Jefferson
Philadelphia University + Thomas Jefferson University

Department of Medical Imaging & Radiation Sciences

Jefferson College of Health Professions

Nuclear Medicine Program

Academic Policies and Clinical Education Handbook

2019-2020

Notice of Equal Opportunity

Thomas Jefferson University is committed to providing equal educational and employment opportunities for all persons without regard to race, color, national or ethnic origin, marital status, religion, sex, sexual orientation, gender identity, age, disability, veteran's status or any other protected characteristic. The consideration of factors unrelated to a person's ability, qualifications and performance is inconsistent with this policy. Any person having inquiries or complaints concerning Thomas Jefferson University's compliance with Title VI, Title IX, the Age Discrimination Act of 1975, the Americans with Disabilities Act, or Section 504 of the Rehabilitation Act is directed to contact their Student Affairs Dean or Human Resources – Employee Relations, who have been designated by Thomas Jefferson University to coordinate the institution's efforts to comply with the these laws. Any person may also contact the Assistant Secretary for Civil Rights, U.S. Department of Education, Washington, D.C. 20202, or the Director, U.S. Department of Education, Office for Civil Rights, Region Three, Philadelphia, Pennsylvania, regarding the University's compliance with the equal opportunity laws.

Required Background Check

Students who are offered admission to Jefferson are required to pass a criminal background check and child abuse clearance. Some departments within the College, as well as some clinical sites may require students to be fingerprinted and/or drug tested. The Office of Admissions will provide you with the appropriate information to complete these requirements.

Clinical rotation and fieldwork sites that require a criminal background check, child abuse clearance and/or fingerprinting may deny a student's participation in the clinical experience, rotation or fieldwork because of a felony or misdemeanor conviction or a record of child abuse. Clinical sites may also deny participation in clinical experiences for other reasons, including but not limited to failure of a required drug test, or inability to produce an appropriate health clearance. As participation in clinical experiences, rotations or fieldwork is a required part of the curriculum and a requirement for graduation, denial of participation by a clinical site may result in delay of graduation or the inability to graduate from the program.

Regardless of whether or not a student graduates from Jefferson, individuals who have been convicted of a felony or misdemeanor may be denied certification or licensure as a health professional. Information regarding individual eligibility may be obtained from the appropriate credentialing bodies.

Thomas Jefferson University and its College of Health Professions reserve the right to amend, modify, rescind, or implement any policies, procedures, regulations, fees, conditions and courses described herein as circumstances may require without prior notice to persons who might thereby be affected. The provisions of this handbook are not and may not be regarded as contractual between the College and the students or its employees.

The Department of Medical Imaging and Radiation Sciences reserves the right to make policy and procedure changes at any time. Such changes will be distributed for insertion into the appropriate section of the Handbook. All students enrolled in any courses sponsored by the Department must comply with such changes at the time specified by the Department.

Revised 2019

TABLE OF CONTENTS

THOMAS JEFFERSON UNIVERSITY MISSION

We improve lives and provide students with exceptional value in 21st century professional education.

THOMAS JEFFERSON UNIVERSITY VISION

We are reimagining health, education and discovery to create unparalleled value.

JEFFERSON (Philadelphia University + Thomas Jefferson University)

We are a comprehensive university with preeminence in transdisciplinary, experiential professional education, research and discovery, delivering exceptional value for the 21st century students with excellence in architecture, business, design, fashion, engineering, health, medicine, science and textiles - infused with the liberal arts.

MISSION OF THE DEPARTMENT & NUCLEAR MEDICINE PROGRAM

The Mission of the Department of Medical Imaging & Radiation Sciences and the Nuclear Medicine Program is to provide a comprehensive education preparing students for entry-level practice in medical imaging and radiation sciences as competent, caring members of the health care team, cultivating professionalism and life-long learning.

PROGRAM GOALS AND STUDENT LEARNING OUTCOMES

Goal # 1: Clinical Performance and Clinical Competence:
Nuclear Medicine Program students will be clinically competent.

Student Learning Outcomes:

1-A. Nuclear Medicine Program students will demonstrate appropriate patient care techniques.

1-B. Nuclear Medicine Program students will demonstrate appropriate equipment skills, radiopharmacy techniques, and radiation safety practices.

Goal # 2: Problem Solving Skills and Critical Thinking:
Nuclear Medicine Program students will apply critical thinking and problem solving skills in making decisions about nuclear medicine examinations and treatments.

Student Learning Outcomes:

2-A. Nuclear Medicine Program students will demonstrate appropriate usage and modification of radiopharmaceutical dosages and imaging parameters.

2-B. Nuclear Medicine Program students will demonstrate appropriate optimization techniques.

Goal # 3: Communication Skills:
Nuclear Medicine Program students will master the communication skills necessary to interact successfully with patients and other members of the healthcare team.

Student Learning Outcomes:

3-A. Nuclear Medicine Program students will demonstrate appropriate oral communication techniques.

3-B. Nuclear Medicine Program students will demonstrate appropriate written communication techniques.

Goal # 4: Professional Development and Growth:
Nuclear Medicine Program students will demonstrate potential for professional development and growth.

Student Learning Outcomes:

4-A. Nuclear Medicine Program students will develop effective work habits and professional values.

4-B. Nuclear Medicine Program students will function as professionals in the healthcare setting.

THE HANDBOOK

This *Academic Policies and Clinical Education Handbook* serves as a guide for students enrolled in the Department of Medical Imaging & Radiation Sciences, Jefferson College of Health Professions, Thomas Jefferson University.

A Thomas Jefferson University student is required to uphold a high standard of academic and nonacademic conduct. That standard is presented in this document and will be upheld by the Department of Medical Imaging & Radiation Sciences. Academic and nonacademic misconduct at Thomas Jefferson University is subject to disciplinary action.

This handbook is given to matriculating students during orientation. The Department will obtain documentation of the receipt and review of the handbook.

Students will be responsible for maintaining their knowledge of the information contained in the Academic Policies and Clinical Education Handbook, as well as the Jefferson College of Health Professions Catalog, and Jefferson College of Health Professions Student Handbook.
See: www.jefferson.edu/handbook.

NATIONAL CERTIFICATION EXAMINATION

Graduates of the one-year and two-year[1] programs are eligible to take the associated certification examinations of the American Registry of Radiologic Technologists (ARRT), American Registry of Diagnostic Medical Sonographers (ARDMS), Cardiovascular Credentialing International (CCI), Medical Dosimetrist Certification Board (MDCB), and Nuclear Medicine Technology Certification Board (NMTCB), as applicable. Students who pass these examinations receive national certification.

PROGRAM ACCREDITATION

The educational programs of the Department are approved by the University administration. Programs are programmatically accredited by their respective accreditation bodies (e.g., JRCERT, JRCNMT, and JRCDMS). All programs, including the Computed Tomography and Invasive Cardiovascular Technology and PET/CT programs are covered under the University's accreditation by Middle States Commission on Accreditation.

PROGRAM COMPLIANCE

A student who believes a program is not in compliance with the accreditation standards should submit a written complaint to the Program Director, including documentation for the complaint. The Department Chair, Program Director, and Clinical Coordinator will review the complaint and documentation and respond to the student within three (3) business days of receiving the complaint. If the student is not satisfied with the response, he/she has the right to contact the accreditation body[2].
Please refer to Appendix H for the Standards of an Accredited Educational Program in Nuclear Medicine.

JRCNMT
820 W. Danforth Road, #B1
Rdmond, OK 73003
Phone: (405) 285-0546
Fax: (405) 285-0579
http://www.jrcnmt.org/

1. Two-year students in all programs EXCEPT sonography are NOT eligible for the certification exams until they have successfully earned a degree from Thomas Jefferson University.
2. Students in the CT, ICVT or PET/CT Program should contact the Dean of JCHP.

UNIVERSITY AND JCHP POLICIES AND PROCEDURES

While we have attempted to provide you with a comprehensive departmental handbook, it does not stand alone.

All students enrolled at Thomas Jefferson University are expected to follow a code of behavior consistent with the high standards of the health professions and to uphold the reputation of the University. In addition, students must comply with the rules and regulations duly established within the Jefferson College of Health Professions. See: www.jefferson.edu/handbook.

For additional University and/or Jefferson College of Health Profession policies, including but not limited to Drug and Alcohol, Student Religious Observance, Medical Leave of Absence, Social Media, Student Personal Counseling Center, Occupational Health Network for Employees and Students, and Jefferson Emergency Procedures, also see: www.jefferson.edu/handbook.

ACADEMIC POLICIES

POLICIES ON STUDENT PROGRESSION

COURSE REQUIREMENTS

1. Prerequisites for courses outlined in the curriculum must be met in order to follow the necessary educational sequence.

2. Students are responsible for accessing courses through Blackboard Learn (https://jefferson.blackboard.com) and downloading all course syllabi, handouts and assignments for each course every semester.

3. Students must complete course evaluations for each of their courses at the end of the semester. A link will be provided to the students at the end of the semester.

4. Students must complete the Health Insurance Portability and Accountability Act (HIPAA) and Safety Modules prior to matriculation**.**

5. Students are responsible for checking their **Jefferson** e-mail accounts daily. All Program related correspondence will occur through this account only.

POLICIES ON UNDERGRADUATE STUDENT PROGRESSION IN THE MEDICAL IMAGING & RADIATION SCIENCES MAJOR

1. Students who earn one course grade of C- or below in the Medical Imaging & Radiation Sciences curriculum in any academic year will be placed on departmental academic probation and will be required to meet with their assigned faculty advisor to monitor academic progress.

2. Students who earn two or more course grades of C- or below in the Medical Imaging & Radiation Sciences curriculum in any academic year will be dismissed from the program in which they are currently enrolled. They will be subject to dismissal from the Department of Medical imaging & Radiation Sciences.

3. Students who earn a course grade of F in any Medical Imaging & Radiation Sciences curriculum will be dismissed from the program in which they are currently enrolled. They will be subject to dismissal from the Department of Medical Imaging & Radiation Sciences.

4. Two-year students who have been placed on departmental academic probation during the junior academic year, but have successfully completed the junior academic year, will be taken off departmental academic probation at the beginning of their senior academic year.

5. In addition to Departmental academic progression standards, students must also meet minimum required academic standards within the Jefferson College of Health Professions. For Academic Probation and Dismissal standards for the Jefferson College of Health Professions, refer to the Jefferson College of Health Professions Student Handbook. See: www.jefferson.edu/handbook

6. Students who are dismissed from the Department of Medical Imaging & Radiation Sciences due to unsatisfactory academic performance may, within one-year of the dismissal, apply for re-admission by submitting a written request directly to the Department Chairperson. After a one-year time period, all applications for readmission must be made through the Office of Admissions, with review by the Department Chairperson. Refer to the Academic Regulations

section of the Jefferson College of Health Professions Course Catalog for the JCHP Readmission Statement.

7. Incomplete grades for a Medical Imaging & Radiation Sciences course can be assigned only in the case of extenuating circumstances. These circumstances must be reviewed by the faculty prior to the issuance of an "Incomplete" grade. In all cases, an "Incomplete" grade is assigned only when the work already done has been of a quality acceptable to the instructor.

Students are required to meet with their faculty advisors at least once during each semester.

COMPETENCY-BASED CLINICAL EDUCATION

COMPETENCY BASED CLINICAL EDUCATION

Competency-based clinical education has been established for the students enrolled in the Department of Medical Imaging & Radiation Sciences programs. It is designed to permit accurate assessment of the knowledge, skills, and attitudes of students in the clinical education component of the program. Evaluation of students' clinical competencies must be completed by registered technologists under the direction of the Affiliate Education Supervisor.

All students must attend a minimum number of clinical training hours (see clinical syllabus). All students must complete clinical competencies in accordance with the requirement of their certification body.

CLINICAL EDUCATION ELIGIBILITY

To be assigned to a Clinical Affiliate, the student must meet the following requirements or obligations:

- Be a student in good academic standing in the Department of Medical Imaging & Radiation Sciences.
- Maintain a cumulative grade point average of 2.00 or higher.
- Provide and maintain proof of certification in adult, child and infant cardiopulmonary resuscitation (BLS/CPR/AED for Healthcare Provider).
- Meet program specific technical standards - **Appendix A.**
- Complete all immunization requirements prior to commencing or resuming clinical courses. Failure to meet these health requirements will result in the delay of clinical practical or the failure of clinical courses.
- Be in compliance with the University requirements for influenza vaccination.
- Additional requirements may be needed.
- Students not in compliance are **not** permitted to attend classes or clinical.

CLINICAL PRACTICES AND POLICIES

1. Attendance at clinical practical is mandatory.
2. A student who does not demonstrate safe clinical practice will be in violation of clinical practices and policies.
3. A student who does not demonstrate professional behavior and professional practice is subject to review by the faculty.
4. Safe clinical or professional practice is defined as:
    a. Adhering to the *Patients' Bill of Rights* - **Appendix B.**
    b. Performing clinical duties consistent with the professional Code of Ethics - **Appendix C.**
    c. Adhering to the code of behavior/conduct outlined in the University, College and Department of Medical Imaging & Radiation Sciences handbooks.
    d. Adhering to all clinical practices and policies of the Clinical Affiliate, and as outlined in the University, College and Department of Medical Imaging & Radiation Sciences handbooks.
    e. Adhering to departmental radiation protection and monitoring practices where appropriate* - **Appendix D, E, F & G** (*only applicable to modalities that use ionizing radiation).
    f. Adhering to the nuclear medicine technologist's practice standards and scope of practice – **Appendix H & I**.

VIOLATIONS OF CLINICAL PRACTICES AND POLICIES

Violations of Clinical Practices and Policies will typically be addressed through progressive discipline, as follows:

- First violation – written warning and counseling by the Program Director and/or Clinical Coordinator.
- Second violation – possible suspension, at the discretion of the Program Director, or dismissal.
- Third violation – dismissal from the Department.

Depending on the particular circumstances, one or more progressive disciplinary steps may be skipped in instances of particularly serious violations of policies and/or practices, and some egregious violations may result in immediate dismissal from the Department.

POLICY GOVERNING CLINICAL EDUCATION SCHEDULING

The purpose of the clinical assignment is to correlate didactic knowledge with practical skills and attitudes. The total number of students assigned to any clinical affiliate shall be determined by the Department of Medical Imaging & Radiation Sciences and approved by program accreditation bodies.

The student is subject to all rules and regulations of the clinical affiliate. The clinical affiliate reserves the right to suspend or terminate from the site a student who does not adhere to established policies of the program or the clinical affiliate. A student who does not maintain appropriate behavior may be suspended or dismissed immediately. (Refer to the section entitled "Responsibilities of the Student" on page 15.) Due to the limited number of clinical sites, should a student be asked to leave the assigned clinical site for any disciplinary reason, the Department cannot guarantee the student a new clinical placement. This would result in a failure for the clinical course and dismissal from the program/department.

If a student is suspended or dismissed from a clinical affiliate, the Department Chair, Program Director and Clinical Coordinator will review the circumstances for this action. All parties are encouraged to address the issue promptly in writing (within five (5) business days whenever possible) so that resolution of grievance should require no more than three (3) weeks. If the decision to dismiss is upheld, the clinical dismissal will result in a final grade of "F". Students who have reason to believe that the grade has been inappropriately assigned may request a review of the grade in accordance with the provisions of the Grade Appeal Protocol, which is published in the JCHP Student Handbook. For dismissal due to Unsafe Clinical Performance, students will follow the Policy on Dismissal for Unsafe Clinical Performance, which is published in the JCHP Student Handbook. See: www.jefferson.edu/handbook.

CLINICAL AFFILIATE ASSIGNMENT

The Program Director or Clinical Coordinator determines student schedules and assignments at clinical affiliates. Assignments at the clinical affiliates are intended to provide the student with a comprehensive clinical education as deemed appropriate by the faculty, and serves to correlate didactic knowledge with practical skills. Students are not guaranteed specific clinical affiliates, however, student input is considered. **Should a student be dismissed from his/her clinical affiliate, the department does not guarantee replacement at an alternate site.**
The program provides equitable learning opportunities for all students regarding learning activities and clinical assignments.

Any student requesting changes in the clinical schedule must submit written justification for the change to the Program Director. A decision will be made based on the student's educational needs and affiliate availability.

RESPONSIBILITIES OF THE AFFILIATE EDUCATION SUPERVISORS / CLINICAL INSTRUCTORS

The affiliate education supervisors/clinical instructors are available to students whenever they are assigned to a clinical setting. Responsibilities include:

- Providing clinical instruction and appropriate clinical supervision (Refer to the section entitled "Supervision Policy" on page 28)
- Evaluating students' clinical competence and providing feedback
- Providing orientation to the clinical department
- Providing feedback to the program director and clinical coordinator
- Being knowledgeable of program goals
- Understanding the clinical objectives and clinical evaluation system
- Understanding the sequencing of didactic instruction and clinical education
- Maintaining competency in the professional discipline through continuing professional development
- Maintaining current knowledge of program policies, procedures, and student progression
- Maintaining safety and confidentiality of student records, instructional materials, and other program materials

RESPONSIBILITIES OF CLINICAL STAFF

Responsibilities of the clinical staff include:

- Understanding the clinical competency system
- Understanding requirements for student supervision
- Supporting the educational process
- Maintaining current knowledge of program policies, procedures, and student progression
- Maintaining safety and confidentiality of student records, instructional materials, and other program materials

RESPONSIBILITIES OF THE DEPARTMENT/CLINICAL COORDINATOR

The Department of Medical Imaging & Radiation Sciences Clinical Coordinator coordinates the daily operations of clinical education. Duties include, but are not limited to:

- Assigning clinical affiliates
- Mentoring students
- Supervising students
- Advising students
- Providing guidance to affiliate education supervisors and clinical instructors
- Reviewing program policies and procedures with affiliate education supervisors and clinical instructors
- Visiting clinical affiliates each semester to observe and evaluate student performance
- Maintaining safety and confidentiality of student records, instructional materials, and other program materials

RESPONSIBILITIES OF THE STUDENT

The student is responsible for:

- Displaying professional appearance in compliance with the dress code policy
- Establishing harmonious working relationships and earning the respect of the medical imaging and radiation sciences personnel and other members of the health care team through a professional and dignified posture and attitude

- Using all equipment and materials responsibly and safely
- Embodying the highest standards of civility, honesty, and integrity
- Respecting and protecting the privacy, dignity, and individuality of others
- Observing and assisting the clinical staff
- Attending and participating in all scheduled clinical activities
- Consulting with affiliate education supervisors and/or departmental faculty for help with problems
- Participating in the development of an individualized clinical education plan
- Maintaining an accurate record of clinical examinations/competencies
- Recording the number and types of evaluations required during each academic semester
- Striving to broaden his/her knowledge and background on clinical subject matter by reading professional literature and attending conferences and seminars
- Incurring all travel costs and expenses. Use personal or public transportation to clinical affiliates. Commuting time and costs are not determining factors for clinical assignments. These time and cost factors are borne solely by the student.
- Meeting with advisor at least once per semester
- Provide safe and quality patient care including safe radiation practices for patient, self, and the healthcare team
- Demonstrating clinical progression
- Corresponding in a timely fashion with all program faculty and administration
- Maintaining safety and confidentiality of student records, instructional materials, and other program materials

CLINICAL POLICIES

DEPARTMENT POLICY ON CONDUCT

Students must comply with the rules and regulations of the Department of Medical Imaging & Radiation Sciences. Deviation constitutes misconduct. This includes, but is not limited to:

- Sleeping during a clinical assignment
- Failure to actively participate in clinical education
- Leaving a clinical assignment or room/area assignment without qualified staff's permission
- Failure to notify Affiliate Education Supervisor and the Program Director of absence or lateness
- Using any personal electronic devices in the patient-care/clinical education setting
- Using the hospital computer for any reason EXCEPT hospital business
- Violation of the supervision policy
- Violation of any duly established rules or regulations

FAMILY MEMBERS/FRIENDS WORKING AT CLINICAL AFFILIATE POLICY

It may be deemed a conflict of interest for students to be supervised or evaluated by family members or friends employed at their clinical affiliates. If this situation arises, students should inform their Program Director/Clinical Coordinator, so that alternative arrangements can be considered.

FAMILY MEMBERS/FRIENDS CLASSROOM, LAB & CLINICAL POLICY

At the Clinical Affiliate

- Family and friends should be discouraged from visiting the clinical affiliate. In particular, unsupervised children are not permitted
- Family and friends must wait in a public area, and are **not** permitted in scanning or treatment rooms
- It is not acceptable for students to entertain their family and friends and neglect their professional duties
- Students may not ask clinical affiliate staff to baby-sit for them
- TJU's liability insurance does not extend to students' family and friends

In the MIRS Department

- Students should discourage their family and friends from visiting the Medical Imaging & Radiation Sciences department while they (the students) are in class
- Family and friends are not permitted to attend lectures or laboratory sessions
- Unaccompanied children are not permitted in the Medical Imaging & Radiation Sciences department
- Students may not ask faculty or administrative staff to baby-sit for them
- TJU's liability insurance does not extend to students' family and friends

In the MIRS laboratories

- Only Medical Imaging & Radiation Science students with proper Jefferson ID are permitted in the laboratories
- Students are not permitted to bring family members or friends into the laboratories at any time
- Scanning or performing any procedures on family members or friends is not permitted
- Other Jefferson students or employees who are not part of the Medical Imaging & Radiation Sciences department are not permitted in the Medical Imaging & Radiation Sciences laboratories unless they have signed a waiver to be used as a student volunteer
- TJU's liability insurance does not extend to students' family and friends

Failure to comply with the policies may result in disciplinary action up to and including dismissal from the program.

PERSONAL ELECTRONIC DEVICES POLICY

Students may not carry or use any type of personal electronic device during clinical hours. These devices must be placed with your personal belongings. The use of any type of recording device (camera, video, etc.) is strictly prohibited. Any student in violation of this policy may be asked to leave his/her clinical affiliate and will be marked absent for that day. It is the student's responsibility to notify the Program Director and/or Clinical Coordinator of any absence.

For exceptional circumstances necessitating immediate personal communication by phone or text, a student should ask the Affiliate Education Supervisor to excuse him/her, attend to the personal business, and return to duty as quickly as possible.

COMPUTER POLICY

Students may not use computers for personal business during clinical hours. Personal business includes (but is not limited to) internet surfing, shopping, emailing, instant-messaging, texting, and printing. Personal storage devices (USB, flash drives, CDs) are not permitted in the clinical setting.

Any student in violation of this policy may be asked to leave his/her clinical affiliate and will be marked absent. It is the student's responsibility to notify the Program Director and/or Clinical Coordinator of any absence.

STUDENT WORK POLICY

If a student is employed at any clinical affiliate, he/she must abide by the following policies:

- Students must notify Program officials that they are working at the clinical affiliate.
- Students are not permitted to work during scheduled clinical hours.
- Students may **not** wear student uniforms or Jefferson ID.
- Students may not accrue competencies during non-clinical hours.
- Students may not apply work time to make-up time.
- Students are not covered by Jefferson liability insurance during non-clinical hours.

Non-compliance

Any student not complying with the policies listed below will be removed from the clinical affiliate:

- Department Policy on Conduct
- Family Members/Friends Policy
- Personal Electronic Device Policy
- Computer Policy
- Student Work Policy

Any clinical time missed due to a violation of these policies will be made up by the student at a later date. The Program Director and/or Clinical Coordinator in cooperation with the Affiliate Education Supervisor will determine make-up time. Further disciplinary action may be taken for habitual violations of policies. (Refer to the section entitled "Violations of Clinical Practices and Policies" on page 14).

VENIPUNCTURE POLICY

The ARRT and NMTCB clinical competency requirements include performance of venipuncture for injection of contrast agents and radiopharmaceuticals.
In order to participate in the performance of venipuncture on patients, students must:

- Have completed all immunizations as required by JCHP.
- Have current BLS certification, as required by the Department of Medical Imaging & Radiation Sciences.
- Have health insurance, as required by JCHP.
- Have completed a venipuncture certification course, as required by the Department of Medical Imaging & Radiation Sciences.
- Attend and complete institutional venipuncture training, as required by clinical affiliates.

HEALTH INFORMATION CONFIDENTIALITY POLICY:
HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)

Students must maintain strict confidentiality of all health information of patients at clinical affiliate sites during and after the course of their clinical rotations. Students may neither use nor disclose health information of patients to which they have access, other than as expressly authorized by the clinical affiliate. Students may not record any patient-identifiable information on their personal documents (e.g. clinical logs). Students must be familiar with and adhere to their clinical affiliate's HIPAA policy.

PREGNANCY POLICY

If a student becomes pregnant during a component of the program, she may voluntarily inform the Program Director, in writing, of her pregnancy.

- Option 1: The student may continue in the program if she chooses, without modifications to any component of the program.

- Option 2: The student may take a leave of absence from clinical education, but continue her didactic studies. Clinical assignments will be completed when the student returns.

- Option 3: The student may withdraw from the program and reapply in accordance with JCHP policies.

- Option 4: The student, in writing, may withdraw her declaration of pregnancy at any time and/or for any reason.

Due to the need for special radiation protection education, counseling by the Radiation Safety Officer (RSO) is available.

Refer to **Appendix G** - appropriate information regarding radiation safety for the student and fetus.

MAGNETIC RESONANCE IMAGING (MRI) SAFETY POLICY

An MR room has a very strong magnetic field that may be hazardous to individuals entering the MR environment if they have certain metallic, electronic, magnetic, mechanical implants, devices, or objects. Therefore, all Medical Imaging and Radiation Sciences students are required to undergo an MRI Safety lecture and MRI Safety Screening prior to MRI rotations or observations.

1. Students will attend an MRI Safety lecture and be screened for MRI Safety clearance in Patient Care and Services in Medical Imaging and Radiation Sciences Fall Semester by the MRI Clinical Coordinator.
2. Students will abide by clinical affiliate MRI Safety Protocols during their clinical rotations and/or observations.
3. Students will notify the MRI Clinical Coordinator and be re-screened for MRI Safety clearance, should their status change during the academic year, with regard to any potentially hazardous implants, devices, or objects, prior to MRI rotations or observations.

N95 RESPIRATOR POLICY

Medical Imaging & Radiation Science students will not be fitted for N95 respirator masks. Therefore, Medical Imaging & Radiation Sciences students should NOT enter any patient's room that requires this form of personal protective equipment.

INCIDENT REPORTS AT THE CLINICAL AFFILIATE

If a student becomes ill, is injured, or is involved in an incident during a clinical rotation, he/she must:

1. Report immediately to his/her Affiliate Education Supervisor and follow departmental protocol.
2. Immediately contact the Program Director and/or Clinical Coordinator.
3. Present a note to the Program Director and/or Clinical Coordinator from the Emergency Room physician, Jefferson Occupational Health Network physician, or family physician stating the date the student may resume normal duties.
4. Student must report to Jefferson Occupational Health Network as soon as possible (215-955-6835).

If a patient is injured while in the student's care, the student must:

1. Make sure that the patient is safe.
2. Report the incident immediately to the Affiliate Education Supervisor and follow departmental protocol.
3. Immediately contact the Program Director and/or Clinical Coordinator.

COMMUNICABLE DISEASES

Should a student be diagnosed as having an infectious disease, he/she must report such diagnosis to the Program Director and/or Clinical Coordinator and the Affiliate Education Supervisor. The student may be asked to leave clinical until cleared by his/her physician and Jefferson Occupational Health Network. The student must present a physician’s note to the Program Director and/or Clinical Coordinator stating that the student may resume normal duties.

OCCUPATIONAL EXPOSURES TO INFECTIOUS DISEASE AND/OR BLOODBORNE PATHOGENS

What to do for an occupational exposure to body fluids (needlestick or splash)

If you have sustained an exposure to a body fluid from a patient, please follow the instructions below:

1. Wash the exposed area with soap and water. DO NOT USE BLEACH.
2. If a body fluid splashed into your eye, rinse your eye with tap water or with sterile saline.
3. If a body fluid splashed into your eye, remove your contact lenses immediately.
4. Advise your supervisor that you have been exposed.
5. Employees - complete an accident report online through PeopleSoft Employee Self-serve System. Students - complete an accident report at OHN.
6. Report to OHN at 833 Chestnut Street, Suite 205 as soon as possible. (When OHN is closed report to the Emergency Department.)
7. Know the source patient's name, DOB and MR# as well as the name of the attending physician.
8. Source patient testing (hospitalized) can be ordered through Epic by selecting “Needlestick Inpatient Evaluation” on the drop-down menu. (Includes STAT HIV antigen/antibody, hepatitis C antibody, hepatitis B surface antigen.)
9. Source patient testing (outpatient population) should include STAT HIV antigen/antibody, hepatitis C antibody, hepatitis B surface antigen.

OHN will discuss the risks of your exposure and advise whether or not further treatment or evaluation is necessary. All testing in OHN is performed free of charge for Jefferson employees and students. Please call 215-955-6835 with any questions.

If you are a Jefferson student at an affiliate, please call OHN as soon as possible. You may opt to be seen at an emergency department, and the visit will be billed to your insurance. Follow up in OHN is recommended on the next business day. Questions may be directed to Dr. O’Connor at ellen.oconnor@jefferson.edu.

Detailed information on Occupational Health Network for Employees & Students may be viewed on the OHN website: https://hospitals.jefferson.edu/departments-and-services/occupational-health-network.html. In addition, the needlesticks website, an internal website accessed through Blackboard, has comprehensive summaries of the various topics involving occupational exposures.

Occupational Health Network for Employees & Students is located at 833 Chestnut Street, Suite 205 and is open 7:30am – 4:00pm Monday through Friday. The phone number is (215) 955-6835.

ATTENDANCE REGULATIONS

DIDACTIC/LABORATORY INSTRUCTION

Each course syllabus details the attendance policy.

CLINICAL ATTENDANCE RECORDS

Time cards/attendance sheets provided by the program are used for documenting clinical hours. Each student must personally sign or clock in and out. Students who have to sign-in (i.e. no time clock punch) must write down the time and have the designated staff initial next to the signed time. Time not documented must be made up. **Under no circumstances is it permissible to sign-in or out or clock-in or out for another student.** Any student found guilty of such an offense is subject to dismissal.

CLINICAL EDUCATION HOURS

Total clinical assignments will not exceed 40 hours per week. Assignments on any one day will not exceed 8 hours, unless otherwise requested by the student and approved by the Program Director and/or Clinical Coordinator in conjunction with the Affiliate Education Supervisor, or if patient care responsibilities dictate otherwise. No student will be permitted to leave a patient during the course of an examination, even if such completion requires remaining on duty beyond the end of the shift.

Students will be assigned a lunch period each day, which they are required to take. The lunch break will be commensurate with the practice of the department and area/rotation assignment. **The lunch break may not be used to make up or accrue time.**

Affiliate Education Supervisors may re-schedule students (within an assigned eight hours) to provide complete exposure to the unique learning opportunities in medical imaging and radiation sciences. The Affiliate Education Supervisor must notify the Program Director and/or Clinical Coordinator of these changes.

Students will participate in designated procedures during their clinical assignments under the guidance of a supervising technologist in the areas to which they are assigned.

PERSONAL DAYS

Students are allocated one personal day each semester. This time cannot be taken in half-days. Time off must be taken in full days (8 hours). It is not accruable nor is it transferable. A personal time request form must be submitted to the Program Director. **The Affiliate Education Supervisor and Program Director <u>MUST</u> be notified when a student is out of clinical.**

ABSENCE POLICY

Attendance is required for all clinical education sessions. If a student will be absent from a clinical assignment, he or she must call or email the Affiliate Education Supervisor and Program Director ***prior to*** the start of the shift. Three or more consecutive absences require a doctor's note. However, any sick days (even with a doctor's note) are not considered excused absences – **makeup time will be required**. Extenuating circumstances will be dealt with on an individual basis.

If an emergency arises requiring an early departure from the clinical affiliate, the student must notify both the Affiliate Education Supervisor and the Program Director.
It is the responsibility of the student to make these calls. Absences must be made up at the discretion of the faculty.

PUNCTUALITY

Any student who is not in his/her clinical area at the assigned time will be considered late. Three late arrivals in one semester count as one day's absence. Habitual lateness could lead to dismissal from the program.

It is the policy of the Department of Medical Imaging & Radiation Sciences that any student who is going to be late must notify both the Affiliate Education Supervisor and the Program Director prior to the start of his/her assigned time. All lost time due to lateness from the clinical area must be made up by the student. Failure to abide by these policies could lead to dismissal from the program.

A student will be advised in writing concerning his/her habitual lateness or violation of the Department of Medical Imaging & Radiation Sciences lateness policies by the Clinical Coordinator and/or Program Director.

Disciplinary actions, including suspensions from the clinical affiliate or dismissal from the program, may be taken against students who persist in habitual lateness or violations of the Departmental of Medical Imaging & Radiation Sciences lateness policies, after previously having been counseled in writing by the Clinical Coordinator and/or Program Director at an Advisement Conference.

MAKEUP TIME

Arrangements must be made with the Affiliate Education Supervisor and approved by the Program Director and/or Clinical Coordinator.
The makeup time form is signed upon fulfillment of the time missed. The form will be submitted to the Program Director and/or Clinical Coordinator.
All clinical absences must be made up at the clinical affiliate where the time was missed, consistent with the room assignments in effect when the absence occurred. Makeup time may not be assigned on holidays that are observed by the clinical affiliate or University. Makeup time may not be assigned during non-traditional hours of clinical assignments such as weekends.
The lunch break may not be used to make up or accrue time.

POLICY CONCERNING DEATH IN THE FAMILY

Upon notification to the Program Director, students will be allowed up to three (3) days of leave of absence for death in the immediate family. Immediate family members include parents, grandparents, spouse, brother, sister or child. Leaves of absence requested because of the death of someone other than an immediate family member may be granted by special permission.

HOSPITAL JOB ACTIONS OR STRIKES

Whenever a strike or job action occurs at an assigned clinical affiliate, the student must leave the assignment immediately and report to the Program Director or Clinical Coordinator for further directions. Missed clinical time must be made up.

At no time should a student attempt to cross a picket line to enter a clinical affiliate.

JURY DUTY

Being selected for jury duty is a civic responsibility in which the Department encourages students to participate.
Please be advised that the College cannot intervene on the student's behalf should a student be summoned for jury duty.

STUDENT ACTIVITIES

STUDENT ACTIVITIES

Students are encouraged to participate in campus activities, e.g., orientation programs, recruitment functions, social and cultural events, interprofessional activities and the class day pinning ceremony. They have the opportunity to represent the students' viewpoints on Department, College and University committees. The University and Thomas Jefferson University Hospital sponsor many volunteer and mentoring programs. Professional organizations, Jefferson Alumni Association and the College sponsor many programs that focus on career and professional development.

HONORS AND AWARDS

Students are eligible for:

- Department awards for outstanding overall performance
- Awards for clinical excellence.

Awards are presented during the class day pinning ceremony.

PROFESSIONAL SOCIETIES

Students are strongly encouraged to participate in professional activities and to seek memberships in national, state and local societies. These organizations sponsor competitions for students and several offer scholarships and educational grants.

- American Society of Radiologic Technologists (ASRT)
- American Society of Allied Health Professions (ASAHP)
- Delaware Valley Society of Nuclear Medicine Technology (DVSNMT)
- Association of Collegiate Educators in Radiologic Technology (ACERT)
- Pennsylvania Radiological Society (PRS)
- Philadelphia Society of Radiologic Technologists (PhilaSRT)
- Society of Nuclear Medicine and Molecular Imaging (SNMMI)

HONOR SOCIETIES

- Lambda Nu Society
  - Honor society for radiologic and imaging science professionals
  - http://www.lambdanu.org

ADDITIONAL POLICIES

SUPERVISION POLICY

Until the student achieves and documents competency in any given procedure, that procedure must be carried out under the direct supervision of a registered nuclear medicine technologist. After demonstration of competency in a given procedure, students may perform that procedure with indirect supervision.

DIRECT SUPERVISION

Direct supervision is defined as student supervision by a registered nuclear medicine technologist who reviews the procedure in relation to the student's achievement, evaluates the condition of the patient in relation to the student's knowledge, is present during the conduct of the procedure, and reviews and approves the images. Students must be directly supervised until competency is achieved.

INDIRECT SUPERVISION

Indirect supervision is defined as student supervision by a registered nuclear medicine technologist who is immediately available to assist students regardless of the level of student achievement. Immediately available is interpreted as the physical presence of a registered nuclear medicine technologist adjacent to the room or location where a nuclear medicine procedure is being performed.

CONFIDENTIALITY OF STUDENT RECORDS

Appropriately maintaining the security and confidentiality of student records and other program materials protects the student's right to privacy. Student records are maintained in accordance with the Family Education Rights and Privacy Act (Buckley Amendment). Student records at the clinical sites are maintained by the student/ and or clinical supervisor and are not to be placed in open, public areas of the department.

DRESS CODE AND APPEARANCE POLICY

CLINICAL UNIFORMS

- The dress code for students enrolled in the nuclear medicine program consists of navy blue hospital scrub tops and bottoms (ordered through the Jefferson Campus Store https://www.jeffersoncampusstore.com/).
- A long, white lab coat must be worn at all times (ordered through the Jefferson Campus Store https://www.jeffersoncampusstore.com/).
- A white or black crew neck tee shirt may be worn under the scrub top.
- Name tags must be visible to patient and staff and worn at all times.
- Solid white or black leather footwear – low-top sneakers or nursing shoes, closed toe and closed heel. Students are responsible for keeping shoes neat, clean, and polished. Shoelaces should also be kept clean and properly tied. Socks must be solid white or black.
- Uniforms must be in good condition, wrinkle-free and fit appropriately.
- Name tags must be visible to patient and staff and worn at all times.
- Properly dated and properly placed radiation dosimeters.
- Lanyards are not permitted.

DRESS ON CAMPUS

- Tops:
    - No tight, clingy, over-sized, or excessively baggy tops.
    - No wrinkled, shrunk, faded, stained or worn-out tops or tops with potentially offensive graphics/slogans.
    - No tops that reveal the abdomen when standing, lifting or bending over.
    - No tops that expose the cleavage, bra, back, shoulder, chest, lower back or under garments.
- Pants, skirts or dresses:
    - No tight, clingy, over-sized, or excessively baggy pants, skirts or dresses.
    - No pants, skirts or dresses that expose underwear.
    - No wrinkled, shrunk, faded, stained or worn-out pants, skirts or dresses or pants, skirts or dresses with potentially offensive graphics/slogans.
    - No hemlines that touch or drag on the ground.

GROOMING AND HYGIENE

- Students are required to practice good personal hygiene and present a professional appearance at all times.
- Facial hair (mustaches and beards) must be short, neatly trimmed and well-maintained.
- Long hair must be neatly tied back. Non-natural hair colors are not acceptable. Hair accessories must be solid white, black or navy blue, and without ornamentation.
- Fingernail length must be less than ¼ inch. Nail polish and artificial nails are not permitted.
- Jewelry must be kept to a minimum. Earrings should be of the small post type (no hoops or dangles) and only one earring per ear. Rings (except wedding band), necklaces and bracelets are not recommended.
- Any body piercing besides the ears should not be evident at the clinical affiliate site. Tongue rings are unacceptable and may not be worn.
- Tattoos must be covered so that they are not visible.
- Make-up should be worn conservatively. No perfumes, colognes, lotions or powders are to be worn at clinical sites.
- Students and their clothing should not smell of cigarette smoke.
- Chewing gum is not permitted.

NON-COMPLIANCE

Any student not complying with the dress code and appearance policy will be removed from the clinical affiliate. Any clinical time missed due to a dress code and appearance violation will be made up by the student at a later date. The Program Director and/or Clinical Coordinator in cooperation with the Affiliate Education Supervisor will determine make-up time.

Appendix A

Department of Medical Imaging & Radiation Sciences
Jefferson College of Health Professions
Thomas Jefferson University

TECHNICAL STANDARDS FOR A NUCLEAR MEDICINE TECHNOLOGIST

In order to complete the Nuclear Medicine Technology program, a student must meet the following technical standards, which are based on recommendations by the ASRT.

1. Sufficient visual acuity to accurately prepare and administer radiopharmaceuticals, and other medications, and to monitor imaging equipment as well as provide the necessary patient assessment and care.
2. Sufficient auditory perception to receive verbal communication from patients and members of the healthcare team, and to assess the health needs of people through monitoring devices such as intercom systems, blood pressure gauges, and fire alarms.
3. Sufficient gross and fine motor coordination to respond promptly and to implement skills related to the performance of NM, such as positioning, transporting and imaging patients. NM technologists must be able to lift and transport lead blocks or radionuclide generators weighing up to 50 pounds. In addition, NM technologists must perform venipuncture on a regular basis.
4. Sufficient communication skills (verbal, reading, writing) to interact with individuals and to communicate their needs promptly and effectively, as may be necessary in the patient's interest.
5. Sufficient intellectual and emotional function to plan and implement patient care.

Examples of specific technical standards the NM student must be able to meet are:

- Lift, transfer and/or move patients from wheelchair/stretcher to imaging table
- Lift, move, reach or push NM equipment
- Manual dexterity and ability to bend/stretch
- Distinguish colors and shades of gray
- Demonstrate effective interpersonal skills, including patient instruction
- Read and extract information from the medical chart or patient requisition
- Explain the clinical study verbally and/or in writing
- Physical and mental abilities to handle moderate and frequent exposure to infectious agents (blood, urine) and moderate exposure to ionizing radiation.

APPENDIX B

PATIENTS' BILL OF RIGHTS

We consider you a partner in your hospital care. When you are well informed, participate in treatment decisions, and communicate openly with your doctor and other health professionals, you help make your care as effective as possible. This hospital encourages respect for the personal preferences and values of each individual.

While you are a patient in the hospital, your rights include the following:

- You have the right to considerate and respectful care.
- You have the right to be well informed about your illness, possible treatments, and likely outcome and to discuss this information with you doctor. You have the right to know the names and roles of people treating you.
- You have the right to consent to or refuse a treatment, as permitted by law, throughout your hospital. If you refuse a recommended treatment, you will receive other needed and available care.
- You have the right to have an advance directive, such as a living will or health care proxy. These documents express your choices about you future care or name someone to decide if you cannot speak for yourself. If you have a written advance directive, you should provide a copy to your family, and your doctor.
- You have the right to privacy. The hospital, you doctor, and others caring for you will protect your privacy as much as possible.
- You have the right to expect that treatment records are confidential unless you have given permission to release information or reporting is required or permitted by law. When the hospital releases records to others, such as insurers, it emphasizes that the records are confidential.
- You have the right to review you medical records and to have the information explained except when restricted by law.
- You have the right to expect that the hospital will give you necessary health hospital services to the best of its ability. Treatment, referral, or transfer may be recommended. If transfer is recommended or requested, you will be informed of risks, benefits, and alternatives. You will not be transferred until the other institution agrees to accept you.
- You have the right to know if this hospital has relationships with outside parties that may influence you treatment and care. These relationships may be with educational institutions, other health care providers, or insurers.
- You have the right to consent or decline to take part in research affecting your care. If you choose not to take part, you will receive the most effective care the hospital otherwise provides.
- You have the right to be told of realistic care alternatives when hospital care is no longer appropriate.

- You have the right to know about hospital rules that affect you and your treatment and about charges and payment methods. You have the right to know about hospital resources, such as patient representatives or ethic committees that can help you resolve problems and questions about your hospital stay and care.
- You have responsibilities as a patient. You are responsible for providing information about your health, including past illnesses, hospital stays, and use of medicine. You are responsible for asking questions when you do not understand information or instructions. If you believe you can't follow through with your treatment, you are responsible for telling your doctor.
- This hospital works to provide care efficiently and fairly to all patients and the community. You and you visitors are responsible for being considerate of the needs of other patients, staff, and the hospital. You are responsible for providing information for insurance and for working with the hospital to arrange payment, when needed.
- Your health depends not just on your hospital care but, in the long term, on the decisions you make in your daily life. You are responsible for recognizing the effect of life-style on your personal health.
- A hospital serves many purposes. Hospitals work to improve people's health; treat people with injury and disease; educate doctors, health professionals, patients, and community members; and improve understanding of health and disease. In carrying out these activities, this institution works to respect your values and dignity

Appendix C

ASRT/ARRT CODE OF ETHICS

1. The radiologic technologist conducts himself/herself in a professional manner, responds to patient needs and supports colleagues and associates in providing quality patient care.

2. The radiologic technologist acts to advance the principal objective of the profession to provide services to humanity with full respect for the dignity of mankind.

3. The radiologic technologist delivers patient care and service unrestricted by concerns of personal attributes or the nature of the disease or illness, and without discrimination, on the basis of sex, race, creed, religion or socioeconomic status.

4. The radiologic technologist practices technology founded upon theoretical knowledge and concepts, uses equipment and accessories consistent with the purpose for which they have been designed, and employs procedures and techniques appropriately.

5. The radiologic technologist assesses situations, exercises care, discretion and judgment assumes responsibility for professional decisions; and acts in the best interest of the patient.

6. The radiologic technologist acts as an agent through observation and communication to obtain pertinent information for the physician to aid in the diagnosis and treatment of the patient, and recognizes the interpretation and diagnosis are outside the scope of practice for the profession.

7. The radiologic technologist uses equipment and accessories, employs techniques and procedures, performs services in accordance with an accepted standard of practice and demonstrates expertise in minimizing the radiation exposure to the patient, self and other members of the health care team.

8. The radiologic technologist practices ethical conduct appropriate to the profession and protects the patient's right to quality radiologic technology care.

9. The radiologic technologist respects confidences entrusted in the course of professional practice respects the patient's right to privacy and reveals confidential information only as required by law or to protect the welfare of the individual or the community.

10. The radiologic technologist continually strives to improve knowledge and skills by participating in educational and professional activities, sharing knowledge with colleagues and investigating new and innovative aspects of professional practice.

Revised and adopted by The American Society of Radiologic Technologists and The American Registry of Radiologic Technologist, February 2003.

SNMMI-TS CODE OF ETHICS

1. The Nuclear Medicine Technologist will provide services with compassion and respect for the dignity of the individual and with the intent to provide the highest quality of patient care.

2. The Nuclear Medicine Technologist will provide care without discrimination regarding the nature of the illness or disease, gender, race, religion, sexual preference or socioeconomic status of the patient.

3. The Nuclear Medicine Technologist will maintain strict patient confidentiality in accordance with state and federal regulations.

4. The Nuclear Medicine Technologist will comply with the laws, regulations, and policies governing the practice of nuclear medicine.

5. The Nuclear Medicine Technologist will continually strive to improve his/her knowledge and technical skills.

6. The Nuclear Medicine Technologist will not engage in fraud, deception, or criminal activities.

7. The Nuclear Medicine Technologist will be an advocate for his/her profession.

Revised and adopted by the Society of Nuclear Medicine Technologist Section, June 2004.

Appendix D

RADIATION PROTECTION PRACTICES

1. A student is required to exercise sound radiation protection practices at all times. At no time may a student participate in a procedure utilizing unsafe protection practices.

2. A student must be aware of and enforce the policies and procedures of radiation safety in keeping with institutional, state, and national standards.

3. A student will always wear radiation dosimeters in the clinical site and radiopharmacy lab.

4. A student will wear the radiation film badge outside the clothing, on the torso. A ring badge will be worn when handling radioactive materials.

5. A student will always remove personal radiation dosimeters while having diagnostic medical or dental radiographs taken.

6. A student who deliberately exposes his/her radiation dosimeter will be suspended and/or dismissed from the program.

7. A student will use appropriate shielding.

8. Radiation protection of the patient and others within the examination room is the student's responsibility when he/she is performing the study.

9. A student may not perform procedures utilizing ionizing radiation on other students or staff at their request without a prescription for the exam by a physician.
   The student will be dismissed from the program for this violation.*

10. A technologist or physician may not perform procedures utilizing ionizing radiation on a student without a prescription for the exam from the student's physician.
    The student will be dismissed from the program for this violation.*

***(PA Code, Title 25. Environmental Protection. Department of Environmental Protection, Chapter 211.11.)**

Appendix E

PERSONNEL RADIATION MONITORING

1. Each student is responsible for wearing properly dated radiation dosimeter(s) (body and ring badges) at Clinical Affiliates and in laboratory classes. No student will be allowed in clinical or the laboratory class without properly dated radiation dosimeter(s) appropriately worn.

2. Any student who does not have the properly dated radiation dosimeter(s) will be suspended from his or her clinical area or lab until he/she has the properly dated radiation monitor. Time lost from the clinical area must be made up.

3. Dosimeters will be given to students each month.

4. Each student is responsible for exchanging the radiation dosimeter(s) on the designated day of each month. Radiation dosimeters are exchanged with the Program Director.

5. Dosimeter loss or accident must be reported immediately to the Program Director. The cost of lost radiation dosimeters is the responsibility of the student.

6. Each student is responsible for submitting their dosimeter(s), on time.

7. The Program Director receives monthly radiation dose reports from the Radiation Safety Officer, and informs each student of his/her exposures.

8. Monthly radiation exposures for students **must not** exceed the maximum permissible dosage to occupationally exposed persons as established by state and federal agencies for radiologic health.

9. The Office of Radiation Safety maintains a history of each individual's exposure and anyone may examine his/her own radiation exposure record, or obtain a copy by sending a signed, written request to the Radiation Safety Office.

10. **"High" Radiation Dosimeter Readings**
    High or unusual radiation dosimeter readings are investigated by Thomas Jefferson University's Radiation Safety Officer. Readings above designated "Investigation Levels" are evaluated with regard to workload and type of duties performed by the dosimeter wearer; adherence to proper work practices; proper care and use of the dosimeter; and possible exposure of the dosimeter to "non-occupational" radiation sources. In cases where it appears that the high readings may be due to inadequate safe work practices or improper use or storage of the dosimeter(s), the wearer is counseled by Radiation Safety Officer and/or the wearer's supervisor(s).

11. **On completion of the clinical rotation students must return their radiation dosimeter(s) to the Program Director or Clinical Coordinator. Students will be billed for unreturned badges.**

Appendix F

RADIATION DOSIMETER USE

Jefferson

Policy No: RSO-053
Effective Date: 11/02/2000
Last Revision Date: 06/08/2015

Office of Radiation Safety

Category: Operations - Programmatic
Title: Radiation Dosimeter Use
Policy Owner: John C. Keklak
Contributors/Contributing Departments:

PURPOSE

To assess employee occupational radiation dose from ionizing radiation sources external to the body.

.

POLICY

Radiation dosimeters ("individual monitoring devices" as defined in 10 CFR 20.1203) are to be issued for the purpose of assessing occupational radiation dose as follows:

1. Radiation dosimeters are to be issued to anyone (employee/student/volunteer) whose assigned duties involve potential exposure to ionizing radiation and whom the Radiation Safety Officer has determined meets the requirements for individual monitoring devices as described in applicable federal or state regulations.

2. Radiation dosimeters may also be required for individuals in specific work areas or performing designated tasks, even if not required by state or federal regulations.

3. Radiation dosimeters may be offered as an option to individuals in areas where use of individual monitoring devices is not required by regulations, but where employees may have concerns about their level of radiation exposure. Optional use must be approved by the appropriate Department and/or Division Head and the RSO.

4. Radiation dosimeter readings are routinely reviewed by Radiation Safety Staff and appropriate follow-up action taken as may be indicated by the results.

Definitions:

For the purposes of this Policy and related procedures, the following terms are defined:

"ALARA Investigation Levels" are pre-set dosimeter reading values that trigger formal reviews by Radiation Safety Staff. [ALARA stands for "as low as reasonably achievable" and is a radiation protection philosophy whereby the

objective is to keep radiation doses to individuals and populations as far below (maximum) regulatory limits "as is reasonably achievable".]

"ALARA Investigation Level 1" means total radiation doses in any single calendar quarter (e.g., January 1 to March 31) above the following:

Effective Dose Equivalent (EDE) ["whole body"] above 125 mrem
Lens Dose Equivalent (LDE) above 375 mrem
Shallow ("Skin") Dose Equivalent (SDE) above 1250 mrem
Extremity Dose reading above 1250 mrem

"ALARA Investigation Level 2" means total radiation doses in any single calendar quarter (e.g., January 1 to March 31) above the following:

Effective Dose Equivalent (EDE) ["whole body"] above 375 mrem
Lens Dose Equivalent (LDE) above 1125 mrem
Shallow ("Skin") Dose Equivalent (SDE) above 3750 mrem
Extremity Dose reading above 3750 mrem

"Dose Equivalent" means the absorbed radiation dose to a human being, modified by appropriate radiation weighting factors, depending on the type of ionizing radiation source, or tissue/organ weighting factors (as may be necessary).

"Deep Dose Equivalent" ("DDE") means the dose equivalent (tissue dose from external radiation sources) determined for a tissue depth of 1.0 cm, as measured by a radiation dosimeter.

"Effective Dose Equivalent" ("EDE") [for the purposes of this policy] means the deep dose equivalent (tissue dose from external radiation sources at 1 cm below the surface of the skin) as measured by a radiation dosimeter, adjusted where appropriate by mathematical formulas to take into account the wearing of protective lead garments in the presence of diagnostic energy x-ray radiation.

"Extremity Dose" means the dose equivalent (tissue dose from external radiation sources) to the hands or forearms (below the elbows), or to the feet or lower legs (below the knees) determined for a tissue depth of 0.007 cm, as measured by a radiation dosimeter (e.g., ring dosimeter).

"Lens Dose Equivalent" ("LDE") means the dose equivalent (tissue dose from external radiation sources) determined for a tissue depth of 0.3 cm, as measured by a radiation dosimeter.

"Millirem (mrem)" is a unit of measure for any "dose equivalent" term.

"Radiation dosimeters" (aka "individual monitoring devices") means devices designed to be worn by a single individual for the assessment of dose equivalent such as film badges, thermoluminescence dosimeters (TLDs), pocket ionization chambers, etc.

"Shallow ("Skin") Dose Equivalent" ("SDE") means the dose equivalent (tissue dose from external radiation sources) determined for a tissue depth of 0.007 cm, as measured by a radiation dosimeter.

Procedures:

[The following procedures and/or requirements have been approved by the Jefferson Radiation Safety Committee and instituted by the Radiation Safety Officer under his authority as established by federal and state regulations and institutional policy.]

Dosimeter Wearer Responsibilities

1. Regardless of whether the dosimeters are issued as required or optional, any employee who is issued any dosimeter is responsible for:

a. Wearing the dosimeter while on duty in those areas where there is a potential for radiation exposure.

b. Exchanging worn dosimeters for new ones on the first workday of each wear period (e.g., first day of month or calendar quarter, depending on assigned wear period), unless the new replacement dosimeters' arrival has been delayed, in which case the exchange may be made as soon as possible after the arrival of the new dosimeters).

c. Taking proper care of dosimeters, as described by Office of Radiation Safety instructions, to avoid damaging or contaminating the dosimeters.

d. Not storing dosimeters near radiation sources when not being worn.

e. Not wearing dosimeters when being exposed to radiation sources for personal medical purposes (The wearer should notify Radiation Safety if this inadvertently occurs or if administered a radiopharmaceutical).

f. Notifying Radiation Safety immediately whenever dosimeters are lost, accidentally damaged, name change is required, place of work has changed, or any reason why accidental exposure may have occurred (i.e., dosimeter accidentally left near source when not worn).

g. Returning all dosimeters and holders upon termination of duties with/near radiation sources.

h. Notifying Radiation Safety/dosimeter distributor of pending employment termination.

i. Otherwise wearing assigned dosimeters in accordance with any other Office of Radiation Safety instructions.

2. Failure to comply with guidelines and responsibilities listed above may result in forfeiture of (optional) dosimeters and/or disciplinary action.

3. Any inquiries related to dosimeter use should be directed to the individual's supervisor, dosimeter distributor, or Radiation Safety.

Dosimeter Issuance:

Dosimeters are issued and distributed in accordance with internal Radiation Safety Department Procedure RSO-041: "Badging and Distribution"

Review of Dosimetry Readings

1) Dosimetry reports from Jefferson's dosimetry provider (currently Mirion Technologies) should be reviewed by designated Radiation Safety staff within 5 business days of receipt.

2) Review of dosimetry results by the Radiation Safety Officer or Senior Health Physicist are to be performed at least quarterly.

3) The purposes of such reviews are to:

a) Determine if the reading is valid (accurately represents occupational radiation dose)
b) Identify possible opportunities for intervention to reduce future dose

4) The reviewer is to examine readings for the following:
   a) Individual readings substantially above others doing similar work
   b) Individual readings substantially above the wearer's past recorded readings
   c) Evidence of misuse or damage to the dosimeter
   d) Evidence of radioactive contamination to the dosimeter
   e) Calendar quarter total dose readings above "ALARA Investigation Levels" (see definitions)
   f) Evidence that the wrong analysis algorithms were applied by the vendor in generating the reported reading
   g) Evidence that the dosimeter had not been properly designated (e.g., "whole body" instead of "collar w/ EDE")
   h) Any other contributing factor as may be identified in the vendor's report notes.

5) The reviewer is to specifically review the DDE, EDE, SDE, LDE, and extremity readings for the dosimeter wear period and the calendar quarter-to-date and year-to-date totals for compliance with occupational dose limits and for any trending that may indicate that annual dose limits could potentially be exceeded.

6) The reviewer is to look for possible causes for high or unusual readings including:
   a) Badges not being properly worn (wrong location, wrong orientation, worn outside of holder, etc.)
   b) Sub-optimal work practices by the wearer
   c) Dose to the dosimeter while not being worn (dosimeter left in room during procedures, dose stored near a radiation source or otherwise in a high background area, etc.)
   d) Dose due to the wearer undergoing a medical procedure involving radiation (e.g., wearer administered a Nuclear Medicine radiopharmaceutical as a patient)
   e) Dosimeter exposed to unusual environmental conditions (e.g., excessive heat)
   f) Any other potential cause

7) Regarding the review/investigation process:
   a) Reviews/investigations may require personal contact with the wearer and /or wearer's supervisor in order to perform an evaluation as per the preceding item 4.
   b) All total readings above "ALARA Investigation Levels" are to be performed and documented. "Level 2" investigations should include direct contact with the wearer and evaluation of work practices where feasible, unless the readings are consistent with an historical pattern previously determined to be reasonable for the workload and practices employed.
   c) All ALARA Level Investigations are to be documented.
   d) Summary reports of readings above ALARA Investigation Levels are reported to the Radiation Safety Committee at its regular quarterly meetings.

8) Readings for dosimeters issued to specifically assess radiation dose to embryo/fetus of a pregnant individual are to be closely scrutinized with regard to cumulative dose being acquired through the gestation period, in case intervention (e.g., job reassignment) is necessary to assure that applicable dose limits are not exceeded.

Dose History Adjustments:

1) Readings determined to be due to non-occupational radiation sources, or to be inaccurate due to some identifiable cause, may be adjusted.

2) Adjustments to the wearer's occupational dose history are made after review by the Radiation Safety Officer by notifying the dosimetry vendor in writing, in accordance with the vendor's procedures.

Reports to Wearers:

1. Dosimeter wearers will be notified of radiation doses as obtained as per the criteria specified in regulations contained in 10 CFR 19 or any other applicable state or federal regulation.

2. Individuals may be notified if their cumulative readings in any calendar quarter exceed pre-established 'investigation levels', or if any unusual or apparently 'high' dosimeter reading(s) are identified by Radiation Safety personnel.

3. Regular dose reports [excised of personal information other than dosimeter wearer id number] are provided to the dosimeter distribution group distributor for availability to wearers.

4. Individuals may also obtain their dosimeter results by making proper request to the Office of Radiation Safety. Such requests generally are required to be made in writing to protect the individual's personal information from release to unauthorized personnel.

Confidentiality:

1. Individual radiation dose readings are considered as protected information and access to this information is limited to Radiation Safety personnel, supervisors, program directors, management personnel, members of the Radiation Safety Committee, regulatory inspectors, or others (with RSO approval) with a legitimate need-to-know,

2. Release of individual dose information in any circumstances is limited to the minimum necessary.

3. Any other personal information obtained by the Office of Radiation Safety in the administration of the dosimeter program is treated as confidential.

Attachment(s): na

References and Citations:

Internal Office of Radiation Safety Procedure RSO-041 "Badging and Distribution"

[Copies of the above reference may be obtained by contacting the Office of Radiation Safety, 215-955-7813.]

Title 10, Code of Federal Regulations (10 CFR) as incorporated by reference in Title 25 Pa. Code Chapter 219; specific sections as follows:

10 CFR 20.1003 (definitions)
10 CFR 20.1201; 20.1207; 20.1208 (re occupational dose limits)
10 CFR 20.1502 (requirements for use of individual monitoring devices)

Original Issue Date: 11/01/2000
Revision Date(s) : 07/31/2012; 08/07/2014
Review Date(s): 11/08/06, 05/16/2011, 07/31/2012, 7/01/14; 08/07/2014; 06/08/15
Responsibility for maintenance of policy: John C. Keklak

[Signature on File]

Approved by: [signature on file]

_John C.Keklak_____

Radiation Safety Officer

Thomas Jefferson University Hospitals, Inc./Thomas Jefferson University

Appendix G

RADIATION WORKERS WHO BECOME PREGNANT

Jefferson

Policy No: RSO-050
Effective Date: 07/04/2008
Revision Date: 05/03/2010

Office of Radiation Safety

Category: Operations -Programmatic
Title: Radiation Workers Who Become Pregnant
Policy Owner: John C. Keklak
Contributors/Contributing Departments:

PURPOSE

1. To minimize ionizing radiation dose to the embryo/fetus of any radiation worker, arising from the occupational radiation exposure of the worker.
2. To comply with pertinent Federal (NRC) and Pennsylvania regulations. [Note: Pennsylvania incorporates the NRC regulations by reference.]
3. To conform to Regulatory Guidance as contained in US Nuclear Regulatory Commission Regulatory Guide 8.13, Revision 3, issued June 1999, regarding prenatal radiation exposure.

POLICY

Individuals whose occupational duties may include tasks that involve exposure to ionizing radiation are classified as "radiation workers"[1]. Female radiation workers who become pregnant have the right to voluntarily "declare" their pregnancy in accordance with Federal and Pennsylvania regulations (See 10 CFR 20.1003 Definition "declared pregnant woman", below). It is the policy of Thomas Jefferson University/Thomas Jefferson University Hospital (TJU/TJUH) to:

a) Provide instruction and otherwise make information available to potentially pregnant workers about the health effects of ionizing radiation on the embryo/fetus [as required under 10 CFR 19.12],

b) establish procedures to ensure that the dose limits to the embryo/fetus of the declared pregnant worker are within the levels specified in Federal regulations (contained in 10 CFR 20.1208), and

c) establish procedures to minimize ionizing radiation doses to the embryo/fetus of any pregnant worker (declared or undeclared) in accordance with the ALARA ("as low as reasonably achievable") principle [as required by 10 CFR 20.1101(b)].

[1] Note: Students whose curriculum involves clinical training in the medical uses of ionizing radiation are also considered to be "radiation workers" for the purpose of this policy.

Definitions:

For the purposes of this Policy and related procedures, the following terms are defined.

"Declared pregnant woman" means a woman who has voluntarily informed Thomas Jefferson University or Thomas Jefferson University Hospital (through Notification to the institutional Radiation Safety Officer), in writing, of her pregnancy and the estimated date of conception (month and year only). The declaration remains in effect until either the declared pregnant woman voluntarily withdraws the declaration in writing or is no longer pregnant. [Definition derived from that in Federal regulation 10 CFR 20.1003.]

"Declaration of pregnancy" for the purpose of this Policy and related procedures, means a declaration as described under the definition of "declared pregnant woman", which is made solely for the purpose of requiring TJU/TJUH to take any measures that may be necessary to ensure that the embryo/fetus does not receive a radiation dose due to the occupational radiation exposure of the declared pregnant woman in excess of the limits set in 10 CFR 20.1208.

"Radiation worker" means a Jefferson employee and/or student whose assigned duties or clinical training requirements involve reasonable likelihood of exposure to ionizing radiation sources such that the individual might receive an annual total effective dose equivalent greater than 50 millirem, and/or the individual actively handles radioactive materials as part of those duties or requirements.

Procedures:

1. Information on radiation and pregnancy is to be incorporated into the radiation safety training provided to those whose duties may routinely involve exposure to ionizing radiation such that they are considered to be "radiation workers".

2. Pregnant workers may voluntarily "declare" pregnancy by notifying the Radiation Safety Officer in writing. The information to be included in this notice must include the individual's name, the fact that she is pregnant, the approximate (month and year only) date of conception, and the date the written statement is provided to the RSO. A recommended form letter is attached. The form letter provided in USNRC Regulatory Guide 8.13 (Instructions Regarding Prenatal Radiation Exposure) or a self-composed letter may also be used.

3. The woman may withdraw her declaration of pregnancy in accordance with regulations by providing a written statement to the RSO to this effect. The woman's status will revert to that in effect prior to her initial declaration without discrimination or repercussion with respect to her job status or work environment. Withdrawal of the declaration does not preclude the woman from subsequently re-declaring her pregnancy.

4. Jefferson will take any necessary steps to ensure that the embryo/fetal dose limits specified in 10 CFR 20.1208 (500 millirem for the duration of the pregnancy; or no more than 50 millirem for the remainder of the pregnancy if it is found that the dose to the embryo/fetus had already exceeded 450 millirem by the time the pregnancy was declared) are not exceeded. An additional operational goal is to permit radiation doses to the embryo/fetus of no more than 50 millirem in any one month. In most cases, no change in job assignments will be necessary, since few Jefferson radiation workers ever exceed these dose levels. Where required, workers may be reassigned to other areas or duties involving lower potential for occupational radiation exposure; or may have some tasks involving radiation exposure reduced in frequency. For any declared pregnant woman whose normal job duties are unlikely to result in embryo/fetal doses above 500 mrem/gestation period any job/task reassignment will be at the discretion of the individual's supervisor and/or department manager or director and will be subject to the availability of other

personnel to perform those tasks being reassigned. [It should be emphasized that these dose limits apply only to radiation doses resulting from the occupational radiation exposure of the woman, and would not include any radiation doses arising from any medical diagnostic or therapeutic procedures performed on the woman or the embryo/fetus; nor would it apply to radiation exposure occurring from background radiation sources.]

5. The Radiation Safety Officer (RSO) or the Senior Health Physicist with the Office of Radiation Safety are available to provide one-to-one counseling to radiation workers who are pregnant (or who are contemplating becoming pregnant) to answer questions and provide additional information based on the woman's specific work situation. Appointments can be made by contacting the Radiation Safety Office.

6. Radiation Safety will issue any radiation dosimeters as may be warranted to track radiation doses to the embryo/fetus of the declared pregnant woman. Information from radiation dosimeter(s) that may have already been assigned to the woman would be sufficient for tracking fetal dose in most cases, except that the woman will be instructed to wear the dosimeter at the level of the abdomen (as opposed to, for example, the collar or shirt pocket area).

7. The Office of Radiation Safety will treat any information obtained related to an individual's pregnancy as "confidential", and such information will be shared only on a "need to know" basis (e.g., with the individual's supervisor) as may be necessary to ensure compliance with the prenatal radiation dose limits and other regulatory requirements.

8. A "Declaration of Pregnancy" for the purpose of invoking the dose limit requirements as specified in 10 CFR 20.1208 is for that purpose only, and is distinct and separate from any other information that a pregnant woman may provide to representatives of Thomas Jefferson University or Thomas Jefferson University Hospital related to the woman's pregnancy and its relevance to the performance of her other (i.e. not involving radiation exposure) job duties. Notice to representatives of TJU/TJUH, Inc. other than as specified in Item No. 2 above will not be considered as a formal "Declaration of Pregnancy" for radiation protection purposes.

References:

1. Title 10, Code of Federal Regulations; Parts 19 and 20.

2. USNRC Regulatory Guide 8.13, Revision 3 (June 1999), "Instruction Concerning Prenatal Radiation Exposure".

3. Radiation and Radioactivity, A Guide for the Radiation Worker (TJUH, Inc/TJU internal training booklet), Revision 4, September 4, 2002.

4. USNRC Regulatory Guide 8.29, Revision 1, February 1996, "Instruction Concerning Risks from Occupational Exposure".

[Copies of the above references may be obtained by contacting the Office of Radiation Safety, 215-955-7813.]

Attachment

Attachment(s):

References and Citations:

Original Issue Date: 07/08/2004
Revision Date(s) : 03/08/2005; 05/03/2010
Review Date(s): 04/22/2011, 07/30/2012, 01/15/14, 03/30/15
Responsibility for maintenance of policy: John C. Keklak

Approved by: (Signature on file)

John C. Keklak
Department Director

Thomas Jefferson University Hospitals, Inc.

FORM LETTER FOR DECLARING PREGNANCY

(For use within Thomas Jefferson University/Thomas Jefferson University Hospital only.)

This form letter is provided for your convenience. To make your written declaration of pregnancy, you may fill in the blanks in this form letter, or you may write your own letter containing the required information. Letters should be sent in a confidential envelope or hand delivered to John C. Keklak, Radiation Safety Officer, Suite 820, 919 Walnut St. (Nevil Bldg.)

To: John C. Keklak
Radiation Safety Officer

In accordance with the NRC regulations contained in 10 CFR 20.1208, "Dose to an Embryo/Fetus", and corresponding Pennsylvania regulations, I am declaring that I am pregnant. I believe that I became pregnant in _____ (only the month and year need be provided).

I understand that the radiation dose (resulting from my occupational radiation exposure) to my embryo/fetus during my entire pregnancy will not be allowed to exceed 0.5 rem (500 millirem) (unless that dose has already been exceeded between the time of conception and submitting this letter). I also understand that meeting the lower dose limit may require a change in my job or job duties during my pregnancy. I further understand that I may revoke this declaration at any time for any reason, without fear of reprisal on the part of Jefferson.

_____
(Your signature)

_____
(Your name printed)

_____
(Date of submission)

Appendix H

ASRT – NUCLEAR MEDICINE PRACTICE STANDARDS AND SCOPE OF PRACTICE

Preface to Practice Standards
A profession's practice standards serve as a guide for appropriate practice. The practice standards define the practice and establish general criteria to determine compliance. Practice standards are authoritative statements established by the profession for evaluating the quality of practice, service and education provided by individuals who practice in medical imaging and radiation therapy.
Practice Standards can be used by individual facilities to develop job descriptions and practice parameters. Those outside the imaging, therapeutic and radiation science community can use the standards as an overview of the role and responsibilities of the individual as defined by the profession. The individual must be educationally prepared and clinically competent as a prerequisite to professional practice. Federal and state laws, accreditation standards necessary to participate in government programs, and lawful institutional policies and procedures supersede these standards.

Format
The Practice Standards are divided into six sections: introduction, scope of practice, clinical performance, quality performance, professional performance and advisory opinion statements.

- *Introduction*
  The introduction provides definitions for the practice and the minimum qualifications for the education and certification of individuals in addition to an overview of the specific practice.

- *Scope of Practice*
  The scope of practice delineates the parameters of the specific practice.

- *Clinical Performance Standards*
  The clinical performance standards define the activities of the individual responsible for the care of patients and delivery of diagnostic or therapeutic procedures. The section incorporates patient assessment and management with procedural analysis, performance and evaluation.

- *Quality Performance Standards*
  The quality performance standards define the activities of the individual in the technical areas of performance, such as equipment and material assessment safety standards and total quality management.

- *Professional Performance Standards*
  The professional performance standards define the activities of the individual in the areas of education, interpersonal relationships, self-assessment and ethical behavior.

- *Advisory Opinion Statements*
  The advisory opinions are interpretations of the standards intended for clarification and guidance of specific practice issues.

Each performance standards section is subdivided into individual standards. The standards are numbered and followed by a term or set of terms that identify the standards, such as "assessment" or "analysis/determination." The next statement is the expected performance of the individual when performing the procedure or treatment. A rationale statement follows and explains why an individual should adhere to the particular standard of performance.

- *Criteria*
  Criteria are used to evaluate an individual's performance. Each set is divided into two parts: the general criteria and the specific criteria. Both should be used when evaluating performance.

- *General Criteria*
  General criteria are written in a style that applies to imaging and radiation science individuals. These criteria are the same in all of the practice standards, with the exception of limited x-ray machine operators and medical dosimetry, and should be used for the appropriate area of practice.

- *Specific Criteria*
  Specific criteria meet the needs of the individuals in the various areas of professional performance. While many areas of performance within imaging and radiation sciences are similar, others are not. The specific criteria were drafted with these differences in mind.

INTRODUCTION TO NUCLEAR MEDICINE PRACTICE STANDARDS

DEFINITION

The practice of nuclear medicine and molecular imaging is performed by a segment of health care professionals responsible for the administration of ionizing radiation (radioactive material and computed tomography) and non-ionizing radiation and adjunctive medications to patients for diagnostic, therapeutic or research purposes. Radioactive materials, medications and imaging and nonimaging equipment are used in nuclear medicine and molecular imaging to study various organs, body systems and samples to aid in the diagnosis, treatment and treatment planning of various pathological conditions.

Although an interdisciplinary team of clinicians, nuclear medicine technologists and support staff plays a critical role in the delivery of health services, it is the nuclear medicine technologist who performs the nuclear medicine and molecular imaging procedure or the therapy at the request of and for interpretation by a licensed practitioner and under the supervision of an authorized user.

Nuclear medicine and molecular imaging technology integrates scientific knowledge, technical competence and patient interaction skills to provide safe and accurate procedures with the highest regard to all aspects of patient care. A nuclear medicine technologist recognizes patient conditions essential for the successful completion of the procedure.

Nuclear medicine technologists must demonstrate an understanding of human anatomy and physiology, chemistry, physics and instrumentation, mathematics, medical terminology and pharmacology. Nuclear medicine technologists must maintain a high degree of accuracy in all aspects of the procedure. They must possess, use and maintain knowledge about radiation safety principles. Nuclear medicine technologists independently perform or assist the licensed practitioner and authorized user in the completion of nuclear medicine and molecular imaging procedures and treatments. Nuclear medicine technologists prepare, administer and document activities related to ionizing radiation (radioactive material and computed tomography) and nonionizing radiation, medications and radiation exposure in accordance with federal and state laws or lawful institutional policy.

Nuclear medicine technologists are the primary liaison between patients, licensed practitioners and other members of the health care team. Nuclear medicine technologists must remain sensitive to the needs of the patient through good communication, patient assessment, patient monitoring and patient care skills. As members of the health care team, nuclear medicine technologists participate in quality improvement

processes and continually assess their professional performance.

Nuclear medicine technologists think critically and use independent, professional and ethical judgment in all aspects of their work. They engage in continuing education to include their area of practice to enhance patient care, radiation safety, public education, knowledge and technical competence.

Education and Certification

Only medical imaging and radiation therapy professionals who have completed the appropriate education and obtained certification(s) as outlined in these standards should perform nuclear medicine procedures.

Nuclear medicine technologists prepare for their roles on the interdisciplinary team by successfully completing a program in nuclear medicine that is programmatically accredited or part of an institution that is regionally accredited, and by attaining appropriate primary certification from the American Registry of Radiologic Technologists or the Nuclear Medicine Technology Certification Board. Those passing the ARRT examination use the credential R.T.(N). Those passing the NMTCB examination use the credential CNMT.

Eligibility to take the NMTCB specialty examinations in nuclear cardiology and/or positron emission tomography requires appropriate primary certification and documentation of clinical experience at the time of the examination. Those who successfully complete these examinations may use the credentials NCT and/or PET.

Medical imaging and radiation therapy professionals performing multiple modality hybrid imaging should be registered by certification agencies recognized by the ASRT and be educationally prepared and clinically competent in the specific modality(ies) they are responsible to perform. Medical imaging and radiation therapy professionals performing diagnostic procedures in more than one imaging modality will adhere to the individual practice standard for each.

To maintain ARRT and/or NMTCB primary and/or specialty certifications, nuclear medicine technologists must complete appropriate continuing education requirements to sustain their expertise and awareness of changes and advances in practice.

Overview

Nuclear medicine technologists are part of the interdisciplinary team that plays a critical role in the delivery of health services as new modalities emerge and the need for imaging and nonimaging procedures increases. A comprehensive procedure list for the nuclear medicine technologist is impractical because clinical activities vary by the practice needs. As the field of nuclear medicine and molecular imaging advances, the clinical activities for the nuclear medicine technologist may evolve.

State statute, regulation or lawful community custom may dictate practice parameters. Wherever there is a conflict between these standards and state or local statutes or regulations, the state or local statutes or regulations supersede these standards. A nuclear medicine technologist should, within the boundaries of all applicable legal requirements and restrictions, exercise individual thought, judgment and discretion in the performance of the procedure.

Appendix I

NUCLEAR MEDICINE TECHNOLOGIST SCOPE OF PRACTICE

The scope of practice of the medical imaging and radiation therapy professional includes:

- Providing optimal patient care.
- Receiving, relaying and documenting verbal, written and electronic orders in the patient's medical record.
- Corroborating a patient's clinical history with procedure and ensuring information is documented and available for use by a licensed practitioner.
- Verifying informed consent for applicable procedures.
- Assuming responsibility for patient needs during procedures.
- Preparing patients for procedures.
- Applying principles of ALARA to minimize exposure to patient, self and others.
- Performing venipuncture as prescribed by a licensed practitioner.
- Starting, maintaining and/or removing intravenous access as prescribed by a licensed practitioner.
- Identifying, preparing and/or administering medications as prescribed by a licensed practitioner.
- Evaluating images for technical quality and ensuring proper identification is recorded.
- Identifying and responding to emergency situations.
- Providing education.
- Educating and monitoring students and other health care providers.
- Performing ongoing quality assurance activities.
- Applying the principles of patient safety during all aspects of patient care.

The scope of practice of the nuclear medicine technologist also includes:

1. Performing nuclear medicine procedures as prescribed by a licensed practitioner and under the supervision of an authorized user.
2. Performing hybrid imaging including PET/CT and SPECT/CT for emission, transmission, and attenuation correction, anatomical location and for use in radiation therapy treatment planning when performed within hybrid imaging as prescribed by a licensed practitioner and under the supervision of an authorized user.

3. Identifying, preparing and/or administering ionizing radiation (radioactive material and computed tomography) and non-ionizing radiation as prescribed by a licensed practitioner and under the supervision of an authorized user.

Appendix J

MAGNETIC RESONANCE (MR) ENVIRONMENT SCREENING FORM

The MR system has a very strong magnetic field that may be hazardous to individuals entering the MR environment or MR system room if they have certain metallic, electronic, magnetic, or mechanical implants, devices, or objects. Therefore, all individuals are required to fill out this form BEFORE entering the MR environment or MR system room.

Please indicate if you have any of the following:

Yes	No	Brain aneurysm clips/ Brain surgery
Yes	No	Cardiac pacemaker
Yes	No	Implanted cardioverter defibrillator (ICD)
Yes	No	Electronic/Magnetically-activated implant or device
Yes	No	Heart surgery/Heart valve prosthesis
Yes	No	Shunts *(Spinal or intraventricular)*
Yes	No	Shunts/Stents/Filters/Intravascular Coil
Yes	No	Spinal cord stimulator
Yes	No	Neurostimulator/Biostimulator
Yes	No	Insulin or other infusion pump
Yes	No	Implanted drug infusion device
Yes	No	Internal electrodes or wires
Yes	No	Ear Surgery/Cochlear Implants/Stapes Prosthesis
Yes	No	Hearing aid *(Remove before entering MR scan room)*
Yes	No	Eye Surgery/Implants/Eyelid Spring/Wires/Retinal Tack
Yes	No	Have you ever worked in a metal or machine shop
Yes	No	Injury to the eye involving metal or metal shavings
Yes	No	Artificial or prosthetic limb
Yes	No	Orthopedic Pins/Screws/Rods
Yes	No	Joint replacement
Yes	No	Endoscopic video capsule
Yes	No	Endoscopy or Colonoscopy clips
Yes	No	Metal Mesh Implants/Wire Sutures/Wire Staples or Clips/Internal Electrodes
Yes	No	IUD, diaphragm or pessary
Yes	No	Tattoo's/Permanent Make-up/Body Piercing/Patches
Yes	No	Metallic Foreign Bodies - Bullets/Shrapnel/BB
Yes	No	Any other internal/external implant or device

If you answered yes to any of the above, please explain:

I attest that the above information is correct to the best of my knowledge. I read and understand the entire contents of this form.

Updated 7/15

Appendix K

UNIVERSITY POLICIES, PROCEDURES & SREVICES

University policies and procedures can be found at https://www.jefferson.edu/university/academic-affairs/schools/student-affairs/student-handbooks/university-policies.html.

University services can be found at https://www.jefferson.edu/university/academic-affairs/schools/student-affairs/student-handbooks/university-services.html

\