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Don’t be so quick to raise the white flag on the Nuclear Medicine Advanced Associate career path

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What is the true difference between a nuclear medicine technologist and a nuclear medicine advanced associate (NMAA)? Well, there can be numerous answers: a specialized advanced degree, a broader scope of practice, about $40k in debt, a long uphill battle….lots of answers.

It appears that many believe the future of the NMAA to be ill-fated, and if a technologist truly wants to increase their clinical knowledge and position, they should follow the route of a conventional physician assistant (PA). PA’s can bill for services, and are easily recognized by state legislators, physicians, and medical institutions. NMAA’s cannot bill for services, must prove their worth to institutions, most who do not have job descriptions or openings for the NMAA, and as of today, have no state certification in states that require imaging professionals to obtain valid licenses. Make no mistake, this pathway is not easy. But it can definitely be successful. Several practicing NMAA’s can attest to this.

Having a conventional PA license would not prepare the potential Nuclear Medicine physician extender. Though PA’s have been utilized in diagnostic radiology, it would be rare to impossible to find a PA with clinical training in nuclear medicine. We do not see PA’s in the reading room dictating a (ventilation-perfusion)(VQ) scan or calculating therapy doses. The reason, is likely multi-fold. To be a valuable resource in the nuclear medicine department, one must be trained as a physician extender in this modality specifically. Making technical and clinical decisions on the floor, which requires a strong technical background; administering adjunctive medications, which requires knowledge not only of pharmacology, but also the specific imaging procedure and physiologic response to evaluate on said imaging procedure; evaluating patients and obtaining information that is specific for nuclear medicine procedures; and dictating preliminary results of all molecular imaging procedures, are functions of current NMAAs. Most job duties of the NMAA are not taught in conventional PA school. Even a seasoned nuclear medicine technologist would not be prepared to function as physician extender in nuclear medicine coming out of a conventional PA program, as a large part of the role of the NMAA is image interpretation.

Current PA curriculums do not address nuclear medicine image interpretation.

So to compare an example of the clinical education:

NMAA Clinical Internships		PA Clinical Internships
I.	Pulmonary, endocrine, and skeletal **imaging** procedures.	I. Emergency medicine, Internal Medicine
II.	Therapeutic and PET **imaging** procedures.	II. Pediatrics, Surgery
III.	GI, GU, and Neuro **imaging** procedures.	III. Primary Care, OB/Gyn
IV.	Cardiac **imaging** and stress testing.	IV. Psychiatry, Geriatrics
V.	Administrative procedures and Specialized modalities.	V. Critical Care, Elective

The NMAA curriculum has strict requirements in each area of molecular imaging as listed above. The program is not designed for advanced technical education. NMAA's are trained similar to radiology residents. They sit with physician preceptors, to gain knowledge and interpretation skills of each study performed in molecular imaging. They dictate preliminary findings, prior to their preceptor performing an over-read. This is how imaging professionals are trained. The NMAA is no different. And this is just the start. NMAA's are taught physical assessment. They perform physical exams on patients (just like a PA). They are instructed in pathophysiology to give differential diagnosis (just like a PA). They are skilled in pharmacology (just like a PA). However, they are molecular imaging specific. Just as a PA must demonstrate experience and knowledge of their specialties (surgery, gynecology, etc.), the NMAA must demonstrate the same level of expertise. Thus, training in the conventional PA curriculum would not prepare the physician extender to perform adequately in the nuclear medicine department. The PA position is more clinically patient-based. As evident by their clinical requirements. In turn, the NMAA curriculum focuses specifically on molecular imaging. However, a degree of patient assessment is definitely a necessity in molecular imaging. Which is why physical assessment training is mandatory, but the depth and amount of time in the NMAA curriculum is less than conventional PA training. The PA curriculum has no clinical internship specifically for imaging. Just something to consider for technologists who would like to go into advanced practice in molecular imaging. One major advantage of

the NMAA program is its flexibility. PA programs all require full-time student status for 2-3 years. A full-time job cannot be maintained while enrolled in these programs. The NMAA program allows clinical time to be performed during your regularly scheduled hours as a technologist. You keep your job, keep your income, and work with physicians and facilities you already know.

Will having this degree guarantee a job? Easy answer. NO. Does any degree guarantee a job? NMAA's have an uphill battle right now. However, this battle would decrease 10-fold with strong support from peers, physicians, and the nuclear medicine professional societies. It was a long hard road to develop this program. Many folks put a lot of (time and effort) into this development. Remember, it was determined to be valid, useful, and needed.

> In 2005, a survey was sent to 1,500 physicians from the American Society of Nuclear Cardiology, American College of Nuclear Physicians, and American College of Radiology to assess physician support and intent. The results of this survey were as follows: 72.5% of the respondents thought that the NMAA would be helpful in performing exercise stress tests; 50.7%, in performing and interpreting electrocardiography; 83%, in being certified to provide advanced cardiac life support, 53%, in freeing up a radiologist, nuclear medicine physician, or cardiologist; 61.6%, in improving efficiency, especially in busy departments; and 64%, in being available when the direct presence of a physician is not possible. (1

Technologists who are interested in pursuing advanced practice in molecular imaging should consider what exactly it is they aspire for their future. If your passion is nuclear medicine, the NMAA pathway can allow you to obtain your goals. If you are a physician, you now have physician extenders who are as passionate about nuclear medicine as you are, and who are specifically trained to be your right arm. Don't be so quick to raise the white flag and give up on the nuclear medicine advanced associate. This profession is progressing. Several health systems acknowledge the NMAA scope of practice and job functions. Several state legislators are considering state licenses for nuclear medicine advanced practitioners. The road will be long and winding, but we will endure, overcome, and establish this profession as part of the nuclear medicine team.

References

1. "NMAA: Past, Present, and Future". Hubble W, Botkin C., J. Nucl. Med. Technol. September 1, 2011 vol. 39 no. 3 175-178