I am so excited to continue to be a part of the ACNM and to work with all of you in advancing our organization and goals! Our immediate past-president, Dr. Hossein Jadvar, had a very successful year of leadership, and I hope to follow in the same manner.

We are celebrating the ACNM’s 40th anniversary this year and had a successful program at the recent combined SNMMI-ACNM Mid-Winter Meeting in Palm Springs, California. Thanks so much to Amol Takalkar for putting together a wonderful program and to the many other ACNM volunteers, moderators, speakers, administration, and NMRO members. One of the highlights of the program was Gill Cosnett who spoke on emergency department radiological emergency preparedness. We are honored that he was able to contribute to this issue of Scanner, also. Another highlight was having Congressman Raul Ruiz (who is also a physician) speak on the importance of involvement of medical specialists in politics. We are in the planning phase for next year’s ACNM program with Dr. Tracy Yarbrough as the Program Chair, and we expect it to be equally informative, exciting, and educational. This will take place in San Antonio, Texas, in January of 2015. We hope that you make plans even at this early date to attend!

We have several items that we are currently working on in order to advance ACNM and the Nuclear Medicine profession in general of which some will be forthcoming in subsequent publications. Here are a few:

- One of these items is a letter we recently sent to the FDA regarding the Kinevac shortage. We stated that any shortage would prevent us from providing high-quality care and requested that the FDA and the manufacturers work together in addressing this shortage to healthcare providers.

(Continued on page 4. See Focus on the Fellow.)

Focus on the Fellow:
An Interview with Dr Saabry Osmany, FACNM

Simin Dadparvar, MD, FACNM, FCR

I had the pleasure of interviewing Dr. Saabry Osmany, FACNM, FAMS who is an international member of the American College of Nuclear Medicine. Dr. Osmany obtained his medical degree from Dhaka Medical College in Bangladesh and completed his nuclear medicine residency at the University of Alabama, Birmingham under the guidance of Dr. Eva Dubovsky. After passing his American Board of Nuclear Medicine board exam, Dr. Osmany worked as an attending physician in Bangladesh and then in Singapore for several years at the Singapore General Hospital before joining Radlink PET and Cardiac Imaging, which is arguably the premiere private nuclear medicine imaging center in Singapore. While at the Singapore General Hospital Dr. Osmany took a year of leave and completed a clinical PET fellowship at Yale University Hospital in New Haven, Connecticut. Dr. Osmany joined the ACNM early on after his PET fellowship which he completed in 2008. In 2013, he was inducted as a Fellow of the ACNM. He has served in several leadership positions at the ACNM Board, including the membership and program committees of ACNM. He is also a Fellow of the Academy of Medicine in Singapore and has served on their committees as well. Dr. Osmany is well published, has been awarded several research grants and has been invited to venues in several countries as a lecturer. Dr. Osmany works routinely with multiple departments in radiology and imaging.

(Continued on page 4. See Focus on the Fellow.)
Another item regarding recruitment and which is discussed more fully in this edition is an ACNM membership vote on opening up full membership to our international members and nuclear pharmacists. We also previously sent out multiple recruitment/retention letters to include fellows of the college, scientists, residents, and those in the international community.

Our website is being updated, and ACNM will soon have a “fresh” look with a few new features. You can find more on this later on in this newsletter, along with a sneak peak.

We are working on a new electronic newsletter which will go out to member regarding ACNM updates and events.

We are discussing ways to confirm current and add value to being an ACNM member. This is an area that I would appreciate any recommendations or ideas from our members.

We are a nonprofit organization comprised of Nuclear Medicine professionals like you – physicians, residents, scientists, nuclear pharmacists – both within the United States and internationally. We are a strong advocate to advance our specialty, and we need you as members to be involved, whether simply by attending our meetings or contributing to our various activities encompassing the business/economics, legislation, legal, ethics, education/professional development, and other medical and health policy aspects of Nuclear Medicine. This is outlined in our mission statement. We also need your financial support and contributions if at all possible. ACNM has had great financial difficulties which seem to be slightly improving at this moment in time but is too early to call stable. This year is critical to continue on a positive financial pathway in order to sustain our organization who represents a voice for all of us.

In addition, if you are a resident, you need to become involved with our resident organization, Nuclear Medicine Residents Organization (NMRO). This provides you with an opportunity for mentoring, developing leadership skills, and providing a voice in the everyday matters of our profession. We also provide an internship opportunity for residents. If you know of someone who is not yet an ACNM or NMRO member, I strongly urge you to encourage them to join our close-knit and supportive Nuclear Medicine family and get involved! I am looking forward to a fruitful year and working with each of you.

Sincerely,

[Signature]

ACNM President

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**Update for Physicians Practicing in Florida**

**Garnet Nevels, Contract Manager – Florida Department of Health**

The Florida Department of Health, Division of Medical Quality Assurance will now verify a practitioner’s continuing education record in the electronic tracking system at the time of renewal. This program is part of our commitment to expeditiously license health care professionals who meet statutorily mandated standards of competency.

The CE/CME@Renewal program is being implemented in two phases to provide a smooth transition for all licensees and CE providers. During this phase, the Department encourages licensees to start learning about the Continuing Education Electronic Tracking System and reporting course completion. Licensees will be prompted, but not required, to self-report missing CE hours when they renew their license.

In Phase 2, the mandatory phase, all required CE hours must be reported to the Continuing Education Electronic Tracking System to renew a license. Once Phase 2 has begun, you must have reported course completion before your license can be renewed. The Department encourages licensees to login to the tracking system before applying for renewal to ensure their information is complete and accurate. Verifying compliance before renewal is key to a seamless renewal experience.

CE Broker is the official CE Electronic Tracking System for Florida’s healthcare professionals and the Florida Department of Health. There is no cost for you to create a basic account, although additional subscription options are available to best meet your needs. The CE Electronic Tracking System is designed to simplify CE reporting for you. This easy and convenient system will help you gain peace of mind by tracking your CE history and digitally storing your hours and certificates. After your CE hours have been reported and verified, the licensure renewal process is quick and easy.

Please see the chart below for the Optional and Mandatory reporting cycles for your Profession.

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For more information, please visit www.FLHealthSource.com
Special Congratulations to...

At the 40th ACNM Annual Meeting, several awards were distributed. We hope you enjoy helping us celebrate these individuals.

ACNM President’s Awards:

Munir Ghesani, MD, FACNM
Dr. Ghesani has served as Chair of the Management Fee Task Force and is a Past President of ACNM. This past year he worked to negotiate a new management agreement with SNMMI and served as a liaison between ACNM and SNMMI Leadership. He worked tirelessly for ACNM during the management contract review process and helped to forward the mission of the college this past year.

Simin Dadparvar, MD, FACNM
Dr. Dadparvar, has served as Chair of the Membership Committee and is also a Past President of ACNM. This past year she worked diligently to increase membership of the ACNM and served as liaison between ACNM Board of Membership Committee. Her tremendous efforts resulted in increased membership for the college.

2014 Best Mentor Award Winners

2014 ACNM Best Mentor – Clinical – Abass Alavi, MD, FACNM
The ACNM recognized an outstanding individual Abass Alavi, MD, FACNM with the ACNM Best Mentor Clinical Award. Dr. Alavi is the Professor of Radiology and Director of Research and the University Hospital of PA. He received his MD from the University of Tehran School of Medicine in Tehran, Iran. Dr. Alavi is an excellent mentor, who takes personal interest in all students, including international students who are there for a short stay. I have been one of the many people under his instruction and supervision for the many years. The amount of time he spends with his residents, fellows, and research scholars is remarkable.

2014 ACNM Best Mentor – Personal – S. James Aldelstein, MD, PhD
The ACNM recognized an outstanding individual S. James Aldelstein, MD, PhD with the ACNM Best Mentor Personal Award. Dr. Aldelstein is the Paul C. Cabot Distinguished Professor of Medical Biophysics at Harvard Medical School as well as the Founder and Director Emeritus of the Joint Program in Nuclear Medicine. He received his PhD from Massachusetts Institute of Technology in Biophysics and his MD from Harvard Medical School. He is one of the best known NM leaders in the field. His contributions to the professionally and personally growth of many colleagues has been immense.

2014 Fellowship Awards:

It is with great honor that we acknowledge all of these individuals for their contributions to the field of Nuclear Medicine and the ACNM.

Twyla Bartel, DO, FACNM
- Associate Professor (with Tenure) Department of Radiology - University of Arkansas for Medical Sciences
- 2013 ACNM President-Elect
- 2012 ACNM Program Chair
- Numerous Journal Articles, Books and Book Chapters
- Appointed by SNMMI President to SNMMI National Committee on Guidelines, some in conjunction with American College of Radiology (ACR) and European Association of Nuclear Medicine (EANM).

George Segall, MD, FACNM
- Stanford University Professor, Department of Radiology (Nuclear Medicine); Professor, courtesy, Department of Medicine (Cardiovascular Medicine)
- Chief, Nuclear Medicine Service, VA Palo Alto Health Care System
- Past President of SNMMI
- SNMMI Distinguished Educator Recipient
- Correlative Imaging Council President’s Award, 2010 Annual Meeting
- PET Center of Excellence, Recognition of Contributions, 2011 Annual Meeting
- Numerous journal articles, books, book chapters and talks

Shyam M. Srinivas, MD, PhD, FACNM
- Dr. Srinivas is currently Vice Chairman of the Department of Nuclear Medicine and Co-Director of Center for PET and Molecular Imaging at Cleveland Clinic.
- Dr. Srinivas is a board certified both in nuclear medicine and nuclear cardiology.
- He is the winner of many awards including NIH’s Medical Scientist Training Fellowship, American Heart Association Fellowship for research in developing intravascular optical Doppler tomography and its use in studying vascular disease and several ACNP Best Assay Awards.
- He has had numerous publications and has served as a member of the ACNM since 2004.

Rathan Subramanian, MD, PhD, MPH, FACNM
- Johns Hopkins School of Medicine
- Associate Professor of Radiology
- Johns Hopkins Bloomberg School of Public Health Health Policy and Management 2013 ACNM Treasurer
- Co-Chair SNMMI/ACR PET/MR Credentialing Task Force
- 2012 Best oral presentation award, Annual scientific meeting, American College of Nuclear Medicine.

(Continued on page 4. See Congratulations.)
PET radionuclides such as \(^{18}F\) FDG, \(^{82}Rb\) chloride, \(^{18}F\) sodium fluoride, \(^{11}C\) acetate, \(^{68}Ga\) DOTA-NOC as well as dementia imaging. Additionally, he is involved with radionuclide therapy including \(^{90}Y\) therapy of hepatocellular carcinomas and more recently \(^{223}Ra\) dichloride therapy for bone metastasis in patients with prostate cancer.

Dr. Osmany enjoys working in a very busy private practice to deliver the best healthcare to his patients. We talked about job opportunities for new graduates and he strongly advises any graduates to take and pass their American Board of Nuclear Medicine board exams prior to seeking job opportunities outside the US. US board certification is recognized in many countries throughout the world and can open unexpected doors of opportunity.

Dr. Osmany and I talked about the recent opening of ACNM membership to international nuclear medicine physicians. He talked about the experienced and helpful colleagues he has met from many countries and looked forward to their contributions to the college.

I would like to share his responses to my questions on the following matters:

**SD:** What got you interested in Nuclear Medicine?

**SO:** Nuclear medicine is a happy meeting of my two passions of medicine and technology and this attracted me. I do not know what the future will bring us as a profession but despite the ongoing challenges our specialty faces I enjoy myself every day.

**SD:** What was the best advice you received when you were just starting out as an attending?

**SO:** Treat the patient not the image.

**SD:** What gives you the most career satisfaction?

**SO:** While it is a bit cliché I do get great satisfaction when I can help a patient.

**SD:** Is there a book that you would recommend that has helped you in your professional career?

**SO:** There is no single book that I would recommend for nuclear medicine professionals as different books excel in different aspects of the practice and truthfully most of my professional development now occurs through other media. However, if I have to choose one book, it is Diagnostic Nuclear Medicine by Dr. Alexander Gottschalk. I would suggest that residents and those brushing up for recertification consider The Requisites or The Essentials of Nuclear Medicine. The Nuclear Medicine Review Course at the SNMMI Annual Meeting may be a particularly helpful starting point for those looking to recertify for their Boards. I found it quite useful.

**SD:** In your experiences with ACNM, what was good or not so good?

**SO:** The ACNM provides a needed voice for advocacy and collaboration in nuclear medicine. It is wonderful seeing members focus on identifying and addressing issues such as helping residents, networking, mentorship and career advancement. I hope the ACNM will have the opportunity to expand its activities into additional areas such as generating public awareness of nuclear medicine and that the College will be able to contribute to multidisciplinary guidelines like those by the NCCN.

**SD:** What do you think that ACNM should do to improve its value for its members?

**SO:** Addressing the needs of members would provide the greatest value to nuclear medicine physicians and scientists. The ACNM does already seek regularly feedback from its members on what is relevant for them. As a community we need to continue to attract and encourage interested professionals to join in and actively participate in the College to help grow our specialty.

**SD:** Would you like me to highlight anything in particular?

**SO:** Nuclear medicine is a complex and enjoyable profession. New advances in nuclear medicine not only include imaging such as new PET tracers but also new therapies such as Radium dichloride. Different countries have different patterns of nuclear medicine practice. By encouraging international members to join the ACNM, share their experiences and participate in the College I hope that all ACNM members will benefit and that this will ultimately help our patients.
Capitol Hill Day
This April, the conjoint SNMMI/ACNM Government Relations Committee descended on Washington, DC to visit Congress and inform our representatives about Nuclear Medicine. The issue we mainly focused on was Mo-99. Here is an excerpt of what was given to the legislative assistants and representatives:

“In 2012, Congress enacted S.99, the American Medical Isotopes Production Act of 2011, which requires industry to convert its technology from highly enriched uranium (HEU) to non-Highly Enriched Uranium (non-HEU) by 2020. Additionally, it prevents the export of highly enriched uranium from the United States for the purposes of medical isotope production. However, implementation of this policy must be delayed if there remains an insufficient global supply of non-HEU Mo-99 to satisfy domestic use and temporary use of HEU remains the most effective solution.

The U.S. consumes approximately one-half of the world’s supply of Mo-99, but currently has no domestic supply. The two primary sources used in the U.S. are located in Canada and the Netherlands, but the Canadian facility will be phased out of commercial isotope production beginning in 2016. There is no domestic production in the foreseeable future. The NNSA's original grant program for novel technology has failed as 3 out of 4 programs are closed and the last program has yet to produce any meaningful amount of Mo-99. The NNSA has supported a producer of Mo-99 in South Africa, domestically it should do the same and renew its efforts and support programs using existing technology for the production of Mo-99. Reduction in the supply of Mo-99 will result in patients receiving inappropriate tests that are poor substitutes as they are less accurate, often cost more and may have higher doses of radiation.

Funding for the National Nuclear Security Administration’s Global Threat Reduction Initiative (GTRI) has been decreased by 24.6% in the President’s FY 2015 budget. The budget states, “The reduction in FY 2015 funding reflects the expected completion of a major milestone in early FY 2015 of the development of a new domestic, non-HEU-based supply of the critical medical isotope molybdenum-99 (Mo-99).” This clearly is not going to happen. While SNMMI fully supports the goals of the GTRI program, we are not at all confident that domestic production will be achieved utilizing novel technology with in the budget’s timeframe. For that reason, we ask Congress to maintain funding for the GTRI program at its current level and ask that the NNSA direct this funding towards programs using existing technology.

The Request
SNMMI requests Congress take the following action:
• Maintain GTRI funding at current levels through completion of its mission to develop domestic production of non-HEU based isotopes using existing technology
• Understand the challenges related to an unstable supply and expected significant price increases of Mo-99 and pledge to work with members of the Office of Science and Technology Policy (OSTP) Work Group to avert a potential crisis. Agencies involved include CMS, FDA, NNSA/DOE, NIH, NRC, and others.
• Monitor the progress of the Administration to implement the American Medical Isotopes Production Act of 2011. Utilizing committee oversight authority over DOE efforts to establish a domestic source of Tc-99 before the U.S. HEU exports are shut down.”

Even if you were not able to make it to the Capitol Hill Day, you can still pass this information on to your congressional representatives…and we encourage you to do so!

SGR & ICD-10
The SGR repeal didn’t happen, as you probably heard. Instead, the House and then the Senate passed another patch tied to delay of the ICD-10 for another year. In Hadyn Williams’ AMA update, he goes into further detail. In coming newsletters we’ll discuss ICD-10 further and what change you can expect (now starting in October 2015).

Let us know your opinion!
As part of the “new and improved” ACNM, we would like to make this newsletter a useful resource for you. We hope to keep you abreast of the news that matters to you, including things like upcoming events and items available for public comment, which could affect the future of our specialty.

We welcome ideas for topics you would like to see in the newsletter. Likewise, if you have any clinical questions you would like us to forward to an expert or letters to the editor of the ACNM Scanner Newsletter, please send us your inquiries.

Additionally, if you’re a member and have an exciting accomplishment to highlight or share with the rest of the nuclear medicine community, please send us your announcement.

Please send your inquiries or announcements to Erin Grady, MD, the ACNM Scanner Newsletter Editor, at egrady@christianacare.org. We will do our best to be a valuable resource for you.
Hospital Radiological Medical Preparedness

By Gil Cosnett Medical Preparedness Program Director and CBRNE Consultant Tetra Tech, Newark, Delaware

The notion of hospital radiological medical preparedness evokes various responses from the “emergency department (ED) community”. There have been innumerable studies and research on this issue, including reports issued by the GAO (Government Accounting Office) and some universities which have clearly identified the huge gap in the U.S. with hospital emergency departments not being prepared. This problem is compounded by the fact that an overwhelming majority of nurses, physicians, physician assistants and the like, have never received this type of emergency preparedness training – neither in their workplace or nor at any time during their education.

What I have witnessed during my 27 years of conducting radiological-medical training and consulting for hospital ED staffs throughout the U.S. is primarily the prevalence their having no direction, model, education, or standards which presents a significant challenge for them to even fundamentally prepare. Currently, there are no federal regulations which require hospital EDs to be prepared to manage these types of events, with the exception of the commercial nuclear power industry, whereby FEMA (Federal Emergency Management Agency) and the USNRC (United States Nuclear Regulatory Commission) require that local hospitals, nearby the nuclear plant, are trained, equipped, have a written plan and are able to demonstrate their ability to manage a radiologically contaminated patient. With the absence of federal regulations in this realm, this, not atypically, results in misconceptions regarding the necessary measures and the level and extent of preparation that is necessary for the successful and safe management of these patients. To add to this confusion, there is an overall mindset of mystery or misinterpretation of what the “federal requirements” are, and the ubiquitous notion that all radiation accident patients require a high level of complication processes, equipment, and training in order to be prepared. This particular problem is furthermore exacerbated with the overall lack of fundamental “radiation” training for medical personnel (both field and hospital).

Preparedness… “Why do we have to be prepared?” It is not uncommon for a hospital to underestimate or misunderstand the need for their being radiologically prepared. THIS IS THE BIGGEST CAUSE OF THE LACK OF PREPAREDNESS IN HOSPITALS IN THE US. Some of the reasons voiced to me over the years include, “aren’t these contaminated patients managed/decontaminated in the field?” or “our city fire department has a Hazmat Team……they will handle these patients before they get to the hospital”, or “some of our staff already have taken Hazmat training”. The realization is that in any world-wide multi casualty event, a large majority (reported to be up to 80%) of ALL patients arrive in hospital emergency departments by means other than ambulances. That means that in radiological disaster (i.e. nuclear detonation, radiological “dirty bomb”) patients with all levels and types of injuries and contamination will arrive in an unannounced, unorganized, and untimely manner – without ANY pre-hospital medical treatment or decontamination being performed. The emergency department will be overwhelmed; even more so with the staff not having been trained and with no pre-planning or pre-designated areas to manage these patients.

While the occurrence of patients arriving in hospital EDs presenting with radiological contamination and/or medically significant exposure issues are very infrequent, there are many instances where these types of situations could occur. Generally these “radiation” events could include transportation accidents, industrial accidents, industrial radiography accidents, radiation therapy accidents, and incidents evolving from a commercial nuclear power plant. The real issue is that these accident situations are so infrequent (not to mention rarely serious), two issues result from this: 1) we effectively and collectively have zero experience with the management of significant radiological-patient events, and 2), therefore, when an event occurs – despite its level of severity – there’s typically a great deal of confusion, panic, and overreaction, which may actually be detrimental to the patient(s) and the staff. Additionally the type of incident that would be much more serious and could produce innumerable casualties would be the unprecedented radiation terrorist event. A radiological terrorist event is generally thought of as being either an improvised nuclear device (IND), such as a nuclear weapon, or a radiological dispersion device (RDD) or “dirty bomb.

What exactly does preparedness imply? Hospital radiological medical preparedness should the following components and actions.

1. Meet with/contact other hospitals – develop a coalition to work together to achieve the goal
2. Ensure that the overall preparation level is warranted, adequate, and NOT based on erroneous views, misconceptions of “laws” and “regs”, and/or not based on the pre-hospital (field) management modalities.
3. Provide initial, fundamental radiological (including patient management) training
4. Provide continued training (for new staff and refresher for veterans)
5. Select a designated area to manage a radiologically contaminated patient
6. Select a designated area to be expanded to manage MULTIPLE radiologically contaminated patients
7. Develop a written plan
8. Continue with a regular cycle of drills and table-top exercises

There are a few radiation training sites and programs sponsored or funded by the federal government, with some of them being offered at fixed location and/or others being conducted at the hospital site. This is in addition to the private sector offerings. Regardless, with either entity (private, government), one has to exercise caution as some of these programs do not include the specific topics of multiple contaminated

(Continued on page 7. See Hospital Radiological.)
patient management and decon room/area design. They seem to be focused more on the effective management of an individual patient—a terrorist event, certainly by nature, will not result in just one or two casualties. Unfortunately the current availability of training locations doesn’t come near to fulfilling the needs of even a fraction of the hospital emergency departments in the country. The radiological training must be standardized and accessible to every hospital medical professional in the U.S. as is CPR, ACLS, and similar programs.

I have conducted hospital radiological emergency preparedness training throughout the U.S. for many years. With hospital budgets, staffing, and workloads seemingly in crisis mode, it is essential that educational programs for hospital staff emphasize the true essentials—focusing primarily on the vital procedures and processes which are INITIALLY required when managing these events and patients; primarily the actions which would take place in the emergency department setting. Of course it may be of interest for the student to know how to manage a patient with ARS (Acute Radiation Syndrome) but that is a situation which is generally non-emergent. The in-house radiation staff (oncology, radiation physics, etc.) can assist with the management of these types of patients with support and guidance from various federal resources.

Therefore, the initial training program for hospital staff must include the following key components:

1. The Basics of Radiological Emergency Medical Preparedness – identifying the problem(s), discussion of issues, applicable federal guidance, available resources.
2. Radiation Fundamentals – basic radiation science
3. Radiation Contamination vs. Exposure - with a focus on patient contamination vs. patient exposure
4. Decontamination Room/Area Design – preparation of existing or projected areas for contaminated patient management
5. Staff Preparation – anti-contamination clothing, dosimetry
6. Patient Management – individual patient vs. multiple patients
7. Case Histories – group discussion on case management
8. Post Incident Follow-Up

We must first identify and understand the issues, weaknesses, discrepancies, and gaps both on a national and equally so—on a local level. Many of these problems can be resolved at the hospital level. By having the emergency departments and hospital staffs trained and prepared to an appropriate degree and extent can not only help to mitigate the unprecedented management of an event, it can furthermore possibly help to thwart a radiological terrorist event. The rationale for this takes into account the fact that terrorist perpetrators typically focus their attack particularly on and in vulnerable areas or environments whereby most casualties will result; in areas and situations where preparedness is lacking. It is frightening to think of such an attack occurring today—with hospitals across the U.S. being unprepared in this realm. On April 15, 2013 the Boston Marathon bombings resulted in 3 fatalities and approximately 260 injuries. Had the explosive devices been radiological “dirty bombs”, the outcome—particularly the hospital acceptance and subsequent specialized care of these patients may have been quite different.

In conclusion I wish I that could say that “we’ve come a long way, but there’s more work to be done”, but unfortunately, we really haven’t come a long way. It is interesting that since 9/11/2001 and the subsequent creation of the US Department of Homeland Security (DHS) has given $31 billion in grants since 2003 to state and local governments for homeland security and to improve their ability to find and protect against terrorists, including $3.8 billion in 2010. Unfortunately, this funding, for some reason(s) hasn’t found its way toward a much needed, nationwide universal and comprehensive hospital radiological emergency preparedness program—for EVERY hospital emergency department in the U.S.

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**Are You Prepared?**

Robert H. Wagner, MD, FACNM, FACR, Loyola University Medical Center

On an almost daily basis, I field questions about radiation. These questions come not only from my patients, but from colleagues in other medical specialties and range from fear to academic curiosity. Every month I provide a lecture to the medical students rotating through Radiology on the “Fundamentals of Radiation”. My first question is always, “What are you going to do for the rest of your life?” Most of those rotating are planning on careers outside of imaging and I applaud them for coming to learn about diagnostic imaging. My next question is, “What did you learn in medical school about radiation?” Mostly I get some mumbles and a few bits of information that they might have gleaned from a TV documentary or a perhaps a cursory article. These are my future colleagues. The best and brightest who have little to no concept of radiation, biological effects, exposure, contamination, ranges of exposure, or even the units we work with. I am delighted to provide them with what is probably their first (and possibly last) lecture on radiation. If my fellow physicians are so poorly prepared in the knowledge of radiation, what of the general public?

As practitioners of Nuclear Medicine, we are the physicians that are best trained in the concepts of radiation contamination and contamination control. Should a radiation dispersal device (RDD or “dirty bomb”) event ever occur, imagine the confusion of the public, the first responders, and the physician population who will care for the victims. Those trained to handle, administer and dispose of radioactive materials are best suited to assist in the management of these patients. Teamwork is essential since nuclear physicians typically do not have the expertise to take care of trauma victims while surgeons and emergency room physicians do not consider the concepts of exposure, contamination control and decontamination.

While the use of a nuclear device or an improvised nuclear device is of great concern and would cause a devastating effect when used, it is far more likely that several other scenarios might occur. The RDD is most likely and would result in typical injuries associated with any

(Continued on page 9. See Prepared.)
3/31/2014 - US Congress has voted for a 1-year “doc fix,” the 17th patch to the Sustainable Growth Rate (SGR) formula, preventing a 24% pay cut for physicians who treat Medicare patients, while also delaying by 1 year implementation of nationwide conversion to International Classification of Diseases, 10th Revision (ICD-10), set of diagnostic and procedural codes scheduled to occur on 10/1/2014. The bill now awaits President Obama’s signature.

There was bipartisan support in the House and Senate to repeal the SGR, the unpopular formula for physician payments. Both houses had passed their own repeal bill version, but there was no agreement on how to pay for the fix.

- On 3/14/2014, House Republicans passed SGR legislation that would fund the bill by delaying the Affordable Care Act’s individual mandate provision for five years.

- On 3/25/2014, the newly appointed Chair of the Senate Finance Committee (Ron Wyden (D-OR) introduced the Commonsense Medicare SGR Repeal and Beneficiary Access Improvement Act of 2014, that would use Overseas Contingency Operations (OCO) funds as an offset to pay off the SGR repeal. The OCO account, which is immune from sequestration cuts and doesn’t count against budget caps, received corresponding increases in funding used to largely offset the Pentagon’s 2014 across-the-board base budget cuts (about $20 billion) of operations/maintenance accounts and procurement, and includes $6 billion to buy new weapons.

According to the American College of Radiology, the newly passed “Protecting Access to Medicare Act of 2014” (SGR “Patch”) would make health care more efficient, raise medical imaging quality, improve utilization accuracy and make physician payment policy more transparent, taking a landmark step toward modern, evidence-based health care. The bill requires ordering providers to consult physician-developed appropriateness criteria when prescribing advanced imaging procedures for Medicare patients. The legislation directs the Secretary of the U.S. Department of Health and Human Services (HHS) to identify mechanisms, such as clinical decision support systems, by which ordering professionals can consult these criteria. Such ordering systems reduce duplicate and/or unnecessary scanning and associated costs. This may be the first time that Medicare would require providers to use such point of care, evidence-based ordering for exams or procedures.

- Maintain current overall provider reimbursement plus a 0.5% Medicare pay bump over the next 12 months (avoiding a 24 percent across the board cut to provider payments statutorily mandated by the SGR formula).
- Creates a program designed to promote proper use of diagnostic tests and treatments and discourage their overuse.
- Mandate that cuts to medical services greater than 20 percent (in comparison to the previous year) are phased in over a two-year period.

- Require the Centers for Medicare and Medicaid Services to produce data used to justify a 25 percent multiple procedure payment reduction, instituted in 2012, to certain imaging procedures provided to the same patient, on the same day, in the same session.
- Delay until 10/1/2015 implementation of controversial ICD-10 provider payment codes as ACR works to prepare radiology providers for the transition to this new system.
- Improve patient safety through stricter controls on radiation dose levels delivered by computed tomography (CT) machines.
- Authorizes a multistate pilot program designed to raise standards for mental health services and improve integration of care.

**Challenge Case**

*Anthony Fotenos, MD*

**History:** This 71-year-old man was admitted through the emergency department for dyspnea and pericardial effusion identified during evaluation of a new heart murmur.

The figure shows whole-body Tc-99m MDP imaging (A) with a superimposed coronal image of neck-to-thigh F-18 FDG PET/CT imaging (B) acquired a few days apart. The masked portion of the bone scan was normal.

What is your diagnosis?
The NMRO is gearing up for our Annual Luncheon on Monday, June 9th at 11:30 AM. This year we will be presenting an informative session about a plethora of changes in the ACGME and how they will be affecting nuclear medicine residents. We will also be announcing our new Board of Directors for 2014-2015. Other annual meeting events include teaming up with the Young Professionals Committee for the YPC/NMRO Knowledge Bowl and our third NMRO-YPC Networking Event!

We are also very excited for our next Virtual Journal Club coming up on May 22nd, which will offer CME credit for participants! The topic will be radioimmunotherapy with Zevalin presented by current NMRO Vice President Prashant Jolepalem.

Signing up for membership in the NMRO is now easier than ever. Resident’s can self-register online, or program directors can register for them! International residents are also able to join! Please visit our website at www.acnmonline.org and click on the Resident’s tab for more information.

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explosion. A radioactive contaminant combined with an explosive device would add an entirely new level of concern and fear. This is why RDD’s are often termed a weapon of mass disruption. One only need to consider the public and first responders initial response to the recent Boston marathon bombing. How much more complicated would the activities have been had a radioactive contaminant been present? Would the presence of such a contaminant cause a delay in the triage or care of the injured? How many healthcare providers might refuse to take care of the injured because of the fear of radioactivity or contamination? How could the local hospitals respond to the large number of people who are not injured, but fear that they might have been contaminated? How many people might show up at your emergency room asking to be evaluated? Is your facility prepared to triage the wounded, treat serious injuries that might be complicated by radioactive contamination, and handle the worried but otherwise well patient?

The answers to these questions are well beyond the scope of this article or even a day-long seminar. To prepare your facility, we must be willing to leave the comfort of our departments and reading rooms and speak to the first responders and emergency department staff. Communication and education is the first step to preparing your institution for a disaster response. You will likely find your emergency department staff very receptive to a lecture on radiation fundamentals. When possible, stick to simple principles and avoid the complicated physics, units, and radiobiology. What they need to know is how contamination control will impact their care of the patient and the flow of victims through their department. Identify the individual at your institution who is most involved with disaster management and schedule regular times to meet and discuss response to a variety of scenarios. It is possible that they might have already developed some plan of response for contaminated or exposed victims. Offer your assistance and expertise as it will be quite welcome to those who only have a cursory background in radiation.

Consider the resources you might be able to bring together in the event of a radiological incident. Nuclear medicine technologists are all trained in contamination control, though they have had little or no experience with trauma situations. If your institution has a radiation safety officer, they and their staff can also provide insight to development of a team centered response. Staff that can operate and correctly use a Geiger counter will be helpful. Individuals representing the management of your institution should also be included since they will often be able to identify resources and sources of funding to help your prepare your team for such incidents. Don’t forget to include media relations from your institution. Should any event occur, they will be involved and they should at least be aware of the existence and capability of your response. A coordinated response is essential to patient management and each member of the team must recognize the responsibilities of the other. In the initial management of a trauma victim, an extra individual in the room trying to measure everything with a Geiger counter will impede prompt and possibly life saving care. The nuclear physician should be available and when possible try to prevent spread of contamination through the emergency department while not interfering with life saving actions. Such a balance might be difficult to achieve. Adding the presence of radioactivity to an already tense trauma management scenario will only raise the tension and confusion. The nuclear physician can provide some calm in this situation by identifying and communicating if the levels of contamination are minor and should not impact the immediate patient care.

The scenarios one can imagine are endless, but with a little consideration those incidents that are more likely to occur should be the ones that you can plan for first. It all starts with educating yourself about the management of radiation accidents, how you might respond and then venturing out of the reading room and speaking to your clinical colleagues. As with any educational journey, there is no defined end. An excellent place to start is the Radiation Emergency Assistance Center/Training Site at the Oak Ridge Institute for Science and Education (https://oris.orau.gov/reacts/). A document titled “Radiation Preparedness for Radiology Professionals” is available at the ACR website. Additional sources of information can be found at the Department of Health and Human Services Website (http://www.remm.nlm.gov/rrd.htm), the Center for Disease Control and Prevention (http://www.bt.cdc.gov/radiation/), and the International Atomic Energy Agency (http://www-pub.iaea.org/MTCD/publications/PDF/EPR_FirstResponder_web.pdf).

While the number of nuclear medicine physicians are relatively few, the knowledge and experience that can be provided to our colleagues is unique and valuable. They will be happy to include you in their plans. All you need to do is take the first step.
ACNM Now Welcomes International Full Members!

Due to an increasing number of international nuclear medicine physicians, scientists, and pharmacists interested in joining the college, the ACNM Membership Committee felt it was prudent to amend the bylaws to provide international members with the same rights and privileges as those members within the United States. On April 4, 2014, the ACNM officially amended their bylaws to specifically include “international” members to the full member category. The ACNM membership voted, online, from February 24 – April 4 on the following bylaws changes:

- The proposed change eliminates the previous “corresponding” membership category which was reserved for “a physician or scientist practicing the specialty of Nuclear Medicine outside the United States and Canada, who is not a citizen of the United States or Canada, and who is in good ethical standing in his respective country.”
- The proposed change includes the addition of international board certification recognition under both the full member and member in training areas.
- In addition, the proposed changes also include the addition of “nuclear pharmacists” which were not specifically outlined in the current bylaws.

The ACNM Board of Directors discussed and approved these proposed changes during their Board meeting on February 6, 2013. The next step in the process, per the ACNM Bylaws - Article XV. Amendments, was to have the ACNM membership vote on these changes. In order for the bylaws to be amended, two-thirds of the ACNM members voting by an electronic mail ballot must have approved the proposed changes.

We believe that these proposed changes embrace the growth and expansion of the field of nuclear medicine and of the college and hope that you agree that it is important to include our international colleagues in the college.

Challenge case answer:

Erdheim-Chester disease is a rare histiocytic disorder involving dendritic cells. The age range of 50 to 70 is most common, though patients may present at any age. The disease invariably involves the long bone metadiaphyses. In this case, the striking pattern of increased Tc-99m MDP activity involving the metadiaphyses of the tibiae, radii, and distal femora is pathognomonic (A). Interestingly, non-overlapping body findings may also be seen in approximately 30 to 50% of patients. In this case, the body findings include marked perinephric stranding and induration associated with mildly increased metabolic activity, as well as a large pericardial effusion, both evident on the PET/CT (B). PET/CT imaging also demonstrates mildly hypermetabolic dependent bilateral pleural effusions (not shown).

The patient’s diagnosis was confirmed on biopsy of the femur, and additional imaging demonstrated disease involvement of the myocardium and retro-orbital regions. Treatment with Vemurafenib and Anakinra achieved complete metabolic response and symptomatic relief on follow-up F-18 FDG PET/CT imaging.

When was the last time you visited the American College of Nuclear Medicine website? A small working group is making some headway, with the assistance of some great SNMMI staff, to give the website a “facelift” and increase its functionality for you! The first draft of what the new and improved website would look like is shown here. If you want to let us know what you think, visit us on facebook at https://www.facebook.com/AmericanCollegeOfNuclearMedicine.
Calendar of Events

• SNMMI 2014 Annual Meeting
  The SNMMI Annual Meeting has been recognized by thousands of professional attendees as the premier educational and networking event in molecular imaging and nuclear medicine. The 2014 Annual Meeting will continue to build on past successes offering: the latest educational content; virtual learning opportunities both during the meeting and post-conference; networking events; and an exhibit hall packed with the latest technology.
  June 7 – 11, 2014

• “Metals in Medicine” Gordon Research Conference
  June 22 – 27, 2014

• UPCP 2014 - Up Close and Personalized - The 3rd International Congress on Personalized Medicine
  June 26 – 29, 2014

• Viva Las Vegas 2014
  Portland, Oregon
  July 19 – 20, 2014

• 91st Annual ABNM Board Meeting
  July 27 – 31, 2014

• XI Congress of the World Federation of Nuclear Medicine and Biology
  August 27 – 31, 2014

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