



Winter 2005

2006 Annual Spring Meeting to Emphasize Molecular Imaging



The 2006 CCSNM Annual Spring Meeting will be held March 24-26, 2006, at the Radisson Hotel City Centre in Indianapolis, Indiana. The program is titled *Nuclear Medicine 2006: Advances and Applications in Molecular Imaging*. James Fletcher, MD, Indiana University School of Medicine is chairing the local program committee with Paul Reaume, CNMT, St. John Macomb Hospital in Warren, Michigan and Ed Wroblewski, DABSNM, St. Vincent's Hospital in New Castle, Indiana serving as co-chairs. Watch your mail, email and the Chapter's web site for detailed information and on-line registration. The preliminary program includes the following:

Friday, March 24, 2006

- 7:30 - 8:30 am: Registration and Continental Breakfast in the Exhibit Area
- 8:30 - 8:35 am: Introduction
- 8:30 - 9:30 am: James Quinn Lecture: Automation in PET Radiochemistry and Imaging; Timothy R. Degrado, PhD
- 9:30 - 10:15 am: Advances in Molecular Imaging of the Central Nervous System; Michael D. Devous, Sr. PhD
- 10:15 - 10:45 am: Refreshment Break in the Exhibit Area
- 10:45 - 11:30 am: Advances in Molecular Imaging of Cardiovascular Disease; Robert J. Gropler, MD
- 11:30 am - 1:00 pm: Lunch on your Own
- 1:00 - 1:45 pm: Advances in Molecular Imaging of Cancer; Michael M. Graham, MD, PhD
- 1:45 - 2:30 pm: Proffered Papers
- 2:30 - 3:00 pm: Refreshment Break in the Exhibit Area
- 3:00 - 4:00 pm: Software Approaches to Quantify Regional Brain Activity; Daniel H.

Silverman, MD, PhD

- 4:00 - 5:00 pm: Read With The Experts – Cardiac Cases; Robert J. Gropler, MD
- 6:30 - 8:00 pm: Networking Reception

Saturday, March 25, 2006

- 7:30 - 8:00 am: Registration and Continental Breakfast in the Exhibit Area
- 8:00 - 9:00 am: Mark Groch Memorial Lecture: The Role of PET Molecular Imaging in Drug Development
Speaker TBD
- 9:00 - 10:00 am: Models for Translational Research in Nuclear Medicine and PET; Gary D. Hutchins, PhD
- 10:00 - 10:30 am: Refreshment Break in the Exhibit Area
- 10:30 - 11:15 am: Proffered Papers
- 11:15 am - 12:00 pm: PET/CT Dual Modality Imaging – A Win or Loss for Nuclear Medicine; James W. Fletcher, MD
- 12:00 - 1:30 pm: Business/Awards Lunch in the Exhibit Area (Optional)
- 1:30 - 2:15 pm: Future Requirements for Educational Programs in Nuclear Medicine and Nuclear Medicine Technology; Michael M. Graham, MD, PhD; Edward E. Wroblewski, MA, DABSNM
- 2:15 - 3:00 pm: Washington Update; Valerie R. Cronin, CNMT, FSNMTS
- 3:00 - 3:30 pm: Refreshment Break in the Exhibit Area
- 3:30 – 4:15 pm: Molecular Imaging Using SPECT/CT; James N. Kritzman, BS,RT(N), CNMT
- 4:15 - 5:15 pm: Read with the Experts: Brain Imaging Cases; Michael D. Devous, Sr. PhD

Sunday, March 26, 2006

- 8:00 - 8:30 am: Continental Breakfast
- 8:30 - 9:15 am: Protocols for Contrast Enhancement in Dual Modality Imaging; Mark Tann, MD
- 9:15 - 10:00 am: Imaging of Atheromatous Plaques in Coronary Heart Disease; H. William Strauss, MD

- 10:00 - 10:15 am: Refreshment Break
- 10:15 - 11:00 am: PET/CT – Combined Criteria for Evaluation of Response to Therapy; Paul D. Shreve, MD
- 11:00 - 11:45 am: Read With The Experts –Oncology Cases; Steven M. Westphal, MD

[▲ Back to Top](#)

Call for Abstracts for 2006 CCSNM Annual Spring Meeting

**March 24-26, 2006 - Radisson Hotel City Centre
Indianapolis, Indiana
DEADLINE: January 6, 2006**



The Program Committee of the Central Chapter of the Society of Nuclear Medicine is soliciting abstracts for papers to be presented at the 2006 Annual Spring Meeting of the CCSNM, to be held March 24-26, 2006 at the Radisson Hotel City Centre in Indianapolis, Indiana.

Abstracts must be submitted online. The abstract instructions and submission form may be accessed through the CCSNM web site (<http://www.ccsnm.org>). Awards may also be presented to residents, basic scientist trainees, technologists and students as noted below. The deadline for submission is Friday, January 6, 2006.

Who May Submit Abstracts

The Program Committee invites original contributions in nuclear medicine from both members of the SNM and non-members.

Acceptance Criteria

The abstract must be submitted in the final format and not represent a work-in-progress. Abstracts that have been presented at any national or international meeting will not be considered.

CCSNM Awards

Abstracts can be considered for 4 awards.

- **Best Technologist Paper-CCSNM-TS** (oral presentation only) \$250. Senior author must be a technologist SNM member. A \$750 educational grant may be awarded to the top-scoring author if this abstract is also accepted for presentation at the next SNM annual meeting.
- **W. H. Beierwaltes Award** (oral presentation only) \$250. Senior author must be a resident or basic scientist trainee.

- **Best Technologist Paper-CCSNM** (oral presentation only) \$250. Senior author must be a technologist SNM member.
- **Best Student Papers-CCSNM-TS** (oral presentation only) \$200, \$150, \$100.

Author must be a student SNM member. \$200 is awarded for the 1st place presentation, \$150 for 2nd place and \$100 for 3rd place.

If you have any questions, please contact the CCSNM Office at 630-323-7028 or email info@ccsnm.org.

[▲ Back to Top](#)

Nuclear Medicine – What’s in a Name

By Rebecca Sajdak, BA, CNMT, RT(N)
2005-06 Technologist Section President

With the Central Chapter completing its 50th anniversary year, it is an appropriate time to recall the historical account of how the name, “Nuclear Medicine,” was conceived.

This following is an excerpt from the January, 1984 issue of the *Journal of Nuclear Medicine*, Vol.25, Number1, pp132-133. “The designation that defines our specialty, “Nuclear Medicine” is the only one known to many and its origin known to only a few. The terminology that described the application of radioactive materials to diagnostic and therapeutic medicine evolved over a number of years and included many names.

Early on, the navy referred to it as “Atomic Medicine,” but the association with warfare made the name unacceptable. The Oak Ridge group coined the term “Isotope Medicine,” but, as R.R. Newell noted, all medicinals, diagnostic or therapeutic, are composed of isotopes. Robert Ball wished to call it “Radiology” since the only G-M tube available to him was in the radiology department. Sam Seidlin objected and proposed “Isotopology.”

The use of the term “radioisotopes” probably originated from Oak Ridge by way of Paul Aebersold, whose Isotope Division was the early source of radionuclides. He learned the terminology at Berkeley while working with E.O. Lawrence, who, in turn, suggested “radioisotopes” from Joliot-Curie’s article (1934).

Although “radioisotopes” became a common term at that time, one person disagreed, Jeff Holter. His dissension was supported by Gross’s objections that these “isotopes” were nuclear and not chemical and on Truman Kohman’s proposal that a “nuclide” is any atomic species characterized by its protons and neutrons. William Sullivan, a former student of Fajan’s, adopted the terms “nuclides” and “radionuclides” for his compilation of the Trilinear Chart of Nuclear Species. Although the term “radioisotopes” was used well into the 1960’s to describe the products, laboratories, and medical practice, the suggestion by Jeff Holter to use the term “Nuclear Medicine,” was adopted by the organizing members of the Society of Nuclear Medicine (the first annual meeting was held at the Benjamin Franklin Hotel, May 29-30, 1954), and has withstood the test of time, becoming the official designation for the medical

application of radionuclides worldwide.”

[▲ Back to Top](#)

Message From the President

Nicholas C. Friedman MD
2005-2006 Chapter President



PET/CT vs CT/PET: What's in Name?

Rebecca Sajdak discusses in this issue the origins of terms commonly used in Nuclear Medicine. More recently, we are confronted with SPECT/CT and PET/CT referring to hybrid systems that are the latest technological feats of medical imaging. There is a certain bias in the choice of name. The isotope, or “molecular” part is usually placed first. This confirms that the study is primarily an isotope study, and the CT is ancillary to it.

I recently attended the Radiological Society of North America meeting in Chicago. The vast majority of the Nuclear Medicine posters were on PET, of which most utilized PET/CT. Some of the posters I found disturbing. There were CT scans, with adjacent fused PET/CT images. Traditional PET images alone were absent. This represents a paradigm shift in how we view PET/CT. Is CT a tool to improve PET in terms of improved patient throughput, attenuation correction and localization of PET abnormalities? Or is PET merely a new form of “contrast”, perhaps the ultimate contrast agent? Showing images of CT scans with adjacent fused PET/CT images suggests that there are clinicians who subscribe to the latter view.

So what's in a name? Is not PET/CT the same as CT/PET? Are these differences merely semantics? I suspect not. As a nuclear medicine physician, PET is by far the biggest new modality to emerge from the research area of Nuclear Medicine in 20 years. When all the pieces of this fledgling technology became a widely adapted clinical reality, Nuclear Medicine re-emerged in the spotlight of diagnostic imaging. The addition of CT enhances PET imaging in many ways, yet for most cases PET alone remains a remarkable tool without the need for concurrent CT.

Nuclear medicine is faced with many dangers in the sudden shift to high-end CT scanners attached to PET scan devices. Will the patient first get a diagnostic CT to go with the PET/CT? Will the initial CT be dropped to avoid repetitive studies? Who will read the CT? How will the Nuclear medicine physician face reading a PET/CT without a prior CT report? These questions make me want to reach into my desk drawer filled with the latest gastrointestinal cocktail. Getting PET in the first place required a few bottles of “TUMS”. Keeping PET in Nuclear Medicine is a challenge the Nuclear Medicine Community will need to tackle head on, perhaps armed with the latest proton pump inhibitors.

[▲ Back to Top](#)

Nuclear Medicine – The Last 30 Years

Robert E. Henkin, MD, FACNP, FACR
Professor Emeritus of Radiology
Loyola University Medical Center



As I look forward to retiring from active clinical practice I reflect on the thirty years I've spent in nuclear medicine. Actually, closer to 35 years, but I spent thirty of those years at Loyola. I entered nuclear medicine just prior to the formation of the ABNM. Jim Quinn convinced us that there would be an American Board of Nuclear Medicine and that it was okay to be a nuclear medicine resident. He assured us that there would be jobs for us and that there would be a bright future. Strangely enough, I hear the same reservations today from the nuclear medicine residents that I heard from our group over thirty years ago. Yet we have had a successful career, a great run and a good time.

When we took the Hippocratic oath we swore among other things to render the best patient care we knew how, to do no harm, and to teach our skills to those who would follow us. There was nothing in the Hippocratic oath about relative value units, payment classifications or salary. Further, there is nothing about territorial issues, about turf battles, nor about anti-trust laws. All of those things have crept into medicine and have tended to corrupt and undermine the Hippocratic oath.

One of the most important things to keep in mind is that every day you spend as a health care professional it is your task to take care of patients. You should take care of patients the best way you know how with the best resources you have available. Your patients deserve the best you can do for them. Sometimes that involves conflict with your hospital administration or with outside parties who think they control the quality and payment system. We are the patient's advocate. Failure to advocate for your patients is a violation of your obligation to the patient.

Nuclear medicine is unlike any other medical specialty, it is a true team approach. Our team includes basic scientists, physicians, and technologists. However, there is a member of our team that is rarely recognized. That member is industry. Nuclear medicine could not exist without its industrial partners. We may have ideas, we may have protocols, we may have patients, but only the industry can provide us with the tools to care for the patients. In no other medical specialty that I have noted does industry play such a central and integral role. The failure to recognize the role of industry in the practice of nuclear medicine will cause progress to cease. All of the conflicts of interest notwithstanding, a close alliance with industry is important for our future.

People often referred to the time that I entered Nuclear Medicine as the "Golden Age of Nuclear Medicine." I don't view it that way. I think we are entering the Golden Age of Nuclear Medicine now. The number of diseases we can successfully treat and impact is increasing. We have patients surviving today with various diseases who have failed forms of therapy other than nuclear medicine. We have bettered patients' lives who were suffering in pain and in many cases they can live a normal life until their disease progresses. We have identified patients at risk of heart attack and led to interventions that both prolonged their life and improved the life they lived. In many other instances, we have discovered life-threatening

infections that were not found by other modalities. Most of the things referred to above were not possible in the “Golden Age”.

People ask me then “Why are you retiring?” There is never any one single reason for a person to change the flow of their career. I am retiring from active clinical practice, not from life. Neither am I retiring from nuclear medicine. There are changes in medical practice which are in conflict with my ethical beliefs about how I can practice as a physician. Some of them have no resolution at the present time. As long as I am in clinical practice, I will be unable to deal with some of those issues. Hopefully, once I leave active clinical practice I will be able to voice some of those issues clearly and perhaps lead to some changes with regard to how we care for patients. Organized nuclear medicine is vital to the continuing growth of our specialty as well as for our education. I hope to remain active in the chapter and SNM. I look forward to seeing many of you at future meetings. I think of all you as part of our larger family of nuclear medicine.

I wish you well in all your endeavors.

Robert E. Henkin, MD, FACNP, FACR

[▲ Back to Top](#)

Technologist Section Launches High School Outreach Program



To increase interest in the field of Nuclear Medicine as well as the number of people entering the field, the CCSNM-TS is establishing an urban outreach program designed to inform high-school students of the educational and job opportunities available in the health sciences, in general, and Nuclear Medicine, in particular. The program will be designed to have experts in the field give brief AV presentations to Junior and Senior high school students on their scheduled career days. Included will be an overview of the various Nuclear Medicine job positions that exist in the US as well a brief description of the job responsibilities. In addition, a short video presentation will include a few Nuclear Medicine images to give the attendees a sense of some of the technical aspects of our field as well as the various diseases that it is possible to diagnose.

“Many high school students in the US have little opportunity to learn about the job market, especially in the basic sciences”, reports Rebecca Sajdak, President of the CCSNM-TS. “High school “job fairs” and “career days” go a long way toward helping to solve this problem.” Historically, members of the local scientific community have volunteered their time to make short, directed presentations in their area of expertise to these high school students, giving them insight into the exciting opportunities available to them after they graduate from high school or college.

Nuclear Medicine is very appealing to those people entering the work force who are technically inclined. Coupled with the scientific challenges presented in the field and the prestige of being a Nuclear Medicine Technologist, Nuclear Medicine offers one of the highest levels of remuneration among all scientific and medical technical positions.

This is the opportune time to educate and inform students who are in the process of deciding what to do with their future. “CCSNM’s participation will place us in the forefront compared to other organizations in the field” stated Sajdak.

Objectives of the Outreach program include the following:

1. Provision of community outreach programs to maintain compliance with the requirements of State and Federal Tax Exempt Status laws
2. Bring awareness to the community about nuclear medicine technology
3. Communicate the career opportunities available in nuclear medicine technology and the exciting challenges available.
4. Give high school students information on the location and length of nuclear medicine technologist programs in their area, where registration information is available, and each school’s history in placing graduates in jobs.
5. Communicate information concerning scholarships, grants, and loans available for college students.

Persons interested in the Outreach Program or being a facilitator should contact Rebecca Sajdak at rsajdak@lumc.edu.

 [Back to Top](#)

Central Chapter Successfully Re-Launches Fall Educational Program

After a five year hiatus, the Central Chapter successfully re-instated the Fall Educational Symposium, *Fusing Form and Function*, October 1-2, 2005 at the Hilton Mall of American Hotel in Minneapolis, Minnesota. The day and a half program on the fundamentals and clinical applications of fused scans was attended by 100 nuclear medicine physicians and technologists, earning 9.0 credit hours of CME or VOICE credit from the Society of Nuclear Medicine. The program, chaired by Robert R. Butler, MD, PhD and Linda L. Laman, CNMT, combined general information of mutual interest to physicians and technologists with concurrent sessions specifically designed for physicians and technologists.

The evaluations rated the program and presentations very high. Based on the success of the 2005 Fall Educational Symposium, the Central Chapter is scheduling a Fall Symposium in October 2006 in Traverse City, Michigan. A summary of the 2006 Fall Education Symposium is included elsewhere in this issue of the newsletter.



A full house listens to the technology track at the 2005 Fall meeting.



Fall meeting attendees enjoy a refreshment break while visiting with exhibitors.

The 2005 program on image fusing included the following topics and speakers.

Saturday, October 1, 2005

- Fusing Personnel: Update on SNM and ACR Requirements for Physicians Interpreting Fused Scans--Gary L. Dillehay, MD
- Training Requirements for Nuclear Medicine, CT and Radiation Therapy Technologists-- Anne C. Chapman, CNMT, RTR, FSNMTS
- PET Radiopharmacy-- D. Scott Holbrook, BS, CNMT, FSNMTS
- Initial Clinical Experience with SPECT/CT--Donald R. Neumann, MD, PhD

Clinical Track

- Head and Neck Anatomy & CT Correlations-- Blake A. Carlson, MD
- Fusion and ENT Perspective-- Robert W. Smith, MD
- Chest: Anatomy and CT Correlations-- Anders M. Knutzen, MD
- Use of PET Scan by Pulmonologists-- Lee M. Kamman, MD

Technology Track

- CT Applications and Procedures for the PET/CT Technologist-- Keith R. Stone, BS, RTR, CT, MR
- X-ray Contrast and Contrast Related Reactions--Jeffrey M. Barkmeier, MD
- Medical Image Fusion: How it Works-- Linda L. Laman, PET, CNMT
- Recognizing Drug Induced ECG Abnormalities-- John B. Davis, MD

Sunday October 2, 2005

- Abdomen and Pelvis: Anatomy and CT Correlations--Subbarao Inampudi, MD
- Fusion Favors the Prepared Mind-- Robert R. Butler, Jr., MD, PhD
- Cyberknife Stereotactic Radiosurgery-- Andrew S. Fink, MD
- Fused PET: A Radiation Oncologist's Point of View--Xin Wang, MD, PhD

[▲ Back to Top](#)

SNMTS National Council of Representatives Meeting Report

By **Katherine A. Carlson, BA, CNMT, CCRC**



The National Council of Representatives Meeting is a meeting of people representing the Chapters, industry, education, students, the Executive Board and the House of Delegates. The NCR has the responsibility to develop and recommend to the Executive Board, policies and programs regarding professional issues affecting nuclear medicine technology. Several issues of importance to the Chapters were discussed at the NCR meeting, held prior to the 2005 Society of Nuclear Medicine Annual Meeting.

NMTCB and VOICE

The Educational policy of the NMTCB will become effective January 1, 2006. Voluntary reporting of educational activities began in 2005 with mandatory reporting of required educational activities in 2006. Certificants are encouraged to review the updated guidelines for the continuing education policy at www.nmtcb.org. There is reciprocity between ARRT and NMTCB of continuing education credits. But this year, ARRT has changed its policy and mandated stricter verification of attendance at meetings offering continuing education credit. This change takes effect January 1, 2006. Each attendee must verify attendance at the start of the educational session and at the end of the session. The SNMTS finds the ARRT verification requirement impractical and costly at meetings with large attendance such as the educational sessions at the SNM annual meeting. The SNMTS will present their concerns to the ARRT.

The ARRT also tightened requirements for programs to qualify for continuing education credits (i.e., VOICE). The SNM office now needs a minimum of 4 weeks to process program applications for VOICE credit.

The NMTCB Ethics/Disciplinary policy became effective January 1, 2005. Certified Technologists are encouraged to review the policy on the NMTCB web site (<http://www.nmtcb.org>).

The NMTCB has 17,974 active certified technologists with 327 having passed the Cardiology specialty exam and 114 passing the PET certification exam. There are 233 technologists registered to take the next NCT exam, 193 to take the PET exam [7 are RT(R)], and 4 to take the PET+NCT exam.

CARE Act

The CARE Act has been reintroduced into the House this session and the RadCARE Act in the Senate. The SNMTS will call for its membership to send letters of support to their representatives in Washington, DC.

Professional Development Task Force

The SNMTS is struggling to meet the requirements of a large and growing organization with regard to future leadership. A strategy has been prepared to create a larger leadership pool. The Professional Development Strategy has three steps:

1. Identify and recruit new leadership candidates.
2. Train new candidates through a Leadership Curriculum.
3. Ongoing evaluation and support of leadership competencies.

Current SNMTS leaders were asked to identify a member with the potential to become a future leader and to agree to mentor the candidate. The mentors will report on their candidate's progress through Steps 1 and 2 of the Strategy to the SNMTS leadership at the 2006 MidWinter Meeting.

Education and Research Foundation

In 2005, the ERF provided \$99,750 in grants and awards that benefited 130 nuclear medicine and nuclear medicine technologist students, trainees and professionals in the form of scholarship assistance, fellowship opportunities, research grant support and recognition awards. From October 1, 2004 through May 25, 2005, 269 SNM members contributed \$27,284 to the general fund of the ERF and 229 members contributed \$4,208 to the Paul Cole Scholarship Fund. A three-year fundraiser, "Shaping the Future", will be launched later this year. The goal of the plan is to raise \$500,000 by the end of year three to award to the nuclear medicine community.

The recent issue of the SNM Development Office publication, Contributor, recognized the \$2000 contribution from the Central Chapter Technologist Section to the Paul Cole Scholarship Fund. The contribution will establish two additional scholarships for students in programs in the Central Chapter. It is hoped that the Central Chapter's lead in establishing scholarships will encourage other Chapters to make contributions to the ERF.



Past, Present and future leadership of the Central Chapter Tech Section network at the annual meeting. Left to right: Lyn Mehlberg, Past President, CCSNMTS, and SNMTS, Kathy Carlson, Immediate Past President, CCSNMTS, Rebecca Sajdak, President, CCSNMTS, Sharon Lafferty, Past President, CCSNMTS, Jim Kritzman, President-Elect, CCSNMTS, Karen Martin, Past President, CCSNMTS

Election Results

The SNMTS Nominating Committee announced the election results as follows:

- President-Elect: D. Scott Holbrook
- Secretary: April Mann

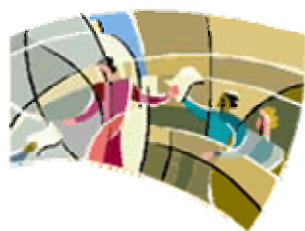
- Finance Committee: David Gilmore
- SNM House of Delegates: Kathy Thomas, Danny Basso, Cindi Luckett-Gilbert and Mary Moreau

The SNMTS awarded Danny Basso and D. Scott Holbrook the distinction of Fellow of the SNMTS for their service on the Chapter and National levels of the SNMTS. They may now use the initials FSNMTS after their names.

Congratulations go to Karen Martin, past president of the Central Chapter Tech Section, on her election by the NCR as a member-at-large on the SNMTS Executive Board.

[▲ Back to Top](#)

CCSNM Fall Education Program Scheduled for Traverse City, Mich.



Following the great success of the CCSNM's re-instituted Fall Educational Program October 1-2, 2005 in Minneapolis, after five years hiatus, the Chapter is scheduling the 2006 Fall Educational Program in October, 2006 in Traverse City, Michigan. The program, tentatively titled *Functional nuclear imaging: Changing patient management* is being organized by Rick V. Hay, MD and Karen Martin, CNMT. Watch your mail,

email and the CCSNM web site for further information. The preliminary program is noted below.

Saturday

- 7:30 am: Registration and Continental Breakfast
- 8:00 am: Functional Brain Imaging
- 9:00 am: To SPECT or not to SPECT
- 10:00 am: Patient Preparation for Non-cardiac Procedures
- 11:00 am: Multimodality Imaging and Fusion Techniques
- 12:00 noon: Lunch on your own
- 1:00 pm: Exam Selection and Sequencing for Effective Diagnosis and Cost Effectiveness.
- 2:00 pm: Radioimmunotherapy—First Line Treatment for NHL
- 3:00 pm: Seraspheres

Sunday (Emphasis on cardiology)

- 8:00 am: Expanded utilization of cardiac imaging for patient management
- 9:00 am: Instrumentation.
- 10:00 am: Radiation Safety
- 11:00 am: New Pharmacologic Stress Agents. What is Best for Your Patient?

[▲ Back to Top](#)

Notes from the Tech Section



Rebecca Sajdak, BA, CNMT, RT(N)
2005-06 Technologist Section President

The Central Chapter held its first fall meeting in 5 years in beautiful Minnesota exploding with the colors of fall foliage, attracting technologists, physicians, and students with the interesting topic of Fusing Form and Function. The seminar was a comprehensive program taking a look at the fundamentals of fusing images. Speakers covered step by step instruction of how to read multiple modalities under one umbrella.

Nuclear Medicine is experiencing great growth and influence from other technologies such as Cyberknife stereotactic radiosurgery and new radiation therapy techniques such as IMRT which use fusion to plan a more precise treatment for the patient.

Fusion has a tremendous impact on patient planning and clinical interpretation. One of the most stimulating points made at this meeting was that all modalities should compliment each other and not compete with one another in order to give the patient optimal care. As the demand on the technologist grows, there is little time for extra curriculum.

[▲ Back to Top](#)

Technologists Tips: Proper Injection Techniques

By Rebecca Sajdak, BA, CNMT, RT(N)



When administering any radioisotope, regardless of the route of administration, the technologist must do the following:

Do's

1. Confirm Patient's identity by two methods: A) Name-have patient clearly state full name and spelling. B) Birth date verbally stated by the patient. Inpatients, use identification bracelet and chart to identify correct patient and test
2. Confirm pregnancy status on females under the age of 55.
3. Confirm correct study, correct isotope & correct amount of isotope
4. Explain procedure to patient and answer questions prior to injection
5. Always use aseptic technique to draw dose and ensure fresh needle is in place for injecting into patient.
6. Place the extremity in a dependent position (lower than the patient's heart because gravity slows venous return and distends the veins).

7. If injecting into an existing line, aseptically swab the port and then flush With normal saline to ensure patency
8. When preparing isotope to inject, ensure that the preparation is in accordance with the package insert instructions
9. When performing a tagged red blood cell study, ensure the blood is placed in a heparinized vacutainer and inverted several times to insure homogeneity. Use largest gauge needle possible to re-inject the tagged RBC's
10. Record the dosage, time, route of injection, and any additional relevant information (i.e., chance of infiltrate, etc.) & signature. Infiltration of PET doses of F-18 FDG will invalidate SUV data for that patient.

Don'ts

1. Do not recap needle. If completely necessary to recap, use the one hand method or needle cap holder
2. Never push air out of syringe once dose is drawn.
3. Do not inject without correct syringe shield for isotope
4. Don't assume anything. Only inject with syringe that is labeled with name, study, isotope, date & time
5. When patient has had mastectomy, never inject in arm coinciding with surgically removed breast; never inject in arm with fistula present
6. Never inject stannous pyrophosphate (Cold PYP) through any plastic tubing or existing port (i.e., butterfly, IV line, fistula, PIC line, heparin lock etc.) Do not inject pertechnetate in same site as PYP
7. Once a dose has been drawn, never return to a container. This practice avoids product contamination as well as misadministrations.
8. Do not draw back blood into syringes containing Tc99m MAA. This can cause clotting of the dose and an altered biodistribution resulting in difficulty interpreting the scan. If dose is contaminated with blood, discard the dose and draw a fresh one.
9. Do not dispose of any radioactive waste (i.e., bandage, gauze) in regular trash
10. A needle is designed for single use, good for one venipuncture only, whether it's the vial or a patient

RULE OF THUMB: When in doubt, Throw it out!!!

 [Back to Top](#)

Nuclear Medicine Pioneer Paul V. Harper, MD Died During the Summer

1915 - 2005



Paul V. Harper, MD, 89, a pioneer in nuclear medicine, died of pneumonia and complications from diabetes Friday, July 15, in the Palliative CareCenter and Hospice of the North Shore in Evanston.

Dr. Harper was born in Chicago and grew up in Libertyville. Though his grandfather was William Rainey Harper, University of Chicago's first president, Dr. Harper attended Harvard University, where he majored in biochemical sciences and studied under Dr. George Wald, who won a Nobel Prize in 1967.

Dr. Harper graduated from Harvard with honors in 1939, the same year he married the former Phyllis Sweetser. He graduated from Harvard Medical School in 1941, and moved with his wife to Hyde Park, where he began a surgical residency at the University of Chicago.

The residency was interrupted by a three-year tour of duty in the Army that took him to France in 1944 and 1945. Dr. Harper returned to the university, where he became an assistant professor of surgery in 1953, an associate professor in 1955 and a professor in 1960. He moved his family to Glencoe, but continued spending most of the week in Hyde Park, said his son William.

As a professor in the surgery and radiology departments at the university's medical school for more than 40 years, Dr. Harper pioneered diagnostic and therapeutic uses of radiation that made him a veritable scientific celebrity in the 1960s. His breakthroughs, such as the discovery of iodine-125 in 1961, routinely made news.

The university wholeheartedly supported his work, leading Dr. Harper to decline every offer he had from other schools, even when the offer came with a raise, Dr. Harper's son said.

He was "incredibly dedicated to his work," his son said, but he allowed himself hobbies, including judo, playing the oboe, skiing and rock climbing.

Dr. Harper retired in 1986, becoming a professor emeritus, but he continued researching until last year.

He is also survived by two daughters, Stephanie and Cynthia; another son, David; a sister, Jane Overton; and two grandchildren.

This obituary originally appeared in the *Chicago Tribune*.

[▲ Back to Top](#)

William H. Beierwaltes, M.D, Chapter Award Honoree Passes

William H. Beierwaltes, MD, a true pioneer in the field of nuclear medicine, died in August at the age of 88. He attended the first training course for physicians on the medical use of radioactive iodine, held at the Oak Ridge National Laboratory in 1946, soon after radioactive elements first became available for civilian medical use.

He founded one of the nation's first hospital programs for the use of radioactivity in medicine. At the University of Michigan, he opened a clinic for patients with hyperthyroid disease and thyroid cancer, using radioactive iodine to detect abnormal activity in the thyroid gland and locate tumors. He later pioneered the combined use of radioiodine and surgery for therapy of benign and malignant disease of the thyroid. He was also instrumental in developing several nuclear medicine agents still in use today.

Dr. Beierwaltes is credited with the original idea to label MIBG (meta-iodo benzylguanidine) with I-131 (and later I-123) and was the co-holder of a patent on MIBG, now widely used for identifying and treating pheochromocytomas and neuroblastomas. I-123 MIBG has more recently been extensively utilized in the evaluation of cardiac innervation. In keeping with his endocrinology training, he also fostered development of I131-iodonorcholesterol, useful in the diagnosis of adreno-cortical tumors, such as aldosteronomas and cortisol-producing adenomas.

He was responsible for promoting the profession of Nuclear Medicine. In 1957 he wrote *Clinical Use of Radioisotopes*, the first textbook to fill a gap in the novel field the clinical applications of radionuclides. He was instrumental in creating one of the first nuclear medicine fellowship programs in the nation at the University of Michigan. Beierwaltes is also known as one of the first physicians to propose radionuclide-labelling of antibodies, a concept that has led to its widespread use in both imaging and treatment.

An internationally renowned scholar, Beierwaltes wrote or co-authored during the course of his prolific career 257 peer-reviewed papers, 61 other academic papers, four books, and 77 book chapters and gave hundreds of presentations at medical society meetings and other talks.

Born in Saginaw, MI, Dr. Beierwaltes received his bachelor's degree in 1938 and his medical degree in 1941 at the University of Michigan in Ann Arbor where he later trained as an endocrinologist. He soon developed an interest in the new field of nuclear medicine, after joining the faculty at the University of Michigan Medical School in 1945. He was appointed to lead the university's new Clinical Radioisotope Service in 1952, and then later became chief of the newly created Division of Nuclear Medicine in the early 1960s.

He was the recipient of numerous awards during his long career, among which were the Society of Nuclear Medicine George de Hevesy Nuclear Medicine Pioneer Award in 1982 and the American Medical Association's Scientific Achievement Award in 1994.

He was a fellow of the American Association for the Advancement of Sciences and the American College of Physicians, served as president of the Society for Nuclear Medicine in 1965 and was a longtime member, and was a founding member and distinguished fellow of the American College of Nuclear Medicine. He was also a member of the American Association of Physicians.

Throughout his career, Beierwaltes promoted both the scientific and public knowledge of the profession of nuclear medicine in its multiple facets, contributing historical milestones in research and development of radiopharmaceuticals, fostering the professional development of generations of physicians and technologist, and setting high standards of professional and

technical achievement through wide dissemination of clinical knowledge and the unrelenting work in professional organizations, some of which he helped create. Dr. Beierwaltes helped mold the field of Nuclear Medicine as we all know it today. In His honor, the Central Chapter instituted several years ago the W. H. Beierwaltes Award for oral presentations by residents or basic scientists at the Annual Meeting.

He is survived by his wife of 63 years, Mary-Martha, and by children Andrew, William Howard and Martha.

To him goes, our perennial gratitude and admiration.

[▲ Back to Top](#)

CC News Info

CCSNM Mission Statement

Central Chapter of the Society of Nuclear Medicine is an organization dedicated to promote continued education in the art and science of nuclear medicine. Through regular meetings and scientific sessions, members from Minnesota, Wisconsin, Illinois, Michigan, Indiana and a portion of Ohio are provided the opportunity to not only review existing technology and methodologies, but also become familiar with newer techniques, equipment and radiopharmaceuticals. In this manner, the members are kept apprised.

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[▲ Back to Top](#)
