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Clinical Education of Medical Dosimetry Students

Clinical education of Medical Dosimetry students is competency-based and there is currently an urgent need for clinical placement opportunities for these students. After sufficient practice, these students are required to demonstrate competence by independently creating plans for a variety of anatomical sites and this must be completed in an affiliated clinical setting. The decision to affiliate with a formal Medical Dosimetry education program to provide this learning opportunity for students is typically done collaboratively and calls for input not only from Medical Dosimetrists, but also Medical Physicists, Radiation Oncologists, and department administrators. The Formal Education Committee (FEC) of the American Association of Medical Dosimetrists (AAMD) recently conducted a survey of Medical Dosimetry educators to examine trends, needs and challenges. Out of this effort, a lack of clinical training sites for formal Medical Dosimetry programs was identified as a critical area of need. While some of this is related to the ongoing Covid-19 pandemic, several program directors noted that there has been a decline in the interest of clinical settings to affiliate with formal programs. All of this comes at a time when the profession is facing a shortage of qualified Medical Dosimetrists to fill vacant positions. Data from the survey indicates that all programs are receiving more applications than available clinical placements. As a result, qualified applicants are denied admission simply because of a lack of a guarantee of clinical placement.

The AAMD FEC is requesting that clinical medical physicists review the following information on requirements of a clinical training site and key highlights on the affiliation process as they consider affiliating with an accredited medical dosimetry education program.

Minimum Requirements of a Clinical Training Site.

Staffing

Sufficient human resources to support the clinical student by providing educationally valid clinical experiences. The ratio of students to clinical staff should always be no more than 2:1. At a minimum, the following should be available in the clinical setting.

- Dosimetrist- CMD
- Physicist- ABR
- Radiation Oncologist- ABR



Physical Resources/Equipment

- Modern linear accelerator(s) with photon and electron capabilities
- CT simulator
- Treatment planning system with available license for student to use during standard clinical hours. Capabilities should include 3DCRT, VMAT/IMRT, Electrons & Image Registration.
- Physical space, which can be shared with other trainees e.g. Medical Physics resident

Required Techniques

- The clinical site must be able to provide a sufficient variety and volume of procedures for competency achievement. At a minimum, the site should be able to train the students using the following techniques
 - 3DCRT with wedges or field-in-field
 - VMAT/IMRT
 - SBRT
 - Simultaneous integrated boost (SIB)
- For a list of minimum required competencies for specific anatomic sites, please refer to the Appendix.

Recommended Techniques

Clinical sites that are able to offer any of the following techniques are highly desirable.

- SRS
- Brachytherapy (HDR/LDR)
- IORT
- TBI/TSET
- Proton therapy

However, if these procedures are not available at a particular site, some programs do rotate through students through multiple centers so they can get access to a variety of procedures.

Affiliation Agreement

An affiliation agreement formalizing the relationship between the program and the clinical practice setting is required. The Joint Review Committee on Education in Radiologic Technology (JRCERT) is the accrediting agency for all Medical Dosimetry programs. The JRCERT defines an affiliation agreement as a formal written understanding between a program and an independent clinical practice setting. It helps to assure the



quality of clinical practice by delineating appropriate responsibilities of the program and the clinical practice setting. The affiliation agreement can be initiated by the clinical practice setting or the program but is executed by mutual agreement.

JRCERT Recognition

All clinical sites must be recognized by the JRCERT prior to student assignment. Each **program** submits information to the JRCERT to document that the clinical practice setting is recognized by The Joint Commission (TJC), DNV Healthcare, Inc., Healthcare Facilities Accreditation Program (HFAP), or an equivalent agency, or holds a state-issued license. Further, each clinical site must demonstrate compliance with applicable state and/or federal radiation safety laws.

Summary

The AAMD FEC wishes to thank AAPM and clinical medical physicists for assistance addressing the critical need for clinical training sites for Medical Dosimetry students. A list of accredited educational programs is available at <https://www.jrcert.org/find-a-program>. We look forward to working with you to support clinical education opportunities for students.

Sincerely,

AAMD Formal Education Committee