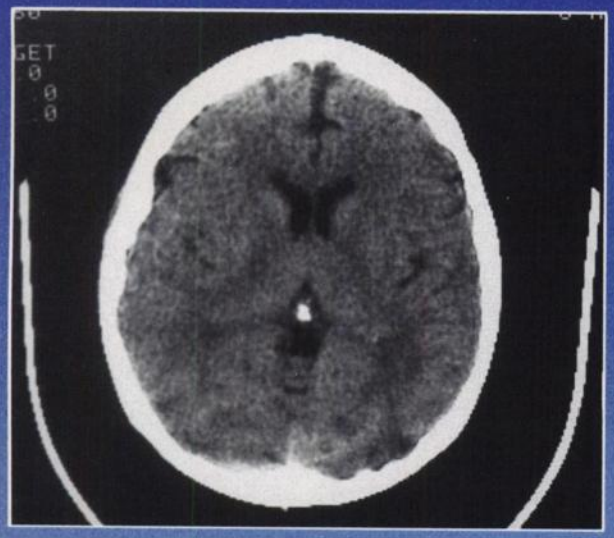
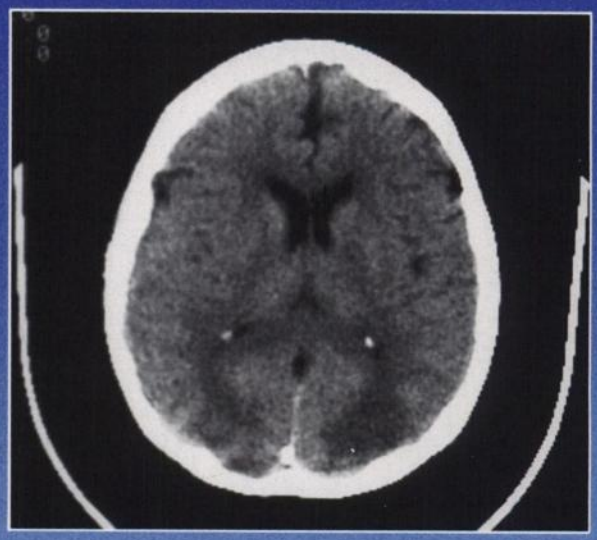
SPECTamine®
Iofetamine HCl I 123 Injection
STUDY: Confirms Diagnosis



Initial CT (5/6/88)

Showed multiple low-density regions involving white and gray matter in the parietal and occipital areas. Thought to be related to an inflammatory process, less likely an embolic insult. A confirmatory diagnosis was not possible.



Repeat CT (5/16/88)

Showed some change to the low attenuation areas—appearing larger and more confluent than previously noted. The pattern was atypical for infarction. Again, infectious etiology for the abnormality was entertained and diagnosis nonconfirmatory.

Images Courtesy of
New England
Deaconess Hospital
Boston, MA

Circle Reader Service No. 1

For additional information on the use of SPECTamine in stroke diagnosis, contact your local Medi-Physics Territory Manager, or call the SPECTamine® Hotline 1-800-451-7732.

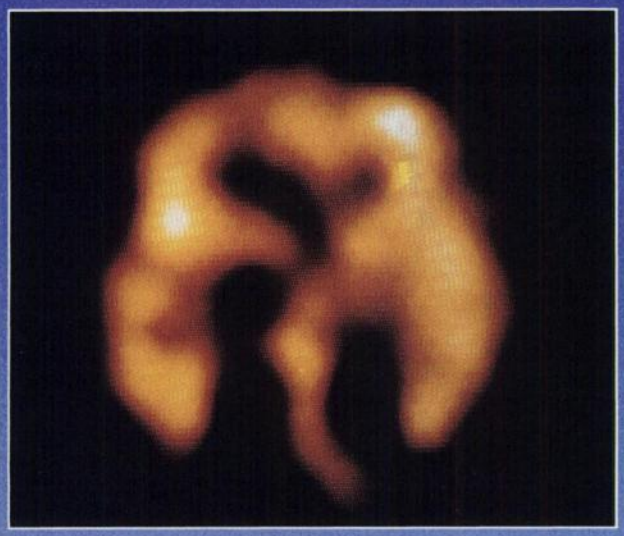
Please see adjacent page for summary of product information.

A Case Study:

61-year-old female postop aorta bifemoral graft with a complicated 7-month postoperative course including renal failure, diverticulitis, Candida sepis, multiple enteric cutaneous fistulous with multiple surgical procedures.

On 5/6/88, patient was noted to have two generalized seizures.

On 5/16/88, patient began to deteriorate neurologically. Complained of blindness.



SPECT Study (5/19/88)

Demonstrated bilaterally posterior cerebral artery infarction. Subsequent neurologic exams and clinical course confirmed diagnosis.

Your partner in advancing nuclear medicine

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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. The radionuclidic composition at calibration time is not less than 94.7 percent I 123, not more than 4.8 percent I 124, and not more than 0.5 percent all others (I 125, I 126, I 130 and Te 121). The radionuclidic composition at the 6-hour expiration time is not less than 93.1 percent I 123, not more than 6.2 percent I 124, and not more than 0.7 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 (6 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.

Vials are packaged in individual lead shields with plastic outer container.

THIS PRODUCT INFORMATION ISSUED DECEMBER 1987

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

DON'T BUY A RADIOISOTOPE CALIBRATOR UNTIL YOU HAVE ALL THE FACTS!

Most people believe they have to pay $9,000, or more to get a reliable, high quality, computerized dose calibrator.

NOT WHEN YOU KNOW **ALL** THE FACTS!

```
RADIOISOTOPE RECORD
Date:     Jul 16, 1984
Time:     8:11 A.M.
Isotope:  Tc-99m
Sample #  1
Activity: 790. mCi
Volume:   20.0 ml
Conc:     39.9 mCi/ml
99Mo:     27.8 uCi
Mo/Tc:    .034  uCi/mCi
```

```
RADIOISOTOPE RECORD
Date:     Jul 16, 1984
Time:     8:12 A.M.
Isotope:  Tc-99m
Sample #  1
Dose:     5.00 mCi

 Isotope Decay Chart
8:30 A.M.
  38.5 mCi/ml
  .13  ml
  Mo: .036  uCi/mCi
9:00 A.M.
  36.3 mCi/ml
  .14  ml
  Mo: .038  uCi/mCi
9:30 A.M.
  34.3 mCi/ml
  .15  ml
  Mo: .040  uCi/mCi
```

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The fully-computerized radioisotope calibrator that has proven its reliability and capabilities in departments throughout the world. It has all the features you expect to find in a state-of-the-art computerized system.

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DELUXE ISOTOPE CALIBRATOR

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The System comes with a floor stand for complete flexibility in detector positioning and a table-top version for a more compact system. There's a collimated NaI well detector probe that can be used for Shillings test, blood volumes and wipe tests. What's more, the System's live timing used in data acquisition eliminates the losses caused by count rate, thus providing unequalled dynamic range for the activities being measured.

Whether you need the Capintec Thyroid Uptake System to perform one task or several, you'll benefit from the years of dedicated commitment and product innovation that Capintec has provided to nuclear medicine departments worldwide.

For more information about the new System call or write:
Capintec, Inc. 6 Arrow Rd., Ramsey, N.J. 07446
(201) 825-9500 Toll Free 800-631-3826.

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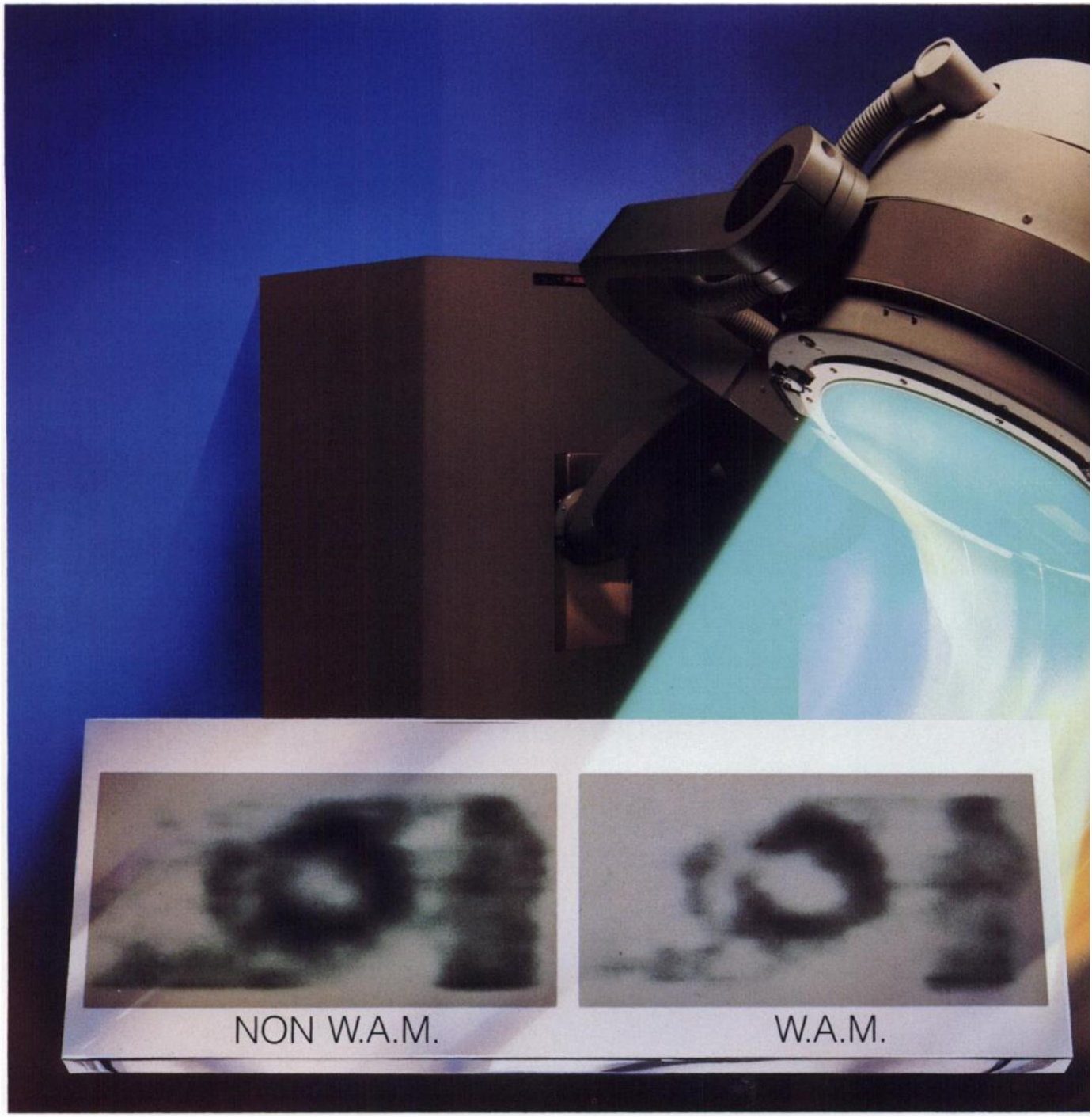
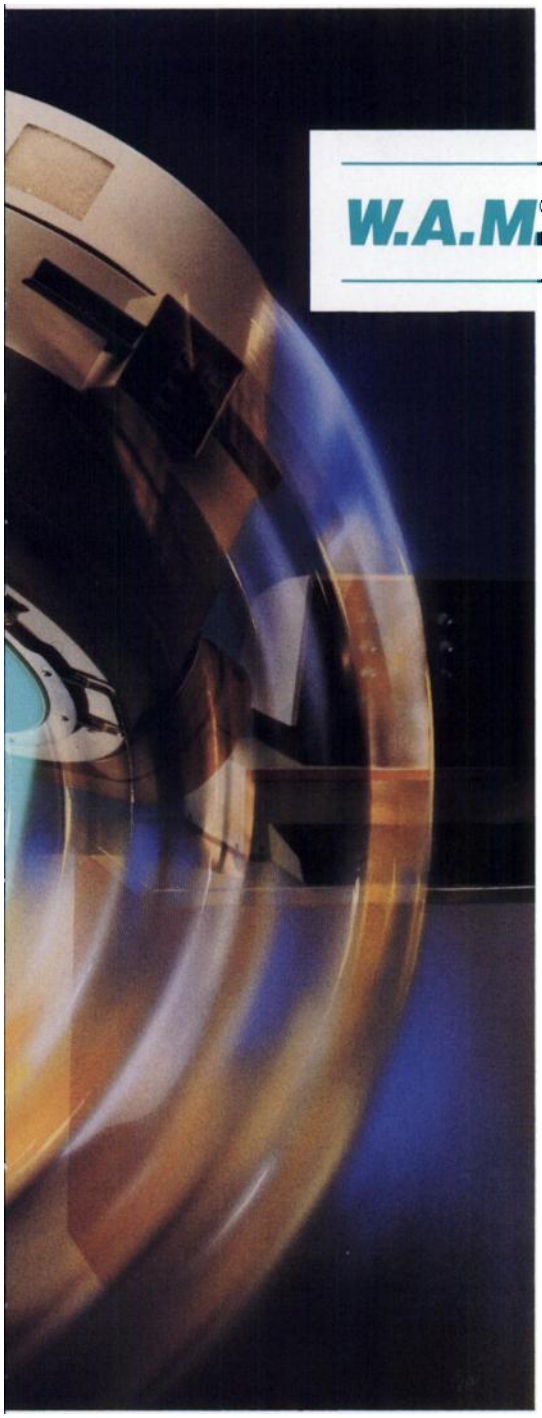
SIEMENS



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



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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.

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Siemens ... technology with integrity.

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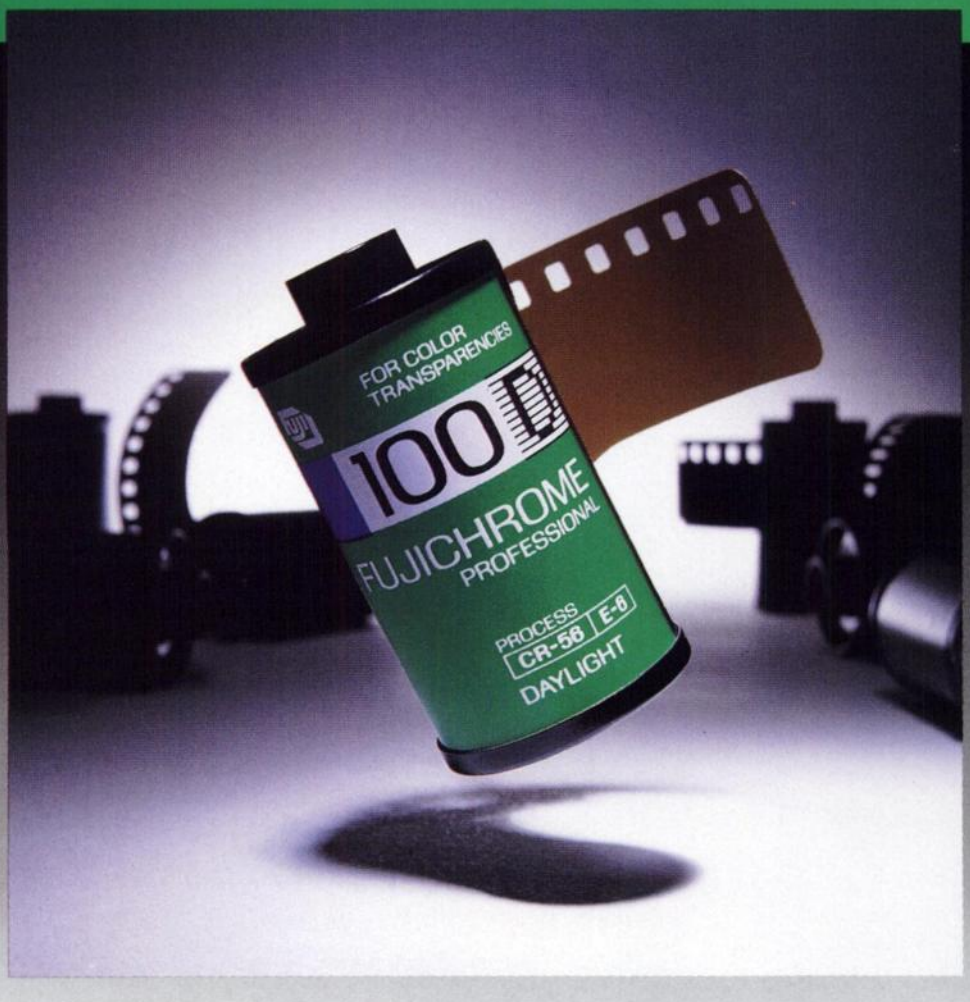

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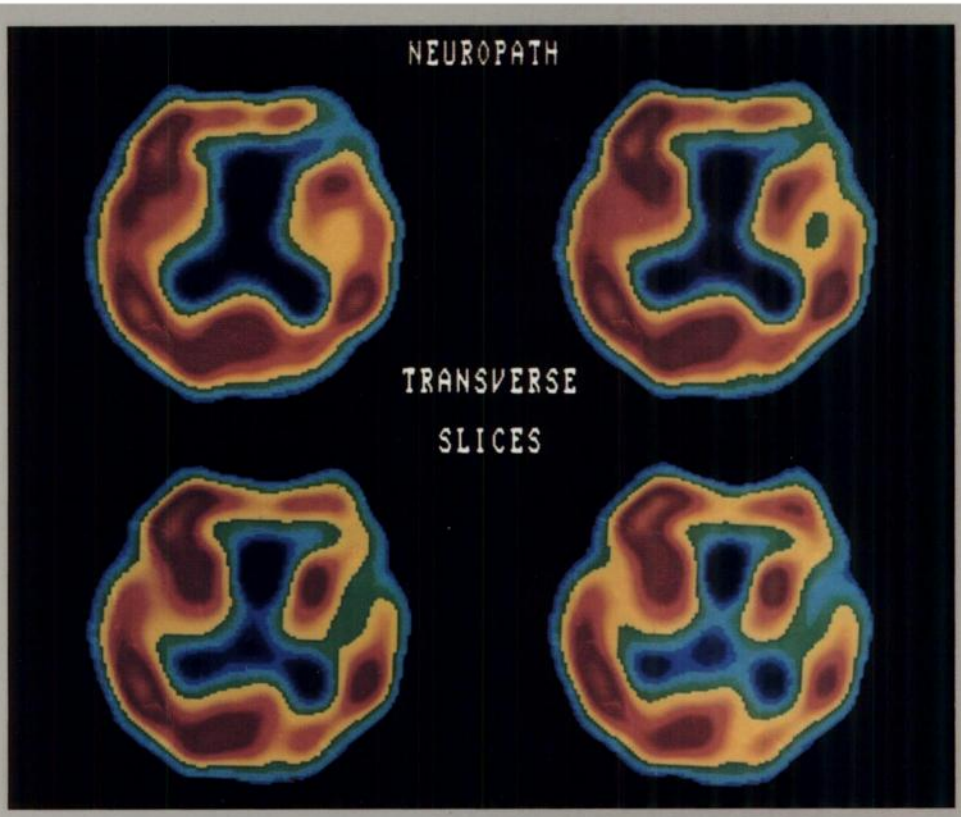

Neuropath™ acquisition of cerebral perfusion clearly demonstrates areas of diminished uptake. The complete study was acquired in less than 15 minutes.

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Acquiring data from a completely new perspective sets Neuropath apart from conventional methods of Tc99m cerebral SPECT imaging. Unique contouring features of the SX-300 stand allow images to be acquired from a 180 degree orbit based on frontal, vertex, and occipital reference points. This new technique brings the detector substantially closer to the brain for an unobstructed view of the posterior fossa and eliminates the problem of shoulder interference. And now, right and left hemispheres are imaged almost independently without cross contribution. Clinical studies have shown

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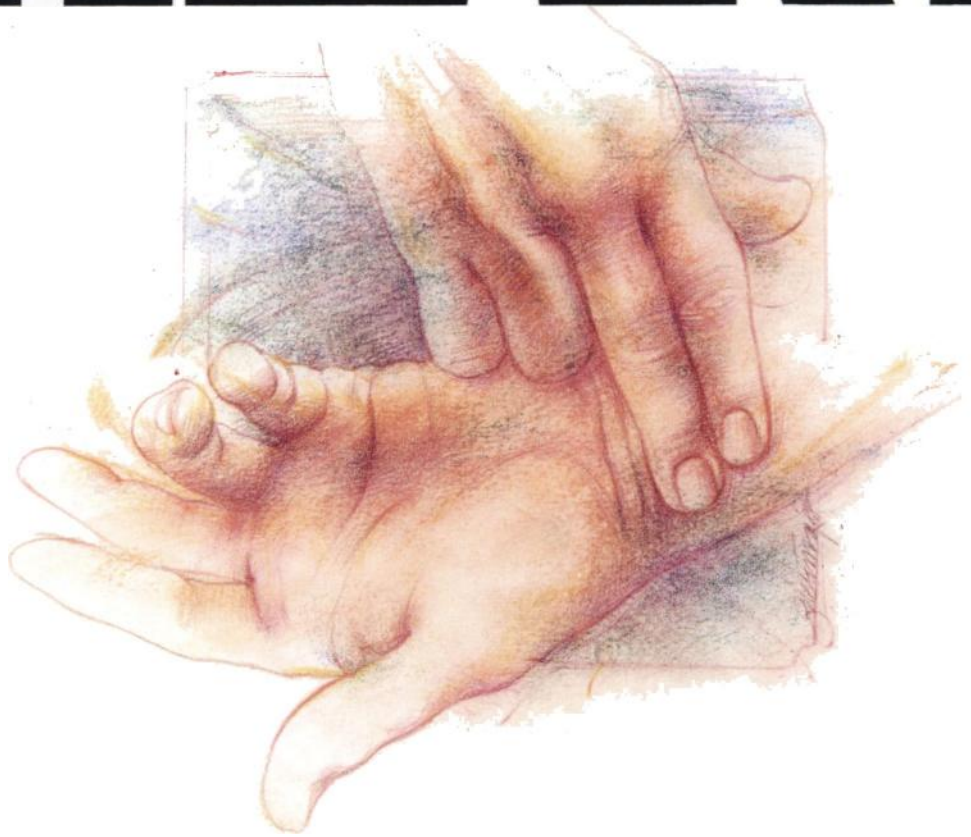

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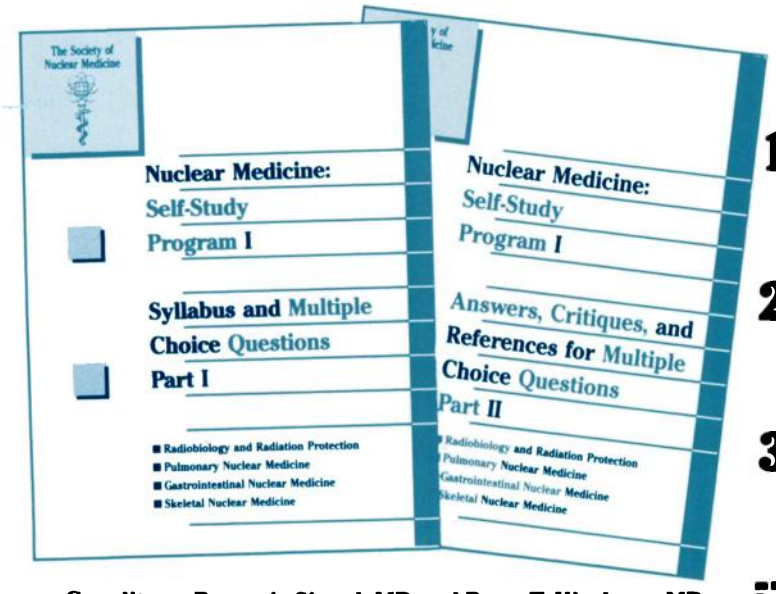

Co-editors: Barry A. Siegel, MD and Peter T. Kirchner, MD

The Society of Nuclear Medicine presents *Nuclear Medicine: Self-Study Program I,* the first volume of a comprehensive series that will cover all areas of nuclear medicine. It has been designed to help physicians, scientists, pharmacists, and technologists expand their knowledge of the clinical, basic science and technical aspects of nuclear medicine.

Nuclear Medicine: Self-Study Program I is the successor to the highly acclaimed *Nuclear Medicine Review Syllabus,* which reviewed the major advances in nuclear medicine of the 1970's. *Nuclear Medicine Review Syllabus,* under the editorship of Peter Kirchner, MD, sold 4,000 copies, more than any other SNM title for nuclear medicine physicians. *Nuclear Medicine: Self-Study Program I* covers the advances in nuclear medicine since the publication of the *Nuclear Medicine Review Syllabus,* and features many of the same contributors.

You will find that *Nuclear Medicine: Self-Study Program I* is unsurpassed in helping you keep abreast of the lastest advances and is an excellent resource for your teaching responsibilities. It is, of course, invaluable as preparation for board and recertification exams. In addition, participants are eligible for CEU, CME or ACPE credits.

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3. *Personal Psychometric Evaluation*–Available to those who return the answer form before **February 1, 1989.** Included here is a norms table that indicates your percentile ranking in each subject area by comparison with your peers.

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Nuclear Medicine: Self-Study Program I is available to SNM members for $90, to non-members for $115, and to residents and technologists (enclose documentation) for $75.

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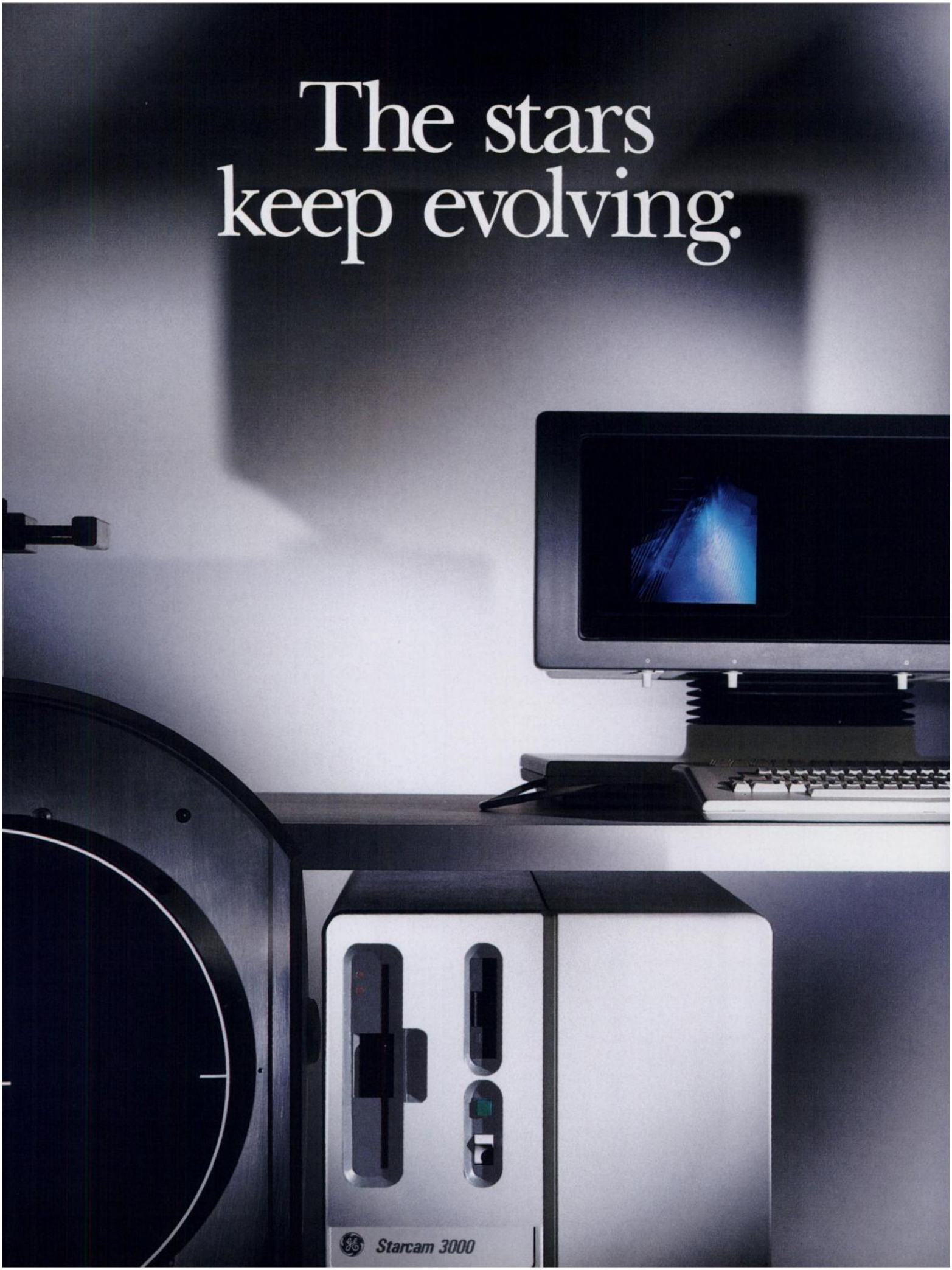
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All offer enhanced speed and performance. Increased throughput. Extraordinary images. And compatibility with current Star family systems.

The theory of natural selection

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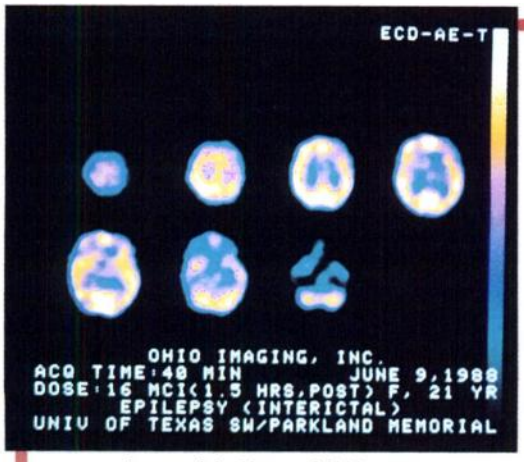


Image of the Year — S.N.M., 1988

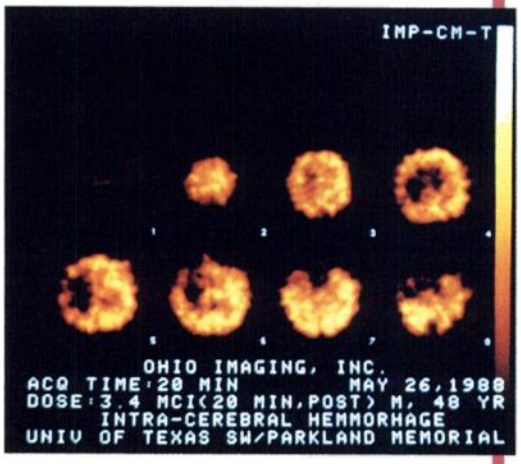
It doesn't matter how sophisticated the imaging hardware may seem to be. Without the software, you are simply not in business.

And that is what differentiates the Three-Head **PRISM™** Model 3000-S SPECT System from its competition.

Right now, **PRISM** is fully capable of real-time gated cardiac acquisition. **PRISM** supports up to four simultaneous activities with its multi-tasking software. Examples of useful functions include regions of interest, histogram plotting and patient annotation.

PRISM's operational ease is enhanced by its menu-driven user interface with instant on-line help available anytime at the touch of a key. Once patient data is collected, the interactive reconstruction package speeds slice localization, filter selection and transverse reconstruction. Saggital, coronal and oblique reconstructions are completed quickly and accurately, too.

We are not suggesting that only **PRISM**'s software is sophisticated. **PRISM** uses a dedicated hardware back-projector with dual pipeline architecture that reconstructs a 128 x 128 image in just 500 milliseconds. The 32-bit Array Processor has a dedicated reconstruction bus that directly accesses an 8 Mbyte mass memory organized as 2,097,152 words, with 32 bits/word. And there is also a separate dedicated 8 Mbyte acquisition memory. And plenty of image storage. And much more.



PRISM is also a lot of little things included to improve clinical utility. Such as a low attenuation patient table, large field of view detectors with minimal edge interference for improved brain imaging, precise laser positioning mechanism and a host of comforting safety features.

The hardware that you need and the software that you want are uniquely integrated in **PRISM**. And it's all available now.

The result? Superb image quality. The fact is, a **PRISM** brain image was selected as Image of the Year at the annual meeting of The Society of Nuclear Medicine.

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SQUIBB

A Profile of Progress in Nuclear Medicine

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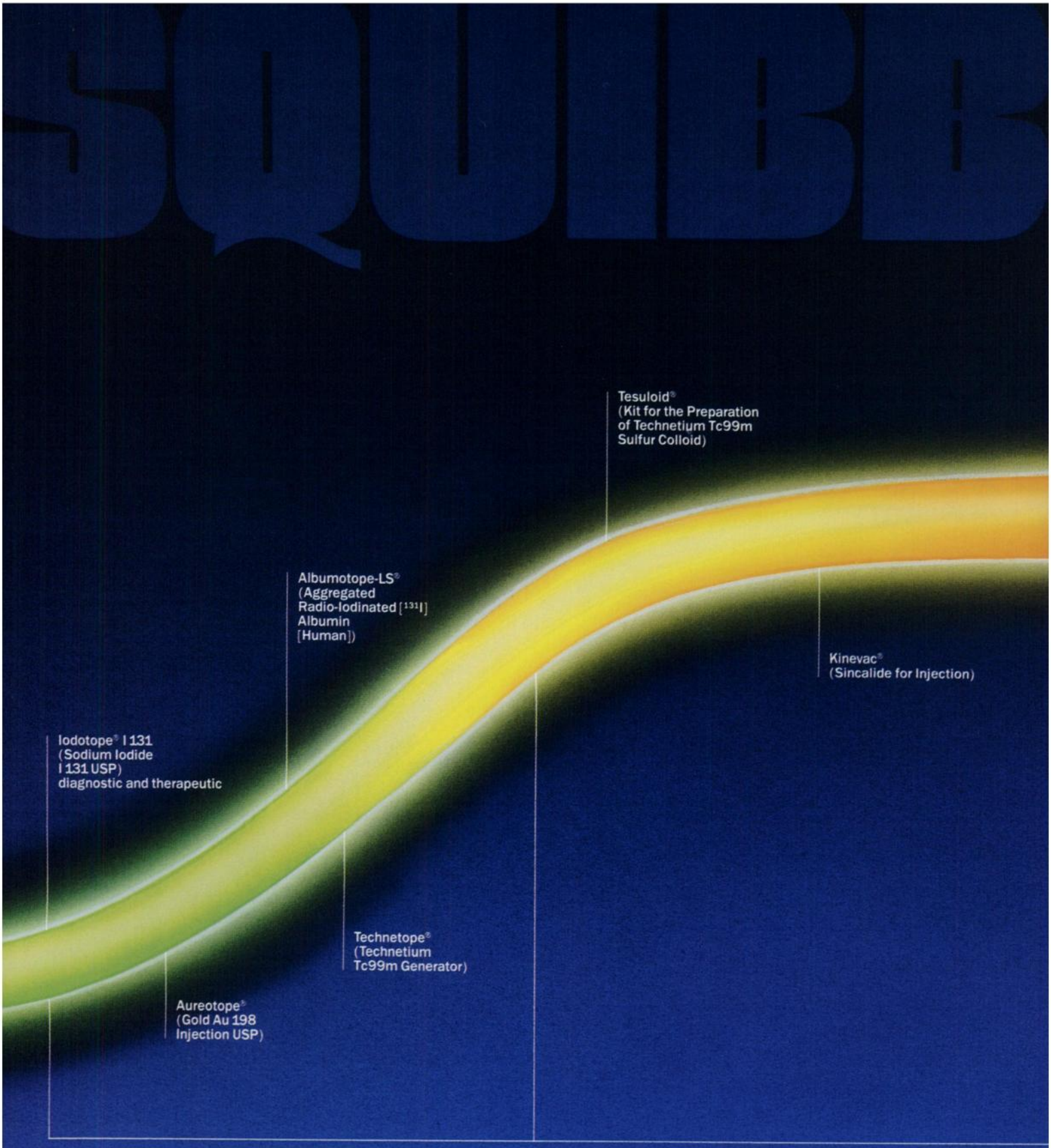
Diagnostics



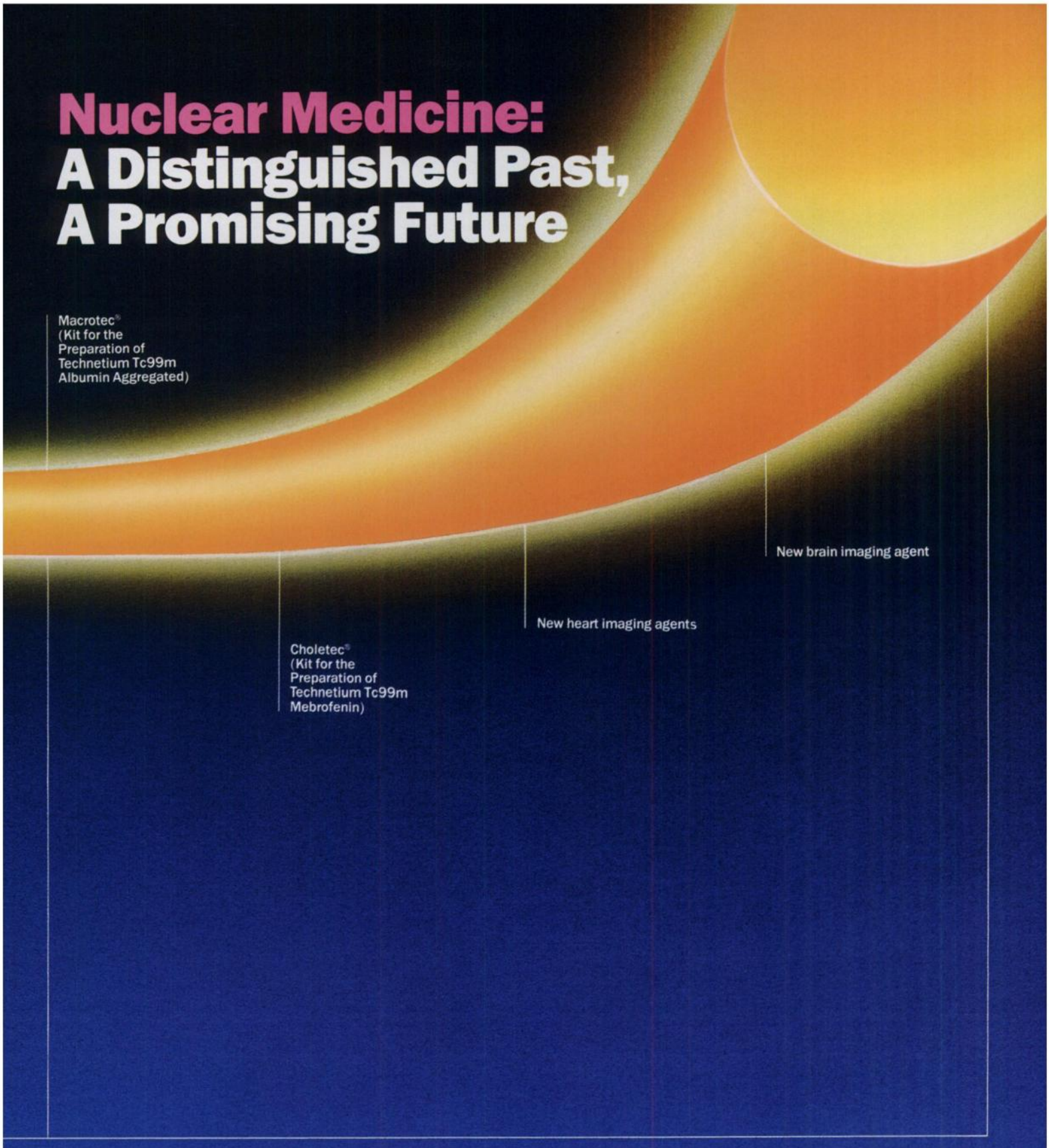
The Years of Growth

Nuclear medicine emerged from the experimental stage into a phase of rapid clinical growth. The number of procedures performed rose rapidly during the 1960s. During this same period, Squibb Diagnostics developed and introduced important products and services for nuclear medicine, including the first sterile technetium generator, nuclear medicine training seminars and technical support through the Technical Associates Program.

The Years of Refinement

The '70s saw the development of other imaging modalities which drew procedures away from nuclear medicine and slowed its growth. Developments and advances continued, however, and Squibb introduced a variety of radiopharmaceutical products, including Macrotec. Squibb's Choletec* was introduced in 1987, and quickly became the premier hepatobiliary imaging agent.

Nuclear Medicine: A Distinguished Past, A Promising Future



The Years of Promise
The future of nuclear medicine is bright, and Squibb's contributions to it continue. New Squibb brain and heart agents are now in clinical development. In addition to extensive research and development, the Squibb contribution to nuclear medicine continues with technical support and professional education programs.

*See brief summary on following page.

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The Acknowledged Standard in Iodine I 131 Diagnosis and Therapy

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IODOTOPE produces minimal airborne contamination, thus reducing unintentional exposure due to inhalation of iodide I 131 vapors.

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Studies in rabbits have shown the bioavailability of I 131 in IODOTOPE capsules to be equal to that of I 131 in solution.* Delivery of precise label potency assured with either capsules or solution.

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Over 30 years of clinical experience has made IODOTOPE the standard of excellence in thyroid diagnosis and therapy

IODOTOPE®
Sodium Iodide I 131 Capsules USP
Sodium Iodide I 131 Solution USP
Therapeutic • Oral

INDICATIONS AND USAGE
Therapeutic doses of Iodotope (Sodium Iodide I 131 Capsules USP; Sodium Iodide I 131 Solution USP) are indicated for the treatment of hyperthyroidism and selected cases of carcinoma of the thyroid. Palliative effects may be seen in patients with papillary and/or follicular carcinoma of the thyroid. Stimulation of radioiodide uptake may be achieved by the administration of thyrotropin. (Radioiodide will not be taken up by giant cell and spindle cell carcinoma of the thyroid or by amyloid solid carcinomas.)

CONTRAINDICATIONS
Preexisting vomiting and diarrhea represent contraindications to the therapeutic use of radioiodide.

Iodotope therapeutic capsules or solution (Sodium Iodide I 131) may cause fetal harm when administered to a pregnant woman. Permanent damage to the fetal thyroid can occur.

Iodotope therapeutic capsules or solution (Sodium Iodide I 131) are contraindicated in woman who are or may become pregnant. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be appraised of the potential hazard to the fetus.

Animal reproduction studies have not been conducted with sodium iodide I 131.

WARNINGS
Sodium Iodide I 131 is not usually used for the treatment of hyperthyroidism in patients under 30 years of age unless circumstances preclude other methods of treatment.

PRECAUTIONS

General
The uptake of radioiodide will be affected by recent intake of stable iodine in any form, or by the use of thyroid, anti-thyroid and certain other drugs. Accordingly, the patient should be questioned carefully regarding previous medication and procedures involving radiographic contrast media.

This drug should not be used after the expiration date stated on the container label.

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

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

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long term animal studies have been performed to evaluate carcinogenic potential.

Pregnancy Category X
See CONTRAINDICATIONS.

Nursing Mothers
It is not known whether this drug is excreted in human milk. As a general rule nursing should not be undertaken when a patient is administered radioactive material.

Pediatric Use
Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
The immediate adverse reactions following sodium iodide I 131 treatment of hyperthyroidism are usually mild. Following the larger doses used in treating thyroid carcinoma, adverse reactions may be much more severe and present special problems.

Untoward effects which may be associated with the use of sodium iodide I 131 include depression of the hematopoietic system when large doses are employed, radiation sickness (some degree of nausea and vomiting), increase in clinical symptoms, bone marrow depression, severe sialoadenitis, acute leukemia, anemia, chromosomal abnormalities, acute thyroid crises, blood dyscrasia, leukopenia, or thrombocytopenia.

Tenderness and swelling of the neck, pain on swallowing, sore throat, and cough may occur around the third day after treatment and are usually amenable to analgesics.

Temporary thinning of the hair may occur two to three months after treatment.

Allergic type reactions have been reported infrequently following the administration of iodine containing radiopharmaceuticals.

OVERDOSAGE
In the treatment of hyperthyroidism, overdosage may result in hypothyroidism, the onset of which may be delayed. Appropriate replacement therapy is recommended if hypothyroidism occurs. Radiation absorbed doses to various tissues for any administered dose may be calculated by reference to Table 4 (Absorbed Radiation Doses).

HOW SUPPLIED
Iodotope (Sodium Iodide I 131 Capsules USP) blue/buff therapeutic capsules are available in packages containing 37 to 1850 megabecquerels (1 to 50 millicuries) sodium iodide I 131 at the time of calibration. Iodotope (Sodium Iodide I 131 Solution USP) therapeutic solution is available in vials containing approximately 259, 518, 1036, 2590, or 3922 megabecquerels (7, 14, 28, 70, or 106 millicuries) sodium iodide I 131 at the time of calibration. Complete assay data are provided on the container. J3-542D

IODOTOPE®
Sodium Iodide I 131 Capsules USP
Diagnostic • Oral

INDICATIONS AND USAGE
Iodotope (Sodium Iodide I 131 Capsules USP) Diagnostic Capsules are indicated for use in performance of the radioactive iodide (RAI) uptake test to evaluate thyroid function and for thyroid imaging. Diagnostic doses may also be employed in localizing metastases associated with thyroid malignancies.

CONTRAINDICATIONS
None known.

WARNINGS
None.

PRECAUTIONS

General
The uptake of radioiodide will be affected by recent intake of stable iodine in any form, or by the use of thyroid, anti-thyroid and certain other drugs. Accordingly, the patient should be questioned carefully regarding previous medication and procedures involving radiographic contrast media.

This drug should not be used after the expiration date stated on the container label.

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

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

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long term animal studies have been performed to evaluate carcinogenic potential, mutagenic potential, or whether Sodium Iodide I 131 affects fertility in males or females.

Pregnancy Category C
Animal reproduction studies have not been conducted with Sodium Iodide I 131 Diagnostic Capsules. It is also not known whether Sodium Iodide I 131 Diagnostic Capsules can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. **Sodium Iodide I 131 Diagnostic Capsules 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 10) days following the onset of menses.

Nursing Mothers
It is not known whether this drug is excreted in human milk. As a general rule nursing should not be undertaken when a patient is administered radioactive material.

Pediatric Use
Safety and effectiveness in children have not been established.

ADVERSE REACTIONS
Allergic type reactions have been reported infrequently following the administration of iodine containing radiopharmaceuticals.

HOW SUPPLIED
The red/buff capsules are packaged 5, 10, 15 or 20 capsules per vial for potencies of 0.30, 0.56, 1.1, and 1.9 megabecquerels (8, 15, 30 and 50 microcuries) sodium iodide I 131 per capsule and in vials of 5 and 10 capsules per vial for the 3.7 megabecquerels (100 microcuries) per capsule potency. J3-536D

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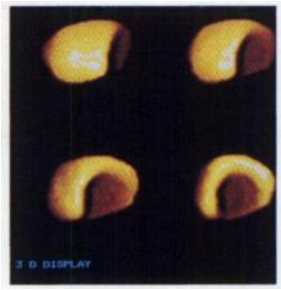

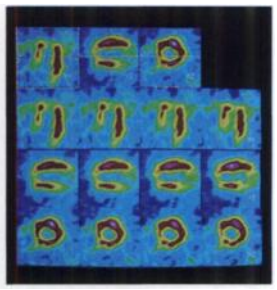

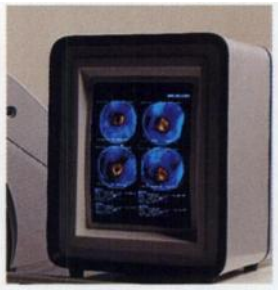

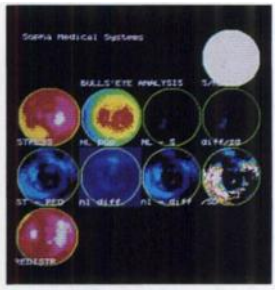

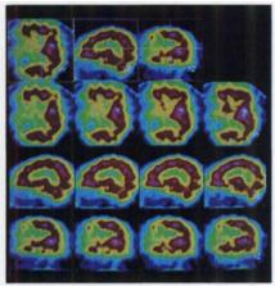

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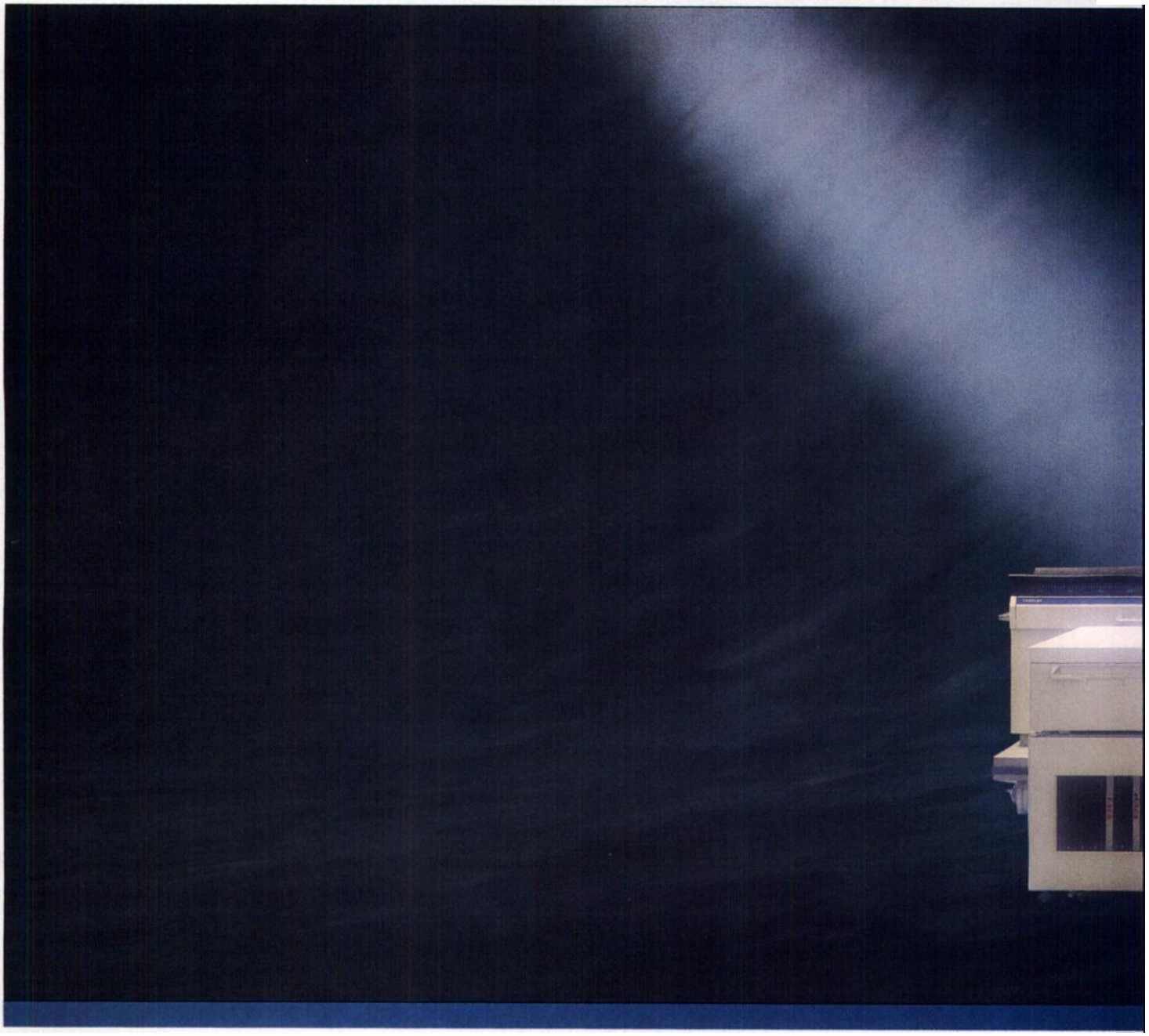

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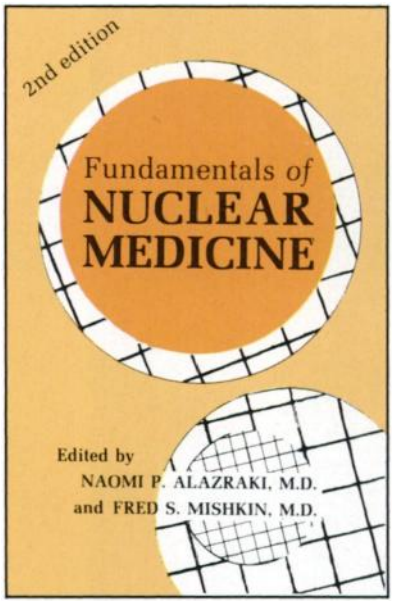

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The Society of Nuclear Medicine

Tuesday, June 13–
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The 1989 Scientific Program Committee solicits the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 36th Annual Meeting in St. Louis. 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
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- RADIOASSAY
- RADIOPHARMACEUTICAL CHEMISTRY
- DOSIMETRY/RADIOBIOLOGY
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A complete educational program for technologist will be offered and technologists are encouraged to submit abstracts of their work for consideration.

The official abstract form for Works-in-Progress may be obtained from the September 1988 issue of the *JNM* or by calling or writing:

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Deadline for Works-in-Progress is Thursday, April 7, 1989

The Society of Nuclear Medicine

Tuesday, June 13–
Friday, June 16, 1989

St. Louis, MO
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Call for Abstracts for Scientific Exhibits

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Deadline for receipt of abstracts for Scientific Papers is Thursday, January 12, 1989.

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Clinical Use Of Functional Imaging By Means Of Emission Tomography

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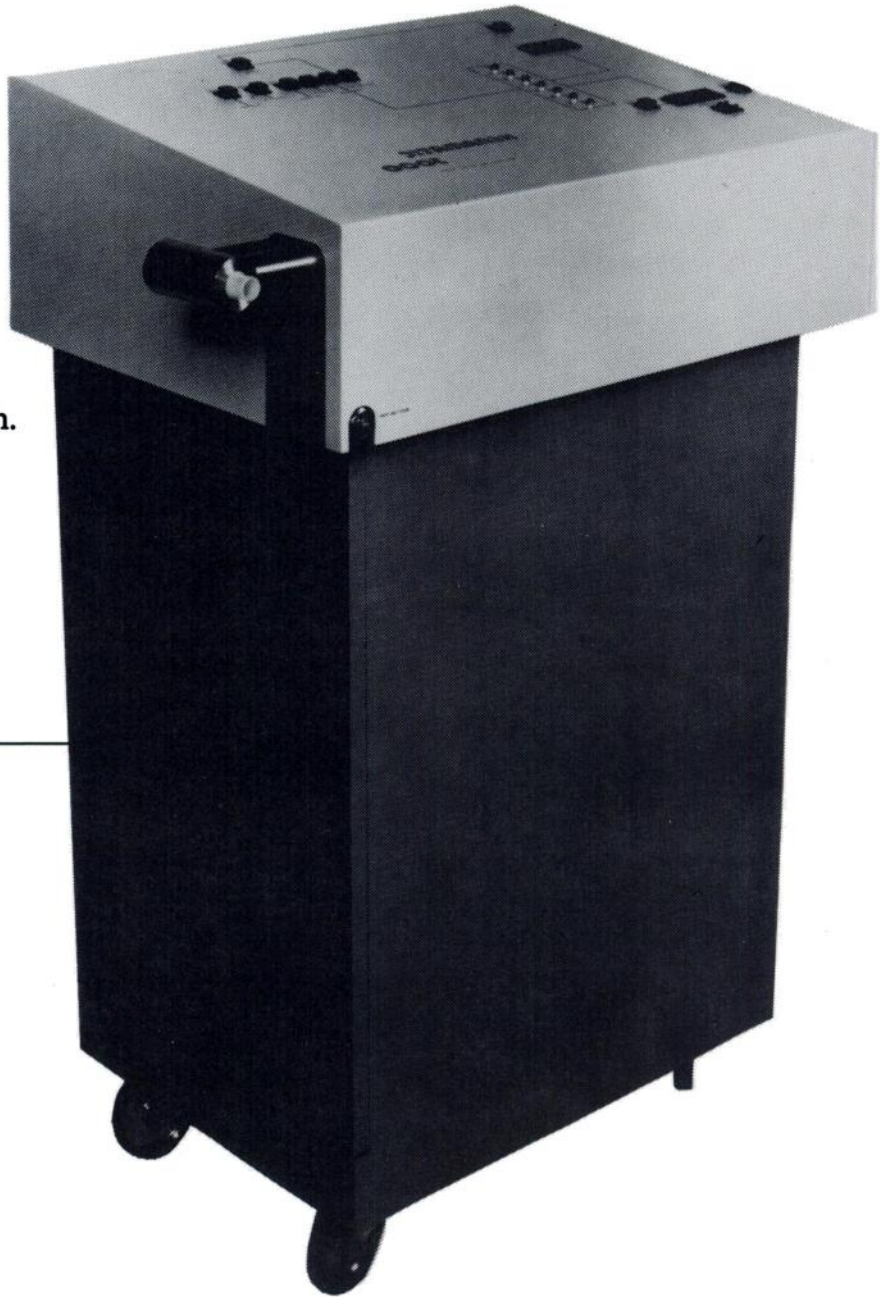

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IODOHIPPURATE SODIUM I 131 INJECTION, USP
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Brief Summary

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

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

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

CONTRAINDICATIONS
None known.

WARNINGS
None known.

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

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

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

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

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

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

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

Pediatric Use
Safety and effectiveness in children have not been established.

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

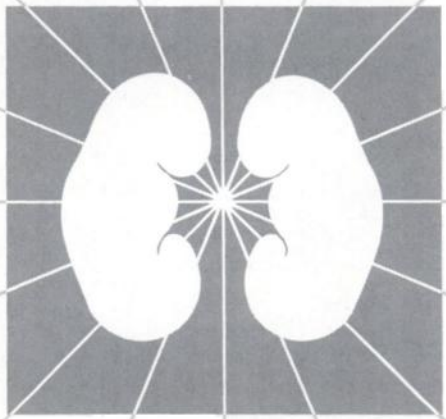
ADVERSE REACTIONS
As with all organic iodide-containing compounds, the possibility of allergic reactions must be kept in mind. Nausea, vomiting and fainting have been reported in conjunction with the administration of Iodohippurate Sodium I 131.

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

Please consult full product information before using.

*Iodohippurate Sodium I 131 Injection, USP meets the United States Pharmacopeia, Vol XXI, standards for quality and purity.

WHEN IT COMES TO IODOHIPPURATE SODIUM I 131 INJECTION, USP COME TO THE SOURCE.



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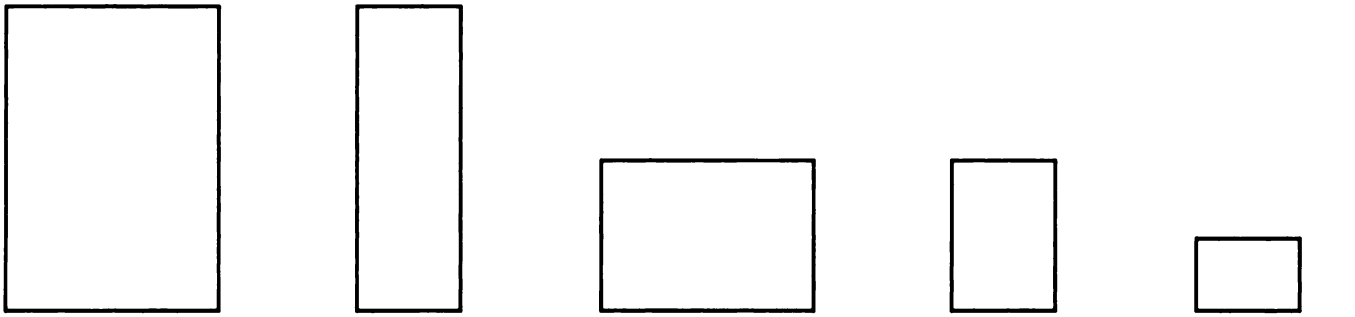

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DEADLINE: First of the month preceding the publication date (for example, January 1 for February issue). Please submit classified advertisements typed double spaced. **No telephone orders are accepted.**

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

For further information please contact Rose Dauge at (212) 889-0717.

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

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Full page	$1025	Quarter page	$400
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Deadline—first of the month preceding the publication date (January 1 for February issue). Please submit classifed 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

Positions Available

Fellowship

The NUCLEAR MEDICINE FELLOWSHIPS at the University of Michigan Medical Center. AMA-approved one and two year fellowships in nuclear medicine are offered to qualified physicians. The program leads to eligibility for Board certification in nuclear medicine or nuclear radiology. A fellow is educated in basic principles, clinical practice, and research. The Division is comprehensively equipped and has programs in all aspects of nuclear medicine, including positron emission tomography, single photon tomography, labeled antibodies, and radionuclide therapy. For further information and applications for July 1989, contact: David E. Kuhl, MD, Chief, Division of Nuclear Medicine, University of Michigan Hospital, 1500 E. Medical Center Dr., Ann Arbor, MI 48109-0028. A non-discriminatory, affirmative action employer.

Physician

Associate required for busy department. Metropolitan teaching hospital 30 minutes from New York City. Must know ultrasound and nuclear medicine. Call (201)622-5348 or (215)635-6820.

PHYSICIAN. Position open for visiting clinical scholars. Applicants must be experienced nuclear medicine PHYSICIANS with ABNM Certification. The individual will be expected to participate in the residency and fellowship training program, clinical service, and research. The term will be one to two years, with either partial or full salary support. Individuals wishing to take a sabbatical leave of absence or those who desire further experience in a university-based nuclear medicine program should apply. UCLA Nuclear Medicine has two SPECT systems, nuclear cardiology, clinical PET, and a wide range of other technologies and opportunities. Applicants will enjoy a setting of journal clubs, research seminars on instrumentation, biochemistry, cardiovascular and neuroscience involving faculty, resident, fellows, graduate students and postdocs. Please apply to: Dr. Randall Hawkins, Division of Nuclear Medicine & Biophysics, UCLA School of Medicine, Los Angeles, CA 90024. UCLA is an Equal Opportunity/Affirmative Action Employer.

NUCLEAR MEDICINE PHYSICIAN. A large, private, subspecialty radiology group is looking for an experienced nuclear medicine Board certified physician with one or two year fellowship training in nuclear medicine. Radiology background is desirable, but all qualified applicants will be considered. The position is at a major 750-bed teaching hospital. The Nuclear Medicine Department combines modern imaging equipment, including six gamma cameras (three SPECT) and complete computer networking with well developed general imaging, nuclear cardiology, transplant, radiopharmacy, and radioassay activities. A PET center is under development and is expected to be operational by the summer of 1989. Send inquires to: Michael A. Lawson, MD, Medical Director, Nuclear Medicine Department, Good Samaritan Medical Center, 111 East McDowell Rd, P.O. Box 2989, Phoenix, AZ 85062. (602)239-4747. EOE.

CHIEF, NUCLEAR MEDICINE. Position is for part-time, Board certified or eligible nuclear medicine physician. The VA Medical Center is affiliated with Jefferson Medical College and has residency programs in surgery, internal medicine, neurology, ophthalmology, otolaryngology, urology, and oral surgery. The department consists of three full-time nuclear medicine technicians. Diagnostic imaging and radioimmune assay studies are performed. Licensure in any State is sufficient. Excellent geographic location with easy access to New York City, Washington DC, Atlantic City Shore, ski resorts, and Chesapeake Bay. Equal opportunity employer. English language proficiency required. Contact: William G. Jones, MD, Chief of Staff at the VA Medical Center, Wilmington, Delaware 19805. (302)994-2511, ext. 203.

Radiologist

Nuclear Medicine Board certified RADIOLOGIST with one or two year fellowship training in nuclear medicine for position beginning July 1, 1989. Nuclear medicine is an advanced active section with emphasis on cardiac nuclear medicine; state-of-the-art equipment. 568-bed teaching hospital. Radiology group is an academically oriented private practice. Send inquiries to: Stanley Grossman, MD, Chief, Nuclear Medicine Section, Dept. of Radiology, The Western Pennsylvania Hospital, 4800 Friendship Avenue, Pittsburgh, PA 15224. EOE.

RADIOLOGIST. Progressive 12-man group seeking Board certified radiologist with Boards or Special competence in nuclear medicine. Must be competent in wide range of general diagnostic skills, excluding angio/interv. 650-bed hospital, well equipped department—7,300 nuclear medicine exams/yr (30% nuclear cardiology). Expanding. Choice practice and location. Contact: Box 221249, Charlotte, NC 28222. EOE.

NUCLEAR RADIOLOGIST. Yale University/West Haven Veteran's Administration Medical Center is seeking an individual who is Board certified or Board eligible in nuclear medicine or nuclear radiology for academic appointment at the level of Assistant Professor or above, depending on experience. Responsibilities include clinical supervision and interpretation of studies in a progressive and broad based nuclear medicine service at the WHVA. Individuals will be evaluated on their precious experience and training as well as teaching and research potential. PET Center to be established in January, 1990. Yale is an equal opportunity/affirmative action employer. Applications from women and minority group members are encouraged. Please send CV to: Dr. Robert Soufer, Chief, General and Cardiac Nuclear Medicine/115, West Haven VA Medical Center, West Spring St., West Haven, CT 06516. Application deadline is January 2, 1989.

RADIOLOGIST with additional training and strong interest in nuclear medicine to join 12 member group in San Francisco Bay Area. Applicant to help encourage growth of nuclear medicine program and be active in diagnostic radiology. Position leads to partnership. Contact: Jacob Epstein, MD, Chief, Deprtment of Nuclear Medicine, John Muir Medical Center, 1601 Ygnacio Valley Rd., Walnut Creek, CA 94598. (415)934-0150. EOE.

Residency

Two and four yr Nuclear Medicine RESIDENCIES are available at St. Luke's Medical Center, Milwaukee, WI. St. Luke's is a 600-bed tertiary care community hospital and is the sixth largest cardiac care center in the US. As such, the program is particularly strong in nuclear cardiology and SPECT. Current instrumentation includes eight gamma cameras, six of which are SPECT cameras. Staff includes two nuclear medicine physicians, a pharmacist, and a programmer. Residents are required to write one paper per year. Address applications and inquiries to: Dr. David Yuille, Director of Nuclear Medicine Residency, St. Luke's Medical Center, 2900 W. Oklahoma Ave., Milwaukee, WI 53215. EOE.

NUCLEAR MEDICINE RESIDENCY. There is an opening for July 1, 1989 in the Division of Nuclear Medicine, Dept. of Radiology. The New York Hospital-Cornell Medical Center, New York, NY. The Division has a completely new, 25,000-square-ft. facility with state-of-the-art equipment. It is staffed by four full-time physicnas, two basic scientists and a computer programmer. The residency will include all aspects of nuclear medicine including thyroidology, as well as clinical research. Please call: Dr. Salil Sarkar or Dr. David Becker collect at (212)472-4758.

RESIDENCY. Board certified or eligible nuclear medicine and pathology. Large Central Florida Teaching Hospital. P.O. Box 8284, Orlando, FL 32806. EOE.

NUCLEAR MEDICINE RESIDENCY. July 1989. Comprehensive imaging/RIA/therapy program in three hospitals (private, county, VA) with 2800 total beds. Mobile imaging for 216 ICU beds. Large pediatric population. Strong cardiovascular emphasis. Training includes SPECT, NMR, PET with optional rotation in CT/ultrasound. Contact: Warren H. Moore, MD, Dept. of Radiology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030. Baylor College of Medicine is an equal opportunity A/A employer.

Technologist

NUCLEAR MEDICINE TECHNICIAN, full-time. Salary $15,118-$16,851 per year depending on education and experience. Qualifications required: Certification in nuclear medicine by either NMTCB, ARPT or licensure by a state in NMT and one year of NMT experience. Excellent benefits-health and life insurance, retirement, thrift savings plan, vacation days, sick leave. Write or call Personnel Office, Paula Miller, VA Medical Center, 2401 W. Main, Marion, Illinois 62959, telephone (618)997-5311 ext. 258. An Equal Employment Opportunity Employer.

HAWAII!! NUCLEAR MEDICINE TECHNOLOGISTS. The Queen's Medical Center, a 506-bed acute care teaching facility located in downtown Honolulu has immediate full-time positions available for nuclear medicine technologists. Qualified candidates must be registered (ARRT, NMTCB) or registry eligible nuclear medicine technologists. Our large, newly constructed progressive department offers state-of-the-art equipment including multiple SPECT camera/computer systems. Enjoy all your outdoor activities year-round with our warm and temperate climate. Interested applicants may call collect, Jerrie Balsai, Employment Specialist, (808)547-4355, or send resume to: The Queen's Medical Center, Human Resources Division, 1381 Punchbowl St., Honolulu, HI 96813. EOE.

NUCLEAR MEDICINE TECH. Full-time position available for tech with CNMT (or eligible) in 646-bed, full service community teaching hospital. We offer a competitive salary and a comprehensive benefit package. Call collect: Dr. Petronis, (310)550-0209 or send resume to: Employment Manager, The Francis Scott Key Medical Center, a Johns Hopkins Health System Member Institution, 4940 Eastern Ave., Baltimore, MD 21224. EOE. M/F/H/V

NUCLEAR MEDICINE TECHNOLOGIST. A challenging and rewarding career opportunity awaits you in the heart of the beautiful Montana Rocky Mountains. St. James Community Hospital is a 270-bed, JCAH accredited acute care hospital located halfway between Glacier and Yellowstone National

Parks. Immediate access to hunting, fishing, skiing, hiking, and other outdoor recreation is available for the sports enthusiast. Qualified candidates for the position must be ARRT (N) registered and also be registered or certified (CNMT) in nuclear medicine. Excellent salary and benefits accompany this position. Qualified applicants send resume to: Patrick Dudley, Employment Supervisor, St. James Community Hospital, 400 S. Clark St., Butte, MT 59701. EOE.

NUCLEAR CARDIOLOGY TECHNOLOGIST. Excellent immediate opportunity for registered or registry eligible technologist to do nuclear cardiology studies for a busy private cardiology group practice. No nights or weekends. Competitive salary and benefits. Send resume to: Northeast Cardiology Associates, 700 Mt. Hope Ave., Bangor, ME 04401 Attn: Office Manager. (207)947-4940. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. This is a full-time day position which includes a rotation for two hospitals. CNMT or ARRT(N) is required. For more information call: Pauline Smith, Employment Manager (508)465-2173, Anna Jaques Hospital, 25 Highland Avenue, Newburyport, MA 01950. EOE.

Wanted NUCLEAR MEDICINE TECHNOLOGIST. Position available for a nuclear medicine technologist in a 40-bed community hospital in beautiful Northern California. Must be registered (or registry eligible) and be willing to cross train in ultrasound and share call; RT (X-ray) license helpful. Located 100 mi north of San Francisco on the largest natural lake in California. Two hr to the Mendocino coast, four hours to Lake Tahoe/Reno and skiing, in the middle of California wine country. Contact: Redbud Community Hospital, Box 6720, Clearlake, CA 95422. 707-994-6486, Ext. 129. EOE.

Nationwide: Considering a change? Let our 10 years of placement experience help you locate the best opportunity. Supervisory and staff positions available for NUCLEAR MEDICINE TECHNOLOGISTS throughout the US. Attractive salaries, interview, and relocation assistance included. Fee paid by employer. Ask about our new Short Term Travel Assignments. Call or send resume to: Department DRB. StarMed Staffing Corporation, 2701 Rocky Point Dr., Suite 100, Tampa, FL 33607. 1-(800)StarMed. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. Maine. 250-bed regional referral hospital located in central Maine is seeking a certified nuclear medicine technologist. Our state-of-the-art department utilizes two gamma cameras to process 2500 patients annually. We will soon add SPECT, and a new, expanded facility is scheduled to be completed by 1990. We offer a competitive salary and benefit package in a scenic four-season setting well known for it's quality of life. Please write or call collect: Personnel Services, Central Maine Medical Center, P.O. Box 4500, Lewiston, ME 04240. EOE.

NUCLEAR MEDICINE TECHNOLOOGIST. Private office seeks Registered Tech for full-time 8:00-5:00 position. No weekends. Excellent salary and benefits. Forward resume to: Personnel Manager, 3680 Broadway, Fort Myers, FL 33901. EOE.

NUCLEAR MEDICINE TECHNOLOGIST. Iowa Methodist Medical Center, a 710-bed regional trauma center for Central Iowa, seeks a nuclear medicine technologist. Our current opening presents you with an excellent opportunity to work in a modern progressive department. Competitive salary and benefits package includes health insurance options, dental, buy back on sick leave, on site fitness center, and much more. Send resume to: Deborah Brewer, Human Resources, Iowa Methodist Medical Center, 1200 Pleasant St., Des Moines, IA 50309. An equal opportunity employer.

NUCLEAR MEDICINE TECHNOLOGIST. Work in sunny Southern California. Opening for three nuclear medicine technologists in a private clinic and hospital. Special emphasis on SPECT Imaging and nuclear cardiology. Excellent benefits and paid vacation. Salary negotiable. Send resume to: Southern California Associated Nuclear Services, Inc. (SCANS). Atten: V.P. Operations, 1000 S. Anaheim Blvd., Suite 302, Anaheim, CA 92805. (714)778-0100. EOE.

Cyclotron Engineer

Immediate opening for an Engineer/Scientist experienced in the operation and maintenance of medical cyclotrons, preferably TCC equipment. Prefer electrical experience, but all qualified individuals are encouraged to apply. Salary commensurate with experience and excellent benefits are offered. Send resume to: Thomas Boothe, PhD, Cyclotron Facility, Mount Sinai Medical Center, 4300 Alton Road, Miami Beach, FL 33140. An Equal Opportunity Employer.

Positions Wanted

RADIOPHARMACEUTICAL CHEMIST. PhD experienced in pharmaceutical chemistry and PET radiochemistry seeks senior level position in a PET unit. Locations preferred: US sunbelt states or Canada. Resume sent on request to: Box 1201, The Society of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760.

Equipment Wanted

Wanted: Used Sopha/Sophy/Informatek Equipment. Will negotiate. Call J. Paldi, (916)758-6814.

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Toronto General Hospital, an acute care teaching facility affiliated with the University of Toronto, has an opportunity for a Radiopharmacist to assist in the preparation, quality control and dispensing of radiopharmaceuticals. The opportunity exists for independent and collaborative research and development of new radiopharmaceuticals. You will also be involved in teaching radiopharmacy residents and nuclear medicine technology students.

The successful candidate will have a B.Sc. in Pharmacy. A Radiopharmacy residency is preferred.

Interested applicants please send résumé, in confidence, to:

Human Resources,
Toronto General Hospital,
101 College Street,
Toronto, Ontario,
CANADA M5G 1L7

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Nuclear Medicine Technologist

431 bed division, conveniently located near the Westchester border and Whitestone Bridge, has a full time position available for a Nuclear Medicine Technologist to join our technologically advanced Nuclear Medicine Department. Qualified applicant must have appropriate registration or be registry eligible. Previous experience in imaging procedures including cardiovascular nuclear medicine and computer applications preferred. We offer a competitive salary and excellent benefits package. For immediate consideration please call or send resume to: **Department of Human Resources, 212-904-3177, The Jack D. Weiler Hospital of the Albert Einstein College of Medicine, 1825 Eastchester Road, Bronx, New York 10461.** An Equal Opportunity Employer M/F.

THE JACK D. WEILER HOSPITAL OF THE ALBERT EINSTEIN COLLEGE OF MEDICINE

OUTPATIENT NUCLEAR MEDICINE TECHNOLOGIST.

Full time position available in an exclusively outpatient, academically oriented, imaging facility on the Cedars-Sinai Medical Center Campus. Duties will include all facets of nuclear medicine, nuclear cardiology, and computer applications with state-of-the-art equipment. We are a progressive organization, specializing in quantitative cardiac SPECT imaging, with a reputation and commitment of providing quality second to none and seek a like-minded, registered individual who enjoys being part of a team of dedicated professionals. We offer a very pleasing office environment and your evenings and weekends are yours to enjoy as we have no call and are closed on weekends. Our geographical location adjacent to Beverly Hills combined with the year round sunshine and limitless recreational and cultural opportunities that Southern California offers makes for an enviable lifestyle. We have an excellent benefits package and salary commensuarte with experience. For consideration call or send resume to:

Cardiac and Vascular Diagnostic Center,
Attn: Jim Bietendorf,
8635 West Third Street, Suite 170W
Los Angeles, CA. 90048.
(213)657-3211. EOE.

THE ST. GEORGE HOSPITAL

NUCLEAR MEDICINE TECHNOLOGISTS

Vacancies exist for suitably qualified Nuclear Medicine Technologists at the St. George Hospital, Kogarah, 10 kilometres from the center of Sydney.

The Department caters for the needs of a 530-bed teaching hospital and offers a comprehensive range of nuclear medicine techniques, including cardiovascular scanning, digital analysis, in vivo tracer studies, and RBC and WBC blood labeling studies.

Equipment includes a GE 400T (SPECT capability), Toshiba GCA 402, moblie G.E. 300 Starcam and Searle LVOF. Computer systems include DEC Gamma 11 and two NPS Phillips gamma processors.

Applications in writing, giving details of qualifications and experience, together with names and addresses of two referees, should be forwarded to: Dr. John Campbell, Chief Executive Officer, The St. George Hospital, Belgrade Street, Kogarah N.S.W. 2217 Australia.

The Hospital will assist as far as possible with applications for work visas or immigration. Further information may be obtained from the Chief Technologist, Ms. Sue Barbagallo on I.S.D. (61) (2) 5532490.

NUCLEAR MEDICINE TECHNOLOGIST

Progressive department with the state-of-the-art equipment seeking an ARRT and/or NMTCB certified Staff Technologist for our 530-bed teaching hospital located in Central Illinois.

Routine diagnostic Imaging and radionuclide therapy services are offered in addition to Nuclear Cardiology, SPECT technology and Dual-Photon Absorptiometry. Must be competent in computer applications. In-vitro experience not necessary. Full time weekday position includes rotation of assignments, shift hours and weekday/weekend emergency call coverage.

We offer competitive salary and comprehensive benefit package. Qualified candidates please send your resume including salary history to:

Donna Beck
Employment Manager

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The programs offer a comprehensive exposure to research and to all aspects of nuclear medicine.

For further information and applications for July 1, 1989, contact:

Joseph A. Prezio, M.D., F.A.C.P.
Clinical Professor and Chairman
SUNY/Buffalo Nuclear Medicine
20 Diefendorf Annex
3435 Main Street
Buffalo, NY 14214 *AA/EOE

NUCLEAR MEDICINE TECHNOLOGIST

Akron City Hospital, a progressive 513-bed teaching hospital, located in Northeastern Ohio has an immediate opening for a nuclear medicine technologist. Applicants must be graduates of an A.M.A. approved school of nuclear medicine and be registered. We offer a competitive salary and an excellent benefit package which includes an on-site childcare facility. If interested please submit a resume or contact: Department of Human Resources, Akron City Hospital, 525 East Market St., Akron, OH 44309. (216)375-3255.

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Nuclear Medicine Technologist

Northern California

El Camino Hospital has an excellent opportunity for a Nuclear Medicine Technologist with recent hospital experience to join its staff. You must be a registered (or registry-eligible) Nuclear Medicine Technologist with a thorough understanding of the cardiac computer **including SPECT imaging**. Cross training into diagnostic ultrasound and echocardiography will be provided.

We offer an excellent salary and benefits package. Please forward resume to: El Camino Hospital, Personnel Department, 2500 Grant Road, P.O. Box 7025, Mountain View, CA 94039-7025; (415) 940-7222. Mountain View is on the San Francisco Peninsula in the heart of Silicon Valley. An equal opportunity employer.

El Camino Hospital

Nuclear Medicine Technologists

Give your career the royal treatment, Come to the Queen City.

Every now and then we need to take the opportunity to give ourselves something new and exciting. Making a move to Cincinnati can provide that excitement.

Known as the "Queen City", Cincinnati is one of America's truly great cities. It has unlimited opportunities for recreation and education, some great museums, a world class zoo, professional sports and some fine universities. Cincinnati also offers gourmet dining, exciting nightlife and the recreational advantages associated with the Ohio River.

And like the city, Deaconess Hospital is also one of the best. It is a medium-sized, 250-bed, acute care hospital, featuring facilities with some of the most advanced equipment and providing procedures which are on the leading edge of medicine.

If you are an experienced professional, ART or NMTCB certified, then we could have a position for you. We currently have a full-time, day shift position available.

This position offers an excellent salary, comprehensive benefits and a pleasant work environment. Find out more about this exciting opportunity by calling (513) 559-2243, or send your resume to the Personnel Department.

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Competitive compensation and benefits plus a desirable, seaside Southern California location. For immediate consideration, **call collect (213) 829-8945.** Or send your resume to: Employment Dept., 1328 Twenty-Second St., Santa Monica, CA 90404. An Affirmative Action/EOE.

DOING THINGS RIGHT AT SAINT JOHN'S HOSPITAL AND HEALTH CENTER

Faculty Position in Nuclear Medicine

Royal College certification or equivalent in both nuclear medicine and diagnostic radiology. For Director of Division of Nuclear Medicine. Preference given to person with special training in nuclear cardiology. Post carries teaching and research responsibilities at Queen's University. Income based on fee-for-service. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. Candidates of both sexes are equally encouraged to apply. Applications with CV and references should be forwarded to: Dr. T.W. Challis, Professor and Head, Dept. of Diagnositc Radiology, Queen's University, Kingston, Ontario K7L 3N6, Canada. EOE.

BGH

CANADA

Nuclear medicine specialist required for 400-bed community hospital with large regional laboratory. Other imaging modalities included in this center include radiology, CT scanning, and ultrasound. Applicants must have (or be eligible for) RCPS(C) certification in nuclear medicine. Certification in a second discipline would be an asset. Remuneration arrangements are negotiable. Applications or inquiries should be directed to:

Glenn E. Chapman, Executive Director
Brandon General Hospital
150 McTavish Avenue East
Brandon, Manitoba R7A 2B3

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INTEGRATED NUCLEAR MEDICINE RESIDENCY

Department of Nuclear Medicine, Albert Einstein College of Medicine/Montefiore Medical Center, offers a 4-year accredited Nuclear Medicine residency program. Direct entry upon completion of medical school. Year 1 and year 2 provide prerequisite training in medicine and radiology, followed by 2 years in nuclear medicine with an elective extra year. Contact: M. Blaufox, MD, Dept. of Nuclear Medicine, Albert Einstein College of Medicine, 1300 Morris Park Ave., Bronx, NY 10461. EOE.

NUCLEAR MEDICINE TECHNOLOGIST

HCA Parkland Medical Center is seeking a full-time registered or registry eligible Nuclear Medicine Technologist to work independently and oversee the efficient operation of a small, progressive Nuclear Medicine Department.

We are an 86-bed acute-care community hospital conveniently located in beautiful southern New Hampshire only minutes from metropolitan Boston and less than an hour from the mountains. Salary commensurate with experience, excellent benefits including 401K and stock purchase plan.

For additional information, call 603/432-1500, ext. 161.

HCA Parkland Medical Center
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NUCLEAR MEDICINE TECHNOLOGIST

Historic Charleston, South Carolina
Coastal, Resort Living
527-Bed University Hospital

The Medical University of South Carolina is seeking a certified Nuclear Medicine Technologist to complete a staff of seven. The Division of Nuclear Medicine is an active and progressive one; services offered include clinical care, research procedures and a nuclear medicine residency program. Five cameras (two with SPECT) are networked with Elscint computers. Excellent benefit package and salary commensurate with experience are offered. The city of Charleston has many unique cultural offerings, year-round recreational activities and several colleges and universities. Send resume or call:

Patty Slay, Technical Director
(803) 792-7644 or (803) 792-4021

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THE SOCIETY OF NUCLEAR MEDICINE

Annual Winter Meeting

Title:	SPECT: How To Get Started; How To Do It Well—A Special Two-Day Symposium
Date:	Monday–Tuesday, Feb. 13–14, 1989
Location:	Le Meridien Hotel, New Orleans, LA
Program:	Includes a national panel of distinguished speakers presenting topics on SPECT
Sponsors:	The Computer & Instrumentation Council of The Society of Nuclear Medicine, Inc.
Fee: (before Dec. 14)	SNM Member, $175; Nonmember, $205 Tech. Member, $75; Nonmember, $105
CME Credit:	13 hrs AMA Category 1
VOICE Credit:	1.3 hrs VOICE Credit for Technologists

For further information contact:

The Society of Nuclear Medicine
Meetings Department
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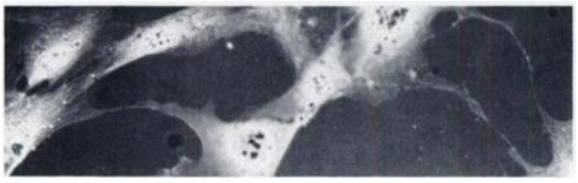

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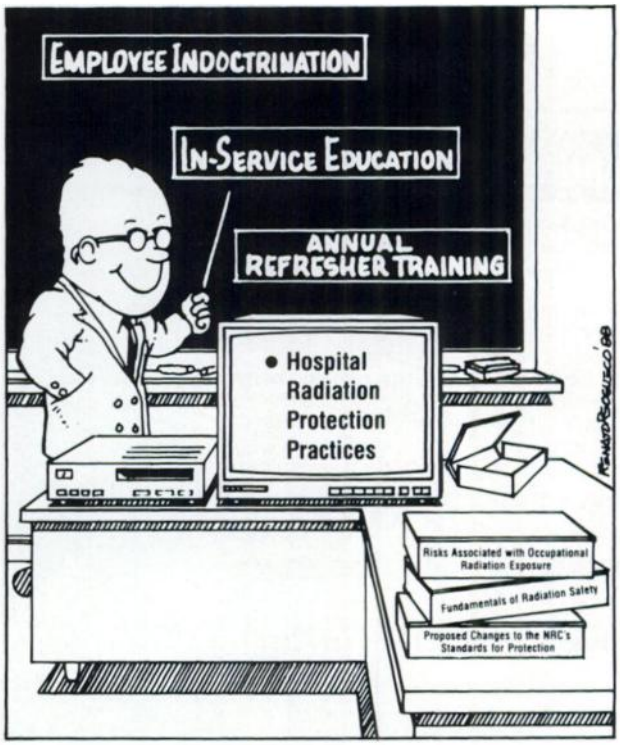

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Technologist Section

The Society of Nuclear Medicine (SNM) is a multi-disciplinary organization of physicians, physicists, chemists, radiopharmacists, technologists, and others interested in the diagnostic, therapeutic, and investigational use of radiopharmaceuticals.

The Technologist Section of The Society of Nuclear Medicine is a scientific organization formed with, but operating autonomously from, the Society to promote the continued development and improvement of the art and science of nuclear medicine technology. Membership in the Section is open to any member of the Society regardless of category, who can provide evidence of training and/or experience in nuclear medicine technology that is satisfactory to the Membership Committee of the Section.

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- Receipt of the quarterly publication the *Journal of Nuclear Medicine Technology* and monthly *The Journal of Nuclear Medicine.*
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Chromatography of Technetium-99m Radiopharmaceuticals —A Practical Guide

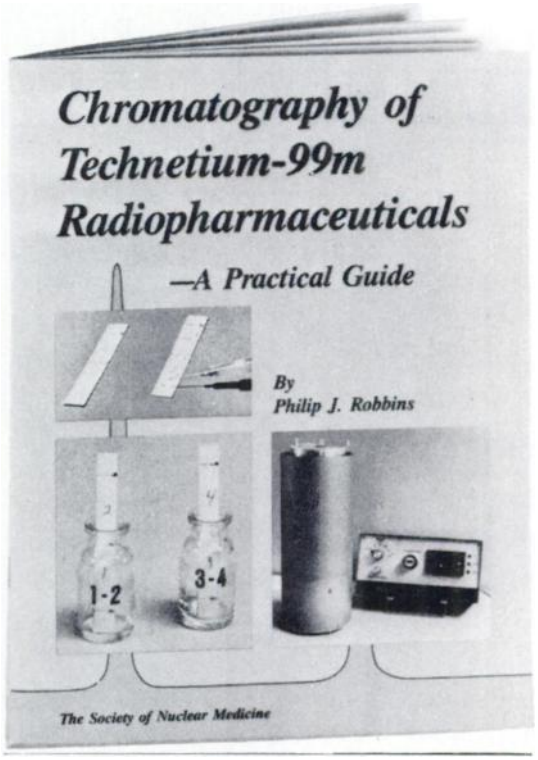
By Philip J. Robbins

To provide up-to-date information about the most accurate procedures for ensuring quality control of radiopharmaceuticals, The Society of Nuclear Medicine has published *Chromatography of Technetium-99m Radiopharmaceuticals—A Practical Guide.*

This important manual offers readers a collection of miniaturized chromatographic methods for the rapid and precise determination of the radiochemical purity of commonly used Tc-99m radiopharmaceuticals.

Topics covered include the nature and source of impurities, principles and classic techniques of chromatography, methods for counting miniature chromatographic strips, and pitfalls of miniature methods and how to avoid them. Also contained herein is a listing of each radiopharmaceutical with the USP criteria for radiochemical purity, typical scans of impure products, and standards and interlaboratory comparisons for miniaturized systems.

Prepared to aid nuclear medicine personnel in implementing voluntary quality-assurance programs, the material may also be used as a training resource for individuals preparing for professional licensure and certification.



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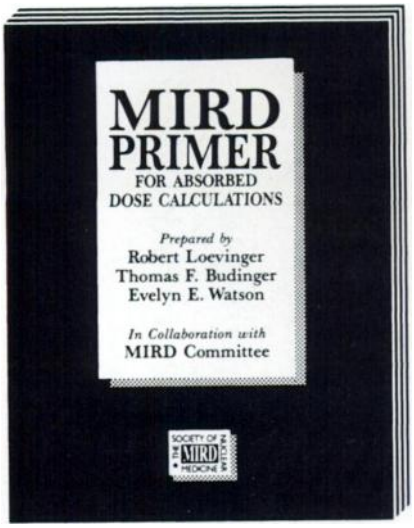

MIRD PRIMER

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.

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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!

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■ **SPECT: A Primer, *by Robert J. English, CNMT, and Susan E. Brown, CNMT.***
Now in its fourth printing, the Primer answers technologists' fundamental questions about SPECT, as both an extension of any manufacturer's operating manual. It is regarded by many as one of the *the* two handbooks on SPECT. 1986. 148 pp. Paper. $15 members; $17 non-members.

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■ **Fundamentals of Nuclear Medicine, 2nd Edition, *edited by Naomi P. Alzaraki, MD, and Fred S. Mishkin, MD.***
Designed as a basic text to acquaint practitioners and students with the possibilities and limitations of nuclear medicine in detecting and evaluating common disorders, this completely revised and updated edition is essential to all those who want an understanding of this rapidly evolving technology. 1988. 256 pp. Paper. $15; accredited instructors may purchase a minimum of 10 copies at $4 each.

■ **The Scintillation Camera, *edited by Guy Simmons, PhD.***
Targeted to advanced technologists, physicians, and other scientists, this book provides, in a single volume, easily accessible state-of-the-art information on all aspects of the scintillation camera, from instrument selection and performance evaluation to operation monitoring in the clinical environment. *The Scintillation Camera* should be especially helpful to those teaching the principles of scintillation cameras. 1988. 160 pp. Paper. $30 members; $35 non-members.

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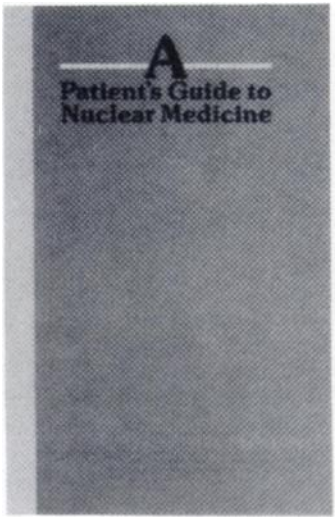
Educate your patients with SNM's Patient Information Pamphlets

A Patient's Guide to Nuclear Medicine



Well illustrated, this 16-page pamphlet explains what nuclear medicine is, how the procedures are performed, and how they can help in the early detection of disease.

Divided into 3 sections, the guide opens with a general overview of nuclear medicine. A question-and-answer section follows, addressing such topics as safety, the benefits of nuclear medicine procedures, pre- and post-instructions, and testing of pregnant women and children. The third section explains some of the more commonly performed procedures such as bone, liver, lung, heart, and thyroid uptake scans.

16 pp; 5½ × 8½; in 2 colors;
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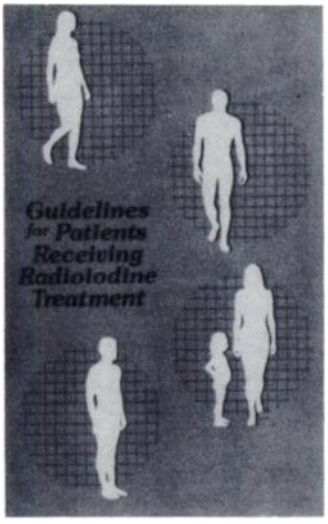

Guidelines for Patients Receiving Radioiodine Treatment

Prepared in collaboration with the U.S. Nuclear Regulatory Commission, this 8-page pamphlet answers patients' questions about home care after receiving radioiodine treatment for thyroid conditions.

Easy-to-read language outlines important precautions patients can follow to help reduce radiation exposure to others. It also contains a checklist that physicians can review with their patients to determine which guidelines are appropriate for them and how they should be followed.

8 pp; 5½ × 8½; in 2 colors;
30¢ per pamphlet; minimum order: 25 copies

Healthcare professionals in private practice, hospitals, and clinics will find that these pamphlets provide a brief, attractive, and inexpensive way to educate patients and their families about the importance and safety of nuclear medicine procedures.

TO ORDER: Single copies are available for review at $1.50 each. All prices include postage and handling. Prepayment required in U.S. funds drawn on U.S. banks only. Make checks payable to: The Society of Nuclear Medicine. *Prices are in U.S. dollars and subject to change without notice.*

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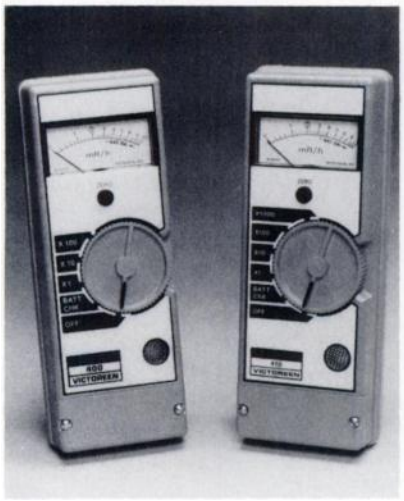
Each description of the products below was condensed from information supplied by the manufacturer. The reviews are published as a service to the professionals working in the field of nuclear medicine and their inclusion herein does not in any way imply an endorsement by the Editorial Board of The Journal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

Portable Survey Meters



Victoreen, Inc., has introduced two portable GM survey meters designed to meet the needs of industrial radiography applications. Model 400/400R has an operating range from 0–1000 mR/h in three switch-selectable ranges. Model 410/410R offers extended measurement capability to 10,000 mR/h, normally available only on ion chamber devices. The latest additions to Victoreen's line of radiation detection instrumentation, Models 400 and 410 maximize safety and convenience without sacrificing accuracy or performance. Battery operation, handheld size, and rugged, watertight construction assure reliable performance in the field. Semilog readout provides accurate readings from 10% full-scale to 100% full-scale on all ranges. The convenient belt clip, coupled with a built-in audible alarm, provides hands-free monitoring of potentially hazardous locations. The R version of each model offers the added convenience of an audible chirp to alert the user of existing potentially hazardous conditions. **Victoreen, Inc., 6000 Cochran Rd., Cleveland, OH 44139-3395. (216) 248-9300. FAX (216) 248-9301.**

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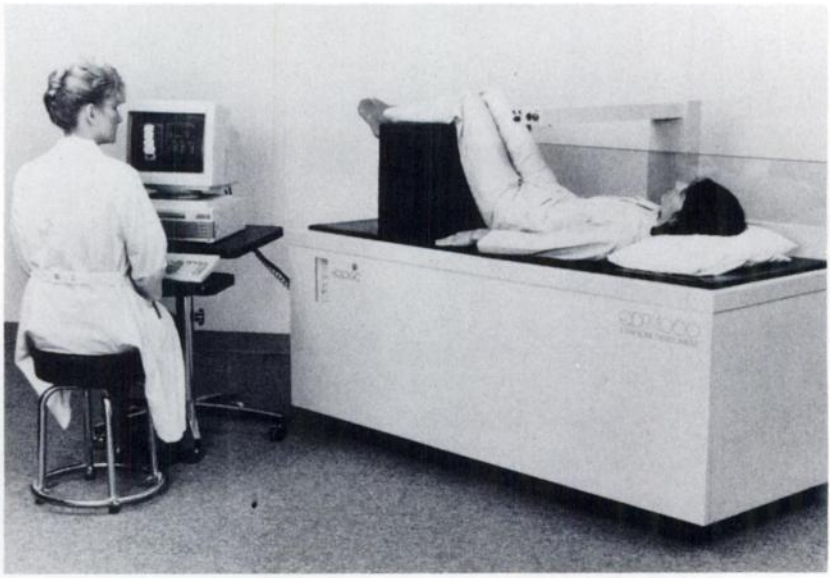
New Features to X-Ray Bone Densitometer



Hologic, Inc., introduces a series of major enhancements for its award winning QDR-1000® X-Ray Bone Densitometer. QDR® is an advanced dual-energy x-ray technology for precise assessment of bone density. QDR® technology provides high precision, fast scanning time, and high image resolution. QDR® also eliminates the requirement to use a radioactive isotope source, while maintaining a low patient dose equivalent to only $^1/_{10}$ of a typical chest x-ray. It employs a low dose x-ray source in lieu of radioactive isotopes for rapid precise diagnosis and management of osteoporosis and related bone disorders. The new capabilities include: (A) A highly automated protocol for comprehensive assessment of femur scans. This new QDR-1000® software acquires scans of the proximal femur in only 5–6 min and can achieve repeatability (precision) values of better than 1.0% CV in patients. (B) On-line normal range curves. This software enhancement facilitates the interpretation of studies and allows customized user-defined values to be programmed for the individual physician's practice. (C) An internal quality control procedure. This unique software feature automates the analysis and plotting of trend data to assure high short-term and long-term instrument precision. (D) Optical disk storage. This optional hardware system provides 0.8 gigabytes of storage on removable disk cartridges providing write-protected archiving for more than 3,500 patient scans. **Hologic, Inc., 200 Prospect St., Waltham, MA 02154. (617) 893-5100.**

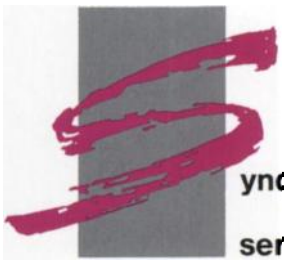
Circle Reader Service No. 102

PET Planning Guide

Scanditronix, Inc., a major supplier of positron emission tomography systems, has recently published the first comprehensive guide for planning a PET center. Called *The PET Book: A Planning Compendium*, the guide is an educational resource for persons who are planning a PET center; those who are assessing the potential value of PET to their institution; and anyone interested in learning more about PET. The guide contains three volumes which are provided in a hard-shell case. Volume I includes sections on "Concepts of Positron Emission Tomography," which is an overview of applications and history, and "Practical PET Imaging," a discussion of the PET procedure. Volume II contains "Tracer Characteristics," "Production of Tracers," "Camera Function," and "Camera Specifications." Sections on "Planning a PET Center" and "Safety" comprise Volume III. *The PET Book: A Planning Compendium*, is the first resource of its type. It is "must reading" for anyone who is or may be involved in PET. **Scanditronix, Inc., 106 Western Ave., Essex, MA 01929. (508) 764-6994.**

Circle Reader Service No. 103

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



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DIAGNOSTIC–FOR INTRAVENOUS USE

DESCRIPTION: The kit consists of 10 multidose reaction vials which contain the sterile, non-pyrogenic, non-radioactive ingredients necessary to produce Technetium Tc 99m Albumin Aggregated Injection for diagnostic use by intravenous injection.

Each 10 mL reaction vial contains 2.5 mg of Albumin Aggregated, 5.0 mg of Albumin Human, 0.06 mg (minimum) stannous chloride (maximum stannous and stannic chloride 0.11 mg) and 1.2 mg of sodium chloride; the contents are in a lyophilized form under an atmosphere of nitrogen. Sodium hydroxide or hydrochloric acid has been used for pH adjustment. No bacteriostatic preservative is present.

The Albumin Human was non-reactive when tested for hepatitis B surface antigen (HB_sAg) by radioimmunoassay. The aggregated particles are formed by denaturation of Albumin Human in a heating and aggregation process. Each vial contains 4 to 8 million particles. By light microscopy, more than 90% of the particles are between 10 and 70 micrometers, while the typical average size is 20 to 40 micrometers; none is greater than 150 micrometers.

Technetium Tc 99m Albumin Aggregated Injection for intravenous use is in its final dosage form when sterile isotonic sodium pertechnetate solution is added to each vial. No less than 90% of the pertechnetate Tc 99m added to a reaction vial is bound to aggregate at preparation time and remains bound throughout the 6 hour lifetime of the preparation.

INDICATIONS AND USAGE: Technetium Tc 99m Albumin Aggregated Injection is a lung imaging agent which may be used as an adjunct in the evaluation of pulmonary perfusion in adults and children.

CONTRAINDICATIONS: Technetium Tc 99m Albumin Aggregated Injection should not be administered to patients with severe pulmonary hypertension.

The use of Technetium Tc 99m Albumin Aggregated Injection is contraindicated in persons with a history of hypersensitivity reactions to products containing human serum albumin.

WARNINGS: Although adverse reactions specifically attributable to Technetium Tc 99m Albumin Aggregated have not been noted, the literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported.

PRECAUTIONS:

General

The contents of the kit before preparation are not radioactive. However, after the sodium pertechnetate Tc 99m is added, adequate shielding of the final preparation must be maintained.

In patients with right to left heart shunts, additional risk may exist due to the rapid entry of Albumin Aggregated into the systemic circulation. The safety of this agent in such patients has not been established.

Hypersensitivity reactions are possible whenever protein-containing materials such as pertechnetate labeled Albumin Aggregated are used in man. Epinephrine, antihistamines, and corticosteroids should be available for immediate use.

The intravenous administration of any particulate materials such as Albumin Aggregated imposes a temporary small mechanical impediment to blood flow. While this effect is probably physiologically insignificant in most patients, the administration of Albumin Aggregated is possibly hazardous in acute cor pulmonale and other states of severely impaired pulmonary blood flow.

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

Contents of the vials are intended only for use in the preparation of Technetium Tc 99m Albumin Aggregated Injection and are *NOT* to be administered directly to the patient.

The Technetium Tc 99m labeling reactions involved depend on maintaining the stannous ion in the reduced state. Hence, sodium pertechnetate Tc 99m containing oxidants should not be employed.

The preparation contains no bacteriostatic preservative. Technetium Tc 99m Albumin Aggregated Injection should be stored at 2-8°C and discarded 6 hours after reconstitution.

Technetium Tc 99m Albumin Aggregated Injection is physically unstable and consequently the particles settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactive particles.

If blood is drawn into the syringe, unnecessary delay prior to injection may result in clot formation *in situ*.

Do not use if clumping of the contents is observed.

Technetium Tc 99m Albumin Aggregated, as well as other radioactive drugs must be handled with care. Once sodium pertechnetate Tc 99m is added to the vial, appropriate safety measures must be used to minimize radiation exposure to clinical personnel. Care must also be taken to minimize the radiation exposure to patients in a manner 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.

Carcinogenesis, Mutagenesis, Impairment of Fertility

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

Pregnancy Category C

Animal reproduction and teratogenicity studies have not been conducted with Technetium Tc 99m Albumin Aggregated Injection. It is also not known whether Technetium Tc 99m Albumin Aggregated 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 Albumin Aggregated 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

The lowest possible number of particles should be used in right-to-left shunting, in neonates, and in severe pulmonary disease.

ADVERSE REACTIONS: The literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported (see Warnings).

HOW SUPPLIED:

MPI MAA Kit
Kit for the Preparation of Technetium Tc 99m Albumin Aggregated Injection
Product No. 4432.

Each kit contains 10 reaction vials, each vial containing in lyophilized form, sterile and non-pyrogenic:

Albumin Aggregated	2.5 mg
Albumin Human	5.0 mg
Stannous Chloride (minimum)	0.06 mg
(Maximum stannous and stannic chloride	0.11 mg)
Sodium chloride	1.2 mg

HCl or NaOH has been used for pH adjustment. The vials are sealed under an atmosphere of nitrogen.

Twenty labels with radiation warning symbols and a package insert are supplied in each carton.

Circle Reader Service No. 30