



CENTRAL CHAPTER IN THE NEWS



January / February 2003

I stood in line at a pharmacy recently. Reluctantly and finally admitting to middle age, I had seen my internist and was now filling a prescription for my antihypertensive medication. Amidst colorful posted signs proclaiming how important I was as a customer, and awash in tasteless music interrupted frequently by a soothing voice promising attentive profes-

sional service with unwavering dedication, I waited for an eternity. Waiting with me were many other customers

old and young, some healthy and some quite ill, all frustrated, all bored, and all livid at the indifference of the cashier and pharmacist who were leisurely comparing their latest vacation stories. How long should it take to count thirty little pills? In our own world of high-technology imaging, my radiology colleagues have a saying that the keys to being a good radiologist are availability, affability, and ability ... and in that order. We spend so much of our time trying to produce the best images possible, constantly improving our quantitative

Report from the Chapter President

techniques, making important clinical correlations, and squeezing all the diagnostic information we can from those photons. Rightfully, we diligently work together as a team to optimize our ability in nuclear medicine. But are our goals being sabotaged by terminally long waits on appointment phone lines? By overbooked schedules? By aged transcription equipment? (I have been known to suggest that a half dozen monks with quill pens would be faster.) And what about the actual delivery of the information that is our ultimate product? Timely acquisition and interpretation of scans are lost if the information is only received by the referring physician five days later. Reliance on "wet reading" forms, hospital mail, faxes, or email to communicate any important findings may give us failing marks in availability. Radiology journals have published many a discussion



James O'Donnell, MD

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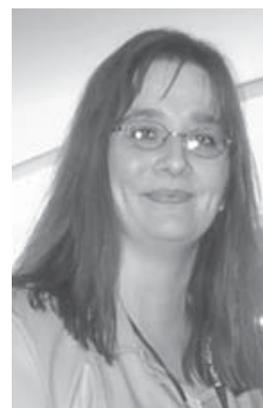
Greetings! I hope everyone is having a great 2003 thus far. There are several exciting things going on in the Central Chapter, and I wanted to further share them with you: It's already spring, and it's time for our Annual Meeting. The dates of the meeting are May 2-4, 2003 in Detroit, Michigan. As I stated in the last newsletter, I am co-chairing this meeting with Dr. John

Freitas and Mary Yeomans. Since Detroit is my hometown, I want to take this opportunity to personally invite each of you to attend an ex-

citing meeting at Cobo Hall! We have a lot of great speakers coming in from the Midwest, and plenty of local talent that we've also "tapped" into. The meeting encompasses a wide variety of clinical nuclear medicine topics and offers up to 19.5 hrs of continuing education! There are plenty of opportunities to get those CE hours taken care of all in one weekend! There will also be an opportunity to socialize, as some of

Report from the Technologist Section President

the local Michigan grassroots organizations are sponsoring a "get together" for everyone on Friday evening! (Look for details and maps at the meeting.) Detroit offers a variety of things to do, and we will have some lists of entertainment and things to do and see while you're in the area! (I personally recommend the hockey!) The annual chapter meeting has been a lot of work to put together, and I would like to especially thank Mary Yeomans for putting her blood, sweat, and tears into it! Also, Renae Henkin, the executive director, has been outstanding in organizing details for this meeting (as she always does)! There are many changes on the horizon for healthcare, and as nuclear medicine continues to grow and change, we will be faced with new challenges. Technologists need to collaborate with each other, and work



Sharon Lafferty, CNMT

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President's Report

«p1 of the reasons why referring physicians will choose you for their referrals: ease of scheduling, fast completion of procedures, and rapid communication of results. The quality of the results is a distant fourth in priority. Some entrepreneurial imagers in trucks and centers are well aware of this. They spend lots of money and effort on marketing, scheduling, precertifying, transcription, and creating the overall aura of efficiency. Moreover, they eat up the referrals that were going to the larger and less efficient medical centers. Availability is key. So is affordability. This has always been a strong suit of nuclear medicine professionals. The complexity of what we do and the need to explain nuclear medicine to fearful patients and inquisitive referring physicians have made us traditionally approachable and communicative, even in an era of administrative doublespeak (if “physician” is politically incorrect in your area, insert “health care provider”; likewise for “patients” consider “clients undergoing adverse wellness events”). Most often our affordability serves us well. Sometimes it works to our disadvantage. It can make us look too tentative, too insipid; e.g., “Scan findings are consistent with but not diagnostic of evidence for ... suggest clinical correlation.” We cannot be just the quiet folks who live in the dark basement behind the red and yellow signs. We need to get more declarative and take charge. Gated myocardial perfusion imaging contains powerful prognostic information. Share it. Positron tomography is far superior to anatomic imaging for cancer staging. Show up at tumor boards and point it out. Be the clinical correlator; don't suggest it. Recently, Dr. Henry Wagner pointed out that, for many years, we in nuclear medicine have had to strive for recognition as legitimate specialists in imaging; now the time has come to reintegrate back into the mainstream of medicine as collaborative specialists. Perhaps it is time for our nuclear medicine organizations to champion the availability and affordability factors. Perhaps the Central Chapter can begin and initiate a broader effort to interact more with other professional organizations and vendors to emphasize such concepts as connectivity between software systems for scheduling, billing, and reporting of our clinical procedures. We need workstations that can read images from any gamma camera we have. We need better networking to correlate various imaging modalities, including fusion of PET/CT and SPECT/CT with software. We need images linked with reports and easily transferable by email. A picture is still worth a thousand words. We need to offer workshops at other specialty meetings to showcase radionuclide imaging—PET for oncologists, brain for neurologists, bone/infection for orthopedics, basic tracer methodology for biochemists and physicists; virtually all specialties and basic biosciences would benefit. The real value of this may even lie as much in the assertive and confident demeanor of the presenter as in the content. Such exercises in availability and affordability can only complement the abilities we are becoming better known for in our specialty of nuclear medicine. The triad of availability, affordability, and ability should be as much a part of our work as time, distance, and shielding. The time is now. Our distance from others must decrease. And, for once, we should not shield the glow.

Technologist President's Report

«p1 together in solving such issues as staffing shortages and licensure. We hold the key to our own future and need to be active in our profession if we want to make changes on OUR terms. I encourage all technologists to get involved in organizing meetings, whether it be at a local, chapter, or national level. Please consider running for a committee or an officer position. I feel that as professionals, we need to remain involved in our profession, and keep our voices heard!

Finally, it feels like things have just recently started to come together for this year, and it's already time to bid “farewell” as President. I guess as the saying goes, “Time flies when you're having fun!”

I have enjoyed being your president this past year, and I thank all of you for your support. There are many people I want to thank, but being this is a short newsletter, it would take too much space! I would like to send a special “Thank You” to the president-elect, Karen Martin, who will be your president in the very near future. She has truly been a great help—and will be a great president!

See you at the meeting. Have a fantastic year!

Central Chapter Society of Nuclear Medicine

CHAPTER OFFICERS

President

James K. O'Donnell, MD 216-844-3319 odonnell@uhrad.com

Vice President

TBA

Secretary/Treasurer

Susan C. Weiss, CNMT, FSNMTS suweiss@concentric.net

Executive Director

Renae Henkin 630-686-6187, press 1 ccsnm@mindspring.com

CME Coordinator

Nicholas C. Friedman, MD 708-202-8387 x1974

Nicholas.Friedman@med.va.gov

TECHNOLOGIST SECTION OFFICERS

President

Sharon M. Lafferty, CNMT 586-573-5125 sharon@lafferty.org

President-Elect

M. Karen Martin, CNMT 231-487-4070 karenmartin@voyager.net

Secretary

Katherine E. Carlson, BA, CNMT, CCRC 317-554-0000 x2591

kcarlson@iupui.edu

Treasurer

Ridgely G. Conant, CNMT 216-778-5453 rconant@metrohealth.org

National Council Delegate

Lisa Hazen, CNMT lhazen2@earthlink.net

Immediate Past President

Derek Fuerbringer, CNMT 952-993-1379 fuerbd@parknicollet.com

Board of Governors

Daniel C. Mapes, CNMT 616-252-7165 d.mapes@gte.net

Ridgely G. Conant, CNMT 216-778-5453 rconant@metrohealth.org

BUSINESS COMMUNICATIONS

Advertising rates for the 2002/2003 calendar year are \$250/half-page and \$500/full-page advertisements. Business communications concerning advertising should be sent to Renae Henkin, Executive Director, Central Chapter of SNM, Inc., 875 E. 22nd Street, #202, Lombard, IL 60148-5013.

E-mail ccsnm@mindspring.com • **Voice** 630-686-6187, then press 1 • **Fax** 630-686-6187 or 630-268-0612

In 2004, the Central Chapter Annual Meeting moves back to Chicago to Northwestern Memorial Hospital. This meeting will host the first Mark W. Groch, PhD, Memorial Lecture in tribute to much of the work that Dr. Groch did for the Central Chapter over the last 10 years.

Spring Annual Meeting

May 14–16, 2004

Central Chapter of the
Society of Nuclear Medicine
and
Northwestern Memorial Hospital
Department of Nuclear Medicine

Preliminary Program

Friday, May 14, 2004

Emerging Trends in Radiotherapy

James L. Quinn III, MD, Memorial Lecture

Basic Science Tutorial

- Immunology
- Molecular Biology
- Genetics

Radioimmunotherapy

- Zevalin Imaging
- Zevalin Therapy

Radiolabeled Peptide Therapy

- Octreotide Imaging
- Octreotherapy

Radiotherapy for Neuroblastoma

Radiotherapy for Palliation

Saturday, May 15, 2004

Emerging Trends in PET Imaging

Mark W. Groch, PhD, Memorial Lecture

Basic Science Tutorial

PET Instrumentation

Biodistribution of FDG

- Expanding Indications for Patient Evaluation
- Use of PET in Monitoring and Guiding Therapy
- PET Imaging for Dementia Evaluation
- PET Imaging: Surprise Findings and New Diagnostic Insights
- Expanding the Role of PET/CT in Clinical Practice
 - Radiation Oncology Treatment Planning

Sunday, May 16, 2004

Future Direction of Nuclear Medicine

- Emerging Technologies
- Emerging Radioisotopes
- New Applications for Old Tracers

How to Jump on the PET Bandwagon

By Rebecca Sajdak, CNMT, Image Processing Specialist
Loyola University Medical Center, Maywood, IL

Positron emission tomography (PET) has emerged as a fast-growing modality within the field of nuclear medicine technology. Originally developed in the late 1960s, PET has become routine in nuclear medicine departments due to improved technology and easy availability of the isotopes required as well as high-quality PET scanners. With careful planning and thorough research, along with an educated staff, PET can be an effective tool to aid physicians in diagnosis and follow-up of a wide variety of oncologic, cardiologic, and neurologic disorders.

There are a number of parameters that one must evaluate in order to choose a system that will provide optimal performance for the application for which it will be used. Here are several suggestions, not meant as strict guidelines.

Setting Up a Room for a PET Scanner

A major consideration is the physical placement of the PET system in your department. When assessing an area to determine its feasibility as a PET site, one must ensure that there is enough space to accommodate the design of the scanner, a control room for the technologist, and adequate space for easy transfer of patients from beds and carts. High-energy photons do have an effect on gamma cameras in close proximity to the scanner, so adequate distance and appropriate shielding must be made available to avoid these effects. In addition, the floor must have sufficient support to handle the weight of the camera and any lead shielding required.

Other things to consider are intercoms and telephones, waste containers for high-energy isotopes, an oxygen supply line, speakers for music, and other equipment located in close proximity to the scanning table.

Radiation Safety Considerations

One should measure the dose rates with a sample of F-18 present in all areas that are being considered for injecting and scanning patients along with the waiting room. Separate shielded waiting areas for injected patients are recommended. Background radiation levels in adjacent scanning areas have to be evaluated to ensure that other equipment can run optimally. Dose rates to the tech-

nologist must be assessed, especially after installation of new devices designed to shield the 511 keV photons emitted by radioisotopes decaying by positron emission. In some instances as much as 0.5 to 1 inch of lead may be required.

The Hot Lab must be updated to include specially shielded patient injection areas designed to minimize dose to the technologists who routinely inject patients with PET radiopharmaceuticals, as this is one of the most significant sources of radiation exposure. New items such as tungsten shields and portable lead walls to reduce the dose to the technologist at the time of injection are available from several vendors. These devices aid in reducing dose rates to the technologist. The key here is to carefully evaluate the product before buying because optimal function is important. These devices, which by design are very heavy, must be easy to handle or they will not be used. The ideal system allows you to quickly and efficiently draw the dose with the fewest steps. Different shielding devices work best in different situations, so one should evaluate them on-site if possible.

Storing doses in a well-shielded area that can be accessed quickly and efficiently helps minimize radiation dose levels. Try setting up an area where the dose can be set down once and not have to be moved due to the weight of the shipping containers. A high-energy draw station with a well-shielded dose calibrator nearby reduces dose transfer time. Look at the exposure levels related to different scanners. What size dose results in the best images on various machines? Relative to radiation safety, the most important thing that a technologist can do is faithfully wear a body and ring badge. This is important for two reasons: it not only documents the technologist's correct radiation dose, but also provides statistics and data that can be compiled and shared with others.

Optimal Camera Design for PET

Considerations include the number of detectors, the crystal types available, and the ease of integration with currently available computer systems. How far does the table translate vertically? What is the weight limit of the

bed? How long is the actual imaging length, i.e., what is the maximum height of a patient that can be accommodated by the system? What is the diameter of the gantry, i.e., how large a patient can fit into it? Are power requirements easily met?

Computer Requirements in PET

How long does image processing take? Is processor speed adequate? Is there application software installed that is designed to fuse imported MRI and CT data? Since a tremendous amount of data are generated, what type of archiving is needed? Many departments have PACS systems for archiving patient studies and should analyze the ability of the system to transfer and retrieve data. Compatibility of existing systems should be assessed. Technologists know that "the devil is in the details."

Technologist's Responsibility in PET

The technologist's first responsibility is to learn the basics of positron emission tomography by attending seminars and in-services presented by an instructor of PET physics and physiology. The technologist will have hands-on use of the new technology and should be concerned with what scanner is the most user friendly, from patient set up to calibration to quality control testing to processing capabilities. PET scanners are computer-driven systems that have become very automated; consequently, one must receive adequate training in the specific functions of image acquisition and data processing.

The technologist needs to know how much down time to expect for a particular system and also the typical response time by the service engineer. Time is not a luxury and the expense and short half-life of most positron-emitting radiopharmaceuticals require rapid response. The technologist has to trust that the system will be readily available for the application for which it will be used.

All these particulars impact the decision-making process and should be contemplated cautiously before purchasing your PET camera.

Ms. Sajdak is a member of the CCSNM-TS Bylaws Committee

Basics of Ordering PET Pharmaceuticals

Michelle M. Ernsdorff, BS, CNMT, Sales & Marketing Representative
Eastern Isotopes, Inc., Romeoville, Illinois

Positron emission tomography (PET) is a new and exciting imaging modality. PET imaging is not only rejuvenating the world of nuclear medicine, but it is also presenting new challenges for nuclear medicine technologists. The main positron emitting pharmaceutical utilized is F^{18} fluorodeoxyglucose, or FDG. Due to the high-energy gamma and the relatively short half-life, nuclear medicine technologists have many new details to consider when ordering doses for their patients. Outlined below are some of the factors to think about, prior to placing the first order.

Half-Life

Nuclear medicine technologists know when ordering any radioactive pharmaceutical it is important to take into account the half-life. This is especially true when dealing with FDG. F^{18} decays by positron emission and has a half-life of 109.7 min. As seen in the chart below, even a 15-minute delay has a considerable effect on the dose. Therefore, when ordering a patient dose, it is imperative to consider exactly when the patient will be ready for injection to determine the calibration time. The technologist must take into account anything that may potentially delay the time of injection and act accordingly. This may include the patient's arrival, the time to obtain a medical history, the time necessary to establish IV access, or any other factors that cause delays.

<u>Time (minutes)</u>	<u>Percent Remaining</u>
0	100%
15	90.9%
30	82.6%
60	68.3%
110	50%
220	25%
440	6%

Chart 1: Decay Chart for F^{18}

Energy of the Gamma

Nuclear medicine technologists spend the majority of their time utilizing technetium-99m-labeled radiopharmaceuticals. The energy of the gamma emitted from Tc^{99m} is 140 keV. Dealing with F^{18} FDG is quite different. The energy of the gamma is 511 keV. To remain in compliance with ALARA and the personnel dose limits established by the NRC or the state, the technologists will want to spend

the least amount of time possible manipulating the patient's dose. Therefore, doses should be ordered in a unit dose syringe. The technologist will also want to order the correct activity with a calibration as close to the injection time as possible. This will decrease handling time and the necessity to discard any extra activity.

Due to the energy of the gamma, it may also be important for the facility to increase the shielding within the hot lab and injection area. It is recommended that a tungsten PET syringe shield be purchased for use by the technologist. The half value layers of FDG and Tc^{99m} are 4.1 mm lead and 0.17 mm lead, respectively. Therefore, a standard nuclear medicine syringe shield is not appropriate for PET pharmaceuticals. Contact the pharmacy to determine which size syringe shield to purchase.

Dose Size

The size of the patient dose is going to be determined by many factors: the type of camera, the patient's weight, the patient's age, and if the patient is pregnant.

First, the type of camera will have a major impact on the dose size. If the camera utilized has a sodium iodide crystal the dose size will be much smaller than if the camera has a different crystal, such as BGO, LSO, or GSO. The camera manufacturer will provide a range of dose sizes into which most patients will fall.

Second, the size of the patient often determines the patient dose. Some camera manufacturers have actually set up weight-based calculations where dose size ranges from 10 – 20 mCi per patient. If weight-based calculations are not used it may be necessary to establish limits. For example, all patients receive 15 mCi unless the patient's weight is over 250 pounds. In that case an extra 1 or 2 mCi may be administered. If weight is a determining factor in the patient dose, it will be required to get the patient's weight prior to placing an order so the dose size can be calculated.

Another factor is the age of the patient. For a child, it will be crucial to provide only a portion of the standard adult dose. Most often this will be based on the child's weight. However, each facility should establish a procedure for these patients.

One last factor to consider is if the patient is pregnant. Though most often pregnant patients do not receive PET scans, there may be a case where the physician determines it is necessary to perform a PET scan, despite the pregnancy. For these patients, it will be critical to discuss with the radiologist what size dose to administer.

Costs Involved

FDG carries a substantially higher price tag than most nuclear medicine pharmaceuticals. For this reason, facilities will want to reduce any possibility for doses to go unused. Therefore, prior to ordering a dose, it is standard procedure to confirm with the patient that he/she will arrive at the time scheduled. It will also be important to stress to the patient the cost involved with the dose and the necessity to arrive on time. If the patient cannot arrive on time or the patient cancels doses should be canceled immediately to prevent being billed for an unused dose.

Other Factors to Consider

Prior to ordering the first dose, it is advised to speak with the radiopharmacy to determine factors such as

- ✓ The necessity to establish an account with the pharmacy.
- ✓ Where to forward a copy of the facility radioactive material license amended to include FDG.
- ✓ The earliest and latest time a dose can be ordered
- ✓ The latest time a dose can be canceled.
- ✓ The information necessary to order the dose such as; patient name, physician name, dose, calibration time, and indication for the study.

Ordering FDG for a patient requires a few extra steps for the technologist. It will be important prior to ordering doses that all questions have been answered by the radiopharmacy providing the FDG. It will also be necessary to speak with the radiologist to establish protocols that ensure optimal images, optimal patient care, and reasonable costs.

Ms. Ernsdorff is a member of the Central Chapter's Continuing Education Committee.

Starting Up PET Imaging— A Look at the Business Issues

Robert E. Henkin, MD, FACNP, FACR, Professor of Radiology,
Director of Nuclear Medicine, Loyola University Medical Center, Maywood, IL

It seems that everyone wants to get into PET imaging in one fashion or another. There are a lot of medical and technical issues to be dealt with in starting up a PET scanning operation. However, almost no one ever looks at the business issues. We will not go into the formal business planning for PET here, but there are a few items you need to think about before jumping on the PET bandwagon.

Will you have enough patients to make PET pay for itself? Where are your patients coming from? If you are in a traditional hospital setting, you already have an idea who your referral base is. Hopefully, if you going into PET, you have a healthy oncology base load of patients because the majority of PET studies fall into this area. If you are free-standing imaging center, how will you attract patients and do you have contracts with enough managed care plans to be economically viable with PET services? More clinical information may be required in filing for a PET claim than many freestanding imaging centers have, particularly if you are filing with Medicare.

Is your billing system set up for PET?

Medicare reimburses the technical fee for PET scans not on the CPT code basis we are all used to, but on a system using Medicare-generated “G” codes. These codes are procedure and **diagnosis** specific. For example, in evaluating a lymphoma patient, simply knowing the patient has lymphoma is not enough. You must know if this is part of an initial staging procedure or a restaging of a previously treated patient. You may be required by some carriers to submit a portion of the referring physician’s notes or lab tests showing the need for the scan.

Correct ICD-9-CM coding is imperative for PET scanning. Since reimbursement by Medicare is keyed to diagnosis, the correct ICD-9-CM codes must be used. Using a code that is not representative of the patient’s true medical condition is fraud. Many third-party insurers also cover PET for only certain indications. Once again, coding in this situation is critical.

*Dr. Henkin is a member of the APC Task Force and a member of CMS Advisory Panel on Ambulatory Payment Classification Groups. To learn more about reimbursement and billing issues, plan to attend the 2003 Central Chapter Annual Meeting. Dr. Henkin’s talk at the Annual Meeting, **Revisiting APCs, Billing, and Reimbursement** will be presented Sunday, May 4, 2003, at 10:30 am.*

Are you equipped to deal with the Medicare Advanced Beneficiary Notification (ABN) rules?

If an exam is being performed for a nonapproved Medicare indication, the patient must agree in advance to pay for the noncovered Medicare service. Medicare’s interpretation of the rules is that you cannot obtain an ABN once the patient appears for the exam, but that it must be obtained prior to that time. If you do not obtain an ABN, you cannot bill the patient for the service if Medicare denies payment. In addition, if you believe that Medicare may not pay for the service, you must indicate on your claim if an ABN was obtained or not. It is illegal to obtain ABNs from all Medicare patients on the chance that Medicare might not pay. Only in those situations where there is a reason to believe Medicare may not pay may patients be asked to sign an ABN.

Do you have an insurance verification process in place?

At the time the PET appointment is made, you should gather information on the patient’s insurance. You should not only verify that the patient is covered by the insurance given you, but that PET services for diagnosis in question are covered by that policy at your facility.

It is wise to develop a PET ordering form for your referring physicians. On this form they can indicate all the relevant information you need including diagnosis, prior imaging procedures, prior treatment, and whether or not they have obtained a valid insurance referral for the service. PET is one of the more often denied services and one where many insurers will pay for the service only at institutions they have contracts with.

While our major business is caring for patients, if we do not take care of the business aspects of what we do, we not be able to maintain the cash flow necessary to care for anyone. Advance planning, knowing the situation in your geographic area, who will refer you patients, who your major insurers are, what diagnoses they cover, and where they permit PET to be performed can have a major impact on your success.

Come join us on Committee Day

Where you can make a difference!

Contact Renae Henkin
ccsnm@mindspring.com
for more information about
the following conjoint
CCSNM & CCSNM-TS
Committees

- Continuing Education
- Membership
- Program
- Publications

See page 8 for list of
Committee times

All Committees will meet
at
The Hotel Pontchartrain
on Thursday, May 1, 2003

Have experience putting together a newsletter? Would you be interested becoming Editor of the CCSNM Newsletter?

Please contact
Dr. Mike O’Connor at
mkoconnor@mayo.edu

Annual Meeting



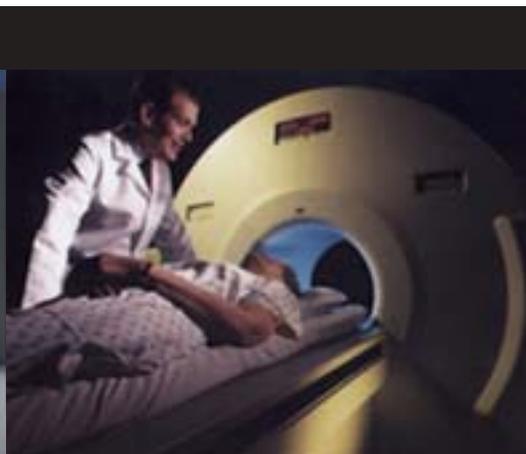
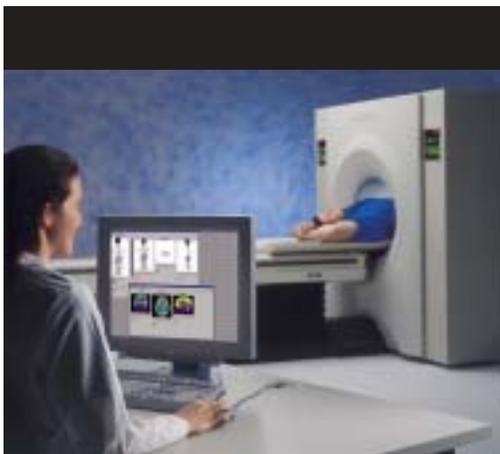
May 2-4, 2003



19.5 hours
AMA Category 1 CME
VOICE CEHs



Nuclear Medicine in Today's Clinical Practice



COBO
Conference Center
Detroit, Michigan

DESCRIPTION

Along with local chairs John Freitas, MD, Sharon Lafferty, CNMT, and Mary Yeomans, CNMT, the SNM Central Chapter presents this meeting. The organizers have designed a program concerning techniques in imaging, diagnosis, and therapy in today's clinical practice intended for nuclear medicine physicians, radiologists, nuclear cardiologists, scientists, and technologists.

OBJECTIVES

At the end of this meeting, attendees will be able to

- Review and assess current department policies on quality control procedures, and radiation safety.
- Discuss the important components of nuclear cardiology study, setup, performance, and interpretation in various clinical settings.
- Evaluate the role of current techniques available for inflammatory disease, tumor detection, and therapy.
- Review and assess current department policies on clinical appropriateness.
- Assess nuclear medicine imaging devices and their part in diagnosis and treatment.
- Review and assess current department policies on imaging artifacts, the latest in radioimmunotherapy, and reimbursement issues.

CREDIT

This activity has been planned and implemented in accordance with the Essentials and Standards of the Accreditation Council for Continuing Medical Education (ACCME) through joint sponsorship of the Society of Nuclear Medicine (SNM) and the Central Chapter of the Society of Nuclear Medicine. The SNM is accredited by the ACCME to provide continuing medical education for physicians.

The Society of Nuclear Medicine designates this educational activity for a maximum of **19.5 hours** in category 1 credit towards the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

SNM-TS VOICE has reviewed this program and approved it for a maximum of **19.5 hours** of continuing education hours.

HOTEL ACCOMMODATIONS

Reservations can be made directly by calling the Hotel Pontchartrain at (313) 965-0200. **Hotel Pontchartrain, Two Washington Boulevard, Detroit, Michigan 48226**, is located directly across from COBO Conference Center. All reservations must be guaranteed for late arrival with a credit card. Please mention the *Central Chapter of the Society of Nuclear Medicine* when making your reservation. Check-in time is 3:00 p.m. Checkout time is 12:00 noon. The room rate is \$125.00 single/double, \$135.00/triple, \$145.00/quad. The hotel tax is 15%. Please make your reservations by Friday, April 4, 2003, to take advantage of the Chapter rate. Hotel rooms are subject to applicable tax. Please contact the Hotel Pontchartrain 48 hours prior to arrival date if you need to cancel. A \$40.00 **refundable** deposit will apply to cover discretionary charges.

SPECIAL NEEDS

If you have a disability that requires special accommodations, advise Renae Henkin, Executive Director CCSNM, of your needs at least two weeks in advance of the program at 630-686-6187, then press 1.

COMMITTEE MEETINGS—THURSDAY, MAY 1, 2003

8:00 am TS Finance	1:00 pm Publications
9:00 am TS Bylaws	2:00 pm Continuing Education
9:00 am Constitution & Bylaws	3:00 pm Finance
10:00 am Membership	4:00 pm TS Executive
11:00 am Program	6:00 pm Board of Governors

Committee meetings will be held at the Hotel Pontchartrain. Committees are open to ALL members of the Chapter and our Exhibitors.

FRIDAY, MAY 2, 2003

Before You Begin

Moderators: Jeanne Mocerri, CNMT, and Kathy Carlson, CNMT

Session Objective: Discuss the evolution and performance of radionuclide imaging devices.

- 7:45 Introduction and Presentations
James K. O'Donnell, MD, CCSNM President
Sharon Lafferty, CNMT, CCSNM-TS President
John Freitas, MD, Sharon Lafferty, CNMT,
Mary Yeomans, CNMT, Local Program Chairs
- 8:00 Opening Remarks Nuclear Medicine's Past, Present,
and Future—An Overview D. Bruce Sodee, MD
- 8:30 **JAMES L. QUINN III, MD, MEMORIAL LECTURE**
The Impact of CT/PET Image Fusion in Oncology
Paul D. Shreve, MD
- 9:30 Keeping Your Camera Up-to-Date
James N. Kritzman, CNMT
- 10:00 **COFFEE BREAK IN EXHIBIT HALL**
- 10:30 Staying Current—The New Part 35
Thomas M. Kumpuris, MS
- 11:00 History of Scintillation Detectors
Paul J. Early, DABS NM

Proffered Papers

Moderator: Nicholas C. Friedman, MD, and Kathy Carlson, CNMT

12:00 BOX LUNCH Sponsored by Bristol-Myers Squibb

Cardiovascular Nuclear Medicine

Moderators: Robert Henkin, MD, and Karen Martin, CNMT

Session Objective: Understand the role of nuclear cardiology in today's clinical environment.

- 1:00 What the Cardiologist Needs to Know Jack E. Juni, MD
- 1:45 The Role of Nuclear Imaging in the Chest Pain Clinic
Christine Z. Dickinson, MD
- 2:30 PET Assessment of Myocardial Perfusion
Marcelo F. DiCarli, MD
- 3:15 **COFFEE/SODA BREAK IN EXHIBIT HALL**
- 3:30 Assessment of Anti-Ischemic Therapy
Robert C. Hendel, MD
- 4:00 Optimizing EKG Setup and Basic Interpretation
Rhonda A. Boksa, CNMT
- 4:30 Determining LVEF: Planar vs. SPECT
MUGA vs. Gated MPI A. Dennis Nelson, PhD
- 5:00 Current Status of Attenuation Correction in
Myocardial Perfusion Robert C. Hendel, MD
- 5:30 **ADJOURN—OFF-SITE RECEPTION TBA**

SATURDAY, MAY 3, 2003

Inflammatory Disease and Tumor Detection

Moderators: Nancy McDonald, CNMT, and Rick Hay, MD, PhD

Session Objective: Determine the diagnostic value of various techniques for evaluating inflammatory and neoplastic disease processes.

- 8:15 Osteomyelitis Evaluation in the Diabetic Patient
Donald S. Schauwecker, PhD, MD
- 8:45 Staging Colorectal Cancer Val J. Lowe, MD
- 9:45 **COFFEE BREAK IN EXHIBIT HALL**

- 10:15 Lymphoscintigraphy's Role in Breast Cancer and Melanoma Staging *Conrad E. Nagle, MD*
- 10:45 Using the Gamma Probe—A Surgeon's Perspective *Gary B. Talpos, MD*
- 11:45 **AWARDS/BUSINESS LUNCHEON**
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Clinical Appropriateness

Moderators: Steven Gerhardt, CNMT, and Paul Bohdiewicz, MD

Session Objective: Assess the current status of radionuclide studies in a multimodality approach.

- 1:00 Radionuclide Evaluation of the Painful Prosthesis *Manuel L. Brown, MD*
- 1:30 The Latest Imaging Techniques for Detecting Pulmonary Embolism *Alexander Gottschalk, MD*
- 2:30 **COFFEE/SODA BREAK IN THE EXHIBIT HALL**
- 2:45 New Approaches in Thyroid Cancer Diagnosis and Therapy *John E. Freitas, MD*
- 3:45 Tailoring the Renal Scan to the Clinical Question *Kastytis C. Karvelis, MD*
- 4:15 Technical Considerations of the Renal Scan *Jeanne M. Mocerri, CNMT*
- 4:45 **ADJOURN AFTERNOON SESSION
DINNER BUFFET SPONSORED BY
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Evening Session

The Latest in Nuclear Medicine Instrumentation

Moderators: Gary Dillehay, MD, and Mary Yeomans, CNMT

Session Objective: Discuss the latest advances in nuclear imaging equipment.

- 5:00 A Whole New World of Hybrid Imaging *Lonnie Mixon, CNMT*
- 5:30 Clinical Applications for a Flexible Gamma Camera and 3D PET System *Robert E. Henkin, MD*
- 6:00 The Solid State Scintillation Camera—A New Imaging Technology *Paul J. Early, DABSNM*
- 6:30 Speed, Quality, & Flexibility in PET/CT Imaging *Jonathan B. Frey, BA*
- 7:00 **ADJOURN**

SUNDAY, MAY 4, 2003

Other Considerations in Nuclear Medicine

Moderators: Bruce Doughten, CNMT, and Lisa Hazen, CNMT

Session Objective: Anticipate and respond appropriately to complicated patient-care issues.

- 8:30 Radioimmunotherapy in the Lymphoma Patient *Michael J. Blend, PhD, DO*
- 9:15 Eliminating Imaging Artifacts—The Importance of QA and Proper Patient Prep *Kevin M. O'Brien, MD, and Sharon M. Lafferty, CNMT*
- 10:15 **COFFEE BREAK IN LECTURE HALL**
- 10:30 Revisiting APCs, Billing, and Reimbursement *Robert E. Henkin, MD*
- 11:15 Nuclear Medicine and Pregnancy *Laura T. Smith, MS*
- 12:00 **ADJOURN**

FACULTY

- Michael J. Blend, PhD, DO*
Director, Nuclear Medicine
University of Illinois at Chicago
Chicago, IL
- Rhonda A. Boksa, CNMT, NCT*
Chief Technologist
Bloomfield Cardiology
Bloomfield, MI
- Manuel L. Brown, MD*
Chairman, Radiology
Henry Ford Hospital
Detroit, MI
- Marcelo F. DiCarli, MD*
Director, Nuclear Cardiology
Brigham and Women's Hospital
Boston, MA
- Christine Z. Dickinson, MD*
Director, Nuclear Cardiology
William Beaumont Hospital
Royal Oak, MI
- Paul J. Early, DABSNM, DABMP*
Corporate Radiation Safety Officer
Digirad Imaging Solutions, Inc.
San Diego, CA
- John E. Freitas, MD*
Director, Nuclear Medicine
St. Joseph Mercy Hospital
Ann Arbor, MI
- Jonathan B. Frey, BA*
Manager, PET Marketing, Sales Support
Siemens Medical Solutions, Inc.
Hoffman Estates, IL
- Alexander Gottschalk, MD*
Professor, Diagnostic Radiology
Michigan State University
Lansing, MI
- Robert C. Hendel, MD*
Director, Nuclear Cardiology
Rush-Presbyterian Medical Center
Chicago, IL
- Robert E. Henkin, MD*
Director, Nuclear Medicine
Loyola University Medical Center
Maywood, IL
- Jack E. Juni, MD*
Staff Physician
William Beaumont Hospital
Royal Oak, MI
- Kastytis C. Karvelis, MD*
Director, Nuclear Medicine
Henry Ford Health System
Detroit, MI
- James N. Kritzman, CNMT*
Research Technologist
University of Michigan Hospital
- Ann Arbor, MI
Thomas M. Kumpuris, MS, DABR
Medical Physicist
Medical Physics Consultants
Ann Arbor, MI
- Sharon M. Lafferty, CNMT*
Supervisor, Nuclear Medicine
St. John Maccomb Hospital
Warren, MI
- Val J. Lowe, MD*
Associate Professor of Radiology
Mayo Clinic
Rochester, MN
- Lonnie Mixon, CNMT*
Americas Marketing Manager,
Nuclear Medicine, PET, and
Radiopharmacy
General Electric Medical Systems
Waucausa, WI
- Jeanne M. Mocerri, CNMT*
Chief Technologist
Henry Ford Hospital
Detroit, MI
- Conrad E. Nagle, MD*
Chief, Nuclear Medicine
William Beaumont Hospital
Troy, MI
- A. Dennis Nelson, PhD*
Director, Computer Science
University Hospitals of Cleveland
Cleveland, OH
- Kevin M. O'Brien, MD*
Medical Director, Nuclear Medicine
St. John Maccomb Hospital
Warren, MI
- Donald S. Schauwecker, PhD, MD*
Chief, Radiology
Roudebush VA Medical Center
Indianapolis, IN
- Paul D. Shreve, MD*
Medical Director, PET Imaging
Advanced Radiology
Grand Rapids, MI
- Laura T. Smith, MS*
President
L. Smith Diagnostic Physics
Consultants
New Baltimore, MI
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University Hospitals of Cleveland
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COMMENTARY

Notes from the Radiological Society of North America, Chicago, 2002

Bob Zimmermann, Ph.D., Joint Program in Nuclear Medicine, Harvard Medical School
Brigham & Women's Hospital, Department of Radiology, Boston MA.

Editor's note: *For the last 5 years, Bob Zimmerman has written an informative review of his own personal experiences at the RSNA and SNM Annual Meetings. As a medical physicist, Bob's reviews have focused primarily on the instrumentation and technical aspects of the meetings. To see his original report complete with web links, check out the Harvard Medical School web page at <http://www.med.harvard.edu/JPNM/physics/>.*

RSNA attendance rebounded from the effect of last year's 11% drop associated with the 9/11 attacks. In fact, there was about an 11% increase over last year, indicating that most of us are OK with travel these days. Why the preoccupation with attendance? I suppose some people think it is a measure of the health of radiology. Certainly by most measures the field is very healthy: shortage of radiologists, medical physicists, technologists, booming equipment sales, rapid introduction of new technology (at least technology used in new ways). So, yes, times are good. Certainly that means we had better be on our guard. We may have our own 9/11 scenario looming in the shadows.

As always I found the RSNA strong in continuing education but weak in science. This is especially true for the nuclear medicine on the program. I could not find even one session devoted to nuclear medicine physics and instrumentation. Something is wrong with that.

I arrived on Monday evening. It was supposed to be Monday afternoon but there was snow falling in Chicago and what turned out to be a 4-hour delay in our take-off from Boston. This is to be expected in Chicago at this time of year. As it turned out it was a very minor amount of snow that only served to beautify the city. A stroll along North Michigan Avenue was a real treat.

With a Thursday evening departure, that left only 3 days to do some continuing education, find some science, catch up on infoRAD exhibits, view posters, and visit the exhibitors. Oh, yes, Chicago is rich in cultural events this time of year so that had to be squeezed in too. I should have arrived on Saturday as in past years. It can be much more relaxed. Culture is mostly after RSNA hours so it does not directly compete, so it was *Sweeney Todd* at the Chicago Lyric Opera on Wednesday night and the Chicago Art Institute's current exhibit "The Medici, Michelangelo and the Art of Late Renaissance Florence" on Thursday afternoon on the way to the airport.

Continuing Education Courses

Even though I registered in August, many of the most desired courses were filled. I did attend a few useful ones however:

Course No. 328

Pacemaker and Defibrillator Safety and MR Environments: New Thoughts for the New Millennium, Rod Gimbel
Panel Discussion, Point/Counterpoint, and Ask the Experts Session

Emanuel Kanal, Pittsburgh PA, Joel Felmlee, Rochester MN, Rod Gimbel, Knoxville TN, Gerald Pohost, Los Angeles CA, Frank Shellock, Los Angeles CA, Christopher Wood, Rochester MN

We learned how to image patients that have implanted pacemakers and defibrillators. In a word, very carefully.

Course No. 426

Update on PACS Acquisition, Display Technology, and DICOM
PJ Chang, JA Carrino, CH Willis, KP Andriole
<http://www.radiology.upmc.edu/>

This was one of a 7 part series on PACS. The acquisition and DICOM parts were OK but I found the presentation on displays the most relevant to me. Displays are the most troublesome and expensive part of the PACS system. Resolution of 1K for B/W displays is the most cost effective if they have good zoom and pan controls in the software. More than 2 monitors are not required with a good GUI and fast software support. Color is not for most of radiology. Regular display QC is necessary, requiring a light meter and test pattern (SMPTE) although DICOM Part 14 with its specification of a perceptually linearized gray scale is preferred. Keep spare parts around.

Course No. 626

A Survival Guide to Quality Control for PACS
PJ Chang, JA Carrino, CH Willis, KP Andriole
<http://www.radiology.upmc.edu/>

CQI, Continuous Quality Improvement, is a team approach requiring fellows, residents, techs, IT, and PACS personnel to form a cohesive team. Routine queue checks, swap space who, whodo, etc. Monthly graceful reboots. Reports, logbooks, email are used to keep people informed. Automated QC: ping every 15 min, systems logs with autopage, verify daily backups, free space check should show 36–48 hours available. Monthly monitor cleaning and performance check. See Michael Flynn 1999 Nov–Dec pp 1653–69 Radiographics for info on human visual system and the need for a perceptually linearized gray scale. Monitor needs 1024 pixels and 75 ft lamberts (260 cd/m²). See AAPM TG 18: <http://deckard.mc.duke.edu/~samei/tg18> and <http://www.scarnet.org/> for more info.

Scientific Posters

I suppose I am getting old and jaded but the posters were not so scientific, educational, maybe, but certainly not many were scientific.

Use of Lead Aprons for Patients Undergoing CT: Does It Reduce Patient Dose. Michael Bruesewitz, Cynthia McCollough, James Kofler, Frank Zink. Rochester, MN

Yes, the aprons do help, when used with care.

Dose Optimization in Pediatric CT by Variation of Tube Voltage for Different Object Sizes and Shapes. Christoph Suess, Marilyn Siegel, Xiao Chen, Bernhard Schmidt, Stefan Schaller, Willi Kalender. Forchheim, Germany

Also looked at modulation of tube current. Certainly looks like the way these machines should work now.

LCDs versus CRTs: A Comparative Performance Evaluation. Hans Roehrig, Jia-Hua Fan, Elizabeth Krupinski, Kunal Gandhi, Toshihiko Furukawa, Mitsuo Ohashi. Tucson, AZ

LCD display are pretty good, but they do need calibration just like CRTs. There can be surprising glitches in the output curve for LCDs.

Color vs Monochrome CRT Displays: Effect on Pulmonary Nodule Search and Detection. Elizabeth Krupinski, Hans Roehrig. Tucson, AZ

Off-the-shelf color monitors do not cut it for this task. Maybe some day ...

A Method to Achieve Optimum Display of Images on a CRT Based on the CRT's Physical Characteristics and the Visual Characteristics of the Human Observer. Yoshiharu Hirata, Takefumi Yamane, Toshihide Ogawa, Fumihiko Tanino, Hans Roehrig, Nobuo Okazaki. Yonago, Japan

To improve detection rates it is important to properly set up or calibrate a CRT display. Using software from U Arizona for measuring Just-Noticeable-Difference perception, it was found that dynamic range should be maximized, leading to the surprising result that lower than maximum brightness was best. DICOM Supplement #28 was found to be relevant. More on the software was reported at: infoRAD Exhibit: Space 9623PACS-i

Development of a Digital Watermark Method Suitable for Medical Images with Error Correction. Masato Nishio, Yutaka Ando, Nobuhiro Tsukamoto, Hironao Kawashima, Shinya Nakamura. Yokohama, Japan

Authors report on a way to use a cheap reader to read the watermark, and thus authenticate an image.

The Usefulness of Liquid Crystal Display (LCD) Which Can Display 1800 Gradations for the Diagnosis of Digital Chest Radiographs.

Yasuhiro Fujiwara, Masato Tanaka, Kyouji Higashimura, Harumi Itoh, Mituo Oohashi. Yoshida, Japan

Viewbox wins! But not by much.

Performance of a New Low Noise and Dose Dual Energy Detector.

JA Seibert, Robert Alvarez, Elizabeth Moore. Sacramento, CA, and Aprend Technology

The new detector consists of 2 plates to get both a high and low energy images. It works much better than a sandwich of 2 CR plates containing a Cu plate.

Cone-Beam Multi-Slice CT: Sampling in the Z-Dimension. Dominic Heuscher, Steve Utrup, Kevin Brown, Mani Vembar. Highland Heights, OH, and Philips Medical Systems

Axial sampling is compromised in cone-beam CT. Authors show that filtering and interlacing can reduce effects on images.

Evaluation of Combined Emission and Transmission Tomography in the Diagnosis of Splenosis after Splenectomy in Patients with Haematological Diseases. Marius Horger, Martina Eschmann, Anna Pfannenber, Claus Claussen, Roland Bares. Tuebingen, Germany

Found 100% accuracy!

The Concept for a High-Speed Simultaneous Dual-Radionuclide SPECT of the Pulmonary Ventilation/Perfusion Using Multiple-Rotate Continuous SPECT Acquisition: 10-Minute Method. Hiroki Takenaka, Hidefumi Fujisawa, Tamio Kusihashi, Ryutarou Ukisu, Takashi Kitanosono, Tamaki Ichikawa. Yokohama, Japan

Doing 5 rotations in 10 min. with Tc99m-MAA and Kr81m the authors showed that a complete V/Q exam could be performed quickly. This is a good idea.

Epidermal Growth Factor Receptor Imaging with 99mTc-eC-C225.

Euishin Kim, K Ang, Naomi Schechter, David Yang, Donald Podoloff. Houston, TX

This was an animal and human study that showed rather low contrast images but encouraging enough to proceed.

A Very Accurate Method for Sentinel Lymph Node Investigation: Gamma Detecting Probe Associated with SPECT Examination for Depth. Giorgio Ascoli, Paolo Cinti, Marco Nonni, Brunella Rossi. Ancona, Italy

Authors think that SPECT was very helpful to surgeon.

Scientific Paper Sessions

Metal Artifact Reduction in Medical CT: Image-Based vs. Raw Data-Based Approaches. Oliver Watzke, Willi Kalender. Erlangen, Germany

One of many contributions from the Kalender group at the U Erlangen. In fact the group seems to have commercialized some of their work as seen in infoRAD 9309. In this contribution it was shown, unconvincingly, that metal artifact reduction can be done almost as well in image space as in raw data space.

Investigation of the Feasibility of Image-Based Scatter Artifact Correction in CT Using Monte Carlo Techniques. Bernhard Schmidt, Thomas Riedel, Willi Kalender. Erlangen, Germany, and VAMP.

As the detector area goes up so does the scatter detected. Something we know a lot about in nuclear medicine. VAMP is working on an algorithm to reduce it, with some success.

Reconstruction of Motion-Free Pericardial Lung Images from Standard Spiral CT Scans Using Kymogram Correlation. Marc Kachelriess, Dirk-Alexander Sennst, Willi Kalender. Erlangen, Germany

Trying to get away without an EKG signal. Uses center-of-mass tracking. Some success.

Performance Results from Pre-Clinical Flat-Panel-Based Volumetric CT Systems. William Ross, Samit Basu, Peter Edic, John McLeod, Armin Pfoh. GE Global Research Center. Niskayuna, NY

Can a research scanner be made using existing DR panels? Looks like it!

A Fast and Efficient Method for the Correction of Defective Channels in X-ray CT Area Detectors. Tillman Riess, Quirin Spreiter, Theobald Fuchs, Thomas Von der Haar, Willi Kalender. Erlangen, Germany

By using space-time interpolation the bullseye artifact can be reduced and the detector will not have to be replaced. Patent-pending.

An Analysis of Noise and Resolution for Area Detector CT Systems
Theobald Fuchs, Christianne Leidecker, Willi Kalender. Erlangen, Germany

Theoretical expectations were confirmed with simulations. Dose does indeed go up by 100 when resolution element decreases by 10. Effect of convolution kernel and KV still being studied.

Volumetric CT with a Large Array Scanned Source. Taly Gilat, Rebecca Fahrig, Edward Solomon, Norbert Pelc ScD. Stanford, CA

So you can reduce the cone-beam artifact by scanning the x-ray beam. Still very experimental but looks like it could work and reduce the artifact.

Low Contrast Detectability: Implications for a 24-Detector Gigahertz Multislice CT Scanner. Himanshu Shukla. Philips Medical Systems. Cleveland OH

Reconstructed slice thickness plays a major role in low contrast detectability. But not much you can do for very small targets.

Measurement of X-ray Tube Focal Spot Sizes and Spatial Resolution of a CT System Using Thin Tungsten Wires. Ulrike Taubenreuther, Andreas Lutz, Klaus Engelke, Theobald Fuchs, Marek Karolczak, Willi Kalender. Forcheim, Germany

They achieved measuring 6.3 μ m resolution with 0.1 μ m accuracy.

Performance Evaluation of the First Model of 4D CT-Scanner. Masahiro Endo, Shuji Tanada, Susumu Kandatsu, Masahiro Kusakabe, Hiroshi Aradate, Kazumasa Satoh. Toshiba and Sony. Chiba, Japan.

Bench top system demonstrates progress in this area.

Feldkamp-Type Reconstruction Algorithm for Spiral Cone-Beam (CB) Computed Tomography (CT). Katia Sourbelle, Marc Kachelriess, Willi Kalender. Erlangen, Germany

They obtained better results with Feldkamp algorithm than with Advanced Single-Slice Rebinning (ASSR) algorithm and could handle arbitrary pitch, too.

Education Exhibits

There were a few gems here but you had to use a lot of shoe leather to find them.

Understanding MTF and DQE. Mark Rzeszutarski. Cleveland, OH

Very good poster with the author available for 1.5 hr/day for 4 days during RSNA. A lot of work.

A Guided Tour of Scintillators Used for Digital Imaging. Taeko Farman D, Allan Farman, Dsc, Alex Lempicki, Charles Brecher, Stuart Miller, Vivek Nagakar. Louisville, KY and R Watertown, Maand ALEM Associates.

A good exhibit on scintillators used for DR and info on new Lu2O3:Eu.

Potential CT Blind Spots: Lessons Learned from PET Imaging. Ba Nguyen, Michael Roarke, Panol Ram. Scottsdale, AZ

Their answer: Get PET.

3D Brain Surface Imaging: Multislice CT vs 3D-MR. Tohru Hirano, Sumiyoshi Tanabe, Masafumi Ohtaki, Naoya Yama, Michio Bandoh, Mari Hirano. Sapporo, Japan

Veins are imaged better with CT.

Pitfalls in the Diagnosis and Confirmation of Brain Death. William Flowers, Cynthia Powers, George Benashvili. Jackson, MS

Informative.

Noninvasive Assessment of Carotid Artery Stenosis: Comparison of 16-Slice Spiral CTA and MRA. Michael Lell, Franz Fellner, Ulrich Baum, Werner Lang, Willi Kalender, Werner Bautz. Erlangen, Germany

It seems that both work equally well.

CT Guided Radiofrequency Thermal Ablation of Osteoid Osteoma.

Mark Robbin, Patrick Getty, Peter Young, Nagina Malguria, Jason Kirkham, Jonathan Lewin. Cleveland, OH

12 patients—Results OK.

infoRAD Exhibits

Syngo Explorer (SX): An Extensible Software-Based CT Image Reconstruction and Evaluation Platform for Arbitrary CT Image Data and Raw Data Formats. Marc Kachelriess, Dirk-Alexander Sennst, Oliver Watzke, Theobald Fuchs, Stefan Ulzheimer, Willi Kalender. Erlangen, Germany

Products are coming out of the Medical Physics program in Erlangen. For more info see: <http://www.vamp-gmbh.de/>

Image Quality Control and Image Quality Measurements for Display Systems. Hans Roehrig, Hartwig Blume, Jia-Hua Fan, Dev Chakraborty. Tucson, AZ

Worthy of close study.

Simple DICOM Receiver: An Easy to Use DICOM SCP Which Automatically Anonymizes and Stores Studies in a Customized Hierarchical Directory Structure. TongJin Chun, Steve Uttecht, Paul Chang. Pittsburgh, PA

A HIPPA-compliant DICOM utility. Seems useful if we indeed have to worry so much about this. Have a look at: http://www.radiology.upmc.edu/Public/public_resources/software/index.html

Developing an Indexing Method for Digital Medical Images in a DICOM Database. Ana Cleveland, Herman Oosterwijk, Jung-Won Yoon, Jodi Philbrick, Nicholas Welsh, Peter Zhang. Denton, TX

It is necessary to index DICOM images for teaching, troubleshooting, etc. A method for indexing and expanding the collection of images is described. Uses ezDICOM, a free DICOM viewer: <http://www.psychology.nottingham.ac.uk/staff/cr1/ezdicom.html>.

Technical Exhibits

PET was a big deal here this year. At least for the big three, Siemens, GE, and Philips. Positron Corporation was here too but appeared to be a little forlorn. They do not seem to be sharing in the enthusiasm surrounding the Big 3. Maybe they need PET-CT. I should be writing Big 4 since CTI and Siemens are trying to go their separate ways, it seems.

The CT part of PET-CT can be had with 4, 8, or 16 slices.

Wow! Can this be justified? Single-slice CT was not even mentioned. Not good enough, I guess.

Philips continues to roll out the Gemini with PET and CT gantries that can be widely separated for increased utility, maybe. The PET system is the recently introduced instrument based on the Allegro that uses the scintillator GSO. It will be interesting to have independent evaluation of this PET machine.

Siemens is pushing LSO machines, for the most part, as is CTI, for the increased throughput. But it seems evident that the very best images are still done on the HR+ machine. But of course you do not always need the very best images. Sometimes good enough is, well, good enough.

GE still has only BGO machines to offer. But this meeting they introduced a BGO machine that is “improved.” Seems that they have improved the electronics (multiplexers) and changed some detector blocks a bit to give up some axial resolution and have achieved a higher NEC, thus improved imaging times. The new machine is called Discovery ST when the CT scanner is attached. Not sure if the new PET is available without the CT.

GE thinks nanomachines will impact radiology and nuclear medicine soon as they had a major amount of space hyping it.

Philips Medical Systems

In addition to the PET stuff we also saw the SkyLight once again. Imagine a 2-head gamma camera where the heads could each be scanning a separate patient. Seems incredibly versatile and Philips has some of their best gamma camera technology in this system.

Dilon technologies inc

Dilion was showing the DILON 6800 Gamma Camera for breast imaging, a pixelated detector with 3 mm resolution for scintimammography. There is an array of PSPMTs for position information viewing the 3 x 3 mm NaI(Tl) array of crystals. <http://www.dilon.com/6800.html>.

Gamma Medica

Gamma Medica was showing their latest product—a SPECT-CT machine for (very) small animals—MicroSPECT. They also introduced LumaGEM 3200S, a CZT instrument for scintimammography with 2.5 mm pixels with 6% energy resolution.

General Electric

I noted that GE has acquired yet another bit of technology, a microCT machine introduced by Enhanced Vision Systems of London, Ontario, a spin off of the Robarts Research Institute of London, Ontario. This just happened about Nov 6 so the ink has hardly dried. GE calls it the eXplore RS and it is for mice.

Numa

When I need someone who understands all the NM file formats, I have always relied on Numa. Now Numa is offering a file server for NM and radiology that speaks DICOM as well as the native NM formats. I wish them luck. NM has been poorly served by the big companies that claim DICOM support. Perhaps it will take their special expertise to make a truly vendor independent archive. <http://www.numa-inc.com>.

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People in the News — Raffi Kayayan, PhD

Raffi Kayayan Becomes New Chairman of the Nuclear Medicine Industry Association of North America

On December 12, 2002, Raffi Kayayan, PhD, began his term as Chairman of the Nuclear Medicine Industry Association of North America. Dr. Kayayan has been working with the nuclear medicine industry since 1992. He holds a doctorate degree in biomedical engineering from the National Institute of Applied Sciences, Lyon, France. His current position is Product Marketing Manager with Siemens Medical Solutions Inc. The worldwide headquarters of the Siemens Nuclear Medicine Group is in Hoffman Estates, IL.



Raffi Kayayan, Ph.D.

The Nuclear Medicine Industry Association of North America (NMIA-NA) is an association of 15 companies who are dynamically demonstrating their dedication to the long-term growth of nuclear medicine by creating and sponsoring educational outreach programs. The Association's mission

is to promote appropriate utilization and growth of nuclear medicine procedures by fostering clinically appropriate opportunities and quality practice.

Current NMIA-NA activities includes the Physician Outreach Program (POP), which displayed a Nuclear Medicine booth at 96 regional and national professional meetings of primary health care providers. At these meetings, nuclear medicine educational materials were distributed (distribution included approximately 3000 nuclear medicine textbooks— about half were given to medical residents; 3500 SPECT, PET, and planar nuclear medicine brochures and procedure pocket cards; the nuclear medicine calendar (over 60,000 were distributed over a five-year period primarily to family physicians and to each of the members of the U.S. Congress), and a lecture program to family physicians. AMI, ACNP, ASNC, SNM, and the SNM Technologist Section have endorsed these NMIA-NA activities. Nuclear medicine physicians and nuclear medicine technologists who volunteered their time and energy help staff the POP booth. This year, the NMIA-NA activities will be expanded to include educational outreach directed at oncologists, physician assistants, and nurse practitioners.

If you wish to participate in NMIA-NA's 2003 POP activities in your region, please contact Dr. Tom Verdon at 303-838-5960.