The "NuRad" Pathway
A Strategy for Restructuring Nuclear Medicine Training to Meet Changing Demands of the Workforce
James E. McDonald, M.D.

Interim Chair, Department of Radiology

Director, Division of Nuclear Medicine

Director, Nuclear Medicine Residency Program
James E. McDonald, M.D.

Nothing to Disclose

jemcDonald@uams.edu
Adapting ACGME-Accredited Training to Meet Changing Demands of the Workforce: The NuRad Pathway

JAMES E. Mc Donald, MD
LINDA A. DELONEY, ED D
KEDAR JAMBHEKAR, MD

Journal of Graduate Medical Education

McDonald, Deloney, Jambhekar.
Journal of Graduate Medical Education, June 2014
The Problem
The NM Job Market

* Problematic nationally
* Acutely problematic locally
  - 2:6 graduates employed in NM
    - 1 military funding
    - 1 part-time
* JEM practice experience
  - 2001
JEM

Experience

* 1982: ABR
* 2001: Group sees need:
  * ABNM certification
  * PET Expertise
  * Live in Arkansas
  * ABR Certified (Take Call)
* 2002: JEM NM fellowship
  UAMS & MIR
* ABNM 2003
“Candidates with both nuclear radiology/nuclear medicine and diagnostic radiology training are much more attractive to practices because they not only know nuclear medicine, they can also help cover night call, weekends and other areas of the practice…”

http://rsna.org/NewsDetail.aspx?id=12531
Nuclear Medicine Training Trends
We concluded that we could not ethically continue to offer nuclear medicine training to those without certain job prospects.
The Goals

* Preserve the intellectual tradition of nuclear medicine
* Preserve nuclear medicine’s role in resident education
* Preserve NM GME funding
* Graduate NM & PET Experts
* Full graduate employment
The Solution
16-Month Residency Pathway to Nuclear Radiology Subspecialty Certification (within a 48-month Diagnostic Radiology Residency)

The ABR has approved conditions and requirements for a new pathway leading to eligibility for both diagnostic radiology primary certification and nuclear radiology subspecialty certification. Residents who complete 16 months of nuclear medicine within a four-year ACGME-accredited radiology program are eligible for this new pathway.

http://www.theabr.org/ic-nuc-landing
THE PATHWAY REQUIREMENTS

- Sixteen months of nuclear medicine within a 48-month radiology residency.
- Ten of these months must be consecutive to preserve clinical care and learning continuity mimicking the experience of traditional fellowship pathways.
- Up to two months of nuclear medicine training in the clinical year (PGY) may count toward the 16-month requirement, if obtained in an institution with an ACGME-accredited diagnostic radiology residency and with an ACGME-accredited nuclear radiology fellowship or ACGME-accredited nuclear medicine residency.
- The sponsoring diagnostic radiology residency program must be in an institution with either an ACGME-accredited nuclear radiology fellowship or an ACGME-accredited nuclear medicine residency program.
- The program must fulfill the ABR requirements for NRC training and experience, leading to an authorized user (AU)-eligible diagnostic radiology certificate.

http://www.theabr.org/ic-nuc-landing
Nuclear Medicine Program Meeting

July 2012
“We requested and received approval from our graduate medical education committee to convert 1 NM full-time equivalent (FTE) to a DR FTE. Because this proposal was budget-neutral and the total number of FTEs designated to the Department of Radiology (which houses both programs) were unchanged, the department and sponsoring institution unequivocally supported the shift of funding.”

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“We should call the new combined program ‘NuRad’.”

Dr. Kedar Jambhekekar
DR PD
UAMS
August 9, 2012

Tracy L.Y. Brown, M.D., Ph.D.
Director, Nuclear Medicine Residency Program
University of Arkansas for Medical Sciences
4301 W. Markham St., Slot 536
Little Rock, AR 72205

Dr. Brown:

The ABNM is fully supportive of the University of Arkansas’ proposal for a combined radiology/nuclear medicine training program. Your proposal meets the existing training requirements of the diagnostic radiology RRC and the nuclear medicine RRC. As of July 1, 2011, the DR program requirements permitted up to 16 months of training in a subspecialty of diagnostic radiology. Your proposal calls for 16 months of NM during the 4 years of radiology training. In order to be eligible to take the ABNM certification exam, applicants who have satisfactorily completed diagnostic radiology training must have completed at least 16 months of nuclear medicine training (12 months of which must be in an accredited nuclear medicine training program). Your proposal also meets this requirement so that trainees would be eligible to take the ABNM certification exam.

Because your proposal meets the existing requirements of both boards, we hope that implementation of this program will be straightforward. We would be happy to help try to solve any problems you encounter with implementation of this program. Combined programs such as the one you have proposed will play an important role in the future of nuclear medicine.

Sincerely,

Henry D. Royal, M.D.

HDR/mrw
“People are most comfortable doing business with their friends.”
We listed and filled the combined radiology/nuclear medicine residency through the 2013 NRMP Match.
The Results
NEWSLINE: Combined Nuclear Medicine/Diagnostic Radiology Residencies: An Update

Henry D. Royal, M.D.—Executive Director, American Board of Nuclear Medicine


At least 5 accredited nuclear medicine programs (Stanford [CA], University of Arkansas [Little Rock], Emory University [Atlanta, GA], University of Michigan [Ann Arbor], and St Luke’s–Roosevelt Hospital Center [New York, NY]) have made substantial progress in establishing combined nuclear medicine/diagnostic radiology programs. The designs of these programs vary considerably. Some combined training programs consist of 5 years of training, including 4 years of diagnostic radiology training and a total of 24 months of nuclear medicine training. Twelve of the 24 months of nuclear medicine training are completed during the 4 years of diagnostic radiology training. Other combined programs consist of 4 years of diagnostic radiology training with 16 months of nuclear medicine included in the 48 months of radiology training.

Tracers: 2014 Issue 1
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<th>Diagnostic Radiology</th>
<th>NuRad</th>
<th>Nuclear Medicine</th>
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<tr>
<td>Total applications received at UAMS</td>
<td>355</td>
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<td>Total candidates invited to interview at UAMS</td>
<td>127</td>
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<td>Positions filled at UAMS</td>
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<td>Average USMLE I score of applicants to UAMS</td>
<td>230</td>
<td>234</td>
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<td>Average USMLE II score of applicants to UAMS</td>
<td>237</td>
<td>236</td>
<td>216</td>
</tr>
</tbody>
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Abbreviations: UAMS, University of Arkansas for Medical Sciences; NRMP, National Resident Matching Program; USMLE, United States Medical Licensing Examination.
“To our knowledge you are the first program to list and fill a combined residency through the match.”

Shannon Quay
A.B.R
Personal Communication
October 2013
Adoption of the 16-Month American Board of Radiology Pathway to Dual Board Certifications in Nuclear Radiology and/or Nuclear Medicine for Diagnostic Radiology Residents

M. Elizabeth Oates, MD, Milton J. Guiberteau, MD

Rationale and Objectives: In 2013, the American Board of Radiology (ABR) approved a new 16-month nuclear subspecialty training pathway within a standard 48-month Accreditation Council for Graduate Medical Education (ACGME)-accredited diagnostic radiology (DR) residency available to institutions sponsoring ACGME-accredited nuclear radiology (NR) and/or nuclear medicine (NM) programs. This accelerated pathway leads to eligibility for dual ABR certifications in DR and NR or NM by the American Board of Nuclear Medicine (ABNM). The American College of Radiology, in conjunction with the ABR, aimed to understand adoption of this new pathway, barriers to implementation, preferences for subspecialty certification, and competing alternative combined DR/NR/NM training pathways.

Materials and Methods: During 2013-2014, there were 20 ACGME-accredited NR fellowship and 43 ACGME-accredited NM residency programs eligible to adopt this new 16-month pathway. They were surveyed by e-mail correspondence regarding implementation and barriers to implementation, board certification (ABR-NR and ABNM) preferences, and local alternative training pathways.

Results: With 100% of the surveys completed, a small cadre of qualifying NR programs (14, 22%) has adopted (9, 14%) or is seriously considering adopting (5, 8%) the 16-month NR pathway. For most, implementation is problematic with numerous barriers in common. Five (8%) institutions are developing 60-month nontraditional models as alternative routes to ABR/ABR-NR certifications and dual ABR/ABNM board certifications.

Conclusions: In spite of strategies to promote a shortened training pathway in NR/NM, traditional subspecialty fellowships outside the DR residency remain the dominant pathway leading to ABR subspecialty certification in NR and/or ABNM certification for diagnostic radiologists.

Keywords: Diagnostic radiology; nuclear radiology; nuclear medicine; residency training pathways; dual board certifications.

Medical imaging has become indispensable in the practice of medicine in the United States. The demand is high for board-certified experts in diagnostic imaging capable of interpreting examinations from a wide spectrum of modalities, including those used in nuclear medicine (NM) and tomographic hybrid technologies. In the United States, Accreditation Council for Graduate Medical Education (ACGME) specialty training in diagnostic radiology (DR) includes at least 4 months of nuclear clinical applications; diagnostic radiologists may seek subspecialty training through ACGME-accredited nuclear radiology (NR) or NM programs. Other postgraduate medical trainees, who are not radiologists, can seek specialty training only through ACGME-accredited NM programs (1-3). Although both diagnostic radiologists and NM physicians are trained in and practice radionucleide imaging and therapy, radiologists are adept at all imaging modalities. On the basis of their broader education and training, they are more readily employable compared to NM physicians who have difficulty securing suitable employment (4-6).

Although the number of DR residency programs has declined slightly in the past 13 years, the number of DR trainees (Fig 1A) and DR diplomates certified by the American...
“a small cadre of qualifying DR programs (14, 22%) has adopted (9, 14%) or is seriously considering adopting (5, 8%) the 16-month ABR pathway. For most, implementation is problematic with numerous barriers in common. Five (8%) institutions are developing 60-month nontraditional models as alternative routes to ABR-DR/ABR-NR certifications and/or dual ABR/ABNM board certifications.”
“An early adopting institution pioneered listing this pathway as a combined training option in the National Resident Matching Program (17). Its first resident is enrolled.”
- New ABR Core Exam Structure Facilitates
- Demanding Curriculum
- Clinical emphasis (Little time for research)
- Very Selective Admissions Process
- “One of the smartest residents in his class”.

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