

Accreditation Standards for Nuclear Medicine Technologist Education: Revisions to Accredit Diagnostic CT Education in NMT Programs

Andrew T. Trout, MD, and Rodney C. Fisher, PhD, RT(R)(N)(CT)(BD), CNMT, JRCNMT Directors

The Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) is recognized by the Council for Higher Education Accreditation to accredit postsecondary nuclear medicine technology (NMT) programs in the United States. The mission and vision of the JRCNMT are to ensure quality NMT education through programmatic accreditation and to advance NMT education, respectively. Toward these ends, the board continually evaluates the NMT educational landscape with a goal of maintaining and advancing education standards.

In 2020, in response to an assessment of the state of the field, the board revised the accreditation standards to provide accreditation for education in diagnostic computed tomography (CT) occurring in NMT programs sufficient to allow students to sit for CT certification. These new standards will go into effect in August 2022. The purpose of this article is to convey the perspective, intent, and expectations of the JRCNMT related to diagnostic CT education in NMT programs.

Hybrid and correlative imaging have long been an important part of the practice of nuclear medicine, and both clinical and didactic education in hybrid imaging have been required by the standards since 2011. CT is the dominant form of hybrid imaging performed in nuclear medicine departments, and many modern SPECT and PET cameras include CT scanners to allow sequential hybrid imaging. These CT scanners are not only capable of imaging for attenuation correction and localization but also able to produce diagnostic-quality CT images. Where permitted by state licensure, NMTs may be asked to perform diagnostic CT imaging as part of nuclear medicine examinations or as stand-alone examinations. Further, the board understands that in some markets, NMTs with additional certification in CT may be more sought after for employment as they can cover multiple needs for an imaging department.

Educational programs have responded to these market demands with some NMT programs already providing education in diagnostic CT sufficient for students to sit for CT certification. This combination of education has the chief benefit for students of preparing them to sit for dual certification upon graduation. Inclusion of CT content, however, has the potential to impact the broader NMT education and student experience within a program.

In providing accreditation for diagnostic CT education occurring in NMT programs, it is the intent of the board to recognize the importance and relevance of diagnostic CT to NMT, to recognize those programs that provide education in both modalities sufficient to allow students to sit for certification, and to ensure the quality of education in both NMT and diagnostic CT when combined in a program. Importantly, accreditation for diagnostic CT education applies only to programs providing complete education in diagnostic CT, sufficient to allow students to sit for certification upon graduation. Diagnostic CT content taught as part of an NMT program that is insufficient to allow students to sit for certification will not be separately accredited. Further, it is not the intent of the board to accredit diagnostic CT programs independent of NMT programs.

Revising the standards to provide accreditation for diagnostic CT education followed the formalized process for revision of the accreditation standards outlined in JRCNMT policies. In this case, a JRCNMT taskforce with physician, NMT program director, and technologist representation, including a technologist certified in CT who teaches in a CT program embedded in a radiography program, proposed initial revisions to the standards. Revisions were crafted to avoid bias toward a particular CT certification examination/board and it was the intent of the board to ensure that accredited programs provide sufficient didactic and clinical education to prepare students for either the ARRT or NMTCB CT examinations after the students pass their NMT examination(s). After board approval and modification, the proposed revisions were made available for public comment and for comment by the JRCNMT's collaborating organizations (The American College of Radiology [ACR], American Society of Radiologic Technologists [ASRT], The Society of Nuclear Medicine and Molecular Imaging [SNMMI], and the SNMMI Technologist Section [SNMMI-TS]) prior to adoption.

In revising the standards to include education in diagnostic CT, the board sought to structure the CT standards to parallel the NMT standards as much as possible. CT standards are additional requirements that must be met by programs offering diagnostic CT content sufficient for any number of students (does not have to be all students) to sit for certification. Programs seeking accreditation for diagnostic CT must also meet the accreditation standards for NMT education.

The revised standards, including the diagnostic CT standards, are available on the JRCNMT webpage (www.jrcnmt.org), and full description of the standards is beyond the scope of this article. The standards incorporate specific requirements for didactic and clinical education in diagnostic CT. Beyond standards specific to education requirements, there are standards that may require program attention to personnel credentials and experience. Specifically (paraphrased):

B2.3 – At least one faculty member must be credentialed in diagnostic CT

B3 – It is preferred, but not required, that affiliate education supervisors (AES) at affiliates offering diagnostic CT competencies hold current certification and registration in diagnostic CT. In the absence of this, the AES must have at least 2 years post-certification experience performing diagnostic CT

D3.3 – One member of the Advisory Committee must represent the diagnostic CT component of the program

The intent of these standards is to ensure that personnel with diagnostic CT certification or specific diagnostic CT experience (AES) contribute to student education in diagnostic CT. The JRCNMT recognizes that it is not feasible at this time to require that the program director or clinical coordinator have CT certification. Further, the JRCNMT has not stipulated the employment status of the CT-certified faculty—they may be full-time, part-time, or adjunct. Programs should expect and be prepared to provide documentation of CT certification and/or experience as part of the accreditation process.

In addition to standards requiring personnel with certification and experience in CT, there are standards specifically aimed at ensuring that programs providing diagnostic CT education sufficient to allow students to sit for certification are programmatically structured to do so. Specifically (paraphrased):

D2.1 – Programs must have program and course level student learning outcomes specific to diagnostic CT

The intent of these standards is to ensure that education in diagnostic CT receives the same program-level attention and assessment as NMT education. As part of the process of accreditation, the JRCNMT will be looking for one or more CT-specific program-level outcome and associated assessment methods and results.

The standards related to clinical education in diagnostic CT parallel the NMT standards, defining a competency list to which programs are expected to teach. Like for NMT, this is a list of tasks, skills, and knowledge that an entry-level CT technologist should be capable of upon program completion. This is not a list of examination types or procedures (e.g. CT of the head). It is the responsibility of the program to ensure that in the process of documenting diagnostic CT competencies that students receive sufficient breadth of exposure to meet clinical experience requirements necessary to qualify for certification. The standards are specifically written to allow diagnostic CT competencies to be obtained on either stand-alone CT machines or hybrid CT machines (SPECT/CT and PET/CT). Just like for NMT certification, programs will need to be aware of the specific didactic and clinical experience requirements of certifying organizations to which their students will be applying.

Finally, the revised standards include a requirement that programs must publish and disclose to students that certification in CT is a post-primary certification. Specifically (paraphrased):

E1.4i – Eligibility to take either national certification examination in CT requires certification in nuclear medicine technology, radiography or radiation therapy first.

The JRCNMT recognizes that the revised standards will increase the reporting and documentation burden for programs. However, accrediting diagnostic CT education within NMT education programs serves the important purposes described above and provides an opportunity for programs to be recognized for the expanded education they may be providing to students.