



Cleveland Clinic

School of Health Professions

Medical Dosimetry Program

CLEVELAND CLINIC

MEDICAL DOSIMETRY PROGRAM

SUPPLEMENTAL HANDBOOK

2026 - 2027

Contents

DISCLOSURE	3
EVALUATIONS - CLINICAL	3
EVALUATION - COMPETENCY-BASED	3
STUDENT REPRESENTATIVE TO ADVISORY COMMITTEE	4
MEDICAL DOSIMETRY STUDENT SUPERVISION	4
RADIATION PROTECTION	5
PERSONNEL MONITORING	5
PREGNANCY INFORMATION	7

DISCLOSURE

The following information is not all-inclusive and may be subject to change. If revisions are made, written notice will be provided.

EVALUATIONS - CLINICAL

Medical dosimetry students will receive evaluations from the supervising dosimetrist in the fall after their rotation to Fairview Hospital and Hillcrest Hospital. The students will receive another evaluation in May or June from Main Campus. The evaluations will be based on the student's overall performance in accordance with specific objectives for each phase. The cognitive, psychomotor and affective domains are evaluated following each rotation.

EVALUATION - COMPETENCY-BASED

In addition to the clinical evaluations, medical dosimetry students must satisfactorily complete competency-based evaluations, either on actual cases or under simulated conditions. These include:

Head and neck

- Primary Brain (IMRT/VMAT)
- Primary H&N (IMRT/VMAT)

Thoracic

- Lung (3D Conformal)
- Lung (IMRT/VMAT)
- Lung (SBRT)
- Esophagus (IMRT/VMAT)
- Intact Breast (Tangents) (3D Conformal)
- Chest Wall (Tangents w/ Supraclav and Axilla fields) (3D Conformal)
- Chest Wall (Tangents w/ Supraclav and Axilla fields) (IMRT/VMAT)

Abdomen

- Abdomen – Pancreas (IMRT/VMAT)
- Para-aortic (IMRT/VMAT)
- Liver (SBRT)

Pelvis

- Pelvis (3D Conformal – 3 field w/ Wedges)
- Pelvis (3D Conformal – 4 field)
- Prostate (IMRT/VMAT)
- Prostate w/ Nodes SIB (IMRT/VMAT)
- Prostate (SBRT)

Extremities

- Limb Sarcoma (IMRT/VMAT)

Brachytherapy

- Interstitial Implant
- Intracavitary Implant

Other

- Craniospinal (IMRT/VMAT)
- Palliative Brain
- Palliative Spine
- Palliative Multi Area
- Lymphoma (3D Conformal or IMRT/VMAT)
- Electron (Hand Calc)
- Electron (TPS)
- Image Fusion – MRI
- Image Fusion – PET
- Re-Irradiation with Composite Planning
- Extended SSD

During each competency evaluation, the medical dosimetry student will work alone from start to finish, while under the direct supervision of the certified medical dosimetrist or certified medical physicist. See supervision information.

All competency-based evaluations must be completed prior to graduation. Lack of, or unsuccessful completion will require additional clinical experience and will delay awarding of the certificate.

STUDENT REPRESENTATIVE TO ADVISORY BOARD

During the first three days of the program a student representative will be selected.

The representative will act as class spokesperson at selected Advisory Board meetings* (the representative will not attend every meeting and may be asked to leave before adjournment, based on the agenda scheduled for discussion).

The representative may call a meeting of the Advisory Board when appropriate, to discuss student related problems.

* Attendance of the student representative at the meetings will be at the absolute discretion of the Advisory Board Chairman.

MEDICAL DOSIMETRY STUDENT SUPERVISION

All medical dosimetry procedures, including treatment planning, dose calculations, brachytherapy planning and procedures, quality assurance procedures, and fabrication of beam modifying and immobilization devices shall be performed under the direct supervision of a qualified practitioner. Direct supervision ensures patient safety and

proper educational practices. A qualified practitioner is a medical dosimetrist possessing Medical Dosimetrist Certification Board (MDCB) certification or a medical physicist certified by the American Board of Radiology (ABR).

A qualified practitioner

- Reviews the procedure in relation to the student's achievement
- Evaluates the condition of the patient in relation to the student's knowledge
- Is physically present during the conduct of a procedure directly performed on a patient
- Reviews and approves the procedure or final product prior to implementation with a patient
- All treatment plans created by a student and used clinically must be signed by the supervising certified medical dosimetrist. Students will not sign plans used clinically.
- Site setup in Mosaiq must be signed by the supervising certified medical dosimetrist. Students must verify site setup but not sign it.

The clinical duties of the student

- Are a planned part of the educational program
- Are governed by sound educational objectives
- Are evaluated and the results used in the overall evaluation of the student

The certified medical dosimetrist or certified medical physicist must be on the premises and available to assist the student. The qualified practitioner must be physically present when a medical dosimetry procedure is being performed on a patient regardless of the level of student achievement.

RADIATION PROTECTION

A.L.A.R.A. (AS LOW AS REASONABLY ACHIEVABLE)

The Medical Dosimetry program abides by the ALARA philosophy to keep exposure to ionizing radiation as low as reasonably achievable.

PERSONNEL MONITORING

TLD Whole Body Radiation badges will be issued at the beginning of the program. The radiation badge does not provide protection from radiation, and its sole purpose is to measure the amount of radiation to which it is exposed. Radiation badges must be worn at all times during school hours. The students must notify the program director immediately if the badge is lost or forgotten. The student will then receive a replacement badge from the Radiation Safety Office. When not in use, badges should be kept in a location in the department that is free from radiation. Do not take the badge home or

leave it in the car. Do not wear it when you are receiving medical tests or treatments, including dental examinations.

Wear your radiation badge between your neck and waist with the clip side of the badge toward your body and fasten so it remains vertical. Wear only the radiation badge with your name on it.

TLD badges are changed quarterly. Return the previous badge promptly each quarter when your new badge is issued. Notify the Program Director if you suspect overexposure or have been inadvertently exposed. Radiation Safety will be notified. Notify the program director if the badge is accidentally contaminated, exposed to excessive heat or is exposed when you are a patient receiving medical treatment involving radiation (diagnostic x-ray, nuclear medicine or radiation oncology procedures). Radiation safety will be notified and a replacement badge may need to be furnished.

The U.S. Nuclear Regulatory Commission (NRC) and the Ohio Department of Health (ODH) require monitoring of an individual's radiation exposure if it is expected to exceed ten percent of the annual limits. An annual limit, which is the more limiting of: (a) The total effective dose equivalent being equal to 0.05 sievert (five rem); or (b) The sum of the deep dose equivalent and the committed dose equivalent to any individual organ or tissue other than the lens of the eye being equal to 0.5 sievert (fifty rem). The annual limits to the lens of the eye, to the skin of the whole body, and to the skin of the extremities, which are: (a) A lens dose equivalent of 0.15 sievert (fifteen rem), and (b) A shallow-dose equivalent of 0.5 sievert (fifty rem) to the skin of the whole body or to the skin of any extremity.

Your total exposure during the academic year is expected to be far below the radiation limits specified above.

The annual occupational dose limit for minors is 10% of the limit for the adult worker or 500 mrem in a year (see Pregnancy information for limits to embryo/fetus.)

All badges are sent out for processing and upon receipt of the badge results, Radiation Safety (RS) performs a review to ensure results are within acceptable limits and/or to determine if any investigations are required.

Badge Reports are located on the Department of Environmental Health and Safety web site under Radiation Safety:

<https://cc-radweb52.ccf.org/mp/dosimetry/report/list.aspx>

Students' Occupational Exposure Reports are available for download by signing in with a Network Username and Password. These reports are to be downloaded to students' Network File location and are reviewed with the Program Director at Quarterly Advisement Meetings. Results are maintained permanently by Radiation Safety. If you have any questions concerning the badge results, contact Radiation Safety 216-444-6645

The lowest reading for a whole body badge is 10 mrem, results less than this are reported as 0 for minimal. At 125 mrem/quarter (ALARA level 1) and 375 mrem/quarter (ALARA level 2) results are reported to the Radiation Safety Committee (RSC) for review. At greater than 1250 mrem/quarter, notification of ODH may be required in addition to an investigation and reporting to RSC.

PREGNANCY INFORMATION

If a female medical dosimetry student becomes pregnant, she may voluntarily declare her pregnancy in writing. To note, the pregnant student need not declare her pregnancy if she chooses. If a student chooses not to declare the pregnancy, the student and the embryo/fetus will continue to be subject to the same radiation limits that apply to occupational workers.

To declare pregnancy, the student must request a copy of the School's Declaration of Pregnancy form from the Program Director. In addition to completing the School's form, the student must complete the Cleveland Clinic Radiation Safety Program's Declaration of Pregnancy form to obtain a fetal dosimeter. The Cleveland Clinic Radiation Safety Program's form requires an estimated date of conception. The estimated date of conception will be necessary in the determination of the accumulated dose the embryo/fetus may have received prior to the declaration of pregnancy.

All declared pregnancy information is kept confidential.

It should also be noted that the declaration can be revoked by the pregnant student at any time. The revoking of the declaration of pregnancy must also be in writing. To revoke the declaration, students may request a Withdrawal of Declaration of Pregnancy form from the Program Director.

During pregnancy, the dose to the embryo/fetus is limited to (.5 rem) 500 mrem due to occupational exposure of the female radiation worker. Cleveland Clinic shall make every effort to avoid substantial variation above a uniform monthly exposure rate to the declared pregnant woman so as to satisfy the above limit. These limits can only be enforced if pregnancy is declared. As noted above, following declaration of pregnancy, a second dosimeter will be offered to be worn at the waist area. This dosimeter will be used to provide an estimate of the dose to the embryo/fetus.

The Medical Dosimetry Program abides by the NRC regulations regarding the declared pregnant student (worker) and fetal exposure. In the event of a declared pregnancy, the student has the option to continue in the educational program without modification or may choose to seek pregnancy accommodations as outlined in the

School Catalog. All pregnant students, regardless of whether they declare their pregnancy pursuant to this process, are entitled to pregnancy accommodation as outlined in the School Catalog. The Program Director and/or Radiation Safety Officer will assist the declared pregnant woman with making an informed decision by providing information regarding the risks of radiation exposure in the radiation oncology department.