



TRACERS

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THE AMERICAN BOARD OF NUCLEAR MEDICINE

IN THIS ISSUE:

- MOC has Arrived
- New Board Members
- Changes (Part 2)
- New NRC Training Requirements
- 2005 ABNM Examination Results

Important Dates

- In-Training Exam: **Mar. 3–4, 2006**

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Chairman's Message

Nuclear medicine is changing rapidly, and your board is moving vigorously to deal with those changes.

Two major forces are driving that change: positron emission tomography fused with computed tomography (PET/CT) and maintenance of certification (MOC).

While the advent of PET/CT is undeniably a major boon for patients, it has also thrown nuclear medicine into a period of turmoil! The reason, of course, is that PET/CT is both PET and CT. In the private practice world, most PET/CT is performed by radiologists, many of whom are not as expert in nuclear medicine as we all would like. Many radiologists have admirably risen to the challenge by availing themselves of the opportunities for PET training offered by SNM, ACR and others. In fact, the first hump in demand for education is subsiding, as most physicians have now completed the initial PET-familiarization phase.

Many other PET/CT practitioners, especially in academia, are not radiologists or are not current in CT. Importantly, the majority of nuclear medicine residents also do not have a radiology background. Thus, there are major efforts on several fronts to train those two large groups in CT. The professional societies are taking up the educational challenge, and the Nuclear Medicine RRC has recently upgraded the training requirements in CT for residents. Your board is actively supporting and working with those organizations.

The other major development, the ABMS-mandated Maintenance of Certification (MOC) process, involves the board much more directly. As you can see from the article in this newsletter by Drs. Delbeke and Parker, we are actively meeting that challenge. The board and our sister societies must coordinate our work: they provide the educational material, while the board certifies those educational efforts as fulfilling

the MOC requirements. While we all see the negative aspect of MOC in the additional effort required of all diplomates, the benefits in greatly expanded educational offerings by our professional societies are already apparent.



Tom R. Miller, M.D., Ph.D.
Chair, ABNM

These comments dealt with one of the major functions of the board—protecting and enhancing the value of board certification and fostering the continued growth of nuclear medicine. The other mission of the board is certification of newly trained residents and re-certification of current diplomates. That role of the board consumes at least as much time and thought as do the activities I told you about above. Here, too, the board is not static but progressing rapidly and aggressively to meet the challenges of the changing nuclear medicine scene. Every year more questions appear on our examinations testing candidates' knowledge in CT relevant to PET/CT. The quality of the questions on our written examinations continues to improve under the guidance of an expert consultant in educational testing. We are especially focusing on development of new questions that test the candidate's ability to make clinical decisions and act in the role of a consultant. We believe our examinations are fair, reliable and relevant to the current practice of nuclear medicine.

As I conclude my year as chairman of your board, I am more pleased and impressed than ever with the dedication and hard work of the members of the board and our executive director and staff. You can all be confident that the board is working with energy and skill to protect your interests and to advance the field of nuclear medicine. ■

Note New Address:

The American Board of Nuclear Medicine
Suite 119, 4555 Forest Park Blvd., St. Louis, MO 63108

Changes (Part 2)



Henry Royal, M.D.,
Executive Director,
ABNM

The title of short piece I wrote for the summer 2005 newsletter was "Changes." Little did I know at the time how prophetic this title would be. In June 2005, Gloria Gordon resigned after performing admirably as the ABNM administrator for the last seven years. Her resignation set a whole chain of events into motion. The major change was that the ABNM office was moved from Los Angeles to St. Louis. The new office is in a residential/commercial building immediately adjacent to the Washington University medical school complex. The infrastructure

needed to support the board's activities (information technology, accountants, bank accounts, etc.) had to be rebuilt. Cynthia Ade, a Washington University employee with over 20 years of experience, was hired as the new ABNM administrator in September.

Superimposed on these changes are the changes required to implement the MOC activities that are now required of all 24 ABMS boards (see the article on MOC in this newsletter). MOC activities have radically redefined the relationship that boards have with their diplomates. When the ABNM was first founded in 1971, the main contact that the ABNM had with its diplomates was when the diplomate took the certification examination. After a lifetime certificate was issued, the board had no other major interactions with its diplomates. In 1992, time-limited certificates were issued. Recertification required that the board had a significant interaction with its diplomates every ten years. With MOC, the board will have to monitor the activities of all of its diplomates on a yearly basis to make sure that each diplomate is actively participating in the required MOC activities. This monitoring will greatly increase the workload of the board. Although they will be

costly, the board believes that MOC activities will greatly benefit diplomates certified by the ABNM, since ABNM certification is widely recognized as being an important hallmark of quality. Pay-for-performance initiatives will likely take into account participation in MOC activities.

As a result of MOC, the ABNM has had to reevaluate its business model for the first time in its 34-year existence. At its June 2005 meeting, the board voted to implement a \$150 annual fee for all of its diplomates. This fee is necessary for the board to develop and maintain the infrastructure that MOC requires. The most efficient and cost-effective way to monitor MOC activity will be over the Internet. Over the next year, the ABNM Web site will be extensively revised to facilitate MOC activity. Diplomates will be issued user names and passwords so they can update their contact information and access confidential information. In order to effectively manage the work of sending dues invoices to diplomates, we have divided our diplomates into 10 groups. Dues letters will be sent to one group of diplomates each month (except for June and July), so don't expect to get your dues letter at the same time as your colleague. Groups will be defined in reverse chronological order based on the year of initial certification. The first group of dues letters should be mailed in January. The dues invoices for all board members will be included in the first group of dues letters. Credit cards will be accepted to facilitate payment.

A personal change that has occurred is that my wife and I moved from our suburban home of 18 years to a townhouse in the city that is within walking distance (five blocks) of the medical center and the ABNM office. It is the first time in my life that I have been able to walk to work. In my heart, I know that change is often for the better. Only those who can adapt to a rapidly changing environment can prosper, and your board is prepared to change rapidly so that nuclear medicine can prosper. But, in my heart, I hope the rate of change is a little slower in the coming year. ■

New NRC Training Requirements: The Good News and the Bad News

The new NRC training and experience regulations became effective on October 24, 2005. The regulations relevant to nuclear medicine are 10 CFR 35.190 training for uptake, dilution and excretion studies (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-0190.html>), 10 CFR 35.290 training for imaging and localization studies (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-0290.html>) and 10 CFR 390 training for use of unsealed byproduct material for which a written directive is required (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-0390.html>).

The good news is that on October 18, 2005, the NRC officially recognized ABNM certification as evidence that a physician has received the required NRC training. As of December 9, 2005, only ABNM certification has been recognized by the NRC for 10 CFR 35.190 and 10 CFR 35.390 (<http://www.nrc.gov/materials/miau/miau-reg-initiatives/spec-board-cert.html>). For 10 CFR 35.290, the NRC has recognized certification by ABNM and CBNC (Certification Board in Nuclear Cardiology). Applications for recognized status are under review for the American Board of Radiology and American Osteopathic Board of Radiology. An application from the American Osteopathic Board of Nuclear Medi-

cine is awaiting further input.

Being recognized by the NRC is advantageous for ABNM diplomates because it simplifies the process of being recognized as an authorized user by the NRC. Physicians who are not certified by a board recognized by the NRC can still apply to be authorized users by way of an alternative pathway, but the application requires considerably more documentation of the physician's training and experience.

The bad news is that the new regulations have introduced new complications. First, the new regulations require that the training be under the supervision of an authorized user who is recognized by the NRC. As a consequence, the training of Canadian diplomates will no longer be recognized by the NRC, since their training was not under the supervision of an authorized user. How much additional training they might need if they want to practice nuclear medicine in the United States is unclear at this time. In order to allow the NRC to distinguish diplomates who trained in the U.S. from diplomates who trained in Canada, new certificates will now be imprinted with the words "Canada" or "United States." Only certificates imprinted with the words "United States" will

Maintenance of Certification (MOC) Has Arrived

Dominique Delbeke, M.D., and J. Anthony Parker, M.D., Ph.D.

We have already had several articles in Tracers on Maintenance of Certification (MOC™). MOC is replacing recertification as a more complete program to assure continuing quality of Nuclear Medicine practice. The American Board of Nuclear Medicine (ABNM) has been working on development of an MOC program for several years. This past fall, the American Board of Medical Specialties (ABMS) approved the ABNM's MOC plan, and 2006 will see the start of implementation of MOC for ABNM diplomates.

Recall that there are four components to Maintenance of Certification:

- 1 Professional Standing**—Evidence of professional standing, provided by a medical license(s) that has no limitations on the practice of medicine and surgery.
- 2 Lifelong Learning and Self-Assessment**—Evidence of a commitment to lifelong learning and involvement in a periodic self-assessment process to guide continuing learning.
- 3 Cognitive Expertise**—Evidence of cognitive expertise based on performance on an examination. This component consists of the recertification examination administered by the American Board of Nuclear Medicine (ABNM).
- 4 Performance in Practice Evaluation**—Evidence of evaluation of performance in practice, including the medical care provided for common/major health and physician behaviors, such as communication and professionalism, as they relate to patient care.

Parts 1 and 3 of MOC, professional standing and cognitive expertise, have long been important parts of the ABNM's certification and recertification process. There will be important new developments in 2006, especially in terms of the roll-out of a Part 2 program. The ABNM will begin to require self-assessment as a part of lifelong learning. Similar to standard lifelong learning, self-assessment will be documented by obtaining CME credits. Self-assessment CME credits are meant to represent an amount of effort comparable to that required for other CME credits, but the self-assessment will allow the diplomate to assess and guide

his/her learning activities. In 2006, we will also see the beginning of the Part 4 program described below.

Part 2: Lifelong Learning and Self-Assessment

The Society of Nuclear Medicine (SNM) has begun posting self-assessment modules on its Web site, www.snm.org/llsap. The SNM Lifelong Learning and Self-Assessment Program (LLSAP) will fulfill the ABNM's Part 2 MOC requirement. The self-assessment modules include traditional continuing medical education (CME) material, but importantly they also include a series of board-style questions that test the user on the CME material. In the future, additional organizations will probably produce other self-assessment modules that will meet the ABNM's requirements.

The SNM's self-assessment modules have some exciting new features. Some of the modules include full image datasets that can be viewed in a workstation-like environment. The SNM Web site includes a demonstration of this new function on its LLSAP page. The cases attempt to realistically model actual nuclear medicine interpretation. The image datasets have two types of self-assessment. There are traditional questions about what the datasets show. In addition, the user gets to input findings about the case and then compare his/her findings with an expert report. SNM is particularly interested in learning how well this portion of the modules works for nuclear medicine practitioners. Feedback can be given to Vince Socorso at SNM (vsocorso@snm.org).

Self-assessment is not graded; lifelong learning is an important part of professionalism and works best with self-direction. Similarly, self-assessment CME credit is tied not to results but rather to the professional effort to maintain excellence. Over the next 14 months, the SNM LLSAP program will offer numerous Web-based self-assessment modules covering recent developments in nuclear medicine and correlative imaging in the specialty fields of oncology, cardiology, neurology, endocrinology, pulmonology, gastroenterology, musculoskeletal and genitourinary disorders, and basic sciences. The topics addressed will include the technical aspects and evaluation and treatment of patients using computed tomography (CT), positron emission tomography (PET) and PET/CT, single photon emission tomography (SPECT) and SPECT/CT, and therapy with unsealed

NEW ABNM BOARD MEMBERS



Gary L. Dillehay, MD, FACNP, FACR, Associate Professor, Department of Radiology, Loyola University Medical Center and Stritch School of Medicine, Maywood, Ill.



Bruce R. Line, MD, Professor of Radiology, Department of Radiology, and Director, Division of Nuclear Medicine, University of Maryland School of Medicine.

Table 1: LLSAP Self-Assessment Modules (SAMs), cont.

SAM Title and Vice-Chairs	Section Title	First Authors	Release Date
6.1. Basic Science: Physics and Instrumentation: G. Zubal	A. Historical Development of PET B. Image Reconstruction, Quantification and SUV C. Partial Volume Effects/Corrections D. Radiation Safety/Update 10 CFR 35 E. PET and Hybrid PET-CT	Turkington, Townsend, Fahey, Masden, Siegel	TBA
6.2 Basic Science: Radio-pharmaceuticals: J. Clanton	A. FDG: Biochemical Concept and Radiochemical Synthesis B. Current Developments of 18F-Labeled PET Tracers	Clanton	TBA
7. Neurology SPECT and PET: R. Van Heertum	Overview and Dementias	Van Heertum	Q1 2006
	Head Traumas and Movement Disorders	Ichise	Q1 2006
	Cerebrovascular Disease and Epilepsy	Tikofsky	Q1 2006
8. Pulmonology: K. Frye	TBA	TBA	TBA
9. Endocrinology: S. Dadparvar	Benign Thyroid Diseases	Sarkar	Q1 2006
	Parathyroid Diseases	Dadparvar	Q1 2006
	Neuroendocrine Tumors	Krausz	Q1 2006
	Adrenal Diseases	Kumar	TBA
	Osteoporosis	Fogelman	TBA
10. Musculoskeletal: C. Palestro	Bone Scintigraphy	Palestro	Q2 2006
11. Genitourinary Disorders: M. Gelfand	A. Cystography in Children B. Renal Cortical Imaging in Children C. Diuretic Renography in Children D. Measurement of Renal Function with Radionuclides E. Detection of Renal Artery Disease with ACE-Inhibitor Renography F. Other Adult Applications of Renal Imaging	Gelfand, Eggli	Q2 2006
12. Gastrointestinal Disorders: A. Maurer	A. Radiopharmaceuticals and Meals B. Radionuclide Esophageal and Oropharyngeal Transit Studies C. Gastric Emptying D. Gastroenterologic Studies E. Hepatobiliary Scintigraphy	TBA	Q3 2006
13. Infection and miscellaneous C. Palestro	A. Infections B. In Vitro C. Platelets and Venous Thrombosis	Palestro, Price, Goldsmith	Q3 2006
Pediatrics M. Parisi	TBA	TBA	TBA

You may be interested in some perspectives on MOC recently published in the *New England Journal of Medicine*.

1. Baron, R.J., Personal Metrics for Practice—How'm I Doing? *N Engl J Med* 2005;353(19), pp. 1992–3. (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16282172)
2. Brennan, T.A., Recertification for Internists—One “Grandfather’s” Experience. *N Engl J Med* 2005;353(19), pp. 1989–92. (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16282171)
3. Steinbrook, R., Renewing Board Certification. *N Engl J Med* 2005;353(19), pp. 1994–7. (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uids=16282173) ■

NEW CONTACT INFORMATION



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Table 1: LLSAP Self-Assessment Modules (SAMs)

SAM Title and Vice-Chairs	Section Title	Authors	Release Date
1. Oncology PET & PET/CT: L. Kostakoglu	Gastrointestinal Malignancies	Delbeke	Released
	Hematologic Malignancies	Kostakoglu	Released
	Solitary Pulmonary Nodules and Lung Cancer	Schiepers	12/05
	Melanoma-Sarcoma-Neuroendocrine	Segall	12/05
	Artifacts and Pitfalls	Schiepers	1/06
	Breast and Gynecologic Cancers	Cohade	1/06
	Head and Neck Cancers	Menda	Q1 2006
	CNS Malignancies	Menda	Q1 2006
	Male and Genitourinary Malignancies	Avril	Q1 2006
	Radiation Therapy Planning	Macapinlac	Q1 2006
	2. Oncology CT: R. Walker	Head and Neck	Shah, Jones-Jackson
Chest		Shah, Jones-Jackson	Q1 2006
Abdomen and Pelvis		Shah, Jones-Jackson	Q1 2006
Extremities		Shah, Jones-Jackson	Q1 2006
3. General Oncology: Diagnosis and Therapy: A. McEwan	Thyroid Cancer	Silberstein, Yeung, McEwan	TBA
	Neuroendocrine Tumors	Goldsmith, Taillefer, Divgi, McEwan	TBA
	Diagnostic Applications	Alazraki, Taillefer, Divgi, McEwan	TBA
	Radioisotope Therapy	Divgi, Pandit-Taskar, Gulenchyn, McEwan	TBA
4. Cardiovascular SPECT and PET: E. Botvinick	SPECT Myocardial Perfusion	Botvinick, Truong	Q1 2006
	Myocardial Function	Botvinick, Truong	Q1 2006
	PET Myocardial Perfusion	Machac, Delbeke, DiCarli	Q1 2006
5. Cardiovascular CT and Hybrid Imaging		Delbeke, DiCarli	Q1 2006

radioactive source. Each module will be further divided into sections, each of which will provide 2.5 or more self-assessment CME credits (Table 1). The status of these modules as of December 2006 is shown in the table above.

Review of each of the topic areas during the 10-year recertification cycle should help the ABNM diplomate maintain his or her nuclear medicine expertise.

Part 4: Performance in Practice Evaluation

Part 4 is the least developed portion of MOC. In 2006 the ABNM plans to implement a checklist of items that would help you in your continuous quality improvement efforts. The goal of the checklist is to allow you to review your practice and verify that it meets good practice standards. It should highlight areas for continuing performance improvement effort. For example you will be asked if you have a follow-up conference to discuss interesting and/or difficult cases. You will be given feedback about how your quality improvement (QI) activities compare with those of your peers. The current plan is to send you e-mail reminders to complete this Web-based checklist.

ABMS is developing a survey about your practice performance to be filled out by your referring physicians, patients and co-workers. This survey should help you identify areas where you could improve your practice.

Finally, the SNM is developing a workstation environment where you can view unknown cases over the Internet and compare your interpretation with the interpretations of experts and with those of your peers. This tool has the potential to give you valuable feedback regarding your strengths and weaknesses in an environment that closely mimics clinical practice. The initial set of cases will be PET/CT and CT cases.

The board's Part 4 program will evolve over the next several years, just as the evaluation of your practice should evolve. We are anxious to have feedback about the program. Is the ABNM program helping improve your practice? Is the time spent on fulfilling the board's program useful in your own continuing practice improvement? Is busy work being kept to a minimum? Or is the MOC process just an irrelevant waste, taking away time that could be better spent taking care of your patients?



The American Board of Nuclear Medicine
 Suite 119, 4555 Forest Park Blvd.
 St. Louis, MO 63108

2005 ABNM Examination Results

2005 ABNM Examinations			
	Certification	Number of Candidates	% Pass
	Total	101	73.3
	First-Time Takers	71	85.9
	Repeaters	30	43.3
	Recertification	73	97.3
2006 ABNM Examinations			
	Application Period Begins	March 1, 2006	
	Application Period Ends	July 1, 2006	
	Certification Examination Dates	October 9 to 13, 2006	
	Recertification Examination Dates	October 9 to 13, 2006	

NRC

continued from previous panel

be recognized by the NRC. For past diplomates who received their training in the United States, ABNM will re-issue a new certificate with the words "United States" if that diplomate has not yet applied for authorized user status.

Second, the new regulations are ambiguous and subject to multiple interpretations. It is possible that the agreement states will implement different versions of the regulations and will require different documentation. ABNM would like to hear about any difficulties related to these new regulations. ■