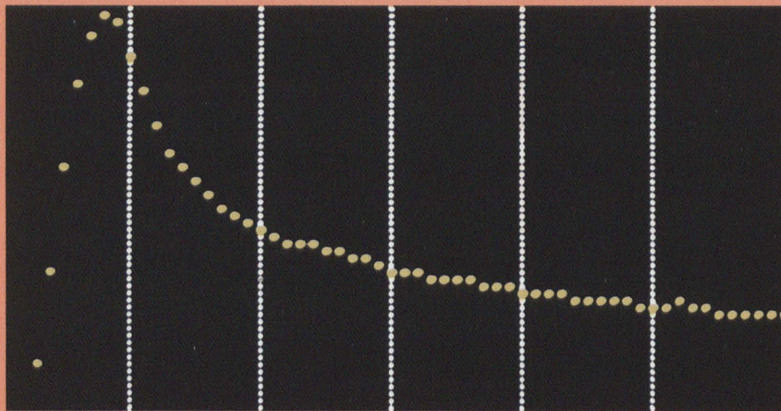


Introducing

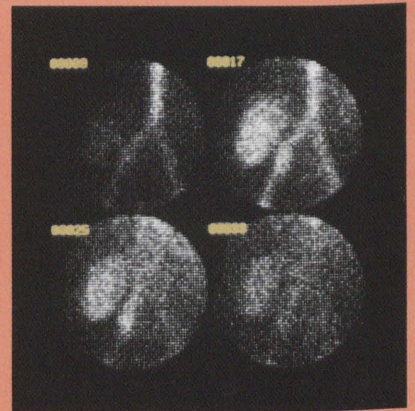
NephroflowTM

IODOHIPPURATE SODIUM I 123 INJECTION

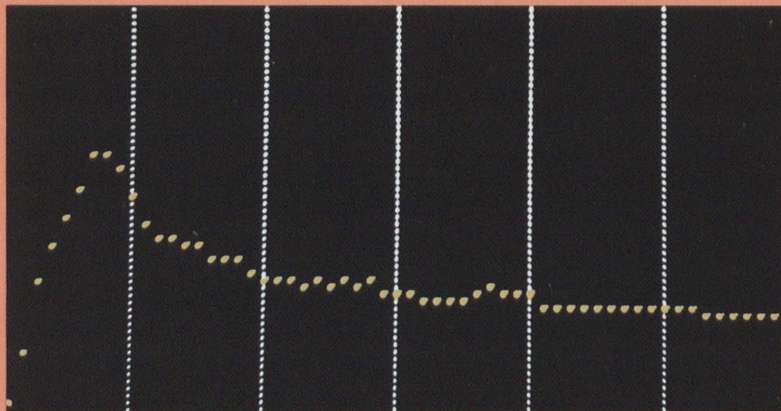
Normal Transplant Renogram¹



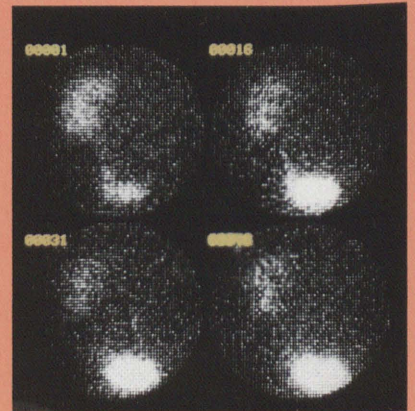
NEPHROFLOW, Iodohippurate Sodium I 123 Injection, 1.0 mCi



High Count Rate
High Detector Efficiency



Iodohippurate Sodium I 131 Injection, 0.15 mCi



Low Count Rate
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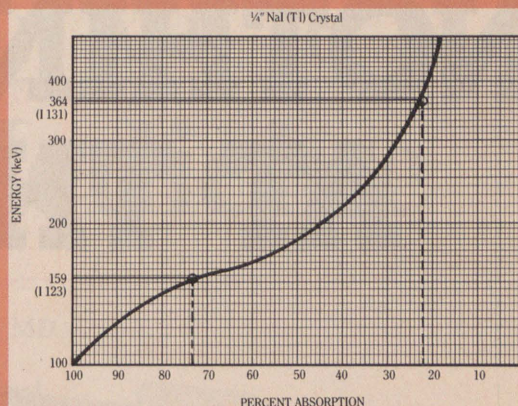
NEPHROFLOW provides better counting statistics and higher data density.

To Order call (800) MEDI-123

¹Reference: Data on file, Medi-Physics, Inc., Richmond, CA

Nephroflow™

- Particularly useful in obstructed patients
- Slight advantage in photon intensity
- Major advantage in 1/4 inch crystal efficiency
- Imaging should be performed as close to calibration time as possible



Comparison of I 123 and I 131

Characteristic	I 123	I 131
Mode of Decay	Electron capture	Beta ⁻
Half-Life	13.2 hours	193 hours
Principal Gamma Energy (keV)	159	364
Intensity	84%	82%
Half-Value layer, lead, cm	0.037	0.24
Detection Efficiency: 1/4" NaI (Tl) crystal	74.5%	22.5%



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NEPHROFLOW™ IODOHIPPURATE SODIUM I 123 INJECTION

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

DESCRIPTION: Iodohippurate Sodium I 123 Injection is supplied as a sterile, apyrogenic, aqueous, isotonic saline solution for intravenous administration. Each milliliter of the solution contains 37 megabecquerels (1 millicurie) Iodohippurate Sodium I 123 at calibration time, 2 milligrams Iodohippurate Sodium, 1 percent benzyl alcohol (as a preservative), 9 milligrams per milliliter sodium chloride for isotonicity, and up to 0.1 percent ethanol. The solution is buffered with sodium phosphate and the pH is adjusted to 7.0-8.5 with sodium hydroxide or hydrochloric acid. 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, Na 24, Te 121). The radionuclidic composition at expiration time is not less than 85.5 percent I 123, not more than 12.9 percent I 124, and not more than 1.6 percent all others.

INDICATIONS AND USAGE: Iodohippurate Sodium I 123 Injection is a diagnostic aid in determining renal function, renal blood flow, and urinary tract obstruction, and as a renal imaging agent.

CONTRAINDICATIONS: None Known.

WARNINGS: None Known.

PRECAUTIONS:

General

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 (24 hours after calibration time) stated on the label.

The prescribed Iodohippurate Sodium 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 as possible) in order to minimize the fraction of radiation exposure due to relative increase of radionuclidic contaminants with time.

Iodohippurate Sodium I 123, as well as other radioactive drugs, must be handled with care and 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.

Carcinogenesis, Mutagenesis, Impairment of Fertility

No long term animal studies have been performed to evaluate carcinogenic potential, mutagenicity potential, or whether Iodohippurate Sodium I 123 affects fertility in males or females.

Pregnancy Category C

Animal reproduction studies have not been conducted with this drug. It is also not known whether Iodohippurate Sodium I 123 can cause fetal harm when administered to a pregnant woman, or can affect reproductive capacity. Iodohippurate Sodium I 123 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-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: As with all organic iodine 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 123.

HOW SUPPLIED: Iodohippurate Sodium I 123 Injection is supplied in nominal 3.5 ml vials as a sterile, nonpyrogenic, aqueous, isotonic saline solution for intravenous injection. Each milliliter contains 37 megabecquerels (1 millicurie) of Iodohippurate Sodium I 123 at calibration time.

It is available, in individual vials, in the following sizes:

MPI Catalog No. 2041; 1 ml and 37 megabecquerels (1 mCi) per vial
MPI Catalog No. 2042; 2 ml and 74 megabecquerels (2 mCi) per vial

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

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DOSE DESIRED: 1000MC
DISPENSE VOLUME: 1.09 ml
THE TIME IS NOW:
ADMINISTRATION AT: 1516 11/19/84
MEASURED AT ADMINISTRATION
CHECK DOSE NOT DONE
INVENTORY REMAINING FOR: TC99m DTPA
ACTIVITY: 19220uCi VOLUME: 1.41 ml
TIME OF ADMINISTRATION:
SIGNATURE:

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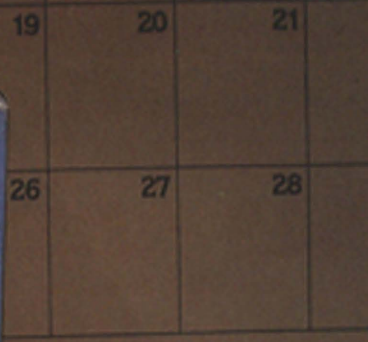


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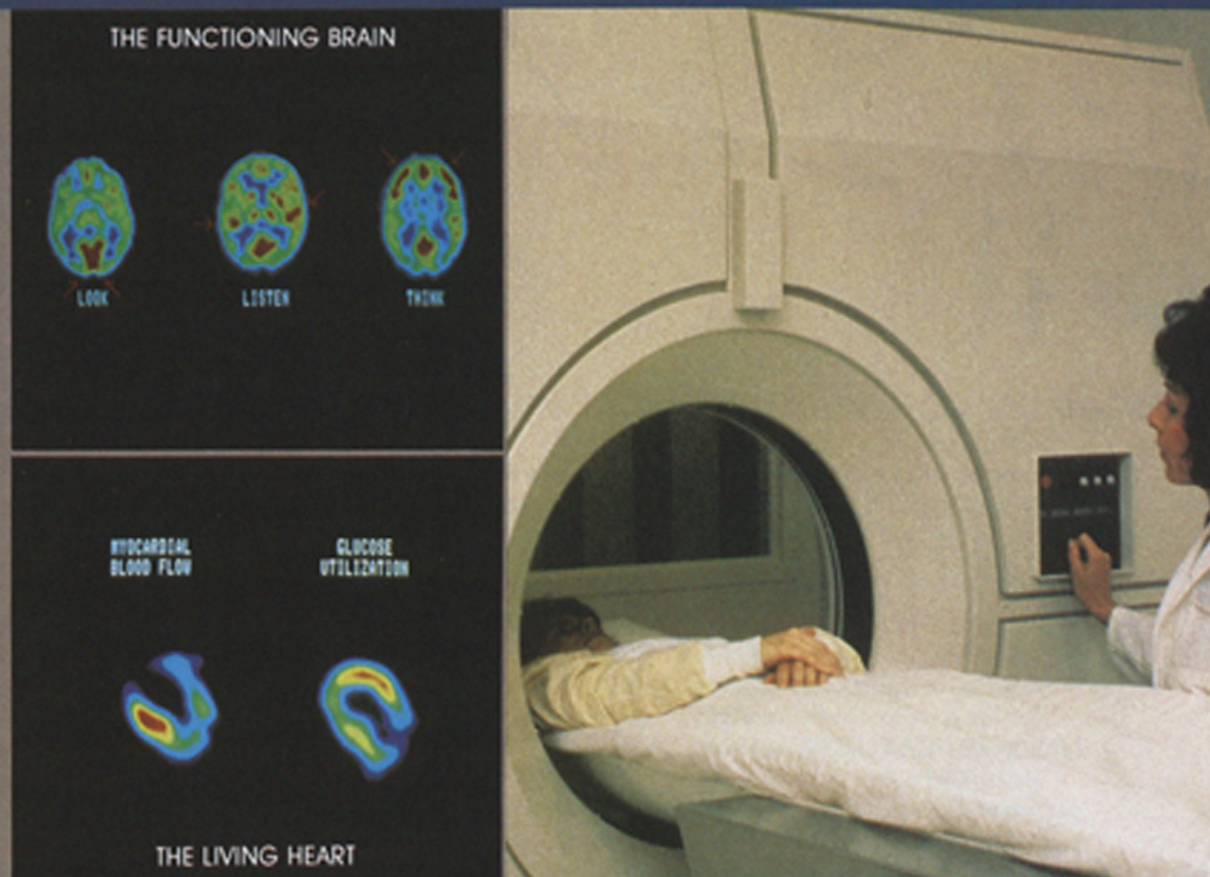
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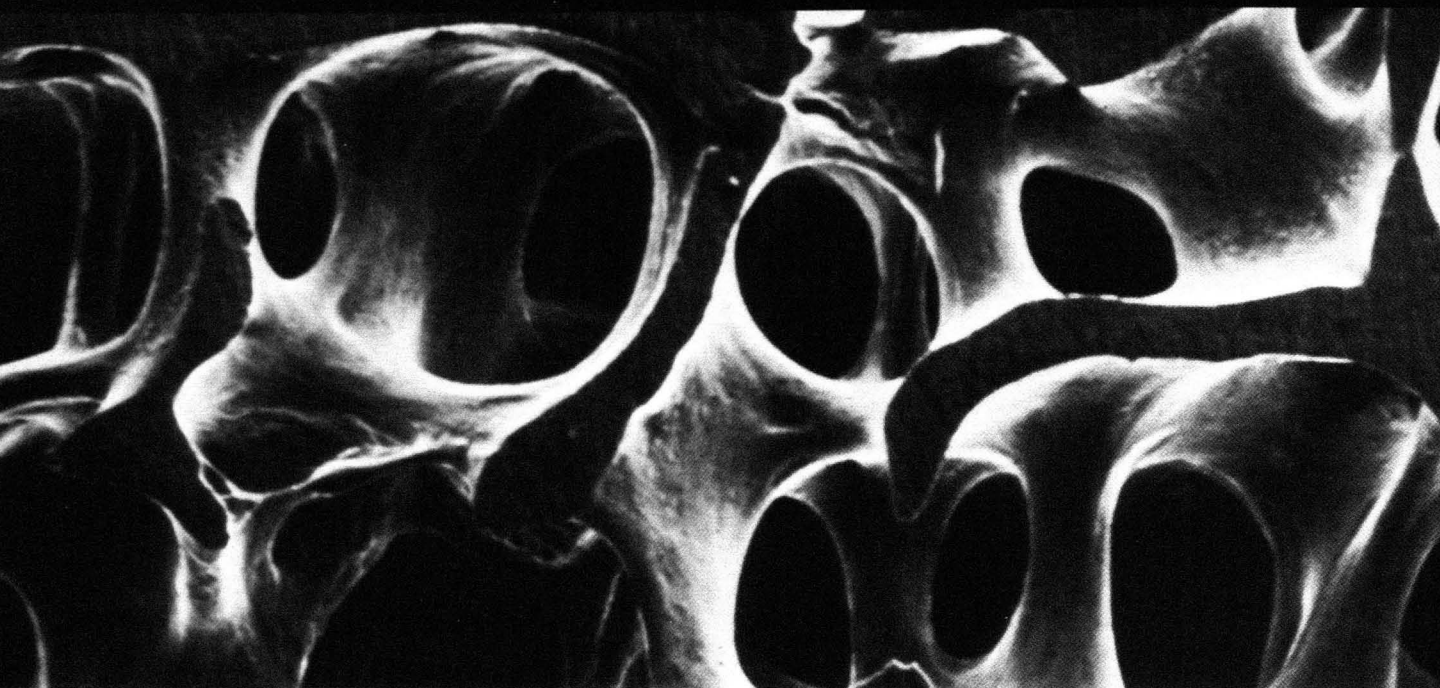


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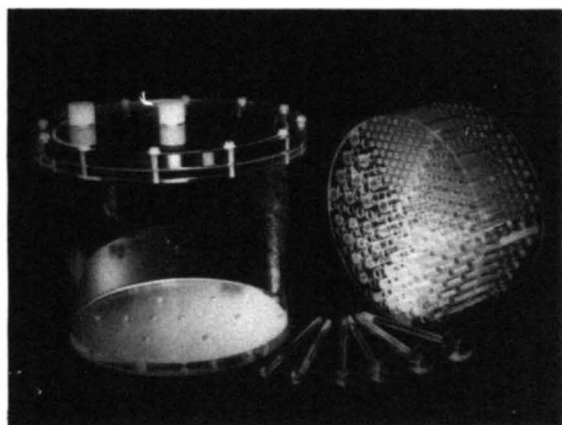
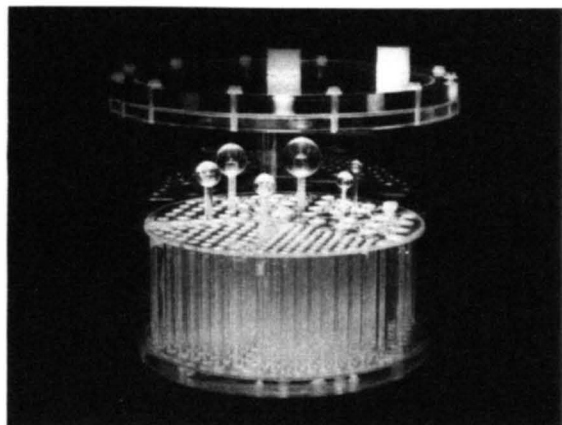
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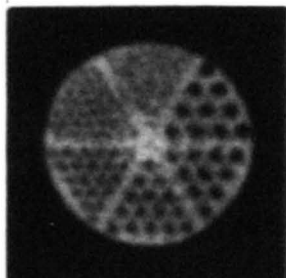
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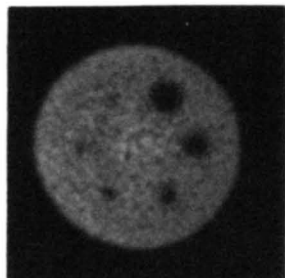
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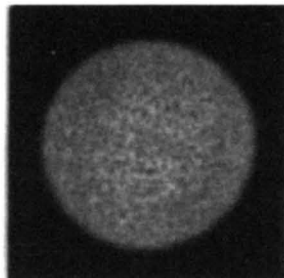
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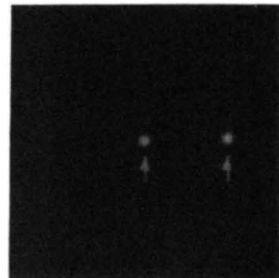
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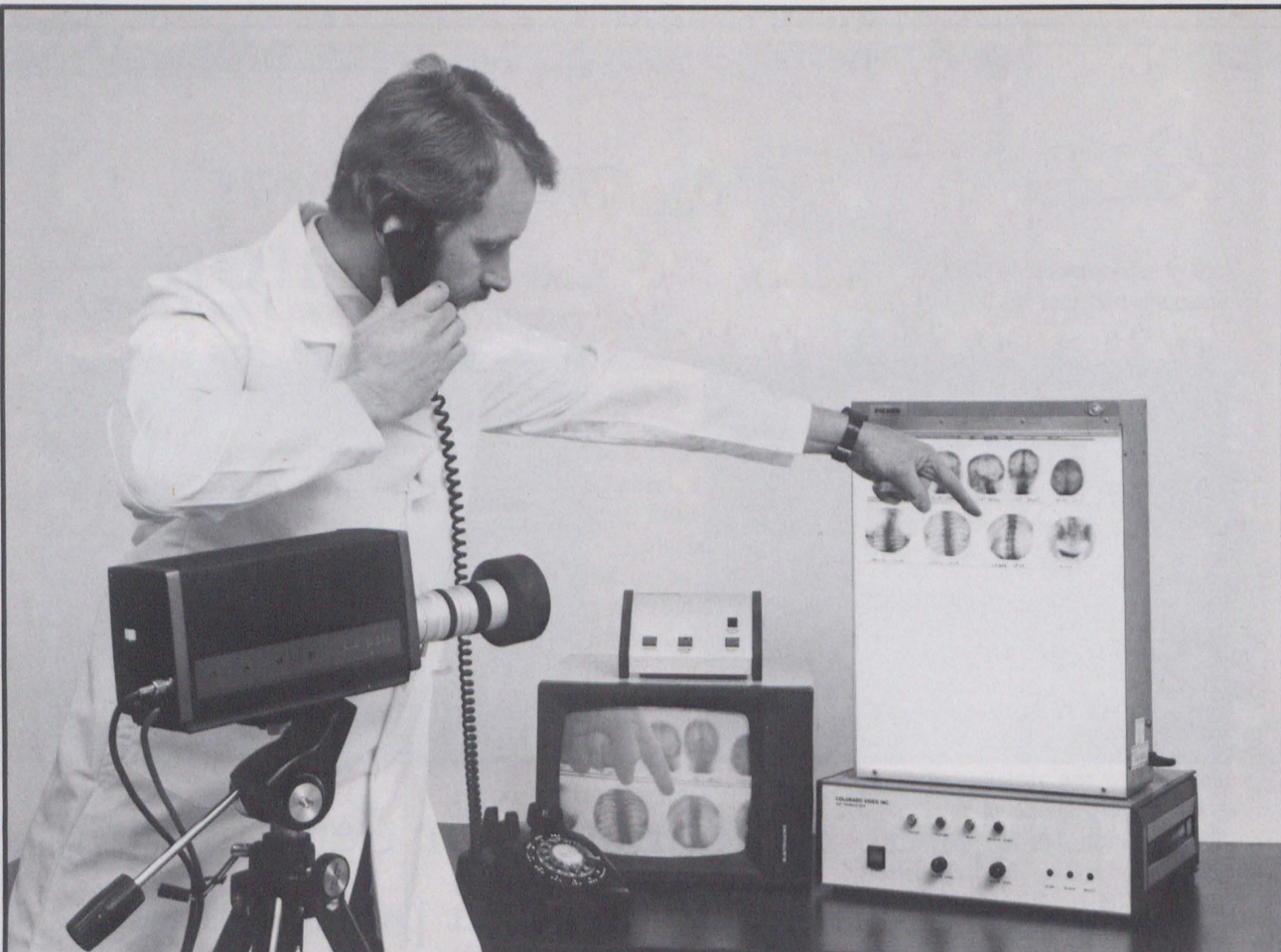
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The Standard 10"-12" Mobile Gamma Camera— Obsolescence and Waste.

Until recently, the only way to do bedside nuclear studies was with the so-called "standard" field-of-view (10"-12") mobile camera. For most other studies in the department, a stationary, large field-of-view camera (15"-16") was needed. To do both mobile and stationary studies, two cameras are required. This is wasteful. A solution to this cost ineffective approach is the large field-of-view mobile camera (15¾") Apex 409M, recently introduced by Elscint.

The first gamma cameras were introduced in the 1960's to an enthusiastic marketplace. Equipped with 10"-12" detectors, they were billed as general purpose for the study of many organs, large and small.

But as often occurs with the introduction of new technologies, their many shortcomings soon became evident. Their 10"-12" field-of-view detectors were either too small or too large for most organ imaging. (The notable exception, then and now, was the adult brain.)

Specialized collimators were soon added: diverging for large organ studies (i.e., lungs, lungs with heart, liver and spleen, etc.); and converging for smaller organs. Even at their best, these techniques forced unwelcome compromises in spatial resolution and distortion.

Large field-of-view cameras with 15"-16" detectors were introduced a decade later, gradually replacing the so-called "standard" cameras. (Actually the term "standard" field-of-view came into use at that time to distinguish between the larger and smaller sized cameras.)

Today, most Nuclear Medicine Departments use a large field-of-view stationary camera as their versatile, general purpose gamma camera, and large field-of-view *mobile* gamma cameras should be used for the same reasons: They have more applications, provide more and better information, and act as a backup to the stationary camera.

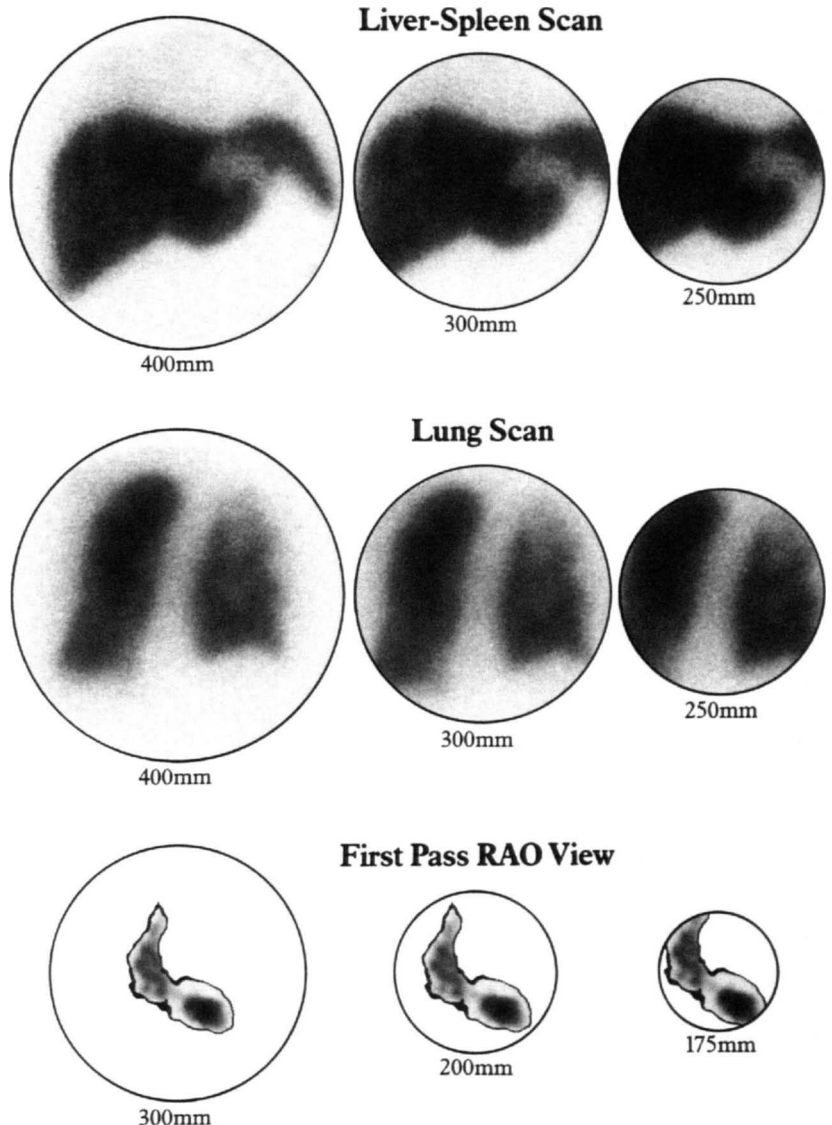
Nuclear Cardiology— Different Problems, Different Solution

The standard field-of-view is not only too small for most organ studies; it is too large for most cardiology studies. A much better size is the 8" detector available only in the Elscint Apex 200 Series of cameras. It is the ideal size for Nuclear Cardiology... not too large, and not too small. Its useful area is 30% larger than the other "cardiology" Anger type mobile camera that has recently been introduced.

Apex 200 Cameras come with a powerful on-board computer for Multigated, First Pass, Thallium and other studies. They are also ideal for Pediatric Nuclear Medicine.

Summary

Whatever the application, a "standard" field-of-view camera is not the answer. For all-purpose Nuclear Medicine, the answer is the Apex 409M



(the "standard" is too small); for Nuclear Cardiology or Pediatrics, the answer is the Apex 200 series (the "standard" is too large).

For more information regarding the all-purpose Apex 409M gamma camera from Elscint, please turn the page.



**The Old Standard
for Mobile Gamma Cameras.
250-300mm**

Advantage Elscint

The big difference with the Apex 409M is the obvious one, but not the only one. With roughly the same outside dimensions as the "standard" mobile models these cameras offer you much more. Benefits like...

- A built-in computer system, complete with Winchester disk and 512² acquisition matrix for bedside image acquisition, storage, manipulation, and processing.
- High countrate capability of up to 500,000 cps.
- Off-center zoom.
- Perfect linearity $\leq .7\text{mm}$.
- Triplex uniformity just 2% differential and 3% integral.
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- Three forward and three reverse motorized speeds for ease of travel.

All of these, and more, for about the same price as "standard" models.

Cameras shown are approximately half-size.

There are times when a product's benefits are pretty obvious and this is one of those times. The product is called the Apex 409M and you can only get it from Elscint.

Never before could you perform 400mm large field-of-view studies at the patient's bedside, because never before could you buy a *mobile* large field-of-view gamma camera.

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In the past, the only way to perform bedside studies of organs larger than the brain was by using diverging collimators with a 250-300mm "standard"

field-of-view camera: a method riddled with shortcomings. But now, thanks to today's technology, Elscint has developed a camera so advanced, it offers you both stationary camera performance *and* mobile camera convenience. No other camera can make this claim.

The Apex 409M from Elscint. The first *mobile* nuclear camera with a 400mm large field-of-view. It should replace "standard" mobile cameras for good, just as "standard" stationary cameras were replaced years ago by LFOV's.

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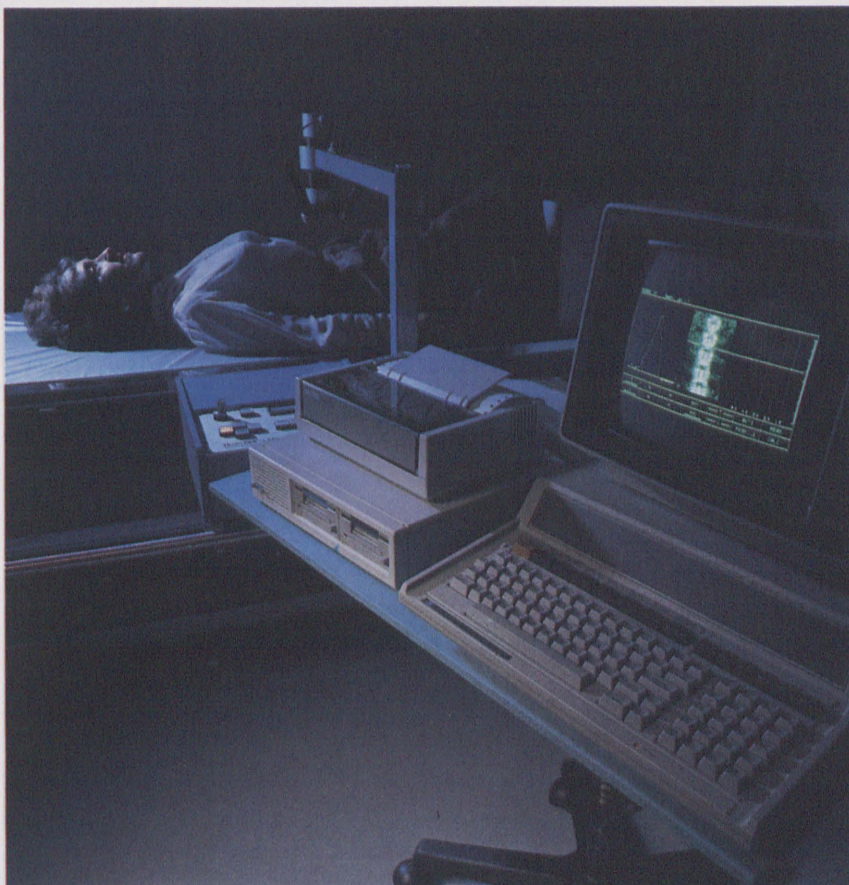
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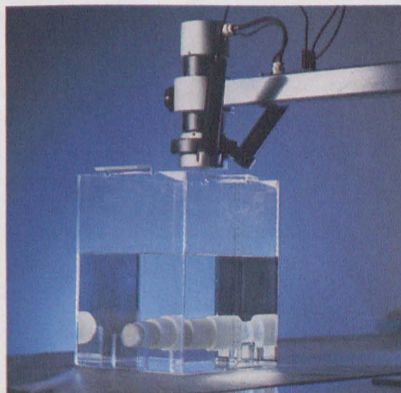
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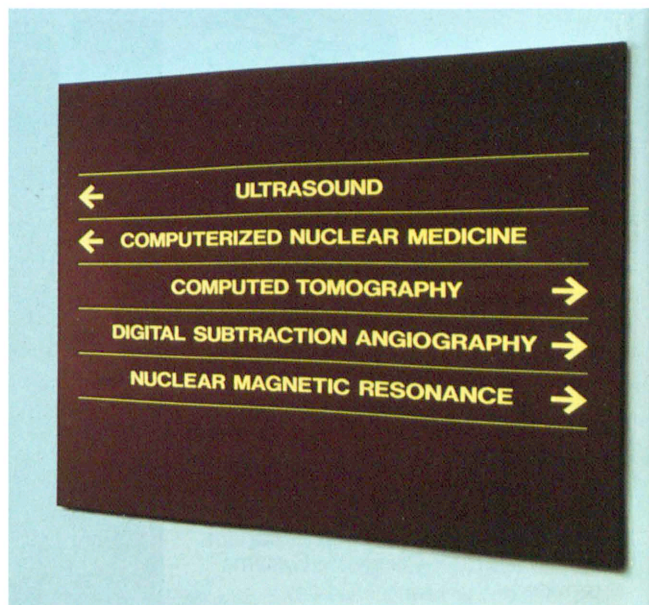
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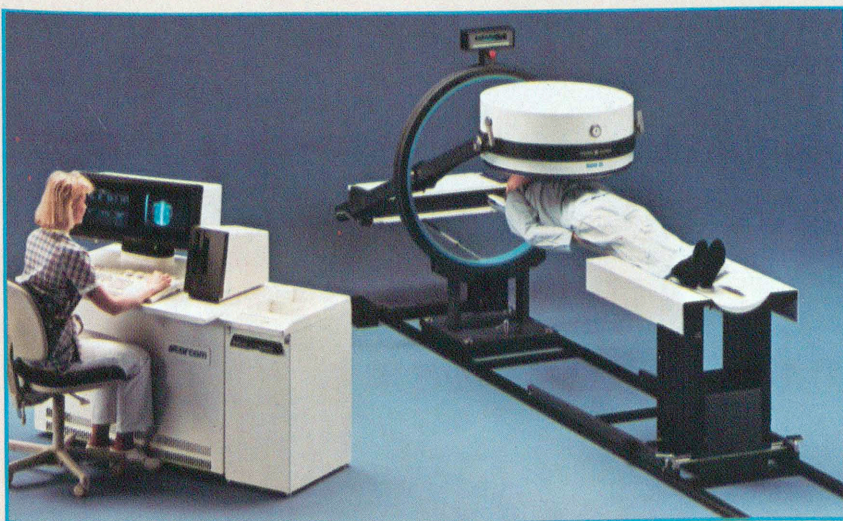
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Using advanced digital technology, General Electric has engineered a totally compact, *integrated nuclear diagnostic system* that gives you exceptional imaging capability and enhanced departmental productivity . . . in a single system. With the Starcam™ system, *all* acquisition functions are computer controlled. That means peak camera performance is maintained at all times, providing consistently high quality images. Our large image monitor offers acquisition and display in matrices up to 512², making images easier to view and giving you the best possible resolution.

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The Starcam system is the technological evolution of our Star® system data processor and MaxiCamera® line. It's entirely compatible with existing Star systems through floppy data transfer and the future Starlink™ network. Starcam's modular digital design makes it adaptable to technological enhancements; a feature that lets you broaden the scope of your imaging capabilities as innovations in technology are made.

Starcam



Starcam is available in 300, 400 and 500 mm configurations and as a fully mobile unit complete with a versatile 300 mm detector. And General Electric's field proven Autotune® detectors, integrated to the Starcam system, automatically adjust photo multiplier tubes "on-the-fly," stabilizing camera performance and reducing system downtime and maintenance caused by PM tube drifting.

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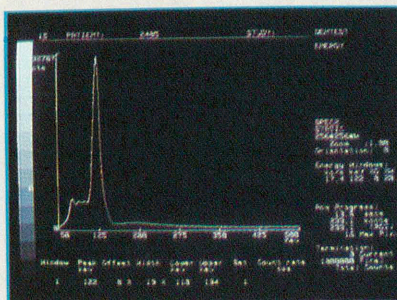


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Performance you can count on

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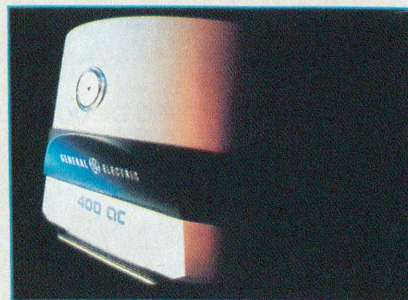
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Starcam is a breakthrough in imaging technology. It provides today's nuclear departments with procedural capabilities unsurpassed by any other system. It redefines the operation of your department, eliminating many time-consuming functions without compromising the diagnostic value of the information obtained. The result is a more effective, efficient imaging department; one that optimizes diagnostic capability without jeopardizing the economic well-being of your health care institution.

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The only MAA product indicated for use in isotopic venography

MACROTEC

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Diagnostic — For Intravenous Use

DESCRIPTION

Macrotec is a sterile, nonpyrogenic, lyophilized preparation of albumin aggregated. Each 5 ml vial of Macrotec contains 1.5 mg of Albumin Aggregated, 10.0 mg Albumin Human, 0.07 mg (minimum) stannous chloride ($\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$) and 0.19 mg total tin, maximum (as stannous chloride, $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$), 1.8 mg of sodium chloride with trace amounts of sodium acetate, acetic acid and hydrochloric acid. Macrotec contains no preservatives. The pH of the reconstituted product is between 3.8 and 8.0.

The aggregated particles are formed by denaturation of Albumin Human in a heating and precipitation process. Each vial contains 1-8 million particles, 90% of which are between 10 and 90 microns in size. The average size is 20 to 40 microns; no particles are greater than 150 microns.

Reconstitution of Macrotec with sterile sodium pertechnetate Tc 99m forms an aqueous suspension of Technetium Tc 99m Albumin Aggregated for diagnostic use by intravenous injection. No less than 90% of the pertechnetate Tc 99m added to the reaction vial is bound to the aggregates at preparation time and remains bound throughout the 6-hour lifetime of the suspension.

INDICATIONS AND USAGE

Lung Imaging

Macrotec (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. It is useful in the early detection of pulmonary emboli and in the evaluation of the status of the pulmonary circulation in such conditions as pulmonary neoplasm, pulmonary tuberculosis and emphysema.

Isotopic Venography

Macrotec is also indicated for use in isotopic venography as an adjunct in the screening, diagnosis and management of deep vein thrombosis in the lower extremities.

Combined isotopic venography of the lower extremities and the pulmonary vasculature may be performed.

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

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

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 kept available for immediate use.

The intravenous administration of any particulate material 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 Macrotec (Technetium Tc 99m Albumin Aggregated Kit) are sterile and non-pyrogenic. It is essential to follow directions carefully and adhere to strict aseptic procedures during preparation.

Contents of the vial 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 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.

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 formulation.

Technetium Tc 99m Albumin Aggregated Injection is a physically unstable suspension 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.

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 other radioactive material, care should be taken to minimize radiation exposure to patients consistent with proper patient management, and to minimize radiation exposure to clinical personnel.

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 the right-to-left shunting, in neonates and in severe pulmonary disease.

ADVERSE REACTIONS

Although adverse reactions specifically attributable to the Technetium Tc 99m Albumin Aggregated Injection 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.

HOW SUPPLIED

Macrotec (Technetium Tc 99m Albumin Aggregated) is supplied as a kit containing 10 reaction vials (5 mL size).

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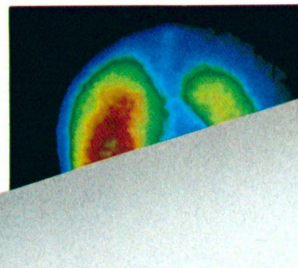
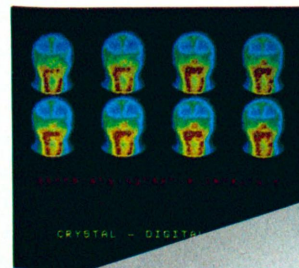
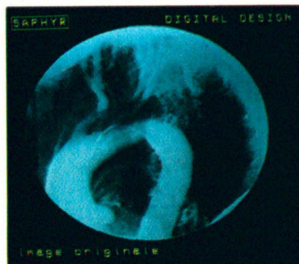
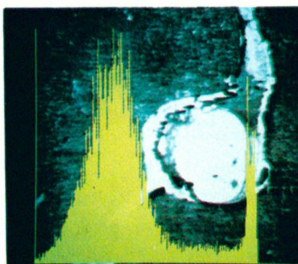
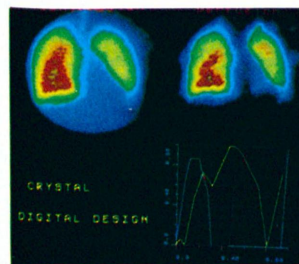
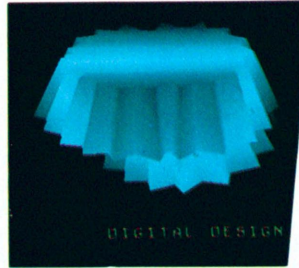
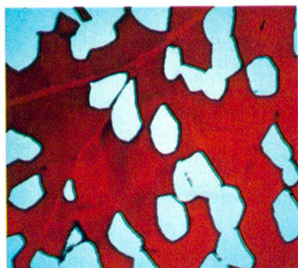
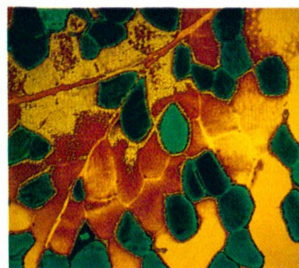
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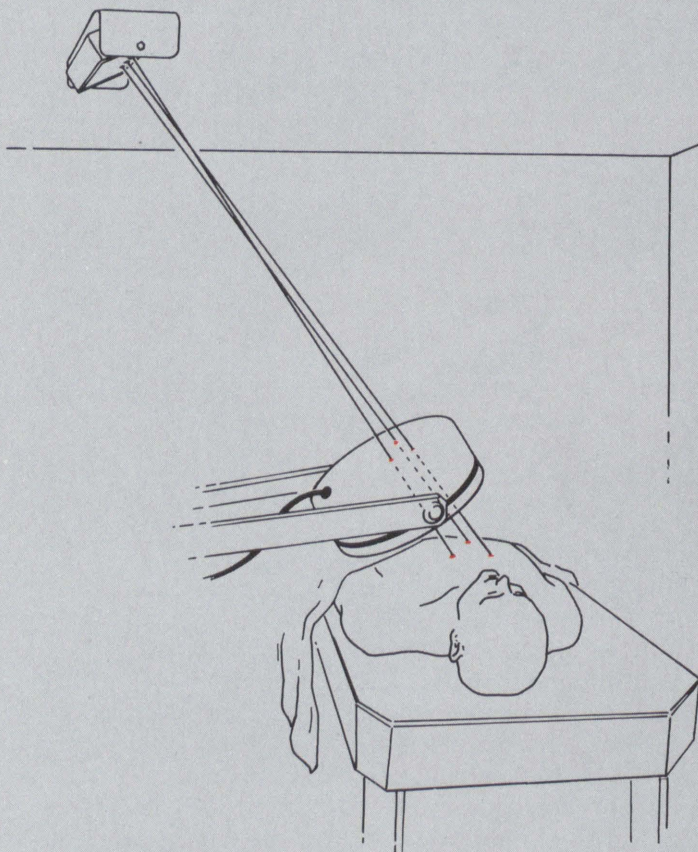


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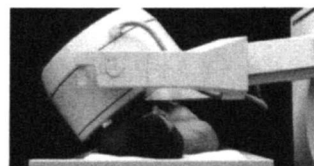
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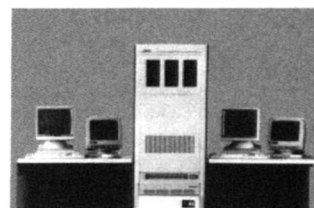
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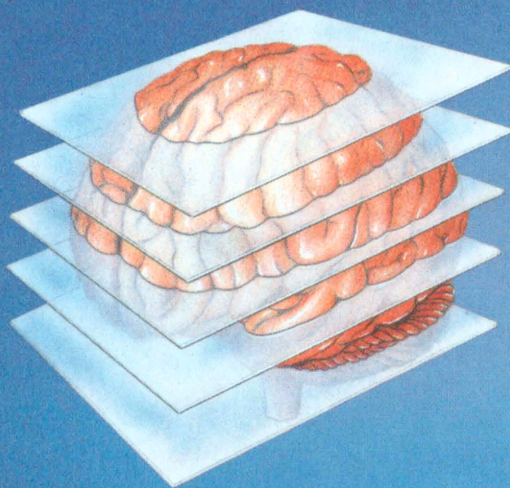
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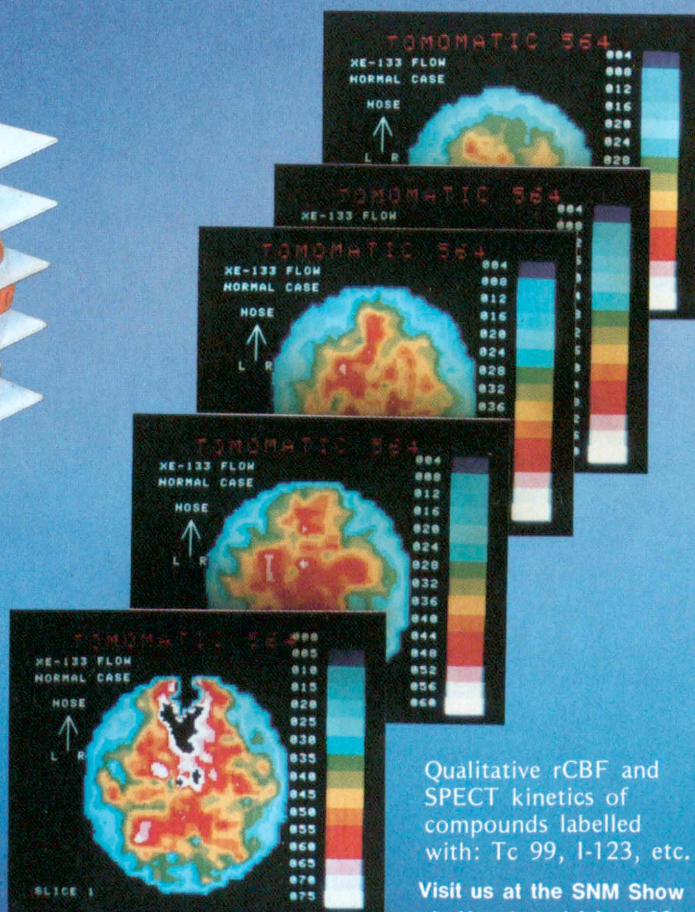
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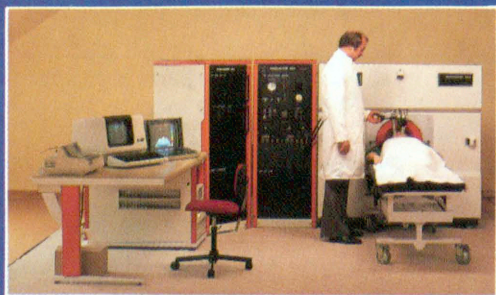
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2. Leave a 2-in. margin on all sides of typewritten pages.
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1. Burton GH, Vernon P, Seed WA: An automated quantitative analysis of ventilation-perfusion lung scintigrams. *J Nucl Med* 25:564-570, 1984
2. Freeman LM, Weissmann HS: *Nuclear Medicine Annual*, New York, Raven Press, 1980, pp 224-225
3. Odstrchel G, Hertl W, Ward FB, et al: New concepts for the assay of unbound thyroxine (FT₄) and thyroxine binding globulin (TBG). In *Radioimmunoassay and Related Procedures in Medicine*, vol. 2. Vienna, IAEA, 1978, pp 369-378
4. Clouter RJ, Edwards CL, Snyder WS, eds: *Medical Radionuclides: Radiation Dose and Effects*, AEC Symposium Series 20, CONF-601212. Oak Ridge, TN, 1970
5. Dannals RF: The preparation and characterization of nitrogen-sulfur donor ligands and their technetium complexes. PhD Thesis, Johns Hopkins University, Baltimore, MD, 1981, pp 98-205
6. Snyder WS, Ford MR: A dosimetric study for the administrations of Neohydrin labeled with ²⁰³Hg and ¹⁹⁷Hg. In *Health Physics Division Annual Progress Report*, Oak Ridge, TN, ORNL 4168, July 31, 1967, pp 267-273
7. Brown HS, Gray CT: New traces in old spaces. *J Nucl Med*: in press.

Numbered references to personal communications, unpublished data, manuscripts in preparation, or manuscripts submitted for publication are not acceptable.

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PRE-CALIBRATION RECORD

IODINE 123 15 09:46
27 MAR 85
DOSE: 2.380 mC

Time	Activity (mCi)	Activity (mCi)
10:00	0.41 m1	5.726 mC/m1
10:30	0.42 m1	5.578 mC/m1
11:00	0.43 m1	5.434 mC/m1
11:30	0.44 m1	5.293 mC/m1
12:00	0.46 m1	5.156 mC/m1
12:30	0.47 m1	5.023 mC/m1
13:00	0.48 m1	4.893 mC/m1
13:30	0.49 m1	4.766 mC/m1
14:00	0.51 m1	4.643 mC/m1
14:30	0.52 m1	4.523 mC/m1
15:00	0.54 m1	4.406 mC/m1
15:30	0.55 m1	4.292 mC/m1
16:00	0.56 m1	4.181 mC/m1
16:30	0.58 m1	4.072 mC/m1
17:00	0.60 m1	3.967 mC/m1
17:30	0.61 m1	3.864 mC/m1
18:00	0.63 m1	3.764 mC/m1
18:30	0.64 m1	3.667 mC/m1
19:00	0.66 m1	3.572 mC/m1
19:30	0.68 m1	3.480 mC/m1
20:00	0.70 m1	3.391 mC/m1
20:30	0.72 m1	3.307 mC/m1
21:00	0.74 m1	3.221 mC/m1
21:30	0.75 m1	3.131 mC/m1
22:00	0.77 m1	3.047 mC/m1
22:30	0.80 m1	2.961 mC/m1
23:00	0.82 m1	2.872 mC/m1
23:30	0.84 m1	2.781 mC/m1
00:00	0.86 m1	2.688 mC/m1
00:30	0.88 m1	2.593 mC/m1
01:00	0.91 m1	2.496 mC/m1
01:30	0.93 m1	2.397 mC/m1

RADIONUCLIDE DOSE COMPUTATION AND MEASUREMENT RECORD

PATIENT'S NAME: Richard Smith
I.D. 9884271
STUDIES: Brain Scan
NUCLIDE: TECHNETIUM 99M
FORM: _____ SAMPLE NO. 01
LOT NO. _____ KIT NO. _____
DATE: 27 MAR 85 14:00
CONCENTRATION: 16.92 mC/m1
DOSE DESIRED: 15.00 mC
VOLUME REQUIRED: 0.88 m1
ACTIVITY MEAS'D: 15.10 mC
M099 ACT: 2.50 μC
STOCK: 10.00 m1
TIME OF ADMINISTRATION: 14:05 AM PM
SIGNATURE(S): Karin James

RADIOCHEMICAL PURITY ANALYSIS AND QC CHROMATOGRAPHIC RECORD

PHARMACEUTICAL: DTPA
ABSORBENT: Chromatography paper
SOLVENT: Acetone
NUCLIDE: TECHNETIUM 99M
FORM: _____ SAMPLE NO. 02
LOT NO. _____ KIT NO. _____
DATE: 27 MAR 85 14:03
SAMPLE NUMBER
19 RATIO
0.981
18 RATIO
0.018

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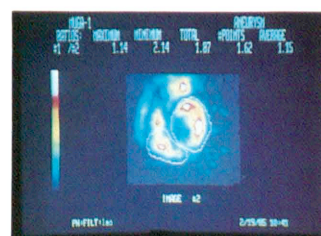
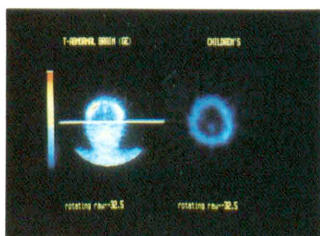
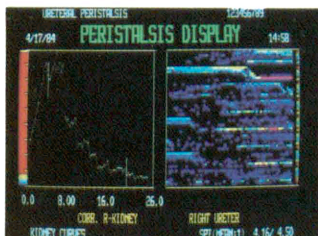


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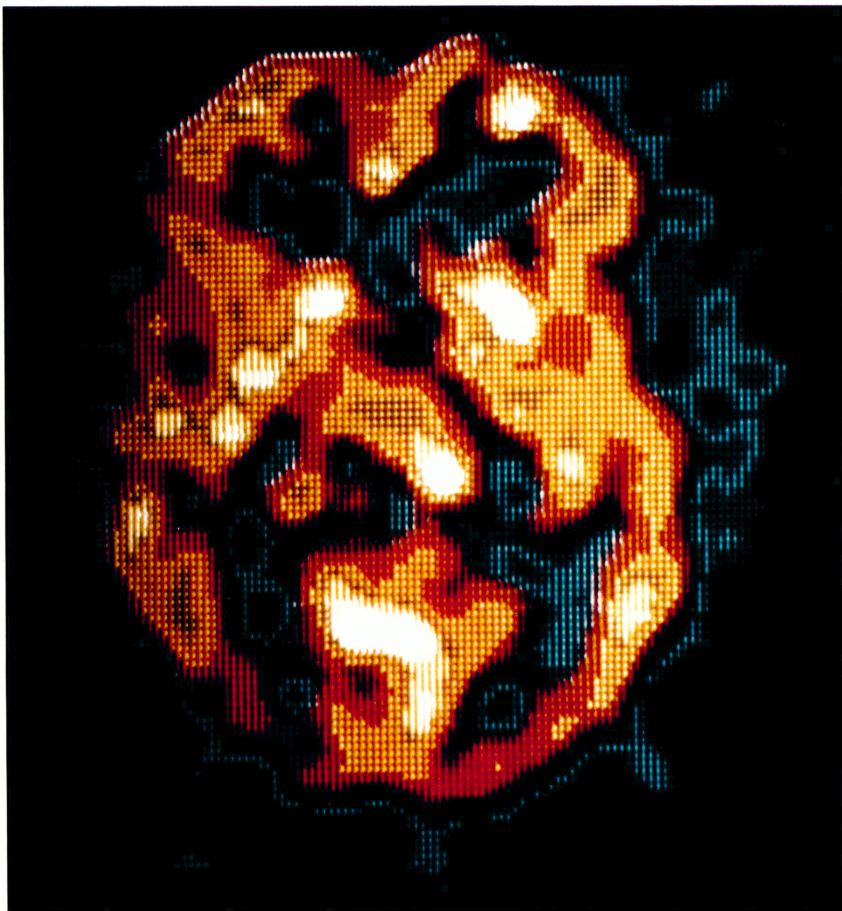
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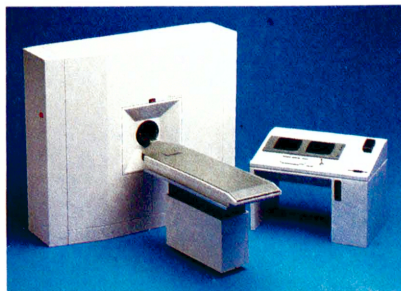


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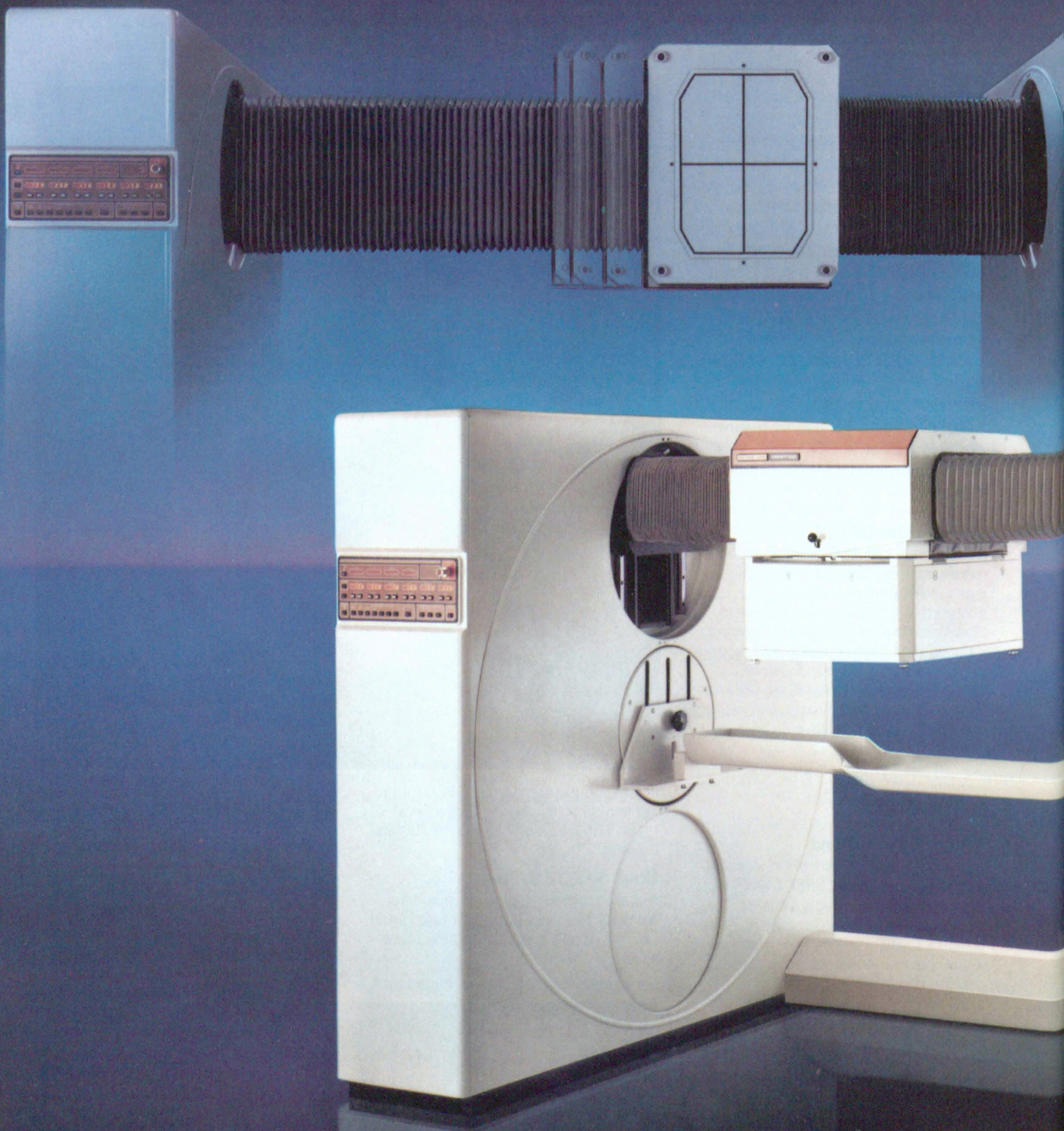
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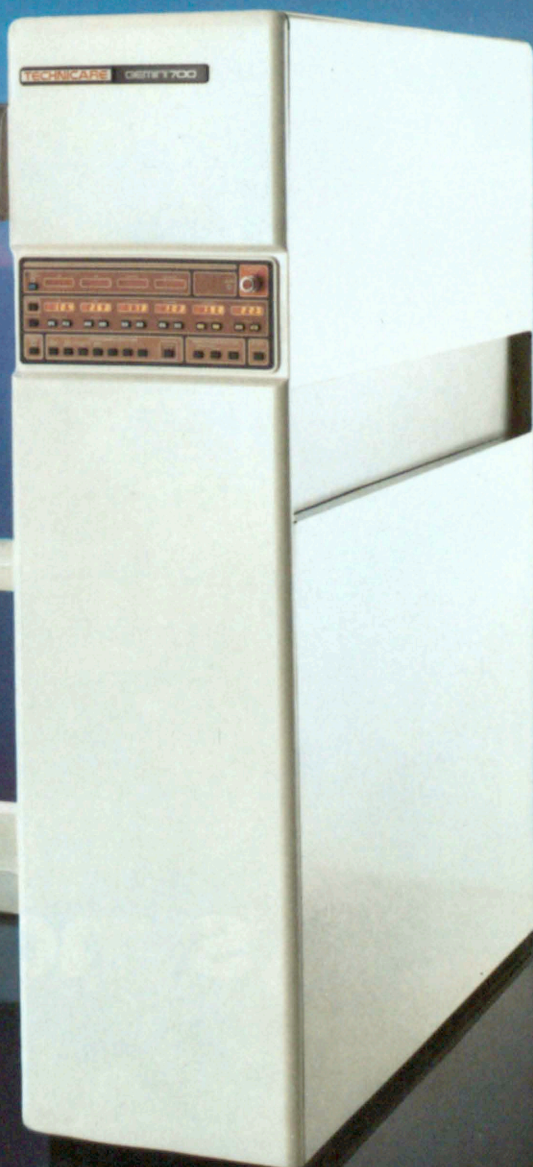


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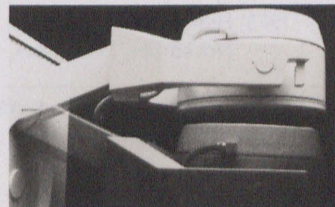
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11	1970 May, July, August, September, October, November, December.	19	1978 All months available.
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13	1972 February, March, April, May, June,* August, September, October, November.	21	1980 March, June,* July, August, October, November, December.
14	1973 February, April, May, July, August, September, October, November.	22	1981 January, February, March, May, June,* July, August, September, November, December.
15	1974 All months available.	23	1982 February, March, April, May,* July-December.
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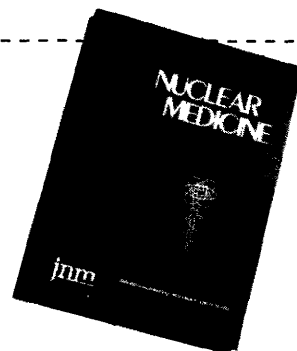
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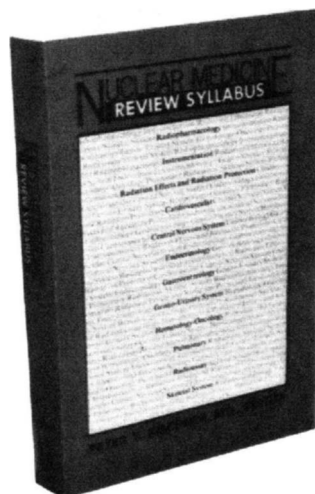
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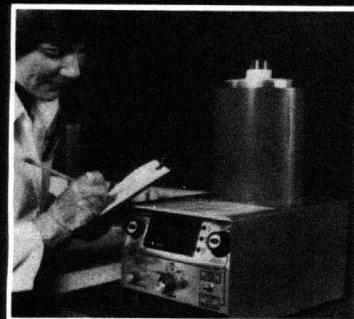
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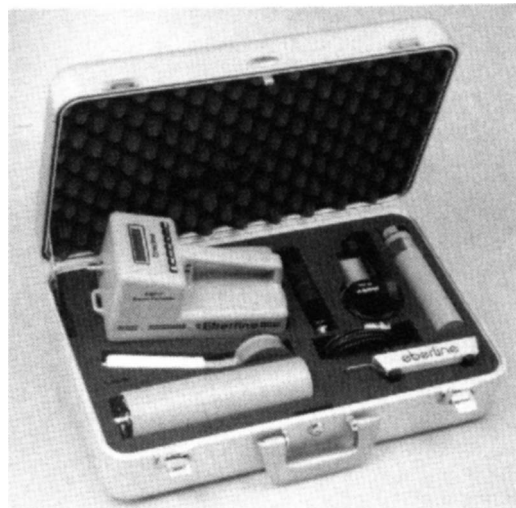
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For more information on the 32nd Annual Meeting consult the Calendar in this issue or write: Registrar, Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016.

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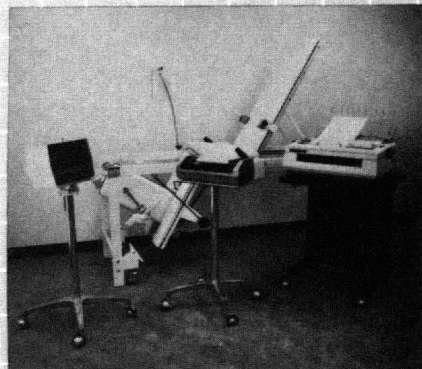
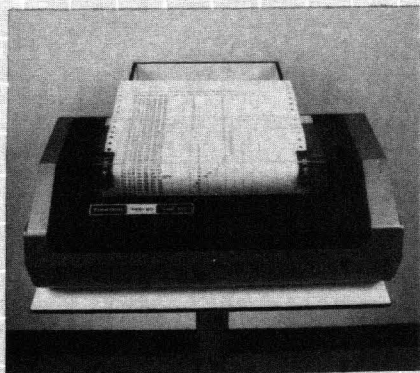
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Chromatography of Technetium-99m Radiopharmaceuticals

—A Practical Guide

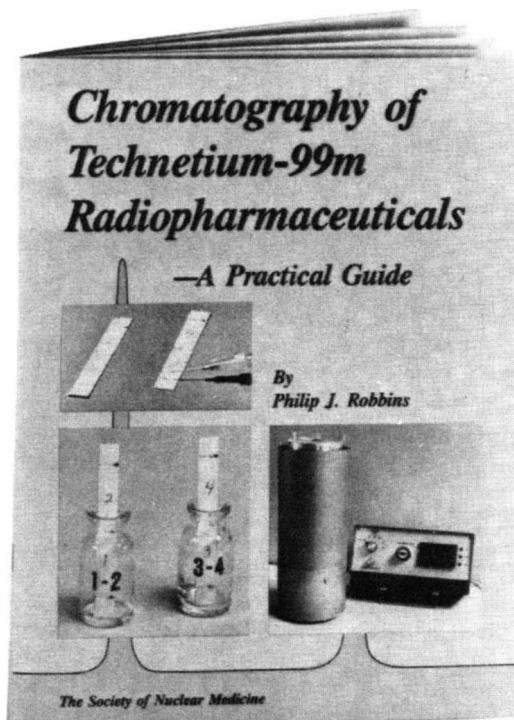
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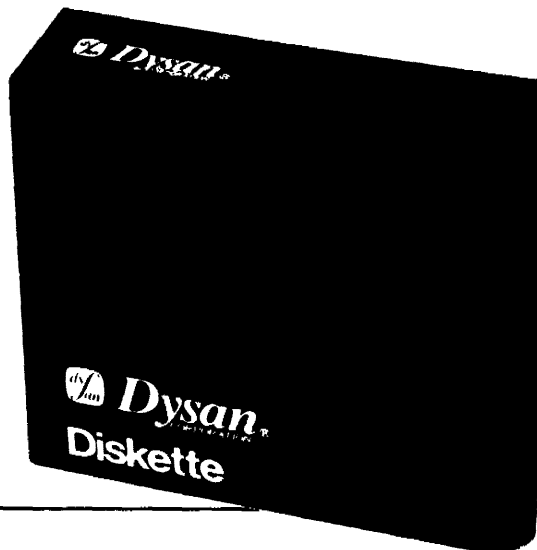
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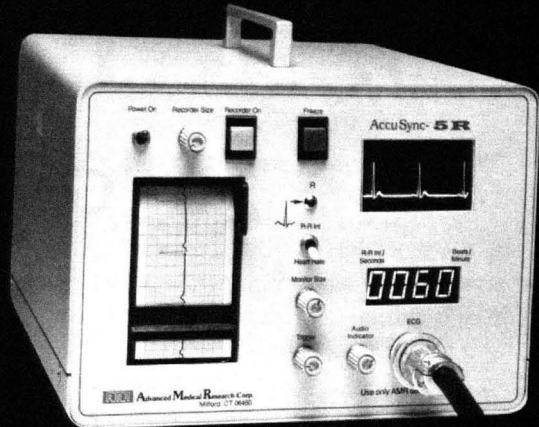
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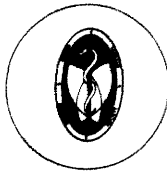


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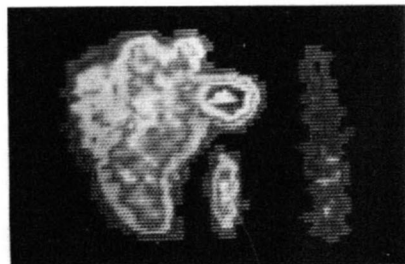
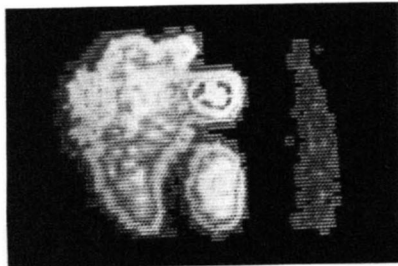
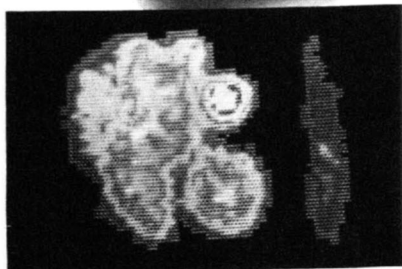
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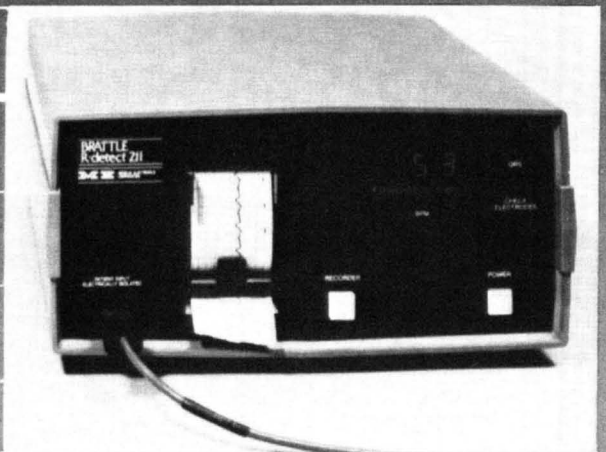
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THE DEPARTMENT OF RADIOLOGICAL SCIENCES of the University of California, Irvine is seeking a physician with training in nuclear medicine and diagnostic radiology. This position is at the level of Assistant Professor-in-Residence and is available July 1985. The professional staff includes radiopharmacists and physicists offering broad opportunities for clinical and research work. Interested candidates should forward their curriculum vitae, approximate date of availability and any other pertinent information relating to their qualifications to: Richard M. Friedenberg, MD, Professor and Chairman, Department of Radiological Sciences, University of California, Irvine Medical Center, 101 City Drive South, Orange, CA 92668. The University of California, Irvine is an Equal Opportunity Employer/Affirmative Action Employer.

NUCLEAR MEDICINE PHYSICIAN. Staff position available in the Section of Nuclear Medicine, Health Sciences Centre. This hospital is a tertiary care center performing a full range of imaging and nonimaging studies. Applicants should be certified by the Royal College of Physicians and Surgeons of Canada or eligible to take the certification examinations. Opportunities for research and academic title are available. This position is open to both men and women. Canadian citizens, landed immigrants, and others eligible for employment in Canada at the time

of application are especially encouraged to apply. Send resume or call: Dr. I. David Greenberg, Section of Nuclear Medicine, Health Sciences Centre, 700 William Ave., Winnipeg, Manitoba CANADA R3E 0Z3; (204)787-3375. EOE.

NUCLEAR MEDICINE PHYSICIAN to direct clinical service at Harborview Medical Center. Board certified/eligible in radiology and nuclear medicine. Assistant Professor level, acting status with annual renewal. Experience in cardiovascular nuclear medicine essential. Interest in trauma and acute care desirable. Start July 1. Contact: Director, Division of Nuclear Medicine, University of Washington, University Hospital RC-70, Seattle, WA 98195. The University of Washington is an Equal Opportunity Employer.

NUCLEAR MEDICINE PHYSICIAN at the Assistant Professor level. Applicant should be board certified or eligible in nuclear medicine (ABNM) with interest in cardiovascular nuclear medicine. Excellent clinical and research opportunities are available (positron emission tomography, single photon emission tomography, monoclonal antibody imaging, and nuclear magnetic resonance). Strong interest in research and teaching is highly desirable. Send curriculum vitae to: A. Alavi, MD, Chief, Division of Nuclear Medicine, Department of Radiology, Hospital of the University of Pennsylvania, 3400 Spruce St., Philadelphia, PA 19104. The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer. Qualified women and minority candidates are encouraged to apply.

A RAPIDLY EXPANDING OUTPATIENT diagnostic center is seeking a nuclear medicine physician with internal medicine or radiology background. Board certification desirable. Full- or part-time position available July 1, 1985. Please send curriculum vitae to: J.S. Sojin, MD, FACC, 2040 W. Wisconsin Ave., Suite 378, Milwaukee, WI 53233; (414)933-8739. EOE.

PART-TIME NUCLEAR PHYSICIAN wanted in small rural hospital. Please send CV to: Box 505, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016. EOE.

Scientist

UNIVERSITY OF CALIFORNIA, IRVINE--FACULTY POSITION. The University of California, Irvine Department of Radiological Sciences anticipates having a tenured opening for a senior (associate or full professor) faculty position in medical imaging physics. The candidate must have a PhD in physics or engineering with proven research experience and preferably administrative experience. Individuals with broad interdisciplinary research interests are encouraged to apply. Experience in nuclear imaging instrumentation, single photon emission tomography, and related algorithms is desirable. Applicants should have a distinguished academic and research reputation which includes a successful record in obtaining contract and grant support. Additional responsibilities include directing the graduate program in radiological sciences and interfacing with the clinical faculty. The level of appointment and salary is dependent upon candidate's experience and

academic achievements. Candidates should send curriculum vitae, statement of research interests, and names of five references to: Prof. Z.H. Cho, Dept. of Radiological Sciences, University of California, Irvine, CA 92717. Deadline for applications is August 1, 1985. The University of California is an Equal Opportunity/Affirmative Action Employer.

Technologist

NUCLEAR MEDICINE TECHNOLOGIST. The University of Iowa Hospitals and Clinics, a 1,100-bed tertiary care center, has an immediate opening for a staff nuclear medicine technologist. Requires college degree or equivalent combination of training and experience in nuclear medicine technology. Must be certified or eligible. Full range of in vivo procedures and active cardiovascular imaging section utilizing modern instrumentation. Opportunity for involvement in research projects is available. Responsibilities include clinical instruction in nuclear medicine technology program. Excellent career opportunity with competitive salary and comprehensive benefits package. Send resume or contact: John Bricker, Division of Nuclear Medicine, University of Iowa Hospitals and Clinics, Iowa City, IA 52242. Phone collect: (319)356-2348. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.

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Positions Wanted

Physician

BOARD CERTIFIED NM PHYSICIAN with extensive experience in nuclear cardiology seeks position in academic institution or private clinic. Internal medicine background. Reply: Box 504, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR PHYSICIAN, ABIM/ABNM cert., excellent experience desires to relocate preferably in hosp., group, or clinic private practice. No geographic preferences. Available immediately. Reply: Box 503, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE PHYSICIAN. Extensive clinical experience in all aspects of nuclear medicine and noninvasive cardiovascular imaging, as well as NMR. Innovative, hardworking, proven teacher and administrator. Seeking position in hospital, imaging center, or private group. Available immediately. Reply: Box 502, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

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Applicants should be certified in nuclear medicine by the Corporation of Physicians and Surgeons of Quebec and the Royal College of Physicians and Surgeons of Canada or be eligible to take certification exams. Special competence in cardiac nuclear medicine and SPECT is desirable. Academic title is available according to the tenure stream, beginning as a lecturer. Salary will be commensurate with experience.

Send resume or call:

Dr. J. Stern

Department of Nuclear Medicine
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3755 Cote St. Catherine Road
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Course Director: Stanley J. Goldsmith, M.D.

For further information contact: Ms. Mary Farrell-Batista—(212)650-7888.

FACULTY POSITION AVAILABLE RADIOPHARMACY

The University of New Mexico College of Pharmacy is now accepting applications for a faculty position in radiopharmacy at the Assistant Professor level. Deadline for applications is June 15, 1985. The position is a full-time tenure track, twelve-month appointment. Salary is commensurate with experience.

Academic requirements preferred for the position include a BS degree in pharmacy and a PhD in radiochemistry or a related field. Applicants should have a background in radiochemistry, nuclear pharmacy instrumentation, and health physics. The individual will participate in the teaching of undergraduate and graduate (MS) level courses in radiopharmacy and will serve as a preceptor for the ASHP accredited nuclear pharmacy residency program. The successful candidate will be required to develop and maintain an active research program.

The College of Pharmacy is housed in a modern building with well-equipped laboratories for each faculty member. Opportunities exist for collaborative, interdisciplinary research on the medical sciences campus.

The University of New Mexico is an Equal Opportunity Employer and an active participant in a state-wide Affirmative Action Program. Individuals interested in the above position should submit a curriculum vitae and names of three (3) references to:

William B. Hladik III
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DESCRIPTION: Each kit contains 10 multidose reaction vials, each containing 10 mg of medronic acid, 0.17 mg (minimum) stannous chloride (maximum stannous and stannic chloride 0.29 mg), and 2 mg ascorbic acid. The contents of the vial are sterile, pyrogen-free, lyophilized and sealed under nitrogen. The pH has been adjusted to 4–8 with hydrochloric acid and sodium hydroxide.

Administration is by intravenous injection for diagnostic use, after reconstitution with oxidant-free Sodium Pertechnetate Tc 99m Injection. The product as supplied is sterile and pyrogen-free.

The precise structure of stannous Technetium Tc 99m medronate complex is unknown at this time.

INDICATIONS AND USAGE: Technetium Tc 99m Medronate Injection may be used as a bone imaging agent to delineate areas of altered osteogenesis.

CONTRAINDICATIONS: None known.

WARNINGS: This class of compound is known to complex cations such as calcium. Particular caution should be used with patients who have, or who may be predisposed to, hypocalcemia (i.e., alkalosis).

Preliminary reports indicate impairment of brain scans using Sodium Pertechnetate Tc 99m Injection which have been preceded by a bone scan using an agent containing stannous ions. This impairment may result in false-positive or false-negative brain scans. It is recommended, where feasible, that brain scans precede bone imaging procedures. Alternately, a brain-imaging agent such as Technetium Tc 99m Pentetate Injection may be employed.

PRECAUTIONS:

General

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

Contents of the vial are intended only for use in the preparation of Technetium Tc 99m Medronate Injection and are NOT to be administered directly to the patient.

Technetium Tc 99m Medronate Injection, as well as other radioactive drugs, must be handled with care. Once Sodium Pertechnetate Tc 99m Injection is added to the vial, appropriate safety measures should be used to minimize external radiation to clinical occupational personnel. Care should also be taken to minimize radiation exposure to patients in a manner consistent with proper patient management.

To minimize radiation dose to the bladder, the patient should be encouraged to drink fluids and to void immediately before the examination and as often thereafter as possible for the next 4–6 hours.

Technetium Tc 99m Medronate Injection should be formulated within six (6) hours prior to clinical use. Optimal imaging results are obtained one to four hours after administration. The

solution should not be used if cloudy.

The vials should not be used after the expiration date shown on the 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.

Carcinogenesis, Mutagenesis, Impairment of Fertility

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

Pregnancy Category C

Animal reproductive studies have not been conducted with Technetium Tc 99m Medronate Injection. It is also not known whether Technetium Tc 99m Medronate Injection can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m Medronate Injection should be given to a pregnant woman only if clearly needed.

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

Nursing Mothers

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

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: Although adverse reactions have not been reported that are specifically attributable to the use of Technetium Tc 99m Medronate Injection, allergic dermatological manifestations (erythema and other allergic reactions) have been reported with similar agents.

HOW SUPPLIED:

Kit Contents

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| 10 | STERILE REACTION VIALS (10 cc, silver aluminum overseal), each containing, in lyophilized form and under nitrogen atmosphere, 10 mg of medronic acid, 0.17 mg (minimum) stannous chloride (maximum stannous and stannic chloride 0.29 mg), and 2 mg ascorbic acid. 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 Medronate Injection. |
| 1 | PACKAGE INSERT |

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