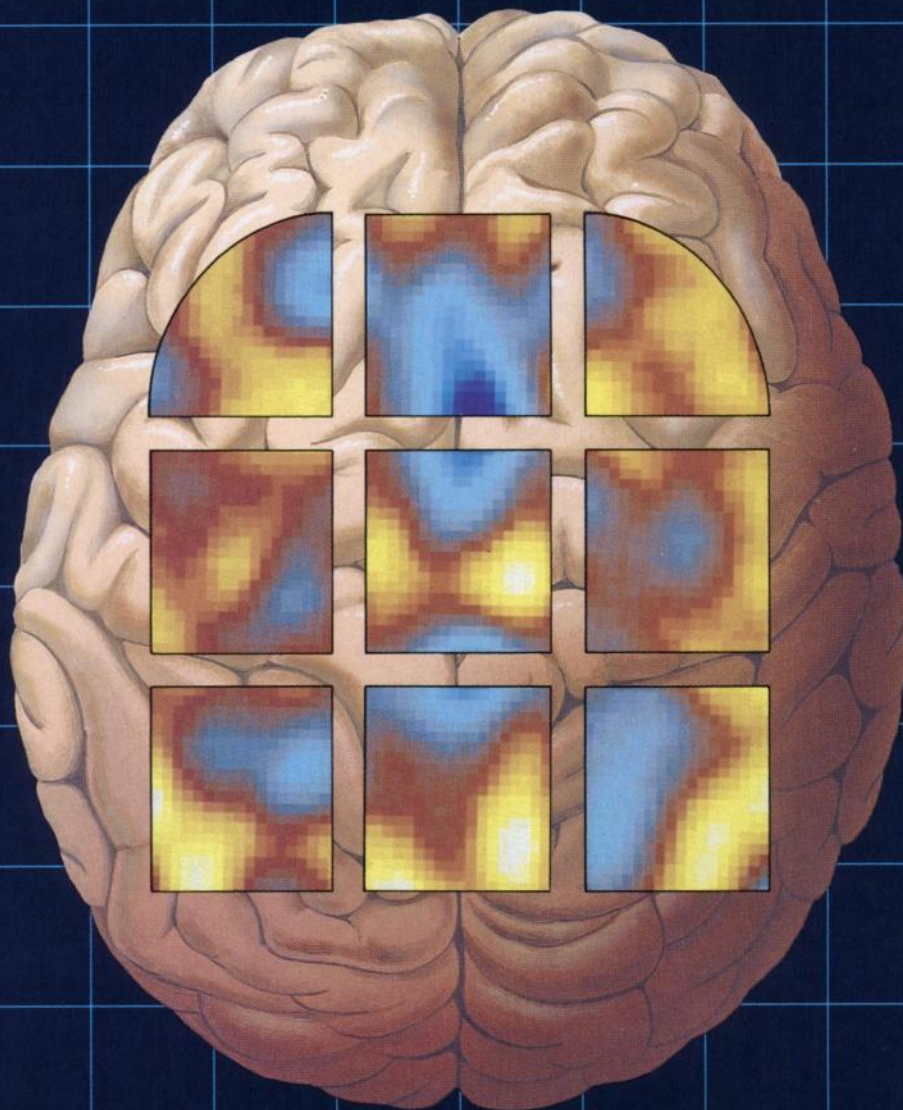


In the evaluation of stroke

# SPECTamine<sup>®</sup>

Iofetamine HCl I 123 Injection

**opens a window into  
the living brain**



Copyright © 1989 Medi-Physics, Inc. All rights reserved.

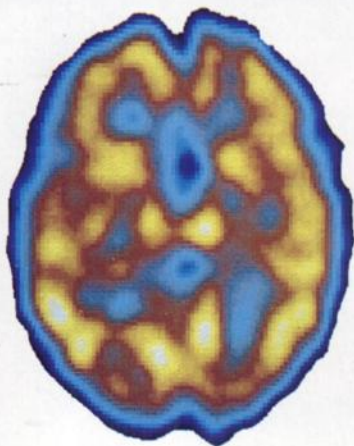
Please see adjacent page for brief summary of prescribing information.



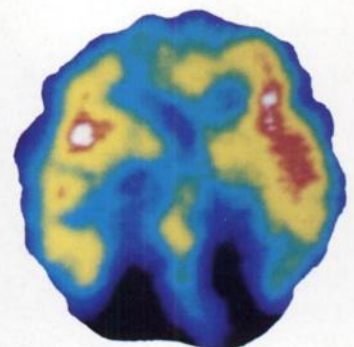
# SPECTamine®

## Iofetamine HCl I 123 Injection

- A neurotransmitter analog crosses the intact blood-brain barrier
- Concentrates in metabolically active brain cells—predominantly in the gray matter
- Provides PET-like functional brain images at a fraction of the cost



Normal brain (top left) displays relatively symmetric SPECTamine uptake by metabolically active neurons.



SPECTamine study (bottom left) demonstrates bilaterally posterior cerebral artery infarction, confirming diagnosis.

Images courtesy of New England Deaconess Hospital, Boston, Mass. Images acquired with SME 810 dedicated head unit, Strichman Medical, Equipment, Inc., Medfield, Mass.

For more information contact your Medi-Physics Territory Manager, Roche Professional Service Center or call 1-800-451-7732.

**Roche Professional Service Centers**

a subsidiary of Hoffmann-La Roche Inc.

**medi+physics®**

a subsidiary of Hoffmann-La Roche Inc.

Medi-Physics, Inc.  
140 East Ridgewood Avenue  
Paramus, NJ 07652

# SPECTamine®

## Iofetamine HCl I 123 Injection

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

### DIAGNOSTIC—FOR INTRAVENOUS USE

**DESCRIPTION:** SPECTAMINE® (Iofetamine HCl I 123 Injection) is supplied as a sterile, apyrogenic, aqueous, isotonic sodium chloride solution for intravenous administration. Each milliliter of the solution contains 37 megabecquerels (1 millicurie) of Iofetamine HCl I 123 at calibration time, 0.15 milligram Iofetamine HCl, 0.017 millimole sodium phosphate, and 8.0 milligrams sodium chloride for isotonicity. The pH is adjusted to 4.5–6.0 with sodium hydroxide or hydrochloric acid. SPECTAMINE contains no bacteriostatic preservative and is packaged in single dose vials. The radionuclidic composition at calibration time is not less than 98.0 percent I 123, not more than 1.9 percent I 125, and not more than 0.1 percent all others (I 126 and Te 121). The radionuclidic composition at the 12-hour expiration time is not less than 96.3 percent I 123, not more than 3.5 percent I 125, and not more than 0.2 percent all others.

**INDICATIONS AND USAGE:** SPECTAMINE (Iofetamine HCl I 123 Injection) is recommended for use as a lipid-soluble brain-imaging agent. It has been shown to be useful in the evaluation of nonlacunar stroke especially when used within 96 hours of onset of focal neurological deficit. The rates of agreement between abnormal images and the neurological examination suggestive of ischemic cerebrovascular insufficiency appear to increase with the severity of symptoms. Its usefulness for the measurement of cerebral blood flow has not been established.

**CONTRAINDICATIONS:** None known.

**WARNINGS:** SPECTAMINE (Iofetamine HCl I 123 Injection) should not be administered to individuals with known hypersensitivity to sympathomimetic amines or to those individuals taking monoamine oxidase inhibitors.

### PRECAUTIONS:

#### General

Some primate (*Macaca fascicularis*) studies have shown marked eye uptake of Iofetamine HCl I 123. Localization has not been studied in the isolated human eye although in vivo images suggest the concentration of Iofetamine HCl I 123 is below the limit of detection. Individual human variations in pharmacokinetics of this drug and the long-term effect on the eye have not been elucidated. The contents of the vial are radioactive. Adequate shielding of the preparation must be maintained at all times.

Do not use after the expiration time and date (12 hours after calibration time) stated on the label. Potassium Iodide Oral Solution should be administered before the examination to minimize thyroid uptake of Iodine 123.

The prescribed Iofetamine HCl I 123 dose should be administered as soon as practical from the time of receipt of the product (i.e., as close to calibration time or before, if possible), in order to minimize the fraction of radiation exposure due to relative increase of radionuclidic contaminants with time.

To minimize radiation dose to the bladder, the patient should be encouraged to drink fluids and void frequently.

SPECTAMINE, as well as other radioactive drugs, must be handled with care. Appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Care should also be taken to minimize radiation exposure to the patient consistent with proper patient management.

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.

#### Drug Interactions

There has been a single report of elevated diastolic hypertension (about 30 mm Hg) occurring 18 hours after administration of SPECTAMINE in a patient maintained on therapeutic doses of valproic acid.

Concurrent use of monoamine oxidase (MAO) inhibitors and compounds containing the amphetamine structure has been known to result in hypertensive crisis. Caution, therefore, should be exercised when administering SPECTAMINE (Iofetamine HCl I 123 Injection) to individuals taking medications known to potentiate the effects of sympathomimetic amines. It is recommended that SPECTAMINE not be administered during or within 14 days following administration of MAO inhibitors.

Sympathomimetic amines may affect the biodistribution of SPECTAMINE and, thus, may influence the image quality and diagnostic utility of the image.

#### Carcinogenesis, Mutagenesis, Impairment of Fertility

No long-term animal studies have been performed to evaluate carcinogenic potential, mutagenic potential or effects on fertility in male or female animals. The Ames test was negative for mutagenic effects.

#### Pregnancy Category C

Animal reproduction studies have not been conducted with SPECTAMINE. It is also not known whether SPECTAMINE can cause fetal harm when administered to a man or a pregnant woman or can affect reproduction capacity. SPECTAMINE should be given to a pregnant woman only if clearly needed.

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

#### Nursing Mothers

Since Iodine I 123 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.

**ADVERSE REACTIONS:** In a clinical study in 93 patients with sudden onset of focal neurological deficit, e.g., cerebral infarction, 7 patients died within 2 to 55 days after administration. The deaths were considered to be a result of the disease state. Although there was no concurrent control group, statistics from historical controls support this evaluation.

There is evidence suggesting that the administration of 1 to 2 milligrams of Iofetamine HCl, the carrier in SPECTAMINE, may increase systolic blood pressure by about 10 mm Hg. In a patient with a history of hypertension, there has been a single report of sudden onset of hypertension and dizziness with transient chest tightness which occurred 5–10 minutes after administration of SPECTAMINE. One case of transient unilateral hearing loss also was reported several hours after the use of SPECTAMINE in a patient with a coincidental upper respiratory infection.

As with all organic-iodine-containing compounds, the possibility of allergic reactions must be considered.

**HOW SUPPLIED:** SPECTAMINE is supplied in nominal 3.5 ml vials as a sterile, apyrogenic, aqueous, isotonic sodium chloride solution for intravenous injection. Each milliliter contains 37 megabecquerels (1 mCi) of Iofetamine HCl I 123 at calibration time.

It is available in individual vials containing 111 megabecquerels (3 mCi) of Iofetamine HCl I 123 at calibration time in a volume of 3 ml.

Single use vials are packaged in individual lead shields with plastic outer container.

THIS PRODUCT INFORMATION ISSUED AUGUST 1988

Medi-Physics, Inc.

140 East Ridgewood Avenue, Paramus, NJ 07652

Circle Reader Service No. 1

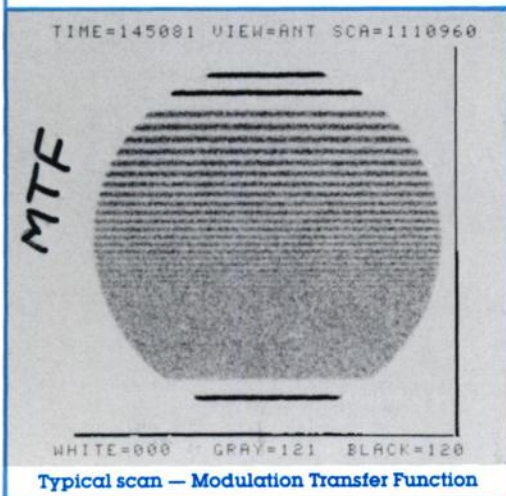


# ONE Phantom...SIXTEEN Tests!



## A Breakthrough in Gamma Camera Quality Assurance!

- Makes current phantom/flood QA testing of gamma camera systems obsolete!
- Eliminates the need for most conventional phantoms!
- Greatly reduces exposure to personnel during flood QA testing!



### *Programmed to Perform Sixteen Quality Assurance Tests, Including...*

- ✓ Flood Field
- ✓ Variable Contrast
- ✓ Dynamic Range
- ✓ Modulation Transfer Function
- ✓ Resolution
- ✓ Linearity

The Dynamic Line Phantom is the only instrument that will provide a true and accurate flood uniformity test for gamma cameras...a necessity in SPECT imaging!

This new phantom uses the principle of a thin line source transversing the camera. Using microprocessor technology, it can simulate a number of different phantoms. It can provide direct measurement of the Modulation Transfer Function, can evaluate collimator operation, and check the complete imaging system — camera, interface, processing, display.

Conventional phantoms such as flood, quadrant bar, PLES, orthogonal hole, flood sources, Hine-Duley, BRH test patterns, and more, have been incorporated into the Dynamic Line Phantom which is preprogrammed to perform 16 quality assurance tests.

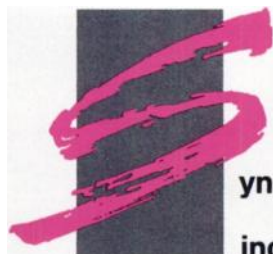
*For more details, request Bulletin 436-35*

### NUCLEAR ASSOCIATES



Division of VICTOREEN, INC.  
100 VOICE ROAD • P.O. BOX 349  
CARLE PLACE, NY 11514-0349 U.S.A.  
(516) 741-6360 • FAX (516) 741-5414  
A Member of THE TALBEX GROUP, PLC.  
Circle Reader Service No. 60

**For the newest  
ideas in nuclear  
medicine, look to  
the oldest national  
nuclear pharmacy.**



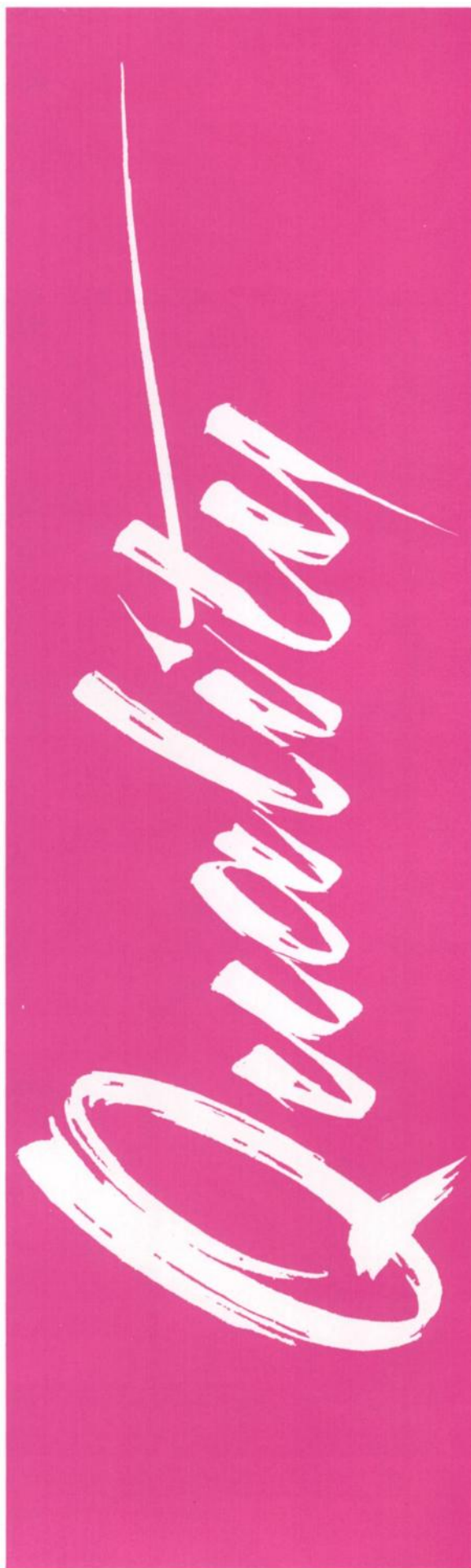
**yncor is the only radiopharmacy to  
include quality assurance procedures  
in NRC license documentation—a reflection of our  
dedication to quality and our customer commitment.**

**Based on our 15 years experience, we select  
the highest quality radiopharmaceuticals to fill your  
orders. We confirm quality with extensive testing  
and make printed confirmations of test results avail-  
able to you. We verify our service and product  
quality through customer surveys.**

**Syncor quality lets you practice nuclear medi-  
cine with the certainty that you are receiving the  
best radiopharmaceuticals available. For more  
details on our quality program, just call or send  
in the reader service card.**

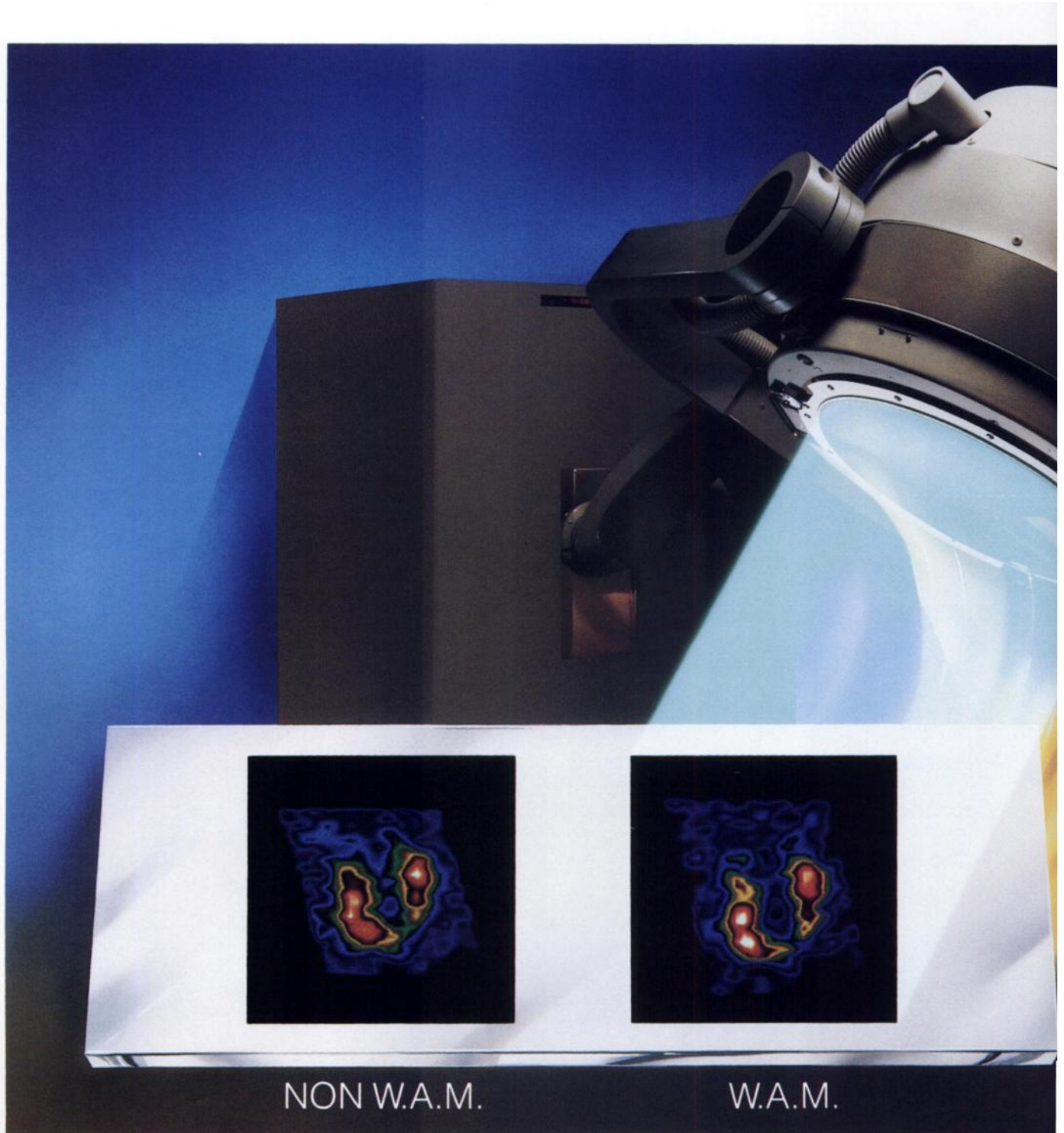


*When Caring Is Called For*  
**Syncor International Corporation**  
Chatsworth, California 91311  
(818) 886-7400 • (800) 234-2407



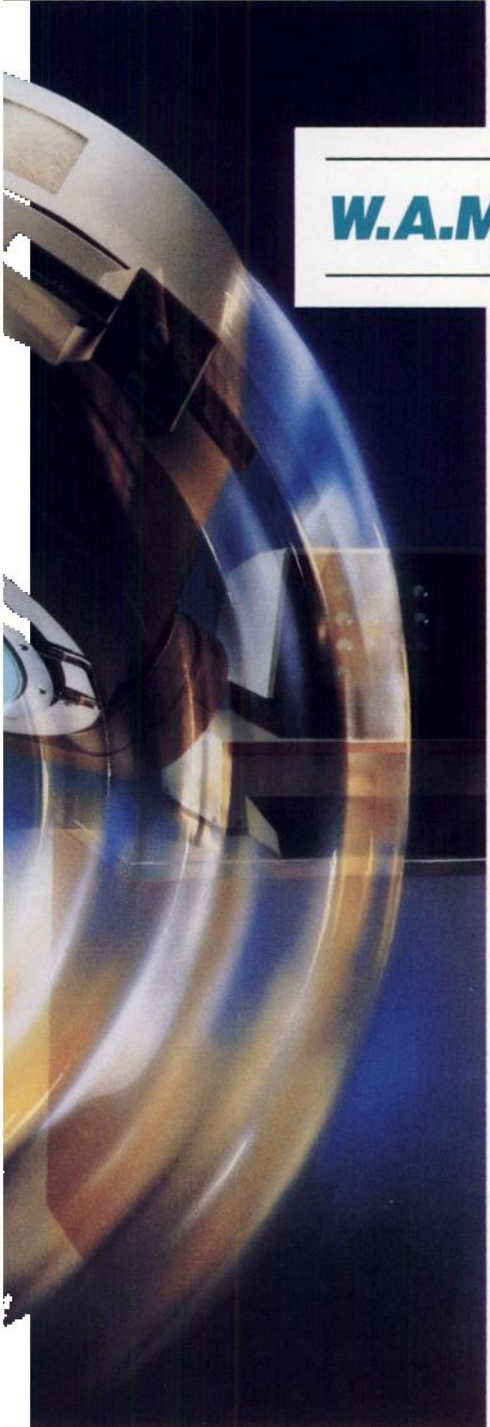


# SIEMENS



Unretouched Thallium 201 SPECT Reconstruction Images. Clinical Impression: W.A.M. Invaluable for Thallium SPECT Imaging.





A to Z...our technical edge gets sharper! From Anger, to DIGITRAC,<sup>™</sup> to ZLC,<sup>™</sup> we've never stopped improving the Gamma Camera!

And now...

---

## **W.A.M.<sup>®</sup> The Cutting Edge in SPECT!**

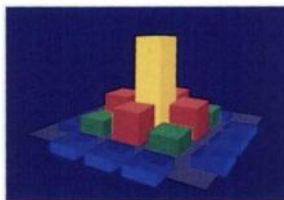
---

### **Up Front Technology!**

The Weighted Acquisition Module is NOT a software package. It is an exclusive accessory for all Siemens Rotational cameras that interfaces directly to the DIGITRAC detector system.

### **Where the WHOLE Image Counts!**

W.A.M. improves upon less efficient, conventional



pre-selected energy windowing. The proprietary W.A.M., "realtime spatial filtering signal processor," uses *each* event weighted value, from every detected photon, to produce a *complete* image.

**For Improved Image Contrast!** By obviating scatter corruption, W.A.M. increases diagnostic confidence with superior image contrast and acquisition throughput by providing 2 simultaneous data sets.

### **W.A.M. When your image counts!**



DELTAmanger,<sup>™</sup> MicroDELTA,<sup>™</sup> MaxDELTA,<sup>™</sup> BASICAM,<sup>™</sup> LEM +,<sup>™</sup> ORBITER,<sup>™</sup> BODYSCAN,<sup>™</sup> the PET system and W.A.M.

### **Siemens Medical Systems, Inc.**

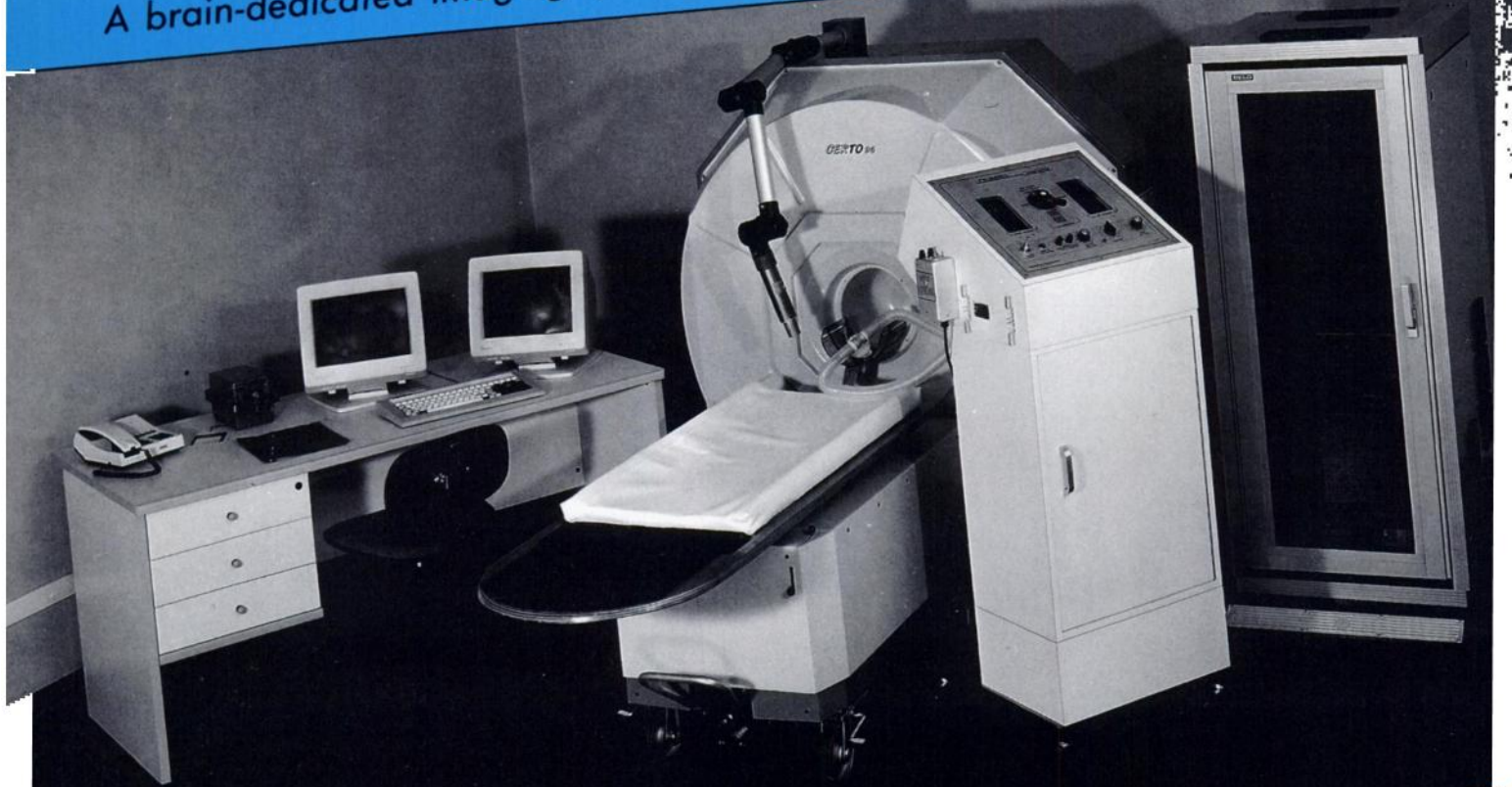
2501 Barrington Road Hoffman Estates, IL 60195 708-304-7252

CLINIC, MEDICL, MicroDELTA are legal trademarks of Computer Design and Applications, Inc., a subsidiary of Analogic. VAX is a registered trademark of Digital Equipment Corp. DELTAmanger is a trademark of Medical Image Processing Specialists, Inc. SPECT is a registered trademark of Siemens Gammasonics, Inc.



# \* CERTO 96

A brain-dedicated imaging system for HM-PAO, Xe-133 rCBF, Iofetamine, etc.



- High Resolution
- High Sensitivity
- Xe-133 rCBF Flow

\* CEREBRAL TOMOGRAPH

## Detector

- Four compact camera heads cubically arranged, 96 PMT
- Intrinsic planar resolution 3.5 mm FWHM
- Crystal area 2030 cm<sup>2</sup>
- Number of slices up to 28 simultaneously (non-interpolated)
- Field of view 23 cm dia x 20 cm H
- Geometrical linearity  $\pm 0.2$  mm

## System specifications

- Tomographic transverse resolution (SHR collimator) 6 mm
- Sensitivity (SHS collimator) 180 kcps/mCi/l
- Collection time for one set of SPECT lateral views 5 seconds
- SPECT, automatic DSPECT and non-SPECT operation
- Continuous rotation with wobbling

## Software

- Transverse, coronal, sagittal and oblique slices reconstruction
- Flow maps (rCBF in ml/100g/min)
- Macro-operation for easy user applications
- Selectable reconstruction filters
- Image, ROI and curve processing
- Fortran, Basic, Assembler and macro programmability

Circle Reader Service No. 95

Ask for more information!

**SELO**

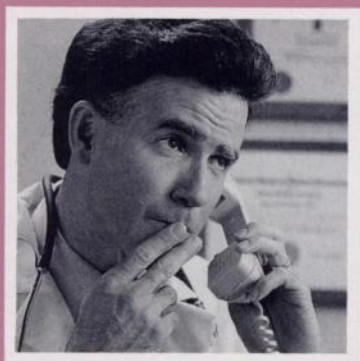
Via G. Di Vittorio, 307/28 - I 20099 Sesto S. Giovanni (Milano) Italy

P.O. Box 10011 - 20110 Milano Italy

Phone (39)-2-2423051 - Fax (39)-2-26221130 - Telex 310019 SELO I



# WHY PET PLANNING BEGINS WITH SCANDITRONIX



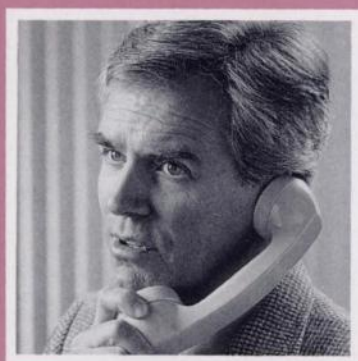
*"Maybe I'm  
calling you too soon."*

*"But I'm not sure if  
we're ready for PET."*

*"I still have a lot of questions –  
costs, staffing, reimbursement,  
clinical utility."*

*"Maybe I should talk to a  
PET expert before I talk to you."*

*"But I don't know if we're really  
ready to buy a PET system."*



*"If you're thinking about  
PET, it isn't too soon."*

*"We can help you find out."*

*"We can help you  
find the answers."*

*"We are PET experts.  
We've been in the  
business 20 years."*

*"That's OK.  
Let's talk about PET – and  
worry about systems later."*

Call Scanditronix today.  
We'll talk with you, not at you.

 **SCANDITRONIX, INC.®**

106 Western Avenue, P.O. Box 987, Essex, Massachusetts 01929  
Telephone: 508-768 6994, Telex: 499-3087 NUCLEX, Fax: 508-768 7380

Circle Reader Service No. 73





Tuesday, June 19–  
Friday, June 22, 1990

Washington, DC  
Washington Convention Center

## Call for Abstracts for Scientific Papers and Scientific Exhibits

The 1990 Scientific Program Committee and Scientific Exhibits Subcommittee solicit the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 37th Annual Meeting in Washington, DC. Abstracts accepted for the program will be published in a special supplement to the June issue of the *Journal of Nuclear Medicine*. Original contributions on a variety of topics related to nuclear medicine will be considered, including:

- INSTRUMENTATION AND DATA ANALYSIS
- RADIOASSAY
- RADIOPHARMACEUTICAL CHEMISTRY
- DOSIMETRY/RADIOBIOLOGY
- NUCLEAR MAGNETIC RESONANCE
- CLINICAL SCIENCE APPLICATIONS
  - Bone/Joint
  - Cardiovascular (clinical and basic)
  - Endocrine
  - Gastroenterology
  - Neurology (clinical and basic)
  - Oncology (non-antibody)
  - Immunology (antibody)

- Pediatrics
- Pulmonary
- Renal/Electrolyte/Hypertension
- Hematology/Infectious Disease

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

**Deadline for receipt of abstracts for Scientific Papers is Thursday, January 11, 1990.**

**Deadline for receipt of abstracts for Scientific Exhibits is Thursday, January 18, 1990.**

The official abstract form may be obtained from the October, 1989 issue of *JNM* or by calling or writing:



The Society of Nuclear Medicine  
Attn: Abstracts  
136 Madison Avenue  
New York, NY 10016-6760  
Tel: (212) 889-0717  
FAX: (212) 545-0221

## The Society of Nuclear Medicine ANNUAL WINTER MEETING

### TITLE

Functional Brain Imaging: Clinical  
Radiopharmaceutical and Instrumenta-  
tion Update

### DATE

Monday–Tuesday, January 29–30, 1990

### LOCATION

Los Angeles Hilton, Los Angeles, California

### PROGRAM

Includes a national panel of distinguished  
speakers presenting topics on Brain Imaging

### CO-SPONSORS

The Brain Imaging Council, Radiophar-  
maceutical Sciences Council and The  
Computer & Instrumentation Council of  
The Society of Nuclear Medicine

### CME CREDIT

11.25 Hours AMA Category I

### VOICE CREDIT

1.3 CEUs available for VOICE Credit  
for Technologists

### FEE

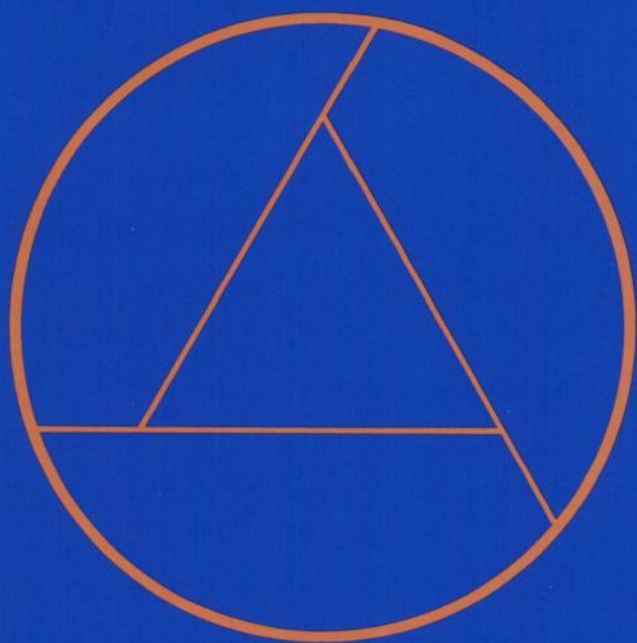
	Before 12/20	After 12/20
SNM Member	\$185	\$205
Nonmember	\$215	\$235
Tech Member	\$ 85	\$105
Nonmember	\$115	\$135

For further information contact:

The Society of Nuclear Medicine  
Meetings & Education Department  
136 Madison Avenue  
New York, NY 10016-6760  
(212) 889-0717 • FAX: (212) 545-0221



# Fulfilling Our Promise



 **TRIONIX**  
*Advanced Nuclear Medicine Systems*



# Revolution not Evolution!

A bold statement of the impact we knew we could have on the nuclear medicine market.

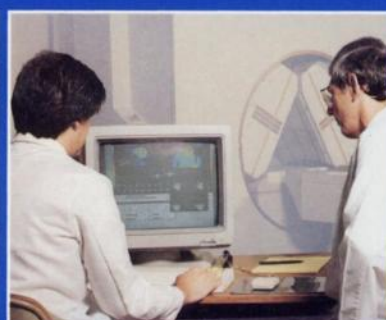
But a revolution takes more than words. Over the last three years, we have quietly backed up this phrase with action. Major advances in integrated nuclear medicine systems introduced by Trionix are

- **FIRST TO COMMERCIALY MARKET  
A THREE DETECTOR SYSTEM**
- **FIRST TO USE SUN MICROSYSTEMS  
WORKSTATION COMPUTER**
- **FIRST TO USE A SINGLE, LARGE  
MONITOR AND A WINDOW SYSTEM**
- **FIRST CANTILEVERED, SINGLE RING  
GANTRY IN A TWO DETECTOR SYSTEM**
- **FIRST ULTRA WIDE FIELD OF VIEW  
DETECTOR IN A SPECT SYSTEM**

 **TRIONIX**  
RESEARCH LABORATORY, INC.



# TRIAD

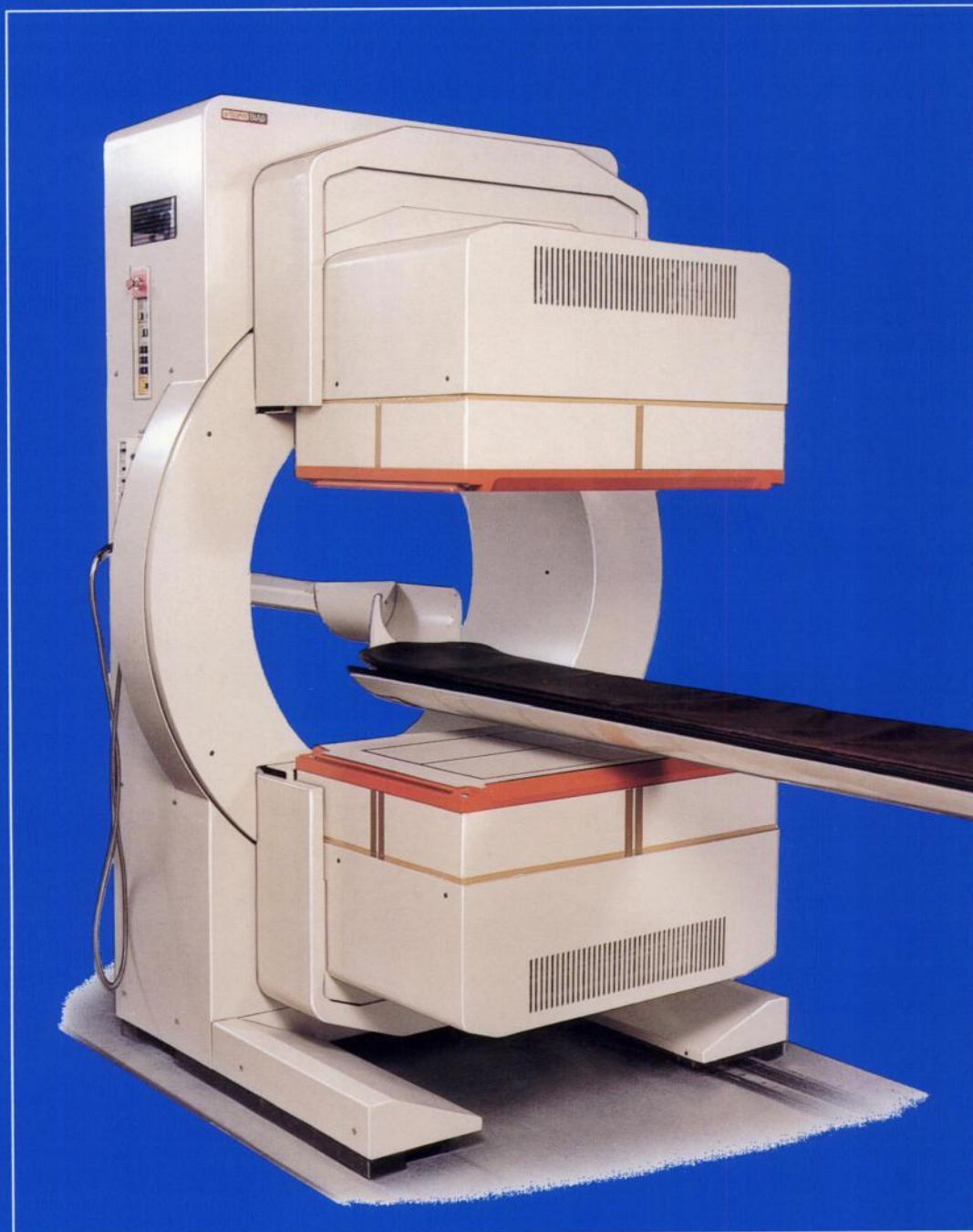


## CLINICALLY PROVEN RELIABILITY

- 15 TRIADS INSTALLATIONS AT LEADING INSTITUTIONS
- THOUSANDS OF HOURS OF USE IN MULTIPLE CLINICAL ENVIRONMENTS
- THOUSANDS OF PATIENT STUDIES COVERING ALL AREAS OF SPECT
- MOST EXTENSIVE APPLICATIONS SOFTWARE IN THREE DETECTOR SPECT



# BIAD



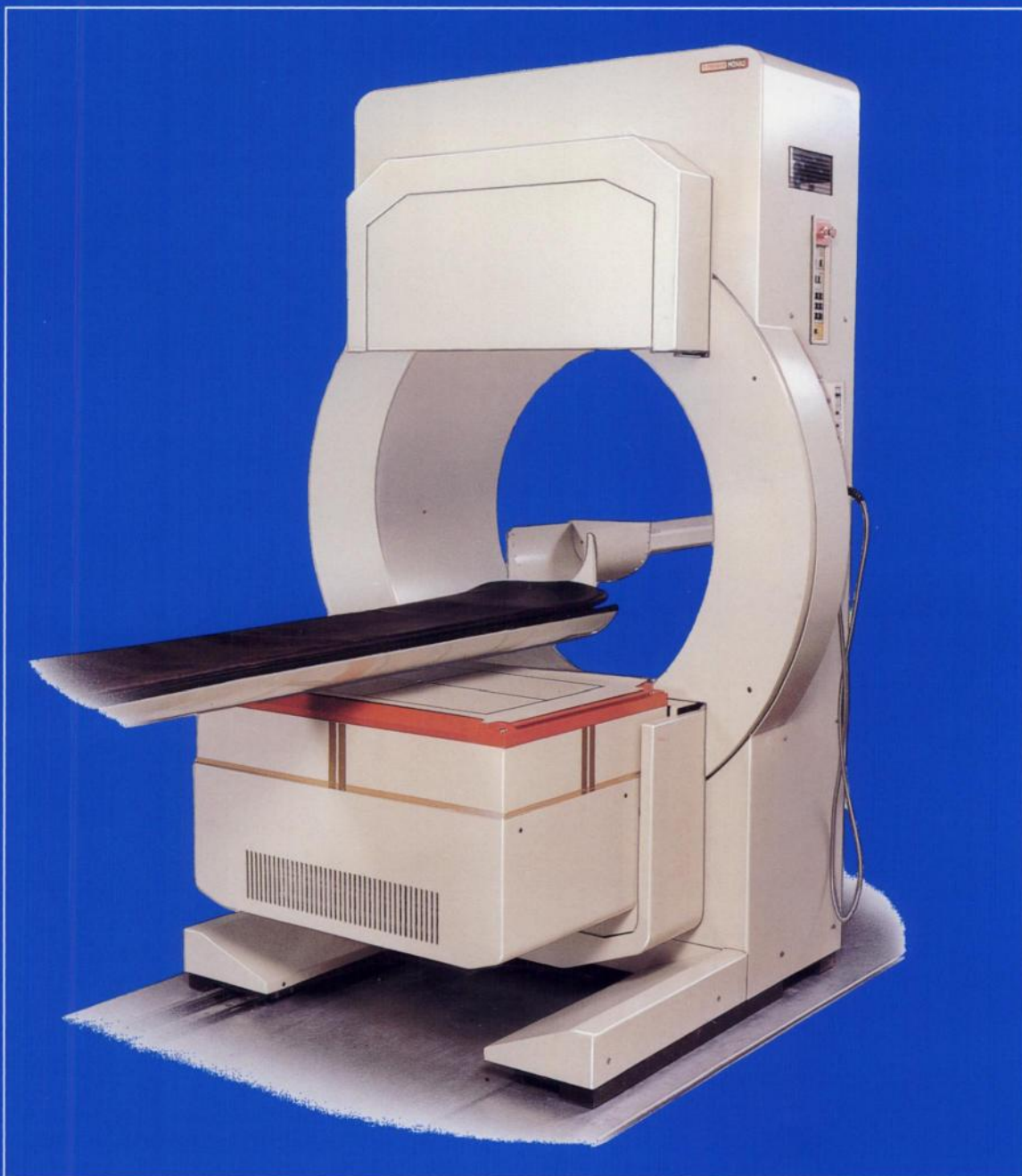
**BIAD REVOLUTIONIZES YOUR ENTIRE NUCLEAR MEDICINE DEPARTMENT WITH  
TOTAL BODY IMAGING**

- TWO ULTRA WIDE DETECTORS
- SINGLE PASS ANTERIOR AND POSTERIOR WHOLE BODY
- TWO DETECTOR SPECT
- TWO VIEW LARGE AREA PLANAR

**CLINICAL EFFICIENCY**

- SEPARATE SPECT AND WHOLE BODY SCAN PALLETS
- CONVENIENT PALLET STORAGE AND EXCHANGE SYSTEM
- APPLICATIONS SOFTWARE PROVEN BY TRIAD
- SMALL ROOM SIZE

# MONAD



**TRIAD AND BIAD TECHNOLOGY IN A ONE DETECTOR SYSTEM**


- **ULTRA WIDE DETECTOR FOR WHOLE BODY AND SPECT**
- **BIAD'S OPEN-ACCESS, SINGLE RING GANTRY**
- **SAME CLINICALLY PROVEN SOFTWARE AS TRIAD AND BIAD**
- **UPGRADE PATH TO PROVEN TWO DETECTOR BIAD**



## *Advanced Nuclear Medicine Systems*



For additional information,  
please call or write  
David A. Huston,  
Director Marketing & Finance

 **TRIONIX**  
RESEARCH LABORATORY, INC.  
1666 Enterprise Parkway  
Twinsburg, Ohio 44087  
Telephone: 216/425-9055  
Fax: 216/425-9059

Trionix was founded in 1986 by the core of Technicare's Nuclear Engineering Department.

The team's first goal was to bring their latest and most ambitious Technicare project — the Triad — to market. Trionix accomplished this in 1988.

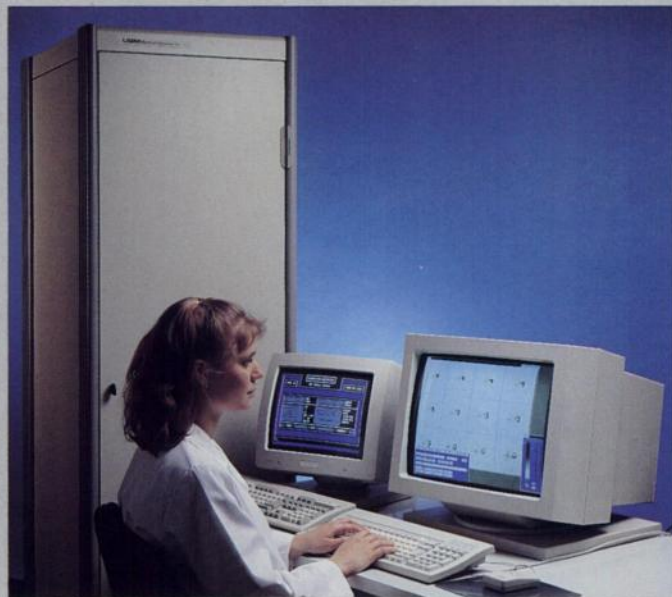
After this success Trionix did not stand still. In June, 1989, we introduced the Biad and — to round out our nuclear medicine system product line — the Monad was brought to market in November, 1989.

Today's goal is to remain on the cutting edge of product development for the medical imaging industry.

We believe that this goal can only be reached by keeping your needs uppermost in our minds and by faithfully adhering to our three-point corporate philosophy:

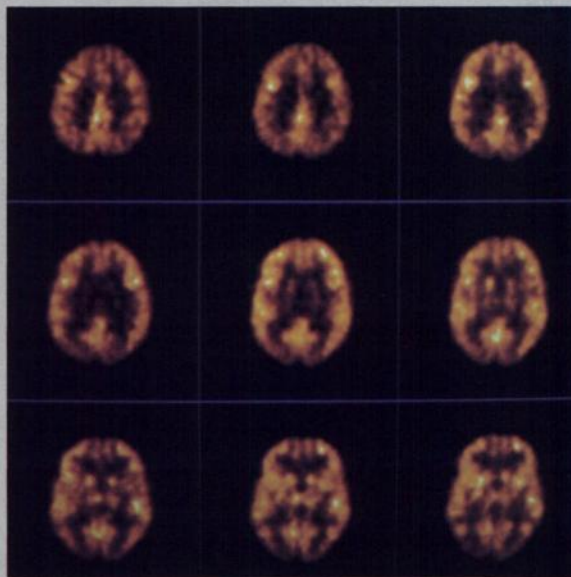
- *maintain superior professional standards*
- *develop clear business objectives*
- *always with a concern for humanity.*

## PENN-PET Model 240 H



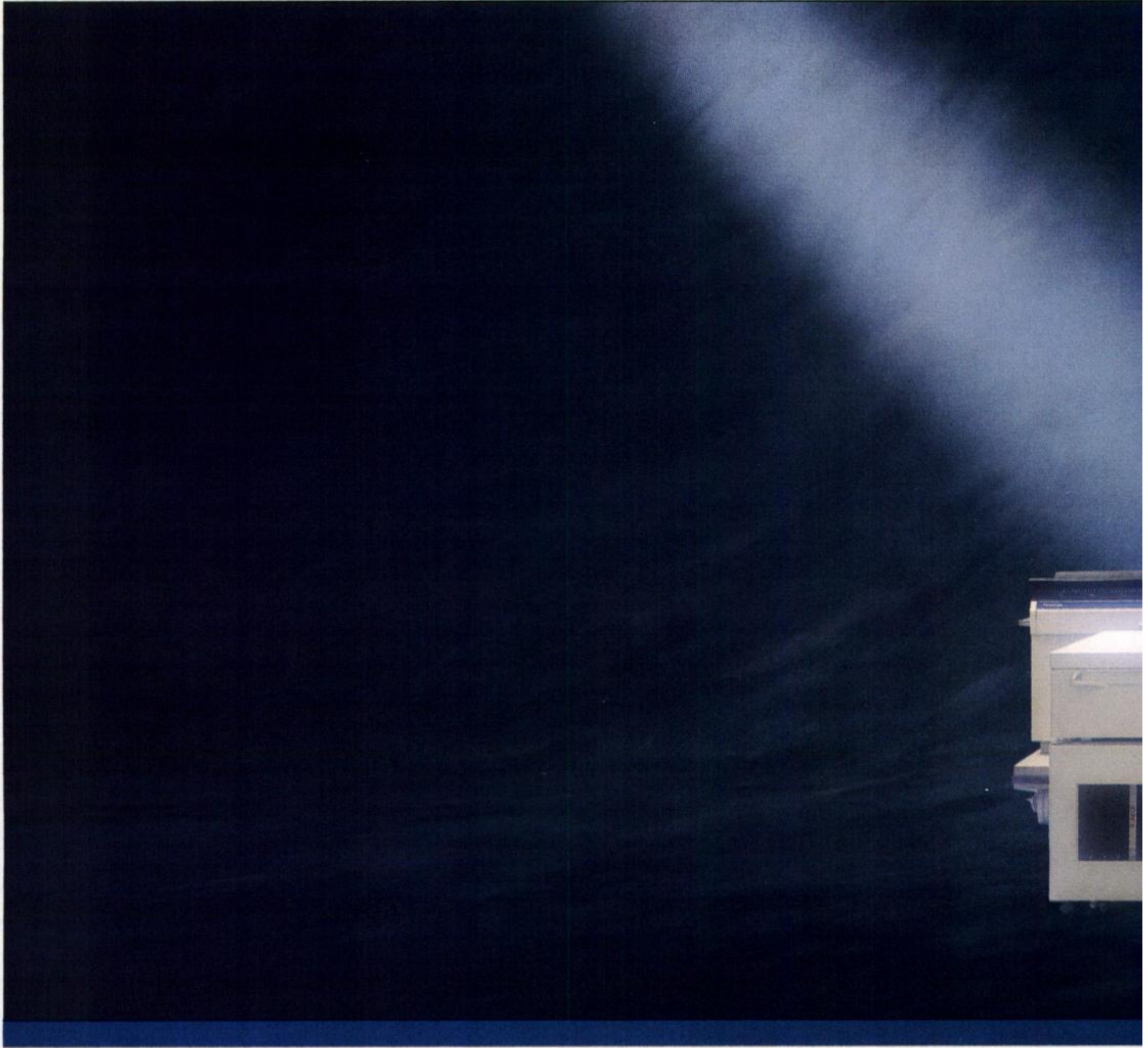
### WHOLE BODY POSITRON SCANNER BASED ON LARGE-AREA POSITION-SENSITIVE DETECTORS

- **Equal resolution in all 3 directions**  
combined with fine axial sampling allows reslicing into coronal, sagittal and oblique sections.
- **Large axial field of view (12.8 cm)**  
and no gantry motion, such as wobbling, permits gated cardiac imaging and fast dynamic studies without sampling problems.
- **64 transverse slices and 2 mm spacing**  
gives superior quantitative accuracy by eliminating partial volume effect.
- **Superior energy resolution**  
of sodium iodide detector material allows use of large acceptance angle without septa for high sensitivity and low scatter fraction.





# HOW TO PRODUCE A SIMULTANEOUS



---

# NUCLEAR REACTION.



## Introducing The First Digital Gammacamera With Five-Function Simultaneity.

For the busy radiologist, nuclear imaging was often just one thing after another. Until Toshiba made everything happen at once.

Our new digital gammacameras—the GCA-901A for whole-body scanning and the GCA-602A for cardiac applications—let you perform up to five critical functions simultaneously.

With a few simple keystrokes, images are acquired with a digitally integrated detector. Data can be acquired from an analog gammacamera, processed and made ready for analysis, then stored on optical laser or floppy disk. And data can be transferred between Toshiba digital gammacamera systems. Simultaneously.

The system is swift to react, saving one of the nuclear imaging department's most priceless commodities. Time.

In fact, operator processing can be completed by the time you count to one. So patients can leave the scan room sooner. And you can get a lot more done in a day.

If saving time is important to you, consider the GCA-901A and GCA-602A digital gammacameras from Toshiba. They're making throughput part of the total imaging picture, and we'll go "head to head" with any of our competitors to prove it.

Toshiba. Where time is of the essence.

Toshiba Medical Systems, 2441

Michelle Dr., P.O. Box 2068, Tustin,  
CA 92681-2068, (714) 730-  
5000, (800) 421-1968.

**HEAD  
TO HEAD**

In Touch with Tomorrow

**TOSHIBA**  
GLOBAL IMAGING SPECIALISTS

Circle Reader Service No. 69



**No more late night trips to the hospital.**



**Redi-Vu Systems™** gives new meaning to being "on call."

When an emergency occurs in the middle of the night, you no longer have to rush to the hospital.

You can stay home and offer patient diagnosis using the Redi-Vu High Resolution Image Display System.

The software interface is easy to use, with diagnosis capabilities that will make being on call a convenience.

If your tired of making those late night trips to the hospital, then it's time for an unparalleled image display system.

**Software includes:**

- Display features like zooming, roving, cycling and background subtraction.
- Multiple color palettes for contrast between image components.
- Animation capabilities for viewing gated, dynamic, or spect images.
- Multi-image overlay support for positive image identification, etc.

**System hardware includes:**

- 32-bit 80386 CPU
- 20 or 25 MHz Processing speed
- 42 or 120 MB hard drive
- 1.2 MB 5 1/4" floppy disk drive
- 2 or 8 MB DRAM memory

Start providing advanced patient care today.  
Call or write: **Redi-Vu Systems, 2455-G Autumnvale Drive, San Jose, CA 95131.**  
**(408) 263-9963 CA (800) 345-9920**

*From Churchill Livingstone —*

**An expert clinical and technical guide for imaging physicians!**

# NUCLEAR CARDIOVASCULAR IMAGING:

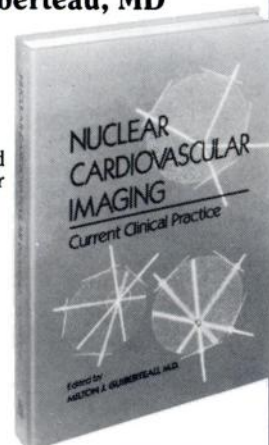
Current  
Clinical Practice

Edited by **Milton J. Guiberteau, MD**  
With 21 contributors

This state-of-the-art survey features a series of discussions on the nuclear imaging procedures currently being used successfully in diagnosing cardiovascular disease.

Featured topics include SPECT imaging, the positron camera, pathophysiological principles, nuclear pharmaceuticals, myocardial injury assessment and risk stratification of coronary artery disease.

**1989. 248 pages. 102 illustrations (including 10-page color insert), 46 tables. 0 443 08577 3 \$65.00**



CHURCHILL LIVINGSTONE  
FULFILLMENT CENTER  
5 S 250 Frontenac Road  
Naperville, IL 60563-1711

**ORDER TOLL FREE**  
**1-800-553-5426**  
8:00 a.m.-4:00 p.m. Central Time  
Monday-Friday

Prices subject to change without notice and valid only in the U.S.A. 30-day approval offer valid only in the U.S.A.

## MEDICAL ACQUISITIONS

### Tired of Stark, O.I.G. and H.H.S. Regulations?

Emerging managed care company seeking established out-patient centers. MRI/CT, etc. Must have three-year audited financials and positive cash flow. Continue to operate and we will assume debt and overhead. Purchase price based on high multiple of earnings and book value on equipment and accounts receivable. Reply to:

**Primary Care Services, Inc.**  
**777 South Harbour Island Blvd.**  
**Suite 990**  
**Tampa, FL 33602**  
**(800) 388-1828**

# New excellence in dose calibration. . .

Now from Atomic Products — the first dose calibrators ever to earn the **ATOMLAB** nameplate and the first in the industry to carry a full two-year warranty! The **ATOMLAB 100** Dose Calibrator features automatic zeroing and ranging, push-button ease of operation and readings in units of Curies or Becquerels. The **ATOMLAB 200** is a complete system with all the features of the 100 plus automatic inventory control, radiopharmaceutical quality assurance, future dose preparation, dot matrix plain paper printer and much more. Call or write for complete details on the **ATOMLAB 100** and **200**!

*ATOMLAB Dose Calibrators . . . with unsurpassed repeatability, accuracy, linearity, geometry and an unprecedented 2-year warranty, are the right answer for nuclear medicine!*



**Atomic**  
**Products Corporation**

ATOMLAB DIVISION • ESTABLISHED 1949  
P.O. BOX R, SHIRLEY, NEW YORK 11967-0917 U.S.A.  
TEL: (516) 924-9000 • FAX: (516) 924-9241  
TELEX: 797566 • TWX: 51022-80449 ATOMLAB CTCH  
Circle Reader Service No. 6

**ATOMLAB 100 & 200**



# Step Into The Future...Today



Nuclear Medicine

# Only GE delivers the most power for nuclear medicine. Today. And for the future.



**Starcam 3000 XC/T™:** A high-performance contoured, large FOV detector integrated with a 32-bit computer provides the hardware and software for the full range of clinical exams: planar, SPECT, cardiac and neurological.



**Starcam 3000 XR/T™:** A high-performance rectangular detector integrated with a 32-bit computer for outstanding imaging capability and performance: efficient whole body and large organ imaging without compromising SPECT and general purpose use.



**Starcam 2000 AC/T™:** With its cutoff detector and 16-bit computer, this integrated system provides cost effective and high quality imaging.

With the recent advancements in application software, radiopharmaceuticals and SPECT, the future of nuclear medicine has never looked brighter. But no matter how rapidly the field progresses, GE Nuclear will not only keep pace...we'll set it.

The latest example of GE's leadership? The new Star™ Family. The most complete group of products in nuclear medicine; including the industry's most powerful 32-bit computer system; advanced applications software; the most advanced high performance detectors; proven fast throughput gantry designs; compatibility with existing systems; and unmatched support through the industry's finest financing, installation, training and service programs.

Even though the new Star Family represents the industry's most sophisticated equipment, it won't make your existing GE systems obsolete. GE's exclusive Starlink™ can connect with the Star Family System.

Instead of introducing a "Model of the year", GE has developed a comprehensive range of products for your current and future needs. Products that won't lag behind as the industry advances.

Keep your options — and your doors — open to the future of nuclear medicine.

**For your packet of literature, or more information on our complete product line call us toll-free: 1-800-624-5692.**



**GE Medical Systems**



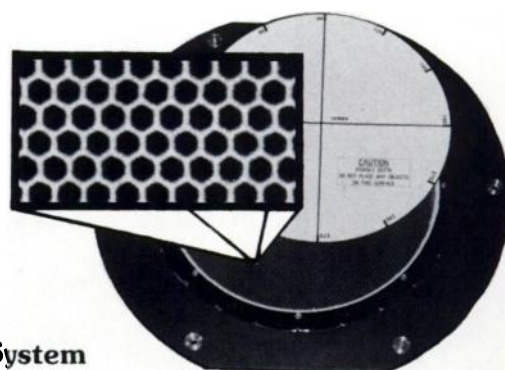
# The Core of the Future is Here Today.

## *The Precision* **MICRO-CAST COLLIMATOR** *by NUCLEAR FIELDS*

Representing a quantum advance in collimator core design. A new standard in imaging performance by all critical criteria.

### **Reduces Common Artifacts Before Entering the System**

- Reduced penetration and scatter
- Perfect non-polarization
- Improved linearity
- Uniform tunnel angularity
- Improved resolution and edge definition



Micro-cast solid core construction yields up to 50% increased sensitivity over traditional foil fabricated collimators, without loss of resolution.

Special Prices Available on Re-Coring Unused or Damaged Collimators

Models available for all Gamma Cameras

Parallel • Slant-Hole • Diverging • Converging • Pin-Hole • Thyroid  
Point-Focusing • Fan-Beam • Bone-Densitometry • Prototype designs

## **NUCLEAR FIELDS**

320 N. MICHIGAN AVE. SUITE 2100 • CHICAGO, ILLINOIS 60601 • TELEPHONE (312) 743-2680

Circle Reader Service No. 62

• FAX (312) 743-2786



Tuesday, June 19–  
Friday, June 22, 1990

Washington, DC  
Washington Convention Center

## Call for Abstracts for Works-in-Progress

The 1990 Scientific Program Committee solicits the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 37th Annual Meeting in Washington, DC. Works-in-Progress accepted for the program will be published in a separate on-site show directory 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 AND DATA ANALYSIS
- RADIOASSAY
- RADIOPHARMACEUTICAL CHEMISTRY
- DOSIMETRY/RADIOBIOLOGY
- NUCLEAR MAGNETIC RESONANCE
- CLINICAL SCIENCE APPLICATIONS
  - Bone/Joint
  - Cardiovascular (clinical and basic)
  - Endocrine
  - Gastroenterology
  - Neurology (clinical and basic)
  - Oncology (non-antibody)
  - Immunology (antibody)

- Pediatrics
- Pulmonary
- Renal/Electrolyte/Hypertension
- Hematology/Infectious Disease

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

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

Deadline for Works-in-Progress is Friday, April 6, 1990

The official abstract form for Works-in-Progress may be obtained from the October 1989 issue of *JNM* or by calling or writing:



The Society of Nuclear Medicine  
Attn: Abstracts  
136 Madison Avenue  
New York, NY 10016-6760  
Tel: (212) 689-0717  
FAX: (212) 545-0221

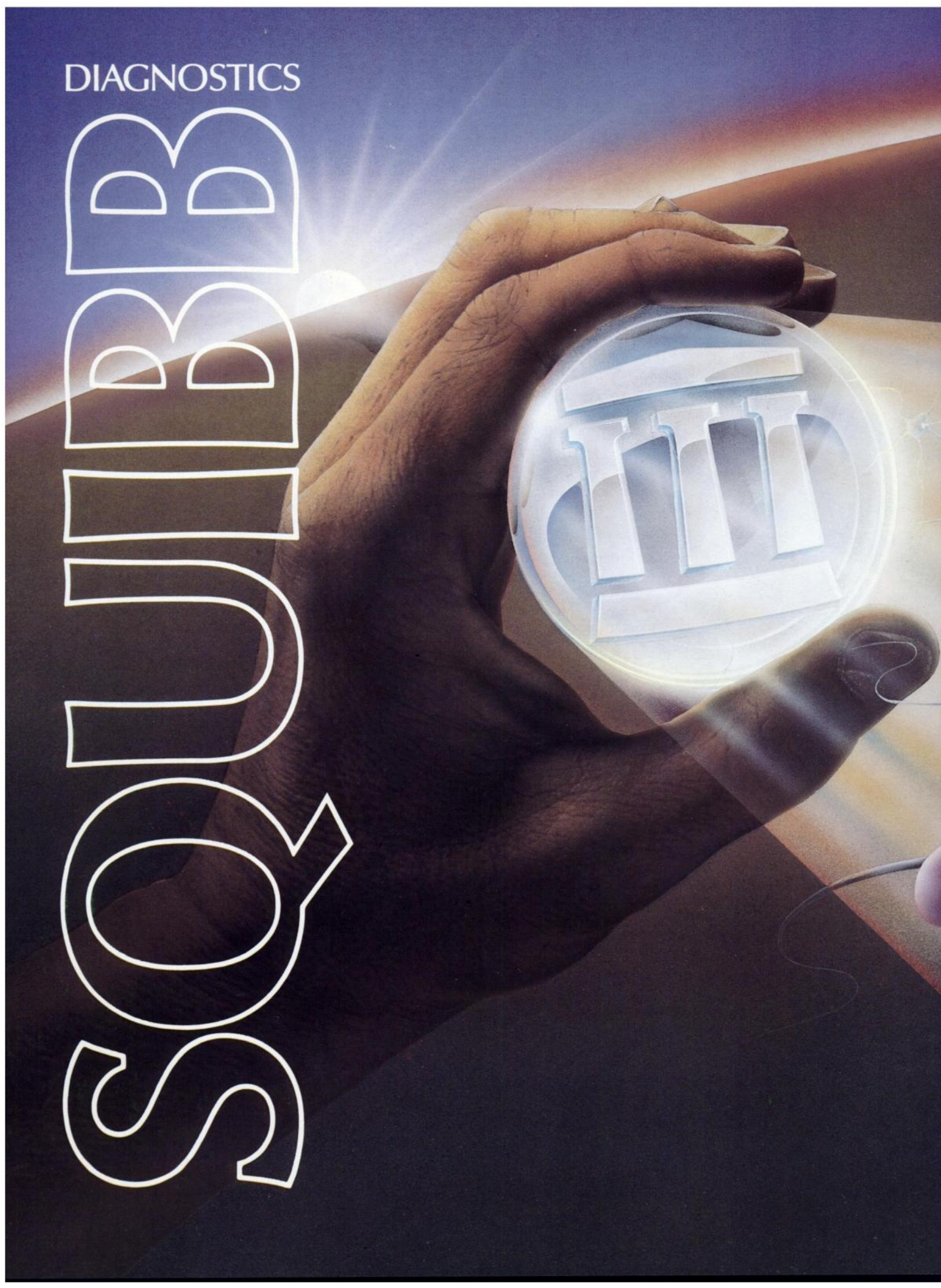
A hand is shown holding a glowing, circular object that resembles a coin or a lens. The object features a stylized, three-dimensional architectural motif, possibly a classical temple facade with columns and a pediment. The background is a dark, silhouetted landscape under a twilight sky with a warm, orange and purple glow on the horizon. The overall mood is mysterious and futuristic.

IMAGING IN A  
NEW DIMENSION



DIAGNOSTICS

# BILIBUS







# IMAGING IN A NEW DIMENSION

From the Squibb heritage of imaginative research have come many internationally recognized innovations such as the first ACE inhibitor and leading angiographic contrast media – as well as other significant contributions in radiology, computed tomography and nuclear medicine. In this continuing process of discovery the Diagnostics Research and Development Division plays an integral role within the prestigious Squibb Institute for Medical Research.

Today a main thrust of Squibb Research is discovery of image-enhancing agents to complement recent developments in magnetic resonance imaging. Other major foci of interest include technetium-labeled myocardial and cerebral imaging agents as well as other nuclear medicine products for the diagnostic evaluation of anatomic and physiologic processes. This research will have a substantial impact on diagnostic medicine worldwide.

At Squibb, we recognize that the therapeutics of the future will be based upon new and accurate insight into the body and its functions. It will require an equally fundamental level of diagnostic insight – based upon expansion of imaging technology into a new dimension.





For more information call  
Squibb Professional Services  
toll free: 1-800-257-5181.  
In New Jersey: 1-800-582-5913.



**SQUIBB™**  
Diagnostics

# Take a close look at those things close at hand

## RADIOISOTOPE MULTI-PURPOSE CALCULATOR



Provides information on  $^{99}\text{Mo}$  —  $^{99\text{m}}\text{Tc}$  generator control, decay rate of 39 radionuclides and SI unit conversion.

- Build-up curve on the bar graph.
- Half-life and decay rate of 39 frequently used radionuclides.
- SI unit conversion
- Ordinary calculation

## VIAL SHIELD CALIBRATOR



**New  
Products**

Offers radioactivity measurement and safety on ALARA level for routine Tc-99m assaying.

- Vial shield made of tungsten alloy with superiority in radiation shielding.
- Uniquely designed vial shield with a slit for measurement eliminating radiation exposure to an operator
- 1mCi — 500mCi (10MBq — 1850MBq) in either mCi/MBq display.

\* We are now inviting applications for an overseas agency.  
For further information, contact us in writing.



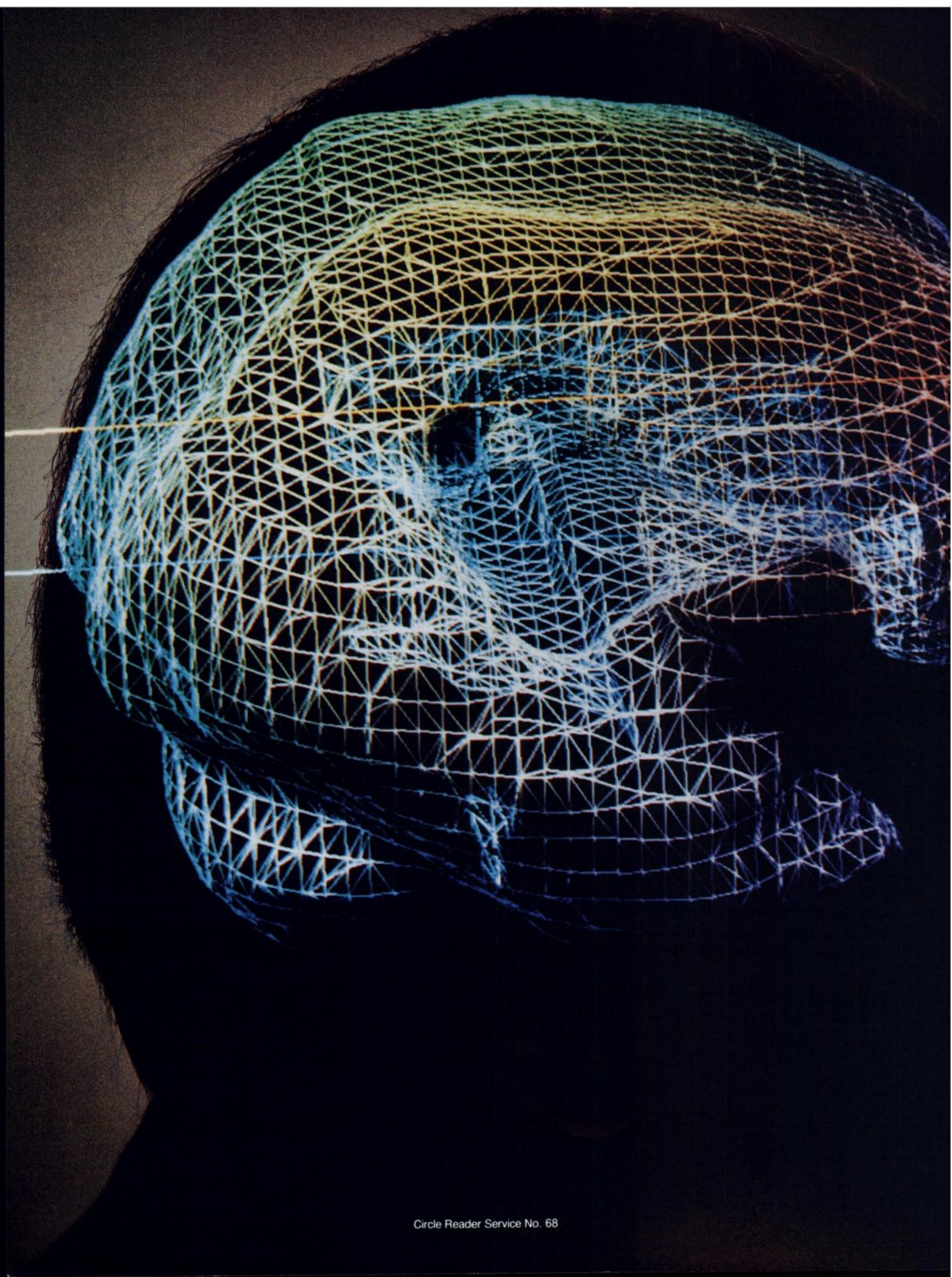
**ANZAI SOGYO CO., LTD.**

MEDICAL PRODUCTS DIVISION

Big Nine Bldg, 7F., 2-3-4, Higashi-gotanda, Shinagawa-ku, Tokyo Japan

TEL:03-473-1411, TELEX:02422182 ANZAI J CABLE:ANZAISOGYO, FAX:03-473-5828







# Introducing a brilliant new force in nuclear medicine technology.

Combine market leadership with a unique approach to nuclear medicine imaging. Add in experience, global service and a creative new team of people. Then stand clear.

Picker International has acquired the inventiveness and imagination of Ohio Imaging to provide its customers with an important new source of nuclear medicine equipment.

The flagship product of this exciting new force in nuclear medicine is PRISM™, an innovative three-head camera used in single photon emission computed tomography (SPECT). This system acquires data at least three times faster than a conventional gamma camera. PRISM is



PRISM™ dedicated SPECT system



PRISM™ 64-bit graphics supercomputer



DynaPro™ camera/PCS Plus II computer

also the first of its kind in diagnostic imaging to be powered by a 64-bit graphics supercomputer.

Picker's large and loyal customer base and the creative approach to nuclear diagnostic imaging fostered by Ohio Imaging create the background against which the future of nuclear medicine will be staged.

Picker and PRISM. Bright idea, brilliant execution. Call Picker International, Ohio Imaging, Nuclear Medicine Division (216) 475-1111.



SX300 SPECT system



# PICKER

THE IMAGE OF EXCELLENCE

Circle Reader Service No. 68



# IN A FOG??

***using aerosols to determine the patency of the pulmonary airway system? Use a gas (that's what the airway system is for), and Xenon (127 or 133) are gases which are safe, economical and easy to administer with the XENAMATIC™ 3000.***

---

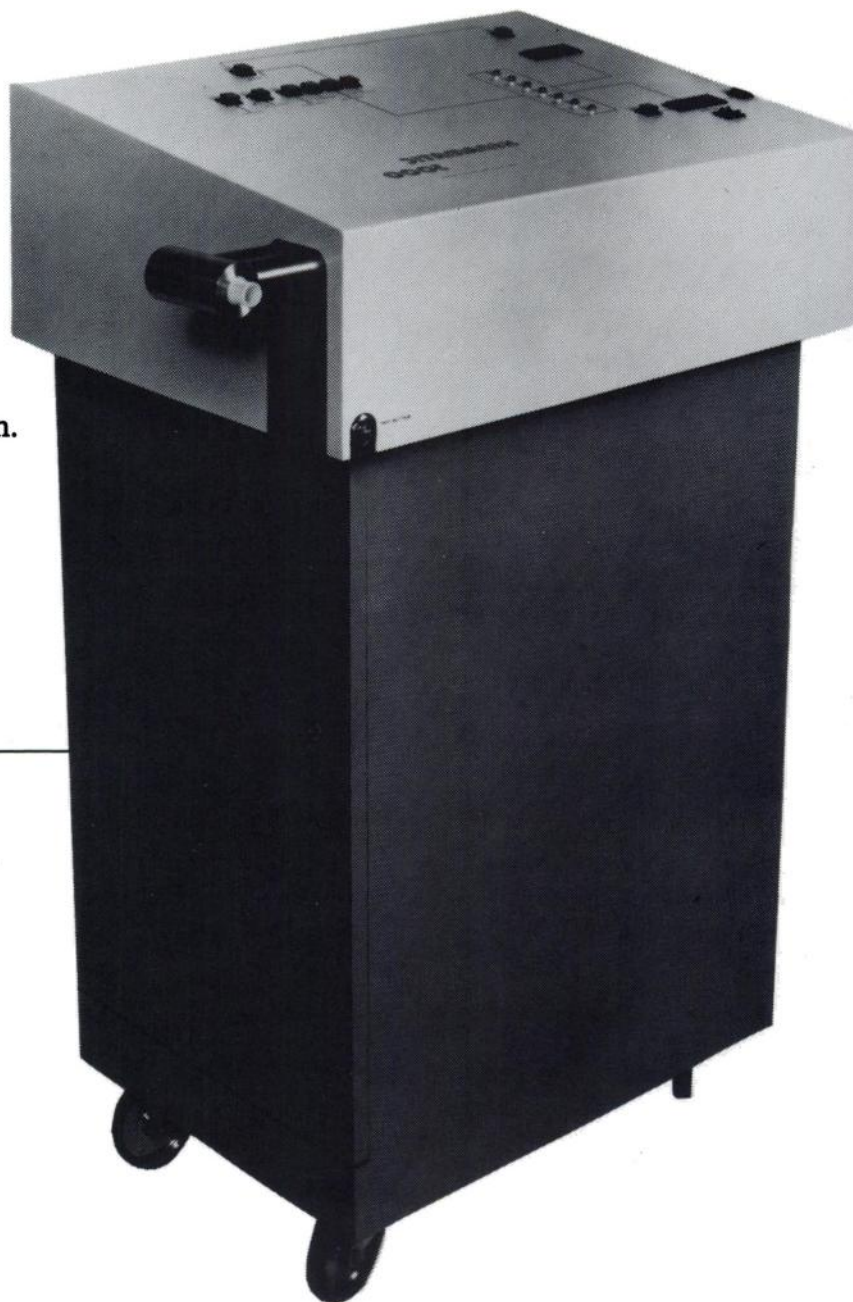
- Shielded for Xe 127 and Xe 133 (radiation profile available on request).
- World's only system that allows you to study patients on Ventilators.
- Largest and most efficient Xenon trap with a built-in monitor alarm system.
- Built-in O<sub>2</sub> monitor with digital display and control.
- A rebreathing system that saves Xenon.
- Low breathing resistance so you can study sick patients.
- Semi-automatic operation.
- Remote Control Capability.

---

Get out of the FOG-making business, and call today for more information on putting gases where gases belong, with the XENAMATIC.

Also available, Model 2000.

*For more information, please call or write,*



**DIVERSIFIED DIAGNOSTIC PRODUCTS, INC.**

11603 Windfern  
Houston, TX 77064  
713-955-5323

# Classified Advertising

**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**—\$17.00 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	\$1200	Quarter page	\$470
Half page	710	Eighth page	400

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

**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:**  
Classified Advertising Department  
The Society of Nuclear Medicine  
136 Madison Avenue  
New York, NY 10016-6760  
(212) 889-0717  
FAX: (212)545-0221

## Positions Available

### Faculty

**RESEARCH ASSISTANT/ASSOCIATE PROFESSOR.** Board certified nuclear physician. Strong interest and experience in research and teaching. Individual must interact with clinicians as well as basic science faculty. Experience with monoclonal antibody applications. Major emphasis on expanding research arm of the department. Computer aptitude and proficiency in SPECT imaging essential. Applications with CV and salary history to: Joseph A. Prezio, MD, F.A.C.P., Chairman and Clinical Professor, Department of Nuclear Medicine, University at Buffalo, 20 Diefendorf Annex, 3435 Main Street, Buffalo, New York 14214.

**CLINICAL ASSISTANT PROFESSOR.** Board certified nuclear physician. Have proven ability and strong interest in teaching principles and practice of nuclear medicine, experience in nuclear medicine related research and administrative skills. Individual must interact with clinicians as well as basic science faculty. Computer aptitude, proficiency in SPECT imaging and working knowledge of PET and PET applications desirable. Applications with CV and salary history to: Joseph A. Prezio, MD, F.A.C.P., Chairman and Clinical Professor, Department of Nuclear Medicine, University at Buffalo, 20 Diefendorf Annex, 3435 Main Street, Buffalo, New York 14214.

Synthetic, organic, inorganic or radiochemist to be **ASSOCIATE DIRECTOR OF RADIOPHARMACEUTICAL RESEARCH** at Emory University. Instructor or **ASSISTANT PROFESSOR OF RADIOLOGY** depending on qualifications. Tenure track or research track depending on mutual agreement. The successful applicant will engage in collaborative research and is expected to develop an independent program in radiopharmaceutical research. Previous experience with radiolabeling with Tc-99m is desired but not required. Applications will be accepted until the position is filled. Salary is contingent upon credentials and experience. Please send resume and three letters of reference to: Andrew Taylor, Jr., MD, Department of Radiology, Emory University Hospital, 1364 Clifton Road, NE, Atlanta, Georgia 30322.

Emory University is an equal opportunity, affirmative action employer.

**CHIEF, DIVISION OF NUCLEAR MEDICINE.** Ottawa Civic Hospital. The Ottawa Civic Hospital is a tertiary care facility affiliated with the Faculty of Health Sciences at the University of Ottawa. The Division of Nuclear Medicine provides both in and out patient services to a wide area in Eastern Ontario and Western Quebec. The Division includes a section of Nuclear Cardiology operated in collaboration with the Division of Cardiology. Active research programs in Nuclear Cardiology and Radio pharmacy are established. This position allows for teaching and research opportunities and will be associated with an appropriate University of Ottawa appointment. The successful applicant will have an FRCPC in Nuclear Medicine or equivalent. In accordance with Canadian immigration regulation, this advertisement is directed to Canadian citizens and permanent residents of Canada. Please reply to Dr. K.Y. Gulenchyn, Chief, Department of Radiological Sciences, Ottawa Civic Hospital, 1053 Carling Avenue, Ottawa, Ontario, Canada K1Y 4E9, with a copy of your curriculum vitae.

### Fellowship

**FELLOWSHIP** in nuclear medicine, University of Missouri-Columbia. One or two year clinical and research fellowship in nuclear medicine starting July 1, 1990. The fellowship is integrated between University and adjacent Harry S. Truman Memorial Veterans Hospitals. Research opportunities include basic science and clinical work with new single photon emitting brain blood flow agents and a range of therapeutic radiopharmaceuticals. Facilities include basic science laboratories, full SPECT imaging systems at both hospitals, and opportunities for CT, ultrasound, and MR imaging correlations. Clinical program has strong cardiovascular nuclear medicine emphasis. Candidates must be Board certified or eligible in nuclear medicine. Send letter of interest (including list of references) to: Richard A. Holmes, MD, Chief of Nuclear Medicine, University of Missouri Hospital and Clinics, 2N19 Medical Sciences, 1 Hospital Dr., Columbia, MO 65212. (314) 443-2511, Ext. 6665. EOE.

### Physician

**NUCLEAR CARDIOLOGIST.** Large, Western New York cardiopulmonary group seeking second nuclear cardiologist with interest in continuing non-invasive clinical practice. SPECT thallium, resting and exercise MUGA in office presently with excellent growth capability. University appointed position with research potential. Full invasive and non-invasive cardiac services available. Opportunity leads to full shareholder status. Send CV to Michael Silver, Administrator; Buffalo Cardiology and Pulmonary Associates, P.C.; 5305 Main Street; Williamsville, New York 14221; 716-634-5100.

**NUCLEAR MEDICINE PHYSICIAN:** Newly created junior staff position with medical school appointment for a board certified or board eligible Nuclear Medicine physician or radiologist with subspecialty training in Nuclear Medicine. Opportunity to join progressive, expanding department with seven state-of-the-art gamma cameras with SPECT (2) and computerized image processing system. A 450-bed teaching hospital with accredited radiology residency. Many clinical and research opportunities. Must be able to obtain permanent licensure in Massachusetts. If interested, please contact: Elizabeth Oates, MD, Director, Division of Nuclear Medicine, Box 228, Tufts-New England Medical Center, 750 Washington St., Boston, MA 02111. (617) 956-6342.

**NUCLEAR MEDICINE PHYSICIAN.** Recently trained BC/BE with IM background and experience in all aspects of NM preferred, to join two BC NM MD's in busy private practice. Fully equipped lab performing full range of NM studies in a 1000-bed hospital. Located in a sportsman's paradise with fishing, hunting, hiking, boating and canoeing. Less than 4 hrs from two major metropolitan areas. Reply to: Box 1201, The Society of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760.

Pathology group seeks **NUCLEAR MEDICINE PHYSICIAN, BC/BE** in both nuclear medicine and

Anatomic/Clinical Pathology to join two physicians in community hospital practice. Position available July 1990. Send CV to Dr. Henry Strohm, 1701 W. St. Mary's Rd., Suite D108, Tucson, AZ 85745.

**NUCLEAR MEDICINE PHYSICIAN.** Full-time Nuclear Medicine staff position open at Univ. Hosp. ABNM certified or eligible. Ample opportunity for research and development work. Competitive salary, excellent fringe benefits. Resumé to: D. Pavel, MD, Dir., Nuclear Med., Univ. of Illinois Hospital, M/C 931, P.O. Box 6998, Chicago, IL 60680.

### Radiochemist

Experienced **RADIOCHEMIST** required to radio-label and perform experiments with tracer compounds and participate in radiochemical processing. Qualifications include a Masters in Science and a strong background in nuclear medicine, handling and disposing of radioactive materials, and radiochemistry. To apply, forward resumé and references to: Roberto L. Ceriani, MD, PhD, John Muir Cancer & Aging Research Institute, 2055 North Broadway, Walnut Creek, CA 94596. (415) 943-1167. EOE.

### Radiologist

**NUCLEAR MEDICINE SUPERVISOR.** We are actively seeking a supervisor to join our staff of professionals in the nuclear medicine department. The successful candidate will have several years of certified nuclear medicine experience and at least two years of experience as a supervisor. Our department is fully equipped with state-of-the-art technology and our nuclear cardiology is second to none. We offer excellent benefits and compensation. If you qualify, call or submit your resumé to: Thomas K. Harang, Cedars-Sinai Medical Center, 8723 Alden Dr., Los Angeles, CA 90048. (213) 855-5521.

### Residency

**Nuclear Medicine RESIDENCY** opening at the UC Davis Medical Center in Sacramento, California. Please send CV and three letters of recommendation for July 1, 1990 or 1991 to: Patrick V. Ford, MD, Residency Director, Nuclear Medicine, Room G-205, 2315 Stockton Boulevard, Sacramento, CA 95817. The University of California has a non-discriminatory policy which covers admission, access, and treatment in University programs and activities and application for, and treatment in University employment.

**NUCLEAR MEDICINE RESIDENCY.** July, 1990. Comprehensive imaging/RIA/therapy program in 3 hospitals (private, county, VA) with 2800 total beds. Mobile imaging for 216 ICU beds. Large pediatric population. Strong cardiovascular emphasis. State-of-the-art instrumentation including SPECT and computer processing. Training includes rotations in NMR, PET, and CT/ultrasound. Contact: Warren H. Moore, MD, Department of Radiology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030. Baylor College of Medicine is an equal opportunity A/A employer.

### Technologist

**CHIEF NUCLEAR MEDICINE TECHNOLOGIST.** Leading 350-bed community and teaching hospital located in north central Baltimore is looking for a Chief Technologist in Nuclear Medicine. Opportunity for a dynamic individual to manage a progressive, full service, state-of-the-art Nuclear Medicine Department. Fully computerized, five cameras with SPECT, stress testing, and clinical research. Desirable candidates will have a Bachelor's degree, certification as either ARRT(N) or CNMT, a minimum of one year supervisory administrative experience and excellent communication skills. Please forward resumé to: SDL, The Union Memorial Hospital, 201 E. University Parkway, Baltimore, MD 21218.

**NUCLEAR MEDICINE CHIEF TECHNOLOGIST:** Danville Veterans Affairs Medical Center, an acute/long-term care facility has a full-time staff opening for a Supervisory Nuclear Medicine Technologist. The ideal candidate will possess 3-5 years of experience, preferably in a supervisory position and be familiar with SPECT. This individual will be responsible for day-to-day operation of the depart-



ment and will assist in the Radiation Safety Program. NMTCB certification preferred. We are a progressive Nuclear Medicine Department with two Technicare Gamma Cameras and one Seimen's 7500 ZLC SPECT unit and Micro-Vax Computer System due to arrive in February 1990. The Federal Government offers excellent fringe benefits and competitive salaries. Send resumé to: Pete Rudolph, Personnel Management Specialist (05-1), VA Medical Center, 1900 E. Main Street, Danville, IL 61832. (217) 442-8000, Ext. 5960. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** DePaul Medical Center, a 402-bed acute care teaching facility located in Norfolk, VA, has an immediate opening for a nuclear medicine technologist. Our progressive department offers state-of-the-art equipment including a SPECT imaging camera. Qualified applicants must be registered (ARRT, NMTCB) or registry eligible technologists. Outstanding salary and benefits package. DePaul is located close to beaches, the mountains and historic areas. Interested applicants may call or send resumé to: Human Resources Dept., DePaul Medical Center, 150 Kingsley Lane, Norfolk, VA 23505 (804) 489-5241. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Vacancies exist at the VA Medical Center, Biloxi, MS, for a nuclear medicine technologist, registry certified, for the nuclear medicine department. Biloxi is a 1,130-bed hospital, 240 of which are general medical and surgical, with an active nuclear medicine department. For information contact John L. Campbell, II, MD, Chief, Nuclear Medicine Service, VA Medical Center, Pass Road, Biloxi, MS 39531. Telephone (601) 388-5541, Ext. 5129. The VA is an equal opportunity employer.

**NUCLEAR MEDICINE TECHNOLOGIST:** Full-time position now available for registered or registry eligible technologist to work in a progressive Nuclear Medicine department with emphasis in cardiac work. Department includes 2 cameras, 1 SPECT unit with an integrated computer system. Raleigh, centrally located in the Research Triangle area of North Carolina offers extensive social, cultural and educational opportunities to the health professional seeking a change. Send resumé to Nancy Nelson, Personnel Recruiter, Human Resources Dept., Wake Medical Center, 3000 New Bern Ave., Raleigh, NC 27610. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST** for a progressive clinical/research general and cardiovascular nuclear medicine program. Major affiliate of Yale University. Positron Emission Tomography Center to open early 1990. Qualified applicants must possess a minimum of an associate's degree in nuclear medicine and NMTCB or ARRT certification. Previous SPECT experience is preferred. Call or send resumé to: Mark Shaffer, VA Medical Center/115, 950 Campbell Ave., West Haven, CT 06516. (203) 937-3866. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Full-time day position available for registered or registry eligible nuclear medicine technologist in a progressive, JCAHO accredited acute care Hospital located on Lake of the Ozarks in Osage Beach, Missouri. Lake of the Ozarks is a major midwest vacation area attracting millions of visitors each year and thousands of new residents. It is one of the fastest growing areas in Missouri making this an exciting place to live and a challenging environment for the health care professional. We offer excellent benefits and salary commensurate with experience. Contact Jim Schaeffer at Lake of the Ozarks General Hospital, P.O. Box 187 CB, Osage Beach, MO 65065 or call (314) 348-8358.

**NUCLEAR MEDICINE TECHNOLOGIST.** Position available in our beautiful new 725-bed VA Medical Center, Minneapolis, Minnesota. Work with ultramodern, state-of-the-art SPECT systems with an integrated computer network. Applicants must be registered or registry eligible. Salary commensurate with experience. For a chance of a lifetime, come experience the natural beauty of the Twin Cities with their many lakes and parks. Contact: Robert Davies, VA Medical Center, Personnel Service (05A), One Veterans Drive, Minneapolis, MN 55417. (612) 725-2060. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Staff position in medical clinic for registered/registry eligible nuclear medicine technologist. State-of-the-art SPECT gamma cameras and computers utilized. Competitive salary/benefit pkg. Located in Central CA, 90 mi. south of S.F., near Sierras and other recreational areas. Send resumé to: Gould Medical Foundation, 600 Coffee Rd. Modesto, CA 95355. Attn: Personnel. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Memorial Hospital of Sweetwater County, a 100-bed fully accredited hospital in Rock Springs, Wyoming is currently searching for the position of registered Nuclear Medicine Technologist. Excellent benefits and salary enhance this position. Premiums for health, dental, and vision benefits are fully paid by the hospital for employees and their dependents. 25 days PDO. No state income tax. We are located very close to all season amenities of Jackson Hole, The Grand Tetons, and Yellowstone National Park. Salt Lake City and the resorts of Utah and Colorado are within short driving distance. Interested applicants should contact the Personnel Department: Memorial Hospital of Sweetwater County, PO Box 1359, Rock Springs, WY 82901. Call Collect (307) 362-1490. EOE.

**NUCLEAR MEDICINE TECHNOLOGIST.** Immediate full-time opening in nuc. med. laboratory. Must be registered NMT. Salary commensurate with experience. For further information contact Diane Robertson, Personnel (664/05D): VA Medical Center, 3350 La Jolla Village Drive, San Diego, CA 92161. (619) 453-7500 ext. 3401.

## Technologist Equipment Marketing

**NUCLEAR MEDICINE APPLICATIONS SPECIALISTS.** ADAC Laboratories, a leader in medical image and information processing systems, has challenging opportunities for applications specialists. In this highly visible marketing position, you will be responsible for training customers on the use of computer systems software, demonstrating equipment at trade shows, and providing customer support with post-training follow-up calls. This position requires a minimum of 3 years staff level experience as a nuclear medicine technologist. The successful candidate will have a strong clinical background in cardiac work and ECT procedures as well as general clinical work such as renals, lungs, brains, and bone imaging. Prefer a minimum of 1 year experience operating ADAC equipment. Applicants should have ARRT and CNMTB registration. AA and/or BS degree a plus. Excellent verbal and written communication skills required. Ability/willingness to travel is also required. We offer an outstanding salary and a benefits package that is among the finest in the industry. Please send your resumé to ADAC Laboratories, 540 Alder Drive, Milpitas, CA 95035, Attn: Jim Piper. Equal Opportunity/Affirmative Action Employer.

## Positions Wanted

**NUCLEAR MEDICINE PHYSICIST.** M.Sc., 15 years experience (cardiac studies, SPECT, quality control, teaching, etc). Interested in 1-2 year position in US or in Canada. Contact: B. Belfer, Yonah Green 5, Petah Tikvah, Israel 49272.

**ABNM, ABIM** with experience in teaching, clinical and academic settings seeks full time position. Contact: José O. Morales, MD, 430 Ariel St., Río Piedras, P.R. 00923.

## Equipment

**FOR SALE:** MicrodelTAS (CDA-Siemens) terminals with keypads; Digital VAX 11/730 computer system, R80, RL02 units; communication module, model H-COM/Mac 89; DECWriter III printer, including number pad; Kennedy model 9100 tape drive; matrix instrument video imager; color monitor; Technicare 560 computer with array processor, SPECT capable; Gemini 700 gamma camera (Technicare-GE) with sentinel electronics, including whole body and SPECT imaging tables; medium energy collimator; high energy collimator; high energy pinhole collimator; high resolution collimator. Prices negotiable. Please contact Dr. R. Menard, Center for Molecular Medicine and Immunology, 1 Bruce Street, Newark, NJ 07103. Telephone (201) 456-4600.

**ELSCINT APEX 410 Digital Gamma Camera System.** Color monitor; 4 collimators; Call Mr. Alkalay at (516) 773-6100.

**For Sale,** Technicare 420/550, ADAC DPS 2800 Computer. We offer the highest prices for all types of Nuclear Medicine Cameras & Computers. Call Franklin at Imaging Solutions (415) 924-9155.

## FIRST IMPRESSIONS?

Editor-elect H. William Strauss, MD, is interested in receiving unusual images of traditional scan subjects-or-scans of non-traditional subjects, for a new addition to the Journal entitled "First Impressions," which will be seen in the Journal on a monthly basis beginning in January of 1990. Akin

to Dr. Henry Wagner's "Image of the Year," these images need not be related to the submission of manuscripts to the Journal. Rather they should be interesting in and of themselves. Submit your images, along with a completed form (included below), to:

**FIRST IMPRESSIONS—THE JOURNAL OF NUCLEAR MEDICINE,**  
Room 5406, MGH-East, Building 149, 13th Street, Charlestown, MA 02129

**Institution:** \_\_\_\_\_

**Tracer:** \_\_\_\_\_

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

**Route of Administration:** \_\_\_\_\_

**Instrumentation:** \_\_\_\_\_

**Time After Injection:** \_\_\_\_\_

**Purpose:** \_\_\_\_\_



UNIVERSITY AT BUFFALO  
STATE UNIVERSITY OF NEW YORK

The  
Department of Nuclear Medicine  
State University of New York at Buffalo  
School of Medicine and Biomedical Sciences  
seeking  
Qualified Personnel  
for positions at a newly created  
***Positron Emission Tomography***  
Center

### Physician Coordinators

To head divisions of PET Cardiology, PET Neurology and PET Psychiatry. The individual will have a joint appointment in Nuclear Medicine and in their respective specialty department and will be appointed at the Associate Professor/Professor level.

Applicants should be board certified in their primary specialty, have research experience in PET and a background necessary to compete for extramural funds.

### Radiochemist

Applicant should have research experience in PET radiochemistry including a broad background in the synthesis of tracers labeled with  $F^{18}$ ,  $C^{11}$ ,  $N^{13}$  and  $O^{15}$ . In addition, experience in the design and construction of remote synthesis systems, a knowledge of pharmacokinetic modeling with PET tracers and the background necessary to compete for extramural funds are required.

Salary and academic rank for all positions are negotiable and will be commensurate with the degree of training and previous experience.

Address inquires to:

Joseph A. Prezio, M.D.  
Chairman and Professor  
SUNY/Buffalo  
Department of Nuclear Medicine  
20 Diefendorf Annex  
3435 Main Street  
Buffalo, N.Y. 14214

## EASTERN SYDNEY AREA HEALTH SERVICE

### THE PRINCE OF WALES HOSPITAL

High Street, Randwick  
New South Wales, Australia, 2031

## Trained Nuclear Medicine Technologists

Two positions will become vacant early in 1990 for suitably qualified Nuclear Medicine Technologists at The Prince of Wales Hospital.

The Department of Nuclear Medicine provides a full range of nuclear medicine procedures including computerised and tomographic studies to The Prince of Wales Hospital, The Prince Henry Hospital and The Prince of Wales Children's Hospital, which with 1250 beds, is the major teaching complex of the University of New South Wales.

Applicants must be prepared to participate in on-call services as well as become involved in research projects.

Applicants should be accredited or be eligible for accreditation by the Australian and New Zealand Society of Nuclear Medicine. Reciprocity exists with the Canadian Association of Medical Radiation Technologists.

Applications in writing, giving full details of qualifications and experience, together with the names and addresses of two referees, should be forwarded to the Staff Manager, Eastern Sydney Area Health Service, Cnr. High and Avoca Streets, Randwick, N.S.W., Australia, 2031.

The Eastern Sydney Area Health Service is an Equal  
Opportunity Employer and supports a  
Smoke-free workplace

#### Medical Opportunities

## Certified Nuclear Medicine Technologist

The Nuclear Medicine Section, Department of Radiology, University of Tennessee Medical Center, Knoxville, Tennessee is accepting applications for certified nuclear medicine technologists.

UTMCK is a 600-bed Level I Trauma Center and the regional referral center for East Tennessee. The Department of Radiology is a comprehensive diagnostic imaging center with x-ray radiography, CT, MR and clinical PET. The Nuclear Medicine Section performs 5000 conventional procedures and more than 1000 clinical PET studies per year. There is a CAHEA accredited school of nuclear medicine technology. Active research areas include neurology, cardiology and oncologic PET.

Applicants must be certified nuclear medicine technologist with experience in nuclear medicine technology education. Experience in clinical research is desirable. The position will include teaching responsibilities in the nuclear medicine technology school and will provide special training opportunities in clinical PET technology. The salary will be commensurate with the applicant's training and experience.

Interested candidates should submit a letter of interest & resume to:

Department of Personnel Services



THE UNIVERSITY OF TENNESSEE  
Medical Center at Knoxville

1924 ALCOA HIGHWAY

KNOXVILLE, TENNESSEE 37920

EEO/An Affirmative Action/Title IX/Section 504 Employer



Norwalk Hospital: Reaching New Heights

# NUCLEAR MEDICAL TECHNOLOGIST

## No Night Call

Pleasant, dynamic community hospital with teaching programs and radiology residency has an immediate opening for a Nuclear Medical Technologist to work as part of a professional team. Registry or eligible.

Norwalk Hospital offers excellent salaries and benefits as well as every opportunity for personal and professional growth. Please call today:

**Jane Soetbeer**  
Recruiter  
(203) 852-3398

## Norwalk Hospital The Center for Advanced Medicine

Maple Street  
Norwalk, CT 06856

An equal opportunity employer M/F/H

# NUCLEAR MEDICINE TECHNOLOGIST

Baystate Medical Center is Massachusetts' second largest hospital and the most prestigious medical facility in Western New England. Our 800-bed major medical referral and tertiary care hospital offers excellent resources and a progressive environment to help you accelerate the pace of your career. You can make a change now by considering the following position:

We are seeking a registered or registry eligible Nuclear Medicine Technologist. We perform a variety of scans including SPECT, Nuclear Cardiology, TIMI Research and various computer analysis. We utilize seven Gamma cameras and five Nuclear Medicine computers to perform over 8000 exams per year.

We offer a generous salary and benefits package which includes a NLN accredited School of Nursing which you or your immediate family members may attend. For immediate and confidential consideration, please send your resume to: Lynn Fogg, Technical/Professional Recruiter, BAYSTATE MEDICAL CENTER, Employment Office, 780 Chestnut Street, Suite 30, Springfield, MA 01199. We are an Equal Opportunity Employer.



**Baystate Medical Center**

*The Western Campus of  
Tufts University School of Medicine.*

# NUCLEAR MEDICINE TECHNOLOGIST

Illinois Masonic Medical Center is a progressive university affiliated, 556-bed teaching institution ideally located on Chicago's near North side.

This full time staff position in our nuclear medicine section of medical imaging affords you the opportunity to fulfill your career expectations. We offer:

- State-of-the-art equipment including two ECT cameras
- Active nuclear cardiology program
- Evaluation of newest radio pharmaceuticals
- Competitive salary and benefits including health and dental coverage
- Monday-Friday work week
- On-call rotation

RECENT GRADUATES ARE WELCOME TO APPLY  
Eligibility for registry; IDNS license eligibility required.

Please submit resume or contact:

**Coleen Berg,**  
(312) 883-7006 Ext. 3344



**Illinois masonic  
medical center**  
Personnel Department  
836 W. Nelson  
Chicago, IL 60657

an equal opportunity employer m/f

# NUCLEAR MEDICINE TECHNOLOGIST

Memorial Medical Center, a 600 bed teaching health care facility affiliated with Southern Illinois University School of Medicine and located in Springfield, Illinois, is currently recruiting for a full-time Nuclear Medicine Technologist to join our staff of 4 technologists in the Nuclear Medicine division.

The department currently utilizes state-of-the-art GE imaging equipment and SPECT and participates in ongoing research projects, including monoclonal antibody studies.

You will benefit from our community-oriented lifestyle, rich in educational institutions, cultural activities and recreational opportunities for a current population of 105,000. We feel that this would be a challenging position for either the new graduate or experienced technologist. Memorial offers a merit-based salary system, flexible benefit package, on-site child care, 100% tuition reimbursement, and relocation assistance. Interested candidates may call (217) 788-3580 collect or forward resume to Allen Kelley, Employment Associate, MEMORIAL MEDICAL CENTER, 800 N. Rutledge, Springfield, IL 62781.

Equal Opportunity Employer M/F/H/V



**Memorial Medical Center**  
*So much care. So many ways of showing it.*

## Supervisor of Nuclear Medicine.

We're looking for a unique individual that can help us grow into the next century.



Kaiser Permanente is one of the nation's oldest and largest health care organizations. The Nuclear Medicine Department of our 632-bed tertiary care Los Angeles medical center is experiencing tremendous growth, and a major department expansion is planned for 1991.

As Supervisor of Nuclear Medicine, you will play an integral role in the planning of this department, and the growth of our medical center. You will supervise 6 Registered Technologists, 8 ancillary staff members, LVN's, Receptionists and other personnel within the Nuclear Medicine Department, the Nuclear Cardiology Department and Thyroid Medical Office.

To qualify, you must have current California licensure and 4 years experience as a Nuclear Medicine Technologist, plus 2 years experience as an Administrative Technologist. You must be registered in Nuclear Medicine Technology by the American Registry of Radiologic Technologists or certified by the Nuclear Medicine Technology Board.

At Kaiser Permanente, our Nuclear Medicine Technologists are viewed as integral members of the organization. They work in close collaboration with physicians and other health care professionals, and have access to the latest radiologic technology. We also offer competitive salaries and a comprehensive benefits package.

Join Kaiser Permanente, Los Angeles, as we prepare for the next decade, and the next century, of growth. For further information, please submit your resume to: **Kaiser Permanente, Personnel Dept.** J0U-108-12/89, 1515 N. Vermont Ave., 2nd Floor, Los Angeles, CA 90027. We are an Equal Opportunity Employer.

## Physician

### DIRECTOR • NUCLEAR MEDICINE

**IMMEDIATELY** required to Head the Nuclear Medicine Department at the Plains Health Centre, Regina, Saskatchewan, a 303-bed teaching referral centre affiliated with the College of Medicine, University of Saskatchewan. The hospital also serves as the major Cardioscience and Neuroscience Facility for the Southern half of the Province of Saskatchewan. The successful applicant should have competence in all aspects of Diagnostic and Therapeutic Nuclear Medicine. Applicants must be FRCP(C) in Nuclear Medicine or be eligible to take the examinations. In accordance with the Canadian Immigration Requirements, preference will be given to Canadian Citizens. Please submit curriculum vitae and references to Dr. D. Chinn, Secretary, Search Committee, Plains Health Centre, 4500 Wascana Parkway, Regina, Saskatchewan, S4S 5W9.

## RESIDENCY

**STANFORD UNIVERSITY SCHOOL OF MEDICINE—NUCLEAR MEDICINE RESIDENCY PROGRAM.** Resident position is available beginning July 1, 1990 for a two year program at Stanford University Medical Center and affiliated Veterans Administration Medical Center. Patients from the Children's Hospital at Stanford are also studied at the University Hospital. The program is approved by the ACGME and satisfies the requirements of the American Board of Nuclear Medicine. Prerequisite for entry into program: two years prior training in an ACGME-approved program in internal medicine, radiology, pathology, or pediatrics. Requests for further information (include CV and reference list) should be directed to: **Dr. I. Ross McDougall, Professor of Radiology and Medicine, Stanford University Medical Center, Room H-0115, Stanford, CA 94305-5281.** Stanford University Medical Center is committed to increasing representation of women and members of minority groups in its resident training programs and particularly encourages applications from such candidates.

## 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.

Competitive salary and benefit package while living in the midst of four season recreation.

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

Or ring our 24-hour talking ad  
1-800-444-EMMC

An equal opportunity employer



**EASTERN MAINE  
MEDICAL CENTER**



# NUCLEAR PHARMACIST

Henry Ford Hospital, a 937-bed hospital dedicated to patient care, medical education and research, is currently seeking a Nuclear Pharmacist for its Division of Nuclear Medicine. The successful candidate for this position will be responsible for the delivery of radiopharmacy services, instructing nuclear medicine and radiology residents, administrative activities, and divisional compliance with all regulatory and quality assurance standards.

Qualified applicants must have a Bachelor's Degree from an accredited college of pharmacy and have at least one year of related experience. Please direct resumes to: **David L. Bruce**

**HENRY FORD HOSPITAL**  
Employment Center  
2921 W. Grand Blvd. • Detroit, MI 48202  
Equal Opportunity Employer

*Henry Ford Hospital*  
AND SPECIALTY CENTERS

# Diagnostic Imaging

## STAFFING SPECIALISTS

Specializing in Diagnostic Imaging  
and Nuclear Medicine Personnel

- Temporary Staffing Service
- Nationwide Recruitment Service

- ✓ highly qualified, experienced technologists on a PRN basis
- ✓ recruiting services for permanent positions at a fraction of your recruiting costs
- ✓ assistance in eliminating revenue loss due to staffing shortages

For information  
regarding the services call  
**813-461-9642**

**RADS** <sup>T.M.</sup>  
RADIOGRAPHY SERVICE, INC.

# NUCLEAR MEDICINE TECHNOLOGIST

Robert Wood Johnson University Hospital, the 416-bed university-affiliated teaching hospital, has a full time day position Mon-Fri.

Qualified applicants must be graduates of AMA approved school of Nuclear Medicine.

We offer an EXCELLENT SALARY & BENEFITS PROGRAM. For further information contact Personnel Dept:

**201-937-8511**

**ROBERT WOOD JOHNSON**  
UNIVERSITY HOSPITAL

168 Little Albany St.  
New Brunswick, NJ 08901

Equal Opportunity Employer

## SENIOR SCIENTIST - P.E.T. Centre

The Austin Hospital is finalising plans for its Positron Emission Tomography (P.E.T.) Centre, which is expected to be operational in mid to late 1991. The Austin's P.E.T. Centre will be the first P.E.T. Centre in Victoria and will operate within the current Nuclear Medicine Department. It will liaise closely with and complement the planned P.E.T. Centre at Royal Prince Alfred Hospital in Sydney, which is being developed in conjunction with the National Medical Cyclotron Programme. The Austin and Royal Prince Alfred Hospitals have formed an association under the name of "AUSTPAC" to manage the introduction of P.E.T. technology to Australia.

The initial task will be to provide technical leadership to the team planning the P.E.T. Centre. Key decisions that will require substantial input from the Senior Scientist include the specification of the appropriate equipment, the physical design of the P.E.T. Centre and the development of appropriate operating models.

At the end of this initial period, the Senior Scientist will be responsible for all operational matters relating to the P.E.T. scanner and the cyclotron other than radiochemistry. The Senior Scientist will be part of the management team of the P.E.T. Project.

The Senior Scientist will have had substantial experience with this technology, including the installation and troubleshooting with new equipment. He/she will have particular expertise in the development of appropriate computer software. Personal qualities will include the ability to manage a large and diverse team and to communicate effectively with project staff and users of the Centre.

All enquiries to Dr. John McKay, Director of Nuclear Medicine on (613) 450 5163 Fax. (613) 459 1473.

A detailed job description is available from the Senior Employment Officer Tel. (613) 450 5891 Fax. (613) 459 1473 to whom written applications should be forwarded not later than 31.1.90. Austin Hospital, Heidelberg Vic 3084 Australia.

*Austin*

**Austin Hospital  
Heidelberg  
Victoria Australia 3084**

arm23984

## RADIOLOGIST

Opening March 1 for Nuclear Medicine board certified radiologist to join 6-member radiology group. Applicant should be competent in all phases of Diagnostic Radiology including: MR, CT, US, and angio. NM division has 3 SPECT and 1 gamma camera, approximately 5,500 exams/yr. (33% nuclear cardiology). Excellent starting salary and benefits, with equal partnership to follow. Call and/or forward C.V. to: Jon Abrahams, MD, Conemaugh Valley Memorial Hospital, Department of Radiology, 1086 Franklin Street, Johnstown, PA 15905, (814) 533-9166.

## Physicist

The Nuclear Medicine Service of Brockton/West Roxbury VA Medical Center is seeking a Physicist who is familiar with Nuclear Medicine instrumentation and radiation protection. The candidate should have an M.S. degree, its equivalent or higher and be interested in research and teaching. The VA Medical Center is a teaching affiliate of the Harvard Medical School. Please contact: Dr. Donald E. Tow at (617) 323-7700, Ext. 5270 at 1400 VFW Parkway, West Roxbury, MA 02132. The VA is An Equal Opportunity Employer.



## 35th Annual Meeting Southwestern Chapter, SNM, April 6-8, 1990 Houston, Texas



The 35th Annual Meeting of the SW Chapter, SNM, will be held at the Doubletree Hotel, Post Oak, near the Galleria in Houston.

### SCIENTIFIC PROGRAM—Charles Boyd, Chairman

Dr. Sally J. DeNardo, University of California at Sacramento, will present the 13th annual Ted Bloch Lecture. The Southwestern Chapter Distinguished Lecturers will be Dr. Gerald L. DeNardo, UC Davis at Sacramento, and Dr. Richard Holmes, University of Missouri at Columbia. In addition, there will be other invited speakers and scientific papers. On Sunday morning there will be a special joint session with the Technologist Section, organized by Terri Boyce, on medicine and space. This promises to be an exciting and innovative session.

### COMMERCIAL EXHIBITS

We will have commercial exhibits with space for 36 8' x 10' booths. For information on exhibiting, contact Judy Brockmeyer, (415) 647-4179.

### REGISTRATION FEES

Physicians/Scientists—Member: \$100; Non-member: \$125  
Techs/Residents/Interns—Member: \$55; Non-member: \$85.

For more information, contact Jean Parker, Executive Director, SWC, SNM, P.O. Box 40279, San Francisco, CA 94140. Phone: (415) 647-1668; Fax: (415) 647-8392.

## Call for Abstracts, Scientific Exhibits and Works-in-Progress for the Technologist Program

The 1990 Scientific and Teaching Sessions Committee solicits the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 37th Annual Meeting in Washington, DC. Abstracts accepted for the program will be published in the June issue of the *Journal of Nuclear Medicine Technology*. Works-in-Progress will be published in the September issue of the *Journal of Nuclear Medicine Technology*. Original contributions on a variety of topics related to nuclear medicine will be considered, including:

- INSTRUMENTATION AND DATA ANALYSIS
- RADIOASSAY
- RADIOPHARMACEUTICAL CHEMISTRY
- DOSIMETRY/RADIOBIOLOGY
- NUCLEAR MAGNETIC RESONANCE
- CLINICAL SCIENCE APPLICATIONS
  - Bone/Joint
  - Cardiovascular (clinical and basic)
  - Endocrine
  - Gastroenterology
  - Neurology (clinical and basic)
  - Oncology (non-antibody)
  - Oncology/Immunology (antibody)

- Pediatrics
- Pulmonary
- Renal/Electrolyte/Hypertension
- Hematology/Infectious Disease

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

**Deadline for receipt of Abstracts is Thursday, January 11, 1990.**

**Deadline for receipt of Scientific Exhibits is Thursday, January 18, 1990.**

**Deadline for receipt of Works-in-Progress is Friday, April 6, 1990.**

*At the 1990 Annual Meeting, cash awards will be given to the three best papers. First prize is \$200, second prize \$150, and third prize \$100.*

The official abstract form may be obtained from the October, 1989 issue of *JNM* or by calling or writing:



The Society of Nuclear Medicine  
Attn: Abstracts  
136 Madison Avenue  
New York, NY 10016-6760  
Tel: (212) 689-0717  
FAX: (212) 545-0221



Tuesday, June 19–  
Friday, June 22, 1990

Washington, DC  
Washington Convention Center



# Information for Classified Advertisers—1990

**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 that are not relevant to our readership.

**LINE-ADS:** \$17.00 (JNM) or \$15.00 (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: \$10.00 per line. *Note:* Box numbers are available for the cost of the two lines required.

## 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.

← Estimate 28 characters  
First Line  
Estimate 50 characters  
Per Line →

NUCLEAR MEDICINE PHYSICIAN with board certification in internal medicine or radiology needed for expanding out patient imaging practice. Qualified applicants should send CV to: I.M.C. Inc., 2040 W. Wisconsin Ave., Suite 378, Milwaukee, WI 53233; (414)933-8739. EOE.

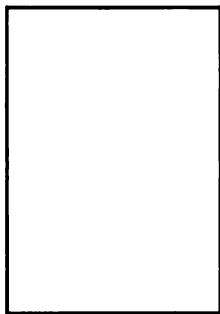
### WITH BOX NUMBER

COST: 6 lines × \$17.00 = \$102.00 (JNM)  
6 lines × \$15.00 = \$ 90.00 (JNMT)

### WITHOUT BOX NUMBER

COST: 6 lines × \$17.00 = \$102.00 (JNM)  
6 lines × \$15.00 = \$ 90.00 (JNMT)

## DISPLAY ADS DIMENSIONS:



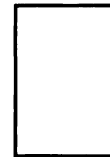
FULL PAGE  
6 7/8" wide × 9 1/2" high



1/2 PAGE VERTICAL  
3 3/4" wide × 9 1/2" high



1/2 PAGE HORIZONTAL  
6 7/8" wide × 4 3/4" high



1/4 PAGE  
3 3/4" wide × 4 3/4" high



1/8 PAGE  
3 3/4" wide × 2 1/4" high

## RATES:

### JNM

Full page	\$1,200
Half page	710
Quarter	470
Eighth	400

### JNMT

Full page	\$700
Half page	415
Quarter	300
Eighth	250

\*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.

**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.

**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 Inna Fomin at (212) 889-0717.*

# Reader Service Cards

See Advertisements for Corresponding Reader Service Numbers

## THE JOURNAL OF NUCLEAR MEDICINE

Please send free information on items circled below.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

Phone ( ) Title

Name

Dept.

Hospital or Facility

Street Address

City State Zip

### Employer

- Hospital: A. 500 plus C. 200-299  
B. 300-499 D. 100-199
- Private Clinic
- R & D (Commercial)
- University
- Government
- Other

### Circle one answer in each category.

#### Purchasing Authority

- Recommend
- Specify
- Purchase

#### SNM Member

- ☐ yes  
☐ no

#### Reason for Inquiry

- Immediate Purchase
- General Information
- Budgeting Information

#### Specialty

Please have salesperson contact me immediately about numbers

Service Card Expiration Date: 3/15/90

12/89-1

## THE JOURNAL OF NUCLEAR MEDICINE

Please send free information on items circled below.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

Phone ( ) Title

Name

Dept.

Hospital or Facility

Street Address

City State Zip

### Employer

- Hospital: A. 500 plus C. 200-299  
B. 300-499 D. 100-199
- Private Clinic
- R & D (Commercial)
- University
- Government
- Other

### Circle one answer in each category.

#### Purchasing Authority

- Recommend
- Specify
- Purchase

#### SNM Member

- ☐ yes  
☐ no

#### Reason for Inquiry

- Immediate Purchase
- General Information
- Budgeting Information

#### Specialty

Please have salesperson contact me immediately about numbers

Service Card Expiration Date: 3/15/90

12/89-2

## MEMBERSHIP AND SUBSCRIPTION REQUEST

- ☐ I wish to become a member of The Society of Nuclear Medicine and Technologist Section. Please send me an application along with the dues structure:

### Member Benefits

- \* 12 issues of *The Journal of Nuclear Medicine*
- \* reduced subscription rate to the *Journal of Nuclear Medicine Technology*
- \* discounts on books and audiovisuals
- \* registration discounts at annual meetings
- \* triannual membership directory
- \* continuing education credit
- \* effective government relations

- ☐ I wish to become a subscriber to *The Journal of Nuclear Medicine*. Please start my 1990 subscription immediately at the applicable rate:

### Individual

- ☐ \$120.00 United States  
☐ \$130.00 Canada/Pan American Countries  
☐ \$160.00 Overseas

### Institution

- ☐ \$170.00 United States  
☐ \$180.00 Canada/Pan American Countries  
☐ \$200.00 Overseas

☐ \$70.00 Student Rate (with proof of status)

- ☐ Check enclosed (in U.S. funds on U.S. banks ☐ Please bill me ☐ Send information on back issues payable to: Society of Nuclear Medicine)

Full name (please type or print)

Address

City

State/Country

Zip/Postal code

**Change of address:** To notify the Society of an address change, please type or print new address above and affix mailing label to upper right-hand corner.



**BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 1217

BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Reader Service Department**  
**THE JOURNAL OF NUCLEAR MEDICINE**  
**THE SOCIETY OF NUCLEAR MEDICINE**  
**P.O. Box 8375**  
**Boulder, CO 80328-8375**

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 1217

BOULDER, CO

POSTAGE WILL BE PAID BY ADDRESSEE

**Reader Service Department**  
**THE JOURNAL OF NUCLEAR MEDICINE**  
**THE SOCIETY OF NUCLEAR MEDICINE**  
**P.O. Box 8375**  
**Boulder, CO 80328-8375**

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 3611

NEW YORK, NY

POSTAGE WILL BE PAID BY ADDRESSEE

**Membership Department**  
**THE JOURNAL OF NUCLEAR MEDICINE**  
**THE SOCIETY OF NUCLEAR MEDICINE**  
**136 MADISON AVENUE**  
**NEW YORK, NY 10157-0307**

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**Reader Service Cards**  
Tear out and mail (No postage necessary in U.S.)

# **BUILD THE FUTURE'S MOST ADVANCED NUCLEAR MEDICINE DEPARTMENT TODAY...**

## **WITH TOMORROW'S TECHNOLOGY.**

### **Announcing the new Capintec CAPTURA™ System.**

**A totally integrated, modular system of outstanding product innovations and comprehensive department management capabilities.**

**Designed to do the job today...with an eye on tomorrow.** The new Capintec CAPTURA System won't become obsolete the moment your department needs change...or expand, whether you purchase them separately, or integrate them as part of our new System. At the core of our System is the host IBM Personal System/2 Computer® with the latest 286 technology, and enough storage and flexibility to meet all of your nuclear medicine department needs.

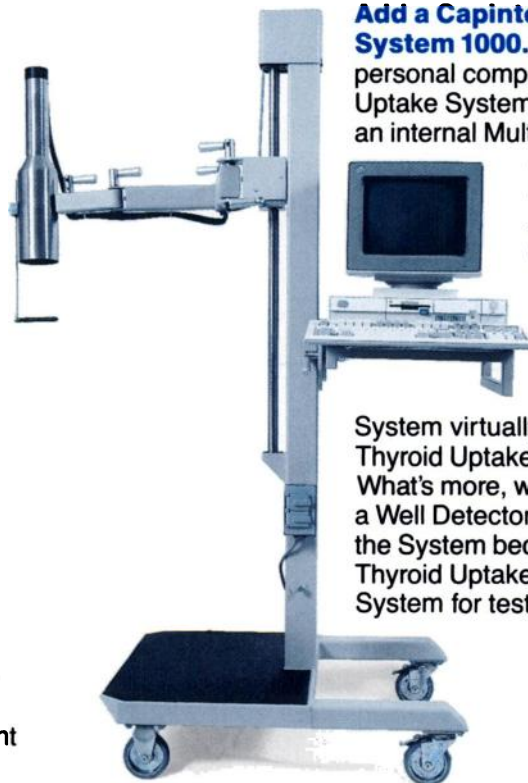
**Start with CRC®-PC System.** Everything from dose preparation to data analysis to patient scheduling is computerized in this dedicated system of dose calibration and patient management. Key to the CRC-PC System's outstanding performance capability is your choice of Capintec's most advanced family



of radioisotope calibrators. No matter which one you choose, the CRC-PC System will support you from the placement of the purchase order, all the way through to waste disposal.

Our unique Quick-On-Call capability allows you to bypass normal daily routines, and quickly access functions necessary to dose a patient even "after hours" or for emergency procedures.

**Add new Capintec equipment as your needs dictate.** Look for Capintec innovations in portable monitors for radiation exposure profiling and for contamination studies. In the area of wipe testing, look for a counter that is truly capable of generating statistically meaningful data.



**Add a Capintec Thyroid Uptake System 1000.** It's the world's first personal computer-based Thyroid Uptake System. The System has an internal Multichannel Analyzer (MCA)\* and the Excel Software Package®. And together with the exceptionally easy-to-use application software, written under the Microsoft Windows Multiprogram Environment, the System virtually obsoletes all other Thyroid Uptake Systems. What's more, with the addition of a Well Detector and lead shield, the System becomes a combination Thyroid Uptake/Well Counting System for test tube and bulk samples.



**CAPINTEC, INC.**

6 Arrow Road, Ramsey, New Jersey USA 07446  
Toll Free (800) 631-3826 or (201) 825-9500  
Telex: 642375 (CAPINTEC RASY)

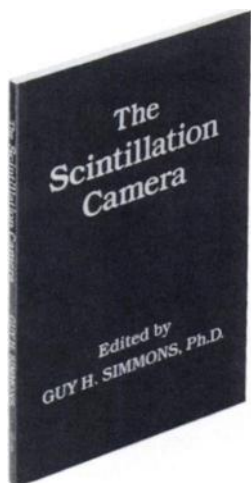
© CAPINTEC, INC. 1989

Circle Reader Service No. 11

IBM and Personal System/2 are registered trademarks of International Business Machines Corporation. Microsoft and Excel are registered trademarks of Microsoft Corporation. \* MCA Board is manufactured for Capintec by Canberra Industries, Inc.



# The Scintillation Camera



**The Scintillation Camera**, edited by Guy H. Simmons, Ph.D. 140pp. Paperbound. \$30 for members, \$35 for non-members.

**A**lthough the scintillation camera, invented by Hal Anger in 1958, has been called the most significant instrumentation event in the history of nuclear medicine, no one publication had been written that explains all its major features. The Instrumentation Council of The Society of Nuclear Medicine has filled that void with *The Scintillation Camera*.

*The Scintillation Camera*, edited by Guy H. Simmons, PhD, shows you how to select an instrument, evaluate its performance, and monitor its operation in a clinical setting. *The Scintillation Camera* is also an excellent aid for teaching the principles of the camera to those unfamiliar with its capabilities.

## Abbreviated Table of Contents

- |   |   |
|---|---|
| 1. The Detector Assembly  | 5. Quality Assurance Procedures                                   |
| 2. Collimator Design, Properties, and Characteristics                   | 6. Specification and Purchase of Anger-Type Scintillation Cameras |
| 3. On-Line Corrections for Factors that Affect Uniformity and Linearity | 7. Acceptance Testing and Performance Evaluation                  |
| 4. Display Devices  | 8. Index  |

*The Scintillation Camera* will be a valuable addition to every nuclear medicine library, both as a reference tool, and as a convenient resource to answer those questions that you face each day. Order your copy today.

**The Society of Nuclear Medicine  
Book Order Department  
136 Madison Avenue  
New York, NY 10016  
(212)889-0717  
Fax: (212)545-0221**

If ordering bulk quantities, contact Order Dept. for postage. Prepayment is required in US funds drawn on US banks. For payments made in US funds, but drawn on a foreign bank, add a bank processing fee of \$4.50 for Canadian bank drafts, \$40 for other foreign bank drafts. Check, Credit Card authorization or purchase order must accompany all orders.

Name _____	
Institution _____	
Address _____	
City/State/Province _____	Zip/Postal Code _____
<input type="checkbox"/> \$30 Member (+\$2.50 postage) Total \$32.50	
<input type="checkbox"/> \$35 Non-Member (+\$2.50 postage) Total \$37.50	
<input type="checkbox"/> Charge to Credit Card	
<input type="checkbox"/> Check Enclosed	
<input type="checkbox"/> Purchase Order Enclosed	
Visa <sup>®</sup> _____	Expiry Date _____
MasterCard <sup>®</sup> _____	Expiry Date _____
Signature _____	

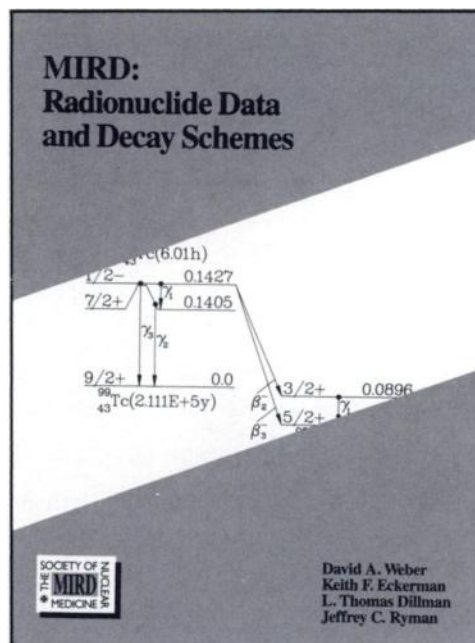
# MIRD:

## Radionuclide Data and Decay Schemes

This new publication from the MIRD committee compiles decay schemes and output tables for 242 radionuclides.

Detailed information on the intensities and energies of radiations and the mean energy emitted per nuclear transition in the decay of radionuclides in this publication provides the data needed for:

- *The calculation of absorbed dose*
- *The assay of radioactivity*
- *The evaluation of radionuclide purity*
- *The determination of suitability of a radionuclide's decay scheme for clinical imaging, RIA, radiation therapy, and other biomedical applications.*



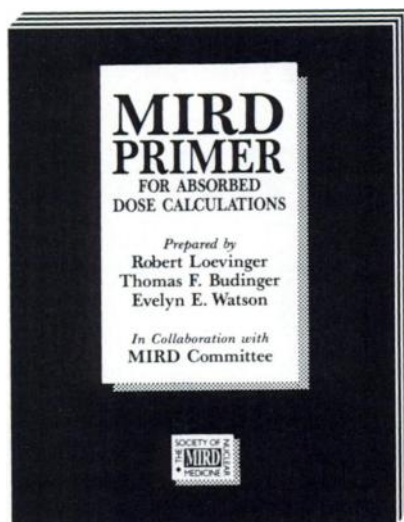
**MIRD: Radionuclide Data and Decay Schemes**  
David A. Weber, Keith F. Eckerman, L. Thomas Dillman, Jeffrey C. Ryman. 456 pp. Hard-bound. \$45 members; \$60 nonmembers.

**THE SOCIETY OF NUCLEAR MEDICINE • Book Order Department**  
136 Madison Avenue New York, NY 10016 • (212)889-0717 • Fax: (212)545-0221

Name		<input type="checkbox"/> \$45 Member * (+ \$2.50) Total \$47.50 <input type="checkbox"/> \$60 Non-Member * (+ \$2.50) Total \$62.50 * Shipping and Handling (For Canada, add \$5; other Foreign, add \$20.) <input type="checkbox"/> Check Enclosed <input type="checkbox"/> Purchase Order Enclosed <input type="checkbox"/> Charge to Credit Card	
Institution			
Address		Visa #	Expiry Date
City		MasterCard #	Expiry Date
State/Province/Country	Zip/Postal Code	Signature	

If ordering bulk quantities, contact Order Dept. for postage. Prepayment is required in US funds drawn on US banks. For payments made in US funds, but drawn on a foreign bank, add a bank processing fee of \$4.50 for Canadian bank drafts, \$40 for other foreign bank drafts. Check, Credit Card authorization or purchase order must accompany all orders.





# **MIRD PRIMER**

## ***For Absorbed Dose Calculations***

*Prepared by*  
**Robert Loevinger  
Thomas F. Budinger  
Evelyn E. Watson**

### ***In Collaboration with the MIRD Committee***

The MIRD Primer for Absorbed Dose Calculations was prepared by the MIRD Committee to provide a fresh explanation of the MIRD schema with examples designed to illustrate applications.

The text is divided into four parts: the Primer, Examples of the Use of the MIRD Schema, The Collected Absorbed Dose Estimate Reports, and Appendices.

**Part 1** offers a detailed explanation of the MIRD method.

**Part 2** amplifies this explanation with examples designed to illustrate applications beginning with relatively simple problems and working up to more complex ones.

**Part 3** contains previously published MIRD absorbed dose estimates, now readily assembled in one book, that have been revised and edited for this publication.

**Part 4** contains three appendices: List of MIRD Pamphlets, A Revised Schema for Calculating the Absorbed Dose from Biologically Distributed Radionuclides, and Kinetic Models for Absorbed Dose Calculations.

The MIRD Primer also contains a substantive index, a detailed glossary and list of symbols, and for your handy reference calculation tables on the inside front and back covers; 128 pp.

**This text is an invaluable reference tool for everyone who is involved in nuclear medicine research and practice!**

---

#### **ORDER NOW!**

**\$35.00 per copy for members; \$50.00 for non-members. Add \$2.50 postage and handling for each book ordered.** If ordering in bulk quantities, contact the Order Dept. for postage fees. Prepayment is required in US funds drawn on US banks only. No foreign funds are accepted. For payments made in US dollars but drawn on a foreign bank, add a bank processing fee of \$4.50 for Canadian bank drafts or \$40.00 for all other foreign bank drafts. Check or purchase order must accompany all orders. Make checks payable to:

**The Society of Nuclear Medicine, Book Order Dept.  
136 Madison Avenue, New York, NY 10016-6760  
(212)889-0717**

# Fundamentals of Nuclear Medicine

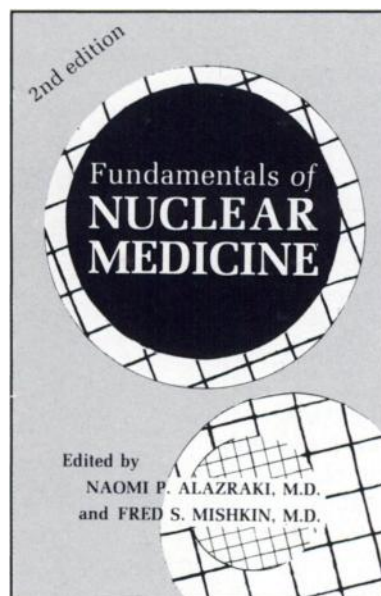
## 2nd Edition

Edited by  
**Naomi P. Alazraki, MD**  
and  
**Fred S. Mishkin, MD**

**Fundamentals of Nuclear Medicine, 2nd Edition**, provides physicians, physicians-in-training, scientists, and technologists with a comprehensive introduction to the basic principles of nuclear medicine, including the most recent advances in this fast-changing field.

Following the format of the acclaimed first edition, the editors have revised and expanded each chapter, adding major new sections on PET imaging, diagnostic decision making, parathyroid and adrenal imaging, and bone density measurement. In addition, several new scan images and graphs serve to illustrate the text.

**Fundamentals of Nuclear Medicine** fills the need for a current basic text to acquaint practitioners and students with the possibilities and limitations of nuclear medicine in detecting and evaluating common disorders. It is essential to all those who want an understanding of this rapidly evolving technology as it emerges from the investigative to the clinical stage.



**Completely Revised  
and Updated**

### Table of Contents

#### Radiation in Perspective

1. Basic Science of Nuclear Medicine  
Radiation and Dose  
Radiation Effects  
Radiopharmaceuticals  
Imaging of Radiation
2. The Diagnostic Process and Nuclear Medicine  
Sensitivity, Specificity, and Predictive Value

#### Organ Imaging with Radionuclides

3. Endocrinology
4. Cardiovascular System
5. Pulmonary System and Thromboembolism
6. Liver and Gastrointestinal Tract
7. Biliary Tract
8. Genitourinary Tract
9. Skeletal System
10. Central Nervous System

#### Imaging Disease Process

11. Trauma
12. Inflammatory and Infectious Process
13. Cancer

#### Nonimaging Diagnostic Techniques

14. Nonimaging Procedures

#### Appendix

#### Glossary

#### Index

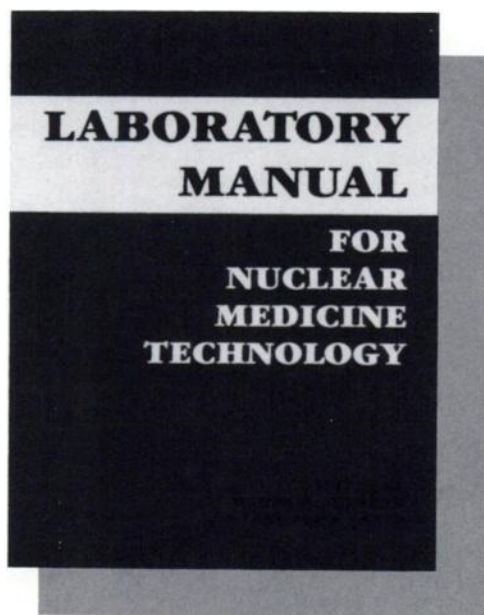
### To Order:

Single copies of *Fundamentals of Nuclear Medicine*, 2nd Edition, are available for \$15.00 plus \$2.50 postage and handling for each book ordered. Payment must be made in U.S. funds drawn on U.S. banks only. For payment made in U.S. funds, but drawn on a foreign bank, add a bank processing fee of \$4.50 for Canadian bank drafts or \$40.00 for all other foreign bank drafts. Check or purchase order must accompany all orders. Make checks payable to: The Society of Nuclear Medicine.

**SPECIAL STUDENT OFFER:** Bulk quantities of *Fundamentals of Nuclear Medicine*, 2nd Edition, are available for instructors to introduce medical and technologist students to nuclear medicine. Accredited instructors may purchase a minimum of 10 copies at \$4.00 each (includes shipping).

**The Society of Nuclear Medicine**  
136 Madison Avenue, Dept. 588J  
New York City, NY 10016-6760





# 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.

This manual will serve to enhance the student's knowledge of a standard curriculum and develop competency in clinical practice. It provides the most comprehensive training resource available to be used in a laboratory setting. In addition, this manual will aid residents in fulfilling the NRC requirements for licensure.

## 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

## ORDER NOW!

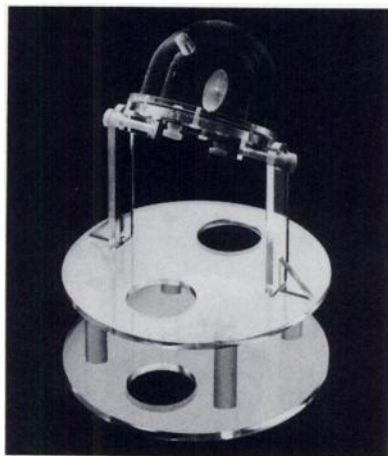
**\$14.00 per copy for members; \$16.00 for non-members. Add \$2.50 postage and handling for each book ordered.** If ordering in bulk quantities, contact the Order Dept. for postage fees. Prepayment is required in US funds drawn on US banks only. No foreign funds are accepted. For payments made in US dollars but drawn on a foreign bank, add a bank processing fee of \$4.50 for Canadian bank drafts or \$40.00 for all other foreign bank drafts. Check or purchase order must accompany all orders. Make checks payable to:

**The Society of Nuclear Medicine, Book Order Dept. 188J  
136 Madison Avenue, New York, NY 10016-6760  
(212)889-0717**

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

*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.*

## Teleradiology Image Display System



Redi-Vu Systems, a division of JD Technical Services, has introduced the Tele-Vu 5000, a scanner based, high resolution, teleradiology image display system. The Tele-Vu is both a transmit and receive system. At the transmit site, Tele-Vu can scan and send transparencies, documents and reports. Thus, a doctor who is not at the site can still offer patient diagnosis. The Tele-Vu 5000 is a flat-bed image scanner that not only scans x-ray films, but also can be converted into a conventional scanner capable of scanning documents. The scanner is based on a 32 bit, 80386 microprocessor operating at 25 MHz. The flat-bed image scanner used at the transmission site has selectable scan speeds of 75, 150 and 300 DPI. The scanner's software features include window/rubberbanding areas of interest, automatic data scaling, and 90° image rotation. The display features consist of rove, minification and magnifying glass, with brightness/contrast and background subtraction for enhanced images. Multiple images from one or more patient studies can be displayed simultaneously. The function keys have pre-programmed macros, which allow operations to be executed with a single keystroke, and the user interface is controlled by an optical mouse. Data can

be accessed from multiple sources with video capture and the built-in transmission software allows 2.5:1 data compression with zero data loss. The scanner can also function as a high performance computer, for word processing and accounting applications. **Redi-Vu Systems, 2455-G Autumnvale Drive, San Jose, CA 95131. Attn: Jerry Pepmueller. (408) 263-9963.**

Circle Reader Service No. 101

## Radionuclide Generator

Robert Atcher of Chicago, IL and John Hines of Glen Ellyn, IL, both researchers at Argonne National Laboratory, have devised a radionuclide generator that produces isotopes, which can be used in cancer therapy or for suppressing organ transplant rejection. Because the isotopes used in nuclear medicine will be placed inside the body, their half-life should be no longer than needed to kill cancer cells, usually only a few hours. However, there

are only a few of the large, expensive cyclotrons needed to produce these isotopes. If the nearest device is many hours away, the isotope will become ineffective by the time it arrives at its destination. Atcher and Hines' radionuclide generator uses a super-strength resin to trap relatively stable radium-224 inside a lead capsule, which is then shipped to its destination. En route, some of the radium decays into short-lived bismuth-212, which can be removed from the resin with an acid solution and used in cancer therapy. The capsule can be "milked" of bismuth several times a day for about a week, according to Hines, assuring a full-strength dose of the isotope every time. For more information, contact: **Argonne National Laboratory, Chemical Division, Bldg. 211, 9700 South Cass. Ave., Argonne, IL 60439. Attn: Bob Atcher, Group Leader, Nuclear Medicine Research. (312) 972-6728.**

Circle Reader Service No. 102

## Cardiac Insert



Nuclear Associates, a division of Victoreen, Inc., has developed the Cardiac Phantom Insert, which can be used with the PET/SPECT Performance Phantom source tank to realistically mimic the human heart for thallium-201 tests. The "heart" has a hollow wall into which any of eight "defects" can be inserted. The wall is then filled with a solution containing thallium-201, or any other isotope, and the insert is placed within the source tank, which is filled with a less concentrated "background" solution. The eight plastic "defects" are of various sizes and shapes, and when placed within the "heart wall," they cause "cold" spots, just as cardiac infarcts would do. The Cardiac Insert is supported on plastic rods, to allow the entire unit to swivel a full 360°, or be

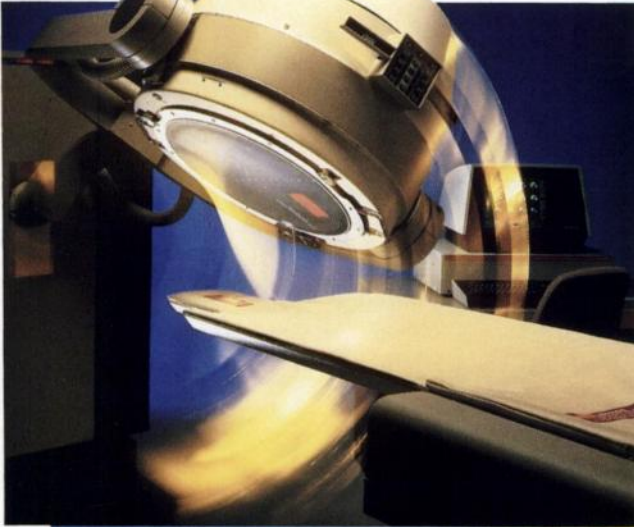
rotated to any desired angle, assuming any desired position or attitude. The resulting images will be equivalent to those obtained during normal patient imaging. The "heart" is approximately 8cm diameter by 8cm high, and the "hollow" wall is 1½cm thick. The Insert is made of acrylic and its sections are sealed with "O" rings to prevent leaking. The eight movable defects include four which are round, ranging in diameter from 5mm to 20mm, and four which are elliptical, ranging in size from 5×10mm to 2×4cm. The overall size of the Insert is 8" diameter by 6" to 10" high. **Nuclear Associates, A Division of Victoreen, Inc., 100 Voice Rd., Carle Place, NY 11514. Attn: M. Ratner. (516) 741-2166.**

Circle Reader Service No. 103

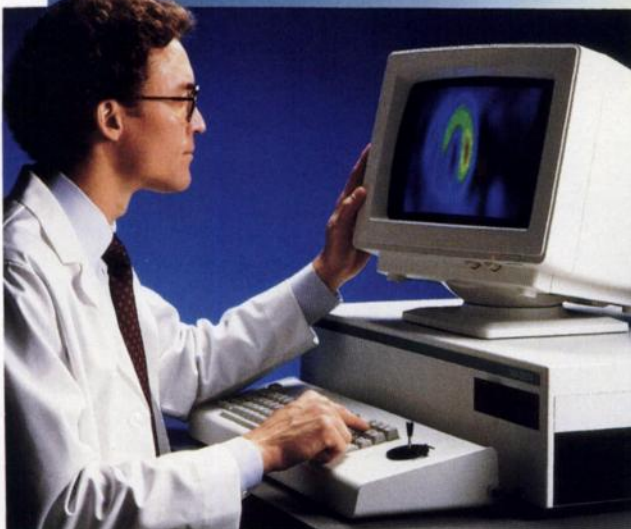


# SIEMENS

7500 Orbiter



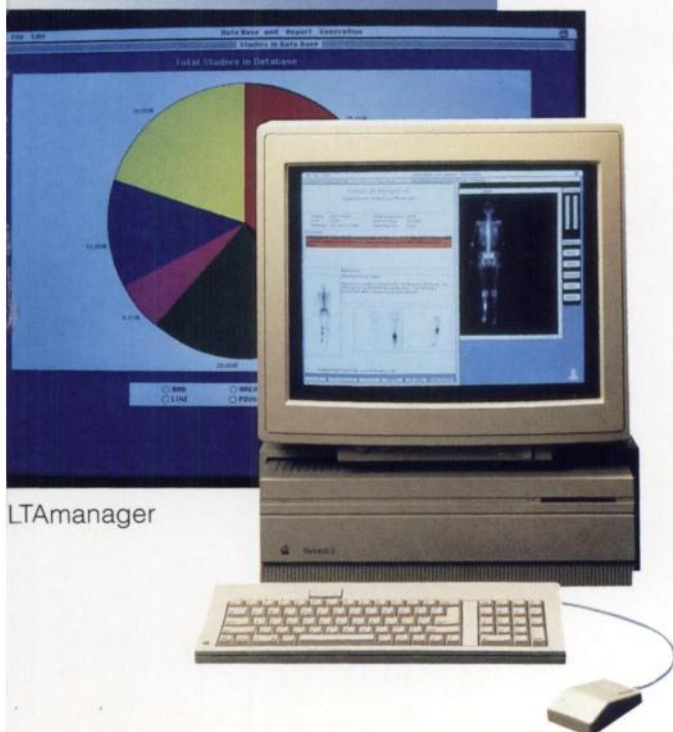
MaxDELTA



W.A.M. enhanced image on MicroDELTA

Introducing

MicroDELTA



## The Heart of the Nuclear Network!

# MaxDELTA 3000

MaxDELTA 3000® is the latest high-speed, **32-bit** computer from Siemens. Configured with a stand-alone camera, or as an add-on to any existing system, MaxDELTA 3000™ gives you powerful turnkey capability, and flexible expansion with instant connectivity to additional DELTA family computer products, such as MicroDELTA,™ and DELTAmanger.™

The pulse of the MaxDELTA 3000 is controlled by a new Operating program that sharpens your technical edge, assuring the highest staff productivity and best patient management, while providing you with the diagnostic confidence you expect from Siemens...world leader in nuclear medicine!

### MaxDELTA 3000 Systems feature:

- High-speed, multi-task 32-bit MicroVAX 3300.®
- Simultaneous acquisition and processing, including SPECT.™
- Ethernet expandability.
- Large storage capacity with 150 Mbyte Winchester Disk.
- System Manager display terminal.
- CLINIC,™ SPECT™ and Systems Manager software.

**MaxDELTA 3000...the beat gets stronger!**



### Siemens Medical Systems, Inc.

2501 Barrington Road  
Hoffman Estates, IL 60195  
(708) 304-7252

Circle Reader Service No. 75

CLINIC, MEDICL, MicroDELTA are legal trademarks of Computer Design and Applications, Inc., a subsidiary of Analogic. VAX is a registered trademark of Digital Equipment Corp. DELTAmanger is a trademark of Medical Image Processing Specialists, Inc. SPECT is a registered trademark of Siemens Gammasonics, Inc.



# EXCELLENCE IN:

## Renal and brain imaging



## MPI DTPA Kit (Chelate) Kit for the Preparation of Technetium Tc 99m Pentetate Injection

- Used to perform renal imaging, assess renal perfusion, estimate glomerular filtration rate, and for brain imaging.
- Rapidly distributed throughout the extracellular fluid space with little or no binding of the chelate by the renal parenchyma.
- Promptly cleared from the body by glomerular filtration.
- Images of the kidney obtained after the first few minutes represent radioactivity which is in the urine of both the collecting system and renal pelvis.

For more information contact your Medi-Physics  
Territory Manager, Roche Professional Service Center  
or call 1-800-451-7732.

**medi+physics®**  
a subsidiary of Hoffmann-La Roche Inc.

Medi-Physics, Inc.  
140 East Ridgewood Avenue  
Paramus, NJ 07652

**Roche Professional  
Service Centers**  
a subsidiary of Hoffmann-La Roche Inc.

Roche Professional Service Centers Inc.  
140 East Ridgewood Avenue  
Paramus, NJ 07652

## MPI DTPA Kit (Chelate) Kit for the Preparation of Technetium Tc 99m Pentetate Injection

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

### DIAGNOSTIC—FOR INTRAVENOUS USE

**DESCRIPTION:** Each kit contains sterile, pyrogen-free, nonradioactive ingredients necessary to produce Technetium Tc 99m Pentetate Injection for diagnostic use by intravenous injection.

Each 10 ml reaction vial contains, in lyophilized form and under nitrogen atmosphere, 5 mg of Pentetate Pentasodium, and 0.17 mg (minimum) stannous chloride (maximum stannous and stannic chloride 0.275 mg). The pH is adjusted to 4.0 to 7.5 with hydrochloric acid and sodium hydroxide prior to lyophilization. The addition of sterile, pyrogen-free and oxidant-free Sodium Pertechnetate Tc 99m Injection produces Technetium Tc 99m Pentetate Injection, which contains no bacteriostatic preservative.

The chemical names for Technetium Tc 99m Pentetate Injection are: 1. Technetate (1-) <sup>99m</sup>Tc, [N, N-bis [2-[bis (carboxymethyl) amino] ethyl] glycinate (5-)]-, sodium; and 2. Sodium [N, N-bis [2-[bis (carboxymethyl) amino] ethyl] glycinate (5-)]- technetate (1-) <sup>99m</sup>Tc.

**INDICATIONS AND USAGE:** Technetium Tc 99m Pentetate Injection may be used to perform kidney imaging, brain imaging, to assess renal perfusion, and to estimate glomerular filtration rate.

**CONTRAINDICATIONS:** None known.

**WARNINGS:** None

### PRECAUTIONS:

#### General

The contents of this kit are not radioactive. However, after Sodium Pertechnetate Tc 99m Injection is added, adequate shielding of the final preparation must be maintained.

The contents of the reaction vial are intended only for use in the preparation of Technetium Tc 99m Pentetate Injection and are NOT to be directly administered to the patient. The image quality may be adversely affected by impaired renal function.

Literature reports indicate that the target to non-target ratio for intracranial lesions may take several hours to develop fully, and the possibility of missing certain lesions when imaging is restricted to the early period after injection should be borne in mind.

To minimize radiation dose to the bladder, the patient should be encouraged to increase his fluid intake, and to void when the examination is completed and as often thereafter as possible for the next 4-6 hours.

Technetium Tc 99m Pentetate Injection should be formulated within six (6) hours prior to clinical use for brain and kidney imaging, and for assessing renal perfusion. For optimal results this time should be minimized. Intervals longer than one hour should be the exception.

Technetium Tc 99m Pentetate Injection for use in estimating glomerular filtration rate should be formulated within one (1) hour prior to clinical use.

The components of the kit are supplied sterile and pyrogen-free. Aseptic procedures normally employed in making additions and withdrawals from sterile, pyrogen-free 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.

Technetium Tc 99m Pentetate Injection as well as other radioactive drugs must be handled with care and appropriate safety measures should be used to minimize external radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to patients consistent with proper patient management.

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.

High background counts, poor images and erroneous clearance results have been observed with the use of vials exceeding expiration time, owing to inadequate labeling. The vials should not be used after the expiration date shown on the label.

#### Carcinogenesis, Mutagenesis, Impairment of Fertility

No long-term animal studies have been performed to evaluate carcinogenic potential, mutagenic potential, or whether Technetium Tc 99m Pentetate Injection affects fertility in males or females.

#### Pregnancy Category C

Animal reproduction and teratogenicity studies have not been conducted with Technetium Tc 99m Pentetate Injection. It is also not known whether Technetium Tc 99m Pentetate Injection can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. There have been no studies in pregnant women. Technetium Tc 99m Pentetate Injection should be given to a pregnant woman only if clearly needed.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman 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 have not been established.

**ADVERSE REACTIONS:** Pyrogenic and allergic reactions to preparations of Technetium Tc 99m Pentetate Injection have been reported in the literature.

### HOW SUPPLIED:

#### Kit Contents

10 STERILE REACTION VIALS (10 cc, silver aluminum overseal), each containing, in lyophilized form and under nitrogen atmosphere, 5 mg of Pentetate Pentasodium, and 0.17 mg (minimum) stannous chloride (maximum stannous and stannic chloride 0.275 mg). Hydrochloric acid and sodium hydroxide have been added for pH adjustment prior to lyophilization.

20 PRESSURE-SENSITIVE LABELS for final preparation of Technetium Tc 99m Pentetate Injection.

1 PACKAGE INSERT

THIS PRODUCT INFORMATION ISSUED MAY 1989