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So here we are, sitting in this carpeted room, listening to the speaker discussing his research. It's not entirely his fault, but he is addressing the same topic as the last three speakers, using the same slides, expressing his thoughts with the same words. If repetition were the only factor necessary for learning, this meeting would make for an excellent educational experience. However, in addition to repetition, the brain must receive some additional level of arousal to generate the fuel necessary for processing concepts into the iron of knowledge. In this case, though the flow of ideas (raw material) is high, boredom makes the extraction rate very low. Some information follows the kinetics of fast in, fast out. If you know what to look for, you can watch it fly by, if not, the situation is hopeless. Ah, the last slide, and a smattering of polite applause.

When the talk ends and the floor is opened for questions, it becomes apparent that many listened but few understood. Even those without knowledge of the art can understand that the discussion has become arcane when a blackboard is requested to point out a potential error in the speaker's carefully constructed experiment. The wise moderator, sensing an impasse, suggests the speaker and listener reconvene later that day in the bar to discuss the matter in a spirit of true collegiality.

As attention drifts from the meeting hall to the broader canvas of life, it seems fair to ask why all these other souls are seated in this room, apparently having a similar experience. No one has barred the door insisting that we stay. Why are we here? Ostensibly we are here to learn, to fulfill a desire to participate, or is it because it is part of the job and lack of attendance will lead to bad karma at the time of the next fitness review. Perhaps the competition, a thrilling game of numb bottom chicken (N.B.C.) [seeing who can last longest without yawning, snoring or moving] is the unstated goal. If the speaker and the audience each play their roles, maybe we can get this right.

On to the next talk. A new voice, new ideas. Ah, different slides and new words, brain engaged. Maybe this time we will learn something.

H. William Strauss
Editor, The Journal of Nuclear Medicine
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Circle Reader Service No. 60
Intrahepatic cholestasis from pure hepatocyte damage........ Page 1545

Glucose Uptake, Perfusion and Cell Proliferation in Head and Neck Tumors: Relationship of Positron Emission Tomography to Flow Cytometry

Forty-two patients with histologically proven squamous-cell carcinoma of the head and neck and four patients with metastases of head and neck tumors were examined with PET and FDG prior to surgery...... Page 1548

Editorial: PET Cancer Evaluations with FDG............ Page 1555

Effect of Exercise Supplementation on Dipyridamole Thallium-201 Image Quality

Seventy-eight patients were prospectively randomized to one of three protocols: dipyridamole infusion alone, dipyridamole infusion supplemented with isometric handgrip, and dipyridamole with low-level treadmill exercise...... Page 1559

Editorial: Exercise Supplementation of Dipyridamole for Myocardial Perfusion Imaging........ Page 1564

Imaging of Cocaine-Induced Global and Regional Myocardial Ischemia

Intravenous injections of cocaine in mongrel dogs induced severe temporary hyperperfusion of the left ventricle............. Page 1569

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The synthesis, radiolabeling and biodistribution of four 125I-labeled derivatives are described... Page 1573

Quantitation of the Critically Ischemic Zone at Risk During Acute Coronary Occlusion Using PET

Nine dogs were imaged in a multi-slice positron camera using the perfusion tracer 13N-ammonia while radiolabeled microspheres were injected into the left atrium during acute coronary occlusion... Page 1581

PET Measurements of Hyperthermia-Induced Suppression of Protein Synthesis in Tumors in Relation to Effects on Tumor Growth

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High Affinity Dopamine D2 Receptor Radioligands. 1. Regional Rat Brain Distribution of Iodinated Benzamides

Five 125I-labeled substituted benzamides were evaluated for their selective in vivo uptake dopamine D2 receptor-rich tissue. Observed uptake ratios correlated poorly with affinity constants but were highly correlated with the product of the receptor dissociation constant and apparent lipophilicity........ Page 1593

Acute Gastrointestinal Hemorrhage Detected by Selective Scintigraphic Angiography

Ten millicuries of 99mTc-sulfur colloid were administered directly into the superior and inferior mesenteric arteries of patients who had undergone selective arterial catheterization for the evaluation of gastrointestinal bleeding... Page 1601

Diagnosis of Segmental Necrosis in a Pancreas Transplant by Thallium-201 Perfusion Scintigraphy

Pancreatic transplants were imaged with 201Tl in three patients. High contrast between transplant and background permitted the detection of segmental necrosis of the graft’s tail in one patient........ Page 1605

PET Study of Carbon-11-PK 11195 Binding to Peripheral Type Benzodiazepine Sites in Glioblastoma

In a 69-yr-old male with glioblastoma, 11C-PK 11195 binding was two times higher in the tumor than in normal gray matter....... Page 1608

Thallium Myocardial Scintigraphy in Congenitally-Corrected Transposition of the Great Arteries

A case of congenitally-corrected transposition of the great arteries is presented. Thallium scintigraphic results are correlated with catheterization data ......... Page 1611

Inflammatory Pseudotumor: A Gallium-Avid Mobile Mesenteric Mass

An 8-yr-old boy with a 1-mo history of culture-negative fever and anemia underwent gallium, ultrasound, and CT studies as part of an evaluation of fever of unknown origin.... Page 1614

Severe Hypoxemia Secondary to Acute Sternal Infarction in Sickle Cell Anemia

A bone scan performed 5 days after admission of a 28-yr-old black male with sickle cell anemia, who presented with severe chest pain secondary to acute chest pain, revealed increased uptake in the sternum............. Page 1617

Evolution of Technetium-99m-HMPAO SPECT and Brain Mapping in a Patient Presenting with Echolalia and Palilalia

SPECT of the brain with 99mTc-HMPAO was performed during an acute episode of transient echolalia and palilalia. Brain mapping was performed after the episode had concluded.............. Page 1619

No-Carrier-Added Carbon-11-Labeled sn-1,2- and sn-1,3-Diacylglycerols by [14C]Propyl Ketene Method

The preparation of 11C-diacylglycerols by a no-carrier-added method using a [11C]propyl ketene method is discussed...... Page 1622

Continuing Education: Endocrine Imaging: Parathyroid, Adrenal Cortex and Medulla, and Other Endocrine Tumors. Part II

............. Page 1627
Here come two important new benefits in cardiac imaging
The superior image clarity of technetium...
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1 hour after injection

4 hours after injection

short axis

horizontal long axis

vertical long axis

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In blinded studies, CARDIOLITE imaging was 83% to 96% sensitive and 79% to 100% specific in detecting myocardial infarction, when compared with final diagnoses.

Reassuring safety profile

No known contraindications

Few adverse reactions

Of 2780 patients in worldwide trials, approximately 8% experienced a transient metallic taste following injection. A few cases of transient headache, mild nausea, flushing, and non-itching rash have also been reported. In worldwide commercial experience, one patient showed signs and symptoms consistent with seizure 8 to 10 min after injection. No other adverse reactions specifically attributable to the use of CARDIOLITE have been reported.

Reference

Cardiolite
Kit for the preparation of Technetium Tc99m Sestamibi
FOR DIAGNOSTIC USE

DESCRIPTION: Each 5 mL vial contains a sterile, non-pyrogenic, lyophilized mixture of:
Tetrakis (2-methoxy isobutyl isonitrile) Copper (I) tetrafluoroborate - 1.0 mg
Sodium Citrate Dihydrate - 2.6 mg
L-Cysteine Hydrochloride Monohydrate - 1.0 mg
Manitol - 20 mg
Stannous Chloride, Dihydrate, minimum (SnCl2·2H2O) - 0.025 mg
Stannous Chloride, Dihydrate, (SnCl2·2H2O) - 0.075 mg
Tin Chloride (Stannous and Stannic) Dihydrate, maximum (as SnCl2·2H2O) - 0.086 mg

Prior to lyophilization the pH is 5.3 to 5.9. The contents of the vial are lyophilized and stored under nitrogen. This kit is intended for intravenous injection for diagnostic use after reconstitution with sterile, non-pyrogenic, oxidant-free Sodium Pertechnetate Tc99m Injection. The pH of the reconstituted product is 5.5 (0-6.0). No bacteriostatic preservative is present.

The active intermediate, Cu(MIBI)4, was evaluated for genotoxic potential in vitro in a battery of five tests. No genotoxic activity was observed in the Ames, CHO/HPRT, and Human Lymphocyte Coloration tests. Cu(MIBI)4 did not show genotoxic effects in the in vivo mouse micronucleus test at a dose which caused systemic and bone marrow toxicity (0.8 mg/kg). No other adverse reactions specifically attributable to the use of Technetium Tc99m Sestamibi have been reported.

INDICATIONS AND USAGE: CARDIOLITE®, Kit for the preparation of Technetium Tc99m Sestamibi, is a myocardial perfusion agent that is useful in distinguishing areas of myocardial infarction due to coronary artery disease from areas of viable myocardium.

CONTRAINDICATIONS: None known.

WARNING: In studying patients in whom cardiac disease is known or suspected, take care to assure continuous monitoring and treatment in accordance with safe, accepted clinical procedure.

PREFERENCES:

GENERAL
The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi and are not to be administered directly to the patient without first undergoing the preparative procedure (as outlined in the full prescribing information).

Radioactive drugs must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to the patients consistent with proper patient management.

Contents of the kit before preparation are not radioactive. However, after the Sodium Pertechnetate Tc99m Injection is added, adequate shielding of the final preparation must be maintained.

The components of the kit are sterile and non-pyrogenic. It is essential to follow directions carefully and to adhere to strict aseptic procedures during preparation.

Technetium Tc99m labeling reactions involved depend on maintaining the stannous ion in the reduced state. Hence, Sodium Pertechnetate Tc99m Injection containing oxidants should not be used.

Technetium Tc99m Sestamibi should not be used more than six hours after preparation.

Radiochemists 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.

Carcinogenesis, Mutagenesis, Impairment of Fertility
In comparison with most other diagnostic technetium-labeled radiopharmaceuticals, the radiation dose to the ovaries is low. Minimal exposure (ALARA) principles should be followed.

In studying patients in whom cardiac disease is known or suspected, imaging should be completed consistent with ALARA principles (see also PRECAUTIONS).

Pediatric Use
Safety and effectiveness in children below the age of 18 have not been established.

ADVERSE REACTIONS: During clinical trials, approximately 8% of patients experienced a transient metallic or bitter taste immediately after the injection of Technetium Tc99m Sestamibi. A few cases of transient headache, flushing and non-itching rash have also been attributed to administration of the agent.

When used in the diagnosis of myocardial infarction, imaging should be completed within four hours after administration (see also CLINICAL PHARMACOLOGY section). No other adverse reactions specifically attributable to the use of Technetium Tc99m Sestamibi have been reported.

DOSEAGE AND ADMINISTRATION: The dose administered should be the lowest required to provide an adequate study consistent with ALARA principles (see also PRECAUTIONS).

When used in the diagnosis of myocardial infarction, imaging should be completed within four hours after administration (see also CLINICAL PHARMACOLOGY section).

The patient dose should be measurable with a suitable radioactivity calibration system immediately prior to patient administration.

Table 4. Radiation Absorbed Doses from Tc99m Sestamibi

<table>
<thead>
<tr>
<th>Organ</th>
<th>Estimated Radiation Absorbed Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REST</td>
</tr>
<tr>
<td></td>
<td>2.0 hour void</td>
</tr>
<tr>
<td></td>
<td>mGy/30 mCi</td>
</tr>
<tr>
<td>Organs</td>
<td>2.0</td>
</tr>
<tr>
<td>Breasts</td>
<td>2.0</td>
</tr>
<tr>
<td>Gallbladder Wall</td>
<td>2.0</td>
</tr>
<tr>
<td>Simultaneous</td>
<td>3.0</td>
</tr>
<tr>
<td>Intestine Wall</td>
<td>5.4</td>
</tr>
<tr>
<td>Lower Large</td>
<td>3.9</td>
</tr>
<tr>
<td>Intestine Wall</td>
<td>1.9</td>
</tr>
<tr>
<td>Stomach Wall</td>
<td>0.6</td>
</tr>
<tr>
<td>Lungs</td>
<td>0.5</td>
</tr>
<tr>
<td>Kidneys</td>
<td>2.0</td>
</tr>
<tr>
<td>Liver</td>
<td>0.6</td>
</tr>
<tr>
<td>Stomach</td>
<td>0.3</td>
</tr>
<tr>
<td>Bones</td>
<td>0.7</td>
</tr>
<tr>
<td>Lungs</td>
<td>0.7</td>
</tr>
<tr>
<td>Intestine Wall</td>
<td>1.5</td>
</tr>
<tr>
<td>Testes</td>
<td>0.3</td>
</tr>
<tr>
<td>Red Marrow</td>
<td>0.5</td>
</tr>
<tr>
<td>Urinary Bladder Wall</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Body</td>
<td>0.5</td>
</tr>
</tbody>
</table>


HOW SUPPLIED: Du Pont’s CARDIOLITE®, Kit for the preparation of Technetium Tc99m Sestamibi is supplied as a 5 mL vial in kits of two (2), five (5) and thirty (30) vials, sterile and non-pyrogenic.

Prior to lyophilization the pH is between 5.3 and 5.9. The contents of the vials are lyophilized and stored under nitrogen. Store at room temperature (15 to 30°C) before and after reconstitution. Technetium Tc99m Sestamibi contains no preservatives. Included in each two (2) vial kit is one (1) package insert, five (5) vial shield labels and five (5) radiation warning labels. Included in each thirty (30) vial kit is one (1) package insert, thirty (30) vial shield labels and thirty (30) radiation warning labels.

The US Nuclear Regulatory Commission has approved this reagent kit for distribution to persons licensed to use byproduct material identified in 35.100 and 35.200 of 10 CFR Part 35, to persons who hold an equivalent license issued by an Agreement State, and, outside the United States, to persons authorized by the appropriate authority.

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FOR DIAGNOSTIC USE

DESCRIPTION
Each 5 mL reaction vial contains a sterile, nonpyrogenic, lyophilized formulation of 2.0 mg cyclohexanedione dioxime, 2.0 mg methyl boronic acid, 2.0 mg pentetic acid, 9.0 mg citric acid, anhydrous; 100 mg sodium chloride, 50 mg gamma cyclodextrin and 0.058 mg (maximum) tin expressed as stannous chloride (SnCl2). The pH is adjusted with sodium hydroxide and/or hydrochloric acid prior to lyophilization. The contents of the vial are lyophilized and sealed under nitrogen at the time of manufacture. No bacteriostatic preservative is present.

When sterile, pyrogen-free sodium pertechnetate Tc 99m injection is added to the vial, and the solution is heated at 100°C for 15 minutes, the diagnostic agent Technetium Tc 99m Teboroxime is formed for administration by intravenous injection. The pH of the reconstituted product is 3.7 (range 3.3 to 4.1).

INDICATIONS AND USAGE
Technetium Tc 99m Teboroxime is a myocardial perfusion agent that is useful in distinguishing normal from abnormal myocardium in patients with suspected coronary artery disease using rest and stress techniques.

CONTRAINDICATIONS
None known.

WARNINGS
Stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate monitoring, resuscitation and support apparatus.

PRECAUTIONS
General
Contents of the reaction vial are intended only for use in the preparation of Technetium Tc 99m Teboroxime and are not to be administered directly to the patient.

Contents of the kit before preparation are not radioactive. However, after the addition of sodium pertechnetate Tc 99m injection, adequate shielding of the final preparation must be maintained.

The components of the kit are supplied sterile and non-pyrogenic. Aseptic procedures normally employed in making additions and withdrawals from sterile, non-pyrogenic containers should be used during the addition of the pertechnetate solution and the withdrawal of doses for patient administration.

The technetium Tc 99m labeling reactions involved in preparing the agent depend on maintaining the stannous ion in the reduced state. Any oxidant present in the sodium pertechnetate Tc-99m supply may thus adversely affect the quality of the radiopharmaceutical. Hence, sodium pertechnetate Tc-99m containing oxidants should not be employed.

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.

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

Tc-99m Teboroxime should be formulated no more than 6 hours prior to clinical use.

Carcinogenesis, Mutagenesis, Impairment of Fertility
In comparison with most other diagnostic technetium labeled radiopharmaceuticals, the radiation dose to the ovaries (1.8 rads/50 mCi) is high. Minimal exposure (ALARA) is necessary in women of childbearing capability. (See Dosimetry subsection in DOSAGE and ADMINISTRATION section.)

No long-term animal studies have been performed to evaluate carcinogenic potential or to determine the effects of Cardiotec on fertility in males or females.

Three different mutagenicity assays (a reversion test with bacteria, a chromosomal aberration assay and an in vivo mouse micronucleus assay) conducted with cold (decayed) technetium labeled Cardiotec gave negative results. Cardiotec was weakly positive for inducing forward mutations at the TK locus in L5178Y mouse lymphoma cells in the absence of metabolic activation (but only at high concentrations that were toxic to the cells and reduced growth to 33% or less relative to vehicle controls). Cardiotec was negative in this assay in the presence of metabolic activation.

Pregnancy Category C
Animal reproduction studies have not been conducted with Technetium Tc 99m Teboroxime. It is also not known whether Technetium Tc 99m Teboroxime can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity.

Technetium Tc 99m Teboroxime should be given to a pregnant woman only if the expected benefits to be gained clearly outweigh the potential hazards.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, in women of childbearing capability, should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers
Technetium Tc 99m is excreted in human milk during lactation. Therefore, formula feedings should be substituted for breast feedings.

Pediatric Use
Safety and effectiveness in children below the age of 18 have not been established.

ADVERSE REACTIONS
Uncommon adverse reactions reported in clinical trials include metallic taste in mouth, burning at injection site, facial swelling, numbness of hand and arm, hypotension and nausea after administration of Technetium Tc 99m Teboroxime.

HOW SUPPLIED
Cardiotec® (Kit for the Preparation of Technetium Tc 99m Teboroxime) is supplied in kits of 5, 10, and 25 reaction vials. (J4-282A)

Reference
1. Data on file, Squibb Diagnostics.

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The PET Center Search Committee
Emory School of Medicine
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Emory University is an Equal Opportunity/Affirmative Action Employer and welcomes applications for this position from women and members of minority groups.

NUCLEAR MEDICINE TECHNOLOGIST

Presbyterian Hospital of Dallas, a 934-bed teaching, research and acute care facility, is one of the Southwest's leading health care organizations. We have an immediate full-time opening for a Nuclear Medicine Technologist. Must be ARRT or CNMT registered or eligible.

Presbyterian Hospital of Dallas offers a challenging work environment with competitive salaries and benefits. For more information, please send your resume to or call: Janie Kramer, Recruiting Office, PRESBYTERIAN HOSPITAL OF DALLAS, 8200 Walnut Hill Lane, Dallas, TX 75231, (214) 891-6099 or (800) 749-6877.
SPECT BRAIN IMAGING
CLINICAL FELLOWSHIP

Department of Radiology
Section of Nuclear Medicine

BENEFIT:
This program is designed for nuclear medicine physicians, radiologists, technologists and referring physicians. It is intended to educate participants about the clinical utility of SPECT brain imaging with agents such as SPECIamine® and Ceretec®. Objectives include:
• Development of interpretation skills for brain images.
• Appreciation of clinical applications of SPECT brain imaging.
• Knowledge of image acquisition and reconstruction.
• Appreciation of factors that influence image quality.
• Knowledge of quality control techniques for SPECT.

SPONSORSHIP:
This program is sponsored by the Medical College of Wisconsin.

TUITION:
The tuition fee of $650 includes the course syllabus, handouts, breaks, breakfasts, lunches, and other amenities involved in making this a pleasant learning experience. Maximum enrollments have been established. Cancellations prior to the course will be refunded, less a $30 administrative fee.

CREDIT:
The Medical College of Wisconsin is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.
Accordingly, the Medical College of Wisconsin designates this continuing medical education activity as meeting the criteria for 13.00 hours in Category I toward the Physician’s Recognition Award of the American Medical Association.

Nuclear Medicine Technologists who attend the SPECT Brain Imaging Clinical Fellowship are eligible for 1.0 VOICE credit.

Register me for the following dates: (Please indicate a second choice)

☐ December 16-17, 1991    ☐ January 20-21, 1992

I will need hotel reservations for _______ only Monday night.

☐ I will need a ______ single/ ______ double room.

A check in the amount of $650 should accompany this registration form and be made payable to the Medical College of Wisconsin. Telephone registrations must be confirmed by check within 10 days.

Name ________________________
Address ________________________
City/State/Zip ________________________
Office Phone (____) ____________ home address ________________________

Registrations and payment should be sent to:
LisaAnn Trembath
SPECT Brain Imaging Fellowship Coordinator
Nuclear Medicine Division
Medical College of Wisconsin
8700 W. Wisconsin Avenue
Milwaukee, WI 53226 (414)257-6068
Chief Technologist
Nuclear Medicine

The Medical Center Hospital of Vermont is seeking a dynamic individual to manage the dairy operations and long range planning of the Nuclear Medicine Division of Radiology. Qualified candidates should be ARRT and/or CNMFT certified with five years of supervisory experience and have demonstrated effective technical and managerial skills.

The Medical Center Hospital of Vermont is a 500 bed tertiary care facility affiliated with the University of Vermont Medical School and the School of Radiologic Technology. The Hospital is a busy academic medical center serving a large community from several states. Our location on Lake Champlain, in the heart of Green Mountain ski country, offers year round recreational and cultural opportunities. We offer a competitive salary and benefits package. Please submit resume to: Ellen Kershelco, Medical Center Hospital of Vermont, Burlington, VT 05401, (800)722-9922.

MCHV
Medical Center Hospital of Vermont
Equal Opportunity/Affirmative Action Employer

PHYSICIST - Miami VA Medical Center

Nuclear Medicine Service is seeking a Qualified Physicist to implement policy & procedures following NRC Guidelines. Must be experienced in the application of Nuclear Physics to Cardiac Analysis & have knowledge of radiation safety & NRC Regs.

Benefits include generous vacation & sick leave. Full/Part Time Salary Commensurate with Qualifications. For more Information Contact William Black (305) 324-4455, Ext. 3092 or send Curriculum Vitae to VA Medical Center, Personnel Service 1201 N.W. 16th Street, Miami, FL 33125

Department of Veteran’s Affairs is an Equal Opportunity Employer.

NUCLEAR MEDICINE TECHNOLOGIST

Hoag Hospital, a 417-bed non-profit hospital nestled on the scenic Southern California coast between Los Angeles and San Diego has an outstanding career opportunity in its nuclear medicine department.

Candidates will perform all aspects of Nuclear Medicine Technology, including SPECT imaging and computer processing of acquired data. Requires a working knowledge of radiopharmacy and NMTCB certification.

The department features:
• Siemens SPECT camera interfaced to STAR II computer
• Siemens Camera interfaced to SPECT computer
• Toshiba dual-head and whole-body camera
• Whole-body SPECT system

Technologists rotate on all cameras and computers. And Hoag offers you an opportunity to advance through a unique three-step career ladder.

Send resume to Teresa Lliskew, Recruiter, Human Resources Department, 301 Newport Blvd., Box T, Newport Beach, CA 92668-8912, or call Jan Hauckert, Technical Manager, (714) 769-5558.

Memorial Hospital
An Equal Opportunity Employer

NUCLEAR MEDICINE TECHNOLOGIST

Memorial Hospital in Chattanooga, Tennessee, has a current opening for a Nuclear Medicine Technologist. Position requires completion of training in an AMA-approved course of nuclear medicine or radiologic technology. Must be registered or eligible by AART or ARRT. Position reports to Administrative Director and the Nuclear Medicine Technologist.

Responsibilities include interfacing with physicians, other departments, patients, visitors, and other health care facilities. Will also be involved in the performance of nuclear medicine studies and be responsible for the outcome.

Memorial offers excellent benefits and salary commensurate with experience. Please respond in confidence to Debbi Morrison, Professional Recruiter, 525 deSales Avenue, Chattanooga, TN 37404. (615) 495-8574.

An Equal Opportunity Employer

The Journal of Nuclear Medicine • Vol. 32 • No. 8 • August 1991
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 Journal of Nuclear Medicine or by The Society of Nuclear Medicine.

**Alarming Ratemeter**

Dosimeter Corporation of America’s new Model 18C Alarming Ratemeter has been designed to meet the Nuclear Regulatory Commission’s amended radiation protection requirements. In response to the NRC requirements, which state that industrial radiographers and assistants must wear an alarming ratemeter, the Model 18C unit features a continuous alarm tone. The unit includes a low-voltage solid-state detector, a one-touch complete operational test, and a 500-mR/hr alarm point. The Model 18C automatically monitors battery voltage, alerting the user when only 10 of its 5000 hours of battery life remain. This pocket-size, splashproof unit weighs 3.5 ounces and comes with a belt clip.

R.D. Terry, Dosimeter Corporation, 11286 Grooms Road, Cincinnati, Ohio 45242. (513) 489-8100.

Circle Reader Service No. 103

**Polycarbonate Baffled Flasks**

Nalge Company has added baffled flasks in 250- and 500-ml sizes to its product line. These break-resistant, reusable flasks provide an alternative to expensive glass flasks and produce equivalent growth curves with both E. coli and S. cerevisiae. The baffles increase mixing when trypsinizing, aetrating, or exchanging gases in a variety of processes such as fermentation, cell culture growth and cultivation, and genetic engineering procedures. Transparent polycarbonate has excellent mechanical strength and is autoclavable.

Jorge M. Pardo, Nalge Company, Box 20365, Rochester, New York 14602. (716) 586-8800.

Circle Reader Service No. 104

**Cardiac Imaging Table**

Quinton Instrument Company has developed a steel cardiac imaging table that eliminates motion interference even during rigorous exercise. The Model 848-T imaging table is equipped with an ergometer exercise system and gives accurate, repeatable workloads from 10 to 300 watts. The ergometer can be lifted off easily for general imaging procedures. The unit’s back and leg planes can be tilted separately for maximum patient comfort and minimal motion interference. The back adjusts from 0° supine to 75° vertical, while the leg adjusts from 0° to 42°. Adjustable shoulder and chest restraints also help reduce patient movement and the pedal length can be adjusted to fit each patient. The table’s narrow back permits unrestricted camera angles, including critical side images. Lockable casters make it easy to relocate the table when necessary. Quinton Sales Department, 2121 Terry Avenue, Seattle, WA 98121. (800) 426-0337.

Circle Reader Service No. 101

**Compact Film Processor**

Agfa Corporation announces the Curix Compact, a film handling and processing system that develops film automatically within several minutes. This automatic and rapid system allows technologists, physicians and radiologists to obtain results without having to leave the patient’s side. Once a cassette is inserted, the Curix Compact orients the cassette, determines the correct size/type, opens the cassette, removes the exposed film, and transports it to the processor module. Dry film, ready for viewing, emerges 90 to 120 seconds later. Up to four film dispensers can be accommodated, each capable of handling 14 film sizes. Designed with ecological considerations in mind, the Curix Compact features low water consumption and minimum usage of developer and fixer. It has an optional self-contained bottle system.

Tom Colucci, Agfa Matrix Division, Agfa Corporation, 100 Challenger Road, Ridgefield Park, NJ 07660. (201) 641-9566.

Circle Reader Service No. 102
Radioisotope Calibrator with Moly Shield

Nuclear Associates introduces Comp-U-Cal II, a fully computerized radioisotope calibrator with a built-in moly shield that reduces radiation exposure. The calibrator measures radioactivity rapidly, determines isotope concentrations, and performs 99mTc assays. It also calculates radioisotope concentrations and volume for any desired dose, corrected for decay at 30-minute intervals. The computerized system can also determine the syringe volume needed to deliver a specified dose. Syringe volume activity can be measured to verify the patient dose. Background radiation is subtracted automatically. All data is displayed on an LCD readout and hard-copy documentation can be generated by the dot-matrix printer, providing a permanent record of every measurement or calculation including the date, time, isotope, and patient identification number. Comp-U-Cal II is calibrated to measure 82 radioisotopes, the most common of which can be key-selected: 99mTc, 67Ga, 201Tl, 131Xe, 131I, and 113In. Martin Ratner, Nuclear Associates, 100 Voice Road, P.O. Box 349, Carle Place, NY 11514. (516) 741-2166.

Thyroid Uptake/Well Detector System

Capintec, Inc. introduces the CAPTUS-500, a thyroid uptake/well detector system. All operations on the system are menu driven with on-screen prompts. Equipped with an optional printer, the CAPTUS-500 can generate reports for thyroid uptake, thyroid bioassay, wipe tests, and blood or urine tests. The unit also features full system self-diagnostics including all the program and data memories, as well as a comprehensive test program. Capintec, Inc., 6 Arrow Road, Ramsey, NJ, 07446. (201) 825-9500.

Dual-Head Nuclear Medicine System

Picker International introduces the PRISM 2000 dual-head nuclear medicine system. Compared to conventional single-head systems, the PRISM 2000 doubles patient throughput. The two 20" x 15" field of view detectors provide physicians with simultaneous anterior and posterior single-pass whole-body studies. The system is also capable of achieving SPECT, gated SPECT, and planar studies. This clinical flexibility allows the performance of lung, brain, bone, kidney, thyroid, liver, and other types of acquisitions. The unit is extremely compact and its robotic design makes it possible for a single technologist to operate the system. The OSYSSEY Supercomputer is an integral component of all PRISM systems. The system's computing and analytical capabilities, combined with diagnostic software packages, help clinicians perform nuclear medicine studies. It offers parallel processing, vector processing and a high bandwidth bus. These features enable the technologist to evaluate patient studies shortly after completion. In addition, the physician can view a high resolution 1280 x 1024 color display at the same time that the diagnostic impression is being made. Mike Peterson, Picker International, P.O. Box 739, Berea, Ohio 44017. (216) 473-3539.

Panoramic Imaging Table

Atomic Products Corporation introduces the Panoramic 970 XYZ Imaging Table. The most prominent feature of this product is a plexiglass top which mounts flush against the bottom of the table. This positioning allows the camera to be placed extremely close to the patient's imaging surface. It also allows the camera, or the table, to move without interference. There are 19" of head-to-toe travel available, increasing flexibility in all planar imaging. In addition, the camera can be extended to all four sizes when positioned under the table. Atomic Products Corporation, P.O. Box 702, Shirley, New York 11967. (516) 924-9000.

Circle Reader Service No.

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It is clear that PET has turned the clinical corner. Clinical PET has proven itself to be of significant influence in the field of diagnostic imaging. The unique information provided by PET is rapidly changing the treatment approach of physicians around the world. 

Maria Schwaiger, MD
Conference Chairman
Associate Professor, Internal Medicine
Director, Cardiovascular Nuclear Medicine
University of Michigan Medical Center
Ann Arbor, Michigan

This conference has been designed to specifically meet the needs of those professionals in Cardiology, Neurology, Oncology, Radiology and Nuclear Medicine who are involved in ordering, evaluating or interpreting clinical PET studies; Hospital Administrators and all members of the PET community who want to...

Stay Current on the 3r's of PET:
- Regulatory Issues
- Reimbursement
- Radiochemistry and Instrumentation
  - Neurological Applications
  - Evaluation of Malignancies
  - Cardiovascular Applications

HOTEL: Loews L'enfant Hotel, 480 Loebs L'enfant Plaza, S.W., Washington, DC 20004. (202) 484-4000. Reservations must be made by September 27, 1991 in order to receive the special ICP rates. ICP Group Rates: Single $145; Double $155

FOR MORE INFORMATION: Institute for Clinical PET (ICP), 205 National Press Building, Washington, DC 20045.
Phone 202-466-4274, Fax 703-765-3795.

REGISTRATION FORM: Please print or type registrant's name as it should appear on the Conference badge. This form may be photocopied.

☐ Please register me for the Third Annual International PET Conference and send a program for the Conference.
☐ Please send me a Conference program which includes details on the schedule, hotel and travel discounts and ICP membership.

Name ________________________________ Degree(s) ____________________________
Specialty ______________________________ Hospital/Clinic/Company ____________________________
Phone ________________________________ Address ____________________________________________
FAX ________________________________

City _______________ State ___________ Zip __________

CATEGORY: Please check one ICP MEMBER: Pre-Reg. On Site NON MEMBER: Pre-Reg. On-Site
☐ Physician/Scientist Professional/Hospital Administrator $490 $520 $625 $655
☐ Technologist/Resident $210 $225 $375 $400

My check/money order for $ __________ made payable to ICP is enclosed. Mail form and payment to the ICP address above.
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*Indexed in Current Contents*  
Evaluated and abstracted for Energy on *STN*
New England and Greater New York Chapters, Society of Nuclear Medicine
6th Northeast Regional Meeting
Friday, October 4 - Sunday, October 6, 1991
Sheraton Boston Hotel
Boston MA.

Don't miss this opportunity to:

Meet with 50 manufacturers of state of the art cameras, computers, radiopharmaceuticals, and accessories.

Participate in a valuable learning experience with your Nuclear Medicine colleagues.

Lecture topics will include:

- Non Cardiac SPECT
- Cardiac SPECT
- Regional Hospital Reports
- Infection Imaging
- Renal Scanning
- Tumor Imaging

Abstract Deadline is AUGUST 15, 1991. Submit three (3) copies of abstract with supporting data to:

Kevin J. Donohoe, M.D.
Beth Israel Hospital
Division of Nuclear Medicine
330 Brookline Avenue
Boston, Massachusetts 02215
(617) 735-2071

Abstracts should be no longer than 200 words and fit inside the box of the JNM abstract form.

For further information concerning exhibits or meeting registration, contact:

Mitchell H. Stromer
Meeting Administrator
Northeast Regional Meeting
360 Cedar Lane
East Meadow, New York 11554
Phone: (212) 904-4180
Fax: (212) 904-4182

The New England Chapter-SNM/TS announces “The Job Hotline,” a national toll-free hotline for nuclear medicine. The hotline is designed to provide a quick link for technologists seeking jobs and for hospitals seeking technologists. Institutions seeking technologists should call the hotline number, leave the name of the institution, title of the job opening, and name and number of the contact person; data are then stored for three months in a database for anyone who calls the hotline seeking employment. Technologists seeking employment should call the hotline number, specify state(s) which are of interest, specify type of job desired, and leave name and address. A listing will then be sent out in 48 hours; all inquiries are kept confidential. If an opening has not been filled within three months, the institution should call again to have it listed. The institution should also call if an opening has been filled so that it can be deleted from the database. The hotline numbers are 1-800-562-6387 (1-800-JOB-NETS) or 1-990-4212 in Maine. Questions or comments should be directed to: Tom Starno, Manager, Job Hotline, New England Chapter-TS at (207) 945-7186.

The Mideastern Chapter-SNM/TS will provide a referral network for technologists seeking employment and for hospitals in need of technologists. Interested individuals should call Cathy Gonzalez at (301) 855-1712. Please leave your name, address, phone number and a brief description of your request.

NOTE: SNM chapters are invited to submit job referral service listings for publication. Pertinent information—name and brief description of the service, telephone number and/or address, name or number of contact person for inquiries—should be sent to:

Leigh Silverman, Section Editor, JNMMNMT The Society of Nuclear Medicine, 136 Madison Avenue New York, NY 10016-6760.
Information for Classified Advertisers—1991

POLICY: The Journal of Nuclear Medicine and the Journal of Nuclear Medicine Technology accept classified advertisements from medical institutions, groups, suppliers, and qualified specialists in nuclear medicine. Acceptance is limited to Positions Open, Positions Wanted, Equipment Available, Equipment Wanted, and Seminars. We reserve the right to decline, withdraw, or modify advertisements.

RATES:

**JNM**
- Full page: $1,300
- Half page: 750
- Quarter: 500
- Eighth: 420

**JNMT**
- Full page: $750
- Half page: 430
- Quarter: 325
- Eighth: 275

*Publisher-set charges: page $100; half page $75; quarter page $40; eighth page $25.

TERMS: Payment or an authorized Purchase Order must accompany order. Make check payable in U.S. dollars on U.S. banks only to: The Society of Nuclear Medicine. Note: 15% agency commission is offered on display ads only.

DEADLINES: **JNM**—First of the month preceding the publication date (for example, October 1 for November issue). **JNMT**—25th of second month preceding publication date (for example, October 25th for December issue).

SEND COPY TO: Classified Advertising Department
The Society of Nuclear Medicine
136 Madison Avenue, 8th Floor
New York, NY 10016-6760
FAX: (212) 545-0221

For further information please contact Lisa Esposito at (212) 889-0717.

EXAMPLES

**NUCLEAR MEDICINE TECHNOLOGIST.** Registered or registry eligible technologist to work in private office. Special emphasis on nuclear cardiology. Salary negotiable. Send resume to: Box 1203, The Society of Nuclear Medicine, 136 Madison Ave., 8th Fl., New York, NY 10016-6760. EOE

**NUCLEAR MEDICINE PHYSICIAN with board certification in internal medicine or radiology needed for expanding out patient imaging practice.** Qualified applicants should send CV to: J.M.C. Inc., 2040 W. Wisconsin Ave., Suite 378, Milwaukee, WI 53233; (414) 933-8798. EOE.

**LINE-ADS:** $19.00 (JNM) or $17.00 (JNMT) 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 **Positions Wanted** rate for SNM members: $1000 per line. Note: Box numbers are available for the cost of the two lines required.

**WITH BOX NUMBER**
- COST: 6 lines x $19.00 = $114.00 (JNM)
  6 lines x $17.00 = $102.00 (JNMT)

**WITHOUT BOX NUMBER**
- COST: 6 lines x $19.00 = $114.00 (JNM)
  6 lines x $17.00 = $102.00 (JNMT)

DISPLAY ADS DIMENSIONS:

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FREQUENCY: The Journal of Nuclear Medicine is a monthly and the Journal of Nuclear Medicine Technology is a quarterly, published in March, June, September, and December.

For further information please contact Lisa Esposito at (212) 889-0717.
**APPLICATION FOR MEMBERS III**

(see reverse side for instructions)

<table>
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<tr>
<th>First Name</th>
<th>Middle Initial</th>
<th>Last Name Jr, Sr, I, II, III (circle one)</th>
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Check Degree(s) Earned:

(please type or print clearly)

MD ___ PhD ___ MA ___ MS ___ BA ___ BS ___ AA ___ AS ___ Other _______________________

Indicate Board Certification(s):

☐ ABNM  ☐ ABR  ☐ ABP  ☐ ABIM  ☐ ABSNM  ☐ ABHP  ☐ NMTCB

☐ ASCP  ☐ ARRT(N)  ☐ ARRT(T)  ☐ ARRT(R)  ☐ Other _______________________

Please choose ONLY ONE of the following categories of membership for which you wish to be considered. (Categories of membership are described on the front page of this application and should be reviewed carefully before your choice is made.)

☐ Full  ☐ Associate  ☐ Technologist  ☐ Affiliate

Please check ONE box for preferred mailing address, but complete both columns for our files:

☐ Institutional  ☐ Home Address

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Projected Completion Date: ____________________________

Would you like to join the TECHNOLOGIST SECTION?  ☐ Yes  ☐ No

(Note: Technologist members automatically become technologist section members)

| COUNCIL MEMBERSHIP (OPTIONAL) | |
|-------------------------------|-------------------------|-------------------------|-------------------------|
| ☐ Academic Council            | ☐ Computer/Instrumentation Council  | ☐ Radioassay Council |
| ☐ Brain Imaging Council       | ☐ Correlative Imaging Council  | ☐ Radiopharmaceutical Council |
| ☐ Cardiovascular Council      | ☐ Nuclear Magnetic Resonance Council |

NAME OF SNM MEMBER WHO SUGGESTED THAT YOU JOIN ____________________________

APPLICANT'S SIGNATURE ____________________________  DATE ________________

FOR OFFICE USE ONLY

☐ MF  ☐ TS  ____________________________  CHAIRMAN, MEMBERSHIP COMMITTEE (sign)

APPLICATION FEE ____________________________  ☐ MA  ☐ IT  ____________________________  TECHNOLOGIST SECTION DESIGNEE (sign)

CHAPTER ____________________________  ☐ MTT  ____________________________

ACCOUNT # ____________________________  ☐ ML
Instructions to Application for Membership

1. Please complete and sign the enclosed application form, either printing or typing the information. Make sure you have completed all information requested in order to avoid unnecessary delays in processing.

2. The membership category you select will be reviewed based on the information you provide on your application form to insure accordance with the Society's Bylaws.

3. To be eligible for "In-Training" status, at least 90 days must be remaining in your formal training program and your application must be accompanied by a letter signed by your program director confirming your student status. No application processing fee is required.

4. Upon acceptance by the Society, you will automatically become a member of the regional chapter that covers your area of residence. If you wish membership in some other chapter, you should submit your request with your application. If no regional chapter exists for the area of your residence, you will be assigned "Membership-at-Large."

5. Forward the completed application with a $10.00 non-refundable processing fee.

6. Receipt of your application will be acknowledged. Allow 4-6 weeks for processing and for receipt of the appropriate journals.

DO NOT prepay your dues. An invoice will be sent to you upon approval of your application.

Guide to Membership Dues—1991

Categories of Membership—There are four basic categories of membership in the Society of Nuclear Medicine. (Descriptions of these four categories are located on the front page of this application.)

Students—Students are considered In-Training and are charged half the regular membership rate in the appropriate membership category.

Doctorate Degrees—Members with Doctorate Degrees (MD, DO, PhD) who also belong to the Technologist Section are charged a different rate from those without Doctorate Degrees.

Technologist Section—All members of the Technologist Section must belong to the Society of Nuclear Medicine. All dues paid by Technologist Section members who do not possess a Doctorate Degree are credited to the Technologist Section.

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- Councils—Council dues are an additional $5.00 per Council.

- Prorated Dues—Dues for those applicants joining during the year are prorated to January 1st.

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Cardiotec®

Kit for the Preparation of Technetium Tc 99m Teboroxime

FOR DIAGNOSTIC USE

DESCRIPTION

Each 5 mL reaction vial contains a sterile, nonpyrogenic, lyophilized formulation of 2.0 mg cyclohexanedione dioxime, 2.0 mg methyl boron acid, 2.0 mg pentetic acid, 9.0 mg citric acid, anhydrous; 100 mg sodium chloride, 50 mg gamma cyclodextrin and 0.058 mg (maximum) total tin expressed as stannous chloride (SnCl2), 0.020 mg (minimum) stannous chloride (SnCl2). The pH is adjusted with sodium hydroxide and/or hydrochloric acid prior to lyophilization. The contents of the vial are lyophilized and sealed under nitrogen at the time of manufacture. No bacteriostatic preservative is present.

When sterile, pyrogen-free sodium pertechnetate Tc 99m injection is added to the vial, and the solution is heated at 100°C for 15 minutes, the diagnostic agent Technetium Tc 99m Teboroxime is formed for administration by intravenous injection. The pH of the reconstituted product is 3.7 (range 3.3 to 4.1).

INDICATIONS AND USAGE

Technetium Tc 99m Teboroxime is a myocardial perfusion agent that is useful in distinguishing normal from abnormal myocardium in patients with suspected coronary artery disease using rest and stress techniques.

CONTRAINDICATIONS

None known.

WARNINGS

Stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate monitoring, resuscitation and support apparatus.

PRECAUTIONS

General

Contents of the reaction vial are intended only for use in the preparation of Technetium Tc 99m Teboroxime and are not to be administered directly to the patient.

Contents of the kit before preparation are not radioactive. However, after the addition of sodium pertechnetate Tc 99m injection, adequate shielding of the final preparation must be maintained.

The components of the kit are supplied sterile and non-pyrogenic. Aseptic procedures normally employed in making additions and withdrawals from sterile, non-pyrogenic containers should be used during the addition of the pertechnetate solution and the withdrawal of doses for patient administration.

Teboroxime is formed for administration of Technetium Tc 99m labeling reactions involved in preparing the agent depend on maintaining the stannous ion in the reduced state. Any oxidant present in the sodium pertechnetate Tc-99m supply may thus adversely affect the quality of the radiopharmaceutical. Hence, sodium pertechnetate Tc-99m containing oxidants should not be employed.

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.

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

Tc-99m Teboroxime should be formulated no more than 6 hours prior to clinical use.

Carcinogenesis, Mutagenesis, Impairment of Fertility

In comparison with most other diagnostic technetium labeled radiopharmaceuticals, the radiation dose to the ovaries (1.8 rads/50 mCi) is high. Minimal exposure (ALARA) is necessary in women of childbearing capability. (See Dosimetry subsection in DOSAGE and ADMINISTRATION section.)

No long-term animal studies have been performed to evaluate carcinogenic potential or to determine the effects of Cardiotec on fertility in males or females.

Three different mutagenicity assays (reversion test with bacteria, a chromosomal aberration assay and an in vitro mouse micronucleus assay) conducted with cold (decayed) technetium labeled Cardiotec gave negative results. Cardiotec was weakly positive for inducing forward mutations at the TK locus in L5178Y mouse lymphoma cells in the absence of metabolic activation (but only at high concentrations that were toxic to the cells and reduced growth to 33% or less relative to vehicle controls). Cardiotec was negative in this assay in the presence of metabolic activation.

Pregnancy Category C

Animal reproduction studies have not been conducted with Technetium Tc 99m Teboroxime. It is also not known whether Technetium Tc 99m Teboroxime can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m Teboroxime should be given to a pregnant woman only if the expected benefits to be gained clearly outweigh the potential hazards.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, in women of childbearing capability, should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers

Technetium Tc 99m is excreted in human milk during lactation. Therefore, formula feedings should be substituted for breast feedings.

Pedictric Use

Safety and effectiveness in children below the age of 18 have not been established.

ADVERSE REACTIONS

Uncommon adverse reactions reported in clinical trials include metallic taste in mouth, burning at injection site, facial swelling, numbness of hand and arm, hypotension and nausea after administration of Technetium Tc 99m Teboroxime.

HOW SUPPLIED

Cardiotec® (Kit for the Preparation of Technetium Tc 99m Teboroxime) is supplied in kits of 5, 10, and 25 reaction vials.

SQUIBB Diagnostics


Reference

1. Data on file, Squibb Diagnostics.

Issued: March 1991
QUICK...
Rapid uptake and washout: complete stress and rest studies in only 90 minutes!

CLEAR...
Sharp images: enhance diagnostic ability to distinguish ischemia and infarction!

CLEAN...
Rapid blood clearance: greater patient comfort.

The first technetium-based myocardial perfusion agent for rest and stress imaging.

NEW Cardiotec
(Kit for the Preparation of Technetium Tc-99m Tetroxime)