Focus on Radiation Oncology

Introduction of New Techniques and Technologies into Radiation Oncology Exam Content
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by Paul E. Wallner, DO; Lynn D. Wilson, MD, MPH; and Kaled M. Alektiar, MD

Medicine is a constantly evolving profession, and technologically based specialties such as radiation oncology seem to evolve at a somewhat faster pace than more cognitively based fields. This evolution in techniques and technologies is also associated with advances in other clinically related disciplines such as diagnostic radiology, medical oncology, immunology, and surgical oncology. These changes often create uncertainty among curriculum developers and assessors of knowledge, competence, and skills, as to how and when to add new discoveries to their armamentariums.

For radiation oncology, residency programs are accredited, and requirements for those programs are determined by the Accreditation Council for Graduate Medical Education (ACGME) radiation oncology review committee (RO RC). Although the RO RC provides detailed requirements for program accreditation, many aspects of curriculum requirements related to techniques and technology remain purposefully less specific (1).

Current accredited program requirements indicate that residents “must demonstrate competence in treating adult patients with conventionally fractionated external beam radiation therapy,” but they do not state how that must be accomplished or what equipment should be included. Similarly, the requirements specify that trainees “must demonstrate competence in performing five interstitial and 15 intracavitary brachytherapy procedures,” again without specifying the type of procedures. Additional program requirement sections detail needs for training in “12 pediatric radiation oncology cases of which nine must be solid tumors,” and unsealed source radiation treatments, based on requirements of the U.S. Nuclear Regulatory Commission for authorized user eligibility status (2).

Competence in treating adult patients with stereotactic radiosurgery (SRS) first became a program requirement in 2009, with a stipulation that residents participate in planning and administration of 10 SRS cases. In 2011, a requirement for five cases of stereotactic body radiation therapy (SBRT) was added, and in 2014, based on increasing use of these modalities, the requirements were raised to 20 and 10 cases, respectively (1).

Training requirements regarding disease sites are more specific and indicate that, “residents must have experience with lymphomas and leukemias; gastrointestinal, gynecologic,
genitourinary, breast, soft tissue and bone, skin, head and neck, lung, pediatric, and central nervous system tumors; and treatment of benign diseases for which radiation is utilized” (1).

The absence of ACGME RO RC training requirement specificity leaves the ABR with the task of determining how and when new procedures and technologies should be included in initial certification (IC) and Maintenance of Certification (MOC) assessment instruments. Thus, the ABR relies on input from volunteer category committee members recruited from academia and private practice, and from triennial clinical practice analyses (CPA) developed from randomly circulated surveys (3). In the past, these CPAs have indicated notable changes in clinical pediatric radiation oncology and brachytherapy practices, de-emphasizing pediatric cancer therapy and adding content related to high-dose-rate brachytherapy.

A CPA completed in 2016 is undergoing analysis at this time and will be reported in detail in the future, but several early observations are important for considering technology to include in upcoming exams. Of 690 respondents, 90 (13%) indicated direct access to proton beam radiation in their practices, 530 (76.8%) indicated access to PET/CT, and 182 (26.3%) indicated access to PET/CT simulation (personal communication, American Board of Radiology, May 15, 2017). ABR exam developers anticipate use of these data for determining new items to include in IC and MOC assessment tools.

Ultimately, these decisions reside with the ABR trustees. In addition to the metrics noted above, other considerations include transformative developments, regardless of available literature. Such may be the case in the near future, with inclusion of items related to proton beam therapy for pediatric solid tumors. To assist IC candidates and MOC diplomates in understanding these changes in content, the ABR provides detailed study guides (4), which will be updated, as appropriate, with the addition of techniques and technologies to exam content.

References:


