

# Increasing Nuclear Medicine Residency Training Requirements: For Better or Worse?

**A** proposal has recently been put forward to increase the duration of the nuclear medicine residency and implement a 3-tier residency training requirement beginning in 2005 or 2006. The proposal includes increasing the length of the nuclear medicine residency from 3 to 4 years (1 basic clinical year [PGY-1] plus 3 years of nuclear medicine) for medical graduates fresh out of medical school. Internal medicine physicians will be required to complete 2 years of additional training in nuclear medicine, and radiologists will be required to complete a fellowship year of nuclear medicine to be eligible to take the American Board of Nuclear Medicine (ABNM) examination.

The proposal has the greatest impact on the nuclear medicine residents who have not completed residency training in other specialties. Four of the main reasons cited for increasing the length of training are the perceived needs to: (a) train residents in new and changing modalities such as PET/CT, (b) raise the standards of nuclear medicine residents, (c) make nuclear medicine training more academically oriented, and (d) increase the respect for nuclear medicine physicians. Although these are honorable reasons, many issues must be addressed before these decisions are finalized.

First, simply increasing the length of residency training does not guarantee that residents will receive training in new techniques, in technologies such as PET and CT, or in innovative research. The requirements are not properly structured to mandate such training. Moreover, residency programs with only 1 or 2 residents might actually need to increase the number of residency slots, because the third-year resident may not be available to perform the same duties as a first- or second-year resident. The final-year resident might be in a research or CT rotation, leaving the clinic without coverage. This will eventually create tensions and problems within the department. In addition, the new recommendation does not address the case of a resident deciding to switch to nuclear medicine after 2 years of residency training in another specialty. What would be the requirements in such a situation—2 or 3 years of nuclear medicine residency?

Some have suggested that 2 years of training in nuclear medicine after internship are inadequate for nuclear medicine physicians. This does not seem rational—the majority of nuclear medicine scans in the United States are currently being read by general radiologists with only 4–6 months of training in nuclear medicine. Many nuclear medicine procedures that were commonly used in the past are no longer in

use. The time spent learning these now outdated procedures can be diverted to other training, such as PET or PET/CT experience. Moreover, many nuclear medicine physicians who were never trained in PET during their own residencies are currently doing excellent work reading PET scans. This proves that once a reasonable level of training and experience is achieved, further knowledge can be built on previous training and experience.

Second, increasing the length of training with no added benefit may not increase the quality of the residents, because it does not make nuclear medicine residency graduates more marketable for jobs or more advanced training. After the proposed training requirement increase, a nuclear medicine residency would require 4 years and a radiology residency would require 5 years. Most medical students would prefer to do the radiology residency, because radiology offers more job opportunities for only slightly longer training. Those who opt for radiology would be able to read nuclear medicine scans, along with many other modalities, without additional training. If the purpose of the extended training requirement is to attract more and higher quality residents, the result of this change would not only be poor but would ultimately be detrimental to nuclear medicine.

Third, although the notion that extending residencies would provide extra time for research and better prepare physicians for academic positions is admirable, fellowships might provide a more practical and beneficial alternative. Higher professional social status and pay come after a fellowship year rather than after an additional year of residence. Young physicians today are confronted by many issues that were not as evident 5 years ago, such as stringent Medicare reimbursement rules for residency and the ever-increasing cost of medical school tuition. A year of fellowship training after residency, allotted exclusively for nuclear medicine residency graduates, would be a better option.

Fourth, improving the perception of nuclear medicine among other specialties might be accomplished more effectively if we try to increase the marketability of nuclear medicine physicians rather than simply increasing the length of their training. The reason for the low marketability of both nuclear medicine residencies and their graduates is not a lack of training or respect from the physician community but the limited availability of postresidency employment. The few jobs available are mostly in academic centers, where ABNM-certified physicians or radiologists with certification in nuclear radiology are preferred. The typical nuclear medicine resident graduating in June will not be able to sit for the

ABNM certification exam until later in the fall, with results unavailable until December. This keeps the nuclear medicine residency graduate out of work and training for a minimum of 6 months. The pass rate of the ABNM certification examination is lower than those in many other American Board of Medical Specialties certification examinations, including that of the American Board of Radiology. The ABNM also should be aware that general radiologists with nuclear medicine training of 4–6 months are eligible to read any nuclear medicine scan with no additional certification or training. Prospective employers prefer radiologists over nuclear medicine physicians, because the radiologists can read many other modalities in addition to nuclear medicine scans. The ABNM should take these factors into consideration and make the passing criteria of its certification examination less stringent.

The major limiting factor for the marketability of the nuclear medicine residency is the job market that confronts residency graduates. The big question is whether the increase in training requirements will be the solution it is expected to be or the beginning of the end of the existence of nuclear medicine as an independent specialty. If the job situation and the demand for nuclear medicine physicians remain the same, it will be very hard to recruit quality residents to 4-year nuclear medicine residency programs. Many residents recruited are likely to be medical graduates from other countries, some of whom are willing to accept any residency to satisfy visa requirements. Even this source of recruitment could dry up when these students realize that there is no future for nuclear medicine physicians in the United States. Many residency programs would eventually be forced to close. This will have a tremendous effect on the field of nuclear medicine and the development of molecular imaging. Nuclear medicine technologists, physicists, and scientists depend on nuclear medicine physicians for guidance in clinical matters. Subsequent development could be hindered in other sectors of nuclear medicine, including the basic sciences, leading the United States to fall behind other developed countries in the field—a situation that may already have occurred, as evidenced by increasing percentages of nuclear medicine–related articles in U.S. journals authored by individuals working outside the country.

Physicians trained in internal medicine have many other subspecialties from which to choose for additional fellowship training. Because most of these fellowships are for 2 years, many internists will prefer to be trained in another internal medicine subspecialty rather than in nuclear medicine. In the present situation, they will be more marketable after a fellowship in an internal medicine subspecialty. The number of internists deciding to do further training in nuclear medicine will be far fewer than the number of residency spots available.

One alternative to the proposed changes in residency training requirements is to have an integrated 3-year pro-

gram for medical students straight out of medical school, similar to the residency programs offered in obstetrics and gynecology. The first year could be a PGY-1 year, with 9 months of basic clinical training integrated into a 2-year nuclear medicine residency. If all integrated nuclear medicine programs participated in the National Resident Matching Program or similar matching programs and if medical students were made aware of such an opportunity, recruitment would be easier. The feasibility of making nuclear medicine residency a training program with an integrated PGY-1 should be actively considered. It also carries the advantage of getting higher quality applicants, especially because radiology residencies have recently become extremely competitive in the match. Physicians trained in other specialties but wanting to pursue a career in nuclear medicine need not be required to do the integrated clinical year. They could do 1 or 2 years of additional nuclear medicine training, depending on their previous graduate medical education. The other alternative is to create fellowship positions designated exclusively for nuclear medicine residency graduates, with emphases on research, oncology, PET, and CT training.

The existence of nuclear medicine as an independent specialty is now at a crossroads. It is time to either revive its independence or become a subspecialty. The major challenge is to attract quality residents and produce excellent nuclear medicine physicians for the future. The SNM Young Professional Committee, representing residents and recent graduates, believes that simply increasing the length of training without a thorough consideration of the issues raised here will be detrimental to the future of nuclear medicine.

The SNM and other professional organizations should work closely with professional bodies such as the American Medical Association to increase awareness of nuclear medicine as a separate specialty among the medical fraternity and, most important, among referring physicians and the public. In most other specialties, the present trend is to hire and grant clinical privileges to board-certified or board-eligible physicians. It is surprising that this is not the case in nuclear medicine. Instead, it does not seem to matter who is better trained but who is most influential in getting these privileges. The ABNM, as the certifying body, should emphasize that physicians who are board eligible or board certified in nuclear medicine are the most competent professionals for reading nuclear medicine scans, including cardiac, PET, and PET/CT images. It will take a concerted effort and cooperation from many individuals, other specialties, many professional organizations, and involved committees to achieve this goal.

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