
Clinical Education Policy

The clinical education component of the nuclear medicine program requires students to demonstrate a level of competency in clinical activities identified in this document. Demonstration of clinical competence is defined as the program director or clinical instructor observing the student perform all aspects of the procedure in an independent, consistent, safe, and effective manner.

All procedures must be performed on live patients or equipment unless pre-approved by the program director for simulation. Students should make every effort possible to perform procedures on live patients. Simulation of any procedure(s) will only be allowed, if pre-approved, on or after June 1, end of semester II. Simulation will only be approved, if the program director discovers a lack of a particular type of procedure based on EPIC reports related to the number of each exam performed. Only a maximum of five combined diagnostic and therapeutic procedures may be simulated. All simulation procedures require the use of proper equipment, evaluation of didactic knowledge related to the procedure, and computer processing of images (reprocess a previous study, if applicable).

Students must achieve competency status in the following (at minimum, per ARRT requirements):

- 8 Patient Care Procedures
- 9 Quality Control Procedures
- 25 Diagnostic/TX Procedures
- 2 Radiopharmacy Procedures (ARRT)

44 Total Competency Procedures*

*Please refer to the Competency Schedule following this policy to determine the timeline of competency completion.

Once a competency has been achieved, the student must maintain that same level or higher of competency for that procedure. (See policy 2.005 Clinical Standards for more information on what constitutes competency.) Failure to maintain the initial level of competency will result in the competency being revoked and require the student to be re-evaluated on procedure performance and achieve competency again. In the event the student must repeat a competency evaluation, the score of the initial competency and repeat competency will be averaged and recorded in the gradebook, with notation signifying such measures were taken.

All patients are to be chosen at random for competencies and the clinical instructors and/or program director reserve the right to approve/disapprove a given patient for student competency attempt. When preparing for the competency evaluation, the student needs to be aware that he/she is responsible for both clinical and didactic information pertaining to the procedure, as well as departmental policies.

All competencies must be achieved by the first Friday in June (Semester II), with the exception of the Venipuncture (intravenous catheter) and patient care competencies, which must be completed by the second Friday in September (Semester I).

Competency Completion Timeline

It is the student's responsibility to ensure the required competencies have been completed by the end of each semester. The student will not be able to move forward with second semester competencies until all first semester competencies have been successfully achieved.

*See Clinical Competency Schedule and Clinical Elective Procedures following this policy.

Clinical Rotations

Students will be assigned to clinical rotations in a fair and equitable manner, ensuring all students receive equivalent time in each area. Each rotation is scheduled for one-week and the hours for each rotation will vary based on the

current hours of the department as well as the tasks required for each clinical rotation. Please refer to the key below. The general sequence of rotations can be found in the sample clinical schedule following this policy.

Note: The student must have successfully completed rotations through the PET/CT Center, HVI, Nuclear Medicine, Radiation Safety, Radiologist Reading Room, and Radiopharmacy.

Rotation Key	Area/Camera	Hours	Duties/Responsibilities	Approximate Number of Weekly Rotations
1, 2, 3	SPECT/CT	7am-3:30pm	QC, all Nuc Med studies and related duties	27-28
HVI	D-SPECT	7am-3:30pm	Myocardial Perfusions, stress lab, and related duties	6
INJ	Injection	7am-3:30pm	Draw doses, start IV, inject patients	3-4
PET	PET/CT	7am-3:30pm	All PET/CT studies and related duties	8
RS	Radiation Safety	8:30am-3:30pm	Assist Radiation Safety; arrive at 7am to open clinical rotation, then proceed to radiation safety department at 8:30am	1
RR	Reading Room	9:00am-3:30pm	Read with a radiologist; arrive at 7am to open clinical rotation, then proceed to reading room at 9:00am	1
RP	Radiopharmacy	1:30am-10am	Elute generator, make kits, QC, draw unit doses	1
*	Early Shift	6:30am-3pm	Open/close hot lab, survey, duties of camera/rotation	7-8



Education Coordinator

Clinical Competency Schedule

General Patient Care:

(all must be completed in Semester I)

CPR Certification

Vital Signs – Blood Pressure

Vital Signs – Pulse

Vital Signs – Respiration

Assisted Patient Transfer (slider, mechanical lift)

Maintain patient ancillary equipment (IV pump, collection bag, O2)

ECG (lead placement, recognition of common dysrhythmias)

*Venipuncture

Quality Control Procedures – Semester I:

(all must be completed in Semester I)

SPECT Gamma Camera (Uniformity/Resolution)

Dose Calibrator (Constancy)

Well Counter/Uptake Probe (Energy Calibration)

Survey Meter (Battery Check/Constancy)

*I-Stat Patient Testing and QC

*Glucometer Patient Testing and QC

Quality Control Procedures – Semester II:

(all must be completed in Semester II)

SPECT Gamma Camera (Center of Rotation)

Dose Calibrator (Linearity)

PET or PET/CT (Reference or Blank Scan)

Radiopharmacy – Semester II:

(all must be completed in Semester II)

Generator Elution / Moly Assay

Radiopharmaceutical Kit Prep / QC

Nuclear Medicine and PET/CT Procedures (Diagnostic and Therapeutic)

*(must complete **at least 6 exams** from this list by the end of semester I (pre-comp (if applicable) and competency); remainder to be completed in Semester II by the first Friday in June, prior to graduation)*

*Myocardial Perfusion – Rest

*Myocardial Perfusion – Stress

*Thyroid Uptake

*Thyroid Scan

*Hepatobiliary (HIDA)

*Gastric Emptying

GI Bleed / Meckels / Liver_Spleen (choose 1)

*Renal Function (Lasix)

*Tumor (F-18 FDG)

*Lung Ventilation (Aerosol) – Statics

*Lung Perfusion – Statics

*Skeletal – Total/Wholebody

*Skeletal – 3-Phase

*Bone SPECT or SPECT/CT

*Lung SPECT or SPECT/CT

*I-131 (ablation/hyperthyroid)

Elective #1 of 9: WBC Imaging

Elective #2 of 9: Parathyroid SPECT or SPECT/CT

Elective #3 of 9: Thyroid Metastatic Survey
Elective #4 of 9: Gated Blood Pool (MUGA)
Elective #5 of 9: Lymphoscintigraphy (breast/melanoma)
Elective #6 of 9: PET Brain (F-18 FDG); Dedicated
Elective #7 of 9: Student Choice (from clinical elective procedures list)
Elective #8 of 9: Student Choice (from clinical elective procedures list)
Elective #9 of 9: Student Choice (from clinical elective procedures list)

TOTAL Competencies: **44**

The above ARRT requirements are mandatory graduation requirements. Students not in compliance are subject to dismissal from the program in accordance with the Clinical Standards Policy.

Clinical Elective Procedures:

All elective procedures may only be performed once. Elective procedures do NOT require a pre-competency exam to be performed prior to the competency exam, however practice on the exam is recommended before attempting competency.

1. Liver-Spleen
2. Gastric Reflux
3. GI Bleed
4. Meckels Diverticulum
5. DMSA Renal
6. Captopril Renal
7. Quantitative Lung Scan (Lung Perfusion only with ROIs and quantification)
8. OctreoScan
9. I-123 MIBG
10. Lymphoscintigraphy (breast or melanoma, must include images in department)
11. Cisternography: Routine
12. Cisternography: CSF Leak with pledgets, blood draw
13. Shunt Patency (VP or LP)
14. Y-90 SIRT MAA Liver/Lung Shunt Study
15. Nuclear Arthrogram Study
16. Bone Marrow Study
17. Salivary Gland Imaging
18. DaTscan
19. Neurolite Brain
20. Diamox Brain
21. Cardiolite Brain
22. Thallium Brain
23. PET/CT: Body (Somatostatin Receptor; Copper 64)
24. PET/CT: Amyloid Brain
25. PET/CT: WB Prostate
26. PET/CT: Body (ER Breast)
27. PET/CT: Head/Neck

*If you have questions about other exams eligible for elective competencies not listed above, please ask the program director for approval.

You are NOT allowed to perform the following studies as any type of graded procedure:

- Y-90 TX Blob Scan
- Brain Death Study (never allowed to perform without direct supervision)
- Y-90 TX
- Lutathera TX, Pluvicto TX, Xofigo TX
- Any scan or TX dose if refused by PD or Clinical Instructor/AES due to various conditions such as but not limited to patient condition, time restraints, etc.

The following is your clinical rotation schedule. It is your responsibility to perform the scans/assignments that are occurring on the camera/area to which you are assigned. If it is necessary to use another camera for a graded clinical exam, prior arrangements must be made with the Program Director and/or Clinical Instructor(s). Adjustments may be made to any portion of the schedule at any time at the discretion of the Program Director and/or Clinical Instructor(s). Be flexible to

Rotation	Area/Camera	Hours	Duties / Responsibilities	REMINDERS
1, 2, 3	SPECT/CT	7am-3:30pm	QC, all Nuc Med studies and related duties	1. No food or drink in the clinical area.
HVI	D-SPECT	7am-3:30pm	Myocardial Perfusions and related duties	2. Inform CI before leaving clinical area.
INJ	Injection	7am-3:30pm	Draw doses, start IV, inject patients	3. Lunch time varies - refer to detailed monthly didactic calendar or Trajecsys
PET	PET/CT	7am-3:30pm	All PET/CT studies and related duties	4. If your rotation assignment is not busy, assist others.**
RS	Radiation Safety	8:15am-3:30pm	Assist Radiation Safety (see "Reminders #8")	5. No personal internet usage is permitted during clinical hours.
RR	Reading Room	9:00am-3:30pm	Read with a Radiologist (see "Reminders #8")	6. Cell phones must be turned off and in locker.
RP	Radiopharmacy	1:30am-10am	Elute generator, make kits, QC, draw unit dose	7. No studying in the dept. unless approved by Program Director or CI.
*	Early Shift	6:30am-3pm	Open/close hot lab, survey, duties of camera	8. RS & RR rotations, arrive at 7am, go to RS at 8:15am or go to RR at 9:00am

****If on rotations 1, 2, 3, or INJ you do not have enough patient load, complete your patients for that rotation and then transfer to PET for the remainder of the day. MUST be approved by CI or PD.**

Rotation Dates	7/10-7/14	7/17-7/21	7/24-7/28	7/31-8/4	8/7-8/11	8/14-8/18	8/21-8/25	8/28-9/1	9/5-9/8	9/11-9/15	9/18-9/22	9/25-9/29	10/2-10/6	10/9-10/13	10/16-10/20	10/23-10/27	10/30-11/3	11/6-11/10	11/13-11/17	11/20-11/22	11/27-12/1	12/4-12/8	12/11-12/15	12/18-12/22	12/27-1/5
Student A	INJ*	3	2	1	RS	1*	2	2	HVI	HVI	3*	3	HVI	HVI	2	2*	PET	PET	3/RR	3	PET	PET	2	2	
Student B	3	1	INJ*	2	1	RS	3*	3	PET	PET	2	2*	PET	PET	3	3	HVI	HVI	2*	2/RR	HVI	HVI	3	3	
Student C	2	INJ*	1	3	2	2	RS	1*	3	3	HVI	HVI	2*	2	HVI	HVI	3	3*	PET	PET	2/RR	2	PET	PET	
Student D	1	2	3	INJ*	3	3	1	RS	2	2*	PET	PET	3	3*	PET	PET	2	2	HVI	HVI	3*	3/RR	HVI	HVI	

Winter Break!