areas of the clinical setting, this includes Radiology Hallways, procedure/control rooms, registration areas, waiting rooms and holding areas.

Failure to comply with these guidelines is considered unprofessional behavior and therefore unacceptable conduct. Corrective and or disciplinary action, up to and including dismissal from the program, will result. Depending on the infraction, students may not be permitted in the classroom, lab or clinical environment. Attendance will be addressed as outlined in the Clinical Seminar syllabus.

Specific program requirements may result in additions or exceptions to the above guidelines.

Care of Personal Items – D1 Locker Room

Students are expected to limit the amount of personal items they bring to clinical assignments. In order to provide storage for personal items when assigned on the hospital campus, there are lockers located in the D-1 Locker Room which are designated for student usage (Locker #'s are provided below). The access codes for the doors to enter into the locker rooms will be given to each student as it is requested. These access codes must not be shared.

To use a locker for storage of personal items while on clinical assignment, the student must:

- Purchase a personal combination lock
- Register the personal combination lock with the MI Program Faculty
- Remove combination lock and all personal items at the end of each clinical day.

Any personal combination locks left on a locker at the end of the academic year will be cut off by security.

The lockers designated for student usage are as follows:

- Men's Locker Room – 7, 8, 12
- Women's Locker Room – 4, 5, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 37, 50, 66, 74

Within other clinical assignment areas, discuss storage of personal items with the supervising technologist. At no time, should personal belongings such as coats, books, purses, etc. be placed on the floor of any clinical area.

The hospital or School of Health Sciences is not responsible for any misplaced or stolen items.

Revised 4/26/19; 7/31/19, 8/2020, 4/2021, 7/2021

Confidentiality Statement

In accordance with Hospital policy and federal regulation (HIPAA - The Health Insurance Portability and Accountability Act), all employees and students are responsible for maintaining confidentiality of information regarding patients for whom they deliver care. All employees and students are expected to maintain high standards of conduct, and are required to sign a confidentiality statement annually.

Conversing about a patient's condition or discussing personal affairs in the presence of patients or within hearing range of patients and visitors is to be avoided. Confidential information is only to be revealed as required by law or to protect the welfare of the individual or community. Any unauthorized access, possession, release, or disclosure of confidential information is inappropriate and will result in disciplinary action. Employees and students who divulge patient or pertinent hospital information are subject to dismissal.

READING HOSPITAL SCHOOL OF HEALTH SCIENCES
MEDICAL IMAGING PROGRAM
CONFIDENTIALITY STATEMENT (Student Copy)

I, _____ (Medical Imaging Student), understand the importance of confidentiality and agree to refrain from divulging patient or sensitive Hospital information that I learn during my educational experiences at Reading Hospital or the School of Health Sciences. I understand that breach of confidentiality regarding patient information could result in immediate termination as well as prohibit my future participation as a volunteer within this facility.

Student Signature

Date

Rev. 8/2020
Reviewed 7/2021

Patient Consent to Student Involvement

All students participating in medical care provided to patients have a legal responsibility to clearly identify themselves as a student. Patients have a legal right to know when a student will be involved in their care and to what level that involvement will be: observational or active participant. The right to consent to or refuse student involvement also lies with the patient.

Enrolled students must recognize that in order to provide informed consent, the patient must be in possession of all information relevant to the care being provided to them and have adequate reasoning faculties at the time their consent is given.

If the patient is a minor (17 years of age or younger), consent for student participation in that minor's care should verbally be obtained from the parent/guardian accompanying the minor. Minors *who are unaccompanied by a parent/guardian* represent exceptions to this requirement (as the consent to treat was obtained at the time of registration).

If at any time, a patient or parent/guardian refuses medical treatment from a student, the student will act in a purely observatory role throughout the procedure except in emergency situations. The emergency shall be documented by the treating physician.

READING HOSPITAL SCHOOL OF HEALTH SCIENCES **MEDICAL IMAGING PROGRAM**

PATIENT CONSENT to STUDENT INVOLVEMENT AGREEMENT (Student Copy)

I, _____ (Medical Imaging Student), will comply with the requirement to identify myself as a Medical Imaging Student before participating in radiographic care of patients. I understand that if a minor arrives for radiologic imaging, verbal consent from a parent/guardian should be obtained prior to actively participating in radiologic patient care.

If medical treatment by a student is refused by a patient or a parent/guardian, I will assume a purely observatory role while a qualified radiographer completes the examination.

Student Signature

Date

Rev. 7/2020
Reviewed 7/2021

Interpreting Services

Healthcare providers have a legal, ethical and humanitarian responsibility to assure qualified medical interpretation services are made available to non-English speaking patients. Reading Hospital (RH) has established the Department of Interpreting Services, telephones/Vocera to contact Language Service Associates (LSA), and Ipads to use IRIS (Instant Remote Interpretation Services) to provide this support to hospital staff, students and patients. RH interpreting services guidelines have been established based upon parameters set forth by the U.S. Department of Health and Human Services.

READING HOSPITAL SCHOOL OF HEALTH SCIENCES **MEDICAL IMAGING PROGRAM**

INTERPRETING SERVICES STATEMENT (Student Copy)

I, _____ (Medical Imaging Student), have been instructed on the use of interpreting services at Reading Hospital. I understand that once interpreting services have been identified as necessary, I may participate in radiologic patient care only in the presence of a trained medical interpreter or through the use of Language Service Associates (LSA), or IRIS. I understand a family member, friend, or Hospital staff member who has not been approved to serve as an interpreter may be utilized as an alternate to a medical interpreter *only* in the case of a life or limb threatening medical emergency. Under no circumstances may a minor be utilized for interpretation services.

Student Signature

Date

Revised 8/2020; 8/2021

Clinical Supervision

Students must be appropriately supervised by a qualified radiographer at all times. A qualified radiographer is ARRT credentialed in good standing.

- Students must be directly supervised until competency is achieved*. Once students have achieved competency, they may work under indirect supervision.
 - **Exception: Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency*
- The JRCERT defines direct supervision as student supervision by a qualified radiographer who:
 1. Reviews the procedure in relation to the student's achievement
 2. Evaluates the condition of the patient in relation to the student's knowledge
 3. Is physically present during the conduct of the procedure, and
 4. Reviews and approves the procedure and/or image
- The JRCERT defines indirect supervision as student supervision provided by a qualified radiographer who is immediately available to assist students regardless of the level of student achievement. Note: The RHSHS Medical Imaging Program defines "immediately available" as the physical presence of a qualified radiographer adjacent to the room or location where a radiographic procedure is being performed.

Without exception, repeat images must be completed under direct supervision. The presence of a qualified radiographer during the repeat of an unsatisfactory image assures patient safety and proper educational practices.

(Standard 5; Objective 4: JRCERT Standards for an Accredited Education Program in Radiology, 2021)

Therefore, in support of professional responsibility for provision of quality patient care and radiation protection, **repeat images shall be completed only in the presence of a registered radiographer, regardless of the student's level of competency.**

In order to advance from competency to proficiency, students are encouraged to perform procedures with indirect supervision following demonstration and documentation of competence. Indirect supervision is defined as that supervision provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement.

Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency. The student to radiography clinical staff ratio must be 1:1 in clinical education settings at all times but may be temporarily adjusted during uncommonly performed procedures. In circumstances where the 1:1 ratio cannot be maintained in the student's originally scheduled assignment, supervising Medical Imaging faculty members re-assign students as needed. If the supervising clinical staff is re-located to another area or leaves at any time during the student's scheduled assignment, students are expected to inform supervising Medical Imaging faculty members at the time of occurrence.

For patient safety and imaging quality, a registered radiographer must routinely approve, confirm and accept the images that are being sent through the Picture Archiving and Communication System (PACS) for the radiologist to review. Regardless of competency level, students are not permitted to confirm or send images through PACS unless an area supervisor or supervising registered radiographer determines circumstances warrant.

REPEATING RADIOGRAPHS

Definitions

Unsatisfactory image – Any image that does not meet specified evaluation criteria – including but not limited to no lead marker, all anatomy not included (regardless as to reason), etc.

Repeat image – Any additional image taken or re-exposure to the patient (due to a previously acquired unsatisfactory image) in order to assure the image is of diagnostic quality and meets all specified evaluation criteria regardless as to whether the unsatisfactory image was rejected or reason for the unsatisfactory image.

Purpose

For patient safety, regardless of the student's level of competency, unsatisfactory images, shall be repeated only in the presence of a registered radiographer. The registered radiographer must approve the student's procedure prior to re-exposure.

For verification of supervision requirements during repeat images, students are required to complete a repeat image log sheet for each diagnostic clinical assignment as well any scheduled supplementary clinical time. The student must document the following for each repeat image / re-exposure to the patient - the date, the exam/projection, the MRN (first 3 digits of the MRN and the patient's initials - first and last name), and the reason for the repeat image / re-exposure to the patient. The student must also obtain the signature of the registered radiographer that provided direct supervision for the re-exposure/repeat image. Each student is required to submit the completed form to his/her Clinical Group Leader by 4 PM on the Wednesday following his/her clinical assignment. Repeated failure to submit accurately completed repeat image log sheets is considered unprofessional conduct and will be addressed by a Medical Imaging faculty member and reflected on the student's Clinical Seminar Progress Report.

Student Disciplinary Action

- A first occurrence of non-compliance with this policy will result in a first and final written warning.
- A second occurrence of non-compliance with this policy will result in dismissal from the program.

Clinical Supervision in Radiation Oncology

During the Medical Imaging student's clinical assignment through Radiation Oncology, the student will be under the direct supervision of a registered radiation therapist as they participate in simulating or administering radiation therapy treatments.

As students are allowed only to assist in Radiation Oncology procedures, they are expected to participate in each patient procedure assigned to the therapist responsible for their clinical education during this rotation. Their level of participation in the procedure is at the discretion of the therapist and is based upon the condition of the patient in relation to the student's knowledge of radiation therapy. Under no circumstances shall the student ever set the treatment parameters on the control console.

All registered radiation therapists are required to review this policy annually.

Clinical Supervision in an Advanced Modality

During the Medical Imaging student's clinical assignment through an advanced modality, the student will be under the direct supervision of a technologist/sonographer as they participate in an advanced modality procedure. (ie: Nuclear Medicine, Interventional Radiology, Computed Tomography, Ultrasound and Magnetic Resonance).

As students are allowed only to assist in procedures, they are expected to participate in each patient procedure assigned to the technologist/sonographer responsible for their clinical education during this assignment. Their level of participation in the procedure is at the discretion of the technologist/sonographer. Under no circumstances shall the student ever perform an advanced modality procedure unassisted.

All technologists/sonographers are required to review this policy annually.

Clinical Supervision Incident Report

If at any time a student perceives the appropriate level of supervision was not provided, a Clinical Supervision Incident Report must be completed within one week of the event. The Clinical Supervision Incident Report can be obtained on Trajecsys. Once completed, the form must be submitted to the Clinical Coordinator.

Revised 4/26/19; 8/2020; 7/2021

Clinical Supervision Agreement (Student Copy)

Students must be appropriately supervised by a qualified radiographer at all times. A qualified radiographer is ARRT credentialed in good standing.

- Students must be directly supervised until competency is achieved*. Once students have achieved competency, they may work under indirect supervision.
 - **Exception: Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency*
- The JRCERT defines direct supervision as student supervision by a qualified radiographer who:
 5. Reviews the procedure in relation to the student's achievement
 6. Evaluates the condition of the patient in relation to the student's knowledge
 7. Is physically present during the conduct of the procedure, and
 8. Reviews and approves the procedure and/or image
- The JRCERT defines indirect supervision as student supervision provided by a qualified radiographer who is immediately available to assist students regardless of the level of student achievement. Note: The RHSHS Medical Imaging Program defines "immediately available" as the physical presence of a qualified radiographer adjacent to the room or location where a radiographic procedure is being performed.

Without exception, repeat images must be completed under direct supervision. The presence of a qualified radiographer during the repeat of an unsatisfactory image assures patient safety and proper educational practices.

(Standard 5; Objective 4: JRCERT Standards for an Accredited Education Program in Radiology, 2021)

Therefore, in support of professional responsibility for provision of quality patient care and radiation protection, **repeat images shall be completed only in the presence of a registered radiographer, regardless of the student's level of competency.**

In order to advance from competency to proficiency, students are encouraged to perform procedures with indirect supervision following demonstration and documentation of competence. Indirect supervision is defined as that supervision provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement.

Students must be directly supervised during surgical and all mobile, including mobile fluoroscopy, procedures regardless of the level of competency. The student to radiography clinical staff ratio must be 1:1 in clinical education settings at all times but may be temporarily adjusted during uncommonly performed procedures. In circumstances where the 1:1 ratio cannot be maintained in the student's originally scheduled assignment, supervising Medical Imaging faculty members re-assign students as needed. If the supervising clinical staff is re-located to another area or leaves at any time during the student's scheduled assignment, students are expected to inform supervising Medical Imaging faculty members at the time of occurrence.

For patient safety and imaging quality, a registered radiographer must routinely approve, confirm and accept the images that are being sent through the Picture Archiving and Communication System (PACS) for the radiologist to review. Regardless of competency level, students are not permitted to confirm or send images through PACS unless an area supervisor or supervising registered radiographer determines circumstances warrant.

I, _____ (Medical Imaging Student), understand the clinical supervision expectations set forth by the Medical Imaging Program at Reading Hospital School of Health Sciences and agree to adhere to all aspects of these expectations. I understand that failure to comply with any component of the supervision parameters warrants immediate termination of enrollment because patient safety is placed at risk.

Student Signature

Date

Revised. 8/2020; 7/2021

MI 123: Clinical Seminar I Clinical Assignment

The Clinical Seminar I Clinical Assignment will occur for Level I students enrolled within the MI123: Clinical Seminar I course.

This clinical assignment within the Radiology Department and observing a Radiologic Technologist will serve as a valuable tool to gain insight into the career, procedure flow and communication skills/tactics. Through this experience, students will have the opportunity to observe:

- The care of patients within the Radiology department. (Diagnostic and Advanced Imaging areas)
- The fundamental practices of a procedural routine that must be adhered to when performing radiographic studies
- Appropriate written, oral, and nonverbal communication with patients, the public and members of the healthcare team within the clinical setting
- General radiation safety and protection practices associated with radiographic and fluoroscopic exams

This clinical assignment is a **hands-off experience ONLY**. **No hands-on interaction with a patient will be performed within this experience.** The student will only observe and interact with the Radiologic Technologist as they perform their daily activities. Hands-on patient care is *not* part of the Clinical Seminar I clinical assignment and will not be permitted. As part of the Hands-Off experience, students will NOT be permitted to assist with items such as patient transfers, patient transportation, obtaining patients from the waiting room, preparing patients for procedures in regard to changing instructions, obtaining DOB and LMP etc. These skills will be practiced and implemented during clinical assignments beginning in MI 133: Clinical Seminar II.

The student to radiography clinical staff ratio must be 1:1 in clinical education settings at all times but may be temporarily adjusted during uncommonly performed procedures. In circumstances where the 1:1 ratio cannot be maintained in the student's originally scheduled assignment, supervising Clinical Seminar Faculty will re-assign students as needed. If the supervising clinical staff is re-located to another area or leaves at any time during the student's scheduled assignment, students are expected to inform supervising Clinical Seminar Faculty members at the time of occurrence.

**MI 123: Clinical Seminar I Clinical Assignment
Agreement (Student Copy)**

The Clinical Seminar I Clinical Assignment will occur for Level I students enrolled within the MI123: Clinical Seminar I course.

This clinical assignment within the Radiology Department and observing a Radiologic Technologist will serve as a valuable tool to gain insight into the career, procedure flow and communication skills/tactics. Through this experience, students will have the opportunity to observe:

This clinical assignment is a **hands-off experience ONLY. No hands-on interaction with a patient will be performed within this experience.** The student will only observe and interact with the Radiologic Technologist as they perform their daily activities. Hands-on patient care is *not* part of the Clinical Seminar I clinical assignment and will not be permitted. As part of the Hands-Off experience, students will NOT be permitted to assist with items such as patient transfers, patient transportation, obtaining patients from the waiting room, preparing patients for procedures in regard to changing instructions, obtaining DOB and LMP etc. These skills will be practiced and implemented during clinical assignments beginning in MI 133: Clinical Seminar II.

The student to radiography clinical staff ratio must be 1:1 in clinical education settings at all times but may be temporarily adjusted during uncommonly performed procedures. In circumstances where the 1:1 ratio cannot be maintained in the student's originally scheduled assignment, supervising Clinical Seminar Faculty will re-assign students as needed. If the supervising clinical staff is re-located to another area or leaves at any time during the student's scheduled assignment, students are expected to inform supervising Clinical Seminar Faculty members at the time of occurrence.

I, _____ (Medical Imaging Student), understand the expectations set forth for my Clinical Seminar I clinical assignments by the Medical Imaging Program at Reading Hospital School of Health Sciences and agree to adhere to all aspects of these expectations. I understand that failure to comply with any component of the established parameters warrants immediate termination of enrollment because patient safety is placed at risk.

Student Signature

Date

Safety Policies

A. Radiation Safety

"ALARA"

All radiation safety practices at Reading Hospital (RH) are based upon the principles of ALARA. The ALARA Radiation Safety Philosophy is: To reduce radiation exposures to patient and staff As Low As Reasonably Achievable. The degree of reasonableness and the proportion of limits on time, distance, and shielding are determined by the Radiation Safety Officer and the Radiation Safety Committee. Students are introduced to the ALARA philosophy during MI 120: Radiation Protection and Medical Terminology. These principles will be reinforced during MI 123 Clinical Seminar I: Orientation & Chest Radiography, and supported throughout the remaining clinical and didactic curriculum. Students are expected to adhere to the shielding and other radiation safety policies established for the department of radiology.

ALARA Levels Established at RH

ALARA (Quarterly)	Deep	Lens	Shallow	Extremity
Level I (mrem)	125	375	1250	1250
Level II (mrem)	375	1125	3750	3750

Reference: Occupational Ionizing Radiation Dose Monitoring Policy:

<https://trh.ellucid.com/documents/view/10272> Note: *Enrolled students may access RH policies via the intranet using student user codes and passwords.*

Radiation Monitoring Device

A radiation monitoring device is provided to each Medical Imaging student by the School of Health Sciences upon admission to the clinical portion of the program. Students are required to properly wear their radiation monitoring device at all times while in their area of clinical assignment (exception: MRI and US) and during all energized lab assignments when ionizing radiation will be employed. Radiation monitoring devices will be worn on the collar. If a protective apron is worn, the radiation monitoring device is worn on the collar above the protective apron.

Reference: Occupational Ionizing Radiation Dose Monitoring Policy:

<https://trh.ellucid.com/documents/view/10272> Note: *Enrolled students may access RH policies via the intranet using student user codes and passwords.*

Important Radiation Monitoring Device Guidelines

The following additional important rules apply to radiation monitoring devices and other personnel monitors:

1. Be certain your name is clearly printed on the radiation monitoring device.
2. Do not exchange radiation monitoring device between individuals.
3. Do not remove the radiation monitoring device from Reading Hospital, other than to take to an off campus clinical assignment.

4. Do not wear radiation monitoring device during personal x-ray or nuclear medicine exams (its purpose is to measure occupational exposure only).
5. Notify the Clinical Coordinator if the radiation monitoring device is inappropriately exposed (e.g. "fell on floor and left in room during an x-ray exam").
6. A radiation monitor must be worn at all times in the Energized Skills Lab assignments when ionizing radiation is employed, Radiology Department and in other areas of the hospital where ionizing radiation is being used for diagnosis or therapeutic purposes.
7. Radiation monitoring devices will be changed monthly. Students are to report to the Clinical Coordinator or one of the Clinical Seminar Faculty on the first day of the new month to exchange their radiation monitoring device. The devices must be submitted by the fourth day of each month. Failure to submit the radiation monitoring device is considered an unsafe radiation practice and will be noted on the Technologist Feedback on Clinical Performance Form and/or it will be noted on the semester Clinical Seminar Progress Report.
 - A fee will be charged for any unreturned badge. This administrative fee is imposed by the monitoring company and will be passed along to students incurring the fee.

Radiation Monitoring Device Reports

Radiation monitoring device reports will be made available to students within thirty (30) school days following the School of Health Science's receipt of the data.

The Radiation Safety Officer will also review and initial each monthly report. If a radiation monitoring device reading higher than Level I is noted, the student will be counseled by the Radiation Safety Officer to determine the reason. Recommendations for behavioral changes will be made as appropriate. Each student is required to review the monthly report and to sign-off upon review. Copies of monthly student radiation monitoring device reports are kept on file in the Program Office. Students are provided a copy of their annual exposure record by the Radiation Safety Officer or designate. A copy of the annual exposure record is also kept in the student's permanent file. Questions regarding radiation monitoring device reports should be directed to the Radiation Safety Officer, **Jason Mace** 1-484-628-8099.

Students employed as radiation workers at other facilities are to submit to the Clinical Coordinator a copy of all current radiation exposure data as it is provided. These will be forwarded to the RSO for tracking of cumulative exposure to ensure occupational exposure limits are not exceeded. Students can also request copies of current Reading Hospital radiation exposure data from the Clinical Coordinator to give to other facilities. Students can also request exposure data from the RSO upon graduation.

Reference: Occupational Ionizing Radiation Dose Monitoring Policy:

<https://trh.ellucid.com/documents/view/10272> Note: *Enrolled students may access RH policies via the intranet using student user codes and passwords.*

Exceeded ALARA Levels

The Radiation Safety Officer provides written notification to the student and Program Director immediately if a radiation monitoring device reading exceeds ALARA Level I levels.

Exceeded ALARA Level II levels will result in notification as well as a thorough investigation. The Radiation Safety Officer will counsel the student on proper radiation protection practices.

Forgotten Radiation Monitoring Device

Students arriving for clinical/lab assignments without their radiation monitoring device must report immediately to the Clinical Seminar Faculty and request a spare radiation monitoring device. Students without their radiation monitoring device are considered out of acceptable uniform and out of compliance with SHS Policy 334: Conduct. Repeated Non-compliance is considered unprofessional behavior and therefore unacceptable conduct and will result in corrective and/or disciplinary action, up to and including dismissal from the program.

Lost Radiation Monitoring Device

Should a student lose their radiation monitoring device, the following process is to be followed.

1. The student is to report to the Clinical Seminar Faculty and request a spare radiation monitoring device. This radiation monitoring device is then handled according to the guidelines established and submitted at the end of the month for entry into the student's permanent exposure record.
2. Failure to return a monthly radiation monitor will result in a fee that is the sole responsibility of the student.

Release of Radiation Exposure Records

Students wishing to have radiation exposure records sent elsewhere must sign a form authorizing the release of such records. This form may be requested by contacting the program office at 1-484-628-0200.

Radiation Protection and Shielding

Students are expected to adhere to the established shielding guidelines set forth by the clinical facility they are assigned to. These guidelines are to be employed in the Energized Skills lab as well as during clinical assignments. The guidelines utilized by the Department of Radiology at Reading Hospital are reviewed in detail with students during the Radiation Protection curriculum as well as throughout Clinical Seminar I - VI.

Note: RH policies are available to enrolled students via the intranet homepage and may be accessed for review and reference using personal user codes and passwords.

Holding Patients

It is the policy of Reading Hospital School of Health Sciences that students in the Medical Imaging Program **may not** hold patients or imaging devices during ionizing radiation exposure for any diagnostic or therapeutic purpose unless there is a dire medical emergency such that the patient's health status would depreciate significantly during the time required to obtain a non-student individual for holding.

Students will follow these guidelines if required to hold in a dire emergency:

1. The individual must be protected with appropriate shielding devices of at least 0.5 mm lead equivalent.
2. The individual must be positioned so that no part of his/her body will be struck by the useful beam and his/her body will be as far as possible from the edge of the useful beam.
3. Pregnant persons or individuals under the age of 18 are not permitted to hold patients.

MRI Safety

Prior to Clinical Seminar I observatory clinical assignments in MRI, students will be required to complete a video/power point on MRI safety and precautions. In addition, students will also be required to complete an 'MRI Student Safety Checklist.' The completed checklist will be kept in the student's permanent file. Any positive replies will be further investigated with the MRI supervisor/staff to determine the student's eligibility to participate in an MRI clinical assignment.

Prior to any additional clinical assignments in MRI and during the 2nd semester, an MRI representative will give a presentation about the MRI clinical environment and MRI safety precautions. Students are also required to successfully complete the ASRT 'Safe MRI Practices' course and corresponding test annually. During the 5th semester, students will again be required to complete the 'MRI Student Safety Checklist'. The completed checklist will be kept in the student's permanent file. Any positive replies will be further investigated with the MRI supervisor/staff to determine the student's eligibility to participate in an MRI clinical assignment. Students are required to notify the program if at any time their status changes.

Upon arrival to an MRI clinical assignment, MRI staff will further verify safety precautions are accounted for prior to entering the MRI procedure room.

B. General Safety

Reporting Equipment Malfunction

Students observing faulty equipment, equipment malfunctions or any other safety issue should report it immediately to their supervising technologist as well as a Clinical Seminar Faculty member. Any concerns pertaining to the clinical environment should also be reported to the clinical area supervisor.

Reporting Incidents Involving Patients

When in the clinical setting, the student should be aware of any status changes in the patient. If a student notices a status change in the patient, it may be necessary for an incident report to be completed. Incident reports are used to notify Risk Management of patient conditions if something should happen, and in no way are used to reprimand a student for his/her behavior. If the student should see a condition in which an incident report should be completed, the area supervising technologist should be notified immediately. The patient incident reports are to be completed via the intranet using RL Solutions. The following are examples of when an incident report needs to be completed.

- Patient on wrong amount of oxygen.
- Patient's oxygen tank is empty.
- Wrong body part is x-rayed.
- Wrong patient is x-rayed.
- Patient gets skin tears while getting a radiographic study completed.
- Patient's IV gets dislodged.
- Patient falls.

Injuries/Exposures During School Related Activities (SHS Policy No. 320)

SHS policies are located at: <https://reading.towerhealth.org/academics/health-sciences/school-policies/>

It is also necessary for the student to notify the Clinical Seminar Faculty and to submit completed paperwork to the Program Director from the nurse/physician seeing the student.

Fire Emergency

See Reading Hospital Fire Manual on Policy Manager via the intranet homepage.

<https://trh.elucid.com/documents/view/12545>

**Reminder – if 911 needs to be called from an outside facility, 1 will need to be dialed to access an outside line prior to dialing 911.

Rev. 8/6/19, 8/2020, 4/2021, 7/2021

MI Student Pregnancy Policy

The pregnancy policy established by the Medical Imaging Program is in place to provide a safe, fair, and compliant policy for pregnant students. It adheres to the guidelines which are also set forth in the Reading Hospital Administrative policy entitled “Pregnancy Policy for Personnel Occupationally Exposed to Ionizing Radiation” **Note:** RH policies are available to enrolled students via the intranet homepage (Policy Manager), and are accessible for review and reference using personal user codes and passwords. The administrative policy referenced above may be accessed through the following hyperlink: <https://trh.ellucid.com/documents/view/11780>

As regulated by the Nuclear Regulatory Commission (10 CFR 20 – Standards for Protection Against Radiation) and the Bureau of Environmental Protection of the Commonwealth of Pennsylvania, the sponsoring institution (Reading Hospital) will take the measures necessary and provide monitoring to limit the dose to the embryo/fetus over the term of the pregnancy to 500 mREM or less. Generally, no modification of clinical assignment within the educational program is necessary.

The Program recognizes that an enrolled student who becomes pregnant has the right to declare or not to declare pregnancy. The disclosure of pregnancy is strictly voluntary.

Upon voluntary disclosure to the Program Director, every measure will be taken to adhere to the regulations set forth by the Nuclear Regulatory Commission and the Bureau of Environmental Protection of the Commonwealth of Pennsylvania. If voluntary disclosure is made, the student maintains the right to withdraw the declaration at any time during pregnancy. If the declaration is not formally withdrawn, the written declaration is considered expired one year after submission.

Following voluntary disclosure, four clinical assignment options are available:

- Continue clinical education in the program without modification;
- Continue clinical education in the program with modification (postponement) of fluoroscopy, portable, operating room, and/or Interventional Radiology/Cardiac Cath Lab assignments;
- Request a Leave of Absence;
- Withdraw from the program.

Any absenteeism or Leave of Absence due to pregnancy will be addressed by the attendance policy set forth in course syllabi and SHS Policy No. 316 Extended Absence / LOA Policy. Determination will be made on an individual basis whether or not the student must repeat any courses; those decisions will be dependent upon the number of classes and the amount of material missed.

All students must complete all clinical assignments and all clinical competencies before they will be considered eligible for advancement to Level II or graduation from the Program. Students opting, due to pregnancy, to modify (postpone) their clinical assignments in one or more of the above areas will still be expected to fulfill these requirements. Modification (postponement) may necessitate remaining in the program longer than the prescribed 27-month period.

Should a student opt to withdraw from the program, she may apply for re-admission. Students in good standing both academically and clinically will be provided an opportunity to complete the program at the next opportunity available. The date of re-admission into the program is contingent upon a vacancy in the upcoming class.

Procedure for Voluntary Disclosure of Pregnancy

1. When knowledgeable of possible or expectant pregnancy, the student is encouraged to voluntarily notify the Program Director or designee through the “Voluntary Disclosure of Pregnancy” form.
2. In turn, the Program Director or designee will:
 - Notify the Radiation Safety Officer (RSO)
 - Notify the Program Secretary to acquire a spare fetal badge and order a fetal badge for the duration of the pregnancy.
 - The fetal badge must be-worn at the level of the waist during clinical assignment/lab assignments when ionization radiation is being used. Should a lead apron be worn, the badge should be worn behind the lead apron.
3. At the student’s option, a meeting will be arranged with the Radiation Safety Officer. The student may bring her partner or a family member to this consultation session. The Radiation Safety Officer will discuss the following:
 - Reading Hospital Administrative policy entitled “Pregnancy Policy for Personnel Occupationally Exposed to Ionizing Radiation.”
 - The RSO will calculate and discuss the projected exposure to the fetus over the next nine months based on exposures received over the past year giving consideration to equipment changes. The student will also receive a copy of the NRC’s Regulatory Guide 10 CFR 20 entitled “Standards for Protection Against Radiation.” An adequate period of time will be provided for questions and answers.
 - The student will be reassured that in keeping with the hospital’s ALARA radiation safety philosophy, further protective and preventive actions may be provided to further reduce her exposures below the regulatory limit.
 - The Radiation Safety Officer will ask the student to sign a “Voluntary Declaration of Pregnancy and Statement of Understanding” form for which indicates understanding of the relative risks to self and fetus, and acknowledgement that Reading Hospital’s responsibility to take all action necessary to keep exposure well below the 500 mrem regulatory limit.
4. The Program Director or designee will ask the student to sign a “Modification of Clinical Assignments” form, which identifies the student’s decisions regarding modifications to be made to clinical assignments.

Revised 8/01; 7/03; 8/04; 8/10; 1/12; 8/12; 11/12; 8/13; 8/14; 12/14; 8/15; 7/2021

Reviewed 8/11; 7/15; 8/16; 8/17; 8/18;8/19, 8/2020, 4/2021

**READING HOSPITAL SCHOOL OF HEALTH SCIENCES
MEDICAL IMAGING PROGRAM**

VOLUNTARY DISCLOSURE OF PREGNANCY

This is to inform _____ and the Medical Imaging Program
Program Director
at Reading Hospital School of Health Sciences that I am pregnant, with an estimated due date of
_____.

- I understand the radiation dose to my embryo/fetus during my entire pregnancy will not be allowed to exceed 0.5 rem (5 millisievert) (unless that dose has already been exceeded between the time of conception and submitting this disclosure).
- I understand that meeting the lower dose limit may require a change in clinical assignments during my pregnancy.
- I understand I am provided an opportunity to meet with the Radiation Safety Officer of Reading Hospital so that the relative risks to the fetus and myself can be discussed.
- I understand I may be expected to complete additional paperwork required by the Radiation Safety Officer.

Student Signature

Student Name (Please Print)

Date of Disclosure

**READING HOSPITAL SCHOOL OF HEALTH SCIENCES
MEDICAL IMAGING PROGRAM**

MODIFICATION OF CLINICAL ASSIGNMENTS

I, _____, previously submitted a Voluntary
Student Name (Please Print)

Disclosure of Pregnancy form to the Program Director or designee. I have met with the Radiation Safety Officer and have been informed of the relative risks to the fetus and myself. I have made the following decision regarding modifications to clinical assignments based on this knowledge.

_____ **I wish to continue in the program without modification (postponement) in clinical assignments.**

I understand that any absenteeism will be addressed by the guidelines set forth in the Attendance Policy.

_____ **I wish to continue in the program with the following modification(s) in clinical assignments. (Please check all that apply):**

_____ Postponement of Fluoroscopy assignments until after delivery

_____ Postponement of Portable/Mobile assignments until after delivery

_____ Postponement of Operating Room assignments until after delivery

_____ Postponement of Interventional Radiography assignments until after delivery

_____ Postponement of Cardiac Cath Lab assignments until after delivery

I understand that I will be expected to complete all clinical assignments and all clinical competencies before I will be considered eligible for advancement to Level II or graduation from the program. I understand that modification (postponement) may necessitate my remaining in the program longer than the prescribed 27-month period.

_____ **I wish to apply for an Extended Absence / LOA from the program.**

I have reviewed and understand SHS Policy 316: Extended Absence / LOA I understand I will be expected to complete all clinical assignments and all clinical competencies before I will be considered eligible for advancement to Level II or graduation from the program. I understand any absenteeism or Leave of Absence due to pregnancy will be addressed by the guidelines set forth in the Attendance and Leave of Absence Policies. I understand that a Leave of Absence will necessitate my remaining in the program longer than the prescribed 27-month period.

_____ **I wish to withdraw from the program.**

I understand I may apply for readmission in the future by following the process outlined in SHS Policy 301. I understand re-admission is contingent upon my good academic and clinical standing. I understand the date of re-admission into the program is contingent upon a vacancy in the upcoming class.

Student Signature

Date

Personalized Lead Markers

Students are responsible for purchasing a set of personalized lead markers with his/her hospital user code (HS#). These markers must be used by the student throughout Clinical Seminar II to VI during all clinical/lab assignments on all images taken by the student. Clinical Seminar Faculty will assist students with the ordering process.

Forgotten Personalized Lead Markers

- A student arriving for his/her clinical/lab assignment without his/her personalized lead marker(s) must immediately report to Clinical Seminar Faculty to request loaner lead markers.
- Loaner markers must be returned to faculty at the end of the educational assignment.
- A student arriving for his/her clinical/lab assignment without his/her personalized lead markers is considered out of acceptable uniform and out of compliance with SHS Policy 334: Conduct. Non-compliance is considered unprofessional behavior and therefore unacceptable conduct and will result in corrective and/or disciplinary action, up to and including dismissal from the program.

Lost Personalized Lead Markers

Should a student lose his/her personalized marker(s), the following process is to be followed.

- The student is to immediately report to the Clinical Seminar Faculty and request loaner markers.
- **Loaner markers must be returned to the Clinical Seminar Faculty at the end of the educational assignment.**
- The student must order replacement personalized lead markers within 48 hours of reported loss by following the process outlined directly below:
 - Use URL <https://pjxray.com>
 - In the search bar, type 'Horizontal position indicator'
 - Select horizontal marker with 6 letters following laterality (Item #: LM-13-6)
 - Under initials, insert your HS number (i.e. HS2222)
 - Select Set, Right or Left
 - Click add to cart
 - Current cost is \$33.00 for a set
 - Each individual marker (right or left) is \$16.50 (Shipping may vary based on location)
 - Click Check Out (choose to register or checkout as guest)
 - Complete billing information, shipping information and payment information
- The student must provide clinical seminar faculty with confirmation that replacements have been ordered within 48 hours by sharing a copy of a receipt and/or forwarding e-mail of receipt to his/her Clinical Group Leader/Faculty Advisor.
 - If confirmation is provided, the student may use the loaner markers until the replacement marker(s) are delivered. Replacement marker(s) are typically delivered within 7-10 days.

- Failure to provide confirmation within 48 hours will result in non-admittance to clinical assignments and/or lab until confirmation is provided. Absence from the program will be addressed according to course syllabi.
- When the markers are received, **the student is responsible for getting the markers approved by his/her Clinical Group Leader/Faculty Advisor prior to using them in the clinical setting.** If the markers are not approved for use (i.e. incorrect personalization), the student is responsible for the cost associated with replacing the personalized markers.

Due to safety and security reasons, personalized lead markers will be collected upon resignation, withdrawal or graduation from the program.

Revised 1/30/2019, 8/2020; 7/2021

Contacting the Medical Imaging Program

During normal program hours, students may contact program officials at the phone numbers provided or via Vocera as indicated.

Students are responsible for notifying the Clinical Coordinator or Medical Imaging Program Faculty as soon as possible of injuries involving them or a patient. If, due to the nature of the incident, the student is unable to notify program officials, responsibility lies with the supervising technologist to provide this notification.

Clinical Preceptors	7:30 a.m. – 4 p.m.	as directly available in various clinical areas
Clinical Seminar Faculty Office	7:30 a.m. – 4 p.m.	1-484-628- 8904 or via Vocera ‘School of Health Sciences’
Clinical Coordinator	7:30 a.m. – 4 p.m.	1-484-628- 0235
Evening Preceptor(s)/ Technologists	3 p.m. – 11:30 p.m.	as directly available in various clinical areas or 1-484-628- 8053 or 1-484-628-3584 or via Vocera
Weekend Preceptor(s) Technologists	Saturday & Sunday	as directly available in various clinical areas or 1-484-628- 8053 or 1-484-628-3584 or via Vocera

Program Office

- Ms. Cathy James Program Secretary 1-484-628-**0200**

Program Director Office

- Mrs. Kathleen Jackson Program Director 1-484-628-**0227**

Faculty Offices (at SHS)

- Mrs. Stacy Oskam Clinical Coordinator 1-484-628-**0235**
- Mrs. Heather Herb MI Program Faculty 1-484-628-**0218**
- Mrs. Maria Messner MI Program Faculty 1-484-628-**0219**
- Mrs. Christina Wehr MI Program Faculty 1-484-628-**0222**
- Ms. Colleen Shartle MI Program Faculty 1-484-628-**0217**
- Ms. Taryn Smith MI Program Faculty 1-484-628-

Evening and Weekend Contact of Program Officials

While most issues arising during evening and weekend hours can wait to be addressed on the next business day, there may be occasions when contact with a program official should be made immediately. Injuries involving an enrolled student or patient injury involving an enrolled student are two examples of such occasions.

First responsibility for this notification lies with the student. If, due to the nature of the incident, the student is unable to notify program officials, responsibility lies with the supervising technologist to provide this notification.

- **Urgent Issues:** If it becomes necessary to contact a program official regarding any incident involving a student assigned for evening or weekend clinical or supplementary clinical hours, a Radiology Supervisor or supervising technologist should be notified. If a Medical Imaging faculty member is scheduled on campus, notify them by calling the C1 Clinical Seminar Faculty Office at 1-484-628-8904 or via Vocera (x3300). If not on campus, the Radiology Supervisor or supervising technologist will consult the bulletin board outside of the C-1 Clinical Seminar Faculty Office for the purpose of determining the On Call Clinical Seminar Faculty Member. That faculty member will be contacted by the student, Radiology Supervisor or supervising technologist and apprised of the situation.
- **Non-Urgent Issues:** Students who wish to communicate information to a program official during evening or weekend hours or when the SHS is closed should utilize the phone numbers provided which are serviced 24/7 by voicemail.

Revised 4/2020, 8/2020, 4/2021; 7/2021

Clinical Preceptors

Clinical Preceptors are registered staff technologists specially oriented to perform clinical competency evaluations – Trial Competencies, Radiographic, Re-check and Equipment. The educational support they provide and the studies they oversee are specified by their individual area(s) of clinical expertise. The Clinical Preceptors work in cooperation with the full-time faculty of the Medical Imaging Program and as such, submit to the same educational policies, procedures and requirements.

As employees of the Department of Radiology, the Preceptor's primary responsibility is patient care and their availability to provide educational support to students is dependent upon radiology department needs. Students assigned to clinical activities may directly contact the Preceptors scheduled in those areas to request clinical competency evaluation. Preceptors will communicate their availability to the student at the time the request is made.

Clinical Preceptors – All Areas

Jennifer Blanski, R.T.(R)
Ryan Buck, R.T. (R)
Gerard Burns, R.T.(R)
Michelle Eisenhut, R.T. (R)
Amy Ferster, R.T.(R)
Justin Goughler, R.T. (R)
Maureen Hartman, B.S., R.T.(R)
Heather Houptley, R.T.(R) – Operating Room Only
Heather Kilpatrick, R.T.(R)
Kristen Kieffer, R.T. (R) – Operating Room Only
Heidi Millisock, B.S., R.T. (R)
Drew Noecker, R.T. (R) – Operating Room Only
Erin Noll, R.T., (R)
Bradley Rissell, R.T. (R)
Amy Tucci, B.S., R.T. (R)
Carl Wischner, B.S., R.T. (R)
Sonya Wolfe, R.T.(R)(CT)

In accordance with commonly adopted practice by radiography programs across the nation, all paperwork and images associated with competency testing overseen by preceptors will be reviewed and verified by the Clinical Coordinator.

Revised 4/26/19; 8/6/19, 7/2020; 7/2021

Components of Clinical Seminar Grading

Clinical Seminar course grades are calculated as published in the individual course syllabi (Clinical Seminar I – VI). Calculation of the Clinical Seminar course grade may include, but is not limited to:

- Unit Exams and Comprehensive Final
- Clinical Competency Evaluations – Radiographic and Equipment
- Re-check Competencies
- Terminal Proficiencies
- Advanced Imaging Modality Mini-Modules
- Technical Factor Quiz
- Attendance Grade
- Workbook/Written assignments
- Clinical Skills Competencies/Assessments

Rev. 8/7/19; 8/2020
Reviewed 7/2021

Daily Logs

Each student is required to track all studies observed, assisted and/or performed during clinical assignments. Daily logs are required for **all** clinical assignments unless noted below. Daily logs must be properly completed using the Trajecsys software system by 4:00 p.m. on the Wednesday following the end of each weekly clinical assignment.

It is the student's responsibility to record the appropriate clinical site, first three digits (excluding the leading zero) of the patient's Medical Record Number (MRN) along with the patient's initials (first and last name) in the key field, the type of examination, the level of participation (observed, assisted, performed under direct supervision, or performed under indirect supervision), the full first and last name of the supervising technologist/professional, and the time required to perform the study. During MI 123: Clinical Seminar I clinical assignments, only an 'observed' status should be selected.

Daily logs are not required for the following clinical assignments:

- Radiologist assignments and Advanced Imaging Modality assignments

Improper Submission of Daily Logs

- Repeated failure to properly complete daily logs by Wednesday at 4:00 p.m. is considered unprofessional conduct and will be discussed with the student and reflected on the student's Clinical Seminar Progress Report / advisement form.
- Repeatedly submitting improperly completed daily logs is considered unprofessional conduct and will be discussed with the student and reflected on the student's Clinical Seminar Progress Report / advisement form.

Rev. 4/2020, 7/2020
Revised 4/2021;
7/2021

Technologist Feedback on Student Performance Forms

Staff members providing supervision to students provide verbal and written encouragement, suggestions, and guidance during each clinical assignment. Staff members provide commentary to students regarding their clinical performance by completing a “Technologist Feedback on Student Performance” form. These comments are communicated weekly and are either shared directly by staff or through the appropriate Faculty Advisor/clinical group leader.

Feedback forms are not graded; the primary benefit of this process for students is critique shared for the purpose of ongoing improvement and professional development. Faculty Advisor/Clinical Group Leaders monitor feedback forms; trends are noted and follow-up takes place as necessary. The most successful students recognize the value of applying the comments and suggestions made by these professionals to all areas of clinical assignment.

Student Procedure for Distribution of the Technologist Feedback on Student Performance Form

1. At the end of each weekly clinical assignment, students are responsible for verbally requesting the professional (i.e. qualified radiographer, sonographer, therapist, etc.) who has supervised the majority of their clinical assignment to complete a “Technologist Feedback on Student Performance.”
2. After verbal confirmation from the supervising professional and by 4:00 p.m. on the Wednesday following the end of each weekly clinical assignment the student is responsible for providing a “Technologist Feedback on Student Performance” form via e-mail. The student is also responsible for carbon-copying (CC) their assigned Faculty Advisor/Clinical Group Leader on the e-mail to the supervising professional.
 - Unless a student has been assigned to two different clinical assignment areas within one evaluation period, only one professional should be identified on the e-mail.

Please Note: Radiologist (Primary Reader) clinical assignments do not require the distribution of a “Technologist Feedback on Student Performance” form.

Program Procedure

The supervising professional (i.e. qualified radiographer, sonographer, therapist, etc.) providing supervision to the student will provide verbal guidance throughout the clinical assignment. At the completion of the clinical assignment, the supervising professional will complete the “Technologist Feedback on Student Performance” form. The completed form is e-mailed to the student and the Faculty Advisor/Clinical Group Leader identified in the original e-mail. It is the student’s responsibility to review feedback forms on a consistent basis.

Improper Submission of Technologist Feedback on Student Performance Forms

Repeated failure to properly complete the process above is considered unprofessional conduct and will be discussed with the student and documented on the student’s Clinical Seminar Progress Report. Common causes of improper completion include but is not limited to:

- Failure to verbally communicate and provide a form via e-mail to the supervising professional.

- Failure to CC Faculty Advisor/Clinical Group Leader on the e-mail to identify to whom the form was provided.
- Submitting the feedback form to someone other than the individual who provided the majority of supervision.

Rev. 8/7/19; 8/2020
Revised 4/2021; 7/2021

Clinical Groups and Faculty Advisors/Clinical Group Leaders

Each semester, for the purpose of providing individualized clinical attention to enrolled students, small student groups are matched to a Faculty Advisor/Clinical Group Leader. Clinical groups are typically comprised of about 10 students. Faculty Advisors/Clinical Group Leaders correspond with the faculty teaching the Clinical Seminar course. The student's individual faculty advisor/clinical group leader will be identified at the beginning of each semester.

Faculty Advisors/Clinical Group Leaders serve as clinical mentors to their students and provide individualized clinical advisement.

Clinical Group Discussions and Forms

Purpose: Students are expected to record their clinical experiences throughout the semester by completing the Clinical Group Discussion Forms on a weekly basis for Clinical Seminar II-VI. This optimizes learning in that it helps the students revisit and learn from each day's experiences and patient interactions. Reflection supports the ability to learn from each experience and apply any lessons learned to future clinical situations.

Process: Each student will reflect on clinical experiences by completing the Clinical Group Discussion Form on a weekly basis for Clinical Seminar II-VI. A Clinical Group Discussion Form is available on Trajecsys. Each student is responsible for keeping his/her Clinical Group Discussion Forms in his/her possession until they are reviewed at the next scheduled Clinical Group Discussion. No patient, staff or peer identifier may be recorded on the Clinical Group Discussion Form. Students are expected to maintain confidentiality.

Faculty Advisors/Clinical Group Leaders will hold periodic meetings (Clinical Group Discussions) with students to facilitate group discussion of clinical experiences and address any questions students may have and/or challenges they may wish to explore with their group in addition to reviewing previous exam questions. Completed Clinical Group Discussion Forms must be brought to the scheduled Clinical Group Discussions. Clinical Group Leaders may collect the forms at meetings. Clinical Group Discussions are published on each Clinical Seminar syllabus/schedule.

Reviewed 8/7/2019; 8/2020
Revised 7/2021

Clinical Seminar Progress Reports

Students are provided ongoing feedback and developmental guidance from Clinical Seminar Faculty throughout Clinical Seminar I-VI. Through mid and end of course clinical seminar progress reports, student's performance is reviewed and summarized according to his/her ability to perform certain tasks in the clinical setting as well as lab and classroom activities included throughout the Clinical Seminar Course. The tasks being assessed are clearly defined on the progress report. The most successful students recognize the value of applying the comments and suggestions made by these professionals to all areas of clinical assignment.

Mid and End of Course Clinical Seminar Progress Report Procedure

1. The Faculty Advisor/Clinical Group Leader will provide verbal guidance and written advisement throughout the clinical course based on individual student needs.
2. The Faculty Advisor/Clinical Group Leader will provide their students with a submission date for the mid-course Clinical Seminar Progress Report self-evaluation. This must be satisfactorily completed and submitted by the student by the date established.
3. Students will complete the form, including comments which conform to the following guidelines:
 - a. THOROUGH – A well-constructed self-evaluation requires a significant amount of focused effort on the part of the student. It is expected that this level of effort be evident in the details and examples cited within the document submitted for review.
 - b. FACTUAL – include what was directly performed and observed; avoid hearsay, opinions, judgments, and assumptions
 - c. SPECIFIC – Provide details; describe the behaviors demonstrated. Recognize that generic statements provide no means for replication or for change.
 - d. PROACTIVE - offer specific comments regarding which behaviors should continue/increase in frequency; which need more practice/attention, and which should be avoided in the future.
 - e. Self-evaluations which do not meet the guidelines identified above will be returned to the student for revision/rewrite. The original deadline for completion will remain.
4. The Faculty Advisor/Clinical Group Leader will modify the self-evaluation as necessary based on observation and feedback obtained from supervising technologists via the 'Technologist Feedback on Student Performance' forms. End of semester goals and performance modifications will be established.
5. A finalized mid-course progress report will be completed. The student and/or Faculty Advisor/Clinical Group Leader may meet privately to review and discuss the completed self-evaluation. The student must sign and date the mid-course Clinical Seminar Progress Report upon review.
6. Clinical seminar performance will be reevaluated at the end of the course using the same criteria; the Faculty Advisor/Clinical Group Leader will document the student's status based on student achievement of goals/modifications targeted at mid-course.
7. The end-of-course progress report will be finalized. The student and/or Faculty Advisor/Clinical Group Leader may meet privately to review and discuss the completed evaluation. The student must sign and date the end-of-course Clinical Seminar Progress Report upon review.

Positioning Skills Laboratory Practice

Practicing positioning skills in the laboratory setting is a pre-requisite to competency testing. Procedures are demonstrated by a Clinical Seminar Faculty member via a power point voiceover or in person, followed by a practice period for students to develop their positioning skills and prepare for competency testing. During positioning skills laboratory practice, students are assigned a procedure / view(s) to position on a classmate. Assignment of the procedure / views is random; students are expected to arrive prepared to simulate any procedure / view.

Expectations of performance are outlined in the chart below. Performance will be monitored on a continual basis throughout each semester and desired behaviors will be encouraged and opportunities for improvement will be addressed with the student verbally as well as documented on the Clinical Seminar Progress Report. Repeated unpreparedness or undesirable performance may result in clinical warning/probation.

Expectations	Acceptable Performance	Performance Needs Improvement
<p>Students will be prepared to properly demonstrate the following skills for the procedures being performed:</p> <ul style="list-style-type: none"> • patient positioning • tube angles • SID • collimation • lead marker placement • shielding • breathing instructions • align central ray and IR 	<p>Correct positioning of patient for view(s) being performed.</p> <p>Appropriate manipulation of room equipment including SID, tube angles, central ray/IR alignment and collimation</p> <p>Accurate lead marker placement</p> <p>Adequate shielding of the gonadal region</p> <p>Effective breathing instructions</p>	<p>Gross mal-positioning of patient for view(s) being performed</p> <p>Inability to properly manipulate equipment or unsafe use of room equipment to obtain proper SID, tube angle, central ray/IR alignment and/or collimation.</p> <p>Grossly incorrect tube angle, SID, central ray/IR alignment, and/or collimation used</p> <p>Placement of incorrect marker or marker placement on the wrong anatomical side</p> <p>Inadequate shielding of gonadal region</p> <p>Ineffective breathing instructions</p> <p>Excessive hesitation or the need for repeated intervention from the proctoring Clinical Seminar Faculty member</p>

8/7/19, 7/2020
Revised 7/2021

Documented Practice Requirements

Certain tasks and procedures require clinical practices to be performed in order to meet graduation requirements. Unless otherwise noted below, all documented practice requirements are required to be completed by the deadline established in MI 278 Clinical Seminar VI. These are not competency requirements but are used to verify participation in and successful performance of the tasks and procedures. The tasks and procedures in addition to the required number of practices for each are specified below. Each documented practice can be completed following didactic instruction of the specified task or procedure.

- Sterile Tray Prep and Universal Protocol practices can be completed following successful completion of MI 116 – Patient Care and Pharmacology for Medical Imaging Professionals.
- Trauma Alert/Trauma Response practices can be completed following successful completion of the Trauma section of MI 238 – Clinical Seminar III.
- Operative Cholangiogram, ERCP and Hip Replacement practices can be completed following successful completion of the Operating Room section of MI 238 – Clinical Seminar III.
- Portable NICU Chest/Babygram practice can be completed following successful completion of the Portable section of MI 238 – Clinical Seminar III.
- Pigg-o-stat Pediatric Chest practice can be completed following successful completion of the Advanced Chest section of MI 133 – Clinical Seminar II.

Each practice experience must be recorded on the Documented Practice card provided at the outset of MI 133 Clinical Seminar II. The recorded information must include the date of completion, the signature of the supervising technologist, and first three digits of the patient’s Medical Record Number (MRN) along with the patient’s initials (first and last name only). Students are also responsible for supplying the first three digits of the patient’s Medical Record Number (MRN) along with the patient’s initials (first and last name only) to his/her Faculty Advisor/Clinical Group Leader and obtaining verification from his/her Faculty Advisor/Clinical Group Leader within one week of completion. Failure to obtain the supervising technologist’s signature or to obtain verification from his/her Faculty Advisor/Clinical Group Leader within one week of the practice will result in the need for the student to re-practice the procedure.

Documented Practice Requirements:

<u>Procedure</u>	<u>Practice Requirement</u>
1. Sterile Tray Prep	2
2. Trauma Alert/Trauma Response	2
3. Universal Protocol	2
4. Pigg-o-stat Pediatric Chest	1
5. Portable NICU Chest/Babygram	1
6. Operative Cholangiogram - OR	1
7. ERCP - OR	1
8. Hip Replacement (RadLink) – OR	1
9. Verbal Report (must be completed by end of MI 133)	2
• <i>Class of 2023 only</i>	

Additional documented practices may be required beyond those listed above as determined by program faculty.

Revised 8/7/2019; 8/2020; 7/2021

Radiographic Clinical Competency Requirements

For each clinical course, students are required to complete a minimum number of clinical competency evaluations. Progress deadlines for advancement to the next segment of education are identified in each Clinical Seminar course syllabus. In order to be eligible for graduation, a total of 52 clinical competencies must be successfully completed.

The following are lists of radiographic procedures that must be completed before a student is considered eligible for graduation. The radiographic procedure competencies are divided between mandatory procedures and elective procedures. All students must complete all identified mandatory competencies. In addition, all students must successfully complete a total of 15 (fifteen) radiographic procedures from the elective list to be considered eligible for graduation. Radiographic procedures can be performed using CR or DR technology.

Mandatory Radiographic Procedures Competency List

All of the following procedures must be successfully completed to be considered eligible for graduation.

Chest and Thorax

1. Chest (AP Erect and Lateral on wheelchair or litter)
2. Chest (Routine: PA erect, lateral)
3. Ribs (AP or PA, oblique)

Upper Extremity

4. *Clavicle (AP, AP Axial)
5. Elbow (AP, lateral, medial oblique, lateral oblique)
6. Finger (PA, oblique, lateral) or Thumb (AP, oblique, lateral)
7. Forearm (AP, lateral)
8. Hand (PA, oblique, fan lateral)
9. *Humerus (AP, lateral)
10. Shoulder (AP Internal, AP External)
11. Trauma Upper Extremity** (Non-shoulder) – can be mobile (excluding c-arm)
12. Trauma Shoulder (AP, Y view, and axillary as necessary)
13. Wrist (PA, oblique, lateral, and if necessary, navicular)

Lower Extremity

14. Ankle (AP, AP mortise, lateral)
15. Femur (AP, lateral)
16. Foot (AP Axial, oblique, lateral)
17. Knee (AP, lateral, medial oblique, lateral oblique OR AP, lateral, PA erect)
18. Tibia/Fibula (AP, lateral)
19. Trauma Lower Extremity**- can be mobile (excluding c-arm)

Spine and Pelvis

20. Cervical spine (AP, odontoid, LAO, RAO, lateral; cone-down, Swimmer's and/or AP Fuchs as necessary)
21. Thoracic Spine (AP, lateral)
22. Lumbar spine (AP, RPO, LPO, lateral lumbar, lateral sacrum)

23. *Cross Table (horizontal beam) Lateral Spine
24. Pelvis (At minimum – AP; excluding prosthesis view) (Frog, RPO, LPO as necessary)
25. Hip (AP, frog lateral)
26. *Hip (cross-table lateral)

Abdomen

27. Abdomen (KUB)
28. Abdomen (Erect)

Mobile C-arm Studies

29. C-arm Procedure (requires manipulation of c-arm to obtain more than 1 projection)
30. Surgical C-arm Procedure (requires manipulation around a sterile field)

Mobile Radiographic Studies

31. Portable Chest (supine or erect; excluding C-arm)
32. Portable AP Abdomen (bedside; excluding C-arm) (can be Portable KUB for feeding tube placement)
33. Portable Orthopedic (bedside; excluding C-arm)

Pediatric Patient Studies

34. Pediatric Chest (6 yrs or younger – PA and Lateral)

Geriatric Patient Studies (At least 65 years old and physically or cognitively impaired as a result of aging.)

35. Routine Chest (AP/PA and Lateral)
36. Upper Extremity (at a minimum, AP/PA and Lateral) – can be mobile
37. Lower Extremity (at a minimum, AP/PA and Lateral) – can be mobile

**Procedures marked with an asterisk may be simulated.*

***Defined by the ARRT as ‘Trauma is considered a serious injury or shock to the body and requires modifications in positioning and monitoring of the patient’s condition. (Radiography Didactic and Clinical Competency Requirements, 8/2016)*

Elective Radiographic Procedures Competency List

The following list of procedures is considered elective procedures by the ARRT. Students must successfully complete fifteen (15) of the following studies by the end of the second year of education to be considered eligible for graduation.

Students must successfully complete **at least one study** from the three categories listed below to count towards the required number of elective competencies. *(Please note – more than one study in each section may be successfully completed and counted towards the 15 required elective studies):*

1. Fluoroscopy procedure
 - a. *Barium Enema (Single or Double Contrast; adult patient: 18yrs of age or older) OR
 - b. *UGI (Single or Double Contrast; 7 years of age or older)
2. Fluoroscopy procedure
 - a. *Small Bowel (0-20 minute) or
 - b. *Esophagus (Single or Double Contrast)
3. Headwork procedure
 - a. * Facial Bones (Waters, lateral, and PA Exaggerated Caldwell)
 - b. * Mandible (AP Axial, PA and each Axial lateral Oblique)

- c. * Nasal Bones (Waters and each lateral)
- d. * Sinuses (PA, Waters, Open Mouth and lateral)
- e. * Skull (AP Townes, PA Caldwell, each lateral)
- f. * Temporomandibular Joints (AP Axial, open and closed axiolateral) OR
- g. * Zygomatic Arches (SMV)

In addition to successfully completing one of the studies in each category listed above, students must select 12 (twelve) of the following studies to apply towards the required number of elective studies that must be completed.

Chest and Thorax

- 1. * Chest (decubitus)
- 2. * Sternum (RAO and lateral)
- 3. * Upper Airway – Soft Tissue Neck (Lateral)

Upper Extremity

- 4. * AC Joints (AP neutral, AP weight bearing)
- 5. * Scapula (AP and Lateral)

Lower Extremity

- 7. * Heel (AP Axial, lateral)
- 8. * Knee (patella)
- 9. * Toes/Forefoot (AP and Oblique)

Head (students must successfully complete at least one study from this section)

- 10. * Facial Bones (Waters, lateral, and PA Exaggerated Caldwell)
- 11. * Mandible (AP Axial, PA and each Axial lateral Oblique)
- 12. * Nasal Bones (Waters and each lateral)
- 13. * Sinuses (PA, Waters, Open Mouth and lateral)
- 14. * Skull (AP Townes, PA Caldwell, each lateral)
- 15. * Temporomandibular Joints (AP Axial, open and closed axiolateral)
- 16. * Zygomatic Arches (SMV)

Spine and Pelvis

- 17. * Sacrum/Coccyx (each AP Axial, each lateral)
- 18. Scoliosis (PA)
- 19. * SI Joints (AP Axial, RPO, LPO)

Abdomen

- 20. * Abdomen (decubitus)

Fluoroscopy Studies (Students must successfully complete either UGI or Contrast Enema plus one other procedure from this section)

- 21. * Barium Enema (Single or Double Contrast; adult patient: 18yrs of age or older)
- 22. * Cystography/Voiding Cystourethrogram
- 23. * Esophagus (Single or Double Contrast)
- 24. * Small Bowel (0-20 minute)
- 25. * UGI (Single or Double Contrast; 7 years of age or older)

Pediatric Patient Studies

- 26. Pediatric KUB/AP Abdomen (6 years or younger as defined by the ARRT)
- 27. Pediatric lower extremity (6 years or younger as defined by the ARRT)

28. Pediatric mobile study (i.e. NICU chest or babygram, abdomen or orthopedic study - 6 years or younger as defined by the ARRT)
29. Pediatric upper extremity (6 years or younger as defined by the ARRT)

All 15 of the elective studies required to be eligible for graduation may be simulated on a simulated patient (i.e. fellow classmate). Due to feasibility of completing certain simulations, only those marked with an asterisk (*) may be simulated. All other studies must be performed on a live patient unless determined otherwise by the Clinical Coordinator and/or Program Director based on radiology department volume.

Rev. 8/7/19; 8/2020
Revised 7/2021

Radiographic Clinical Competency Evaluations

The methods used by the Clinical Seminar Faculty/Preceptors and clinical staff for competency testing evaluation include observation and assessment of the student's clinical performance, patient interaction, communication skills and problem solving ability. Students demonstrating positive behaviors are encouraged to consistently apply that behavior in the future. Similar advisement is provided to correct less than desirable behaviors so they may be avoided in the future.

For each clinical course, students are required to complete a minimum number of radiographic competency evaluations. The minimum requirement is identified in each Clinical Seminar syllabus. In order to be eligible for graduation, a total of 52 clinical competencies must be successfully completed.

Required Prerequisites

Prior to beginning the clinical competency testing phase, students must document prerequisite knowledge in: MI 110 Intro to Medical Imaging, MI 120 Radiation Protection and Medical Terminology, MI 116 Patient Care and Pharmacology for Medical Imaging Professionals. Students also receive an orientation to the clinical competency testing phase during an orientation process.

Additionally, the following prerequisites are in place:

- Completion of formal classroom lecture and laboratory demonstration by Clinical Seminar Faculty.
- Successful positioning skills practice of the procedure in the laboratory setting.
- Successful completion of the didactic portion (achievement of an 80% on didactic exam or corresponding assignment) of the competency being performed.
- Routine chest competency can only be completed following completion of a trial competency evaluation (Practice test) on two routine chests with Clinical Seminar Faculty or a Preceptor.
- Upper / Lower extremity competencies can only be completed following completion of a trial competency evaluation (Practice test) on an upper/lower extremity procedure with Clinical Seminar Faculty or a Preceptor.
- Pediatric competencies (chest, extremities, abdomens) can be completed only after successful completion of MI 123 Clinical Seminar I, MI 116 Patient Care and Pharmacology for Medical Imaging Professionals, and the instruction on pertinent body part.
- Geriatric competencies (chest, extremities, abdomens) can be completed only after successful completion of MI 123 Clinical Seminar I, MI 116 Patient Care and Pharmacology for Medical Imaging Professionals, and the instruction on pertinent body part.
- Portable competencies (chest, abdomen and orthopedic) can be completed only after successful completion of the Mobile procedures/NICU section of MI 238 Clinical Seminar III and instruction on pertinent body part.
- Surgical competencies (orthopedic and non-orthopedic c-arm procedures) can be completed only after successful completion of the Surgical Procedures section of MI 238 Clinical Seminar III.

- Trauma competencies (upper and lower extremities) can be completed only after successful completion of the Trauma section of MI 238 Clinical Seminar III.

Radiographic Competency Grading

Each student is tested in a variety of established categories during their education to verify clinical competency. In order to successfully demonstrate competence, students must perform certain tasks identified on the Clinical Competency Evaluation without error while other tasks must be sufficiently completed with minimal or minor errors. Expectations for performance are identified in the 'Clinical Competency Guidelines' located on Trajecsyst or in the 'OR Competency Guidelines' which will be distributed in MI 238 Clinical Seminar III. In order to be considered a successful competency attempt, students must earn an 80% or higher on each procedure. If these minimum requirements for accuracy are not met, the entire competency evaluation process must be repeated.

The clinical competency evaluation grade earned on each attempted mandatory and elective radiographic competency, along with equipment competency grades, will be averaged together at the end of each semester to determine the final competency grade for the semester. The final competency grade accounts for a portion of the Clinical Seminar course grade as outlined in each Clinical Seminar course syllabus.

Radiographic Clinical and Skills Competency Evaluation Procedure

Requests for competency testing should adhere to the procedures outlined below. A list of associated tasks for each procedure can be located on Trajecsyst and in the 'Clinical Competency Guidelines' or the 'OR Competency Guidelines'.

All Radiographic Procedure Competencies (excluding Fluoroscopy Procedures and Mobile C-arm Procedures):

1. Contact Clinical Seminar Faculty if immediately available within the clinical assignment area. Based on observations, Faculty will record results in Trajecsyst. It is the student's responsibility to review the results in Trajecsyst.
2. If Clinical Seminar Faculty is not available within the clinical assignment area and/or is involved with assessments of another student, contact a Clinical Preceptor within the clinical assignment area. Based on observations, the Clinical Preceptor will record results in Trajecsyst.
 - a. Review and verification of the competency evaluation by the Clinical Coordinator will occur. It is the student's responsibility to review results in Trajecsyst.
3. If Clinical Seminar Faculty and Clinical Preceptor are unavailable, contact a Registered Technologist and adhere to the following process:
 - a. Distribute a 'Procedural Evaluation Form' to the supervising Registered Technologist.
 - b. The supervising Registered Technologist will complete the 'Procedural Evaluation Form' based on observation.
 - c. The supervising Registered Technologist will submit the completed form interdepartmentally to Clinical Seminar Faculty at SHS.

- d. Clinical Seminar Faculty will review the completed form and will schedule an appointment with the student to review images and discuss the student's performance as documented on the 'Procedural Evaluation Form'.
 - e. Clinical Seminar Faculty will finalize the results of the competency attempt following this meeting and record the results in Trajecsys.
4. If the Registered Technologist is unavailable to complete the competency evaluation process, contact the Clinical Seminar Faculty by calling x3300 (Vocera) and state 'School of Health Sciences'

Fluoroscopy Procedures

1. Contact the Clinical Preceptor in the assigned clinical assignment area. If a Clinical Preceptor is not assigned to that location and/or if they are unavailable for the competency evaluation process, contact the Clinical Seminar Faculty by calling x3300 (Vocera) and state 'School of Health Sciences.'
2. The Clinical Seminar Faculty/preceptor will observe and document the student's performance of the procedure. Review and verification of the competency evaluations entered by clinical preceptors is completed by the Clinical Coordinator. It is the student's responsibility to review results in Trajecsys.

Mobile C-arm Procedures

1. Contact the Clinical Preceptor in the assigned clinical assignment area.
2. The Clinical Preceptor will observe and document the student's performance of the procedure. Review and verification of the competency evaluations entered by clinical preceptors is completed by the Clinical Coordinator. It is the student's responsibility to review results in Trajecsys.

NOTE:

1. A prior unsuccessful competency attempt prohibits a student from attempting competency on that same procedure within the same clinical day.
2. Students are expected to retain the knowledge and skills necessary to competently perform radiographic studies following successful competency testing. Failure to do so will necessitate the student having to complete a re-check competency with the Clinical Seminar Faculty or Clinical Coordinator. Students exhibiting continuous difficulties performing the study will have to re-document competency. Re-documentation of competencies can only be performed by a Clinical Seminar Faculty or the Clinical Coordinator.

Re-Locating to Another Clinical Area for Competency Testing

Students are strongly discouraged from leaving their assigned clinical assignment area to attempt competency testing in another clinical area. Historically, students are most successful in areas of assignment. For this reason, it is highly recommended that the student originally assigned be the one to perform the procedure (practice or test).

Termination of Competency Evaluation

Students, Clinical Seminar Faculty, and Preceptors defer to each patient's right to refuse treatment and radiographic examination by a student. Should the Clinical Seminar Faculty or

Preceptor deem it necessary to terminate a competency testing procedure in the interest of patient care, it will be done immediately. The Clinical Seminar Faculty or Preceptor will make the decision on whether or not the attempt would be considered unsuccessful or if the procedure would be negated based on an individual circumstance. Common reasons for trial evaluations include but are not limited to:

1. Patient condition not suitable for student's level of education.
2. Patient's anatomy unusual.
3. Unknown equipment malfunction.
4. Procedure must be expedited due to schedule or patient condition.

Trial Competency Evaluation (Practice testing)

Prior to the commencement of the procedure, the student may decide to "practice test" at which time the Clinical Seminar Faculty or Preceptor would proceed with the evaluation, however, the results would not be graded. Trial competency evaluations must be completed on two routine chests and one upper/lower extremity in MI 133 Clinical Seminar II prior to performing competency testing on these procedures.

Trial Competency Evaluation Procedure

1. If on the main hospital campus, contact the Clinical Seminar Faculty by calling x3300 (Vocera) and state 'School of Health Sciences'. If at an off-campus setting or during evening clinical assignments, contact the Clinical Preceptor directly.

Simulated Clinical Competency Evaluations

Availability of radiographic procedures performed in different areas of clinical assignment is monitored at the end of each semester. If availability falls below a certain level, actions plans are developed and may include performing competency testing via a simulated environment in the Medical Imaging Skills lab setting or another designated clinical area.

Procedures designated by the Program as allowable for competency simulation are identified in the 'Radiographic Clinical Competency Requirements' policy. Students are scheduled on a regular basis to complete competency simulations throughout the academic year as described under the Energized Laboratory Policy. Decisions to modify the competency simulation list are determined as data is collected by the Clinical Coordinator.

NOTE: Competency simulations must meet the following criteria:

- i. The student must simulate the procedure on another person with the same level of cognitive, psychomotor and affective skills required for performing the procedure on a patient.
- ii. The program director must be confident that the skills required to competently perform the simulated procedure will transfer to the clinical setting, and, if applicable, the student must evaluate related images. (Radiography Didactic and Clinical Competency Requirements, 8/2016)

Clinical Competency Remediation

If, after several competency attempts, clinical competency is not achieved, the following steps will be taken:

1. The procedure will be reviewed in the clinical assignment area(s) or in the skills laboratory with a member of the Clinical Seminar Faculty or Clinical Coordinator.
2. The student may be required to re-document the practice and/or simulation components for that procedure prior to re-attempting competency.

Revised 4/26/19; 8/9/19; 8/2020; 7/2021

Radiographic Equipment Competency Requirements

Students are required to complete a minimum number of equipment competency evaluations within each Clinical Seminar course. The minimum requirement is identified in the ‘Clinical Competency and Proficiency Requirement Deadlines’ and in each Clinical Seminar syllabus. In order to be eligible for graduation, a minimum of 9 (Class of 2022) or 10 (Class of 2023) equipment competencies must be successfully completed.

Master Radiographic Equipment Competency List

1. General Equipment
 - a. Emergency Department Room 1 / Main Dept. Rm. 4 – Philips Digital Diagnost 3.0 / 4.0
 - b. Exeter Imaging Center – GE Definium 5000
 - c. Spring Ridge Imaging, or Emergency Department Room 3 - Philips Digital Diagnost
 - d. AED – Canon free detector in Emergency Department
 - e. Main Dept. Rm 2 / Gateway Imaging - Shimadzu RAD Speed DR (Class of 2023 only)
2. Computed Radiography Reader
3. Fluoroscopy Specific Room 5
4. Fluoroscopy Specific Room 7
5. Portable Equipment
6. C- arm Equipment

Equipment Competency Grading

The grade earned for each equipment competency will be calculated according to the number of tasks done correctly divided by the total number of tasks attempted. Any task identified as unsuccessful must be re-attempted successfully at a later date to finalize the competency requirement. Each recurring unsuccessful task will result in further point deductions.

Equipment competency grades earned will be factored into the final competency grade each semester. The final competency grade accounts for a portion of the Clinical Seminar course grade as outlined in course syllabi.

Equipment Competency Evaluation Procedure

Requests to complete an equipment competency should adhere to the procedure outlined below:

1. Contact Clinical Seminar Faculty if immediately available within the clinical assignment area.
2. If Clinical Seminar Faculty is not available within the clinical assignment area and/or is involved with assessments of another student, contact a Clinical Preceptor within the clinical assignment area.
3. If Clinical Seminar Faculty and Clinical Preceptor are unavailable, contact a Registered Technologist and adhere to the following process:
 - a. Distribute the corresponding Equipment Competency Form to the supervising Registered Technologist.

- b. The supervising Registered Technologist will complete the 'Equipment Competency' form based on observation.
 - c. The supervising Registered Technologist will submit the completed form interdepartmentally to MI Program Faculty at SHS.
 - d. MI Program Faculty will review the completed form and enter the results into Trajecsys.
4. If the Registered Technologist is unavailable to complete the competency evaluation process, contact the MI Program Clinical Seminar Faculty by calling x3300 (Vocera) and stating 'School of Health Sciences'.

Revised 4/26/19; 8/6/19; 8/2020; 7/2021

Skills Competency Requirements

In order to verify a student retains information from previous courses, Skills Competencies will be completed in all Clinical Seminar courses beginning with MI 133 Clinical Seminar II. Skills Competencies are typically split into three main sections – Safety Skills, Procedural Skills and Critical Thinking Skills – and are completed throughout the semester.

Mid-semester Skills Competencies

- Tasks and items to be completed are identified on the Mid-semester Skills Competency forms which are distributed at the beginning of each Clinical Seminar course.
- Grades are calculated for each individual section, but the grades are not used to calculate any portion of the final course average. Mid-semester Skills Competencies are completed so a student can identify areas of strength as well as areas for improvement.
- If a student earns a grade $\leq 80\%$ on any section, remediation will be required in order to fully prepare for the End of Semester Skills Competencies.

End of Semester Skills Competencies

- Tasks and items to be completed are identified on the End of Semester Skills Competency forms which are distributed at the beginning of each Clinical Seminar course.
- Grades are calculated for each individual section and are averaged together to determine the final Skills Competency average at the end of each semester.
- The Final Skills Competency grade accounts for a portion of each Clinical Seminar course grade as outlined in course syllabi.
- If a student earns a grade $\leq 80\%$ on any section, remediation will be required.

Skills Competency Procedure

Clinical Seminar Faculty will evaluate student's skills competencies during weekly visitation in the clinical assignment area. Students should be prepared during all clinical assignments to complete required Skills Competencies. Results will be manually documented on the assessment forms located in the student's clinical binder as well as electronically recorded.

Re-check Competency and Terminal Proficiency Requirements

In order to move from competent to proficient, students are expected to participate in all clinical activities even following successful completion of competencies. In order to verify that a student has retained the ability to sufficiently perform various radiographic procedures, students are required to complete a designated number of re-checks on completed competencies. The number of re-check competencies required to be completed by the end of a semester will be published in the course syllabus.

In addition, in order to verify that a student has moved from competent to proficient, students are required to complete terminal proficiencies during Clinical Seminar VI. Successful completion of all Clinical Seminar VI Proficiencies is a requirement for completion of MI 278 Clinical Seminar VI as outlined in the course syllabus. Further guidelines will be provided via the course syllabus.

Re-check Competency and Terminal Proficiency Grading

The same guidelines used for competency testing will be used for re-check competencies.

- The grade earned on each attempted re-check competency will be averaged together at the end of each semester to determine the final re-check competency grade for the semester. During MI 278 Clinical Seminar VI, terminal proficiencies will also be part of the final re-check average. An unsuccessful re-check competency attempt on any procedure requires that same procedure to be successfully completed by semester end.
- The final re-check competency grade accounts for a portion of the Clinical Seminar course grade as outlined in course syllabi.

Re-check Competency Evaluation Procedure

Requests for completion of re-check competencies should adhere to the procedure outlined below:

1. Contact the Clinical Preceptor in the assigned clinical assignment area. If a Clinical Preceptor is not assigned to that location and/or if they are unavailable for the competency evaluation process, contact the Clinical Seminar Faculty by calling x3300 (Vocera) and state 'School of Health Sciences'
2. The Clinical Seminar Faculty/preceptor will observe and document the student's performance of the procedure. Review and verification of the competency evaluations entered by clinical preceptors is completed by the Clinical Coordinator. It is the student's responsibility to review results in Trajecsys.

NOTE:

1. An unsuccessful re-check competency attempt prohibits a student from attempting a re-check competency/terminal proficiency on that same procedure within the same clinical day.

2. An unsuccessful re-check competency/terminal proficiency attempt on any procedure requires that same procedure to be successfully completed by course/semester end.
2. If a student is unsuccessful when attempting a re-check competency/terminal proficiency, the student must perform that procedure under direct supervision of a qualified radiographer until the re-check competency/terminal proficiency is successfully completed.
3. Students are expected to retain the knowledge and skills necessary to competently perform radiographic studies following successful competency testing. Failure to do so will necessitate the student having to re-perform the procedure with the Clinical Seminar Faculty or Clinical Coordinator. Students exhibiting continuous difficulties performing the study will have to re-document competency. Re-documentation of competencies can only be performed by a Clinical Seminar Faculty or the Clinical Coordinator.

Re-check Competency and Terminal Proficiency Remediation

If a student demonstrates the inability to successfully complete re-check competencies and/or terminal proficiencies, the procedure will be reviewed in the clinical assignment area(s) or in the skills laboratory with a member of the Clinical Seminar Faculty or Clinical Coordinator.

Continued difficulties with successful completion of re-checks and/or terminal proficiencies will result in advisement, clinical warning/probation and/or dismissal from the program.

Revised 4/26/19; 8/9/19; 8/2020; 7/2021

Clinical Competency, Proficiency, and Documented Practice Requirement Deadlines

In order to progress to the next level of education, students are required to complete a minimum number of requirements during each Clinical Seminar course. Clinical competency, proficiency and documented practice (including radiographic, equipment, skills and re-check/proficiency) deadlines, correspond to the last scheduled day of clinical assignments and are published in the Clinical Seminar course syllabi.

The minimum competency/proficiency/documentated practice requirements for each Clinical Seminar are identified in the corresponding course syllabi.

Incomplete Requirements

See SHS Policy #305: Grading for additional information.

<https://reading.towerhealth.org/app/files/public/4948/305-Grading-SHS-20200219.pdf>

Students not meeting the minimum requirements by the scheduled deadline as outlined in the corresponding course syllabus will be considered incomplete and the following will occur:

- Placement on clinical warning
- Competencies and Proficiencies - 10 point deduction from final competency average for the semester if the required number of Radiographic Competencies, Equipment Competencies are not met or a 10 point deduction from the final re-check competency average for the semester if the minimum number of Re-check Competencies and/or Proficiencies are not met as established in the Clinical Seminar course syllabus.
- In addition, students who are incomplete during Clinical Seminar VI will not be permitted to participate in the Spring Semester graduation ceremony and will not be eligible for awards.

MI students who are incomplete may submit a written request for an extension to the Course Coordinator. A maximum two week extension in diagnostic clinical assignments may be given to complete competency, proficiency and/or documented practice requirements. No clinical assignments will be scheduled following the published deadline date unless needed by the program. The extension will therefore require the student to return to clinical assignment for up to two weeks in the subsequent semester. A student on extension who does not complete competency, proficiency and/or documented practice requirements by the end of the first week will be placed on clinical probation. Students on clinical probation who fail to meet the requirements of the previous and upcoming competency/proficiency/documentated practice deadlines are subject to consideration for dismissal. During MI 238 Clinical Seminar VI, the extension will only be granted pending an open seat in the program during the next summer semester. A certificate of graduation will only be awarded when all clinical requirements are fulfilled.

Advanced Imaging Modality Mini-Modules

Level II students are scheduled for clinical assignments in advanced imaging modalities. Students are permitted to visit any advanced modality area a maximum of two clinical assignments as a **Level II** student (Clinical Seminar IV-VI). Level II students are required to complete a written assignment, test, and/or presentation as outlined below. Collectively, all of these components comprise the Mini-Module associated with an area. Mini-Modules are required for clinical assignments in Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Ultrasound (US), Interventional Radiology (IR), Radiologist Assistants, Nuclear Medicine, Cardiac Catheterization Lab, Radiation Oncology, and second Radiologist assignments.

Mini-Module assignment grades are averaged per semester. The average will account for a percentage of the Clinical Seminar grade as indicated in the Clinical Seminar syllabus.

All corresponding mini-module exams must be completed on the last day of the clinical assignment. A 5-percentage point reduction from the grade earned will result if a student fails to take the exam on the last day of the clinical assignment. In addition, written assignments not submitted by the necessary due date will result in a loss of 5-percentage points. Established deadlines for written assignments are defined in the guidelines provided for the specific assignment. It is the student's responsibility to complete the exam/assignment as specified. Frequent failure to follow established deadlines will be discussed with the student and will be indicated on the Clinical Seminar Progress Report.

*****Please note:*** Due to the limited exposure to advanced imaging modalities, students are strongly discouraged from leaving these areas for competency testing.

The **Level II** requirement(s)/mini module for each modality is/are outlined below.

Interventional Radiology (IR)

- The first clinical assignment in IR as a Level II student requires the student to complete a worksheet which must be obtained from Edvance 360. Once completed, the worksheet must be submitted to the Clinical Seminar faculty to correct. The corrected worksheet should be used as a study guide for the mini-module exam. The test must be obtained from Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.
- A second clinical assignment in IR as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Cardiac Cath Lab

- During the first clinical assignment in Cardiac Cath Lab as a Level II student, a packet of information can be obtained from Edvance 360 or it will be given to Level II students when they arrive in the Cath Lab for their clinical assignment. The test will be given to the student by the Cardiac Cath Lab staff, and it must be taken on the last day of the clinical assignment.
- A second clinical assignment in Cardiac Cath Lab as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained

from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Computed Tomography (CT)

- The first clinical assignment in CT as a Level II student requires the student to complete a written assignment – guidelines are available on Edvance 360. The written assignment must be submitted to the CT staff (CT Clinical Coordinator or designate) one week after the completion of the clinical assignment.
- A second clinical assignment in CT as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Magnetic Resonance Imaging (MRI)

- The first clinical assignment in MRI as a Level II student requires the student to complete a worksheet which must be obtained from Edvance 360. Once completed, the worksheet must be submitted to the MRI clinical staff to correct. The corrected worksheet should be used as a study guide for the mini-module exam. The test must be obtained from Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.
- A second clinical assignment in MRI as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Nuclear Medicine

- The first clinical assignment in Nuclear Medicine as a Level II student requires the student to complete a worksheet which must be obtained from Edvance 360. Once completed, the worksheet must be submitted to the Clinical Seminar faculty to correct. The corrected worksheet should be used as a study guide for the mini-module exam. The test must be obtained from Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.
- A second clinical assignment in Nuclear Medicine as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Radiologist Assistant

- The first clinical assignment with the Radiologist Assistants requires the student to complete a worksheet which must be obtained from Edvance 360. The worksheet must be completed prior to the scheduled student assignment, and it must be submitted to the Radiologist Assistants for correction during the scheduled assignment. The corrected worksheet as well as information shared during your clinical assignment will be the focus of the mini-module exam. The test must be obtained from the Radiologist Assistants and must be taken on the last day of the clinical assignment.

- A second clinical assignment with the Radiologist Assistants requires the student to complete a mini-module exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and must be taken on the last day of the clinical assignment.

Radiologist

- If requested, Level II students will be assigned to observe a radiologist for a second clinical assignment during Clinical Seminar V or VI. This assignment will further reinforce the first assignment with the Radiologists, and is intended to aid the student's familiarity with different disease processes, enhance the student's ability to properly use medical terminology and reinforce the importance of their role in supplying diagnostic quality radiographs.

During the student's time with the radiologist, students are required to select two procedures that contain at least one sub-optimal image. Students must also submit a one page typed case study to the Clinical Coordinator or designate. The case study is due one week after the completion of the clinical assignment and can be submitted electronically through hospital e-mail.

At minimum, the summary must include the following information:

- MRN of each procedure (*first three digits of MRN and first and last name initials*)
- Date of each procedure
- why the images were considered sub-optimal by the radiologist
- how the deficiencies should be corrected
- how each sub-optimal image could lead to a mis-diagnosis from a radiologist's perspective
- pathological processes which may have hindered the technologist from obtaining ideal images
- how the roadblocks could have been overcome.

A technologist feedback form will not be completed for this assignment.

Radiation Oncology

- The first clinical assignment in Radiation Oncology as a Level II student requires the student to complete a written assignment. The guidelines for this written assignment are available for all Level II students through Edvance 360. The assignment must be submitted to the Radiation Oncology staff. The assignment is due two weeks after completion of the student's clinical assignment in Radiation Oncology.
- A second clinical assignment in Radiation Oncology as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Ultrasound (US)

- The first clinical assignment in US as a Level II student requires the student to complete a worksheet which must be obtained from Edvance 360. Once completed, the worksheet must be submitted to the Clinical Seminar faculty to correct. The corrected worksheet should be used as a study guide for the mini-module exam. The test must be obtained from Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.
- A second clinical assignment in US as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the Clinical Seminar Faculty's office in the Main Radiology Department and taken on the last day of the clinical assignment.

Mammography

- The first clinical assignment in Mammography as a Level II student requires the student to complete an exam using a directed reading article. The directed reading articles are available on Edvance 360 and are to be used to complete the exam. The exam must be obtained from the supervising technologist and taken on the last day of the clinical assignment.
- A second clinical assignment in Mammography as a Level II student requires the student to complete a multiple choice open-book exam. The exam must be obtained from the supervising technologist and taken on the last day of the clinical assignment.

Rev. 8/6/2019; 8/2020
Revised 7/2021

Mammography Clinical Assignments

The medical imaging program sponsored by Reading Hospital School of Health Sciences has revised its policy, effective Fall semester 2020, regarding the placement of students in mammography clinical assignments to observe and/or perform mammography.

Under this revised policy, all students, male and female, will be offered the opportunity to participate in mammography clinical rotations. The program will make every effort to place a male student in a mammography clinical rotation if requested; however, the program is not in a position to override clinical setting policies that restrict clinical experiences in mammography to female students. Male students are advised that placement in a mammography rotation is not guaranteed and is subject to the availability of a clinical setting that allows males to participate in mammographic imaging procedures. The program will not deny female students the opportunity to participate in mammography rotations if clinical settings are not available to provide the same opportunity to male students.

The program's policy regarding student clinical rotations in mammography is based on the sound rationale presented in a position statement on student mammography clinical rotations adopted by the Board of Directors of the Joint Review Committee on Education in Radiologic Technology (JRCERT) at its April 2016 meeting. The JRCERT position statement regarding mammography rotations is available on the JRCERT Web site, www.jrcert.org, Programs & Faculty, Program Resources.

Created 7/2020

Clinical Advisement

Students are provided ongoing feedback throughout their education on clinical performance through verbal guidance, Technologist Feedback on Student Performance forms, Clinical Competency Evaluations and Clinical Seminar Progress Reports to provide positive reinforcement and to correct less than desirable behaviors.

Clinical Warning and/or Clinical Probation

Students demonstrating below average performance in the clinical setting may be placed on clinical warning/probation. Examples of reasons students are placed on clinical warning and/or probation include but are not limited to the following:

- Below average performance as observed by Clinical Seminar Faculty and/or as documented on Technologist Feedback Forms on Student Performance and/or Clinical Seminar Progress Reports.
- Repeated unpreparedness for positioning skills practice in the laboratory setting.
- Inability to document competency after several attempts on one procedure or multiple procedures.
- Repeated unsuccessful re-check competencies and/or terminal proficiencies.
- Overall Clinical Seminar course average of 83% or less.
- Averages of 83% or less within a Clinical Seminar course section, including but not limited to Final Competency Average, Re-check Competency Average, Mini-module Average, and/or Unit Exam Average.

If a student is placed on clinical warning, areas for improvement will be outlined. If improvement is made as specified and the student continues to successfully progress within the clinical environment, students will be removed from clinical warning. If areas of improvement are not made as specified or if the student demonstrates difficulties in other areas of clinical, the student will be placed on clinical probation and areas for improvement will again be noted. Failure to make improvements as outlined can result in dismissal from the program.

Students will also be placed on clinical warning and/or clinical probation for not meeting the minimum competency requirement as required for the Clinical Seminar course (see Clinical Competency, Re-check Competency and Proficiency Requirement Deadlines - Incomplete Requirements and Clinical Seminar course syllabi).

If, for any reason, a student is placed on clinical probation a second time (ie failure to meet a clinical deadline a second time), they are subject to consideration for dismissal.

Rev. 8/6/19; 8/2020
Revised 7/2021

Medical Imaging Skills Laboratory Suite

The MI Non-energized and Energized Skills Laboratories are located on the Ground Floor at the School of Health Sciences (SHS 912). The suite is used throughout the course of education to support student achievement of various clinical goals. Activities are designed to enhance and perfect radiographic skills and to provide students with additional clinical practice opportunities as needed.

NOTE: Students are responsible for leaving the lab suite in “patient-ready” condition after educational assignments and individual experiences. No student will be dismissed until all items are clean and neatly put away. At the conclusion of each educational assignment, tubes, phantoms, sponges, markers, cassettes, cassette holders and any other ancillary devices must be properly stored. As is the case in the live clinical setting, the next professional entering deserves a clean and well prepared room to work in.

Students are expected to handle the Phantom with respect. The same care exercised with patients should be used when moving and positioning the Phantom. The student should always come to the lab prepared with positioning notes and by being familiar with the positioning routine and evaluation criteria.

Under no circumstances are guests permitted to accompany students into the Medical Imaging Skills Laboratory Suite.

Non-energized MI Skills Laboratory

The Program Faculty encourages students to use the non-energized laboratory at the School of Health Sciences as a learning resource. The non-energized laboratory enables students to practice positioning skills and manipulate the equipment without direct supervision from a member of the Program Faculty.

Daytime access to the non-energized lab is limited by the class and clinical schedules. Evening and weekend access is attainable any time the SHS building is open. An access card (ID badge) is required for entry into the building as well as entry into the skills lab. Any student wanting to schedule time in the non-energized lab, must schedule it in advance with the Clinical Coordinator.

- **Guidelines for Usage**

The following guidelines apply while students are using the non-energized laboratory.

1. The student must indicate the time they began using the laboratory, the learning exercises being performed, and the time of completion on the sign-in sheet on the Non-energized lab door.
2. The student is expected to turn off the equipment when he/she is done using the laboratory.
3. The student is expected to return all items used for the laboratory to their proper place.
4. Inappropriate use of the non-energized skills laboratory will result in disciplinary action up to and including dismissal from the program.

Energized MI Skills Laboratory

Enrolled students participate in learning activities in the energized skills laboratory as indicated on course syllabi and the clinical assignment schedule.

- **Guidelines for Usage**

The following guidelines apply while students are utilizing the energized skills laboratory:

1. Program Faculty must be with the student at all times when exposures are being taken. The energized skills laboratory is locked at all times. All MI Program Faculty have entry keys. The Program Faculty member providing supervision will immediately be available for assistance with Phantom movement and questions as the student completes the laboratory.
2. It is not permissible under any circumstances for ionizing radiation to be applied to humans utilizing the equipment located in the energized skills lab.
3. Program Faculty and students are expected to wear radiation monitoring devices while taking exposures in the energized skills laboratory.
4. While taking radiographic exposures, all individuals in the skills lab are expected to stand behind the control booth barrier.
5. Inappropriate use of the energized skills laboratory will result in disciplinary action up to and including dismissal from the program.
6. The student is expected to follow procedural protocols and routines used for actual patients.
7. The student must indicate the time they began the laboratory, the learning exercises being performed, fluoroscopy time if applicable, and the time of completion in the Log Book. The Log Book is kept in the skills laboratory. After completion of the skills laboratory procedure, the MI Program Faculty will verify the record.

Portable (Mobile) Equipment – Deactivated Switch

The Program Faculty encourages students to use the portable equipment located in the MI Skills Laboratory at the School of Health Sciences as a learning resource. The portable equipment enables students to practice positioning skills and manipulate the equipment without direct supervision from a member of the Program Faculty.

Daytime access to the MI Skills Lab area is limited by the class and clinical schedules. Evening and weekend access is attainable any time the SHS building is open. An access card (ID badge) is required for entry into the building as well as entry into the skills lab. Any student wanting to schedule time using the Portable (Mobile) Equipment, must schedule it in advance with the Clinical Coordinator.

- **Guidelines for Usage**

The following guidelines apply while students are using the portable equipment.

1. The student must indicate the time they began using the portable, the learning exercises being performed, and the time of completion on the log sheet located on the Portable machine.
2. The student is expected to turn off the equipment, plug the unit in when he/she is done using the equipment, and to lock the key in the provided lock box.

3. The student is expected to return all items used for the practice session to their proper place.
4. Inappropriate use of the portable machine or skills laboratory will result in disciplinary action up to and including dismissal from the program.

Student Lab Opportunity:

Clinical Competency Simulations

Students are scheduled to perform clinical competency evaluations on simulated patients (i.e. classmate, faculty/staff member, etc.) each semester beginning with Clinical Seminar III. A schedule will be provided at the outset of the semester.

Students are expected to come to the lab prepared to complete clinical competency evaluations within the allotted amount of time. Students deemed to be unprepared for the scheduled competency simulation time will be dismissed from the lab and the time will not be re-scheduled during clinical assignment hours.

If a student wants to schedule additional hours beyond what is scheduled by the program, they must notify the Clinical Coordinator.

Revised 4/26/19; 8/7/19; 8/2020; 7/2021

Competency/Practice Logs

At the conclusion of each month as well as at the end of each semester, all students must complete a Competency/Practice Log form. As indicated on the form, the student must record all radiographic and equipment competency attempts and all documented practices. Competency/Practice Logs are available on Trajecsys. Students must submit the form to their assigned Faculty Advisor/Clinical Group Leader by the fourth day of each month. Forms must be submitted to the Faculty Advisor/Clinical Group Leader electronically via e-mail. Repeated forgetfulness and/or improper completion is considered unprofessional conduct and will be discussed with the student and documented on the Clinical Seminar Progress Report.

Rev. 4/2020
Revised 7/2021

Student Feedback on Clinical Education

Enrolled students are encouraged to provide feedback about their educational experiences. Feedback is then utilized by the program to continually improve its offerings. In addition to the open door policy maintained by the director and faculty, several survey opportunities are also provided for student evaluation and feedback.

Clinical Area Evaluations

An evaluation is provided on Trajecsys to allow students to evaluate the various clinical areas they are assigned to over the course of each semester. The purpose of this evaluation is to give students the opportunity to submit feedback regarding the quality of the clinical learning environment. This evaluation is submitted electronically and voluntarily. The evaluation can be completed multiple times over the course of the semester. Students are asked to include comments which are:

- a. **FACTUAL** – include only personal experiences; avoid hearsay, speaking for others, judgments, and assumptions
- b. **SPECIFIC** – Describe specific experiences, providing as much detail as possible so that desirable circumstances can be duplicated, and undesirable circumstances can be avoided. Recognize that generic statements provide no means for replication or for change.
- c. **CONSTRUCTIVE** – Identify what was most helpful to your educational experience as well as any support that was not provided that would have been helpful. Suggestions for change or improvement should be delivered professionally and considerately.

Upon request, students will be provided hardcopy surveys to complete. At the end of each semester, results from completed evaluations are assessed, comments are summarized, and a final report of findings is submitted to the Operations Manager of the Radiology Department. Copies of the report are also distributed to the Director of the Medical Imaging Program. The purpose of this collaborative review is to continually improve the clinical education experiences offered to enrolled students.

Clinical Seminar Faculty Evaluations

Course-Faculty Evaluations will occur for Clinical Seminar courses as outlined in the Program Handbook.

Revised 4/26/19

Overview of Documentation Requirements during Various Clinical Assignments

Clinical Assignment	Daily Log Sheets - Trajecsys	Repeat Log Sheets	Technologist Feedback Form	Assignment or Worksheet	Mini Module Graded Assignment
Main Department – Rooms 2 and 4	X	X	X		
Fluoroscopy - Rooms 5 and 7	X	X	X		
Emergency Department - Room 1, 2, 3, Portables	X	X	X		
Operating Room	X	X	X		
Portable Radiography	X	X	X		
Berkshire Heights Imaging Center (BHI)	X	X	X		
Spring Ridge Imaging Center (SRI)	X	X	X		
Exeter Imaging Center (EIC)	X	X	X		
Gateway Imaging Center (GIM)	X	X	X		
Douglassville Imaging Center	X	X	X		
Leesport Imaging Center	X	X	X		
Radiologist – Level I - First Assignment					
LEVEL II – ADVANCED MODALITIES					
Radiologist – Level II – Second Assignment		X			Written Assignment
Computed Tomography (CT) – Level II – First Assignment		X	X		Written Assignment
Computed Tomography (CT) – Level II – Second Assignment		X	X		Open-book Exam
Interventional Rad. (IR) – Level II – First Assignment		X	X	Worksheet	Exam
Interventional Rad. (IR) – Level II – Second Assignment		X	X		Open-book Exam
Magnetic Resonance Imaging (MRI) – Level II – First Assignment		X	X	Worksheet	Exam
Magnetic Resonance Imaging (MRI) – Level II – Second Assignment		X	X		Open-book Exam
Radiologist Assistant (RA) – Level II – First Assignment		X	X	Worksheet	Exam
Radiologist Assistant (RA) – Level II – Second Assignment		X	X		Exam
Rad. Oncology – Treatment – Level II – First Assignment		X	X		Written Assignment
Rad. Oncology – Treatment – Level II – Second Assignment		X	X		Open-book Exam
Ultrasound – Level II – First Assignment		X	X	Worksheet	Exam
Ultrasound – Level II – Second Assignment		X	X		Open-book Exam
Mammography – Level II – First Assignment		X	X		Exam
Mammography – Level II – Second Assignment		X	X		Open-book Exam
Cardiac Cath Lab – Level II – First Assignment		X	X	Worksheet	Exam
Cardiac Cath Lab – Level II – Second Assignment		X	X		Open-book Exam
Nuclear Medicine – Level II – First Assignment		X	X	Worksheet	Exam
Nuclear Medicine – Level II – Second Assignment		X	X		Open-book Exam

Reading Hospital School of Health Sciences Medical Imaging Program

Clinical Competency Guidelines 2021-2022

The following criteria, and the accompanying explanations, are utilized as a guide for completing Clinical Competency evaluations. These criteria and explanations are used as a guide for completing the evaluation but are not representative of a complete listing of all possible expectations since each patient and each procedure is unique.

Radiation Safety and Patient Safety

- **Check orders/chart**
 - *What should be done?*
 - Identify the radiographic procedure(s) requested by the physician.
 - If an EPIC order, student must review order using the electronic medical record (Radiant). If a non-EPIC physician, student must verify the transcribed order and must show the orders to the Registered Technologist.
 - Properly evaluate order for accuracy and takes appropriate steps to verify orders if needed with physician's office
 - *Unsuccessful if:*
 - Student does not check EPIC or transcribed orders and verify with Registered Technologist
 - Student does not follow orders and almost x-rays wrong body part
 - Student does not take action to verify orders with physician's office if order is questionable
- **ID's patient using 2 patient identifiers**
 - *What should be done?*
 - Confirm the identity of the patient by checking two forms of ID before beginning the procedure in the presence of the Clinical Seminar Faculty or preceptor
 - Actively involve patient by asking name and DOB
 - For in-patients, check arm band and compare patient name and DOB to the requisition
 - When imaging an outpatient minor (age 17 and under), the student has parent/guardian accompany the patient into the X-ray room to explain the procedure and ensure it is ok to proceed with the examination. Student assists patient back when exam is complete.
 - *Unsuccessful if:*
 - Student does not check two forms of patient identification

- **Obtains pregnancy status and LMP**
 - *What should be done?*
 - Student asks (in the presence of Clinical Seminar Faculty or preceptor) all female patients ages 11 to 55 years first day of last menstrual period **and** pregnancy status. Student proceeds as determined by Reading Hospital Radiology Department ‘Imaging Pregnant Patients’ policy.
 - Student confirms pregnancy status of females (within a reasonable age) staying in the radiographic room
 - *Unsuccessful if:*
 - Student does not verify pregnancy status and/or LMP of females aged 11-55 years of age
 - Student does not proceed as determined by Reading Hospital Radiology Department ‘Imaging Pregnant Patients’ policy.
- **Provides radiation protection for patient, self and others**
 - *What should be done?*
 - Demonstrated proper radiation practices for patients by providing appropriate gonadal shielding if not within the area of interest.
 - Women – from infancy until menopause
 - Men – from infancy until such time as there is no longer a reasonable potential for reproduction.
 - Student closes radiographic room door and asks non-essential persons to leave the area before taking an exposure.
 - Student shouts “X-RAY” prior to giving patient breathing instructions during portable examinations.
 - Student gives all those in the area enough time to leave the vicinity before taking an exposure
 - Student provides all those unable to leave the radiographic room with a protective lead shield
 - Student wears protective lead shields for **all** portable and fluoroscopy exams.
 - Moves unnecessary patient anatomy out of the light field/exposure field.
 - *Unsuccessful if:*
 - Student does not provide patient with a protective lead shield when necessary or student does not appropriately apply protective lead shield
 - Women – from infancy until menopause
 - Men – from infancy until such time as there is no longer a reasonable potential for reproduction (competency testing purposes – to at least age 55)
 - Student does not ask non-essential persons to leave the vicinity before taking an exposure
 - Student does not shout “X-RAY” before taking an exposure during portable examinations.

- Student does not provide protective lead shield(s) to others in the room
 - Student does not wear lead as required
 - Student unnecessarily exposes patient anatomy other than that required for study being performed (i.e. arms exposed while performing an abdomen because student did not move the arms.)
- ***Wears radiation badge and ID badge***
 - *What should be done?*
 - Student is wearing ID badge at all times
 - Radiation badge worn at collar level at all times. If wearing a lead apron, must wear badge outside of lead apron.
 - *Unsuccessful if:*
 - Student does not have dosimeter or improperly wears dosimeter
 - Student does not have ID badge
- ***Maintains sterile technique***
 - *What should be done?*
 - Serves all supplies on trays without contaminating supplies or acknowledges contamination and takes appropriate steps to correct it
 - *Unsuccessful if:*
 - Student contaminates sterile supplies and does not take the proper steps to rectify it.
- ***Complies with standard precautions***
 - *What should be done?*
 - Student wears PPE's as necessary for procedure
 - Student covers image receptors for isolation patients or when a patient is bleeding
 - Student cleans wireless and portable image receptors after usage
 - Student washes hands before and after patient contact
 - Student keeps equipment clean by not touching it with dirty gloves or if contamination does occur, cleans equipment appropriately
 - *Unsuccessful if:*
 - Student does not wear proper PPE's to protect self and others
 - Student contaminates equipment without knowledge and does not take any corrective actions
- ***Assists patient as necessary***
 - *What should be done?*
 - Students assists patient while lying down if they are in need of it.
 - Student asks for additional assistance to help patient get on and off table as needed.

- *Unsuccessful if:*
 - Student offers no assistance to the patient when he/she is in need of it.
 - Student does not get assistance from additional staff members as needed.
- ***Ensures patient safety by taking precautionary measures and properly handling medical equipment so as not to cause patient harm***
 - *What should be done?*
 - Student checks patient's condition regularly.
 - Applied all brakes on wheelchairs and litters prior to moving patient onto the x-ray table.
 - Student moves tube away from table so patient can safely get on and off table.
 - Student is cautious of the patient's fingers in regard to the moving parts of the table and bucky.
 - Student watches all tubing and catheters so that they do not get pulled out
 - Student checks oxygen tank levels.
 - If student needs to remove oxygen tubing or connected EKG leads for a procedure, he/she contacts the nurse or doctor prior to removing it.
 - Student stays with the patient at all times or has someone stay with the patient while checking images
 - Student always places side rails up when leaving the side of the bed and after a procedure is completed
 - Student demonstrates the proper technique when moving a fractured body part.
 - Student assures that the patient has appropriate footwear (slipper socks, shoes, etc.) on if the patient is standing or walking for the imaging procedure.
 - Student lowers bed to the lowest possible position after performing bed side imaging.
 - Student reviews inpatient/outpatient hall pass and takes appropriate precautions based on fall risk assessment.
 - Student assesses patient for pain meds, dizziness, etc. prior to standing patients.
 - AED (Canon detector) is prepared and in a ready state to capture the image being acquired
 - Fluoro specific:
 - Student verifies patient allergies utilizing EPIC
 - Barium types are labeled and verified with the Clinical Seminar Faculty/preceptor upon arrival.
 - Student asks patients important questions for each procedure (allergies, diabetic, etc.)
 - Student has appropriate contrast media ready for procedure being completed
 - Student gives barium follow up instructions in detail and also gives the barium paper to the patient.

- *Unsuccessful if:*
 - Student fails to put brakes on wheelchair or litter, and does not hold it for the patient
 - Student does not move tube away from patient before patient gets on/off the table
 - Student does not take proper care of medical equipment – IV’s, oxygen, ET tube, NG tube, chest-tubes, foley catheters, etc.
 - Student removes oxygen tubing and/or connected EKG leads for the procedure for an extended period of time without asking nurse or doctor first.
 - Student leaves patient unattended with side rails down or laying on the table
 - Improperly supported a patient’s extremity during trauma radiography
 - Student does not provide the patient with appropriate footwear when the patient is standing or walking for the imaging procedure.
 - Student does not lower bed to lowest possible position after performing bedside imaging.
 - Student does not review hall pass and take appropriate measures.
 - Student fails to recognize that a patient should not stand due to condition, medication, etc. or, does not verify if patient had pain medication
 - AED (Canon detector) is not prepared and is not in a ready state (patient would be exposed but no image acquired)
 - Fluoro specific:
 - Student fails to ask the patient important questions when administering contrast media (i.e. allergies or sensitivity to contrast media for barium studies, IVU’s, myelograms; diabetic)
 - Student does not verify patient allergies utilizing EPIC
 - Student has wrong contrast media
 - Student does not give proper barium follow-up instructions
 - Student does not obtain and/or verify medication list is scanned in EPIC from patients for fluoroscopy procedures.
 - Student does not appropriately label barium cups for fluoroscopy procedures.
- **Observes patient**
 - *What should be done?*
 - Student ensures that the patient is following breathing instructions and is not moving for all images taken for the procedure by watching him/her for all exposures.
 - *Unsuccessful if:*
 - Student does not observe patient during exposure and patient moves

- ***Uses collimation***
 - *What should be done?*
 - Student collimates correctly for all images obtained while adhering to proper collimation fields as taught in Clinical Seminar courses.
 - Student knows when to open the collimation or limit the collimation size to account for patient size.
 - Student follows the rules of collimation for using CR cassettes so that the Exposure Index is within the proper range for all images.
 - *Unsuccessful if:*
 - Student does not collimate to body part or to image receptor size by acknowledging principles of ALARA (or as taught in Clinical Seminar courses).
 - Student attempts to use post-exposure shuttering, cropping and/or electronic masking for the purpose of excluding exposed anatomy or markers.
 - If one image was obtained, and the collimation is **grossly smaller than necessary** requiring a repeat image to be taken because much of anatomy was cut off or EI was not proper. (student must be charged for the number of repeats necessary)
 - If multiple images are obtained, and greater than 50% are **grossly smaller than necessary**, requiring some images to be repeated due to much of the necessary anatomy not being visualized. (student must be charged for the number of repeats necessary)
- ***Completes pre-procedural paperwork***
 - *What should be done?*
 - EPIC Screening Form is completed properly. Student independently reviews it to ensure that all questions are completed and answered thoroughly.
 - Student reviews medication list in the presence of Clinical Seminar Faculty or Preceptor.
 - *Unsuccessful if:*
 - Student does not complete or incorrectly completes any documentation necessary in fluoro (ie: screening form, electronic health record)

Preparation

- ***Prepares exam room and patient – equipment, worklist, patient changed***
 - *What should be done?*
 - Student has radiographic room prepared, neat, and orderly with necessary supplies before the patient arrives in the room.
 - Sheet is placed on the table, patient is selected from worklist if in DR room, technical factors are selected, sponges are wrapped as necessary, all necessary cassettes are in the radiographic room in their appropriate location, etc.
 - Student verifies with the Clinical Seminar Faculty or preceptor that the correct patient is selected.
 - Student has the patient properly gowned with all unnecessary/interfering clothing, jewelry, dentures, etc. removed. Student helps the patient change if necessary.
 - Student ensures patient is changed properly before taking first exposure.
 - Student moves all tubing and gown snaps out of the vicinity of the anatomy of interest.
 - Fluoro specific:
 - Necessary contrast agents in room to begin study
 - *Unsuccessful if:*
 - Student is unaware of what supplies are needed in order to perform the radiographic study
 - The student did not have the patient change properly, and the clothing / jewelry or other obvious artifact interfered or would have interfered with the image by superimposing over anatomy of interest
 - For example – visible bra while positioning for CXR, pin overlying chest for CXR, necklace not removed for CXR or C-spine, Glasses and/or earrings not removed for c-spine radiograph.
- ***Uses room and equipment***
 - *What should be done?*
 - Student places the tube in detent and aligns the image receptor with the IR properly without hesitation.
 - Student moves the table fluently and without hesitation
 - Student moves the x-ray tube smoothly and efficiently.
 - Fluoro specific:
 - Student understands all locks and buttons on the x-ray tube and/or the fluoro tower.
 - *Unsuccessful if:*
 - Student needs assistance moving equipment for failure of knowing the appropriate locks to use.

- Clinical Seminar Faculty/preceptor needs to intervene for safety of the patient or other healthcare workers present in the room.
 - In DR rooms, student cannot align without the assistance of the servo function.
- ***Completes procedure by not exceeding the designated turn around time by greater than 50%***
 - *What should be done?*
 - Student is prepared and efficiently completes the exam within the designated turn around time for the area and procedure
 - *Unsuccessful if:*
 - Student takes an extended amount of time to complete the exam because he/she wasn't fully prepared

Communication

Student follows AIDET model- The five fundamentals of patient communication.

- **Acknowledge the patient**
- **Introduce yourself and the Clinical Seminar Faculty/preceptor**
- **Duration- tell your patient how long their procedure will take to manage their expectations**
- **Explain the procedure**
- **Thank the patient**

- **Obtains patient history**
 - *What should be done?*
 - Student obtains a detailed history from the patient relative to the requested procedure (e.g. trauma, location, onset, prior condition, etc.).
 - Student makes visual observations that pertain to the procedure (e.g. bruising, swelling, lacerations, etc.)
 - Student asks the patient further questions as necessary in a way to instill confidence in the patient.

 - *Unsuccessful if:*
 - Student does not ask for a patient history and begins the study.

- **Explains the procedure**
 - *What should be done?*
 - Student thoroughly tells the patient what procedure(s) will be performed, explains the procedure(s), and answers questions asked by the patient (if possible) in understandable/simple terms prior to beginning the procedure.

 - *Unsuccessful if:*
 - Student fails to provide the patient with an explanation of the study.
 - Student provides the patient with incorrect information about the study.

- **Introduces self and Clinical Seminar Faculty/preceptor**
 - *What should be done?*
 - Student introduces him/herself by stating name and that he/she is a student. Student also introduces Clinical Seminar Faculty/preceptor at the beginning of the study.

 - *Unsuccessful if:*
 - Student does not introduce themselves to the patient by stating his/her name and/or by not introducing themselves as a student.

- **Instructs patient throughout the exam**
 - *What should be done?*
 - Student keeps patient informed about the progress of the exam.
 - Student tells the patient the movement and/or breathing instructions while still in the room with the patient, and ensures that the patient

understands the directions. The student then waits to give the breathing instructions until he/she is at the control panel.

- *Unsuccessful if:*
 - Student does not inform patient as to the progress of the exam.
 - Student does not give any movement and/or breathing instructions and takes the image.
 - Student gives wrong breathing instructions from what was taught in the Clinical Seminar course, and it creates a poor quality radiograph.
 - Expiration for CXR, inspiration for lower ribs, inspiration for c-spine which causes shoulders to raise, etc.
- ***Communicates with healthcare team members***
 - *What should be done?*
 - Student contacts and professionally communicates with physicians when clarifying orders or reports.
 - Student contacts and professionally communicates with physician's offices when calling verbal reports.
 - Student contacts and professionally communicates with RA's/Physicians when performing fluoroscopy procedures to discuss patient history, prior reports, etc.
 - *Unsuccessful if:*
 - Student does not share pertinent information with physicians, RA's, radiologists, etc. for the study being performed or for verbal reports.

Professional Conduct

- ***Exhibits self-confidence, instills confidence in patient; treats patient with respect***
 - *What should be done?*
 - Student interacts with patient in a professional manner throughout the exam.
 - Student addresses patient properly by his/her name (Mr./Mrs.)
 - Student completes all portions of the exam in an easy manner – moves table and tube fluently, adjust patient position with ease, etc.
 - *Unsuccessful if:*
 - Student does not complete the exam due to uneasiness or uncertainty of the routine exam.
 - Student does not converse with patient using a reassuring tone.
 - Student double/triple checks patient position, central ray, table position, etc. and is consistently realigning them.
- ***Provides comfort to patient***
 - *What should be done?*
 - Uses pillows, blankets, and sponges to make patient comfortable during the exam.
 - *Unsuccessful if:*
 - Student did not provide sponges or pillows to the patient when the patient was visibly in pain.
- ***Maintains patient modesty***
 - *What should be done?*
 - Student escorts patient to the radiographic room and offers patient another gown or holds gown shut as patient is walking through the hallway.
 - Student keeps patient clothed and/or covered for modesty at all times.
 - *Unsuccessful if:*
 - Student does not cover up patient so that he/she is not exposed
- ***Conducts oneself according to Reading Experience Standards.***
 - *What should be done?*
 - Student is not chewing gum during examination.
 - Student uses appropriate language during the examination and gives the patient reassurance that the procedure is going well.
 - Student exhibits him/herself in a professional manner by adhering to appropriate uniform guidelines.
 - Student adheres to HIPAA guidelines by asking patient's questions in the appropriate area.
 - If parent enters imaging room with a minor, student assures that all other patient information is kept confidential (i.e. no other patient

information is evident in EPIC, patient already selected from worklist, etc.)

- Student accepts and learns from constructive criticism.
- Reading Experience Standards:
 - Create a lasting impression.
 - Create a healing, caring and respectful environment.
 - Make a difference.
 - No Pass Zone – responsiveness to patient’s and visitor’s needs is everyone’s responsibility.
- *Unsuccessful if:*
 - Student uses inappropriate language when positioning and/or when asking questions to the patient.
 - Student leaves the clinical area without notifying anyone because he/she is upset or angry.
 - Student is unwilling to accept constructive criticism (i.e. : Reacts in an argumentative or otherwise unprofessional manner)
 - Student does not assure confidentiality of patient information.

Technical Factors

- **Selects appropriate exposure factors**
 - *What should be done?*
 - Student selects appropriate kVp, mA and time/mAs, and ionization chambers (as necessary) and acknowledges and verifies technical factors being utilized for all positions/projections with the Clinical Seminar Faculty/preceptor prior to exposing the patient (references such as technique books in the rooms can be used)
 - NOTE – exception to the use of references to set techniques is during Terminal Proficiencies in Clinical Seminar VI.
 - Student carefully measures at the appropriate location, and accurately reads the calipers to obtain proper technical factors.
 - Student measures the patient when the patient is in the correct position (i.e. for decub abdomens and decub BE's, patient remains in the AP position for the measurement).
 - *Unsuccessful if:*
 - Student grossly sets technique incorrectly. This includes but may not be limited to:
 - kVp increased or decreased greater than 15% from optimal kVp value (as defined in technique books and Clinical Seminar courses) without a corresponding change in mAs value.
 - mAs increased or decreased greater than 30% of acceptable mAs value
 - Ionization chambers not accurate for body part being imaged.
 - Student does not verify/acknowledge technical factors set with the Registered Technologist for all projections
 - Student incorrectly measures the patient for the image being obtained (i.e. student measures the patient laterally for a decub image, or student measures the patient AP for a cross table image).
 - Student reads the calipers in inches instead of centimeters, and he/she does not notice that the measurement obtained does not match the technique book.
 - Student's measurement is incorrect (greater than 2 cm) and Registered Technologist needs to intervene.
- **Sets SID**
 - *What should be done?*
 - Student uses the correct SID for all images obtained (within 2 inches).
 - Student measures SID manually when required for study being performed.
 - *Unsuccessful if:*
 - Student does not know appropriate SID for projection, or he/she forgets to check SID and it is grossly off (greater than 2 inches).

- ***Uses the operating console***
 - *What should be done?*
 - Student easily uses different functions on the operating console – adjusts kVp, mA, time settings, AEC settings, etc. with ease.
 - Student activates correct image receptor – free exposure, table image receptor, or erect image receptor – for all images taken.
 - *Unsuccessful if:*
 - Student attempts to take image when wrong image receptor is activated without technical factors being set correctly and registered technologist must intervene.
 - Student does not know how to turn AEC on/off, how to adjust kVp, mA, or time settings, etc.

Positioning Skills

Using the scale below, if the number of repeats permitted for minor **positioning errors** (centering, rotation, etc.) is exceeded, this section is considered unsuccessful.

- Student permitted 4 repeats on studies requiring 10 images
- Student permitted 4 repeats on studies requiring 9 images
- Student permitted 3 repeats on studies requiring 8 images
- Student permitted 3 repeats on studies requiring 7 images
- Student permitted 2 repeats on studies requiring 6 images
- Student permitted 2 repeats on studies requiring 5 images
- Student permitted 1 repeat on studies requiring 4 images
- Student permitted 1 repeat on studies requiring 3 images
- Student permitted 1 repeat on studies requiring 2 images
- Student permitted 0 repeats on studies requiring 1 image

Repeats do not count as the number of images required.

- ***Follows department routines***
 - *What should be done?*
 - Student knows what images to take after receiving patient request or obtaining patient history. All images are taken as required.
 - *Unsuccessful if:*
 - Student is unaware of routine views and attempts to take an additional radiograph unnecessarily, or he/she forgets to take a required image.
- ***Uses appropriate body positioning (PA vs. AP, erect vs. supine, etc.)***
 - *What should be done?*
 - Student correctly positions the body part as taught in Clinical Seminar courses – body part is turned in the correct direction for obliques and laterals
 - *Unsuccessful if:*
 - Student incorrectly positioned the body part
 - Example: Rotates the hand medially instead of laterally for hand oblique or lateral OR does a PA forearm instead of an AP
- ***Uses correct image receptor size and orientation and places in the appropriate location***
 - *What should be done?*
 - Student uses correct image receptor size and orients it properly for the image being taken.
 - Student removes all other removable image receptors from the room during an exposure.

- Student properly switches exposed and unexposed Computed Radiography image receptors for each exposure so as not to double expose it.
 - Student uses a smaller or larger Computed radiography image receptor size than specified for the study, and explains an acceptable rationale to the Registered Technologist
 - Student places the image receptor in the proper location for the radiographic study (i.e. bucky tray or tabletop).
 - *Unsuccessful if:*
 - Student used a much larger Computed Radiography image receptor than necessary (i.e. 14 x instead of an 8 or 10 x) for a small body part (finger)
 - Student attempts to do an image tabletop instead of in the table bucky or vice versa.
 - Student uses incorrect orientation of image receptor, resulting in the need for a repeat due to not visualizing required anatomy.
 - Student double exposes a Computed Radiography image receptor.
- ***Uses grid as required***
 - *What should be done?*
 - Student uses grid as required for the study or patient size.
 - Student uses proper SID grid for image being performed.
 - *Unsuccessful if:*
 - Student uses a grid when a grid is not needed.
 - Student does not use a grid when a grid should be used.
 - Student uses wrong grid for SID and Registered Technologist must intervene to assist student.
- ***Aligns central ray, body part and image receptor***
 - *What should be done?*
 - Student places central ray over the correct body part for all images as taught in Clinical Seminar courses to ensure visualization of proper anatomical parts.
 - Student places tube in detent and aligns the IR to the central ray for all images obtained.
 - Student aligns IR to body part as taught in Clinical Seminar courses to ensure visualization of proper anatomical parts for all images obtained.
 - Student places body part in center of IR to ensure proper EI is obtained when using CR and to ensure that all anatomy is visualized.
 - Student does not turn collimator box to match the body part when using bucky. Student adjusts the positioning of the patient to obtain a good image.
 - *Unsuccessful if:*
 - Equipment does not allow the image to be taken because the tube isn't in detent, and Registered Technologist must intervene to assist the student.

- Student fails to align the IR to the central ray which would result in the need for a repeat (regardless of reason for repeat – all anatomy not visualized, marker not visualized, etc.)
 - While using bucky, student greatly turns the collimator box to the body part to obtain the image and other options to prevent this are available.
 - One or more images is severely off-centered.
 - Also in reference to scale provided
- ***Angles central ray as required***
 - *What should be done?*
 - Student correctly angles the central ray the correct number of degrees and in the correct direction for all projections obtained.
 - *Unsuccessful if:*
 - Student forgets to angle as needed for projection as taught in the Clinical Seminar courses and according to protocol.
 - Student uses grossly incorrect tube angle
 - Examples - Cephalad instead of caudad or vice versa and/or angulation greater than 5 degrees of protocol.
- ***Uses appropriate part position (obliquity)***
 - *What should be done?*
 - Student properly rotates the patient for all images as taught in Clinical Seminar courses. Student also physically evaluates patient for proper rotation.
 - *Unsuccessful if:*
 - Student is unaware of the correct degree of rotation for projection(s).
 - Student does not ensure patient is in true AP/PA position, and multiple images are severely rotated.
 - One or more images is severely over- or under- oblique.
 - Also in reference to scale provided
- ***Uses positioning aids as taught in Medical Imaging courses***
 - *What should be done?*
 - Student uses all sandbags and sponges as taught in class for all projections regardless of whether the patient seemed to need the immobilization devices.
 - *Unsuccessful if:*
 - Student does not use sponges or sandbags for the image(s) obtained which could have or did result in patient motion, and the need to repeat the image. – i.e. pediatric or uncooperative patients

Critical Thinking

- ***Assesses patient condition***
 - *What should be done?*
 - Student correlates patient's history with physician's orders and knows to contact physician to clarify orders.
 - Student assesses patient condition and recognizes that modifications to normal protocol will have to be made.
 - Student recognizes when a patient needs more assistance onto the x-ray table and gets additional assistance.
 - *Unsuccessful if:*
 - Student fails to recognize the patient's history does not match with the study ordered, and was going to continue the procedure as scheduled without contacting physician.
 - Student fails to recognize that patient needs further assistance to get on and off table.
- ***Modifies procedure as necessary***
 - *What should be done?*
 - Student adjusts patient position, central ray, tube position, uses additional support or immobilizations, etc. in order to produce quality radiographs on a patient with limitations.
 - *Unsuccessful if:*
 - Student does not know how to proceed with an exam due to patient limitations
- ***Modifies technical factors according to patient measurement, patient size, exposure index, SID, grid usage and/or pathological process***
 - *What should be done?*
 - Student adjusts technical factors as necessary to achieve an optimal image when he/she is unable to achieve proper SID for the procedure.
 - Student adjusts technical factors with ease (density, kV, or mA) to get image within the recommended EI as required.
 - Student adjusts kV by 2 for each cm of thickness after measuring a patient with calipers.
 - Student adjusts technical factors in relation to patient size – knows to increase/decrease factors or to change patient size on operating console
 - Student appropriately modifies technical factors as needed for grid usage.
 - Student adjusts technical factors in regards to pathological process – emphysema, pleural effusion, ascites, etc.
 - Student adjusts technical factors for casts, splints, etc.

- *Unsuccessful if:*
 - Student does not know how to change technical factors in regards to EI achieved, caliper measurement, patient size, or SID or grid usage.
 - Student tries to increase technical factors when they should be decreased, etc.
 - Student has no knowledge of how to adjust technical factors in accordance with the patient measurement. (2 kV per cm rule)

- ***Provides modifications for repeat exposures***
 - *What should be done?*
 - Student makes appropriate adjustments based on image produced/error made on initial image when an image(s) need to be repeated (adjusts patient position, re-centers, moves marker, etc.)

 - *Unsuccessful if:*
 - Student does not provide the appropriate modifications based on image produced/error made for repeat exposures to be taken (re-centering, adjusting rotation, re-positioning marker out of anatomy, etc.) leading to another or the potential for another repeat image for the same reason requiring the original repeat.

- ***Completes the procedure in a logical order***
 - *What should be done?*
 - Student sets technique prior to re-positioning the patient.
 - Student “confirms” or “nexts” all images before re-positioning patient.
 - Student determines and completes exam in an order that is conducive to the patient’s condition.

 - *Unsuccessful if:*
 - Student completes the exam in an order that is detrimental to the study, or that was not conducive to the patient’s condition.

Image Identification

- ***Uses lead markers and places them in the proper location***
 - *What should be done?*
 - Student places right/left lead marker(s) on the correct anatomical side, away from anatomy of interest.
 - Student places all lead marker(s) so that they are readily visualized and readable.
 - *Unsuccessful if:*
 - Using the guide below, this section should be considered unsuccessful if right or left markers are **not** visualized on or if student places marker so that it is visualized in anatomy of interest on:
 - > 2 out of 10 images (Allowed two)
 - > 2 out of 9 images (Allowed two)
 - > 1 out of 8 images (Allowed one)
 - > 1 out of 7 images (Allowed one)
 - > 1 out of 6 images (Allowed one)
 - > 1 out of 5 images (Allowed one)Right or Left markers must be visualized outside of anatomy of interest on procedures requiring 1 – 4 images.
 - Student places a marker on the wrong anatomical side.
 - Examples are:
 - Marker is placed medially for hip images
 - Marker is placed medially for shoulder images
- ***Identifies the correct exam and projection by selecting it from the worklist or on the CR reader***
 - *What should be done?*
 - Student selects correct body part and projection on the Diagnost or when using the ROP's and double checks the information.
 - Student selects appropriate exam and patient from the worklist.
 - *Unsuccessful if:*
 - DR - Student selects the wrong projection from the worklist and they have no knowledge of the error and/or the Registered Technologist must intervene.
 - CR - Student selects the incorrect information on the ROP but does not recognize the error and the images are sent to PACS, or the Registered Technologist must intervene to tell the student that it is processed incorrectly.
 - CR – Student is unsure of what to send image under, and they send it under “Other” when it should have been assigned differently.
 - Student chooses incorrect patient or study (accession number) for procedure being performed and Registered Technologist needs to intervene.

- ***Annotates image***
 - *What should be done?*
 - Student provides proper annotation on required images (i.e. cross table lateral, Erect, LLD, AP Erect etc.)
 - *Unsuccessful if:*
 - Student does not label or does not know how to label the image (Erect, internal, external, etc.) as appropriate for exam if a lead marker was not used.

Image Evaluation

- **Recognizes acceptable images**
 - *What should be done?*
 - Student critiques images with ease and determines whether an image is acceptable or not
 - *Unsuccessful if:*
 - Student fails to demonstrate knowledge of evaluation criteria by not recognizing an acceptable / unacceptable image.
- **Determines a repeatable image(s)**
 - *What should be done?*
 - Student confidently informs the Registered Technologist whether an image should be repeated.
 - *Unsuccessful if:*
 - Student states that he/she would repeat an image that meets evaluation criteria.
 - Student states that he/she would not repeat an image that does not meet evaluation criteria.
- **Evaluates exposure factors**
 - *What should be done?*
 - Student points out all exposure indexes to the Registered Technologist and whether it is in or out of range. If EI is not within range, the student knows whether the image is over or underexposed.
 - *Unsuccessful if:*
 - Student is unaware of the appropriate exposure index range.
 - Student knows proper exposure index range, but is unaware of what out of range numbers signify (i.e. high exposure index – under/over exposure)
- **Orients images as necessary**
 - *What should be done?*
 - Student properly orients all images as required before they are sent to PACS.
 - *Unsuccessful if:*
 - Student did not orient image(s) correctly, and he/she has no knowledge of how to orient the image, what to do if it already got sent to PACS, or a Registered Technologist needs to intervene to orient image correctly.

Exam Completion

- ***Sends images to PACS***
 - *What should be done?*
 - Student confidently sends images to PACS
 - *Unsuccessful if:*
 - Student does not know how to send images to PACS
 - Student forgets to send images to PACS.
- ***Dismisses patient***
 - *What should be done?*
 - Student informs the patient when and how he/she will get the results in the presence of the Registered Technologist, and the student escorts the patient to the exit.
 - Student has patient wait for results when it is a verbal report/image check.
 - Fluoro specific:
 - Student shows the patient to the restroom to clean-up as necessary.
 - *Unsuccessful if:*
 - Student forgets to dismiss patient, and the patient waited for a long time.
 - Student does not tell the patient to remain for a verbal report or image check.
 - Dismisses patient without performing all views and/or studies ordered and Registered Technologist needs to intervene.
- ***Uses EPIC and ISite and completes all necessary documentation***
 - *What should be done?*
 - Student begins the procedure as appropriate for the clinical area.
 - Student QC's image(s) in ISite before ending procedure in EPIC.
 - Student fluently uses EPIC (Radiant) to complete all applicable electronic documentation including patient history and all other necessary information for the radiologist and patient safety.
 - Including documenting an image check on an injury that occurred within 2 weeks or a verbal report as requested by the physician.
 - Student properly completes pre-procedure verification, **LMP/pregnancy information** and procedure pause in EPIC.
 - Student ensures, in the presence of the Registered Technologist, that the charge in EPIC (Radiant) reflects the images that were taken.
 - Student verifies that any transcribed orders are scanned into EPIC.
 - Student changes the charge as necessary to reflect the correct charging for the study being completed prior to querying the worklist on the CR or DR equipment.
 - Student pulls up prior report in ISite with ease.
 - Student uses approved abbreviations to document patient history.

- Student properly pulls up results in ISite to verify an image check or call a verbal report, and he/she properly completes the verbal report in Primordial.
 - Student has person receiving verbal report perform the read-back process.
 - Student knows how to use Rad Reserve and save presentation state on ISite as required for study completed.
 - Fluoro specific:
 - Student places RA sheet in proper location at the completion of the study.
 - Student ensures that medication list is scanned into EPIC (Radiant).
 - Student documents fluoro time and Air Kerma accurately
 - Student documents total number of images.
- *Unsuccessful if:*
- Student is unaware that a charge needs to be changed in EPIC (Radiant) or Registered Technologist needs to intervene so procedure is not charged improperly.
 - Procedure is ended under the wrong charge.
 - Student does not know how to document information in EPIC (Radiant).
 - Student is unaware of how to begin or end procedures in EPIC.
 - Student improperly completes pre-procedure verification, LMP/pregnancy status and procedure pause in EPIC.
 - Student begins the procedure after he/she begins positioning the patient, but he/she forgets to adjust the time even after the Registered Technologist prompted them.
 - Student does not know how to use ISite/Epic to QC images.
 - Student does not know how to pull up prior report in ISite and Registered Technologist must intervene.
 - Student does not end procedure.
 - Student does not verify that a transcribed order is scanned into EPIC.
 - Student does not properly document patient history, verbal report/image check information, or other important information.
 - Student does not know how to pull up results in ISite to verify image check or call a verbal report.
 - Student does not have person receiving verbal report perform the read-back process.
 - Student does not know how to Rad Reserve and/or save presentation state using ISite.
 - Student uses unapproved abbreviations in electronic documentation.
 - Fluoro specific:
 - Student does not place RA sheet in proper location at the completion of the study.
 - Student does not verify that the medication list is scanned into EPIC (Radiant).
 - Student does not include the total number of images.
 - Student does not document fluoro time or Air Kerma

**Please note:*

- Repeats
 - Examples of causes of repeats include: no marker, marker outside light field, wrong marker, marker in the anatomy of interest, manipulating patient/equipment in a way that will result in anatomy not being visible on image, technical factors not adhering to technique charts, incorrect image receptor activated (table vs. upright), SID greater than 2 inches than designated for the image, or any other mistake that would render the image non-diagnostic
 - Repeats can still be charged even though a repeat image was not taken if the Registered Technologist had to stop the student from taking an image for patient safety reasons.
 - Whenever a student is performing a repeat image, the repeat image must be performed satisfactorily so that another image does not need to be obtained. Otherwise, the competency attempt is considered unsuccessful - under critical thinking section if the error is not corrected or under the appropriate category if a different mistake is made.

- Level I students will only begin being held accountable for the following at the beginning of MI 238 - Clinical Seminar III:
 - Finding orders in EPIC
 - *Please note – During Clinical Seminar II, student must acknowledge that the orders must be checked. Registered Technologist will only help student navigate EPIC to find the correlating physician order.*
 - Specific technical factor adjustments for repeat images (i.e. double mAs to increase CR exposure index by 300 points, increase kVp 2 kV for each centimeter, increase density setting vs. kV or mA, etc.)
 - *Please note – During Clinical Seminar II, student must know whether to increase or decrease the technique to improve image quality.*
 - Using ISite/Primordial to QC images and review results.
 - Knowing to expand digital collimation borders to look for lead marker in scatter