



Jefferson
Philadelphia University +
Thomas Jefferson University

Department of Medical Imaging & Radiation Sciences

Masters of Science in Medical Physics

Academic Policies And Clinical Education Handbook

2018-2019

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 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 reserves the right to amend any 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.

Adopted April, 2017

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**JEFFERSON COLLEGE OF HEALTH PROFESSIONS
MISSION STATEMENT**

The Jefferson College of Health Professions is committed to educating health care professionals of the highest quality and ethical standards for contemporary practice in the global community. By promoting faculty excellence in teaching, research and service, we prepare caring professionals who are competent in the use of evidence based practice, critical in their thinking, committed to life long learning and prepared to be leaders in diverse health care settings. In keeping with the mission of the University and the future of health care delivery, the Jefferson College of Health Professions is committed to interdisciplinary education and technologies that draw upon the strengths of all disciplines.

MISSION OF THE DEPARTMENT & MSMP PROGRAM

The Mission of the Department of Medical Imaging and Radiation Sciences and Masters of Science in Medical Physics program is to provide a comprehensive education preparing students for entry-level practice as medical physicists as competent caring members of the health care team, cultivating professionalism and life-long learning.

**PROGRAM GOALS AND STUDENT LEARNING OUTCOMES
FOR MASTERS OF SCIENCE IN MEDICAL PHYSICS (MSMP)**

Goal # 1: Clinical Performance and Clinical Competence:

MSMP Program students will be clinically competent.

Student Learning Outcomes:

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

1-B. MSMP Program students will demonstrate appropriate equipment skills and techniques.

1-C. MSMP Program students will demonstrate safe practices when handling radionuclides.

1-D. MSMP Program students will demonstrate an understanding of the inherent dangers and risks of radiation therapy to staff and patients as well as the benefits of radiation therapy.

Goal # 2: Problem Solving Skills and Critical Thinking:

MSMP Program students will apply critical thinking and problem solving skills in making decisions concerning radiation therapy clinical practices.

Student Learning Outcomes:

2-A. MSMP Program student will demonstrate the ability to analyze data from various QA devices.

2-B. MSMP Program students will demonstrate the ability to access various action levels based on federal regulations and clinical policies.

Goal # 3: Communication Skills:

MSMP 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. MSMP Program students will demonstrate appropriate oral communication techniques for communicating instructions to other healthcare team members.

3-B. MSMP Program students will demonstrate appropriate oral communication techniques for communication of technical information to other medical physicists.

3-C. MSMP Program Students will demonstrate appropriate written communication techniques for developing written clinical policies and procedures.

4-D. MSMP Program students will demonstrate appropriate written communication techniques for developing technical documentation and reporting scientific research.

Goal # 4: Professional Development and Growth:

MSMP Program students will demonstrate potential for professional development and growth.

Student Learning Outcomes:

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

4-B. MSMP 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 and 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 Radiologic 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.

Each student will be responsible for maintaining his/her 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.

NATIONAL CERTIFICATION EXAMINATION

Once a student is enrolled in CAMPEP accredited masters of medical physics program, students will qualify to start their ABR board examination process by participating in Part 1.

PROGRAM ACCREDITATION

The educational programs of the Department are approved by the University administration. All programs are programmatically accredited by their respective accreditation bodies. The MSMP program is seeking accreditation by the Commission on Accreditation of Medical Physics Education Programs (CAMPEP).

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 and Program Director 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.

CAMPEP
1631 Prince Street
Alexandria, VA 22314

Phone: 571-298-1239
FAX: 571-298-1301

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.

For additional University or for Jefferson College of Health Profession's policies, including Medical Leave of Absence, Social Media, Student Personal Counseling Center, University Health Services, and Jefferson Emergency Procedures.

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 (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 GRADUATE STUDENT PROGRESSION IN THE MASTERS OF MEDICAL PHYSICS PROGRAM

1. A student who earns one course grade of B- in the MSMP curriculum in any academic year will be placed on departmental academic probation and will be required to meet with his/her assigned faculty advisor to monitor academic progress.
2. A student who earns two or more course grades of B- in the MSMP curriculum in any academic year will be dismissed from the program in which he/she is currently enrolled. He/She will be subject to dismissal from the Department of Medical Imaging and Radiation Sciences.
3. A student who earns a course grade below a B- in any MSMP curriculum will be dismissed from the program in which he/she is currently enrolled. He/She will be subject to dismissal from the Department of Medical Imaging and Radiation Sciences.
4. A two-year student who has been placed on departmental academic probation during his/her junior academic year, but has successfully completed his/her junior academic year, will be taken off departmental academic probation at the beginning of his/her 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, please refer to the Jefferson College of Health Professions Student Handbook.
6. A student who is dismissed from the Department of Medical Imaging and 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. Please 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 MSMP 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.

Every student is required to meet with his or her faculty advisor at least once during each semester. Advisor is assigned at program orientation.

CLINICAL EDUCATION

CLINICAL EDUCATION

Observational based clinical education is required for all students enrolled in the MSMP program. This clinical experience is designed to give students their first experiences as a clinical medical physicist. They will work with their clinical supervisor on various duties of a medical physicist. The students and supervisor will be given a checklist of tasks the student should observe. The student and supervisor will meet to discuss completion of the tasks list within the allotted time of the students stay. The checklist will only represent a minimum of tasks to complete and repeating tasks will only facilitate learning. At the end of the clinical education, students will submit their tasks list with their supervisor's approval as an omission of completion.

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 and Radiation Sciences.
- Maintain a cumulative grade point average of 3.0 or higher.
- 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 JCHP and Department of Medical Imaging and Radiation Sciences handbooks.
 - d. Adhering to all clinical practices and policies of the clinical site and JCHP and Department of Medical Imaging and Radiation Sciences.
 - e. Adhering to departmental radiation protection and monitoring practices where appropriate* - **Appendix D, E & F** (*only applicable to modalities that use ionizing radiation).

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
- Second violation – possible suspension 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 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.)

If a student is suspended or dismissed from a clinical affiliate, the Department Chair, and Program Director 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.

CLINICAL AFFILIATE ASSIGNMENT

The Program Director determines assignments at clinical affiliates while the student and clinical affiliate supervisor will determine the student's schedule. 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 site must submit written justification for the change to the Program Director. A decision will be made based on the student's educational needs and site availability.

RESPONSIBILITIES OF THE CLINICAL AFFILIATE SUPERVISORS

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

- Providing appropriate clinical supervision. (Refer to the section entitled "Supervision Policy" on page 28.)
- Student clinical evaluation and feedback.
- Providing orientation to the clinical department.
- Providing feedback to the program director.

RESPONSIBILITIES OF THE DEPARTMENT

The Department of Medical Imaging and Radiation Sciences coordinates operations of clinical education. Duties include, but are not limited to:

- Providing clinical education centers.
- Mentoring students.
- Supervising students.
- Advising students.
- Providing guidance to clinical instructors.
- Reviewing program policies and procedures with clinical affiliate supervisor.

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 radiologic 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 clinical affiliate 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.
- 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.

CLINICAL POLICIES

DEPARTMENT POLICY ON CONDUCT

Students must comply with the rules and regulations of the Department of Medical Imaging and 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 Clinical Affiliate Supervisor of absence or lateness.
- Using any personal electronic devices including cell phones in the patient-care/clinical education setting.
- Using the hospital computer for any reason EXCEPT hospital business.
- Violation of any duly established rules or regulations.

FAMILY MEMEBERS/FRIENDS WORKING AT CLINICAL AFFILIATE POLICY

It may be deemed a conflict of interest for a student to be supervised or evaluated by family members or friends employed at his/her clinical affiliate. If this situation arises, the student should inform his/her Program Director, so that alternative arrangements can be considered.

FAMILY MEMEBERS/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 Department

- Students should discourage their family and friends from visiting the 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 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 laboratories

- Only Radiologic Science students with proper Jefferson ID are permitted in the laboratory.
- The students are not permitted to bring family members or friends in the laboratory 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 and Radiation Sciences department are not permitted in the laboratory 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 policy may result in disciplinary action up to and including dismissal from the program.

CELL PHONE POLICY

Students may not carry cell phones with them during clinical hours. These devices must be placed in lockers. 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 of any absence.

For exceptional circumstances necessitating immediate personal communication by phone or text, a student should ask the Clinical Affiliate 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 and instant-messaging.

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 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 will be removed from the clinical affiliate.

- Department Policy on Conduct
- Family Members/Friends Policy
- Cell Phone 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 in cooperation with the Clinical Affiliate 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 13.)

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 College 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.

MAGNETIC RESONANCE IMAGING (MRI) SAFETY POLICY

An MRI 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.

N95 RESPIRATOR POLICY

MSMP students will not be fitted for a N95 respirator masks. Students should NOT enter a 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 Clinical Affiliate Supervisor and follow departmental protocol.
2. Immediately contact the Program Director
3. Present a note to the Program Director from the Emergency Room Physician, University Health Physician, or family physician stating the date the student may resume normal duties.
4. Student must report to University Health Services 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 Clinical Affiliate Supervisor and follow departmental protocol.
3. Immediately contact the Program Director.

COMMUNICABLE DISEASES

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

OCCUPATIONAL EXPOSURES TO INFECTIOUS DISEASE AND/OR BLOODBORNE PATHOGENS

During clinical clerkships, students may be exposed to infectious diseases despite the use of personal protective equipment. This may include airborne exposures to influenza or tuberculosis. Whether at Jefferson or at an affiliate, the student should report to University Health Services (UHS) as soon as possible to review the details of the exposure. UHS will evaluate the student and will follow established protocols in place under the Infection Control Policies of Thomas Jefferson Hospital.

Occupational exposures to blood or body fluids occur in health care and may involve students. If a student sustains an occupational exposure such as a needle stick, splash, or sharps injury, the student should report to UHS immediately with the source patient's name, medical record number and attending physician's name. If the exposure occurs during off hours (after 4:00 PM on weekdays or during the weekends), the student should report to the Jefferson Emergency Department. A follow up visit to UHS is recommended the next business day. All Emergency Department visits are billed through the student's insurance.

UHS will evaluate the occupational exposure in accordance with current guidelines and Pennsylvania statutes. Testing of the source patient will be coordinated through UHS. All evaluation and treatment provided in UHS is free of charge with the exception of the post exposure prophylaxis medication (PEP) that may be prescribed.

If the student sustains an exposure while doing a rotation at an affiliate, the student should still call or report to UHS as soon as possible after the exposure. UHS will coordinate all efforts with the affiliate where possible.

Detailed information on University Health Services may be viewed on the UHS website: www.jefferson.edu/uhs. In addition, the Needlesticks website, an internal website accessed through Blackboard, has comprehensive summaries of the various topics involving occupational exposures.

University Health Services is located at 833 Chestnut Street, Suite 205 and is open 7:30am – 4:00pm Monday through Friday. The general number is (215) 955-6835.

ATTENDANCE REGULATIONS

DIDACTIC/LABORATORY INSTRUCTION

Each course syllabus details the attendance policy.

CLINICAL ATTENDANCE RECORDS

It is the responsibility of the student to work out a schedule with their clinical supervisor for their presence in the clinic. The agreed upon times should be chosen to maximize the students observations.

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 in conjunction with the Clinical Affiliate Supervisor, or if patient care responsibilities dictate otherwise.

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.

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 Clinical Affiliate Supervisor and Program Director *prior to* the start. 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 – make-up 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 Clinical Affiliate 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

Students are required to be punctual during their clinical educational hours. Habitual lateness will not be tolerated and could lead to dismissal from their clinical assignment or from the program. A student will be advised in writing concerning his/her habitual lateness or violation of the Department of Medical Imaging and Radiation Sciences lateness policies by the Program Director.

In the event that a student is going to be late, it is the student's responsibility to inform their clinical supervisor. Informing your clinical supervisor does not excuse the lateness.

MAKE-UP TIME

Arrangements must be made with the Clinical Supervisor and approved by the Program Director.

POLICY CONCERNING DEATH IN THE FAMILY

Upon notification to the Program Director, students will be allowed a minimum of 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 site, the student must leave the assignment immediately and report to the Program Director for further directions.

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, inter-professional activities and Class Night. 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 class night.

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.

PROFESSIONAL ORGANIZATIONS:

- The American Association of Physicists in Medicine (AAPM)

ADDITIONAL POLICIES

DIRECT AND INDIRECT 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 technologist.

DIRECT SUPERVISION

All student Medical Physics procedures are performed under the direct supervision of a qualified practitioner until the student achieves competency. Direct student supervision is defined as student supervision by a qualified practitioner 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 procedure, and reviews and approves the procedure. Students must be directly supervised until competency is achieved.

INDIRECT SUPERVISION

All student Medical Physics procedures must also be performed under the indirect supervision of a qualified practitioner after a student achieves competency. Indirect supervision is defined as that supervision provided by a qualified practitioner immediately available to assist students regardless of the level of student achievement. Immediately available is interpreted as the physical presence of a qualified practitioner adjacent to the room or location where an MRI procedure is being performed.

DRESS CODE AND APPEARANCE POLICY

UNIFORMS

- Students are required to dress professionally during times of didactic instruction.
- During the clinical practicum, male students are required to wear slacks, button down shirt, with a tie. Female students are allowed to wear slacks, blouse, or knee length or longer dresses.
- Clogs, sandals or open-toed shoes are not permitted. Students are responsible for keeping shoes neat, clean, and polished. Shoestrings should also be kept clean and properly tied.

APPEARANCE

- Students are required to practice good personal hygiene and present a professional appearance at all times.
- Appropriate and clean attire is required during ALL clinical and didactic sessions.
- Unacceptable apparel includes: short skirts/pants, torn/ripped garments, low-cut tops, lewd and/or suggestive slogans on any clothing
- Keep hair, mustaches and beards neatly trimmed. Long hair must be tied back.
- Fingernails:
 - No artificial nails.
 - No nail polish.
 - Nail length must be less than ¼ inches.
- Keep jewelry to a minimum. Earrings should be of the small post type (no hoops).
- Any body piercing besides the ears should not be evident at clinical affiliate. Tongue rings are unacceptable and are not allowed to be worn.
- Wear makeup conservatively. No perfumes, colognes, lotions or powders are to be worn at clinical sites.
- Any visible tattoos must be appropriately covered.
- Chewing gum is not permitted.
- Students are required to wear identification and radiation badges supplied by Thomas Jefferson University, and Clinical Affiliate Sites if provided, at all times.

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 in cooperation with the Clinical Affiliate Supervisor will determine make-up time.

Appendix A

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

TECHNICAL STANDARDS FOR A MEDICAL PHYSICIST

Radiation Oncology Medical Physicists are typically employed in a hospital or a clinic and involved with the responsibilities in areas using radiation as a treatment modality for patients with cancer. Some of their responsibilities include consultations with physician colleagues, treatment planning with external beams and radioactive sources, and assuring accurate delivery of the prescribed modality. Because of the nature of the profession, certain technical standards need to be considered in order to participate and complete the program:

1. Sufficient computer skills are valuable because of the heavy reliance of software in the analysis of measurements. Additionally, computer skills will help with research projects.
2. Sufficient gross and fine motor coordination for operation of highly technical machinery. Also, fine motor coordination is necessary for accurate measurements.
3. Excellent communication skills (verbal and written) are necessary to convey complex ideas to peers as well as to other healthcare professional with diverse backgrounds.
4. Excellent mental and emotional intelligence.

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 your 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 your 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, your 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 your 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 your 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

The American Association of Physicists in Medicine Code of Ethics

Preamble

The following Principles of the American Association of Physicists in Medicine (AAPM) are core values intended to aid all members and affiliates to act in an ethically professional manner. The Principles are not a set of laws, but standards of ethical conduct. The Principles provide a framework for members and affiliates to conduct themselves with respect to patients, colleagues, and the public. Corporate affiliates shall abide by these same ethical principles, where applicable.

Principles

- I. Members shall strive to provide the best quality patient care with competent and professional service.
- II. Members shall safeguard patient and professional confidences and privacy.
- III. Members shall respect the rights of patients, colleagues, health professionals, and those in training.
- IV. Members must realize their limitations of knowledge, skill, or time and seek consultations and assistance when indicated.
- V. Members shall respect the law and regulatory requirements for the safe and effective practice of their profession.
- VI. Members shall be honest in all professional interactions and in their work.
- VII. The relationship among members of the Association and other health professionals shall be open, collegial, and based on mutual respect.
- VIII. Members shall disclose conflicts of interest when financial or other personal considerations may compromise or appear to affect their professional judgment.
- IX. Members should strive to support the professional development of their colleagues and those in training.
- X. The work, including research, of a member shall be truthful, based on accepted scientific principles, and shall cite prior work when applicable.
- XI. Members shall strive to improve their knowledge and skills, sharing these with their colleagues.
- XII. Members shall strive to protect the safety and welfare of patients.

Ethics Guidelines

These Guidelines are intended to assist members and affiliates to interpret and implement the Principles. The Guidelines cannot be all-inclusive, so members and affiliates should refer to the Principles for situations not specifically addressed in the Guidelines.

I. Professional Conduct

Members should conform to high standards of ethical, legal and professional conduct. Any activity that fails to conform to these standards compromises the member's personal integrity and casts aspersions on the AAPM and the medical professions.

A. Academic freedom

Members shall strive to pursue scientific inquiry, and to promote a scientific and clinical environment free of political, ideological, or religious pressures or constraints.

- B. **Honesty**
Members shall be honest in all professional interactions and in their work. A medical physicist's work frequently has a direct impact on the quality of patient care. Thus, trust in the fidelity of the work and in the person doing the work is paramount. The foundation of the trust is built on the everyday honesty in all that medical physicists do.
- Members will truthfully and accurately document and report their professional credentials such as academic degrees, training, continuing education, and scholarly and research contributions. Members will claim credit only for continuing education courses, programs, and sessions attended and completed.
- Members will honestly represent their activities, services, and products delivered. Fraudulent documentation of work not done, backdating reports, signing reports of work done by others, data fabrication, and data falsification are unethical. Members shall not attempt to defraud in connection with obtaining payment or reimbursement for services or products.
- C. **Maintenance of knowledge and skills**
The fund of medical physics knowledge is continuously growing and evolving. Members should strive to improve their knowledge and skills relevant to their professional work. Members should participate in appropriate continuing medical physics education activities. Sharing such knowledge and skills with colleagues is essential. Members should strive to make their experience available to the medical physics community.
- D. **Competence**
Members must be aware of the limitations of their knowledge, skill, and experience. They shall undertake only work that they are qualified to perform and shall seek additional education and training or consultation when indicated. Members should disclose known limitations in their ability when relevant.
- E. **Professional relationships**
Members shall strive to have mutually beneficial relationships with their colleagues. All such interactions should be open, honest, and respectful. Where appropriate, members shall strive to share their skill and experience and to assist the professional development of colleagues. Those who are in a supervisory position have an obligation to guide their associates.
- F. **Responsibility to public**
Members shall strive to improve the community's public welfare through the dissemination of scientific knowledge and pertinent education.
- G. **Responsibility to patient**
Members shall place primary importance on the welfare of patients and only participate in patient care activities that are in the best interest of the patient.
- H. **Responsibility to institution**
Members affiliated with or employed by health care facilities shall consider the

interests of the institution. Members shall actively promote a mutually respectful atmosphere with health care providers, administrators, and ancillary staff. Members shall strive to support other staff within the institution in order to achieve quality patient care. Members shall respect institutional policies and procedures and contribute to their continuous improvement.

I. Patient confidentiality

Members shall respect the confidential nature of all patient information and protect the confidentiality of all patient information.

J. Conflict of interest

Conflicts may exist with an institution, within an educational setting, with industry, or with clinical practice activities. Members should be aware when personal interests conflict with other interests. Members shall put the needs of the patient above their own personal interests. Conflicts of interests are not inherently unethical or to be avoided, but they must be disclosed to any involved party and managed appropriately.

K. Discrimination

Members shall treat fairly, equally, and with respect all those with whom they have professional relationships. Members shall judge others on the basis of knowledge, training, skill and quality of service rendered. Prejudicial, biased discrimination not based on merit is reprehensible and unethical.

L. Harassment

Members should contribute to a work environment where people can do their best, most productive work. Members should use positive, supportive language. Verbal abuse, demeaning comments, uncontrolled angry exchanges, or any conduct that directly or indirectly creates a hostile work environment is not acceptable.

M. Sexual harassment

Members shall not sexually harass anyone. Sexual harassment is an unwelcome sexual advance, a request for sexual favors, or other verbal or physical conduct of a sexual nature.

N. Exploitative relationships

Members shall not exploit any person with whom they have a professional relationship. Exploitation can be, but is not limited to, coercing a person to perform work without equitable compensation, forcing a person to act against his or her will or consent, or creating working conditions where some person(s) is treated unfairly for the benefit of others.

O. Response to impaired or incompetent colleagues

The safety and welfare of patients are primary concerns of members. If, due to some impairment, a colleague is perceived to jeopardize the patient's welfare, members should attempt to respond on the patient's behalf. The particular circumstances may be ambiguous and members should proceed judiciously. If a

legal, contractual or regulatory obligation to report the concerns exists, the member shall comply with that obligation

P. Reporting Incidents

Incidents, defined as unwanted or unexpected changes from normal that cause or have the potential to cause an adverse effect to a person or equipment, shall be reported by members in accordance with local institutional policy and applicable governmental regulations. Learning from incidents is a critically important tool to help minimize the risk of future similar events. Members should also encourage other health care professionals to report incidents.

Q. Relationship with regulators

Members have an obligation to assist and cooperate with regulators in the performance of their duties in an honest and respectful manner.

R. Whistleblower protection

Members shall respect and not participate in taking punitive or retaliatory action against other members (whistleblowers) who report those deficient in competence or engaging in unethical, fraudulent, or deceptive behavior.

S. Reviewing the work of another medical physicist

At least two categories of review may occur: those initiated by the incumbent physicist as part of an ongoing quality assurance process and those initiated by someone else. Procedures and guidelines regarding the former are published on www.aapm.org. In the case of reviews not initiated by the incumbent physicist, the AAPM does not affirm or reject the process of review. In the interest of protecting the rights of the incumbents in such cases, the following are the expectations the incumbent should rightfully enjoy.

The review should be performed by a Qualified Medical Physicist peer, i.e., a medical physicist who has similar or senior credentials and is familiar with the type of practice setting.

The medical physicist being reviewed should receive a courtesy call from the reviewer to establish mutually agreeable times and to communicate processes and goals for the review.

Whenever possible, the reviewer should have no present or past professional relationship with the entity requesting the review, e.g., no close personal, professional, or training relationship.

The medical physicist being reviewed should receive a copy of the final report, both oral and written.

Confidentiality should be maintained throughout the review process.

All care must be exercised when reviewing an incumbent not to jeopardize the incumbent's position unnecessarily (e.g., by the expression of personal opinions or judgments beyond those based on the data presented). The process should be

used to create the opportunity for improvement (and/or enhancement of the working environment, equipment, personnel, etc.) for all concerned, as well as the community at large.

II. **Research Ethics**

Biomedical research, including that conducted by or involving medical physicists, has its own set of ethical obligations that should be closely adhered to by investigators and others engaged in research. Ethical obligations arise in the design and conduct of the research, collection and interpretation of data resulting from the research, publication of reports and scientific monographs describing the research, management of intellectual property emanating from the research, and relationships of the research team to the financial sponsors of the research. Lapses in ethical standards can compromise the acceptance of the research findings and seriously damage the careers of researchers responsible for the findings.

A. **Acquisition, management, sharing, and ownership of research data**

Members should ensure that all data collected during a study are real, and that fabrication, falsification of data, or plagiarism have not occurred. All members of the team should respect the confidentiality of research data and should not disclose data to other scientists or the public without the consent of all team members. Members of the research team should fully understand who owns research data.

B. **Conflict of interest**

The most commonly discussed conflict of interest is a financial one, where one or more members of the research team or their immediate family members stand to gain financially if the results or reports of the research turn out in a particular way. If significant, such a conflict should be reported. As an example, the National Institutes of Health have established a financial gain of \$10,000 as a limit, above which researchers supported by the NIH must report a conflict of interest to their employing institution.

It is possible to have a conflict of interest with regard to proposed or actual research even if there is no potential financial gain. For example, researchers gain prestige among their peers and within their institution or organization if their research results are positive and progressive. There is nothing inherently wrong with a conflict of interest, but it should be acknowledged to eliminate the perception of possible impropriety. The best protection against conflict of interest accusations is full disclosure and the acquisition, interpretation, and publication of research findings in a manner that is transparent and above suspicion.

C. **Human participants**

Research involving human participants should adhere to the *Belmont Principles¹⁵ of Respect for Persons, Beneficence and Justice*. Respect for persons recognizes the autonomy of individuals and the right of each research volunteer to be treated with respect, to be fully informed about the research and its potential benefits and risks, and to be granted the ability to decide for him- or herself whether to participate in the research. Beneficence assures that some potential benefit will accrue from the research, to the participants themselves, to

others with similar conditions who may benefit in the future, or to society at large. Justice means that potential participants in a study are not excluded without a valid reason for exclusion. Most institutions subscribe to the “General Rule” which says that all research involving human participants is subject to the same degree of oversight and follows the guidance of the Belmont Principles.

D. **Research misconduct**

Specific examples of research misconduct are data fabrication, data falsification, and plagiarism. Fabrication is the artificial manufacturing of research data rather than obtaining data by experiment. Falsification is manipulation of data by selectively choosing only those data that support a research hypothesis. Plagiarism is the misrepresentation of data from another researcher as one’s own. These ethical breaches are intentional wrongdoings that are considered abhorrent and intolerable by the research community.

E. **Animal welfare**

Animals should be used as research subjects only when alternatives are not available. Researchers have a moral obligation to handle animals used for experimental investigation humanely and with respect. Researchers shall adhere to the pertaining laws and standards relevant to their research, their laboratory rules, and their funding agencies.

F. **Collaborative science**

Research is often collaborative and interdisciplinary by its very nature; the concept of the sole investigator working independently in the laboratory is rare today. Invariably a research effort is a partnership involving several individuals from different disciplines and, frequently, different institutions. Member research collaborators shall treat all team members with respect and trust. All collaborators must sustain the confidential nature of the research and its findings until their agreed-on presentation and publication.

G. **Authorship**

Authorship of a scientific publication should be reserved for only those individuals who have contributed substantially to the conception and design of a research investigation and/or to the analysis and interpretation of data resulting from the investigation. Authorship also implies that the individual was directly involved in the drafting and revising of the publication. Authors are discouraged from awarding authorship to an individual if the individual did not contribute substantially to the publication.

H. **Editorship and peer review**

The editor is responsible for ensuring that the peer review process of the journal is objective and fair, and that reviews do not contain derogatory critiques or disparaging remarks. Editors should recuse themselves if they have a conflict of interest related to the reported research that could compromise their objectivity. The editor and reviewers are ethically bound to ensure the confidential nature of reviews and to protect the identity of authors and/or reviewers when reviews are single or doubly blinded.

The integrity of research relies heavily on the process of peer review, which means that one's work is transparent and subject to review by scientific peers. Peer review should always be conducted with total objectivity, honesty, thoroughness, and confidentiality and with respect for those doing the review and those whose work is being reviewed. Reviewers must remember that the work they are reviewing is confidential and should not be disclosed to anyone outside the review team. They must not appropriate the work or any of the results into their own research, even though they may be working in a similar field.

I. Author or reviewer conflict of interest

Authors should report any conflict of interest they may have regarding research reported in a scientific publication. Individuals asked to review papers should decline the journal's invitation to review if they have a conflict of interest related to the reported research or if they have a personal relationship with the authors that could compromise their objectivity.

J. Privacy and confidentiality

Authors shall respect the confidentiality of patients by not revealing their identities in publication or otherwise. This protection of privacy extends to individuals serving as volunteers in research involving humans.

K. Overlapping publications

It is unethical for an author to simultaneously or sequentially submit for publication substantially the same material to two or more journals, unless permission is granted by the editors of all affected journals, except in the case of rejected manuscripts.

III. Education Ethics

Formal educational settings present an environment within which the student will have the opportunity to absorb the intellectual and ethical atmosphere of the institution and its educators. Thus, it is of paramount importance that teachers/educators exhibit the highest ethical standards, and students begin the practice of ethical behavior that will guide them for the remainder of their careers.

In this Education Ethics section, the following definitions apply:

“Teacher” refers to any person responsible for the education or supervision of a student engaged in any educational or training program.

“Student” refers to a person engaged in any educational or training program.

A. Teacher

1. Student program completion

Teachers shall endeavor to contribute to the intellectual development and to support students in achieving their education goals. They shall guide students toward an efficient path to reaching these goals. Students entrust their educational outcome in their teachers, advisers, and mentors. As such, teachers shall act as advocates for their students. For example, work on institutional grants or research projects that primarily benefits the teacher or institution may be a component of a student's education, but should not unduly delay his or her overall progress.

2. Safe environment
Teachers shall promote a safe environment for learning and shall educate students regarding the hazards and methods to control and minimize potential risks.
3. Respect for students
Teachers shall interact with students in a respectful manner. Teachers are in a position of power and authority. They have the responsibility to relate with students in a positive manner. Their verbal, nonverbal, and written communication with students should be constructive and reasoned with the intent to enhance the education experience.
4. Nondiscrimination
Teachers shall treat all students fairly and equally irrespective of age, race, color, creed, sex, national origin, marital status, political or religious beliefs, family, social or cultural background, or sexual orientation.
5. Equal opportunity
Teachers shall fairly consider all students for participation in any program or for any benefits that may aid the student, including, but not limited to, attendance at scientific meetings or training programs, research projects, internships, and scholarships.
6. Student confidentiality
The trust inherent in a good teacher-student relationship will be irrevocably damaged if a teacher casually divulges confidential information. Teachers shall maintain the confidentiality of nonpublic student information. Evaluations of the student's work along with verbal and electronic communications between the teacher and student shall be confidential unless required to document the student's work.
7. Consensual student relationship
A consensual or romantic relationship between a teacher and a student should be avoided. The teacher bears the primary burden of accountability to ensure proper relationships are maintained.
8. Sexual harassment
Sexual harassment of a student by a teacher is unacceptable. Sexual harassment is an unwelcome sexual advance, a request for sexual favors or other verbal or physical conduct of a sexual nature, and any conduct that directly or indirectly creates a hostile environment.
9. Acknowledgment of student or others' work
Teachers shall acknowledge and cite prior work by others if used in their teaching media presentations or within their course material. Teachers shall acknowledge significant academic or scholarly assistance from students. This acknowledgement may be as recognition of the student as a coauthor of a publication. The mentor-trainee or researcher-student relationship and issues related to authorship are further described in the Research Ethics section.
10. Fair evaluation
Teachers shall make fair evaluations of student efforts and document those evaluations in the students' record when appropriate.
11. Intellectual and academic freedom
Teachers shall encourage an open atmosphere of scientific inquiry and promote an environment free of political, ideological, or religious pressures and constraints.

B. Student

1. Review and inspection of personal records
Students have a right to review and inspect their personal records. They may request amendments to their records if they can show evidence that the record is not correct.
2. Whistleblower protection
Students shall be free to report or provide information regarding violations of this code without fear of retaliation and/or reprisal.
3. Work requirements of educational program
Students have a right to expect that completion of the educational program will not be contingent on performing work for a teacher or institution that is not a formal, documented part of the educational program.
4. Program requirements
Students have the right to be informed and to have clearly defined requirements for the completion of their educational program.
5. Adherence to institutional policies and procedures
Students shall adhere to the policies and procedures of their institution.
6. Academic honesty and integrity
Students shall uphold and maintain academic honesty and integrity. Examples of academic dishonesty include cheating, plagiarism, falsifying or fabricating information or data, and unauthorized collaboration.
7. Acknowledgment of work of others
Students must fully acknowledge the prior work of others when including it in their own work.
8. Freedom of expression
Students shall respect the freedom of expression of others.
9. Patient and institutional confidentiality
Students shall respect the confidentiality of institutional and patient information.
10. Respect for students, teachers, staff, and patients
Students shall interact with other students, teachers, staff, and patients in a respectful manner. They will respect and support other students' classroom participation.
11. Respect institutional property
Students shall not use professional information, data, or property belonging to a teacher or institution that is not part of their educational materials for their own professional practice without express permission. This could be either intellectual or physical property. Some examples are institutional procedures, policies, worksheets, checklists, quality assurance protocols, teaching aids, presentations, and research protocols. While a teacher or institution may permit or release such information or data, it is the students' responsibility to obtain permission to use it.

IV. Business/Government Ethics

A. Seeking or changing jobs

The solicitation of an offer for employment must be entered into with the full intent that there is a reasonable prospect of serious consideration by the candidate. Both parties have an ethical responsibility to represent themselves and their mutual situations in an honest and thorough manner. A candidate may

reasonably expect that on tendering of an offer to a candidate the employer will suspend action on other candidates for a reasonable period of time to allow for the candidate's responsible consideration of the offer. The candidate in turn should give a specific and reasonable time by which he or she expects to make a decision or to make a counteroffer. If the candidate is considering multiple offers, it is incumbent on the candidate to respect the needs of the employers and to respond to each in a timely manner.

Under normal circumstances once an offer for employment is accepted, it is unethical for either party to withdraw or modify, in a material way, their respective commitments made under the terms of their agreement. It is recognized that extraordinary circumstances do arise from time to time, making it impossible to proceed under the terms of an agreement already made. Under such circumstances, it is considered good practice not only to inform the other party as soon as possible, but also to provide a reasonable explanation of the situation that prevents the party from fulfilling his or her obligations.

B. Employment investigation

It is considered good and responsible professional practice during an employment investigation to act with respect and consideration of the existing parties and of their relationship(s) specifically, the employer and any fellow medical physicist whose position might be affected.

C. Vacating a position

On leaving an institution, members have an obligation to leave all information for which compensation was made and to make a reasonable effort to facilitate an orderly transition of physics services.

Documentation should be left in an intelligible, legible order and format.

Materials generated as well as the notes from work compensated for by the institution is the property of the institution paying the salary or consulting fee of the individual doing the work. Such materials should be left in the possession of the institution unless otherwise instructed by the institution or agreed by the parties.

D. Relationships with recruiters

Communications between recruiters and members (job candidates) will be open, honest, and transparent. Recruiters will faithfully and honestly represent candidates to employers and likewise will honestly provide information about employers to candidates. Candidates will provide candid, honest information about themselves to recruiters whom the candidates have accepted for a business relationship. Recruiters will receive permission from a candidate for release of his or her resume (curriculum vitae) to each and every potential employer client. Recruiters will maintain the confidentiality of a job search in each and every instance unless specifically released in writing from such confidentiality by the candidate.

E. Corporate affiliates and member relations

Corporate affiliates shall conduct their business with ethically sound practices.

1. Relationships with medical physicists

A vendor's products and services are often related to patient care. The purchase of the product or service must be based on its merits. Corporate

affiliates shall avoid consultation arrangements, gifts, or grants to an individual or institution that could be considered inducements to purchase a particular product. Other industry codes of ethics^{21,22} should be carefully reviewed by Corporate affiliates for additional guidance.

2. Sponsorship of research
A vendor must separate review and decisions about research and educational grants from any influence by sales staff or others who are compensated in proportion to the sales of the company through commissions or other bonuses whether in cash or other things of value such as stock, stock options, or special trips.
3. Member conflict of interest
Members are frequently asked to participate in the selection of equipment and software for their institution or client. When members are engaged in this activity, the best interests of patients must come first. Safety and quality of the product to meet the needs of patients should be the highest priority in choosing a product.

Health professionals, such as medical physicists, who are involved in decisions about lease or purchase of equipment, services, and software should disclose relationships that exist between themselves and Corporate affiliates. When performing acceptance tests on products from a company with which a relationship exists, an institution or client may choose to enlist a colleague not similarly encumbered. Members may appropriately recuse themselves from decisions about purchases from a vendor where conflicts of interest exist.

4. Gifts or kickbacks
Promotional items, educational items, and modest gifts given as a courtesy of business that are of a nominal value (less than \$100) are acceptable. Gifts or kickbacks given with the expectation of obtaining a contract or to sell, lease, or refer a product or service are not acceptable. Gifts may not be in the form of cash or cash equivalents. Gifts such as tickets or fees for sporting, entertainment or recreational events are not appropriate.
5. Sales, marketing, advertising
Sales communications and advertisements shall truthfully describe the product or service. False, misleading, or deceptive communications or advertisements are not acceptable practices. Known deficiencies of the product or service must be disclosed by the vendor. If a product is in development or not yet ready for clinical use, that information must be stated. Explicit and implicit commitments about a product or service shall be honored.
6. Confidentiality
Corporate affiliates shall respect the confidential nature of all patient information and protect the confidentiality of all patient information.

Appendix D

Radiation Protection Practices

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.
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 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 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

Personal Radiation Monitoring

PERSONNEL RADIATION MONITORING

1. Each student is responsible for wearing properly dated radiation dosimeter(s) (body and ring badges) at Clinical Affiliate Sites 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 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.
 - **A \$20.00 cash fee will be collected for all unreturned or late radiation dosimeters.**
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. Students will be billed for unreturned badges.**

APPENDIX F

TJUH DEPARTMENT POLICIES & PROCEDURES



Policy No: RSO-053
Effective Date: 11/02/2000
Revision Date: 08/07/2014

DEPARTMENT NAME: 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).

“Effective Dose Equivalent” (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” 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” terms.

“Radiation dosimeters (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” 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 (Notify Radiation Safety if this inadvertently occurs or you are 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) are to be reviewed by Radiation Safety staff within 5 business days of receipt.
- 2) 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
- 3) 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.
- 4) 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
- 5) 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.
- 6) 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 Radiation Safety Department. 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 Radiation Safety Department in the administration of the dosimeter program is treated as confidential.

Attachment(s): na

References and Citations:

Internal Radiation Safety Department Procedure RSO-041 "Badging and Distribution"

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

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Responsibility for maintenance of policy: John C. Keklak

[Signature on File]

Approved by:

John C.Keklak

Department Director

**Thomas Jefferson University Hospitals,
Inc.**

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