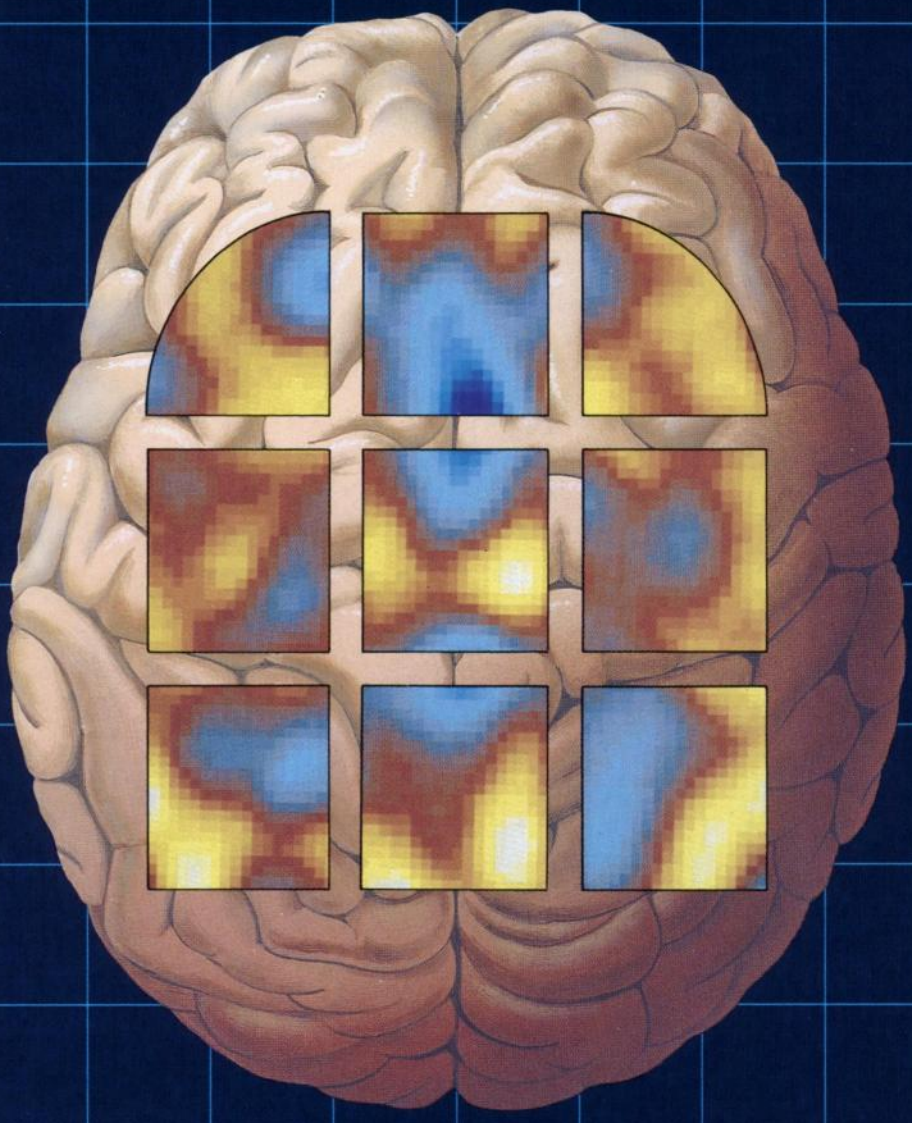
In the evaluation of stroke

SPECTamine®

Iofetamine HCl I 123 Injection

opens a window into the living brain



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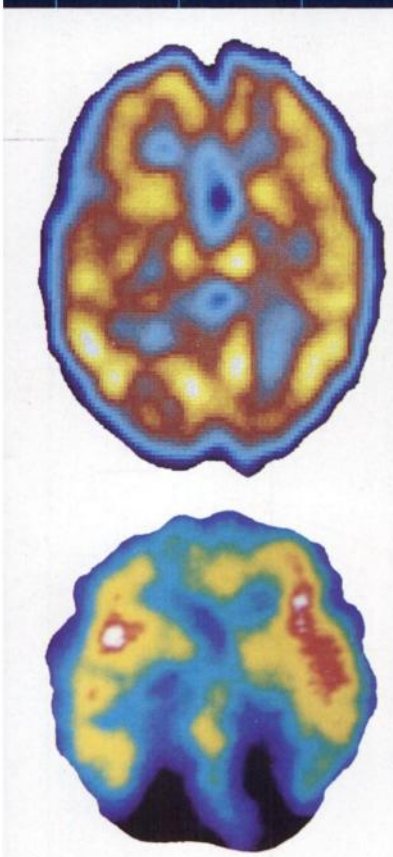
Please see adjacent page for brief summary of prescribing information.

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.

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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

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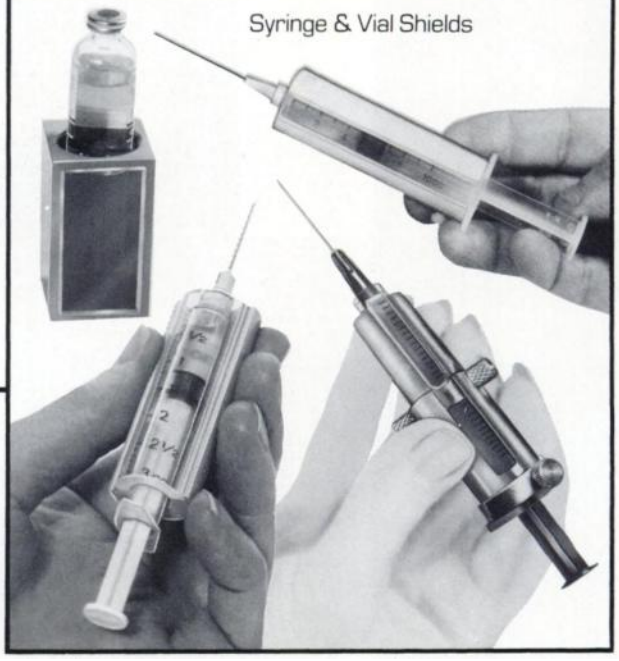

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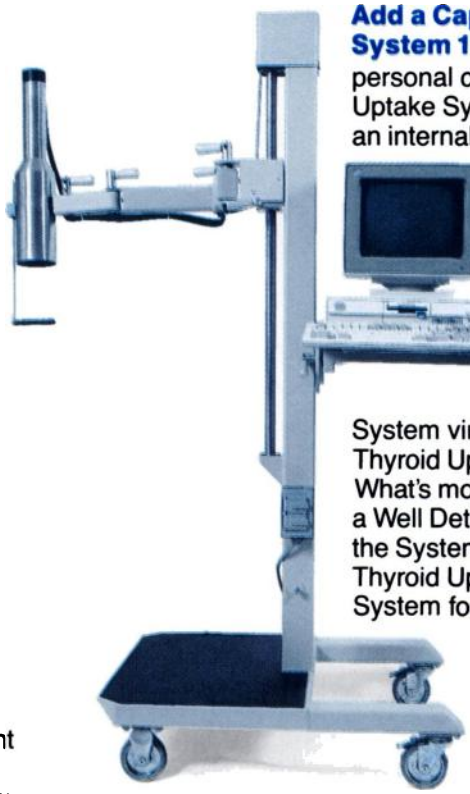

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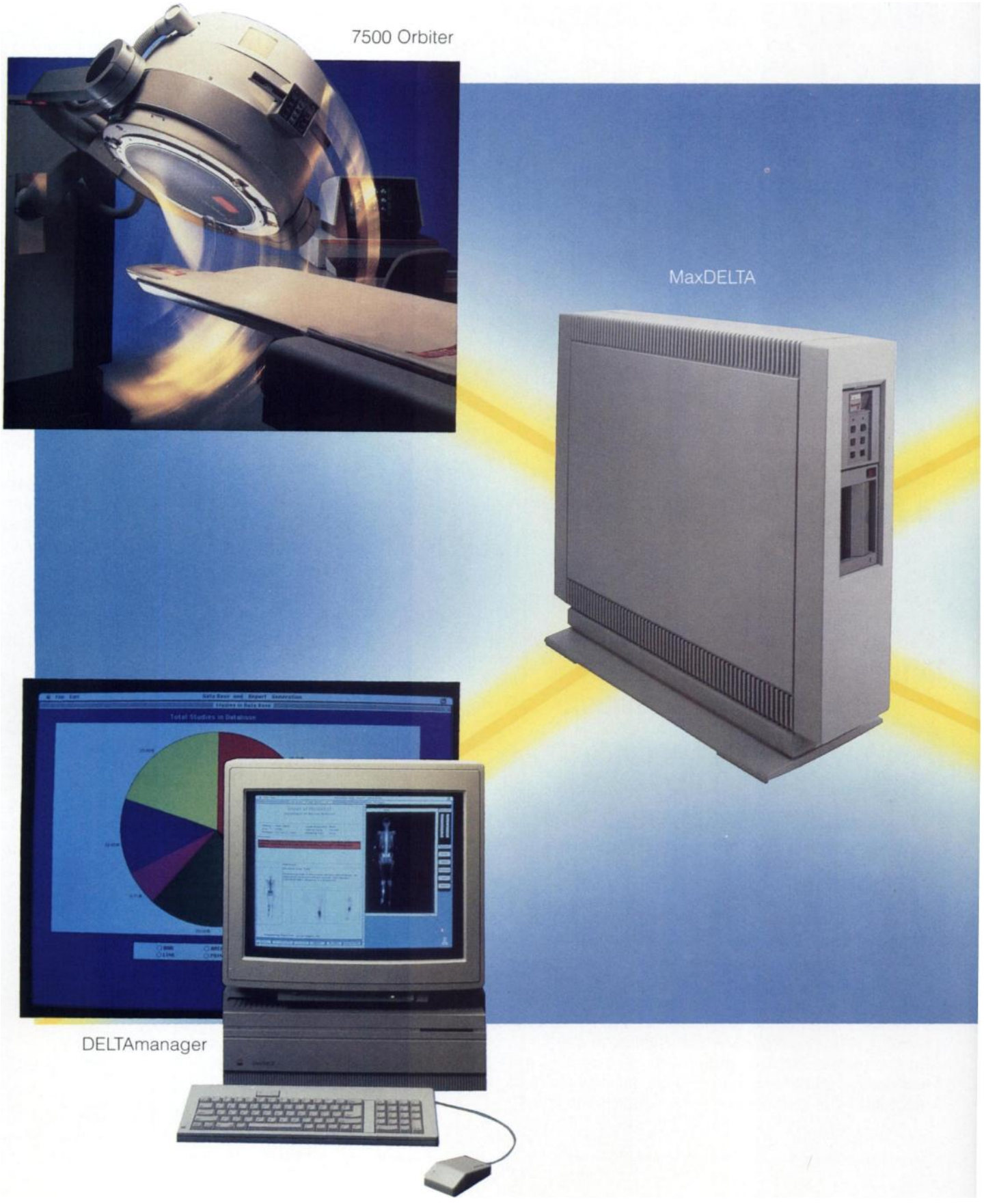

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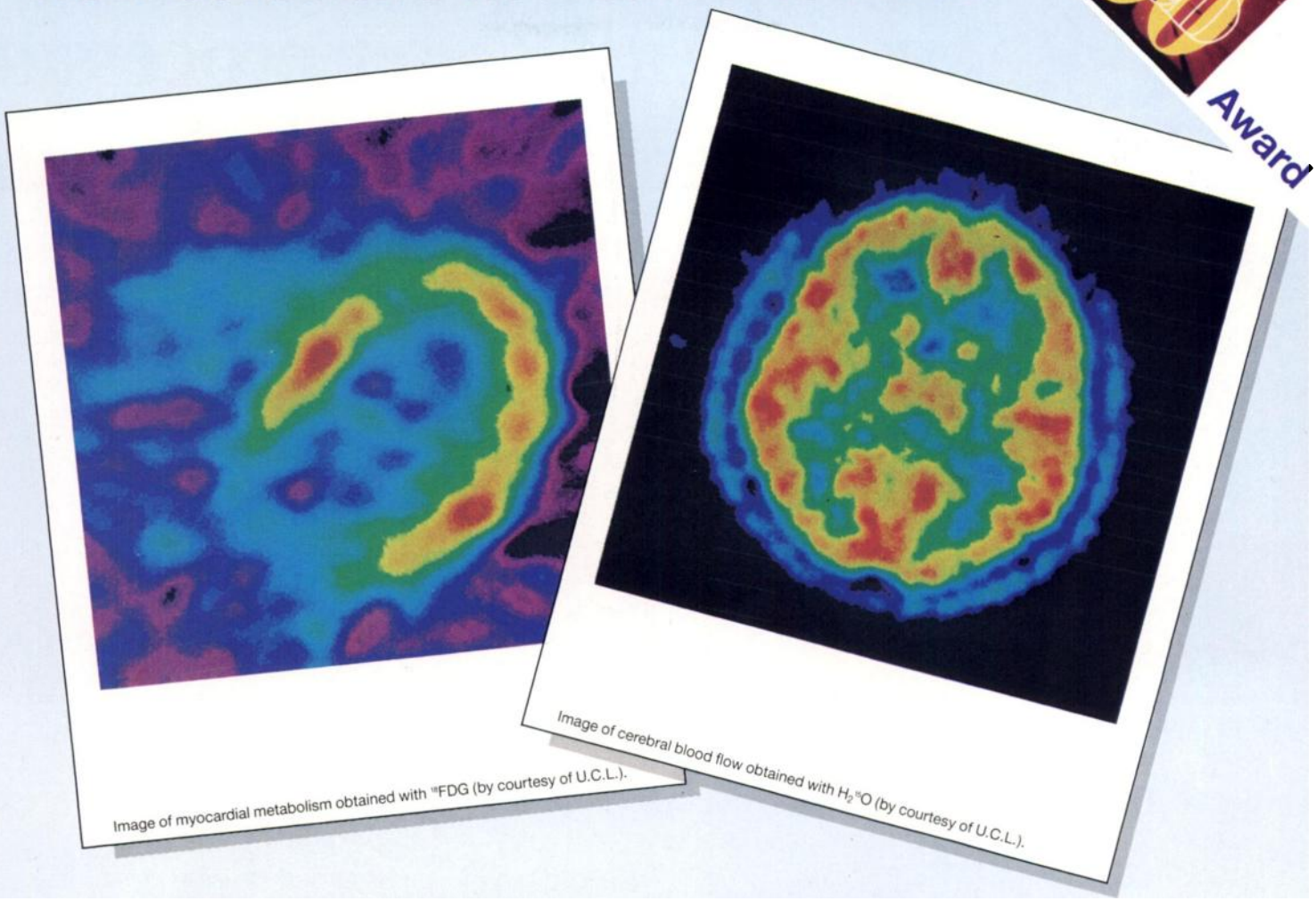

Image of myocardial metabolism obtained with ^{18}FDG (by courtesy of U.C.L.).

Image of cerebral blood flow obtained with $H_2{}^{15}O$ (by courtesy of U.C.L.).

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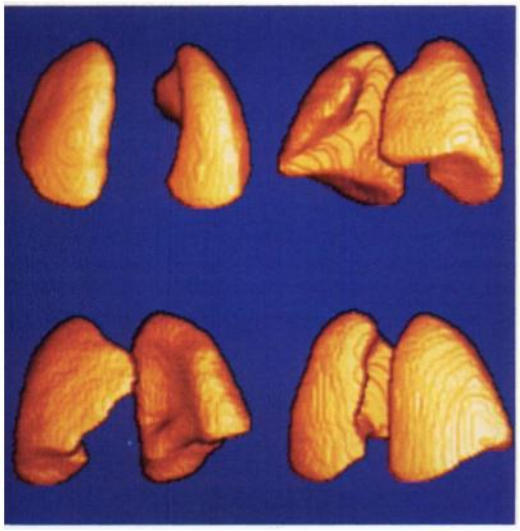
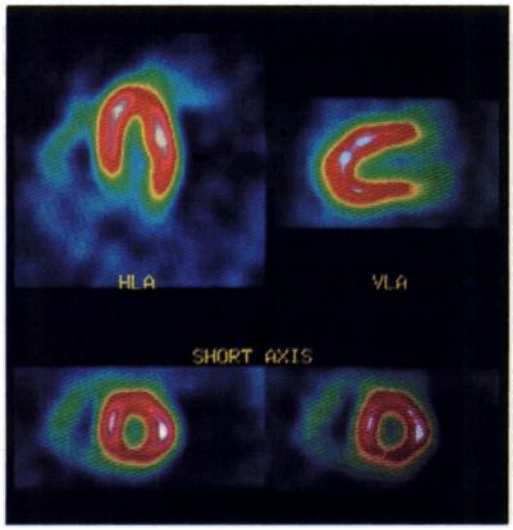


3D Display: Lung perfusion of ^{99m}Tc.

Apex SP*eed*: Less than 5 sec per view.

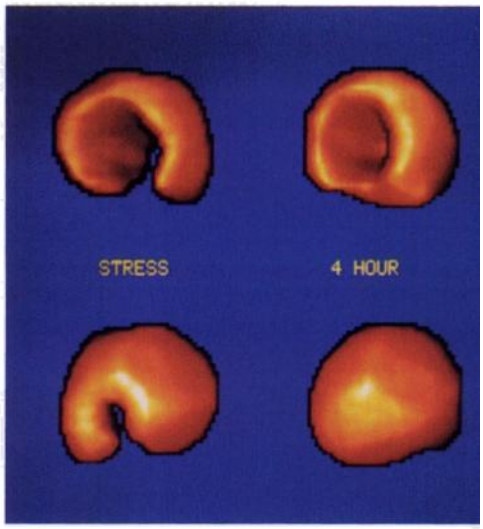
(2 minutes with 16-bit system)



Gated SPECT: Myocardial perfusion using (^{99m}Tc)SESTAMIBI

Apex SP*eed*: 10 min

(2 hours with 16-bit system)

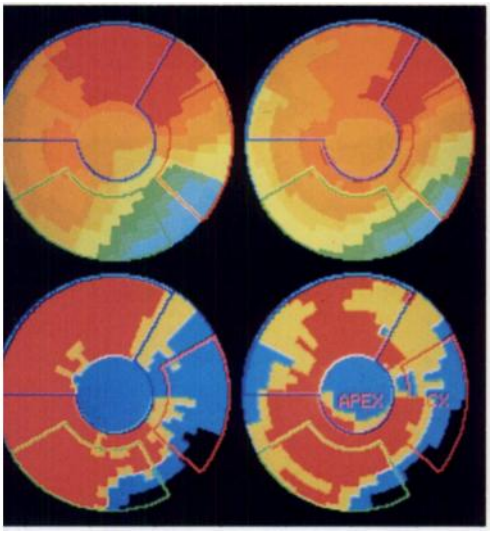


3D Display: Myocardial perfusion of Thallium-201 (^{201}Tl) stress/redistribution.

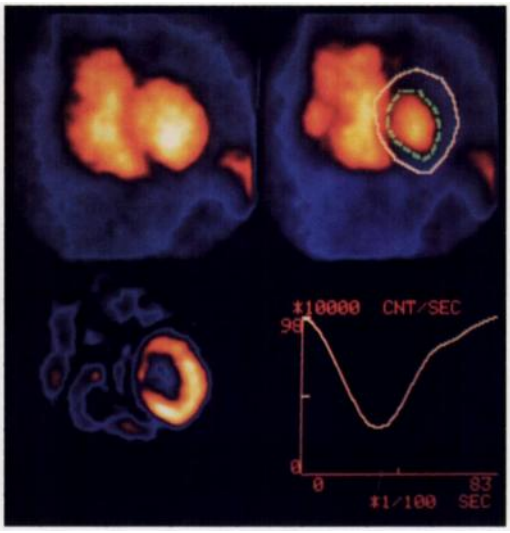
Apex SP*eed*: 5 sec per view.

(2 minutes with 16-bit system)

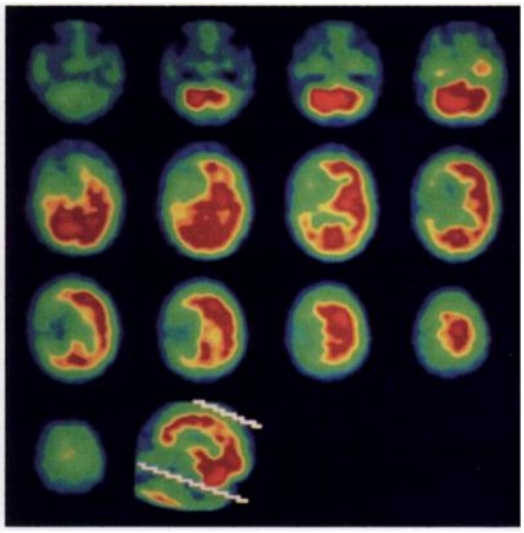
nuclear camera?
speed?
validated over 10 years?



Bullseye: SPECT Thallium-201 (^{201}Tl) stress/redistribution using *Cedars Sinai* Polar Mapping.
Apex SP*eed:* 1 min
(5 minutes with 16-bit system)



Multi-Gated Processing.
Apex SP*eed:* 30 sec
(4 minutes with 16-bit system)



Transverse slices: Brain SPECT using HM-PAO.*
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Call for Abstracts for Scientific Papers and Scientific Exhibits

The Society of Nuclear Medicine
37th
Annual Meeting

Tuesday, June 19–
Friday, June 22, 1990

Washington, DC
Washington Convention Center

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**
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  - **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
Att: Abstracts
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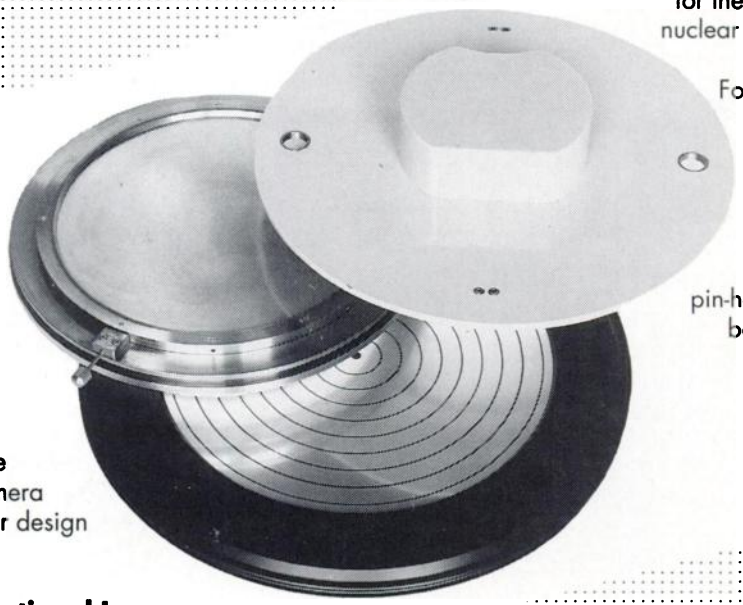

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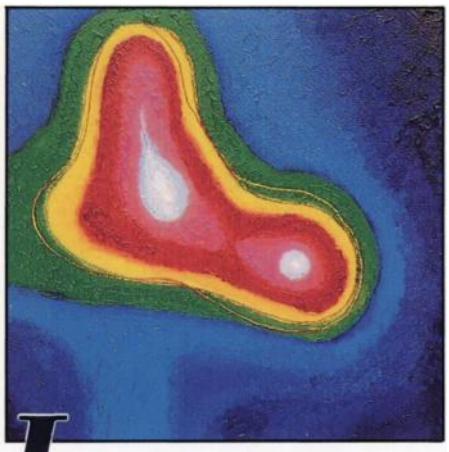

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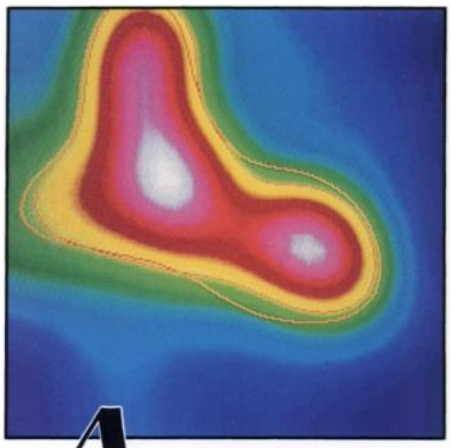
True?



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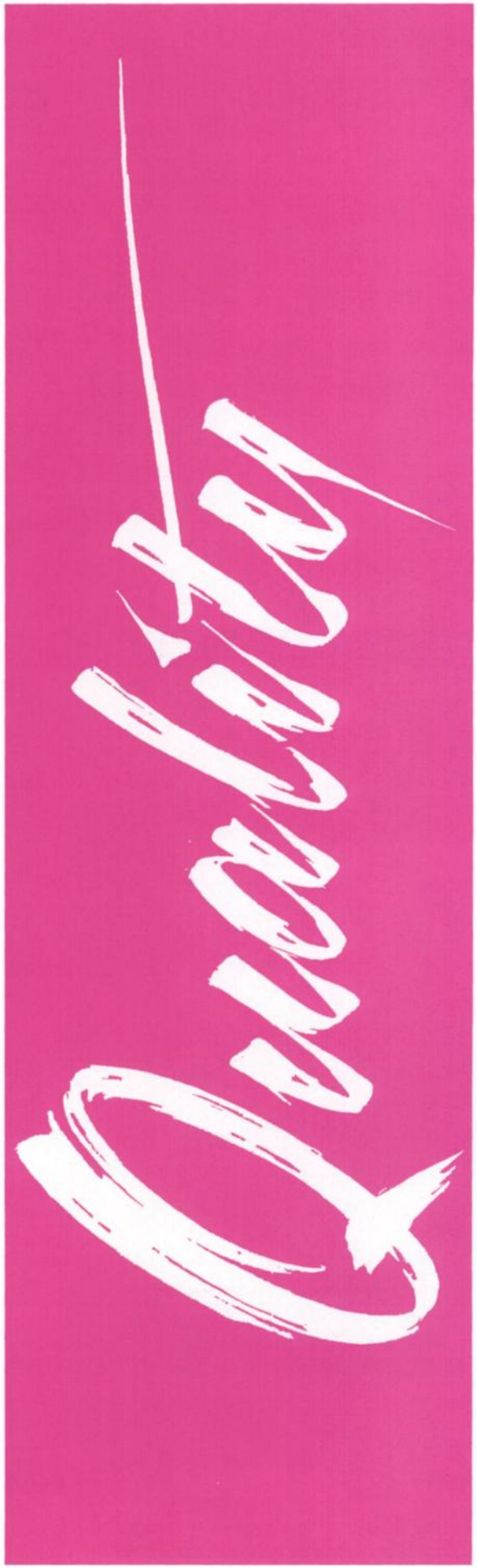

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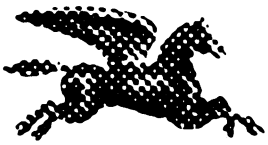

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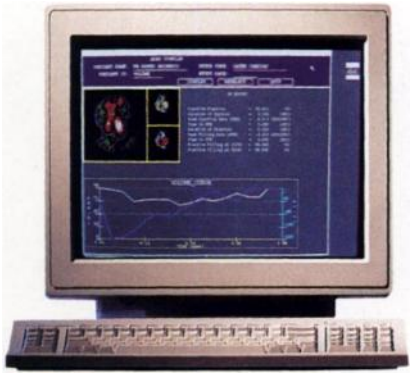

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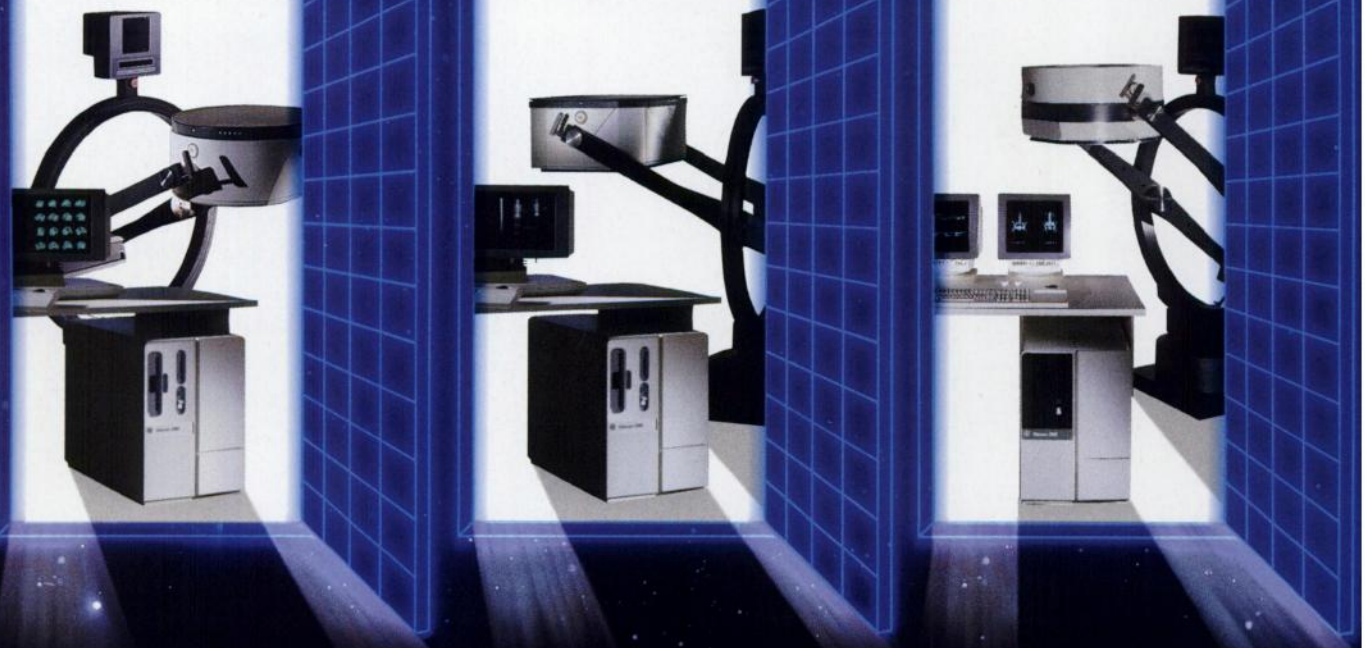

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Call for Abstracts for Works-in-Progress

The Society of Nuclear Medicine 37th Annual Meeting

Tuesday, June 19–
Friday, June 22, 1990

Washington, DC
Washington Convention Center

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:

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Att: Abstracts
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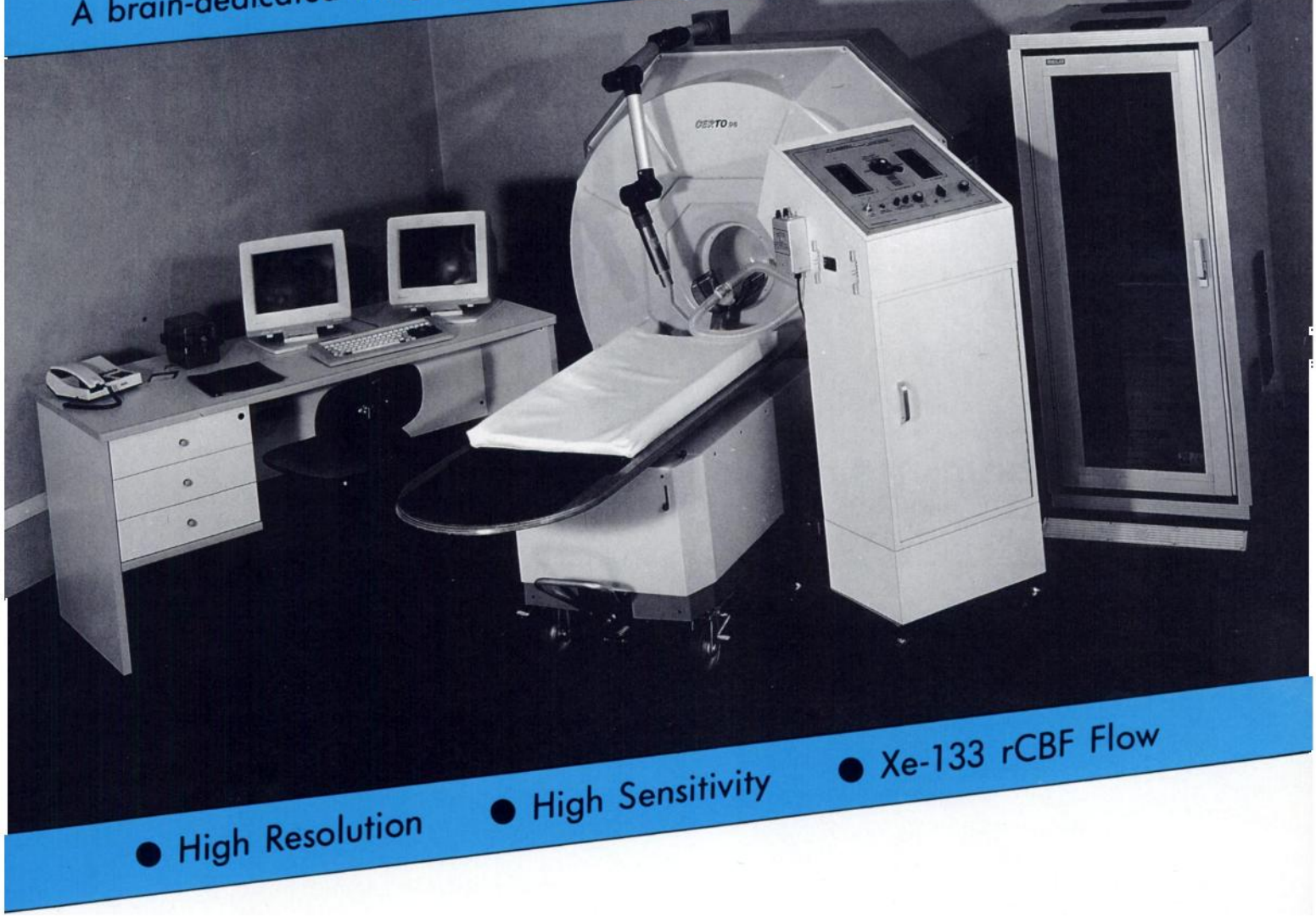

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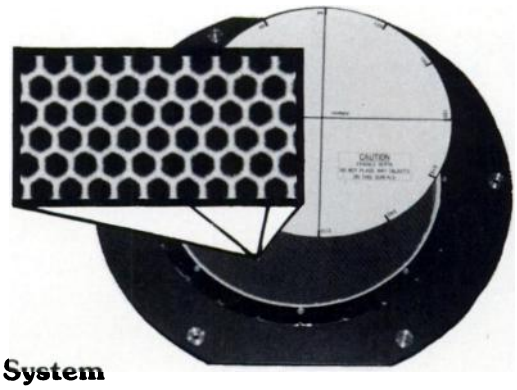

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The Society of Nuclear Medicine

ANNUAL WINTER MEETING

TITLE
Functional Brain Imaging: Clinical Radiopharmaceutical and Instrumentation Update

DATE
Monday–Tuesday, January 29–30, 1990

LOCATION
Los Angeles Hilton, Los Angeles, California

PROGRAM
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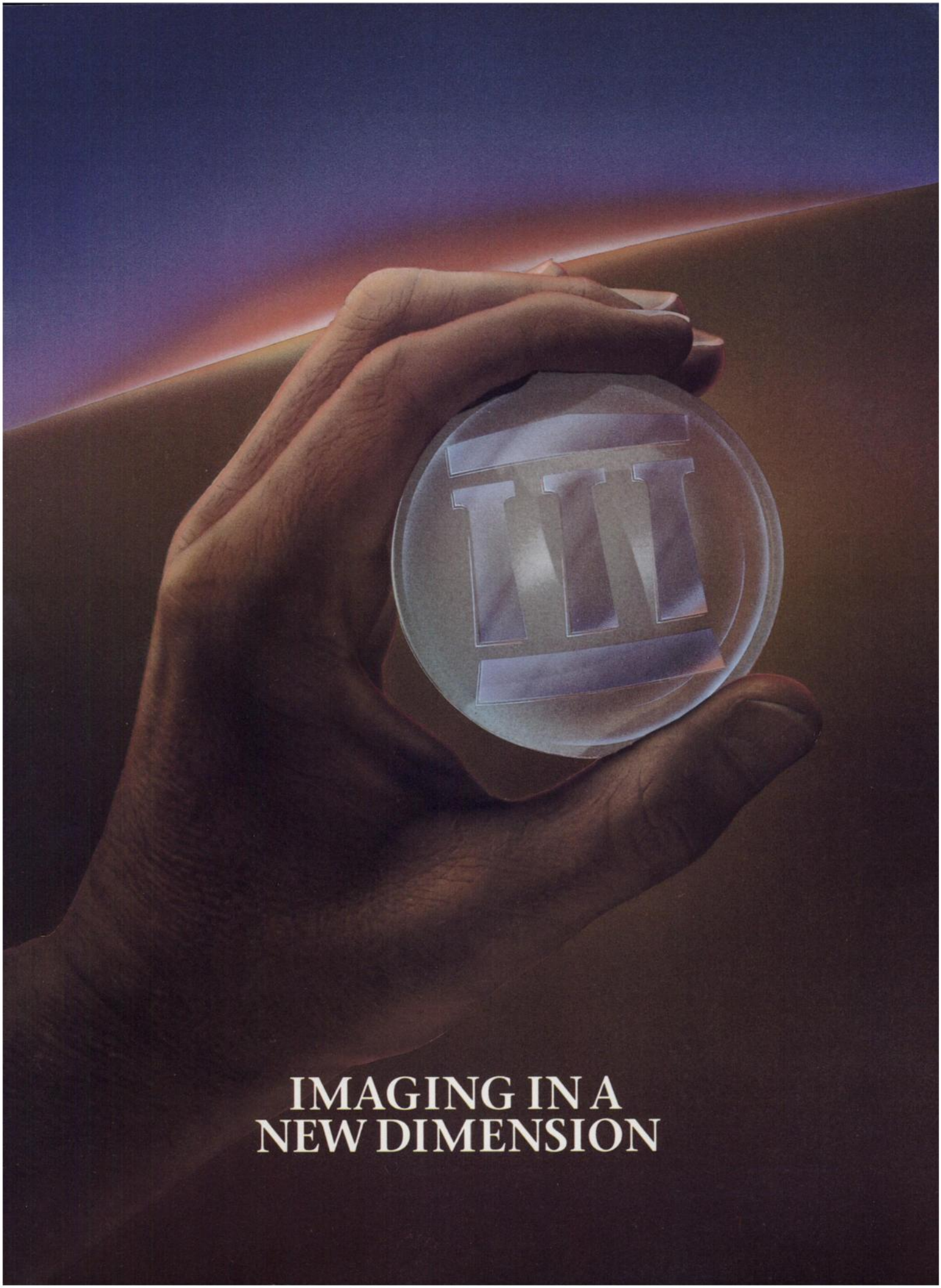
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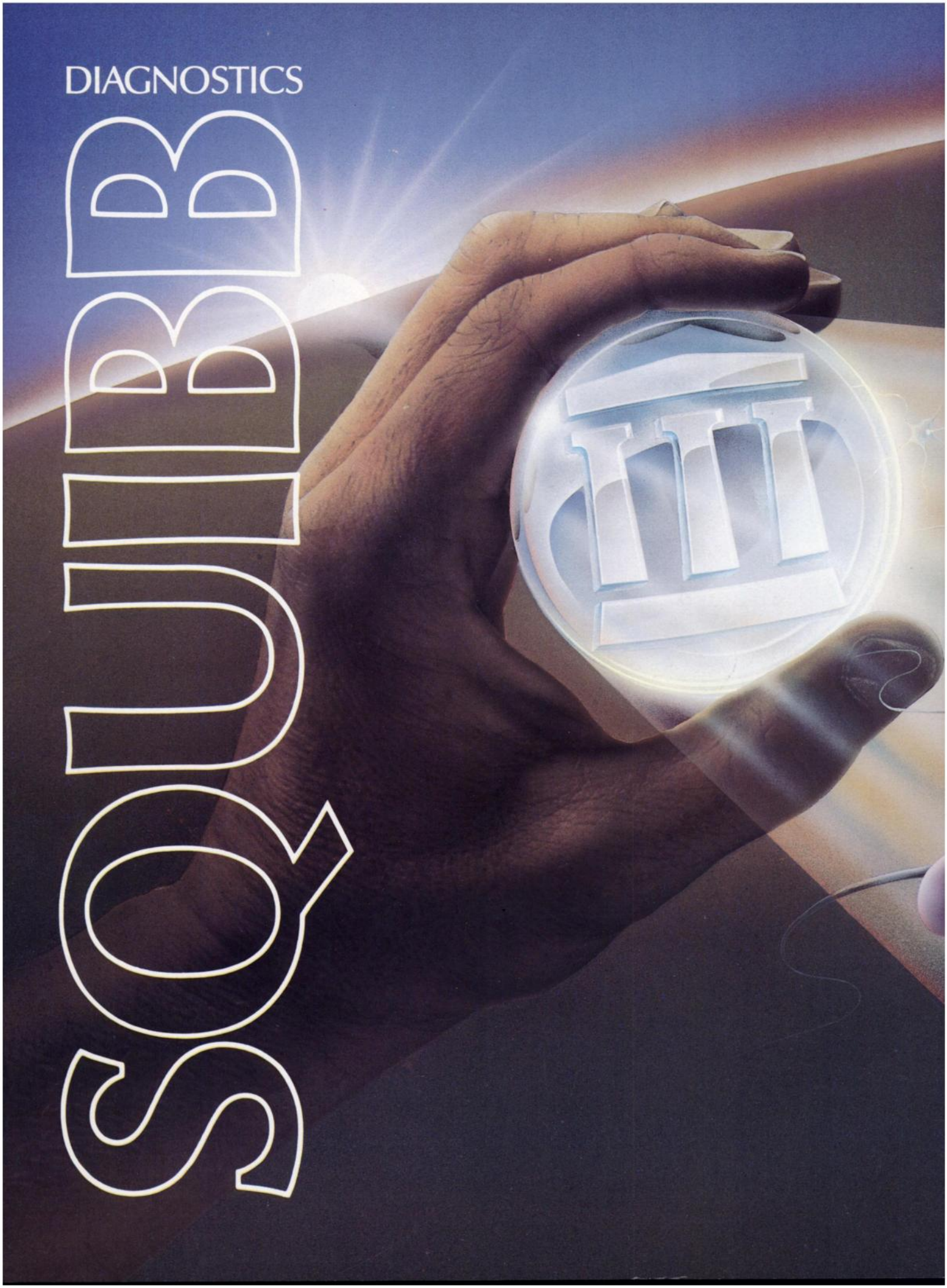

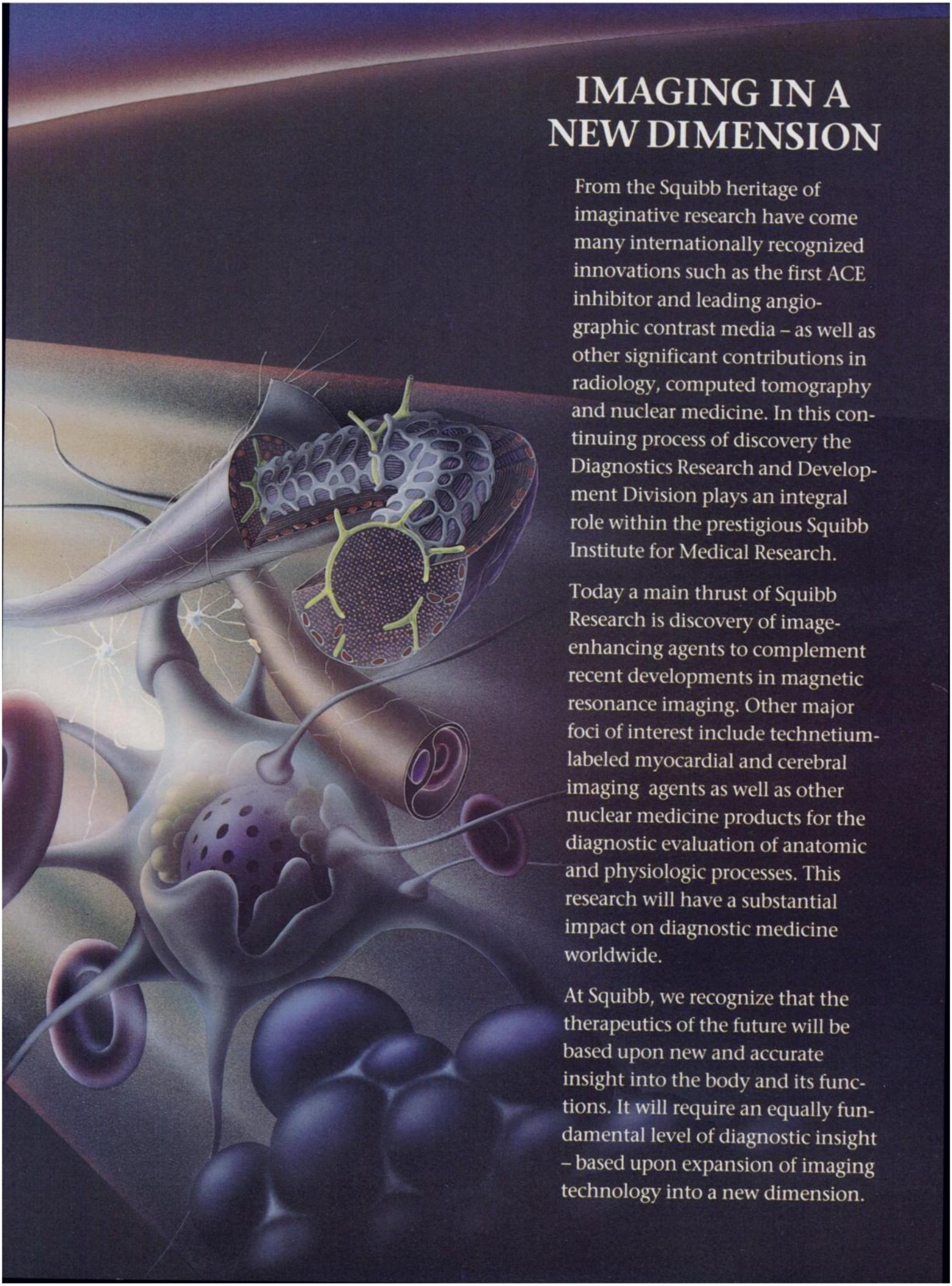

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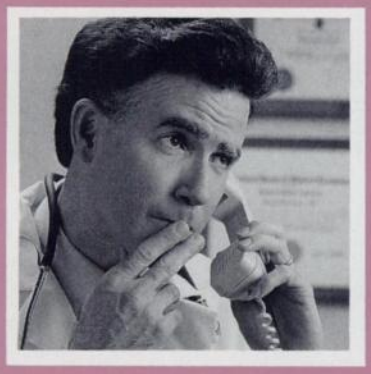

"Maybe I'm calling you too soon."

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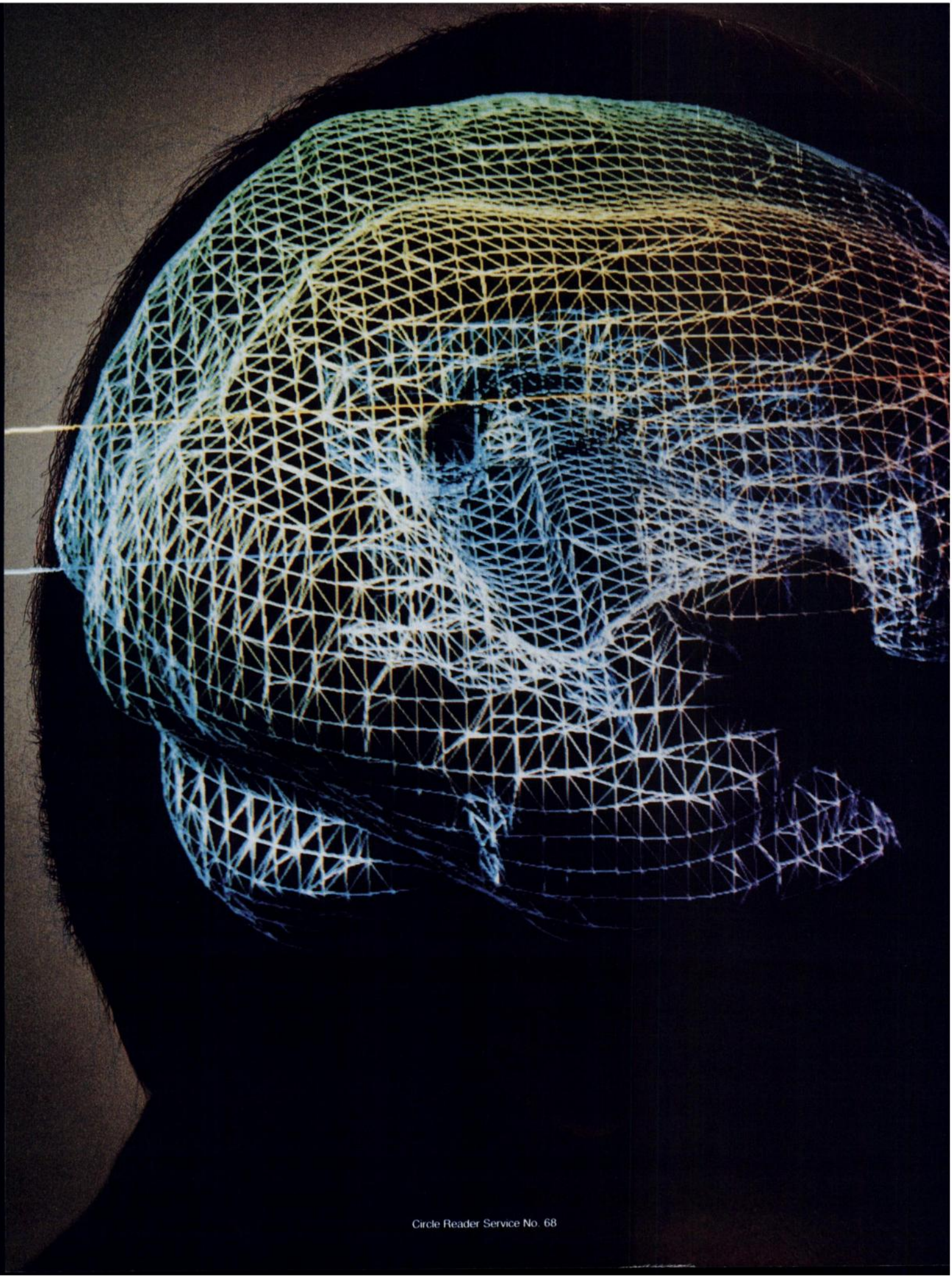

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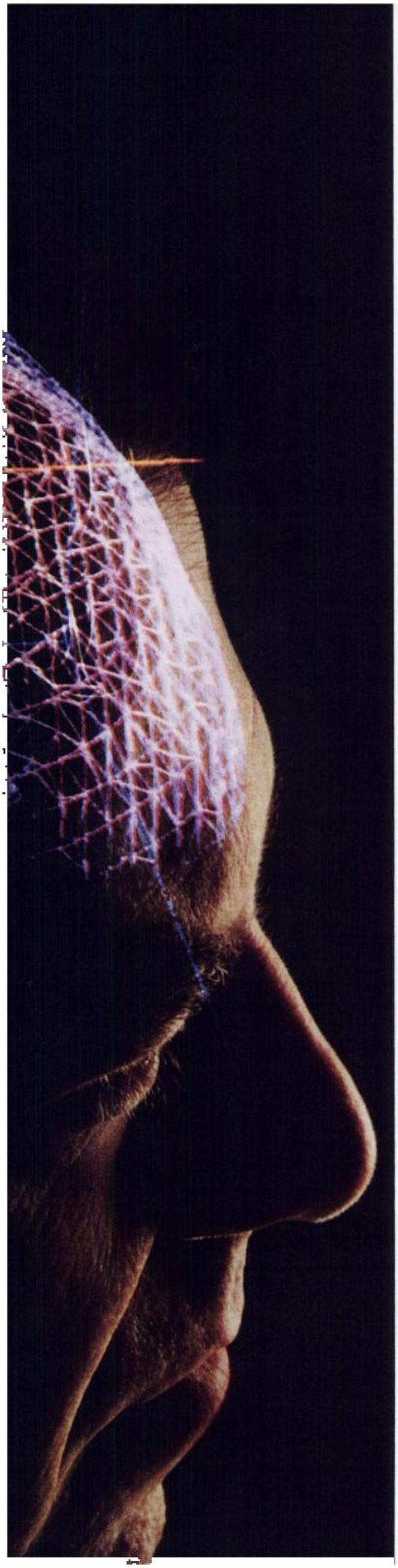

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PRISM™ 64-bit graphics supercomputer

DynaPro™ camera/PCS Plus II computer

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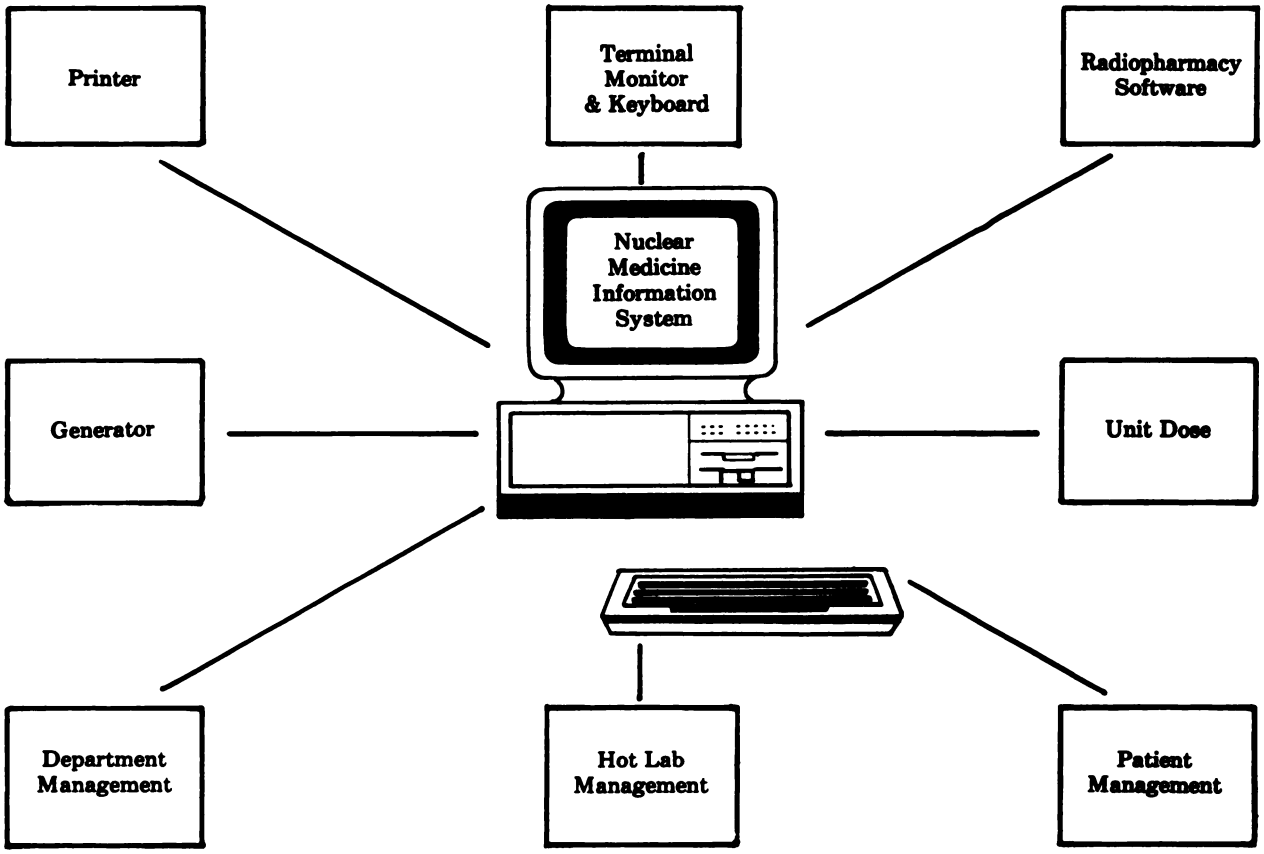

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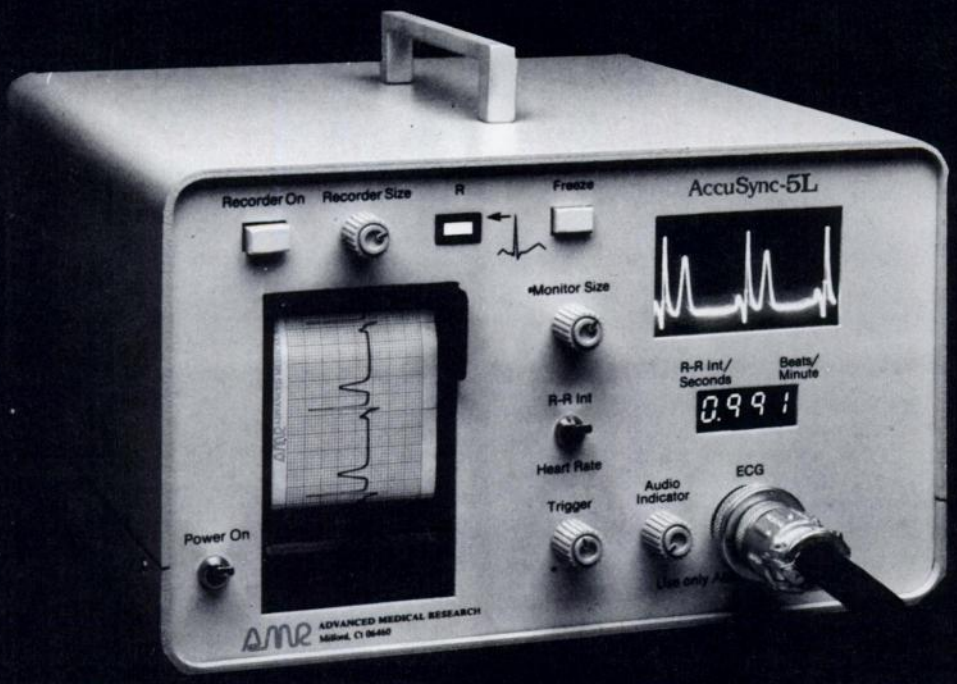

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FIRST IMPRESSIONS—THE JOURNAL OF NUCLEAR MEDICINE,
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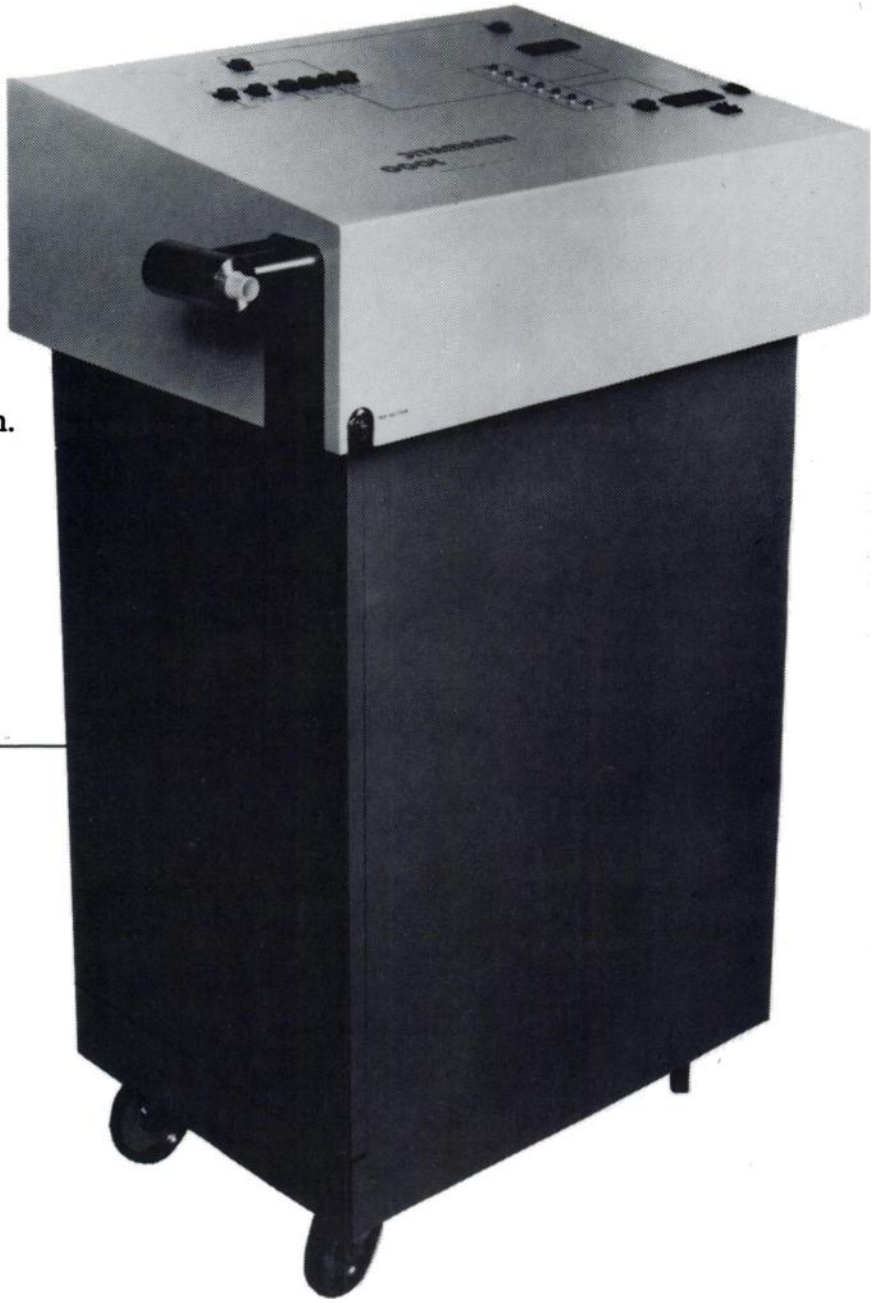

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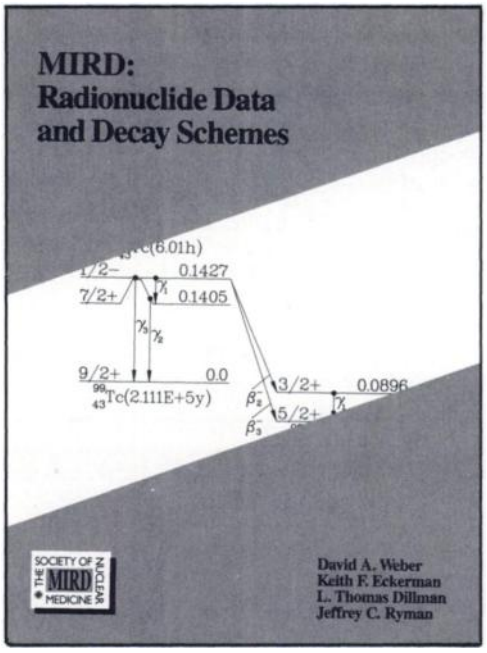

MIRD: Radionuclide Data and Decay Schemes
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The 1990 Nuclear Imaging Surveys

Joint cooperative surveys of the
Society of Nuclear Medicine
American College of Nuclear Physicians
College of American Pathologists

Transmission Imaging Simulator – Series A
Gated Blood Pool Imaging – Tachycardia

The 1990 transmission gated blood pool cardiac imaging simulator mimics an LAO view of the right ventricles which cycle through systole and diastole in the manner of a beating heart. These cardiac cycles allow the subscriber to evaluate the imaging system's accuracy in processing cardiac functional data. Computer analysis of the data also yields the following parameters: ejection fraction, heart rate, regional wall motion, regional ejection fraction, Fourier phase and amplitude, ejection rate, and filling rate. Participants are provided with a purchase option and a rental option. A rental option agreement will be sent to participants upon receipt fo the order.
Rental price: $364.00 Purchase price: $1036.00
Shipping date: April 23

For a comprehensive catalog containing descriptions of the more than 80 CAP Surveys for 1990, call 1-800-323-4040

Transmission Imaging Simulator – Series B
Renal Dynamic and Image Simulator

This simulator marks the inception of peer group proficiency testing methodology applied to non-cardiac nuclear functional studies. The model mimics both static and dynamic aspects of a renal function study performed in posterior projection following the intravenous injection of appropriate radiopharmaceuticals. The use of an appropriate Tc-99m flood or an apanar Co-57 source will be necessary for imaging of the simulator.
Rental price: $420.00 Purchase price: $1022.00
Shipping date: September 17

For further information:

College of American Pathologists
325 Waukegan Road
Northfield IL 60093-2750

MALLINCKRODT FELLOWSHIP AWARD

Mallinckrodt, Inc. has announced an Annual Fellowship of $30,000 for a physician fellow active in nuclear medicine research and/or development.

The award is to further a research and/or development project and applicants are asked to submit their curriculum vitae, a detailed account of their research project including prior accomplishments on the project, and future plans. This information, along with at least two letters supporting the application, should be forwarded to:

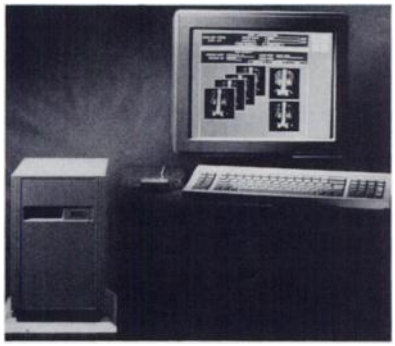
William J. MacIntyre, PhD
The Society of Nuclear Medicine
136 Madison Avenue
New York, NY 10016-6760

The recipient will be announced at the Annual Meeting of the Society of Nuclear Medicine in Washington, DC.

Deadline for this year's award is January 19, 1990

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.*

Nuclear Medicine Imaging Workstation



In a move to improve patient throughput and data management, ADAC Laboratories will be introducing an advanced nuclear medicine imaging workstation called Pegasys. This new system incorporates ADAC's new image display system using RISC technology, true-color motion display, and real-time interpolation. The system is hosted by a SUN workstation which uses the multitasking UNIX operating system. Pegasys features many characteristics that are unprecedented in the nuclear medicine industry. These include: single button operation through extensive use of templates; windows/icons which simplify access to clinical protocols; custom display formats; highest resolution display in nuclear medicine (1152 × 900); flexible open architecture leverages SUN technology; networking with lifetime database and no need for a file server; advanced hardware. When interfaced with GENESYS, ADAC's premium gamma camera, the result is an uncompromising nuclear medicine imaging system. **ADAC Laboratories, 540 Alder Dr., Milpitas, CA 95035. (408) 945-2990.**

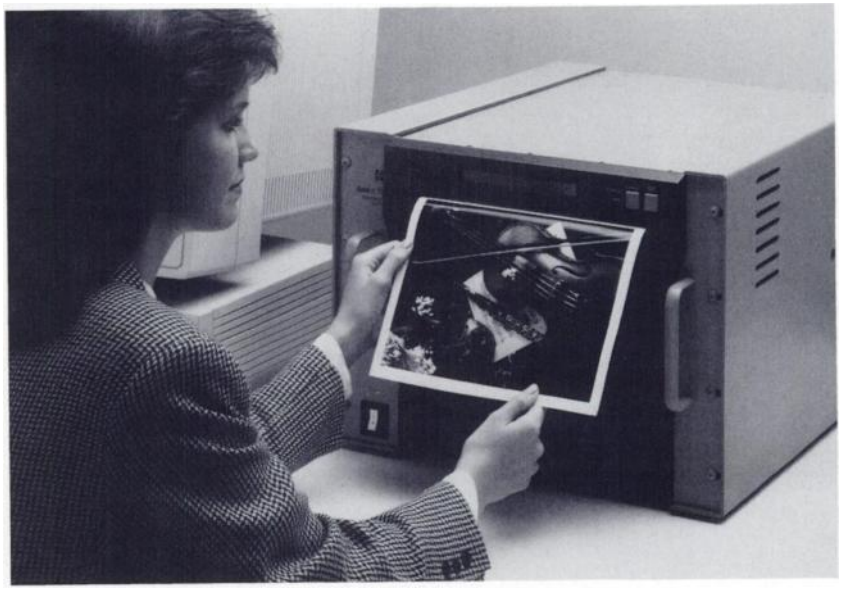
Circle Reader Service No. 101

Bullseye QRP Program

GE Medical Systems announces the availability of the Bullseye QRP quantitative thallium program, which identifies and scores myocardial areas that have "reversed" or "improved" between stress and delay profiles. The program is an updated version of Emory University's Bullseye Program, designed to enhance the interpretation of thallium myocardial tomograms. Using the short axis slices from stress and delayed myocardial perfusion studies, the original Bullseye Program compared initial, delay, and washout distributions with gender-matched normal profiles. Standard deviations greater than 2.5 are considered abnormal and displayed as "blackened" pixels on a two-dimensional polar representation. The new Bullseye QRP enhances this representation by indentifying initial stress defects that reverse themselves. Defect improvements more than 1.5 s.d. from reversibility normal profiles are automatically "whitened" and displayed in a plot. This plot helps differentiate whether a stress defect begins to normalize after 4 hrs or stays relatively unchanged. The Bullseye QRP also scores the extent and severity for each stress defect. The scores are presented for all eight regions of the myocardium, as well as the apex and base. In addition, the Bullseye QRP Program includes quality control review displays which enable the operator to change the center or radius without reprocessing. Also, a new motion correction protocol corrects for patient motion in the axial direction during acquisition. **General Electric Company, PO Box 414, Milwaukee, WI 53201. Attn: Tim Riesterer. (414) 544-3721.**

Circle Reader Service No. 102

Digital Thermal Printer



Eastman Kodak Company announces a digital printer that produces photographic-quality 11 × 11 or 8½ × 11 inch full-color prints or transparencies in 3 to 4 minutes depending on print size. The Kodak XL 7700 digital continuous-tone printer sets new standards of quality, resolution, and image stability for hard copies from computer output. The printer will be available in eight configurations, including a basic unit for black-and-white prints or transparencies. These images will have a resolution of 2048 × 2048 picture elements. Other options include choices in computer interface and hardware cabinetry to allow maximum flexibility for the user. The Kodak XL 7700 digital continuous-tone printer can be configured either as a desktop unit or rack-mount. It includes either a 4- or 12-megabyte image buffer for black-and-white or full color printing. Picture information is downloaded to the printer from the user's PC, workstation, or network. The new printer uses patented continous-tone technology to produce prints from computer images. Applications include computer design, medical diagnostic imaging, aerial mapping, and remote sensing. **Eastman Kodak Company, 343 State St., Rochester, NY 14650. Attn. Michael D. Sullivan. (716) 724-4816.**

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Some things you expect to outgrow. A Thyroid Uptake System shouldn't be one of them.

Now, there's a Thyroid Uptake System that won't become obsolete the moment your department needs change. The new Capintec THYROID UPTAKE SYSTEM 1000 is designed to do the job today with an eye on tomorrow...no matter what your performance requirements.

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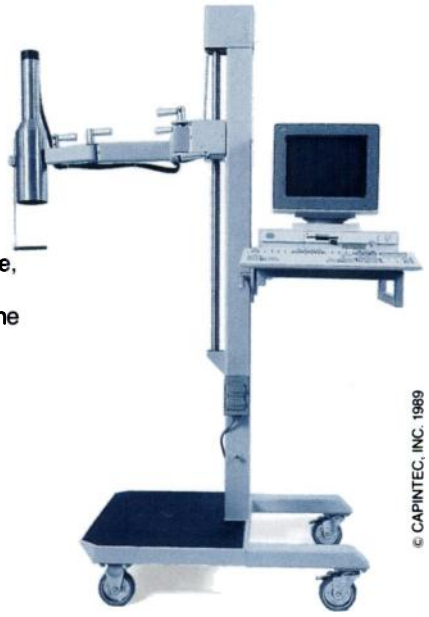

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Policy—*The Journal of Nuclear Medicine* accepts classified advertisements from medical institutions, groups, suppliers, and qualified specialists in nuclear medicine. Acceptance is limited to Positions Open, Positions Wanted, Equipment Available,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

Rates for Classified Listings—$15.00 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.*

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Positions Available

Physician

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. Resume to: D. Pavel, MD, Dir., Nuclear Med., Univ. of Illinois Hospital, M/C 931, P.O. Box 6998, Chicago, IL 60680.

Radiologist

Nuclear Medicine SECTION HEAD. Board Certified Radiologist with Certification or special competence in NM to assume role of section head of NM in a busy, active department that includes SPECT, monoclonal antibody imaging, and is fully computerized. At least 5 years of post-training clinical practice and managerial experience preferred. Spend 50–60% of time in NM, and the balance in other areas of diagnostic radiology. Ultrasound skills and interests highly desirable. Our department provides services to a 230-person multi-specialty clinic and a 300-bed tertiary care hospital in downtown Seattle. We have a full residency training program and a School of Nuclear Medicine Technology. Interested applicants should send CV and references to Reiley Kidd, MD, Chief, Department of Radiology, Virginia Mason Clinic, 1100 9th Avenue, Seattle, WA 98111, or call (206) 223-6887. AA/EOE.

Residency

RESIDENCY IN NUCLEAR MEDICINE, University of Missouri, Columbia. Two year residency in nuclear medicine starting July 1, 1990. Residency is integrated program between University and affiliated Harry S. Truman Memorial Veterans Hospital. Strong emphasis on neurological SPECT imaging and nuclear cardiology. Clinical experience includes large radioimmunoassay laboratory, pediatric patients, with opportunities in CT, ultrasound, and MR correlations. Residents are strongly encouraged to participate in ongoing clinical and basic research. Program approved by American Board of Nuclear Medicine. Candidates should have two years prior training in ACGME approved residency. For further information and application forms, contact: Richard A. Holmes, MD, Chief of Nuclear Medicine and Program Director, University of Missouri at Columbia, N219 Medical Sciences, Columbia, MO 65212. EOE.

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.

U of Cal, Irvine has a RESIDENCY/FELLOWSHIP position available July 1, 1990. This program is an integrated one between UCI Med Center and Long Beach VA Med Center and is accredited for the Board of Nuclear Medicine as well as special competence in nuclear radiology. Involvement with all aspects of nuclear medicine including routine SPECT studies. Exposure to PET and other relevant diagnostic imaging modalities is possible. Contact: P. Braunstein, MD, Professor of Radiological Sciences, UCI Medical Center, Route 91, 101 City Dr. South, Orange, CA 92668-9969. The University of California is an Affirmative Action, Equal Opportunity Employer.

NUCLEAR MEDICINE RESIDENCY. The Division of Nuclear Medicine, Department of Radiology, The New York Hospital-Cornell Medical Center, New York City offers a 1 or 2 year residency available July 1, 1990. The division has a completely new 25,000 square feet facility with state-of-the-art equipment and is staffed by three full-time physicians, two basic scientists, and a computer programmer. The residency program includes all aspects of nuclear medicine as well as thyroidology, RIA and clinical research. Electives can be arranged. For further information please contact: David V. Becker, MD, Director, Divsion of Nuclear Medicine, New York Hospital-Cornell Medical Center, 525 East 68th Street, New York, NY 10021 or call (212) 746-4580.

Training Programs

NUCLEAR MEDICINE TRAINING PROGRAMS, State University of New York at Buffalo. The Department of Nuclear Medicine at SUNY/Buffalo offers the following training programs: 1) two-year nuclear medicine residency; 2) fellowships in nuclear oncology/monoclonal antibody research and nuclear cardiology; 3) one-year nuclear medicine program for qualified radiologists; and 4) five-year track programs combining nuclear medicine with radiology or internal medicine leading to board eligibility in both specialties. The programs offer a comprehensive exposure to all aspects of nuclear medicine and allied imaging fields and research. For further information and applications for July 1, 1990, please contact: Joseph Prezio, MD, SUNY/Buffalo Nuclear Medicine, 20 Diefendorf Annex, 3435 Main Street, Buffalo, NY 14214. AA/EOE.

Technical Director

TECHNICAL DIRECTOR. Immunoassay Laboratory. Individual with experience and advanced scientific degree, to supervise immunoassay procedures, and assist imaging section of a 1000 bed teaching hospital. Salary commensurate with education and experience. Charles H. Fisher, MD, Radiology Associates of Tampa, 6-C Columbia Dr., Tampa, FL 33606.

Technologist

CHIEF NUCLEAR MEDICINE TECHNOLOGIST for San Francisco Bay Area out-patient practice. Require 5 years experience with 3 years supervisory experience and registry. We offer a diverse range of nuclear medicine services including SPECT, dual photon absorptiometry and body composition studies, radioimmunoassay, and radionuclide therapy. Main laboratory location across the street from the University of California in San Francisco. Satellite laboratories in Marin County and Alameda, California. Top salary and benefits. Excellent educational opportunities. Contact: Malcolm Powell, MD, at (415) 664-7400.

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 resume to: Gould Medical Foundation, 600 Coffee Rd. Modesto, CA 95355. Attn: Personnel. EOE.

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 TECHNOLOGISTS. Career opportunities in state-of-the-art Radiology Department, at Pitt County Memorial Hospital, a 550 + bed regional referral acute care medical center affiliated with East Carolina University School of Medicine. PCMH offers a competitive salary, excellent benefits package and ideal working conditions in an ultra modern facility located 85 miles west of the scenic Atlantic coastline. For immediate consideration, call (800) 346-4307, or send resume to: Employment Office, Pitt County Memorial Hospital, PO Box 6028, Greenville, NC 27834. EOE/AA.

NUCLEAR MEDICINE TECHNOLOGIST. Full time position for individual to perform all aspects of Nuclear Medicine Imaging including SPECT, Radiopharmacy and Instrumentation. Requires AA Degree and 1 yr. exp. as NMT. We offer competitive salary and flexible benefits. Daycare and fitness program offered onsite. Send resume to Employment Manager, The Francis Scott Key Medical Center, 4940 Eastern Ave., Baltimore, MD. 21244. A Johns Hopkins Health System member institution. EOE M/F/H/V.

NUCLEAR MEDICINE TECHNOLOGIST. Opportunity for take-charge NMTCB or ARRT or NMT to join a progressive and expanding outpatient diagnostic center in University town. Emphasis on Nuclear Cardiology. No calls, evenings or weekends. Competitive salary and benefits package. Big city amenities with small town atmosphere. Send resume and salary requirements to Jeffrey Shelton, HIM, 1722 Shaffer, Kalamazoo, MI 49001.

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.

NUCLEAR MEDICINE TECHNOLOGIST. Challenging opportunity to join a progressive Nuclear Medicine Department in a 535-bed acute care facility. Request NMTCB certification. B.S. degree in nuclear medicine preferred. Excellent salary and benefits package. Please submit resume to Pat Teeuwen, Recruitment Coordinator, Mercy Hospital Medical Center, 6th & University, Des Moines, IA 50314. (515) 247-3100.

NUCLEAR MEDICINE TECHNOLOGIST. For medical group involved in developing new metabolic scans as well as improving current techniques. Applicants must be registered, board eligible or licensed in the state of Louisiana. We offer a competitive salary and excellent benefit package. Please send resume to: Box 111, The Society of Nuclear Medicine, 136 Madison Ave., 8th Fl., New York, NY 10016-6760.

NUCLEAR MEDICINE TECHNOLOGIST. Scripps Memorial Hospital, the leaders in quality care and caring in San Diego, has an opening for a Lead Nuclear Medicine Technologist at its expanding Encinitas location. We have state-of-the-art equipment and offer a competitive compensation package and an excellent climate. For more information please call 1-800-228-1324, Scripps Memorial Hospital, Personnel Dept. 9888 Genesee Avenue, Post Office Box 28, La Jolla, California, 92038-0028.

NUCLEAR MEDICINE TECHNOLOGIST. St. Luke's Episcopal Hospital a 949 bed private not-for-profit hospital located in the dynamic Texas Medical Center, Houston, Texas has need for self motivated staff technologists. Qualified applicants should be registered or registry-eligible in Nuclear Medicine Technology by ARRT or NMTCB. We offer an excellent benefits and salary package. Send resume to St. Luke's Episcopal Hospital, Employment Office, PO Box 20269, Houston, TX 77225-0269. Attn: Jesse Smith. For more information, call collect: (713) 791-2237. EOE/M/F/H/V.

NUCLEAR MEDICINE TECHNOLOGISTS. St. Mary's Health Center has immediate full-time positions available for dynamic Nuclear Medicine Technologists. The qualified candidates should be registered by the NMTCB or be registry eligible. Experience should include 1-2 years clinical imaging including SPECT. This is an excellent opportunity to practice your skills in a "state-of-the-art" nuclear medicine department. Excellent salary and benefit package. Please contact: Human Resources, St. Mary's Health Center, 6420 Clayton Rd., St. Louis, MO. 63117. (314) 768-8062. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. Immediate full-time, day shift position, rotating call every fourth weekend for Registered Tech in our 210-bed regional Medical Center. Our department has 4 gamma cameras, one with SPECT. Located in Central Washington, a perfect location for living and recreation, the area offers skiing, hiking, fishing and boating as just a few of the opportunities available. Competitive salary and employer paid benefits. Contact Jerri Daily, Human Resources: St. Elizabeth Medical Center, 110 South 9th Avenue, Yakima, Washington 98902. (509) 575-5096. EOE.

Positions Wanted

CONSULTANT-Positron Emission Tomography (PET). Clinical PET Center feasibility studies; financial operation & site planning; equipment negotiations & selection. Fifteen years nuclear medicine & four years PET experience. Respond with needs to David Karppala, 12 Lure Trail, Fairfield, PA 17320, (717) 642-6166.

Product Sales Manager
– Nuclear Medicine –

Atomic Products Corporation seeks a Product Sales Manager to oversee sales of existing and expanding product line. Ideal candidate will have strong organizational and communications skills with 5+ years experience. If you are a motivated sales pro with a proven track record of success, we have an opportunity that will give you the chance to capitalize on your skills and achievements. For consideration, send your resume and salary history to Atomic Products Corporation.

Atomic Products Corporation
49 Natcon Drive, Shirley, New York 11967-0917

■ **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.

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You care. Enough to want to be part of a major medical center's progressive Nuclear Medicine Department. You entered your profession because it's more than a job. It's a way to really make a difference through exciting new procedures, technologies and equipment including the ADAC ARC 3000/DPS 3300 computer and the ELSCINT 409 AG ECT camera. You're the best at what you do and are ready to make a career move to the future.

At Munroe Regional Medical Center, we care too. That's why we are looking for a qualified Nuclear Medicine Tech to join our team. We are interested in you if you are CNMT or RT(N) registered or eligible, and experienced in the basic aspects of Nuclear Medicine, especially Nuclear Cardiology. As one of four Nuclear Medicine Techs, you will work a Monday-Friday shift and occasionally be on-call. MRMC offers pleasant working conditions, a competitive salary, complete benefits package (including relocation assistance), and the opportunity to live in a picture-perfect Florida community where there is a national forest, clear lakes, sunshine and no state income tax.

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For Free Consultation and Information Contact:

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5785 Arapahoe, Suite D Boulder, Colorado Telephone: 1-800-548-4024

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We're looking for heroes to help our heroes.

The U.S. Department of Veterans Affairs Medical Center, located in East Orange, New Jersey, is a 750 bed tertiary care facility, committed to providing the best possible health care to America's veterans. We're looking for energetic individuals who are eager to join us in our commitment. You will welcome the chance to learn and grow... to take on the challenge of applying new techniques and technology... to thrive in an environment that encourages both teamwork and individual initiative. You will be a valued addition to our staff of heroes.

We are currently seeking:

NUCLEAR MEDICINE TECHNOLOGISTS

... who have a Bachelor's degree with a major in Nuclear Medicine Technology or Science, OR, a major in Chemistry, Physics, Mathematics, Health Science or Biological Science, with additional coursework in Nuclear Medicine. All candidates must be certified in Nuclear Medicine or must obtain certification within one year of appointment.

Our Department has two state-of-the-art G.E. cameras capable of SPECT. Unit doses are used exclusively and the work involves imaging only.

We offer a competitive salary commensurate with education and experience, plus a comprehensive benefits package which includes:

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For immediate consideration, call (201) 676-1000, ext. 1475, or forward resume to: John R. Mathew, M.D., Chief, Nuclear Medicine Service (115), U.S. Department of Veterans Affairs Medical Center, Tremont Avenue, East Orange, New Jersey 07019.

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Your professionalism is a priority at The Medical Center of Princeton...a 450 bed teaching medical facility.

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Assistant Director, Personnel
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NUCLEAR MEDICINE TECHNOLOGIST

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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.

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1-800-444-EMMC

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Nuclear Medicine Technologist

Akron City Hospital, a 505-bed teaching hospital is seeking a Nuclear Medicine Technologist. This is a full time day shift position in our progressive state-of-the-art Radiology Department. Applicants must be graduates of an AMA approved school of Nuclear Medicine Technology and be registered. We offer an excellent benefit package and competitive salary. If qualified please submit resume or contact:

Department of Human Resources,
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525 E. Market Street,
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216-375-3255

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NUCLEAR MEDICAL TECHNOLOGIST

Norwalk Hospital: Reaching New Heights

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:

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In the caring community at Saint Michael's Medical Center, a 411-bed teaching affiliated medical center in Newark, New Jersey, Nuclear Medicine Technologists will discover a challenging opportunity working with our state-of-the-art equipment and talented professional team.

Full-Time positions are available in our Nuclear Medicine Department for licensed or license-eligible technologists. Individuals should have knowledge of all aspects of Nuclear Medicine procedures, including: general imaging, cardiology, in-vitro studies and computer skills.

With an excellent salary and benefits package and strong administrative support, Saint Michael's is a great place to build a career. **$1,500 SIGN-ON BONUS AND TUITION REBATES AVAILABLE FOR QUALIFIED EMPLOYEES.**

Forward resume to:
Julie Frattarola, R.N.
Employment Coordinator

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We also offer an AMA-JRC approved school of Radiologic Technology for a level of 24 students.

For an outstanding benefits package and a competitive starting salary, contact **Pamela Brunson, Assistant Personnel Director, DCH Regional Medical Center, 809 University Blvd., East, Tuscaloosa, AL 35401** or call us collect at (205)759-7102. An Equal Opportunity Employer M/F/H.

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nuclear medicine applications specialist

sopha medical systems, inc., a leader in digital nuclear medical equipment, has a position available for two Applications Specialists covering the western & southeastern United States.

The successful candidates should have a minimum of five years experience in nuclear medicine imaging, including E.C.T. Previous applications experience is a plus.

For further information, please contact **Josh Gurewitz at 1-800-248-3030, extension 5519.**

Advances in Immunodiagnosis and Immunotherapy of Cancer

An International Symposium Jointly Sponsored By

The Wistar Institute
Philadelphia, Pennsylvania

Holy Cross Hospital
Fort Lauderdale, Florida

March 1-3, 1990
Pier 66 Resort & Marina
Fort Lauderdale, Florida

Overview: This Symposium with an international faculty provides the clinician with a primer, as well as an update, on the theory and techniques of immunodiagnosis and immunotherapy of cancer.

Fees: $450 per physician

For further information contact: Janice Ford, Manager, Continuing Medical Education, 3440 Market Street, Suite 420, Philadelphia, PA 19104 (215) 662-6904/6982

Nuclear Medicine Technologist

Come to sunny California—live in a low cost of living area with accessability to everything!

Fresno VA is a progressive, affiliated teaching hospital with all of the latest equipment in Nuclear Medicine.

Interested? For more information about our competitive salaries, excellent benefits and the advantages of living and working in one of the country's finest cities, contact Bill Clem at (209) 228-5314 (collect) or send him your resume:

Personnel Service (05)
VA Medical Center
2615 E. Clinton Avenue
Fresno, CA 93703

Department of Veterans Affairs

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Send resume or phone:
MICA Imaging, Inc.
300 Eisenhower Lane North
Lombard, Illinois 60148
800/826-5721 (inside Ill.)
800/621-6958 (outside Ill.)

Nuclear Medicine Technologist

Part-time with benefits

Lakeshore Health System, Inc. in Northwest Indiana has a part-time opening at its Gary Facility for a Nuclear Medicine Technologist. Applicant must be ARRT/NMTCB registered or registry-eligible.

A competitive salary plus benefits are offered in this 24-hour per week position.

For consideration, please send resume to: **Christine Juscik, Human Resources Manager, St. Mary Medical Center, 540 Tyler Street, Gary, IN 46402 (219) 881-8151**

Nuclear Medicine Opportunities

Fairfax Hospital, a 656-bed acute care, Level I trauma facility located in Northern VA, has several opportunities in the Nuclear Medicine area of our Lab:

Nuclear Medicine Supervisor A B.S. degree, 3–5 years supervisory experience in a clinical nuclear medicine setting is required. Must be certified in Nuclear Medicine Technology through the NMTCB and/or ARRT registered. A strong background in Physics and exposure to computers is a plus.

Nuclear Medicine Technologist Must be certified in Nuclear Medicine Technology through the NMTCB or eligible. Fulltime positions available.

We offer an excellent salary and benefits package including health, dental and vision care insurance. Apply to the Employment Office: **Fairfax Hospital, 3300 Gallows Road, Falls Church, VA 22046**

affiliate Fairfax Hospital System equal opportunity employer m/f

Feature on Residency Position Openings

The January issue of *JNM* will provide a listing of residency positions open in 1990. This feature is sponsored by the Academic Council as a service to individuals looking for open residency positions and programs with positions to fill. Any residency program wishing to list a 1990 position should contact:

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

FACULTY POSITION

ASSOCIATE CLINICAL DIRECTOR

Faculty position for associate clinical director of nuclear medicine and nuclear cardiology. Emory University Hospital is currently seeking an individual with prior experience in academic nuclear medicine and ABNM or ABR-SCNR certification. Contact Naomi Alazraki, MD or Andrew Taylor, MD for more information (404) 727-4843.

Curriculum Vitae may be directed to:

Division of Nuclear Medicine
Emory Univ. Hospital
1364 Clifton Rd., NE
Atlanta, GA 30322.

Emory University is an Equal Opportunity/Affirmative Action Employer.

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CAREER OPPORTUNITIES

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Considering a career change?
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1940 Drew St., Clearwater, FL 34625-3040

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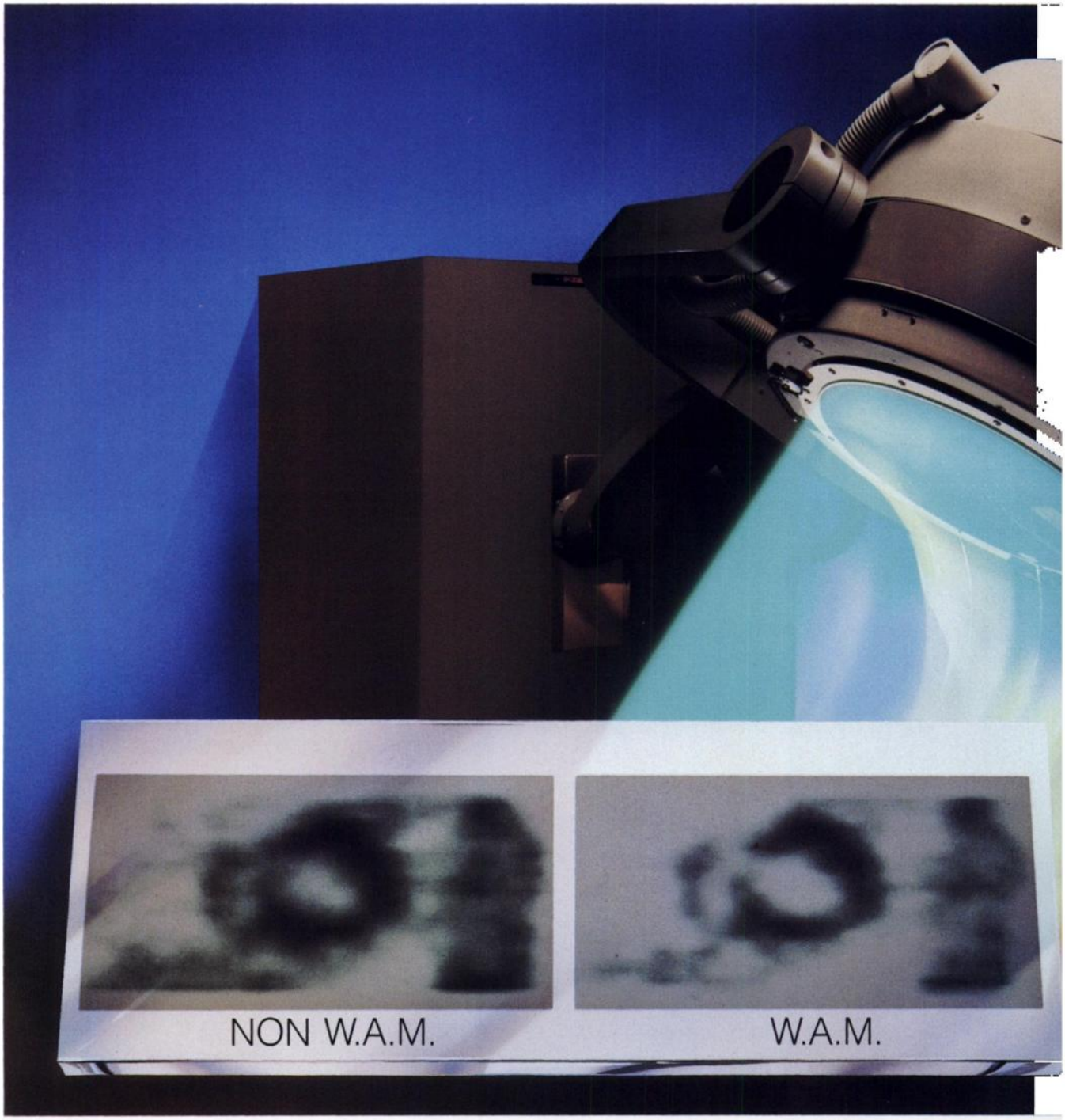

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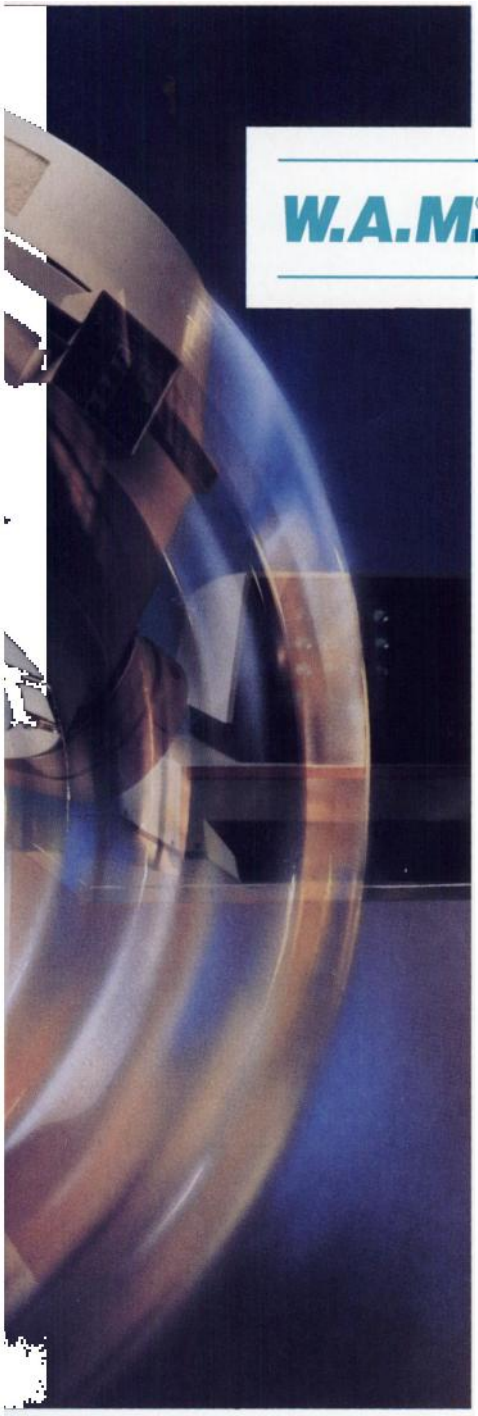

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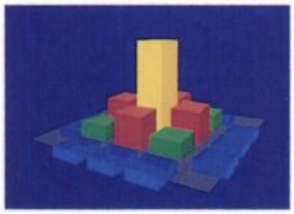

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EXCELLENCE IN:

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.**
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- **Promptly cleared** from the body by glomerular filtration.
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Please see brief summary of prescribing information at right.

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-) ^{99m}Tc, [N, N-bis [2-[bis (carboxymethyl) amino] ethyl] glycinato (5-)]-, sodium; and 2. Sodium [N, N-bis [2-[bis (carboxymethyl) amino] ethyl] glycinato (5-)] - technetate (1-)- ^{99m}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 teratogenecity 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 preganant 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

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