

*Cooperative ventures among professionals, providers  
thrive in the new era of DRGs*

## Thallous Chloride TI 201

For complete prescribing information, consult package insert, a brief summary of which follows:

**DESCRIPTION:** Thallous Chloride TI 201 is supplied in isotonic solution as a sterile, nonpyrogenic diagnostic radiopharmaceutical for intravenous administration. The aqueous solution at calibration time contains 37 MBq (1 mCi)/mL Thallous Chloride TI 201 adjusted to pH 4.5-6.5 by the addition of hydrochloric acid and/or sodium hydroxide solution. It is made isotonic with 0.9% sodium chloride and is preserved with 0.9% benzyl alcohol. Thallium TI 201 is cyclotron-produced with no carrier added. Radionuclidic purity at calibration is at least 97.0%.

**INDICATIONS AND USAGE:** Thallous Chloride TI 201 may be useful in myocardial perfusion imaging for the diagnosis and localization of myocardial infarction.

It may also be useful in conjunction with exercise stress testing as an adjunct in the diagnosis of ischemic heart disease (atherosclerotic coronary artery disease).

It is usually not possible to differentiate recent from old myocardial infarction, or to differentiate exactly between recent myocardial infarction and ischemia.

**CONTRAINDICATIONS:** None known.

**WARNINGS:** If studying patients in whom ischemia or myocardial infarction is known or suspected, care should be taken to assure continuous clinical monitoring and treatment in accordance with safe, accepted procedure. Exercise stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate resuscitation and support apparatus.

**PRECAUTIONS:** Data are not available concerning the effect on the quality of Thallous Chloride TI 201 scans of marked alterations in blood glucose, insulin, or pH (such as is found in diabetes mellitus). Attention is directed to the fact that thallium is a potassium analog, and since the transport of potassium is affected by these factors, the possibility exists that thallium may likewise be affected. Data are not available concerning the effect of drug treatment (such as antihistamines and cimetidine, either alone or in combination).

A myocardial imaging study was unsuccessful in one clinical study involving a patient taking cortisone and cimetidine the day of the study.

Radiopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate governmental agency authorized to license the use of radionuclides.

As in the use of any radioactive material, care should be taken with Thallous Chloride TI 201 to minimize radiation exposure to the patient consistent with proper management and to ensure minimal exposure to occupational workers.

This drug should not be used after the expiration date on the label. The expiration date will be six (6) days or less after the calibration date.

Do not use if contents are turbid.

It is recommended that the product be administered close to calibration time to minimize the effect of higher levels of radionuclidic contaminant pre- and post-calibration.

**Carcinogenesis:** No long-term animal studies have been performed to evaluate carcinogenic potential, mutagenicity potential, or whether Thallous Chloride TI 201 affects fertility in males or females.

**Pregnancy Category C:** Adequate reproduction studies have not been performed in animals to determine whether the drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Thallous Chloride TI 201 should not be used in pregnant women except when benefits clearly outweigh the potential risks.

Ideally, examinations using radiopharmaceutical drug products, especially those elective in nature, in women of child-bearing capability should be performed during the first few (approximately 10) days following the onset of menses.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, as a general rule nursing should not be undertaken when a patient is administered radioactive material.

**Pediatric Use:** Safety and effectiveness in children below age 18 have not been established.

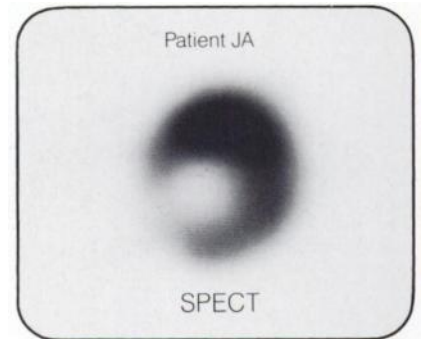
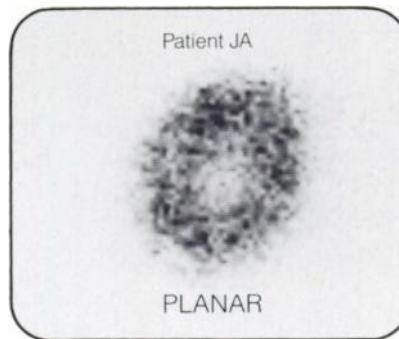
**ADVERSE REACTIONS:** A single adverse reaction to Thallous Chloride TI 201 product has been reported consisting of hypotension accompanied by pruritis and rash which responded to antihistamines and steroids within one hour.

**HOW SUPPLIED:** Thallous Chloride TI 201 for intravenous administration is supplied as a sterile nonpyrogenic solution containing at calibration time 37 MBq (1 mCi)/mL Thallium 201, 9 mg/mL sodium chloride and 9 mg/mL of benzyl alcohol. The pH is adjusted to between 4.5-6.5 with hydrochloric acid and/or sodium hydroxide. This product is supplied in a 244 MBq (6.6 mCi) size. Each package contains one vial.

The contents of the vial are radioactive. Adequate shielding and handling precautions must be maintained.

**STORAGE:** Store Thallous Chloride TI 201 at 18-25 C.

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Tomography expert

**Ronald L. Van Heertum, MD**

Chief, Section of Nuclear Medicine / Assistant Director, Department of Radiology,  
St. Vincent's Hospital & Medical Center, New York, NY

## Additional video consultations available soon

### "Thallium 201 Quantification"

E. Gordon DePuey, MD  
Clinical Director of Nuclear Medicine, and  
Ernest V. Garcia, PhD  
Director of Nuclear Medicine Physics  
Emory University Hospital  
Atlanta, GA

### "Analyzing Thallium 201 Imaging Problems"

Robert E. Henkin, MD  
Director, Nuclear Medicine  
Loyola Medical Center  
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and Radiology  
Albert Einstein College of Medicine  
Montefiore Hospital and Medical Center  
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Please see adjacent page for brief summary of prescribing information

Volume 29 • Number 1 • January 1988

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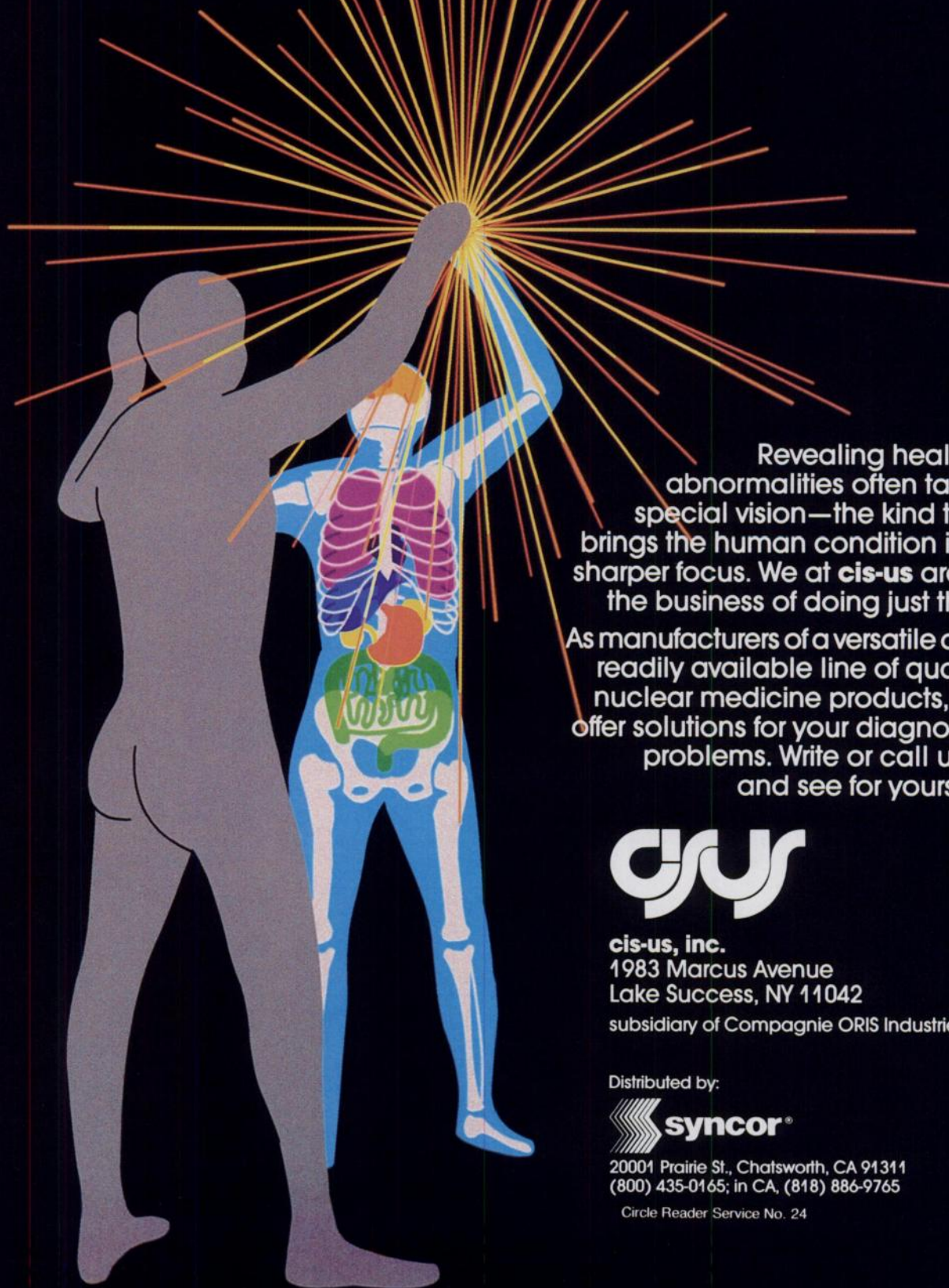
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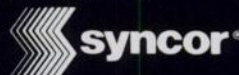


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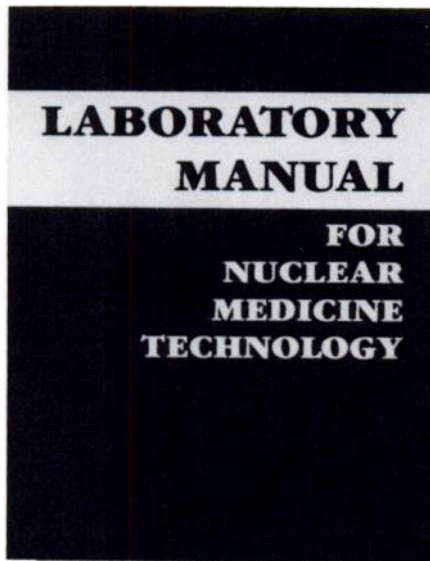
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# LABORATORY MANUAL for Nuclear Medicine Technology

Edited by Wanda M. Hibbard, CNMT,  
and Sue P. Lance, CNMT

In response to a need for standardizing the learning experiences of student technologists, the *Laboratory Manual for Nuclear Medicine Technology* has been prepared for nuclear medicine technology training programs. The exercises were written by educators with years of experience in their respective areas of expertise and were field tested by technologists in nuclear medicine schools—both instructors and students.

Individual exercises have been grouped into major subject areas. The purpose of each exercise is clearly defined in the rationale; and the objectives, materials to be used, step-by-step procedures, study questions, and selected references are included. Instructors may rearrange the format according to the facilities and requirements of their particular programs.

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## ABBREVIATED CONTENTS

- Part I: Radiation Safety**
- Part II: Instrumentation**
- Part III: Physics**
- Part IV: Radiopharmacy**
- Part V: Radiochemistry**
- Part VI: Patient Care**

## CONTRIBUTORS

Charles T. Adams, Robert T. Anger, Nancy A. Clifton, Robert J. English, Casimir Eubig, Michael Freeman, Wanda M. Hibbard, Kenneth A. Holmes, Ronnie D. Jeffcoat, Judith E. Kosegi, Rebecca W. Lam, Sue P. Lance, Joan A. McKeown, Evelyn R. Merritt, Maria Nagel, James A. Ponto, John H. Powell, Raymond Wilemzick, James J. Wirrell

Softcover format, 8½ x 11", 163 pp. Publication date: July 1984

Prices are in US dollars and subject to change without notice.

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**IODOHIPPURATE SODIUM I 131 INJECTION, USP** Brief Summary  
**For Diagnostic Use**

**DESCRIPTION**

Iodohippurate Sodium I 131, 7.4 megabecquerels (0.2 millicuries) per mL, is a sterile, non-pyrogenic intravenous solution made with isotonic sodium chloride. It contains, per milliliter, the labeled amount of o-iodohippurate sodium, 1.6 mg sodium phosphate and 0.76 mg potassium phosphate. Sodium hydroxide and/or hydrochloric acid may have been used to adjust the pH. Benzyl alcohol (0.9% v/v) has been added as a preservative. Radioactivity in other chemical forms does not exceed 3% of the total radioactivity.

**CLINICAL PHARMACOLOGY**

Following intravenous injection of Iodohippurate Sodium I 131 the appearance, concentration and excretion of the tracer in the kidney can be monitored. Tubular cell secretion is primarily displayed. An index of renal vascular competence and renal evacuation may also be estimated.

**INDICATIONS AND USAGE**

Iodohippurate Sodium I 131 Injection, USP is a diagnostic aid in determining renal function, renal blood flow, urinary tract obstruction, and as a renal imaging agent.

**CONTRAINDICATIONS**

None known.

**WARNINGS**

None known.

**PRECAUTIONS**

**General**

As in the use of any other radioactive material, care should be taken to insure minimum radiation exposure to the patient and clinical personnel, consistent with proper patient management.

The use of Iodohippurate Sodium I 131 should be carefully considered in patients known to be sensitive to iodines. Caution is also indicated in patients with reduced renal function since excretion of the drug may be impaired.

The drug Iodohippurate Sodium I 131 may contain a minimum amount of unbound I 131. A dose of 10 to 20 drops of Lugol's Solution may be administered prior to the examination to curtail any accumulation of I 131 in the thyroid gland.

**Carcinogenesis, Mutagenesis, Impairment of Fertility**

No long-term animal studies have been performed to evaluate carcinogenic potential or whether Iodohippurate Sodium I 131 affects fertility in males or females. Mutagenesis studies have not been conducted.

**Pregnancy Category C**

Animal reproduction studies have not been conducted with this drug. It is also not known whether Iodohippurate Sodium I 131 can cause fetal harm when administered to a pregnant woman, or can affect reproductive capacity. Iodohippurate Sodium I 131 should be given to a pregnant woman only if clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, in women of child-bearing capability should be performed during the first few (approximately ten) days following the onset of menses.

**Nursing Mothers**

Since I 131 is excreted in human milk, formula feeding should be substituted for breast feeding if the agent must be administered to the mother during lactation.

**Pediatric Use**

Safety and effectiveness in children have not been established.

Radiopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

**ADVERSE REACTIONS**

As with all organic iodide-containing compounds, the possibility of allergic reactions must be kept in mind. Nausea, vomiting and fainting have been reported in conjunction with the administration of Iodohippurate Sodium I 131.

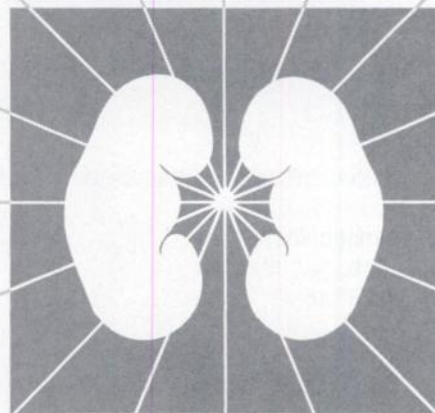
**HOW SUPPLIED**

Iodohippurate Sodium I 131 Injection, USP is supplied as a sterile, non-pyrogenic intravenous solution for diagnostic use. This isotonic solution contains Iodohippurate Sodium I 131 at an activity concentration of 7.4 megabecquerels (0.2 millicuries) per mL. Each 10 mL lead-shielded vial contains either 37 megabecquerels (1 mCi) or 74 megabecquerels (2 mCi) total activity at the time of calibration in volumes of 5mL and 10mL, respectively. Radioactivity in other chemical forms does not exceed 3% of the total radioactivity.

Please consult full product information before using.

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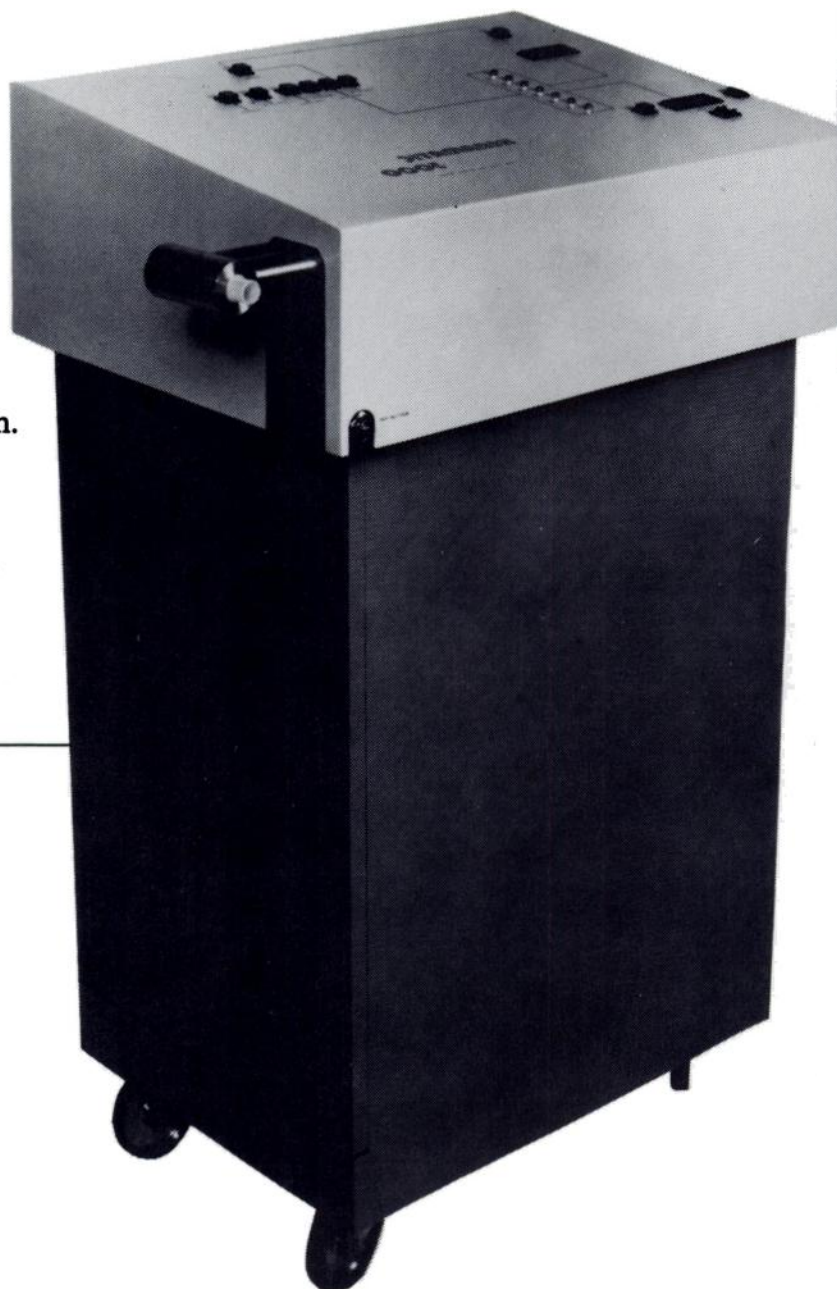
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# Educate your patients with SNM's Patient Information Pamphlets

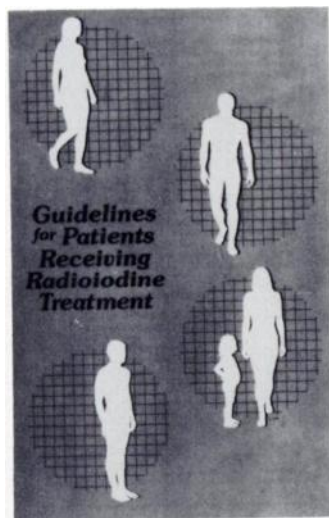
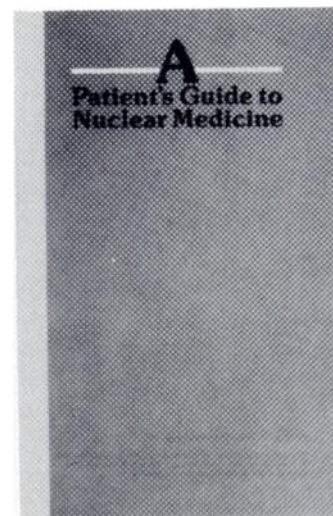
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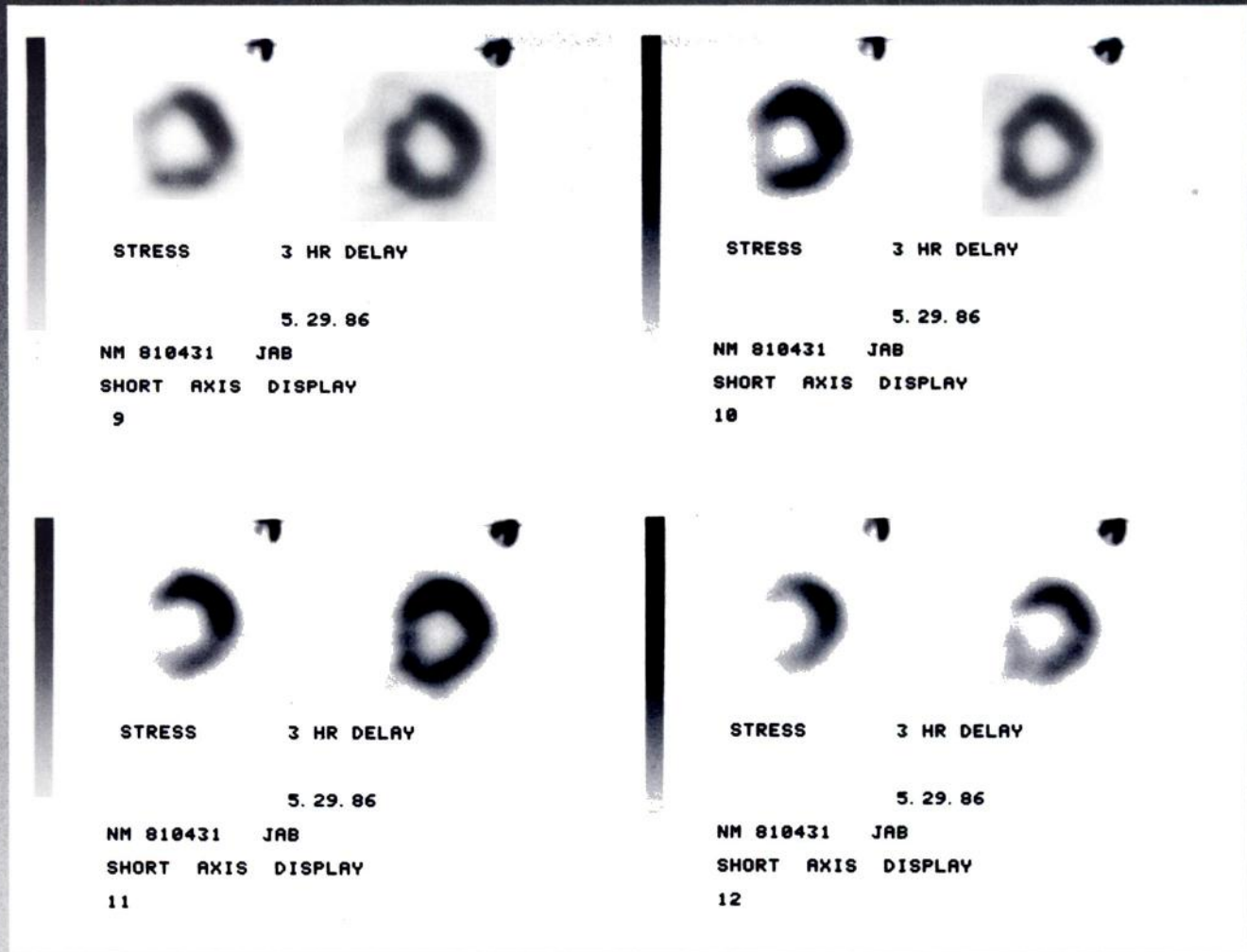
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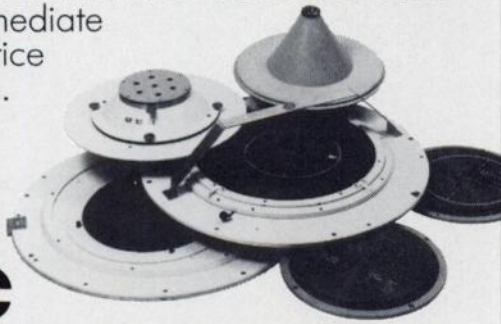
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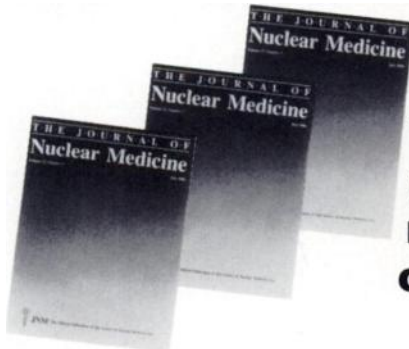
**ROBERT J. ENGLISH, CNMT  
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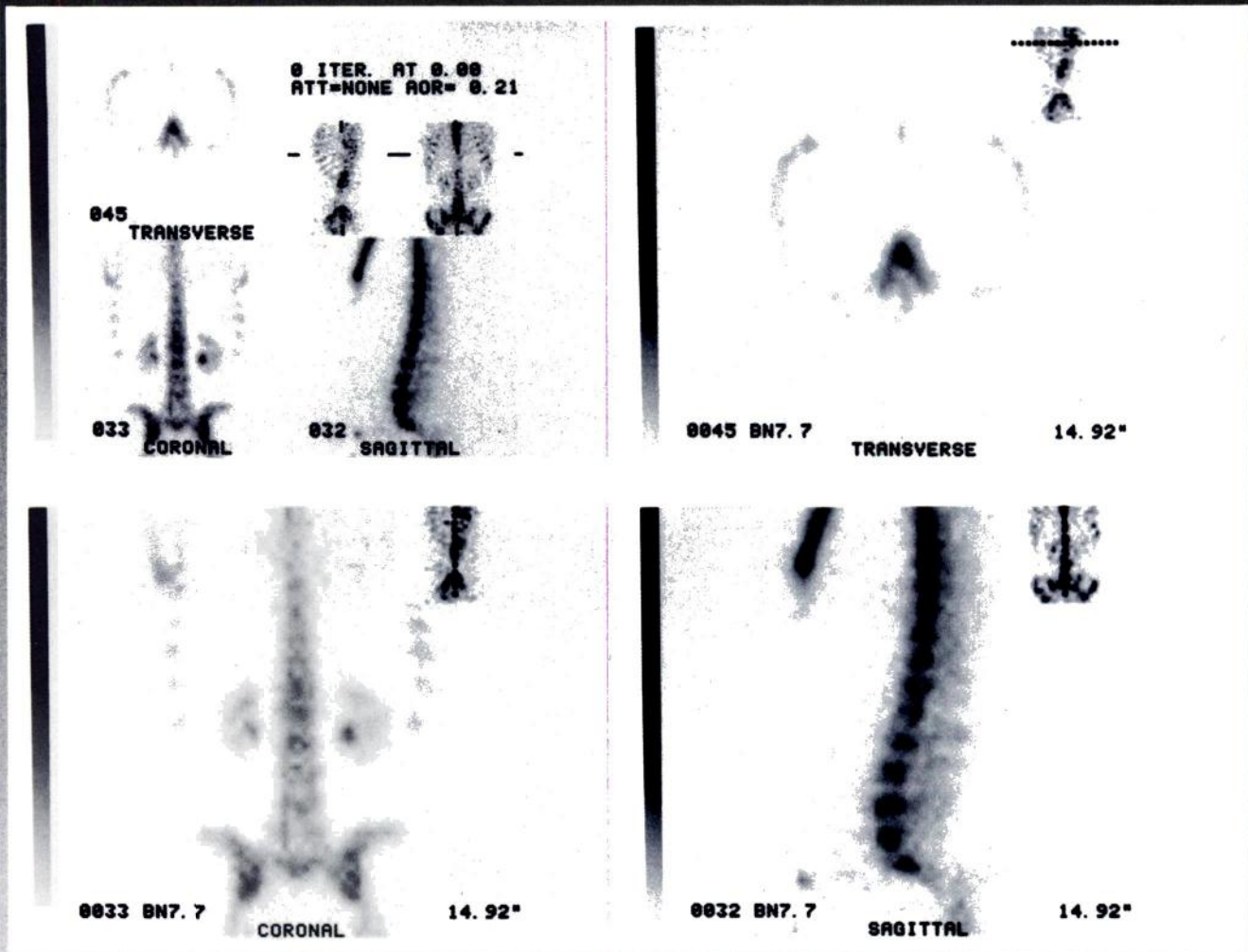
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Where quality starts with fundamentals

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Its cable cars, bridges, Victorian buildings, cultural variety, food, and, of course, its beautiful bay will set the backdrop to four days of intensive learning opportunities, interspersed with exciting social events. San Francisco, California, will be the site of our Thirty-fifth Annual Meeting. If you missed Toronto, you missed a great meeting, but San Francisco promises to be even better.

### SCIENTIFIC PAPERS

This year's presentation of over 700 scientific papers and posters includes a distillation of the latest advancements and finest work achieved by outstanding scientists and physicians in the field of nuclear medicine. These papers, presented by the original authors, with over 30 subjects to choose from, will provide a unique opportunity for enhancing your knowledge or exploring new avenues in correlative areas of nuclear medicine. Ample time is allotted at these presentations for questions and discussions.

An extensive display of scientific posters and exhibits will augment the presentations.

### CONTINUING EDUCATION COURSES

Refresher and state-of-the-art continuing education courses in chemistry, physics, quality assurance, cardiovascular nuclear medicine, PET, SPECT, and NMR will supply up-to-the-minute approaches and procedures for all clinical settings.

### TECHNOLOGIST PROGRAM

The ever-increasing importance of the role of the nuclear medicine technologist will be explored in our Technologist Program, and over 70 hours of clinical updates will provide chief and staff technologists with the latest in basic, intermediate, and advanced studies. This program will broaden expertise and enhance the technologist's contributions to nuclear medicine.

### EXPOSITION

More than 100 pharmaceutical and equipment manufacturers will display their latest products in a lively atmosphere. These knowledgeable commercial representatives offer the technical depth our field demands, and they are valuable sources of timely and pertinent information.

### AUDIOVISUALS, BOOKS, JOURNALS

The Society of Nuclear Medicine is continually adding to its library of audiovisuals, books, and other publications. A stop at the publications booth is well worth the time. Here you will find on display what the society has to offer for year-round educational advancement.

Networking opportunities and job referral boards are available at special locations throughout the meeting as well as membership information at our membership booth.

**Registration:** \$130 SNM members  
\$225 nonmembers

**Hotels:** \$100 US average rate/night

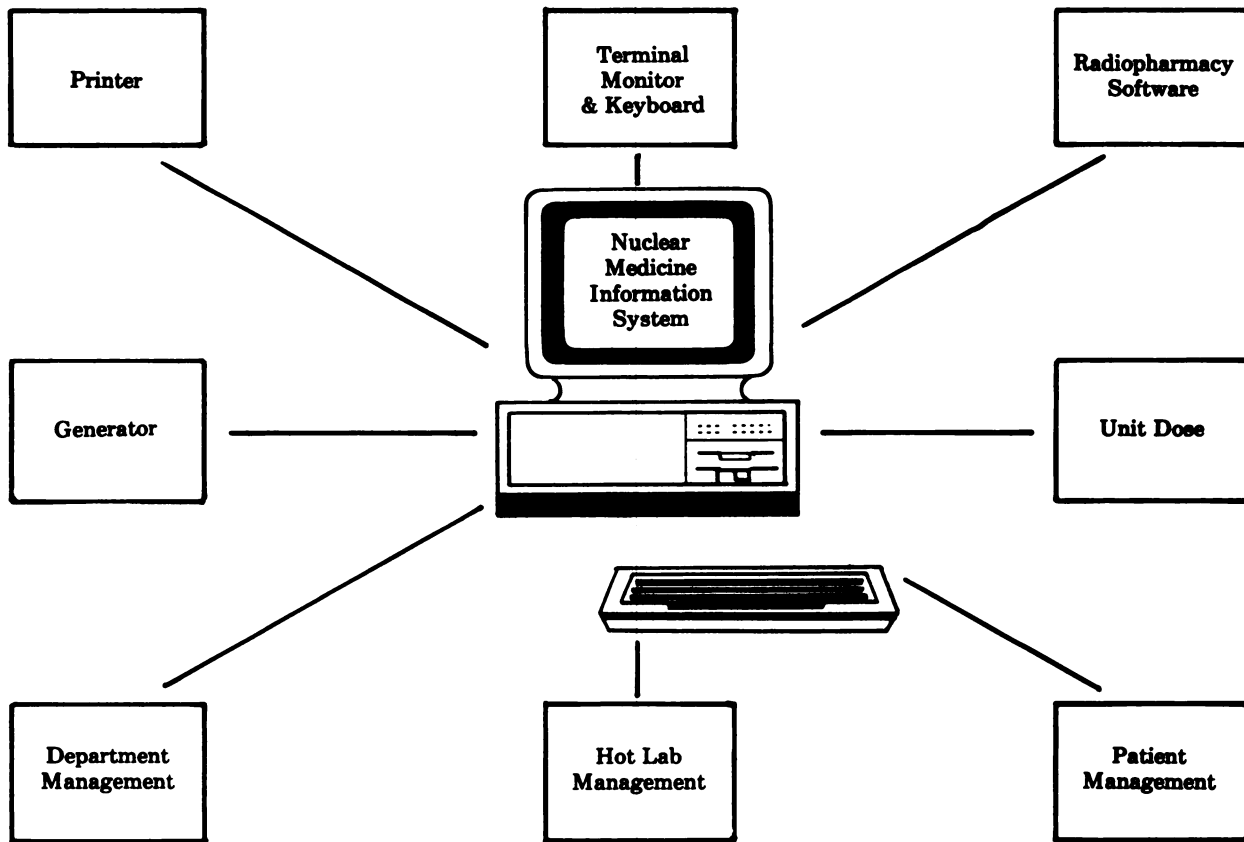
*If you need further information, please contact:*

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- Decays All Radiopharmaceuticals and Doses
- Performs Thin Layer Chromatography
- Calculates Linearity & Constancy Tests
- Radioactive Shipment Receiving Reports

#### **DEPARTMENT MANAGEMENT:**

- Teaching File
- Reminder File
- Stores Department Data
- Health Physics Program
- Calculates Budgetary Information
- Calculates Department Statistics
- Productivity & Efficiency Programs
- Stores Department's Procedure Manual
- Quality Assurance & Quality Control Programs

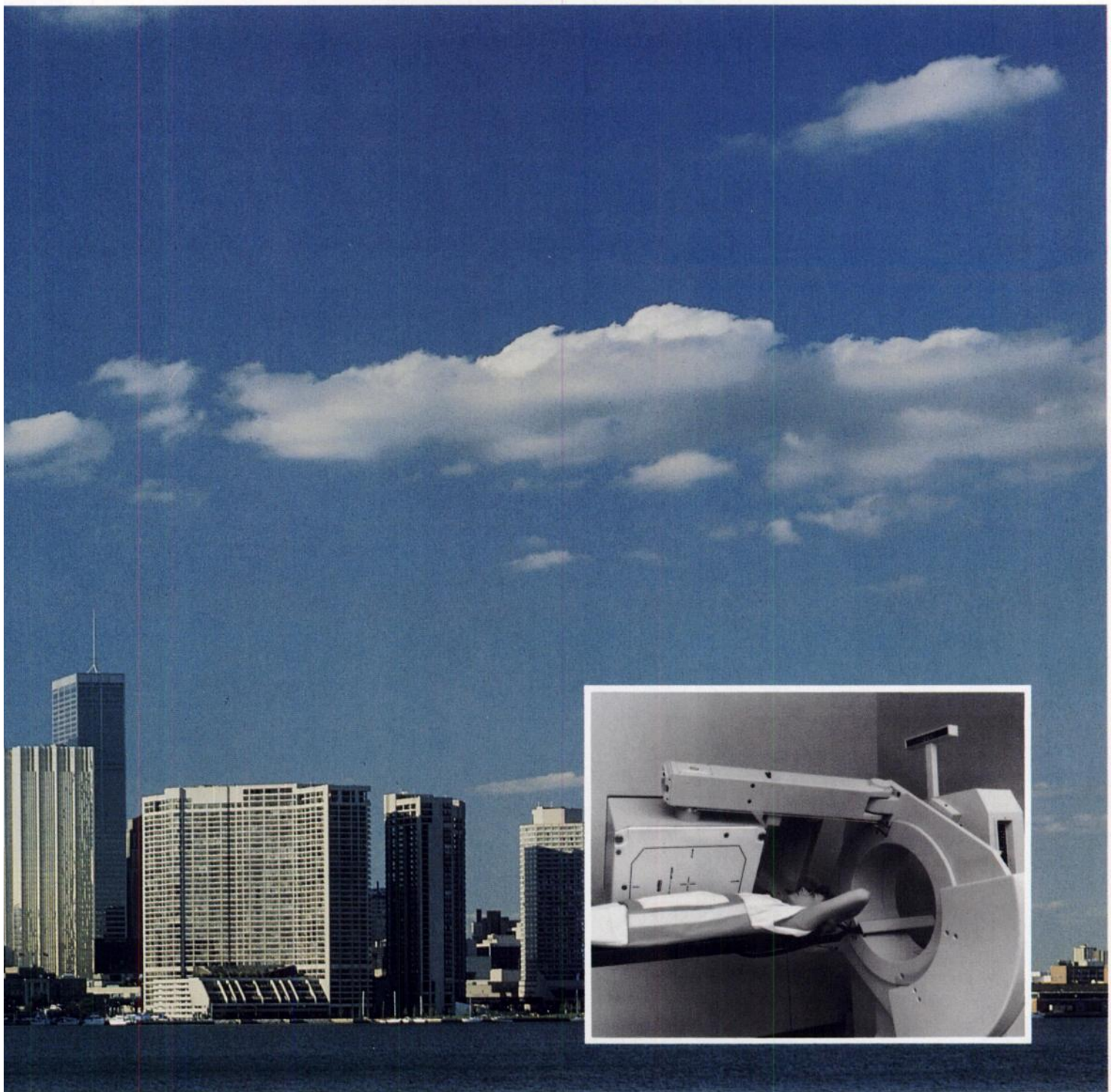
#### **PATIENT MANAGEMENT:**

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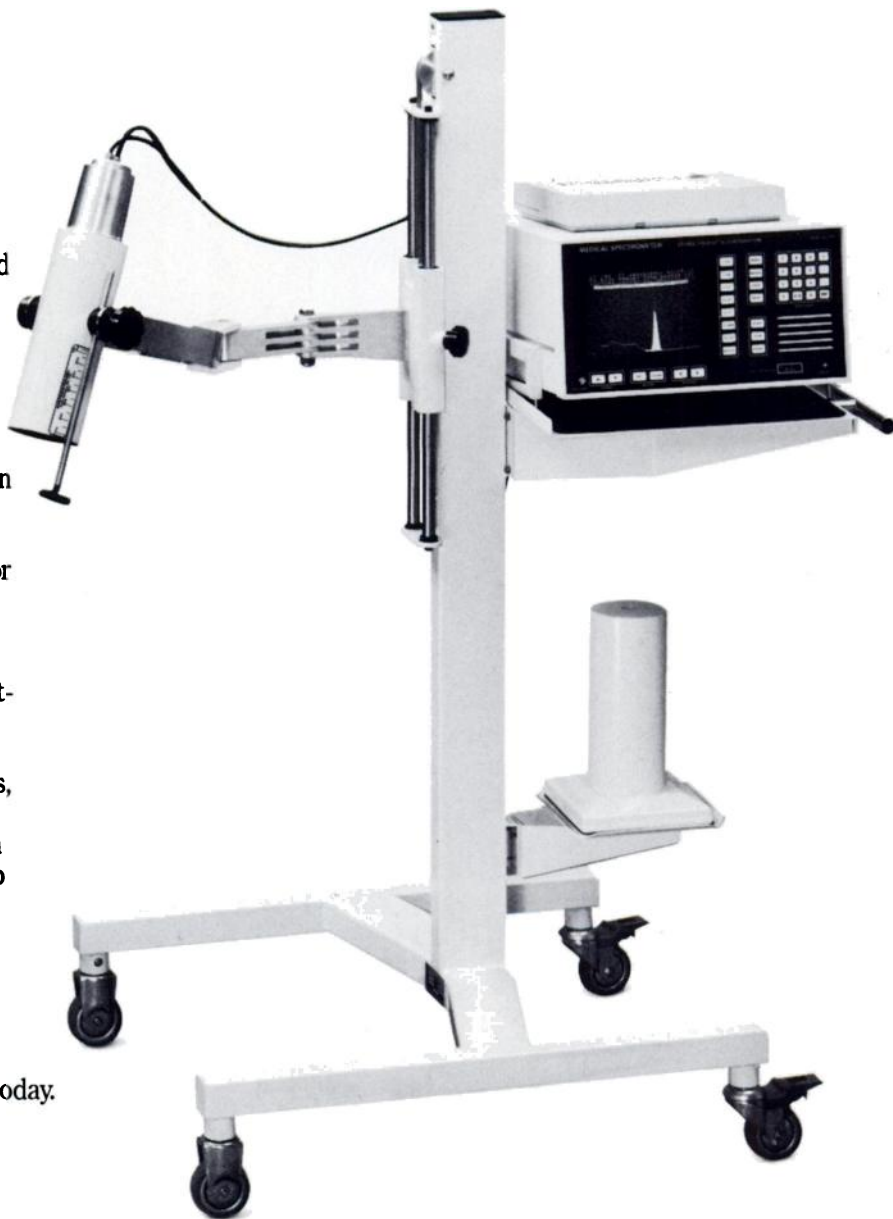
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*The Society of Nuclear Medicine*

# 7th Annual Winter Meeting

**Title:** Imaging Hardware and Software:  
Validation and Quality Assurance

**Date:** Monday-Tuesday, Feb. 15-16, 1988

**Location:** Crescent Hotel, Phoenix, Arizona

**Program:** Includes scientific papers and  
invited speakers

**Sponsors:** SNM Computer and Instrumentation  
Councils

**Co-Sponsors:** American Association of Physicists  
in Medicine

**CME Credit:** 18hr Category 1 (approximately)

For further information contact Dr. Michael A. King  
at (617) 856-0011 or the Central office  
(212) 889-0717, Meetings Department

Michael A. King, Ph.D.  
Department of Nuclear Medicine  
University of Massachusetts Medical Center  
55 Lake Worth Avenue North, Worcester, MA 01605

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The Society of  
Nuclear Medicine

# 35<sup>th</sup> ANNUAL MEETING

Tuesday, June 14-  
Friday, June 17, 1988

San Francisco, CA  
Moscone Convention  
Center

Circle Reader Service No. 189

## Call for Abstracts for Works-in-Progress

The 1988 Scientific Program Committee solicits the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 35th Annual Meeting in San Francisco. Works-in-Progress accepted for the program in a special supplement to the May issue of the *The Journal of Nuclear Medicine* will be published in a separate on-site show publication that will be distributed to all those who attend the meeting. Original contributions on a variety of topics related to nuclear medicine will be considered, including:

- INSTRUMENTATION
- COMPUTERS AND DATA ANALYSIS
- IN VITRO RADIOASSAY
- RADIOPHARMACEUTICAL CHEMISTRY
- DOSIMETRY/RADIOBIOLOGY
- NUCLEAR MAGNETIC RESONANCE
- CLINICAL SCIENCE APPLICATIONS
  - Bone/Joint
  - Cardiovascular
  - Endocrine
  - Gastroenterology
  - Infectious Disease and Immunology
  - Neurology
  - Oncology/Hematology
  - Pediatrics
  - Pulmonary
  - Renal/Hypertension

Authors seeking publication for the full text of their papers are strongly encouraged to submit their work to the *JNM* for immediate review.

A complete educational program for technologist will be offered and technologists are encouraged to submit abstracts of their work for consideration.

The official abstract form for Works-in-Progress may be obtained from the October 1987 issue of the *JNM* or by calling or writing:

**The Society of Nuclear Medicine**

**Att: Abstracts**

136 Madison Avenue, New York, NY 10016-6760

Tel: (212)889-0717

*Deadline for Works-in-Progress is Thursday, April 7, 1988*



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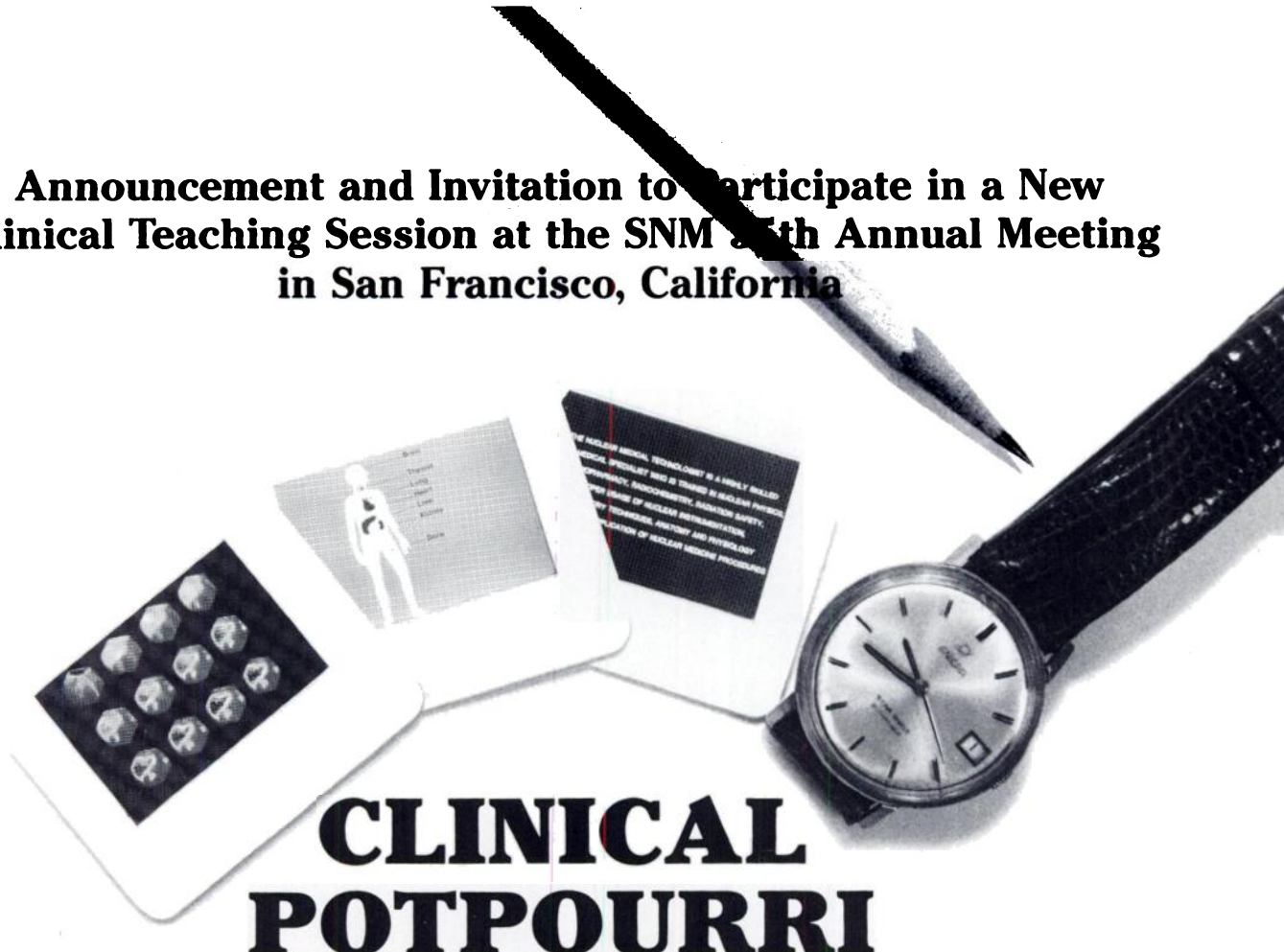
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# Announcement and Invitation to Participate in a New Clinical Teaching Session at the SNM 35th Annual Meeting in San Francisco, California



## CLINICAL POTPOURRI

The Scientific Program Committee solicits contributions for a new type of teaching session to be held at the 35th Annual Meeting of the Society of Nuclear Medicine in San Francisco on June 14-17, 1988. Clinical Potpourri will be a session or sessions consisting of brief presentations of clinical topics by attendees followed by an audience discussion. The subject matter should be clinical and presented within two minutes with three minutes of discussion. Only 35mm slides are permitted. Appropriate topics include unusual variations of a common topic, new observations, artifacts, emphasis of a known but commonly overlooked phenomenon, etc. If you are interested in presenting at this session, please complete the coupon and return it no later than April 15, 1988 to: **The Education & Meetings Department, The Society of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760.**

You will receive written notification soon after this deadline. A schedule of speakers and topics will be available at the meeting. The session or sessions will be held in the early evening (either Wednesday, Thursday or both) immediately following the close of the last Scientific Session.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Subject of Presentation (15 words or less): \_\_\_\_\_

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**Policy**—The *Journal of Nuclear Medicine* accepts classified advertisements from medical institutions, groups, suppliers, and qualified specialists in nuclear medicine. Acceptance is limited to Positions Open, Positions Wanted, Equipment Available, and Seminars. We reserve the right to decline, withdraw, or modify advertisements that are not relevant to our readership.

**Rates for Classified Listings**—\$13.50 per line or fraction of line (approx. 50 characters per line, including spaces). Please allow 28 characters for the first line which will appear in capital letters. Special rates for *SNM members* on Positions Wanted: \$10.00 per line. *Note: Box numbers are available for the cost of the 2 lines required.*

**Rates for Display Ads**—Agency commissions are offered on display ads only.

Full page	\$1025	Quarter page	\$400
Half page	600	Eighth page	340

**Terms**—Payment must accompany order. Make checks payable, in U.S. dollars on U.S. banks only, to: The Society of Nuclear Medicine.

**Deadline**—first of the month preceding the publication date (January 1 for February issue). Please submit classified listings typed double spaced. No telephone orders are accepted.

**Send copy to:**  
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The Society of Nuclear Medicine  
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New York, NY 10016-6760  
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## Positions Available

### Chief of Nuclear Medicine

**NUCLEAR MEDICINE.** Immediate opening for CHIEF of nuclear medicine in a 14-man, fee-for-service, private radiology group. Excellent first-year salary (negotiable) with full partnership anticipated at the end of 12 months. Applicant will be responsible for 5,000 sq. ft. nuclear medicine division performing approximately 7,500 procedures per year, including nuclear cardiology and SPECT examinations. Applicants must be Board certified or eligible radiologists, preferably with additional training in nuclear medicine. Close affiliation with state medical school. Please write to: Thomas J. Cusack, MD, Department of Radiology, St. Francis Medical Center, 530 NE Glen Oak, Peoria, IL 61637. EOE.

### Director

**DIRECTOR, RADIONUCLEAR CARDIOLOGY.** Board certified or eligible. Full-time faculty position in the cardiology section of the Department of Medicine at the University of Wisconsin/Madison. The section is seeking a full-time Director of Clinical Radionuclear Cardiology to head an active laboratory with state-of-the-art equipment dedicated to servicing clinical, educational, and research needs of the University. Other imaging modalities, including digital subtraction and geography. NMR and PET are available as is an appointment in the Department of Radiology. The applicant must be a BC/BE Cardiologist. Interested applicants are requested to send a CV to: A. James Liedtke, MD, Head, Cardiology Section, Department of Medicine, 116/364, Clinical Science Center, 600 Highland Avenue, Madison, WI 53792; (608)263-1532. The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.

### Fellowship

**NUCLEAR MEDICINE/MAGNETIC RESONANCE FELLOWSHIP.** The Department of Radiology at The University of Texas Health Science Center at Dallas is offering a 1- or 2-year fellowship to begin July 1, 1988 to include training in nuclear medicine and magnetic resonance imaging. Strong emphasis is placed on physiologic image interpretation and quantitation as well as correlation with other diagnos-

tic modalities. Applicants must have completed a minimum of 2 years in an accredited diagnostic radiology residency program and have demonstrated an interest in research. Previous fellowship experience or MD/PHD desired but not required. Send CV to: William A. Erdman, MD, Director, Nuclear Medicine and Body MR Research, Dept. of Radiology, University of Texas Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas, TX 75235. An Affirmative Action/Equal Opportunity University.

Monoclonal antibody diagnosis and treatment of cancers. Unique FELLOWSHIP now available for an outstanding physician candidate desiring research experience with radio-labeled monoclonal antibodies. The flexible fellowship allows for basic lab experience in antibody production, characterization, and radiolabeling, as well as for clinical experience in patient antibody imaging, dosimetry, and therapy in a state-of-the-art nuclear medicine division. Applicant must be U.S. citizen. Please send CV to: David Kuhl, MD, Div. of Nuclear Medicine, University of Michigan Medical Center, Ann Arbor, MI 48109-0028. Non-discrim. A/A Employer.

### Physician

**NUCLEAR MEDICINE PHYSICIAN.** Position available immediately. Board certified Nuclear Medicine Physician preferred. Board eligible acceptable. Position with eight-man group in Northeastern Pennsylvania. Send CV with references to: Box 102, The Society of Nuclear Medicine, 136 Madison Ave., 8th Fl., New York, NY 10016-6760.

**NUCLEAR MEDICINE PHYSICIAN.** The Division of Nuclear Medicine, in the Department of Radiology, Beth Israel Hospital, has an opening for an ABNM certified staff nuclear medicine physician. The successful applicant will have a faculty appointment at the assistant/associate professor level at the Harvard Medical School, and will participate in the Harvard Joint Program in Nuclear Medicine. Research and teaching experience and interest are essential. Preference will be given to candidates with 3-5 years postresidency academic experience. We have strong research programs in PACS, with a functioning all-digital department, quantitative SPECT, nuclear cardiology, radiochemistry, and molecular biology. Training programs exist for both radiology and nuclear medicine residents. Salary commensurate with experience. Interested applicants should apply to: Gerald M. Kolodny, MD, Director, Div. of Nuclear Medicine, Beth Israel Hospital, 330 Brookline Ave., Boston, MA 02215. EOE.

### Physicist

**MEDICAL PHYSICIST** position in nuclear medicine. A faculty-ranked position is available for a medical physicist familiar with nuclear instrumentation including SPECT at the State University of New York at Buffalo, School of Medicine, Dept. of Nuclear Medicine. Primary responsibilities will be to set up, review and administer a quality assurance program for university-affiliated hospitals, instruction of nuclear medicine residents and technologists on the theory and principles of nuclear instrumentation and the development of research programs involving nuclear instrumentation. We are actively pursuing the establishment of a PET center. SUNY at Buffalo is the largest and most comprehensive university center in the SUNY system. Affiliated hospitals include South Buffalo Mercy, V.A. Medical Center, Roswell Park Memorial Institute, and the Buffalo General Hospital as well as seven additional institutes. Applicants should submit a current curriculum vitae including salary history. Salary is commensurate with experience. Contact: Joseph A. Prezio, MD, Dept. of Nuclear Medicine, SUNY/AB, V.A. Medical Center, Bldg. 5, 3495 Bailey Ave., Buffalo, NY 14215. SUNY/AB is an Equal Opportunity Employer. M/F/V/H.

### Radiologist

Board certified or eligible **DIAGNOSTIC RADIOLOGIST** to be part of a three-person imaging center staff and outpatient specialty clinic in Tacoma, Wash-

ington. The radiology staff of this specialty center is associated with the larger radiology departments in hospitals operated by Group Health Cooperative of Puget Sound in Seattle and Redmond, Washington. The practice consists of responsibility in ultrasound, nuclear medicine, GI fluoroscopy, mammography, outpatient CT, and diagnostic x-ray. For further details please contact: Director of Medical Staff Personnel, Group Health Cooperative of Puget Sound, 521 Wall St., Seattle, WA 98121; (206)448-6550. EOE.

Board certified **RADIOLOGIST** with ABNM certification. Division of Nuclear Medicine within a 15-man fee-for-service Dept. of Radiology. The Mercy Hospital of Pittsburgh is a 530-bed, tertiary Teaching/Trauma Level I hospital. 100,000 general diagnostic and 8,000 N.M. studies. Division of N.M. performs all nuclear cardiology examinations, seven gamma cameras, fully computerized. Teaching responsibilities of radiology/residents. N.M. Fellow, and student N.M. technologists. To be knowledgeable in general diagnostic. Send letters of inquiry to: Dr. Elliott Turbner, D.O., Division of Nuclear Medicine, Mercy Hospital, 1400 Locust St., Pittsburgh, PA 15219. EOE.

### Residency

**NUCLEAR MEDICINE RESIDENCY.** Unexpected opening for July 1, 1988 in the Division of Nuclear Medicine, Dept. of Radiology, The New York Hospital-Cornell Medical Center, New York, NY. The Division has a completely new, 25,000-square-ft. facility with state-of-the-art equipment. It is staffed by four full-time physicians, two basic scientists, and a computer programmer. The residency will include all aspects of nuclear medicine including thyroidology, as well as clinical research. Please call: Dr. Salil Sarkar or Dr. David Becker collect at (212)472-4758.

**RESIDENCY IN NUCLEAR MEDICINE.** University of Missouri, Columbia. Two-year residency in nuclear medicine starting July 1, 1988. Residency is integrated program between University and affiliated Harry S. Truman Memorial Veterans Hospital. Strong emphasis on neurological SPECT imaging and nuclear cardiology. Clinical experience includes large radioimmunoassay laboratory, pediatric patients, with opportunities in CT, ultrasound, and MR correlations. Residents are strongly encouraged to participate in ongoing clinical and basic research. Program approved by American Board of Nuclear Medicine. Candidates should have 2 years prior training in an ACGME-approved residency. For further information and application forms, contact: Richard A. Holmes, MD, Chief of Nuclear Medicine and Program Director, University of Missouri at Columbia, N219 Medical Sciences, Columbia, MO 65212. EOE.

**RESIDENCY IN NUCLEAR MEDICINE.** A two-year ACGME-approved program offering broad clinical and basic science experience. Minimum requirement is Board eligibility in internal medicine, radiology, or pathology. One year fellowships for radiologists also available. The program is an integrated program involving tertiary care, oncology, and pediatric exposure, strong radioimmunoassay, and research opportunities. Program also provides opportunity for exposure to MRI, CT, and ultrasound. An integrated program of the State University of New York at Buffalo School of Medicine. Positions available July 1, 1988. Contact: Joseph A. Prezio, MD, Chairman and Program Director, SUNY/B Nuclear Medicine, VAMC, Building 5, 3495 Bailey Ave., Buffalo, NY 14215. EOE.

### Technologist

**NUCLEAR MEDICINE TECHNOLOGIST.** The University of Utah Medical Center is accepting applications for a registered or registry-eligible Imaging Technologist. Our division provides a full range of imaging, cardiac, and research procedures with multiple cameras and computers. Competitive salary and benefits. Salt Lake City is a pleasant city located near mountains, ski resorts, and other recreational areas. Contact: Paul E. Christian, Nuclear Medicine, University of Utah Medical Center, Salt Lake City, UT 84132; (801)581-2716. EOE.



# Classified Advertising

**NUCLEAR MEDICINE TECHNOLOGIST.** Employment opportunity for full-time Nuclear Medicine Technologist at 78-bed expanding full service acute care hospital on the beautiful Northern California Redwood Coast. Will cross train for ultrasound. Excellent benefits package; moving expenses negotiable. Send resume to: Mad River Community Hospital, P.O. Box 1115, Arcata, CA 95521. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Registered or registry eligible technologist for 313-bed acute care teaching facility in Decatur, Illinois, 3 hours from Chicago, St. Louis, or Indianapolis. Service area of 250,000. Progressive, advanced department. Flexible benefit plan, excellent entry rate to \$22,027 with upcoming adjustment. Send resume to: Larry Perryman, Personnel Dept., Decatur Memorial Hospital, 2300 N. Edward, Decatur, IL 62526; (217)887-8121, ext. 6111. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Full-time staff position for registered technologist to work 800-plus-bed hospital with active, progressive nuclear medicine department. Excellent salary and benefits which include: no night call, dental and medical insurance, 100% tuition reimbursement, on-site fitness center, three weeks vacation time, 10 paid holidays. Send resume to: Dayton A. Rich, Clinical Nuclear Medicine Dept., Hartford Hospital, Hartford, CT 06115. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** The Hospital of Saint Raphael, a 500-bed community teaching hospital, is seeking a full-time staff technologist for our progressive, state-of-the-art nuclear medicine department. Must be Registered (RTNM), certified (CNMT) or Board eligible. The city of New Haven is located along Long Island Sound, in close proximity to New York. Community has diverse cultural offerings, skiing and sailing. We offer an outstanding benefits package. Salary commensurate with experience. Please send resume, or contact: The Dept. of Personnel, Hospital of Saint Raphael, 1450 Chapel St., New Haven, CT 06511.

**NUCLEAR MEDICAL TECHNOLOGIST.** Appalachian Regional HealthCare, a not-for-profit health care system, is seeking a Nuclear Medical Technologist for its 143-bed hospital in South Williamstown, KY. Excellent starting salary and benefits. If interested in a rural mountainous area, contact: Mindy Lashbrooke, Appalachian Regional HealthCare, Inc., P.O. Box 8086, Lexington, KY 40533; call (collect): (606)255-4431; (toll-free outside Kentucky) (800)433-3274. An Equal Opportunity Employer M/F.

**NUCLEAR MEDICINE TECHNOLOGIST.** Excellent opportunity for Nuclear Medical Technologist with private practice in Southwest Florida. Fast-growing community on beautiful gulf coast. Previous experience as staff technician. Salary range \$20,000-\$25,000. No weekends. Call Kathy at (813)637-7000 or send resume to: Cardiology Associates, 713 E. Marion Ave., Suite 304, Punta Gorda, FL 33950. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Immediate full-time position available for a registered or registry-eligible technologist in southern West Virginia. We are a busy, progressive nuclear imaging section operating a GE 400T Starcom unit for a wide range of procedures to include cardiac tomography with bullseye for 1988. We are seeking a motivated individual to work a variable day shift position with a compensated rotating call schedule. Beckley is a city of 24,000 located in an area known for moderate summers and outdoor recreation, including snow skiing and white water rafting. Our modern 266-bed facility is owned by Hospital Corporation of America and offers an attractive benefit package and competitive salary. Please contact: Personnel Dept., Raleigh General Hospital, 1710 Harper Rd., Beckley, WV 25801; or call (304)256-4190 for more information. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Central Maine. 250-bed regional referral hospital has a challenging opportunity to join our expanding staff. Applicants for this full-time position must have or be eligible for ARRT/NMTCB certification. We of-

fer a competitive salary and benefit package plus a quality lifestyle in a four-season setting only 2½ hours north of Boston. Please write or call collect: Human Resources, Central Maine Medical Center, P.O. Box 4500, Lewiston, ME 04240; (207)795-2394. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Position available for a technologist to perform all in vivo function and imaging studies in patients involving radioisotopes. The selected candidate must be a graduate of an approved Nuclear Medicine Training Program and registered or registry-eligible. The University of Massachusetts Medical Center is a tertiary care teaching institution located in central Massachusetts. The area offers easy access to Boston, Cape Cod, as well as several ski areas. We offer a competitive salary and excellent benefit package. Send resume to: Mary Q. Lammi, Professional/Technical Recruiter, U. Mass. Medical Center, 55 Lake Ave. North, Worcester, MA 01655. UMMC is an Equal Opportunity/Affirmative Action Employer.

**NUCLEAR MEDICINE TECHNOLOGIST.** Challenging opportunity to join growing nuclear medicine department in progressive 500-bed medical center. Requires NMTCB certification. BS degree in nuclear medicine preferred. We offer full-time day hours, generous benefits, and salary commensurate with experience. Submit resume to: Personnel Dept., Mercy Hospital Medical Center, 6th and University, Des Moines, IA 50314. EO/AA Employer.

The Nuclear Medicine Department of Memorial Medical Center of Jacksonville is seeking NUCLEAR MEDICINE TECHNOLOGISTS to join an exciting program with special emphasis on nuclear cardiology. Advanced state-of-the-art computer systems with full networking capabilities, including SPECT, are in place. Qualified candidates must be registered by ARRT or NMTCB. Experience in data processing, SPECT, and nuclear cardiology preferred. Contact: Faye Kemper at (904)399-6940, Memorial Medical Center of Jacksonville, FL. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** A challenging and rewarding career opportunity awaits you in the heart of the beautiful Montana Rocky Mountains. St. James Community Hospital is a 270-bed, JCAH accredited, acute care hospital located halfway between Glacier and Yellowstone National Parks. Immediate access to hunting, fishing, skiing, hiking, and other outdoor recreation is available for the sports enthusiast. Qualified candidates for the position must be ARRT (N) registered and also be registered or certified (CNMT) in nuclear medicine. Excellent salary and benefits accompany this position. Qualified applicants send resume to: Pat Dudley, Employment Supervisor, St. James Community Hospital, 400 South Clark St., Butte, MT 59701. EOE M/F.

**NUCLEAR CARDIOLOGY TECHNOLOGIST.** Junior faculty position available for technologist (CNMT or ARRT) with a Bachelor's degree (minimum) and at least 1 year of specialized experience in nuclear cardiology imaging. Research experience preferred. Duties include functioning as instructor of technologists, nurses, house staff and fellows, coordinating all research studies, processing data for research and supervising all technical activities associated with teaching and research. Our nuclear cardiology laboratory is purchasing a tomographic camera and new networked multi-terminal computer system. We currently have 2 mobile gamma cameras and a multicrystal camera. Salary is negotiable; position carries full faculty benefits. Hahnemann University Hospital is a 550-bed hospital located in center city Philadelphia. The Likoff Cardiovascular Institute, Division of Cardiology, Department of Medicine, has an excellent reputation as one of the leading health care facilities in the country for invasive and noninvasive diagnostic testing and treatment of patients with cardiovascular disease. Interested candidates should submit resume to: Judith H. Murphy, MD, Director, Nuclear Cardiology, Hahnemann University Hospital, Mail Stop 110, Broad and Vine Sts., Philadelphia, PA 19102; (215)448-7520. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Exciting opportunity for Nuclear Med. Tech. to assist in designing and implementing a new nuclear medicine program. Expanding services necessitate that successful candidate should be motivated, creative, and display excellent communication and organizational skills. Competitive salary and excellent benefit package offered. Interested candidates send resume and salary history to: P.O. Box 84056, Minnesota and Russell, Sioux Falls, SD 57118. EOE.

## Positions Wanted

**NUCLEAR MEDICINE PHYSICIAN MD, PhD, ABNM (eligible),** university trained, available July 1, 1988. Seeks academic or hospital staff position. Box No. 101, The Society of Nuclear Medicine, 136 Madison Ave., 8th Fl., New York, NY 10016-6760.

**TECHNOLOGIST. REG. CNMT/ARRT.** Seeks temporary positions—short/long term. Five years exp. Will travel. Reply: P.O. Box 82, McHenry, MD 21541.

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For further information, please call TOLL FREE 1-800-327-8402, outside Florida, or COLLECT (305) 841-5186, within Florida, or send your resume to Orlando Regional Medical Center, Personnel Dept. JNM/0188, 1414 S. Kuhl Ave., Orlando, FL 32806. An Equal Opportunity Employer.



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Progressive 584-bed teaching hospital is seeking a full-time staff technologist in nuclear medicine. Applicants must be registered, certified or registry eligible. ARRT (N) or NMTCB preferred. Our state-of-the-art department is equipped with four gamma cameras, computer systems and SPECT imaging capabilities. In addition to offering competitive salary and benefit packages Spartanburg Regional Medical Center is located in the Piedmont section of South Carolina, convenient to mountains and beaches. Contact:

**Cynthia Wharton**  
Director, Nuclear Medicine  
Spartanburg Regional Medical Center  
101 E. Wood St.  
Spartanburg, SC 29303  
(803) 591-6166



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## NUCLEAR MEDICINE TECHNOLOGIST

OOH is seeking a qualified candidate for the full-time position of Nuclear Medicine Technologist for our Nuclear Medicine Department.

Qualifications include as a minimum a high school diploma and completion of a 2 year course in radiology leading to registration. Also required is completion of a 1 year course of study in an AMA school of Nuclear Medicine and certification as a NMTCB. Qualified applicants should send resume or make application to:

**Terry Bruce**  
Human Resource Specialist  
Personnel Department



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## NUCLEAR MEDICINE TECHNOLOGIST

Eastern Maine Medical Center, a sophisticated 416 bed facility serving half the state of Maine with virtually every medical specialty, is seeking a Nuclear Medicine Technologist. Our Nuclear Medicine Department has three gamma cameras including one with SPECT capabilities. A full range of diagnostic and therapeutic procedures are performed and cross training is provided in other imaging modalities. Our dynamic staff of 12 radiologists includes 2 board certified in nuclear medicine. Competitive salary and benefit package while living in the midst of four season recreation.

For more information, please contact Debbie Ouellette, Employment Representative, Eastern Maine Medical Center, 489 State Street, Bangor, ME 04401, (207) 945-7868.

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## Nuclear Medicine Technologist

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Our progressive Nuclear Medicine Department has an immediate opening for a dynamic self-motivated individual to perform a full range of procedures including nuclear cardiology, SPECT, and radiopharmacy. Must be registered or registry eligible.

Excellent salaries, **\$1,000 recruitment bonus after 6 months** and comprehensive benefit package. For more information call, or send resume to Meredith Conder, Human Resources, at (617) 581-9200, ext. 3710, AtlantiCare Medical Center, 500 Lynnfield Street, Lynn, MA 01904. An equal opportunity employer.



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## Nuclear Medicine Technologist

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PRINCETON**

## NUCLEAR MEDICINE TECHNOLOGIST

Immediate full-time opening for a Registered Nuclear Medicine Technologist or Board eligible on our day tour of duty. Applicant will work in a busy, progressive Imaging Department of a 400-bed hospital. All aspects of nuclear imaging and nuclear cardiology included. An excellent starting salary is augmented by an enriching fringe benefit package which includes: 15 days vacation, 11 paid holidays, life insurance, health insurance, company paid pension plan, sick days and 100% tuition refund program. Apply: **Personnel Department, Mercy Hospital, 746 Jefferson Avenue, Scranton, PA 18501. Equal Opportunity Employer**



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Each description of the products below was condensed from information supplied by the manufacturer. The reviews are published as a service to the professionals working in the field of nuclear medicine and their inclusion herein does not in any way imply an endorsement by the Editorial Board of The Journal of Nuclear Medicine or by The Society of Nuclear Medicine.



## PET Scanner

Scanditronix, Inc., has announced the development of the PC4096 bismuth germanate crystal (BGO) imager, which features menu-driven documented software and built-in software for random and scatter correction. Arranged in eight rings, this positron emission tomography (PET) scanner simultaneously acquires 15 6-mm slides, said Scanditronix. The PC4096 has

a pin source configuration that enables attenuation scans for equilibrium studies to be performed after radionuclide injections. According to the company, maximal resolution is achieved in the wobbled mode of 4.9mm; in the stationary mode it is 5.6mm. **Scanditronix, Inc., 106 Western Ave., PO Box 987, Essex, MA 01929. (617) 768-6994.**

Circle Reader Service No. 103



## Portable Survey Meter

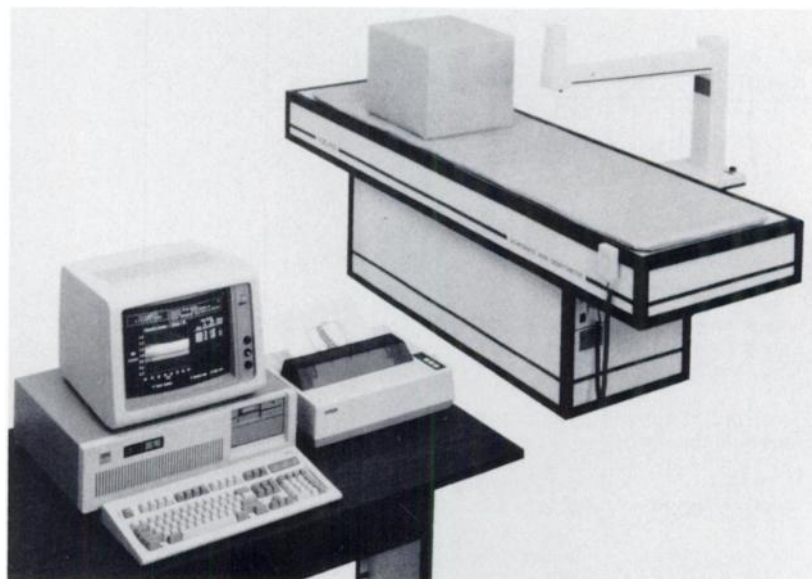
Victoreen, Inc., has introduced the Model 450P portable survey meter, which utilizes a pressurized ionization chamber to measure low radiation dose rates. The meter is microprocessor-based, with a combination analog/digital liquid crystal display, and it is capable of measuring x-ray or gamma radiation in the micro-roentgen range. The Model 450P serves a wide range of applications, said the company, including nondestructive testing, x-rays, accelerators, environmental, and others. **Victoreen, Inc., 10101 Woodland Ave., Cleveland, OH 44104. (216) 795-8200.**

Circle Reader Service No. 101

## Dual-Photon X-ray Bone Densitometer

Lunar Radiation Corp. has introduced the Lunar DPX, a bone densitometer that uses dual-photon x-ray absorptiometry. The DPX system incorporates Lunar's spine, femur, and total body software with a regional program for scanning additional areas such as the tibia. The system uses selective filtering of x-rays and features precision errors of less than 1.0% and a 0.95 correlation to established gadolinium-153 scan results, according to the company. **Lunar Radiation Corp., 313 W. Beltline Hwy., Madison, WI 53713. (800) 445-8627.**

Circle Reader Service No. 102



## Upgraded Dichromatic Bone Densitometer

Norland Corp. has announced several new features that have been added to its Model 2600 Dichromatic Bone Densitometer, including: the ability to perform an operator-defined scan anywhere within the 205 cm by 62 cm table area; the addition of multiple-color printout capabilities; and an enhanced operating speed of the instrument. Femoral Neck Analysis now includes a variable-width neck cursor and a Ward's Triangle measurement. An IBM Personal System/2, Model 60 with 44 Mbyte hard

disk and VGA color graphics capabilities is now the standard equipment used with the Model 2600. All of the instrument's original BoneStar software features have been retained, the company said, including multi-tasking; dedicated programs for lumbar spine, femoral neck, whole body, and local region bone mineral density scans and analyses; and 24-hour service. **Norland Corp., Norland Dr., Fort Atkinson, WI 53538. (800) 742-1042.**

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