MESSAGE FROM THE CHAIR

The NMTCB successfully developed and delivered the first Nuclear Medicine Advanced Associate examination on June 4, 2011. All candidates passed the exam, one with distinction. We are honored to be the sole organization to offer the examination to those qualified in the nuclear medicine field. It is in line with the Board’s vision to be recognized as the certification organization of choice for Nuclear Medicine and Molecular Imaging.

The other specialty exams offered by the NMTCB continue to adapt with the field. Candidates will begin to see an increase in material regarding computed tomography as well as solid state imaging systems to name a few. The number of technologists with PET credentials has markedly increased during the past year. There are currently 730 PET certificants, while 641 currently have NCT credentials. In this time of an employer’s job market, technologists with advanced certification have certainly benefited from the immediate qualification of their knowledge that is granted as potential employers see the credentials, NCT or PET.
Several changes are in progress involving the entry level examination. This exam will begin to see computed tomography topics as well. The current job market has demanded a decrease in nuclear medicine technology training programs as well as a decrease in the number of enrolled students in remaining programs. The entry level exam has seen a representative drop of eight percent in exam candidates. Nevertheless, as of January 1, 2011 the NMTCB has 23,143 active certified nuclear medicine technologists. As in prior years, program graduates have done markedly better on the certification exam than those choosing the pathway of alternate eligibility. The percentage of passing alternate eligibility candidates is nearly twenty points lower than those graduating from an accredited program.

As previously announced, the NMTCB will eliminate the alternate eligibility pathway at the end on 2015 as it is no longer deemed in the best interest of the nuclear medicine field. One further change scheduled for the NMTCB is that candidates will be granted eligibility to sit for the exam only if they graduated from a programmatically accredited school. Graduates of both programmatically and regionally accredited programs are currently eligible to sit for the entry level exam. Regional accrediting organizations are a network of six separate organizations each responsible for a geographic area of the country. Regional accreditation is a self-regulated, peer review process. Regionally accredited schools undergo a very rigorous review which includes various aspects of the education which they provide. A regionally accredited school has been proven to meet quality standards set by their accrediting body. Programmatic accredited programs are also held to rigorous quality standards. However, regionally accredited programs do not require students to perform competencies specific to nuclear medicine technology as programmatic accreditation demands. Furthermore, each school as well as each affiliated clinical site is visited and assessed during the programmatic accreditation process. Both programmatic and regional accreditation processes are voluntary. In the past, many, but not all, nuclear medicine technology training programs have participated in both processes. The NMTCB believes that this change in requirements will assure that all Certified Nuclear Medicine Technologists will have a high knowledge base but also high clinical quality standards.

Supplementary information on these topics as well as other information for certificated nuclear medicine technologist can be found in the article on page 8 and at our website, www.nmtcb.org.

I send a sincere thank you to all of the NMTCB Board members for their continuous dedication to the Nuclear Medicine Technology Certification Board. A very special thanks goes out to Chad Grant, Yusuf Menda, Leonie Gordon and Leesa Ross who are ending their tenure on the Board of Directors. Chad Grant has chaired multiple committees the past eight years including the Exam Committee. Chad was instrumental in the transition of our
entry level exam to Iso-Quality Testing. Chad
been a member of the Executive Committee and
was the 2010 Chair.

Dr. Yusuf Menda joined the NMTCB in 2006. During this time, Dr. Menda has been a
tremendous asset to the NMTCB. We will miss
his input, perspectives and physician leadership
all which have contributed to the success of the Board.

Dr. Leonie Gordon’s tenure on the Board of Directors has also come to a close. Dr. Gordon
has been a Board member since 2008. Dr. Gordon gave the NMTCB the lead physician
guidance that was needed in development of the NMAA exam.

Leesa Ross, who was a Board member since 2007, is also leaving the Board of Directors. Leesa provided leadership of the PET Exam Subcommittee for many years. More recently Leesa chaired the Specialty Exam Committee. In closing I thank the Board of Directors, David Perry, Katie Neal and all of the office staff for their support during my year as chair. My participation on the NMTCB has been one of the most rewarding in my career as a nuclear medicine technologist.

**EXECUTIVE DIRECTOR’S MESSAGE**

David Perry, CNMT, PET

As we come near the close of another successful year for the NMTCB, I would like to take a few minutes to reflect on some of the important activities over the past twelve months.

As would be expected in this tight economy, the number of new NMTCB certificants continues to decline. In 2009, there were 14% fewer new certificants than during the previous year. In 2010, the candidate volume dropped another 8%. We see a small rise in applications to date in 2011 but there is also a record number of certificants who are choosing not to renew their certification. However, with the recent accreditation and reimbursement changes, it is more important than ever to keep your credentials up-to-date. Please see our related article about making the right renewal choices entitled “What to Do When It’s Time to Renew”.

In February of this year, the NMTCB completed the successful transition of our base certification examination to a new test administration organization. For years, the NMTCB had worked with ACT, Inc. to develop and administer our Computer Adaptive Test (CAT). While ACT has always provided good service, some of the needs of the NMTCB have changed. After an exhaustive search, we identified the organization whose services best fit the needs of the NMTCB. Beginning February 1, 2011, the NMTCB certification examination has been administered at testing facilities affiliated with Iso-Quality Testing, Inc. (IQT) of Dunedin, Florida. IQT offers many advantages to the NMTCB and our examination candidates. Many of these are “behind the scenes”, but one of the most readily apparent advantages is that there are many more testing centers now available for candidates to take our NMTCB, NCT and PET examinations.

In addition to serving our certificants and administering our exams, the NMTCB completed the development and administration of the first Nuclear Medicine Advanced Associate (NMAA) certification examination on time and on budget as four candidates sat for, and passed, the inaugural exam on June 4, 2011. Congratulations to Aaron Scott, Michael Kroeger, Richard Siska and William Norton, who may all proudly claim to be the first ever Certified Nuclear Medicine Advanced Associates.

The NMTCB has made several recent improvements to our website. In addition to (Cont’d Executive Directors..., Pg 4, Col.1)
WHAT TO DO WHEN IT IS TIME TO RENEW

You’ve decided to retire, you’ve been laid off, you’re taking a break or you just cannot find a job right now, what do you do with your certification? We hope this article will help you make the right decision.

We know the economy and the job market for nuclear medicine technologists are both really bad right now. Some of you don’t currently work in nuclear medicine and may be tempted to let your NMTCB certification lapse. The choice is up to you but it is important that you know your options.

1. You may do nothing, in which case we will continue to send you a renewal application approximately two months before the last day of your birth month each year until you have been listed as Inactive for five years. At the end of five years, your certification will be removed and you would be required to meet current eligibility requirements and pass the entry-level examination in order to be considered certified again.

2. You may request that we change your status to “Retired”. Retired status is still an Inactive status but we will not continue to send renewal notices each year. Your status in the directory will be listed as Retired, but you continue to have the ability to renew your certification upon request within five years of your last Active date, as long as you meet the requirements to return, which include paying all back renewal fees, plus a reactivation fee and submit documentation of 12 hours of continuing education for every full year during which you were not Active.

Next year marks the 35th anniversary of the NMTCB. Since our founding in 1977, more than 36,000 nuclear medicine technologists have taken our certification exam. The NMTCB continues to maintain the proud tradition of “certification of nuclear medicine technologists by nuclear medicine technologists”.

We wish you and your families a safe and happy holiday season and proudly look forward to the New Year.
This summer, The Joint Commission (JC) added diagnostic imaging using radiation to the list of areas that need monitoring for Sentinel Event reporting. The JC defines a Sentinel Event as an “unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof.” The phrase, “or the risk thereof” includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. Such events are called “sentinel” because they signal the need for immediate investigation and response.

The JC issued the Sentinel Event Alert on the dangers of medical radiation in August as a warning that imaging facilities need to consider redesigning their relevant processes and also that suggestions contained in this Alert should be implemented to help protect patients from unnecessary radiation doses. The report noted that the U.S. population’s total exposure to ionizing radiation has nearly doubled in the last two decades, that patients can often have multiple exams done at various clinics, and that there is a need to follow ALARA when obtaining diagnostic information, especially when dealing with children, young adults and pregnant women. The diagnostic procedures identified as most commonly associated with avoidable radiation doses were CT, nuclear medicine and fluoroscopy.

The JC recognized that due to the potential dangers associated with ionizing radiation, the Centers for Medicare & Medicaid Services (CMS) will require the accreditation of freestanding non-hospital facilities providing CT, MRI, PET and NM beginning January, 2012, and in addition California has mandated that by 2013 that facilities document the dose of all CT exams.

The JC recommends addressing factors contributing to eliminate avoidable radiation dosing by making staff aware of contributing factors and activities that can eliminate radiations doses such as:

- Raising awareness
- Safety programs including expanding RSO and medical physicists roles
- Training for physicians, referring physicians and staff
- Clearly defined protocols with maximum doses
- Training and use of new technology
- Adhering to NRC ALARA guidelines, ACR, RSNA and SNM for guidance
- Creating a process to assure the “Right Test” has been ordered to reduce exposure and give the required diagnostic information

Furthermore, the JC suggests following protocols such as the Society for Pediatric Radiology’s Image Gently guidelines and the Image Wisely guidelines (ACR & RSNA/AAPM) to provide a framework for making sure the “Right Dose” is delivered to the patient.

To ensure effective processes are in place, the JC recommends creating and implementing effective programs of oversight and monitoring of departmental policies and procedures. The policies will ensure that technologist and physicians who work with the instrumentation and technology or prescribe the diagnostic radiation be trained on dosing and patient protection in the specific scanner models being used, in a process of annual education, review and competency testing.

The JC is not implementing these recommendations as new standards at this time. These recommendations are being suggested to

(Cont’d Hot Topic In NM ... pg. 6)
allow organizations the opportunity to provide a culture of safety in the current diagnostic imaging (and therapeutic) areas and to eliminate avoidable radiation exposure to patients. Amongst other recommendations, the JC also endorses a creation of a national registry to track radiation doses and identify optimal and reference doses.

Further details about this initiative can be found on the The Joint Commission website: [http://www.jointcommission.org/sentinel_event.aspx](http://www.jointcommission.org/sentinel_event.aspx)

### WHEN WILL MY RENEWAL BE PROCESSED?

A common email question we seem to encounter toward the end of each month is asking whether we have received and processed specific renewals.

When you renew online, you are first required to complete all of the entry spaces on the renewal form. When finished, click “Submit” and you will be taken to a page where you can choose whether to pay for your renewal with a credit card with your name on it or with a card that has someone else’s name on it. This latter choice is for when a spouse or an employer, etc. is paying for your renewal. Once this selection is made, you will be taken to a secure connection to our payment processor page at skipjack.com. Your renewal fee and some other information will be prefilled on the form. Please complete the remainder of the form without changing the prefilled spaces. When complete, click the “Submit” button **one time**. Clicking the button more than once may cause multiple payments to be processed. It may take a few seconds to process and then you will be taken to a payment confirmation page. At the same time, an automatic payment confirmation email will be generated and sent to the email address you put on the form. Online renewals are processed manually each weekday and are almost always processed by the end of the next working day after the renewal is submitted. Please note that the first renewal after passing the NMTCB exam is not available online. This is because the first renewal and CE Cycle are prorated to the end of the certificant’s birth month so that first renewal will be different for each new certificant. Subsequent renewals may be performed online as long as your certification status is Active.

Renewals sent by mail are also processed within one working day of being received. There are three important things to remember when renewing by mail. First, it can take up to a week, (yes, seven days), from the time you drop your renewal in the mailbox until it is delivered to our office. One would think delivery would be faster with today’s technology but our experience proves time and again that delivery can, and often does, take this long. Second, be sure to answer all of the questions on the renewal and sign and date the form. If any of these elements are missing, the processing of your renewal will be delayed until they are completed. Third, be sure to include your fee payment with your renewal. A missing payment will also delay processing of your renewal. Whether received online or by mail, each renewal must be processed by hand. This is because the response to each of the ethics questions is manually checked, as is the response to the CE question. For renewals sent by mail, we must also confirm that the form is signed and dated.

To summarize, if your renewal is time sensitive, if you must have that new certification card before the previous one expires or if you just want to be sure to avoid late penalties, be sure to complete it online at least a week before the end of your current certification period. If completing by mail, please allow two weeks to be sure you get your card in time. You may check your certification
status at any time by logging in to our website at https://www.nmtcb.org/certificants/certificants.php. This is also where you can complete a change of address. Also, please note that the card can only be considered valid on the date that it is printed. The online verification system, located at http://www.nmtcb.org/certificants/verification.php, is updated nearly every day and offers up-to-date information about certification status.

NMTCB CONTRACTS NEW VENDOR FOR ENTRY LEVEL EXAM DELIVERY
Robert Pagnanelli, CNMT, NCT, NMTCB Chair

Effective February 1, 2011, the NMTCB contracted with Iso-Quality Testing, Inc. to deliver our entry level exam electronically. Registering, paying and scheduling the examination are all processed by IQT. The delivery of the exam is at one of the 300 testing centers that IQT has worldwide. The NMTCB first began its relationship with IQT in 2009, first with the NCT exam, then following with the PET exam. Feedback from candidates as well as our interactions with IQT, have been positive since that time. Iso-Quality Testing has allowed the NMTCB to provide the highest customer service and professionalism to our candidates while keeping costs to those candidates to a minimum. We are very excited about this transition as well as a prolonged relationship with IQT.

NMTCB SPECIALTY EXAMS
Robert Pagnanelli, CNMT, NCT, NMTCB Chair

Congratulations to all of the recently certified and recertified Nuclear Cardiology Technologists (NCT) and Positron Emission Technologists (PET).

The NMTCB is the only organization to offer advanced certification for Nuclear Medicine Technologists. NMTCB, CAMRT and ARRT certified technologists are eligible to sit for the NCT. NMTCB, CAMRT, ARRT(N), and ARRT(CT) technologists are all eligible to sit for the PET exam. There are currently 641 active NCTs and 730 active PETs.

A nuclear medicine technologist with advanced certification is likely to benefit in many ways. With an employers’ job market, many are finding these exams a way to distance themselves from other technologists competing for the same job. Most technologists that have earned NCT and/or PET certification feel that the credentials have given them increased credibility in their respective fields. Some employers are compensating technologists for the additional credentials. The possibility exists that these certifications will eventually be a requirement for either lab accreditation or study reimbursement.

The NMTCB has worked diligently the past several years to improve the experience with scheduling, test taking and reporting of results to our candidates. The NMTCB offers both the NCT and PET exams at each of 300+ Iso-Quality Testing centers worldwide. Both exams are administered using computer based testing and available on-demand. Once your application is approved, you may schedule yourself to sit for the exam at any time within six months of application approval. A preliminary score is now given at the completion of the exam.

Again, congratulations to all who have recently passed one of the specialty exams. Be proud of your accomplishment and welcome others to enjoy the benefits!
In the spring of 2010, the Nuclear Medicine Technology Certification Board (NMTCB) approved new eligibility requirements which will only accept applications for the entry level examination from graduates of programmatically accredited nuclear medicine technology educational programs beginning January 1, 2016.

Accreditation is a voluntary process, which may be undertaken by schools to demonstrate compliance with specific standards designed to indicate a level of education quality. The NMTCB currently accepts applications from graduates of regionally accredited schools as well as programmatically accredited education programs. Regional accreditation is a voluntary process through which a school, usually a college or university, undergoes a lengthy and detailed review of their programs, campuses, and educational delivery methods by one of six regional accrediting agencies. While holding regional accreditation demonstrates compliance with very high educational standards, this type of accreditation does not utilize nuclear medicine professionals to assess the quality and clinical standards specific to the nuclear medicine education program. Programs that obtain voluntary programmatic accreditation through the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) must demonstrate adherence to quality educational standards specific to nuclear medicine. Their graduates must demonstrate that they have met minimal clinical competency standards as well as specific curriculum content. In addition, each program and clinical site is visited and assessed by nuclear medicine and education professionals on a regular basis. Many of the current nuclear medicine technology education programs that are affiliated with regionally accredited colleges or universities also obtain programmatic accreditation in order to demonstrate their dedication to the highest standards of the nuclear medicine profession. This process is similar to the facility/department accreditation that is now required for outpatient nuclear medicine departments with a variety of modality specific accreditation organizations such as the ACR, ICANL, or the Joint Commission. These organizations, like the JRCNMT, focus on the standards for nuclear medicine not the hospital as a whole.

It is the position of the NMTCB that requiring programmatic accreditation will help to assure other nuclear medicine professionals, employers, licensing agencies and the public that a Certified Nuclear Medicine Technologist has clearly demonstrated the knowledge and clinical competence to perform safe, effective nuclear medicine procedures with the highest level of quality clinical standards as defined by the profession of Nuclear Medicine Technology. The decision was not based on the fact that the NMTCB felt that some of the current non-programmatically accredited nuclear medicine education programs were doing a poor job at preparing entry-level technologists or that the scores of the non-programmatically accredited programs were lower than the programmatically accredited programs. The decision was based on the fact that the field of nuclear medicine is rapidly changing and to ensure that students are fully prepared to enter the field of nuclear medicine, certain curriculum and clinical competencies are needed—a process that the JRCNMT is tasked with ensuring for our profession. Just as the profession changes, so does our exam. CT is now included on the entry-level exam, as well as a required curriculum component for the JRCNMT standards.

For questions or comments, please contact the NMTCB.
The increasing demonstrations of the clinical utility of $^{18}$F Sodium Fluoride (NaF) Bone PET and the ongoing $^{99m}$Tc shortage have lead to an announcement by the Centers for Medicare and Medicaid Services (CMS) in which CMS has concluded that the currently available evidence, while not sufficient to determine that the results of $^{18}$F NaF PET imaging to identify bone metastases improve health outcomes of beneficiaries with cancer, it is sufficient to determine that $^{18}$F NaF PET imaging to identify bone metastases of cancer to inform the initial antitumor treatment strategy or to guide subsequent antitumor treatment strategy after the completion of initial treatment, is reasonable and necessary under §1862(a)(1)(E) through Coverage with Evidence Development (CED). 1,2 The current National Oncologic PET Registry (NOPR) for FDG is an example of a CMS CED model.

In February of 2010, they announced their decision to cover $^{18}$F NaF PET imaging when the beneficiary’s treating physician determines that the $^{18}$F NaF PET study is needed to inform the initial antitumor treatment strategy or to guide subsequent antitumor treatment strategy after the completion of initial treatment, and when the beneficiary is enrolled in, and the $^{18}$F NaF PET provider is participating in, the following type of prospective clinical study:

An $^{18}$F NaF PET clinical study that is designed to collect additional information at the time of the scan to assist in initial antitumor treatment planning or to guide subsequent treatment strategy by the identification, location and quantification of bone metastases in beneficiaries in whom bone metastases are strongly suspected based on clinical symptoms or the results of other diagnostic studies. Qualifying clinical studies must ensure that specific hypotheses are addressed; appropriate data elements are collected; hospitals and providers are qualified to provide the PET scan and interpret the results; participating hospitals and providers accurately report data on all Medicare enrolled patients; and all patient confidentiality, privacy, and other Federal laws must be followed.

Also, the study will need to answer the question of does the addition of $^{18}$F NaF PET imaging lead to:

- A change in patient management to more appropriate palliative care; or
- A change in patient management to more appropriate curative care; or
- Improved quality of life; or
- Improved survival?

The NOPR working group finished the protocol for CMS approval and began enrolling patients successfully into the study.

$^{18}$F NaF Bone PET is growing due to its ability to deliver noticeably better image quality than traditional planar or SPECT bone scans with reported benefits of higher accuracy in detecting both osteolytic and osteoblastic metastases, greater differentiation of benign versus malignant lesions and the improved ability to identify the presence and extent of bone metastases. 3,4,5

The good news for imagers wishing to add this procedure into their current PET schedule is that NO special patient preparation is required before performing a $^{18}$F NaF PET scan. Most centers use a 60 minute uptake period, which fits nicely into the current PET workflow in clinical centers. PET acquisition times are dependent on the specific PET scanner and the administered activity but acquisition times of 1-5 minutes per bed position have been reported.
With this announcement by CMS allowing Medicare beneficiaries having access to $^{18}$F NaF PET bone scan, potentially superior bone imaging for the referring and interpreting physician, and the ongoing concerns that the molybdenum shortage has created — now is the time to consider incorporating this procedure into your PET center.

1. CMS Decision Memo for PET (NaF-18) to Identify Bone Metastasis of Cancer (February 2010)
   http://interactive.snm.org/docs/NaF18.pdf

2. CMS coverage decision for NaF PET bone scans
   http://interactive.snm.org/index.cfm?PageID=9493&Archive=1


(Cont’d from “What to do when time to renew” pg 4, col 2)

3. If you have been certified for at least 15 years, or if you are at least 62 and have been certified for at least 10 years, you may apply for “Emeritus” status. Emeritus is also an Inactive status and the requirements to return to Active status are the same as above, but Emeritus is a more honorary title and we send you a laminated Emeritus card and provide access to certain services such as our newsletter and other NMTCB and nuclear medicine related information. There is no fee for applying for Emeritus status.

4. Maintain your certification by submitting your yearly renewal and avoiding react fees later!

Armed with this information, we hope that you can make a thoughtful choice about the future of your certification status with the NMTCB.

THANK YOU

Anne M. Fisher, CNMT, NMAA Chair

On behalf of the NMTCB I would like to thank everyone who played a role in the NMAA exam development. The expertise, diligence and dedication demonstrated by the team assembled was the only way we were able to meet the ambitious timeline for completion of our goal...successful delivery of the first exam!

Special thanks go to David Perry for his attention to detail and relentless determination to launch this exam on time and under budget! Again, thank you to everyone. The project was well worth your time and investment and on behalf of the NMTCB, I want you to know that we really appreciated your efforts.

Committee members: Anne Fisher, Leonie Gordon, Nancy McDonald DeLoatch and Robert Pagnanelli. Content experts who helped with Item Writing or Cut Scores: Jon Baldwin, William Erwin, Paul Christian, Gary Dillehay, Lorraine Fig, April Mann, Tony Knight, Greg Passmore, Amol Takalkar, Shannon Worchesik, Martha Pickett, Jeremy Flowers and Michele Beauvais.
HAVE YOU MOVED?  Please keep your NMTCB file up to date by making sure your contact information is accurate.  Updating the NMTCB with your current information takes just a couple of minutes online and will assure you that you receive important notices from us.  Please visit www.nmtcb.org and choose “Address Change” under the Certificants to make corrections to your contact information.

Announcements

Always check the NMTCB website www.nmtcb.org or call the NMTCB office (404/315-1739) for the most current information.

The NMTCB will recognize AHA Pediatric Advanced Life Support (PALS) as being the equivalent to 6 hours of continuing education. Holding both ACLS and PALS certification will be recognized as being the equivalent to 9 hours of continuing education. Visit www.nmtcb.org, CE Policy for full details.

The Alternate Eligibility Pathway to qualify to sit for the NMTCB's entry level exam will be phased out by 2015. See article on page 2

Specialty Exam Eligibility Requirements

NCT
1. Active NMTCB, ARRT(N) or CAMRT nuclear medicine technology certification
   - and -
2. A minimum of two years full-time (4,000 hours) clinical experience as a certified/registered nuclear technologist;
   OR
   a minimum 700 hours of documented clinical experience performing all aspects of nuclear cardiology imaging

PET
1. Active NMTCB, ARRT(N), or CAMRT nuclear medicine technology certification
   - and -
2. A minimum of 700 hours of clinical experience on a dedicated PET scanner or PET/CT scanner.