Heavyweight

CintiChem® Technetium 99m Generators Are The Heaviest You'll Find– On Purpose

Your Safety Is Our Concern, Too

Technetium 99m Generators from Cintichem, Inc. have 3.77 inches of lead surrounding the column for maximum radiation protection. The secondary shield adds 5/8″ more lead to make our generators safer yet. And only MPI Generators offer depleted uranium shielding in higher calibrations, designed to maximize radiation protection, convenience and reduce costs. With 20 sizes and 2 calibration days, we can meet virtually every need.

Convenience is also designed INTO every MPI Generator. It is the only generator with rapid, easy horizontal elution via a shielded elution port. The simple, one-step elution reduces work time while eliminating direct eye exposure during the elution process. Eluate sterility is assured by the 0.22 micron filter on the terminal fluid line and an autoclaved column.

And all CintiChem Technetium 99m Generators from Medi-Physics incorporate the following important advantages:

- **A NEW STERILE NEEDLE is utilized for each elution, reducing the chances of a septic or pyrogenic situation occurring in routine clinical usage.**
- **5cc, 10cc AND 20cc EVACUATED ELUTION VIALS are available, allowing you to optimize the elution concentration to meet your needs.**
- **RIGID QUALITY CONTROL TESTING, which includes an elution check on each Generator, assures that it meets our rigid internal specifications. The assurance that 20 years experience in nuclear medicine brings.**
- **ACCESSIBLE CUSTOMER SERVICE on toll free telephone numbers. Our service personnel have in depth backgrounds in research, development, technical and clinical applications in nuclear medicine.**

We are concerned about your safety. That will be evident when you receive your first CintiChem generator from MPI.

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medi+physics®

MEDI-PHYSICS, INC., EMERYVILLE, CALIF.
SUBSIDIARY OF HOFFMANN-LA ROCHE INC.

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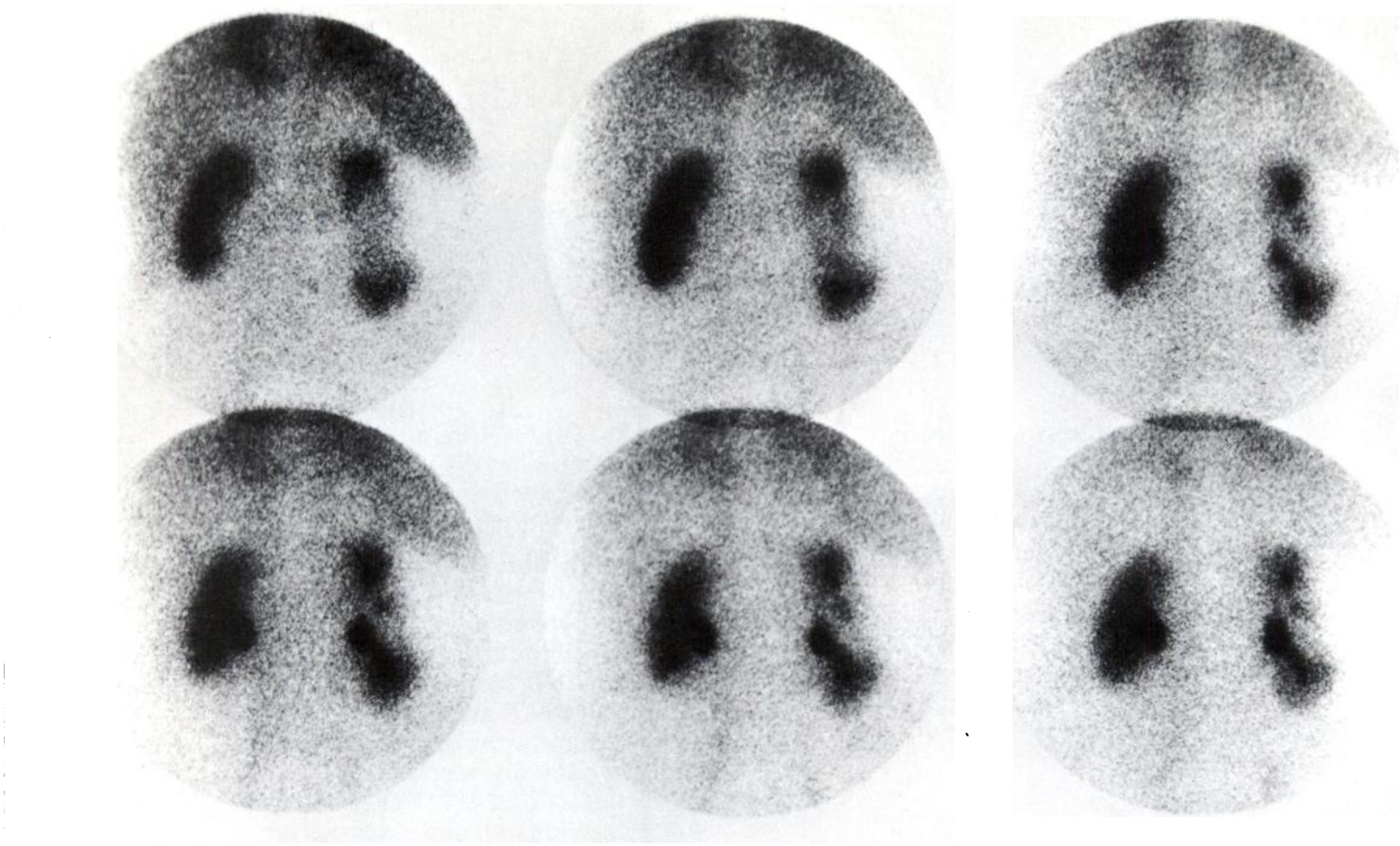
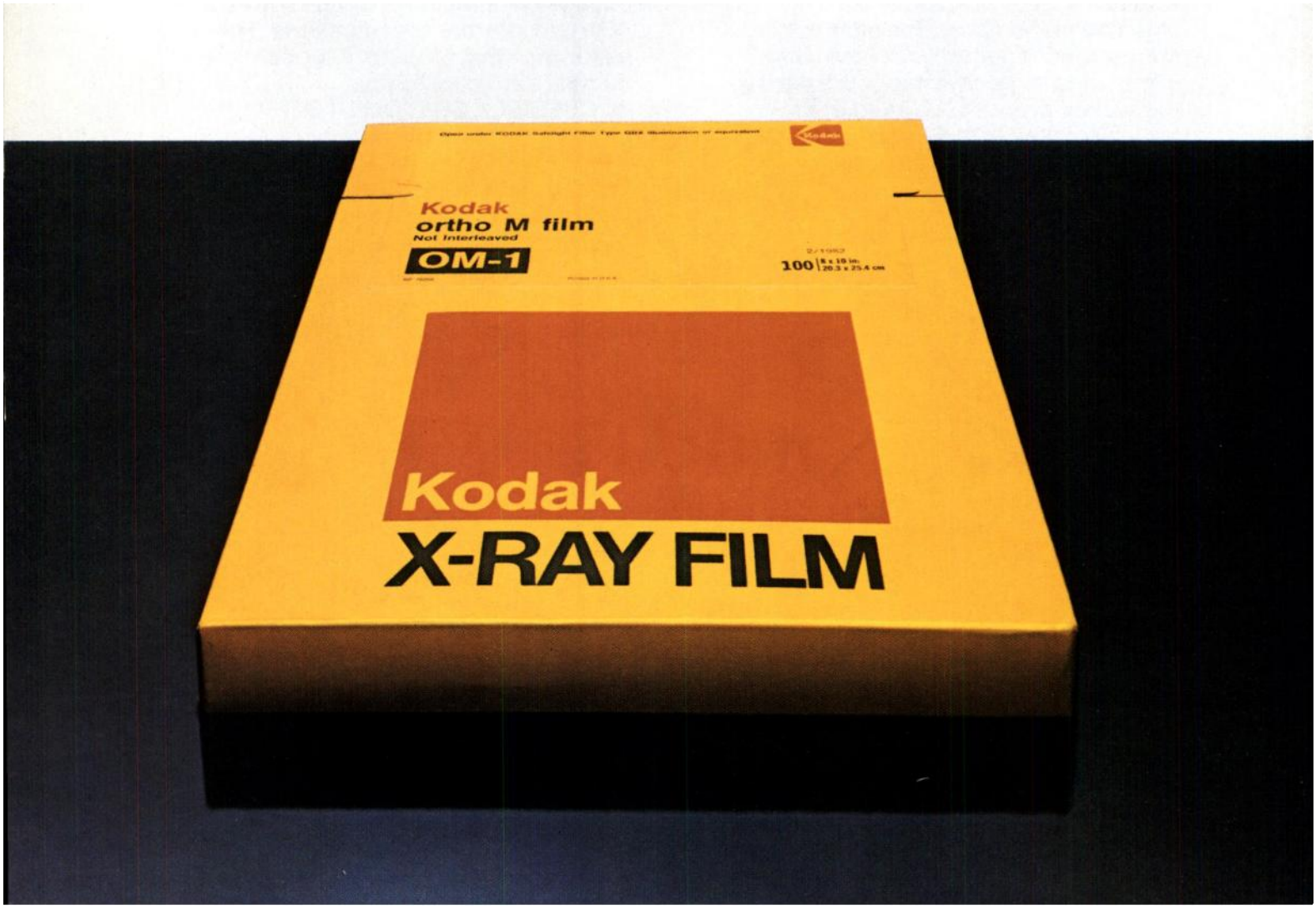
To Order (800) MEDI-123

CintiChem® Technetium Tc99m Generators are jointly manufactured by Union Carbide Corporation and Cintichem, Inc. a wholly owned subsidiary of Medi-Physics, Inc.

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ortho M film
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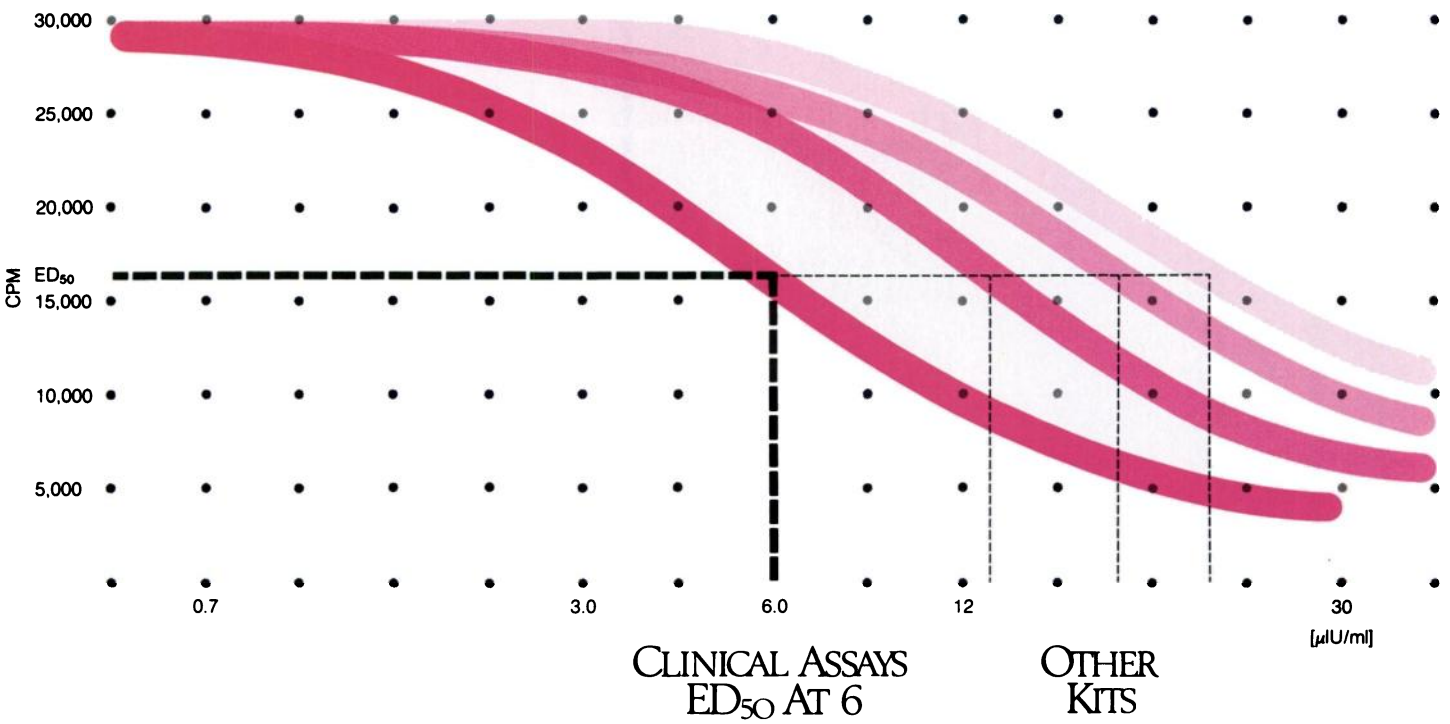
NOW, A HIGH SENSITIVITY TSH WITH AN ED_{50} AT 6.



FOR DIAGNOSTIC ACCURACY IN THE CRITICAL LOW END.

Introducing a new dimension in TSH testing from Clinical Assays.

If the TSH kit you are using has a 50 percent inhibition point near 20, it probably lacks sensitivity in the low end. This can often yield high-normal values that are inconsistent with the clinical picture.

Now you have a choice. In addition to the convenient, three-hour **GAMMADAB®** hTSH RIA Kit, there is now the **GAMMADAB® HS** hTSH RIA Kit. It can provide precise, accurate, low-end readings you can rely on. Why? Because it features human serum-based standards, a highly specific antibody, and an overnight incubation that optimizes kinetics. These combine to bring you an ED_{50} of 6 – where you really need it.

A higher count rate, too.

This high sensitivity TSH also has a high count rate of 30,000 CPMs on the zero standard. This higher rate can speed throughput and improve precision.

Call toll-free for clinical data: 800-225-1241.

For clinical data on the new **GAMMADAB® HS** hTSH RIA Kit, technical information, or an evaluation kit, call toll-free, or collect within Massachusetts, 617-492-2526. Or write Clinical Assays, 620 Memorial Drive, Cambridge, MA 02139. TELEX: 921461 CLASS CAM.

GAMMADAB® HS hTSH RIA Kit

INNOVATING FOR LIFE ™
CLINICAL ASSAYS
DIVISION OF TRAVENOL LABORATORIES, INC

TSC

Technetium 99m

Kit for the Preparation of Technetium Tc 99m Sulfur Colloid Injection

For versatile R.E.S. imaging

- Can be prepared with up to 400 millicuries per vial.
- Only one five minute boil is needed.
- Can be rapidly cooled.
- Conveniently ordered from any of MPI's five facilities.
- May be combined with other kits to reduce your cost.

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TECHNETIUM 99m TSC KIT FOR THE PREPARATION OF TECHNETIUM Tc 99m SULFUR COLLOID INJECTION

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

INDICATIONS AND USAGE: Technetium Tc 99m Sulfur Colloid Injection is used as an agent for imaging areas of functioning reticuloendothelial cells in the liver, spleen, and bone marrow.

CONTRAINDICATIONS: None known.

WARNINGS: The contents of the two syringes, one syringe containing the sodium thiosulfate solution and the second syringe containing the appropriate buffer solution, are intended *only* for use in the preparation of the Technetium Tc 99m Sulfur Colloid Injection and ***are not to be directly administered to the patient.***

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

PRECAUTIONS: The components of the kit are sterile and pyrogen-free. It is essential that the user follows the directions carefully and adheres to strict aseptic procedures during preparation of the colloid.

The stability of the colloidal preparation may be decreased in the presence of polyvalent cations, thus resulting in the agglomeration of the individual colloidal particles. These larger particles are likely to be trapped by the pulmonary capillary bed following intravenous injection.

It is recommended that Sodium Pertechnetate Tc 99m solutions containing more than 10 micrograms/ml of aluminum ion not be used for formulation of the Technetium Tc 99m Sulfur Colloid Injection. The Sodium Pertechnetate Tc 99m solution must also be free of any traces of oxidizing agents such as peroxides and hypochlorites.

Technetium Tc 99m Sulfur Colloid Injection is physically unstable and as such the particles will settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactivity.

It is also recommended that because of the increasing probability of agglomeration with aging, a batch of Technetium Tc 99m Sulfur Colloid Injection not be used after *six* hours from the time of formulation.

The preparation contains no bacteriostatic preservative.

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

It is not known whether this drug is excreted in human milk. As a general rule, nursing should not be undertaken while a patient is on a drug since many drugs are excreted in human milk.

Safety and effectiveness in children have not been established.

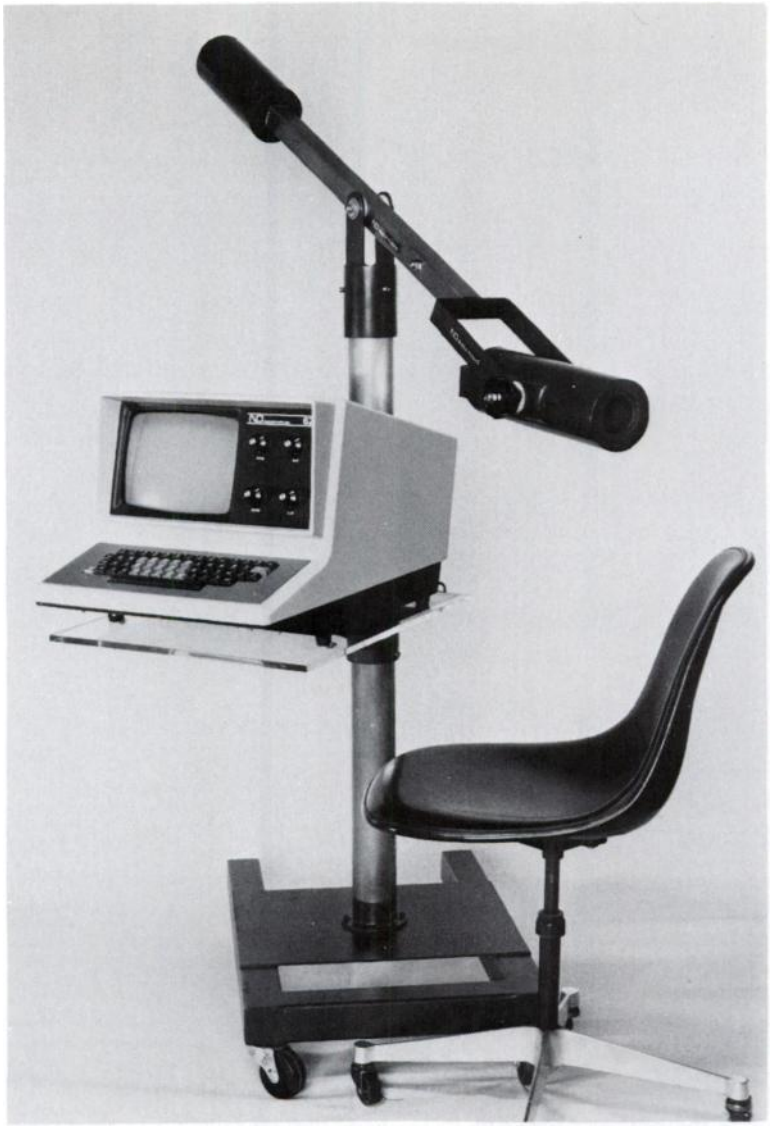
Technetium Tc 99m Sulfur Colloid Injection, as well as other radioactive drugs, must be handled with care and appropriate safety measures should be used to minimize external radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to patients, consistent with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

ADVERSE REACTIONS: Hypersensitivity reactions, including anaphylaxis, have been reported in patients receiving sulfur colloid preparations.

One death and several cases of lung and soft tissue uptake other than RES have been reported in the association with the use of Technetium Tc 99m Sulfur Colloid Injection.

HOW SUPPLIED: The TECHNETIUM 99m SULFUR COLLOID KIT is supplied as a sterile pyrogen-free kit consisting of: five reaction vials, each containing 0.5 ml 1.0 N hydrochloric acid in water; five sterile syringes (labeled "A"), each containing 1.9 mg sodium thiosulfate anhydrous in 1.1 ml aqueous solution; five sterile syringes (labeled "B"), each containing 5.3 mg gelatin in 2.1 ml aqueous buffer solution containing 177 mg sodium acetate anhydrous.

STORAGE: Store finished drug at room temperature.



NEW COUNTERBALANCED THYROID PROBE FEATURES MULTICHANNEL ANALYZER!

Thyroid uptake tests have been done for decades, and multichannel analyzers have been available for decades. Now, however, the ND62T thyroid probe system marries both these proven techniques. A 2″ x 2″ well crystal is used in a design which makes possible a whole new range of clinical applications. A unique feature is a counterbalanced arm for quick, simple, accurate positioning. Write or phone for product brochure.

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New half-lead, half-leaded glass syringe shields... a whole new angle on protection and affordability!

3cc Syringe Shield

Our new syringe shield is a half-cylinder of lead and a half-cylinder of high density leaded glass — providing an unequalled combination of protection, visibility **and** lower cost.

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Without Luer Lock	
3626-OH (3cc)	B-D, Mediject, Jelco, Stylex, Burron, Monoject
5626-OH (5cc)	B-D, Mediject, Jelco, Stylex, Burron, Monoject

Available for immediate shipment.
Prices available upon request.

Features of the Spectra Med Half and Half Syringe Shield:

- **High Visibility:** Optically clear high density (6.2 gm/cc) lead glass offers 180° visibility.
- **Unexcelled Shielding:** 6 HVL protection ensures confidence when preparing and dispensing radiopharmaceuticals.
- **Proven Performance:** Spectra Med syringe shields are being used by hospitals nationwide.

Half and Half Syringe Shields... available exclusively from Spectra Med, the company trusted by nuclear pharmacies and hospitals throughout the U.S.

Ventilation scanning

Now it's convenient, accurate. Introducing SynteVent™ Aerosol Delivery System

New SynteVent is a unique aerosol system designed to deliver uniform submicronic (0.5 micron mass median diameter) droplets to the lung for ventilation scanning.

A complete, closed system, SynteVent is easily assembled, lightweight and portable. Normal tidal breathing for 3 to 5 minutes allows up to six views of the lung.

For more complete information, call 415-856-2422, or write Synaco, Inc. at the address below.

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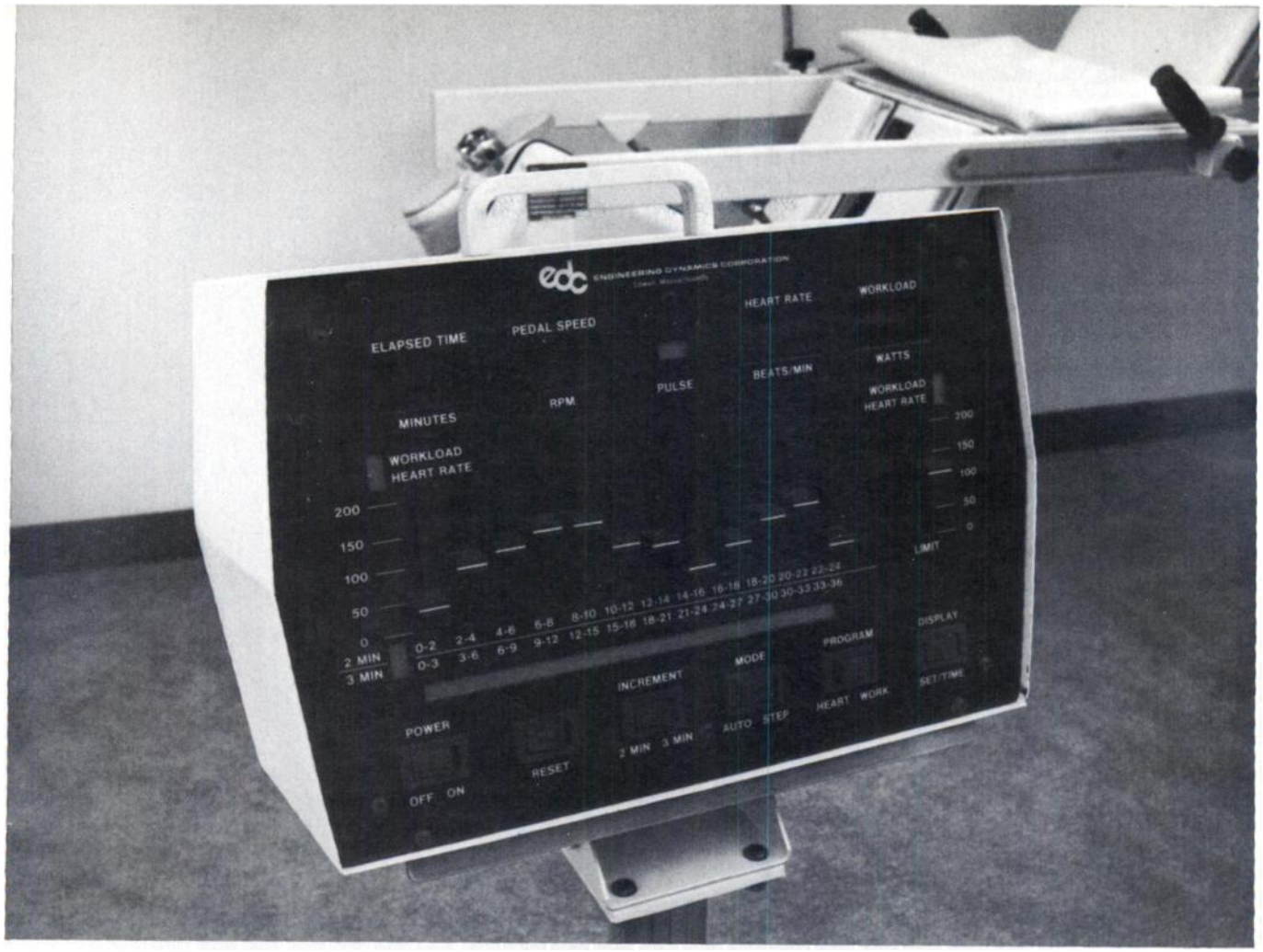
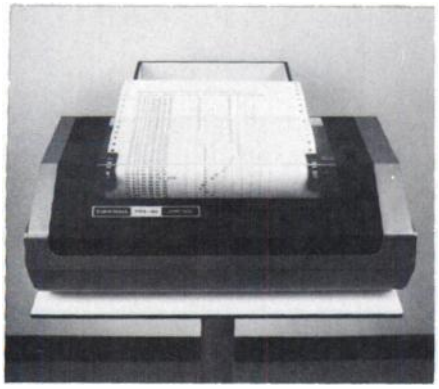


The Ultimate Cardiac Stress System.

Designed to put more muscle into your Cardiac Testing.

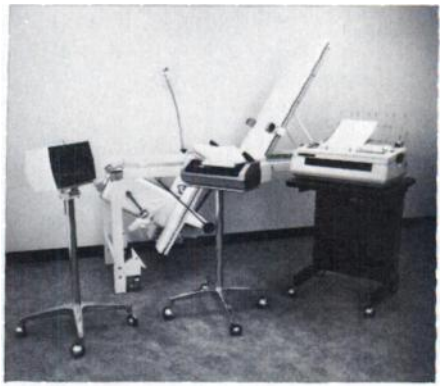
Introducing the most advanced cardiac stress system — the EDC Model 8450. Now you can program any protocol in seconds — either workload or heart rate — right at the front panel by a mere touch of the programmer.



Our powerful microprocessor insures the highest accuracy of any stress system — and as an option, you can have a permanent printed record of the entire stress test, with digital readings of elapsed time, workload, and heart rate every six seconds — and with the integrated workload (in KPM) at the end of each program segment.

These three new advances have been added to the already well accepted features of our classic model 8430, with its ability to be used either as a stress testing table or as a general imaging table — its fully adjustable table and ergometer — its clear, error-proof, digital readouts — its sturdy construction — and all the other excellent features that nuclear cardiology has come to expect from EDC.

We think the EDC Model 8450 has everything you will ever want, or need, for Cardiac Stress Testing. Give us a call for further details.



edc ENGINEERING DYNAMICS CORPORATION

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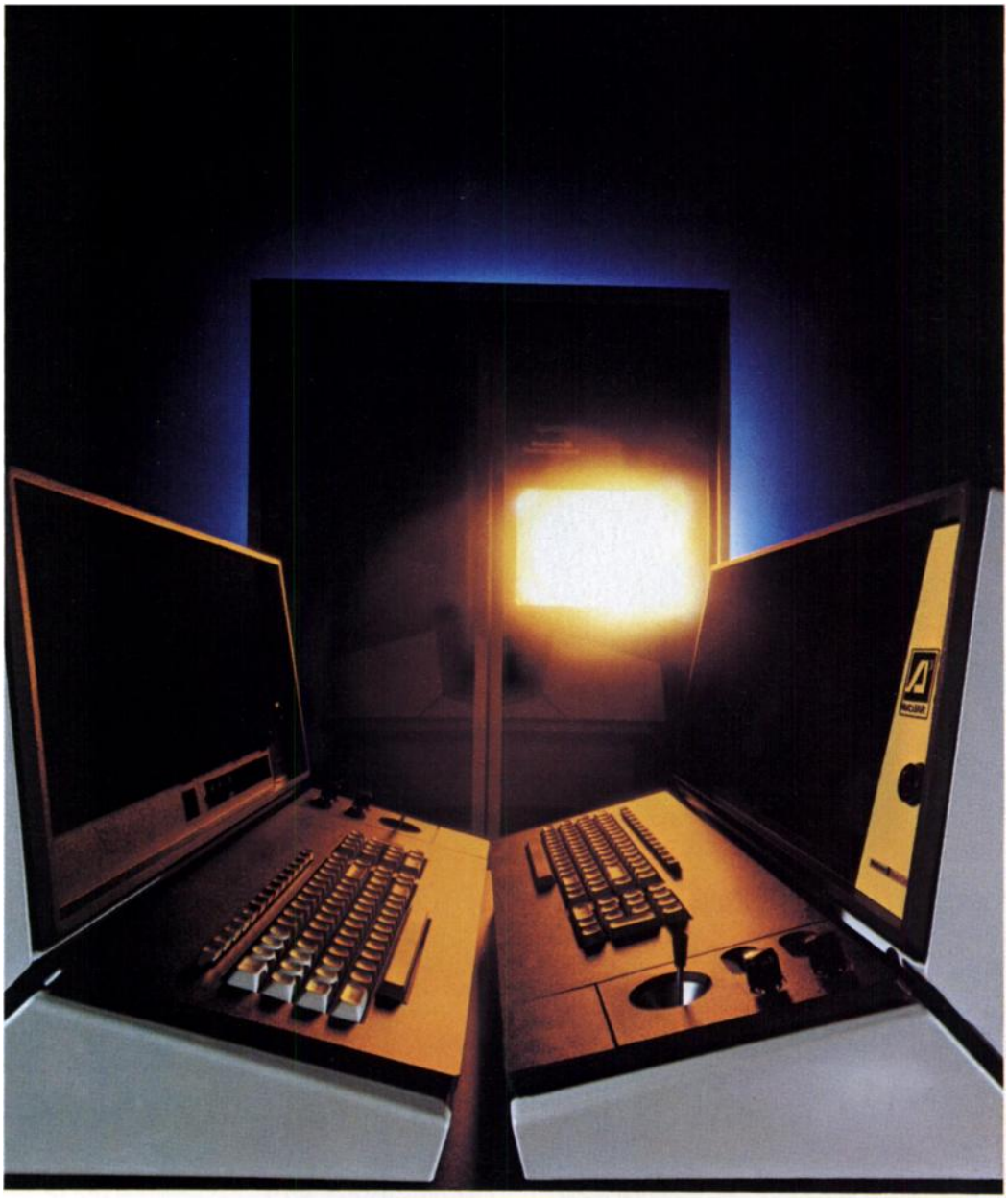

Introducing–Spectra™ A³™ Nuclear
A Quantum Leap Forward in Nuclear Medicine

ECT—A tenfold increase in processing power

- Designed to specifically handle the rigorous demands of Emission Computed Tomography
- Interfaces to most cameras
- 60 installed sites
- Clinically validated software

Networking—Complete compatibility with our A^2 system

- All A^3 hardware can be added to your A^2 system
- Extends and multiplies the power of your current MDS equipment
- Immediate availability

Special Features—Facilitate ease of use and high patient throughput

- **PRT™**—With **Parallel Reconstruction Tomography™**, when the patient leaves the table a complete set of transaxial tomograms will be available for analysis
- **VFT™**—Utilization of **Variable Filtration Tomography™** eliminates image artifacts which result from improper filter selection
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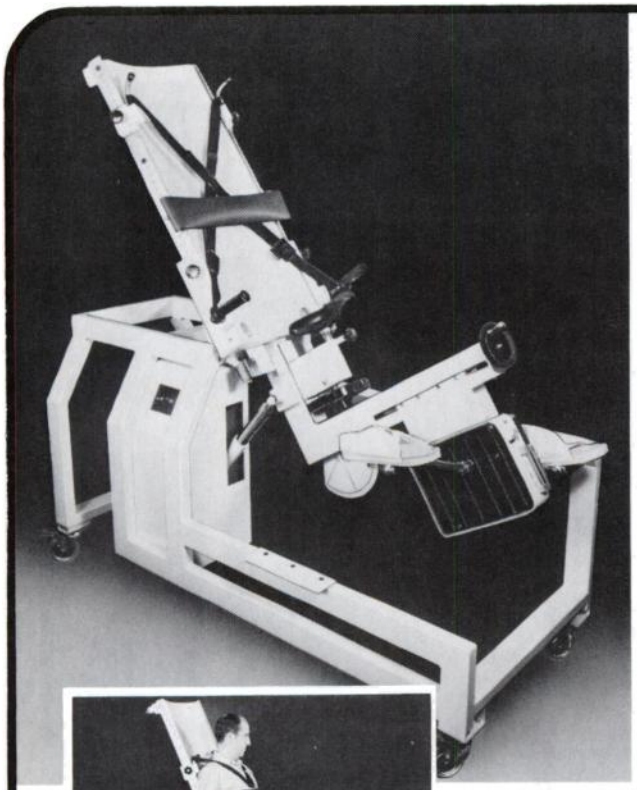
Bone scintigraphy: This H can save you an hour.

HMDP-CIS (TCK-21)

- Easy preparation.
- Excellent In-Vivo and In-Vitro stability.
- Earlier imaging: pictures from one hour after injection

International CIS goes faster in bone imaging.

Not available in U.S.A.

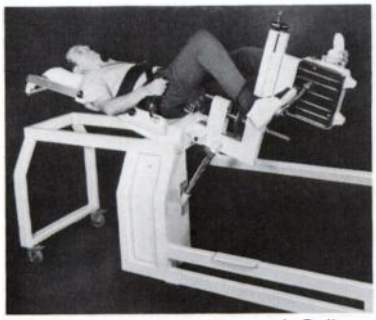


MOTORIZED

Nuclear Cardiology Stress System

Makes patient positioning so easy

Erect stress test position with Collins Ergometer.



Supine stress test position with Collins Ergometer. Far side of table is unobstructed to easily accommodate a gamma camera.

Patient positioned for conventional imaging.
Legs and feet are supported comfortably.

- **Pushbutton power moves patient to ANY position, supine to upright.**
- **Compatible with all cameras.**
- **Motion-free for high resolution.**

Here is the most versatile, easy-to-operate, stress imaging table available today. It permits radionuclide imaging in any position... upright, supine, and between...without cranking, lifting, pushing or fussing with table hardware. Just flip one switch, and the powerful motor quietly moves the patient to the precise position desired. The patient is more relaxed... and so are you.

Whatever your nuclear cardiology requirements, this unique system fills them quickly and easily... full gamma camera clearance, complete mobility, motion-free stability, positive (but comfortable) patient restraints, unobstructed access to the patient and controls, optional ergometer, and much more. The table is guaranteed to help stress your patients, not you or your personnel.

For complete details, request Bulletin 289-B

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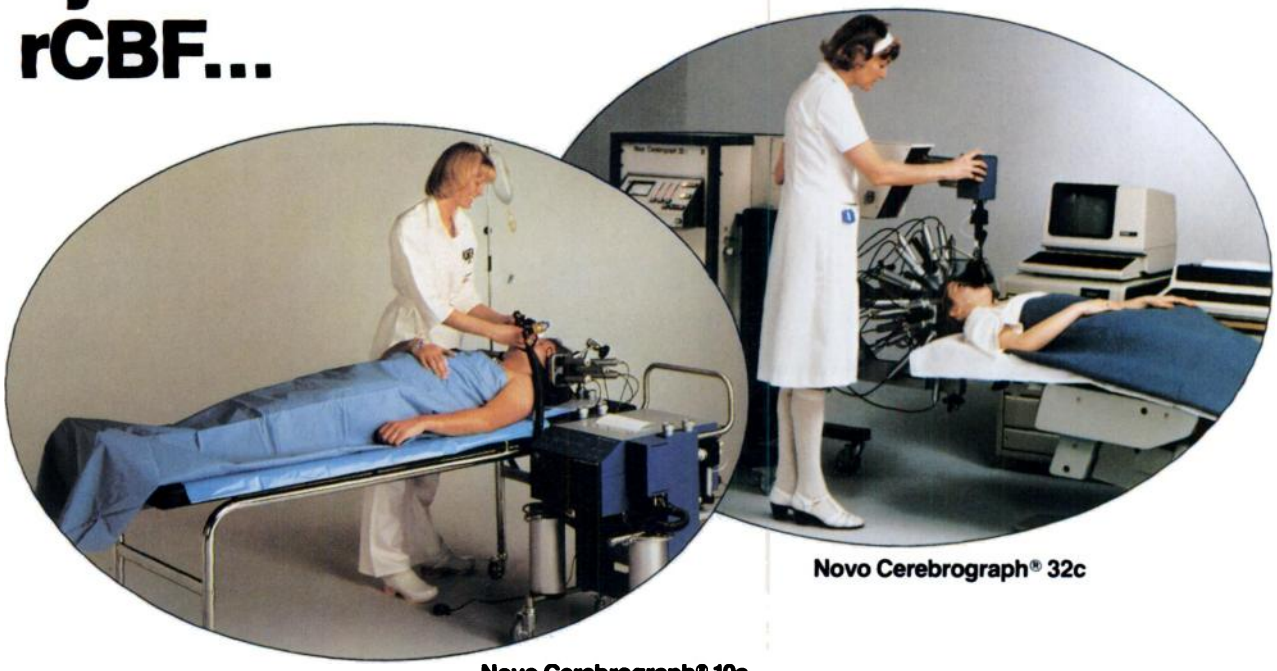
Now there's a choice of complete systems to measure rCBF...



Novo Cerebrograph® 32c

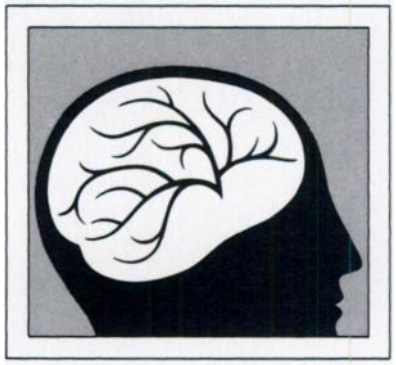
Novo Cerebrograph® 10a

From Novo Diagnostic Systems, of course!

Novo Cerebrograph Systems combine simplicity and accuracy to deliver efficient, precise diagnostic assessments of a patient's regional cerebral blood flow.

Novo Cerebrograph® 10a

- Affordable new design offers a compact, mobile system with bedside monitor and up to ten detectors
- IV 133-Xenon administration with exchangeable charcoal trap
- Includes comprehensive electronic system for automatic and rapid calculation and printout
- Can be used for intubated or spontaneously breathing patients



Clinical Applications

- Evaluation of cerebral hemodynamics
- Pre/post-op evaluation of vascular surgery
- Assessment of pathophysiology and recovery in head trauma cases
- Monitoring effects of anesthesia on cerebral circulation
- Investigating neurotoxic effects of drugs and organic solvents

Novo Cerebrograph® 32c

- Helmet-style holder for up to 32 detectors simplifies handling and assures reproducibility
- Choice of 133-Xenon techniques —inhalation, IV or IA injection
- Comprehensive, clinically verified software package with varied presentation formats
- Proven clinical tool worldwide

Novo is Represented in Major Markets Worldwide.

Innovations are not new to us.

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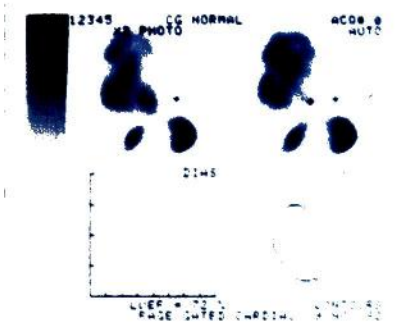
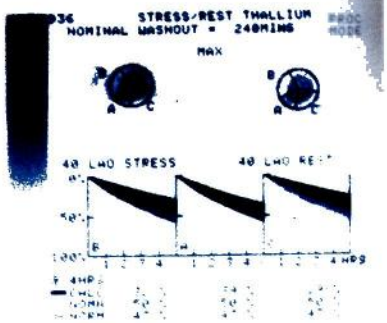
NOVO

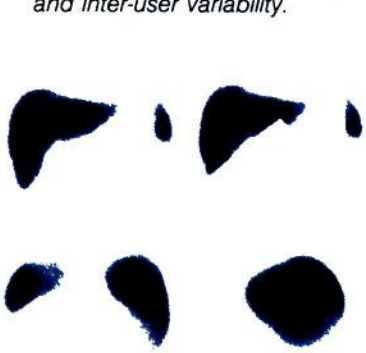
One camera can handle all your routine studies...



The P.A.G.E. cardiac protocol allows automatic edge detection, background determination, and ejection fraction determination. This prevents intra- and inter-user variability.



Quantitative data concerning spatial distribution of thallium, and regional plotting of kinetic washout, are produced automatically or semi-automatically.



This 38-year-old male patient had a viral infection for one month. Impression: normal liver/spleen scan.

This is a 14-year-old male who had ankle pain for 16 months. Impression: ankylosis of the tarsal bones, right foot.

You can conduct nuclear studies like these—from the simplest to the most sophisticated—with General Electric's MaxiCamera™ 400A/Star™ system. It's the time-proven system so advanced, so versatile, that it meets today's diagnostic needs. And leaves you with lots of room for cost-effective expansion as new procedures emerge.

Exceptional versatility in a complete system.

With the MaxiCamera 400A system you can configure equipment to meet your procedural, budgetary and spatial limitations. GE nuclear cameras let you easily and reliably perform all the routine imaging tasks—bone, liver, lung, heart and renal studies, for example. And the MaxiCamera 400A/Star system allows you to conduct complex ECT studies as well.

For sophisticated procedures, simply add the necessary options. Unlike other systems, you don't have to buy (and find room for) additional cameras. With the right options, ours will do it all.

Take, for instance, the GE Star data processor. Designed specifically to expand department capabilities, the Star system gives you quantitative output, high speed dynamic data collection, and a host of clinically proven software protocols that let you routinely perform specialized studies, like cardiac gated analysis, quantitative thallium, renal function and ventilation/perfusion analyses. And, with the tomographic option, such advanced ECT studies as brain, bone, liver and cardiac procedures are easily performed.

If you'd like to dedicate a camera to special procedures, look into our other MaxiCamera systems. GE offers you a choice of five cameras with fields of view ranging from 200 to 500 mm.

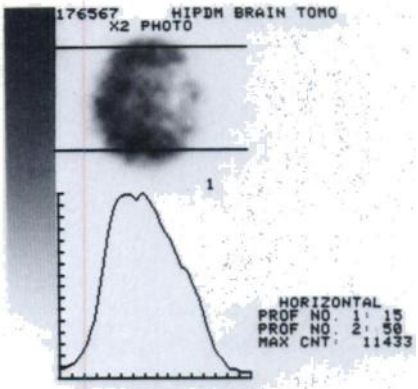
Beautiful images from a proven performer.

No matter what you're imaging, you'll get great resolution from your GE system. Our unique Autotune ZS™ circuitry is one reason. It automatically stabilizes each photomultiplier tube, making real time spatial distortion and energy correction viable. Result: System performance is improved dramatically with minimal downtime.

And, like every GE product, your MaxiCamera/Star system is backed by an unsurpassed worldwide service and parts network.

Want proof? Nearly 200 complete MaxiCamera/Star systems are in clinical use today; let us put you in touch with some of their users.

The MaxiCamera/Star system from General Electric. It may be the only nuclear imaging system you'll need.



A 62-year-old female was admitted with right paralysis. Emergency CT was negative. Carotid arteriogram demonstrated a total left carotid occlusion. SPECT results confirmed arteriographic findings, as this profile analysis of select transaxial slices shows.

and those that may soon be routine.

We bring good things to life.

GENERAL ELECTRIC

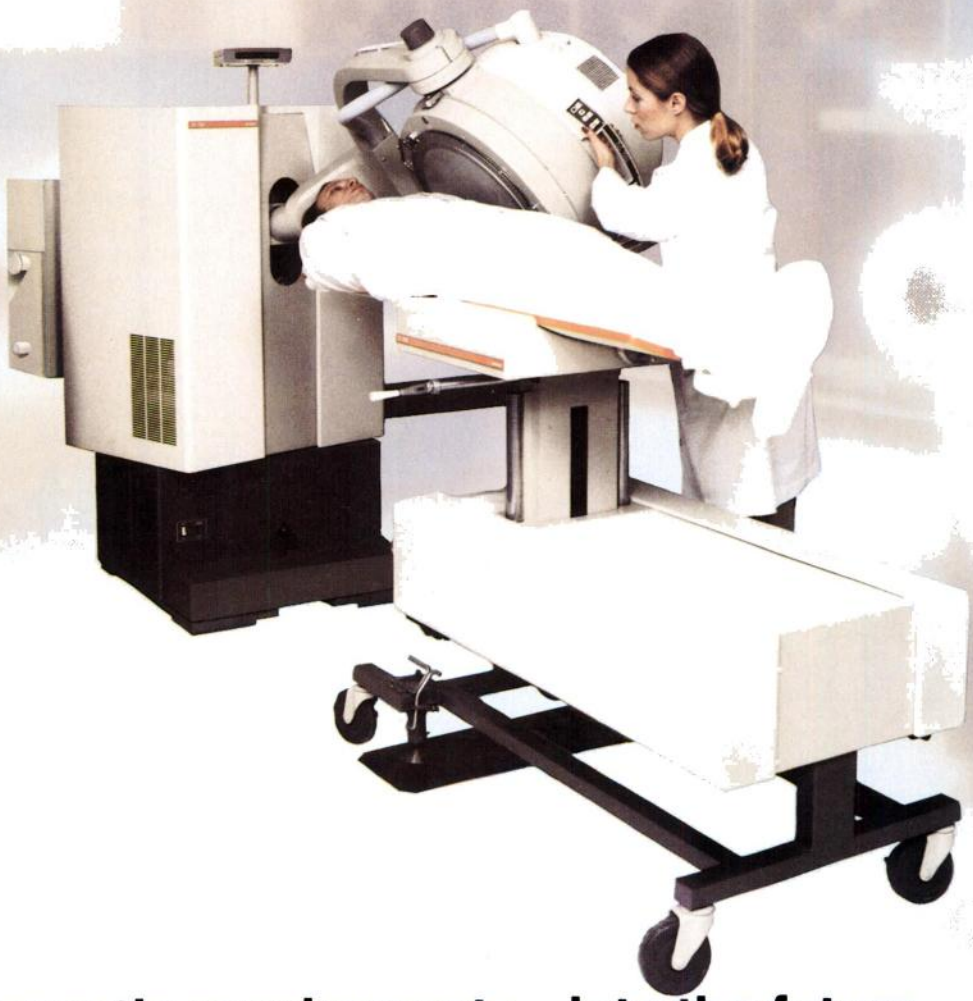
For superior SPECT imaging... Get the best camera and a computer of your choice.

High quality SPECT imaging starts with a superior gamma camera. Siemens offers you today's best—the **high** performance ZLC gamma **camera.** We'll provide **you with a turnkey** SPECT **system which incorporates our proven ZLC cameras and a nuclear medicine computer of** your choice.

The ZLC camera combines the mechanical stability and accurate rotational positioning of the Orbiter with unsurpassed detector linearity and uniformity—prerequisites for high resolution, artifact-free SPECT imaging.

ZLC cameras ensure user-friendly interface with contemporary nuclear medicine computers. And, of course, you can also choose the ZLC 3700 S or ZLC 7500 S camera with our ECT Processor.

To protect your investment, our SPECT systems are offered with comprehensive service programs backed by one of the industry's largest technical service organizations dedicated to nuclear medicine. For additional information on our SPECT systems, contact your local Siemens representative **or:**



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Meeting your diagnostic requirements...into the future.

MG/5310-022B SIQ 631

Now you can perform a ventilation study immediately after a perfusion study with no interference from technetium Tc 99m radiation.

XENON 127

Xenon Xe 127 Gas—Exclusively from Mallinckrodt

Photon energies higher than technetium Tc 99m permit perfusion/ventilation study sequence not practical with Xenon Xe 133.

"The 140-keV gamma photon from ^{99m}Tc has a Compton scatter peak at about 80 keV [which] cannot be distinguished from the [81 keV] photopeak of ^{133}Xe."[1] Xenon 127's higher photon energies (172 and 203-keV) give you optimal visualization without potential image degradation from technetium Tc 99m. You can perform the perfusion study first and select the best view for the ventilation study.

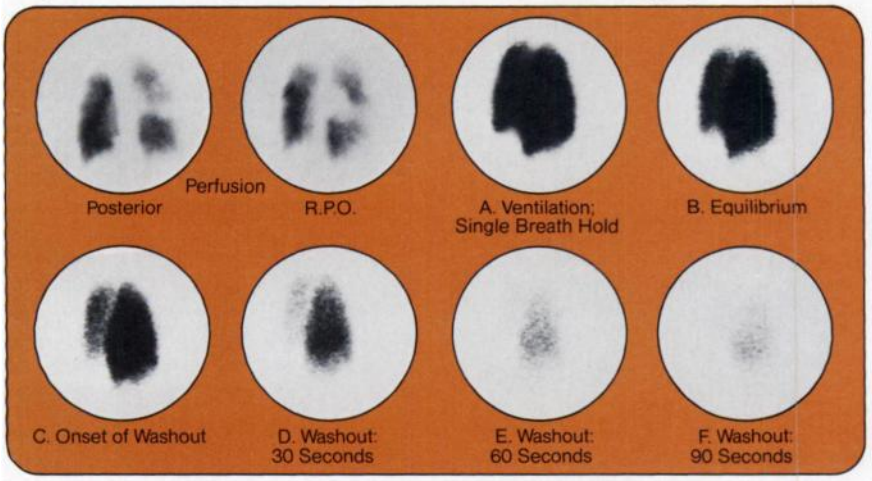
Higher usable photon yield than Xenon Xe 133 gives you diagnostic information you need with substantially lower millicurie dosage administered to the patient.

The lung radiation dose from Xenon Xe 127 is approximately 1/6 that of Xenon Xe 133 for equal information densities.[2] Studies report excellent images with Xenon Xe 127 gas.[1,2] "The clearer washout images...are probably due to better penetration through the chest wall with an improved lung-to-background ratio."[2]

Longer shelf-life than Xenon Xe 133 Gas and Krypton Kr 81m Gas means Xenon Xe 127 Gas can always be at hand when you need it.

Krypton Kr 81m Gas generators must be ordered for the day needed; Xenon Xe 133 Gas must be ordered weekly. Xenon Xe 127 Gas, however, can be ordered monthly. It is available for delivery the first of each month, calibrated for the fifteenth day of the month.

Lung Perfusion Study with Technetium Tc 99m Albumin Aggregated (MAA) and Ventilation Study with Xenon Xe 127 Gas



Patient:
A 26-year old male paraplegic with recent history of chest pain.

Perfusion Study:
3.0 mCi Technetium Tc 99m MAA.

Interpretation: Perfusion defect in superior segment of lower right lobe; smaller perfusion defects noted in left mid-lung and left upper lung field.

Ventilation Study:
5.0 mCi Xenon Xe 127 Gas. Performed immediately after perfusion study with patient in right posterior oblique position.

Interpretation: Xenon Xe 127 Gas uniformly distributed in both lungs; normal clearance and washout (Scintiphotos A-F). Specifically, the area of the perfusion defect demonstrates normal ventilation.

Conclusion:
Probable pulmonary embolism.

Case study and scintiphotos courtesy of Section of Nuclear Medicine, Bowman Gray School of Medicine, Winston-Salem, N.C.

Now... one dispenser delivers prompt, positive administration of either Xenon Xe 127 or Xenon Xe 133 Gas.

Mallinckrodt's *XENOMATIC II*™ *Xenon Gas Dispenser*

- **Dual-Purpose**—Accommodates all dosage vials of Mallinckrodt Xenon Xe 127 Gas and Xenon Xe 133 Gas.
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THE MALLINCKRODT COMMITMENT to Nuclear Medicine

Mallinckrodt

Diagnostic Products Division
Mallinckrodt, Inc.
Post Office Box 5840
St. Louis, MO 63134

Please see next page for Xenon 127 prescribing information.

XENON Xe 127 GAS

Diagnostic

DESCRIPTION

Xenon Xe 127 Gas is for diagnostic inhalation use only. It is supplied in vials containing either 5 or 10 millicuries of Xenon Xe 127 Gas in 2 milliliters of carrier Xenon and atmospheric air. Xenon-127 is produced by the proton bombardment of Cesium Cs 133. It contains less than 10% Xenon Xe 129m and less than 10% Xenon Xe 131m on date of release with 99% total radioactivity as radioxenon.

Xenon Xe 127 Gas is chemically and physiologically similar to elemental xenon, a non-radioactive gas which is physiologically inert except for anesthetic properties at high doses.

Physical Characteristics

Xenon Xe 127, with a physical half-life of 36.41 days[1] decays by electron capture to Iodine I 127. Photons that are useful for detection and imaging studies are listed in Table 1.

Table 1. Principal Radiation Emission Data of Xenon Xe 127

Radiation	*Mean Percent Per Disintegration*	*Energy (keV)*
Gamma-2	4.2	145.2
Gamma-3	24.7	172.1
Gamma-4	68.1	202.8
Gamma-5	17.4	375.9
K x-rays	87.9	Mean: 29.7

Xenon Xe 129m, with a physical half-life of 8.89 days[2] decays by isomeric transition to Xenon Xe 129. The principal photons are listed in Table 2.

Table 2. Principal Radiation Emission Data of Xenon Xe 129m.

Radiation	*Mean Percent Per Disintegration*	*Energy (keV)*
Gamma-1	7.5	39.6
Gamma-2	4.7	196.6
K x-rays	126.9	Mean: 30.4

Xenon Xe 131m, with a physical half-life of 11.84 days[2] decays by isomeric transition to Xenon Xe 131. The principal photons are listed in Table 3.

Table 3. Principal Radiation Emission Data of Xenon Xe 131m.

Radiation	*Mean Percent Per Disintegration*	*Energy (keV)*
Gamma-1	2.0	163.9
K x-rays	54.4	Mean: 30.4

External Radiation

The specific gamma ray constant for Xenon Xe 127 is 2.2 R/mCi-hr at 1 cm. The first half-value thickness of lead (Pb) is 0.023 cm.

A range of values for the relative attenuation of the radiation emitted by this radionuclide that results from interposition of various thicknesses of Pb is shown in Table 4. For example, the use of 1.7 cm of Pb will decrease the external radiation exposure by a factor of about 1000.

Table 4. Radiation Attenuation by Lead Shielding

Shield Thickness (Pb) cm	*Coefficient of Attenuation*
0.023	0.5
0.26	10^{-1}
0.95	10^{-2}
1.7	10^{-3}
2.4	10^{-4}

To correct for physical decay of this radionuclide, the fractions that remain at selected time intervals after the day of calibration are shown in Table 5.

Table 5. Physical Decay Chart; Xenon Xe 127, Half-Life 36.41 Days[3]

Days	*Fraction Remaining*	*Days*	*Fraction Remaining*
0*	1.000	20	0.683
1	0.981	22	0.658
2	0.963	24	0.634
3	0.945	26	0.610
4	0.927	28	0.587
5	0.909	30	0.565
6	0.892	32	0.544
7	0.875	34	0.524
8	0.859	36	0.504
10	0.827	38	0.485
12	0.796	40	0.467
14	0.766	45	0.425
16	0.737	50	0.386
18	0.710		

*Calibration day

CLINICAL PHARMACOLOGY

Xenon Xe 127 (and other radioxenons) is a readily diffusible gas which is neither utilized nor produced by the body. It passes through cell membranes, freely exchanges between blood and tissue, and tends to concentrate more in body fat than in blood, plasma, water or protein solutions. In the concentrations recommended for diagnostic studies, it is physiologically inactive. Inhaled **Xenon Xe 127** gas will enter the alveolar wall and enter the pulmonary venous circulation via capillaries. Most of the **Xenon Xe 127** gas that enters the circulation from a single breath is returned to the lungs and exhaled after a single pass through the peripheral circulation.

INDICATIONS AND USAGE

Xenon Xe 127 gas has been shown to be valuable for diagnostic inhalation studies for the evaluation of pulmonary function and for imaging the lungs.

CONTRAINDICATIONS

None known.

WARNINGS

Xenon Xe 127 gas delivery systems, i.e., respirators or spirometers, and associated tubing assemblies must be leakproof to avoid loss of radioactivity into the laboratory environs not specifically protected by exhaust systems.

Xenon Xe 127 gas adheres to some plastics and rubber and should not be allowed to stand in tubing or respirator containers. Loss of radioactivity due to such adherence may render the study non-diagnostic.

PRECAUTIONS

General

Xenon Xe 127 gas 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. Also, care should be taken to minimize radiation exposure to the patient consistent with proper patient management.

The higher energy and long half-life of Xenon Xe 127 may complicate disposal after use. Exhaled **Xenon Xe 127** gas should be controlled in a manner that is in compliance with the appropriate regulations of the government agency authorized to license the use of radionuclides.

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 this drug affects fertility in males or females.

Pregnancy Category C

Animal reproduction studies have not been conducted with **Xenon Xe 127** gas. It is also not known whether **Xenon Xe 127** gas can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. **Xenon Xe 127** gas 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

It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when **Xenon Xe 127** gas is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

None known.

DOSAGE AND ADMINISTRATION

Xenon Xe 127 Gas is administered by inhalation from a closed respirator system or spirometer. The final patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

The recommended activity range employed for inhalation by the average patient (70 kg) is:

Pulmonary function including imaging: 5 to 10 millicuries.

This may be administered as a bolus into the tubing near the patient's mouthpiece or mask after the completion of a tidal exhalation or after rebreathing for a period of approximately 5 minutes of the Xenon Xe 127 gas in equilibrium with the air contained in the closed system at concentrations of the radionuclide that may vary from 0.5 to 2.0 millicuries per liter.

Radiation Dosimetry

The estimated absorbed radiation doses to an average patient (70 kg) for inhalation studies from a maximum dose of 10 millicuries of **Xenon Xe 127** in 5, 7.5, and 10 liters of air are shown in Table 6. They are based on 80% total activity as Xenon Xe 127 with 10% activity as Xenon Xe 129m and 10% activity as Xenon Xe 131m. The values are the maximum absorbed dose that could be anticipated under the given conditions.

Table 6. Radiation Dose Estimates of Xenon Xe 127:[4] Absorbed Dose/10mCi Xenon Xe 127 Administered by Inhalation

Tissue	*Spirometer Volume (liters)*		
	5.0	*7.5*	*10.0*
	Rad/10mCi Xenon Xe 127[5]		
Lung	0.064	0.048	0.038
Red Marrow	0.015	0.013	0.010
Ovaries	0.014	0.011	0.008
Testes	0.011	0.009	0.007
Total Body	0.014	0.011	0.008

Directions for Dispensing

Transfer the appropriate Xenon Xe 127 Gas dose from the Xenon Xe 127 Gas unit dose vial(s) to the breathing device or spirometer using an adequately shielded transfer device such as the Mallinckrodt, Inc. Xenomatic II™ Xenon Gas Dispenser, Catalog No. 036. Directions for use of this gas dispenser are as follows:

1. If required, attach needle or other appropriate connector[6] to the Luer-Lok fitting of the Xenomatic II Xenon Gas Dispenser.
2. Remove lead filled plastic cap from Xenon Xe 127 Gas unit dose shield to expose the top of the 2.0 milliliter vial.
3. With vial in shield, insert into handle of the Xenomatic II Xenon Gas Dispenser, impaling the vial on the needles and engaging the latch holding the shield and vial in position.
4. Connect the Xenomatic II Xenon Gas Dispenser to the breathing device or spirometer.
5. Squeeze the trigger *firmly and completely* one or more times to transfer the gas from the vial into the breathing device.[7]
6. After transfer, press shield release latch in the handle and remove the shield.
7. Pull the exhausted vial from the needles, place back into shield, replace plastic cap, and discard in compliance with established requirements for the disposal of radioactive waste.
8. Place an empty shield into the handle of the Xenomatic II Gas Dispenser, engaging the latch. This will prevent possible injury from unprotected impaling needles.
9. To clean the Xenomatic II Xenon Gas Dispenser, simply wipe with mild detergent. DO NOT IMMERSE IN WATER.

Xenon Xe 127 Gas should not be used after 120 days from the date of calibration stated on the label.

Radioactivity Measurements

Calibrate a suitable commercial ionization chamber dose calibrator according to the manufacturer's instructions for that particular instrument. An instrument that gives direct radioactivity readouts is recommended.

Use a National Bureau of Standards (NBS) Xenon Xe 127 standard (or a standard that is traceable to an NBS standard) for the initial calibration. Also establish a secondary standard, such as Barium Ba 133, at that time for subsequent routine use. Other suitable radionuclides may also be used. Determine the effective readout of the secondary standard compared to the Xenon Xe 127 standard over the range of activities expected for routine measurements. Determine the radioactivity of the dose for administration as follows:

1. Check the dose calibrator for proper response with the secondary standard.
2. Insert the Xenon Xe 127 Gas unit dose vial in the dose calibrator and measure the apparent radioactivity of the Xenon Xe 127.
3. Correct for decay as necessary.

The radioactivity determined by this method is within 25% of the true value. This degree of accuracy includes variations attributed to small differences in geometry.

HOW SUPPLIED

Xenon Xe 127 Gas is available in 2ml vials with color-coded labels in 5 millicurie (Code 130) and 10 millicurie (Code 131) sizes. Both sizes are packaged in individual lead shields.

Storage

Xenon Xe 127 Gas should be stored at 15°C to 30°C.

Storage and disposal of **Xenon Xe 127** Gas should be controlled in a manner that is in compliance with the appropriate regulations of the government agency authorized to license the use of this radionuclide.

[1] Atkins, Harold L., et al., *Estimates of Radiation Absorbed Doses from Radioxenons in Lung Imaging*, Task Group of the Medical Internal Radiation Dose Committee, Society of Nuclear Medicine, J. Nucl. Med. 21:459-465, 1980.

[2] Kocher, David C., Radioactive Decay Data Tables, DOE/TIC-11026, 128-134 (1981.)

[3] Preparations of Xenon Xe 127 Gas may contain up to 10% of Xenon Xe 129m and up to 10% Xenon Xe 131m which will slightly reduce the fraction remaining.

[4] Atkins, Harold L., et al., *Estimates of Radiation Absorbed Doses from Radioxenons in Lung Imaging*. Task Group of the Medical Internal Radiation Dose Committee, Society of Nuclear Medicine, J. Nucl. Med., 21:459-465, 1980.

[5] Values based on 80% total activity as Xenon Xe 127 with 10% activity as Xenon Xe 129m and 10% activity as Xenon Xe 131m.

[6] An adaptor is available from Mallinckrodt for use with breathing devices or spirometers that have a recessed xenon injection port.

[7] One complete squeeze of the trigger delivers 99+% of the available Xenon Xe 127 gas from the vial.

REFERENCES

1. Coates G, Nahmias C: Xenon-127, A Comparison with Xenon-133 for Ventilation Studies. *J Nucl Med* 18:221-225, 1977.

2. Atkins HL, Susskind H, Klopper JF, et al: A Clinical Comparison of Xe-127 and Xe-133 for Ventilation Studies. *J Nucl Med* 18:653-659, 1977.

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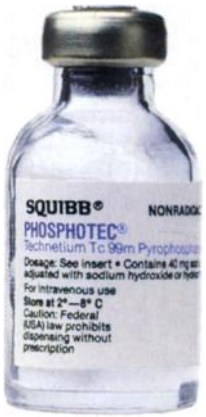

- One reaction vial supplies suggested dose of 41 mg
- Low tin formulation. Each 5 ml reaction vial contains 40 mg sodium pyrophosphate and 1 mg stannous fluoride
- Kit of 10 reaction vials
- Also indicated for bone imaging and as an adjunct in the diagnosis of acute myocardial infarction.

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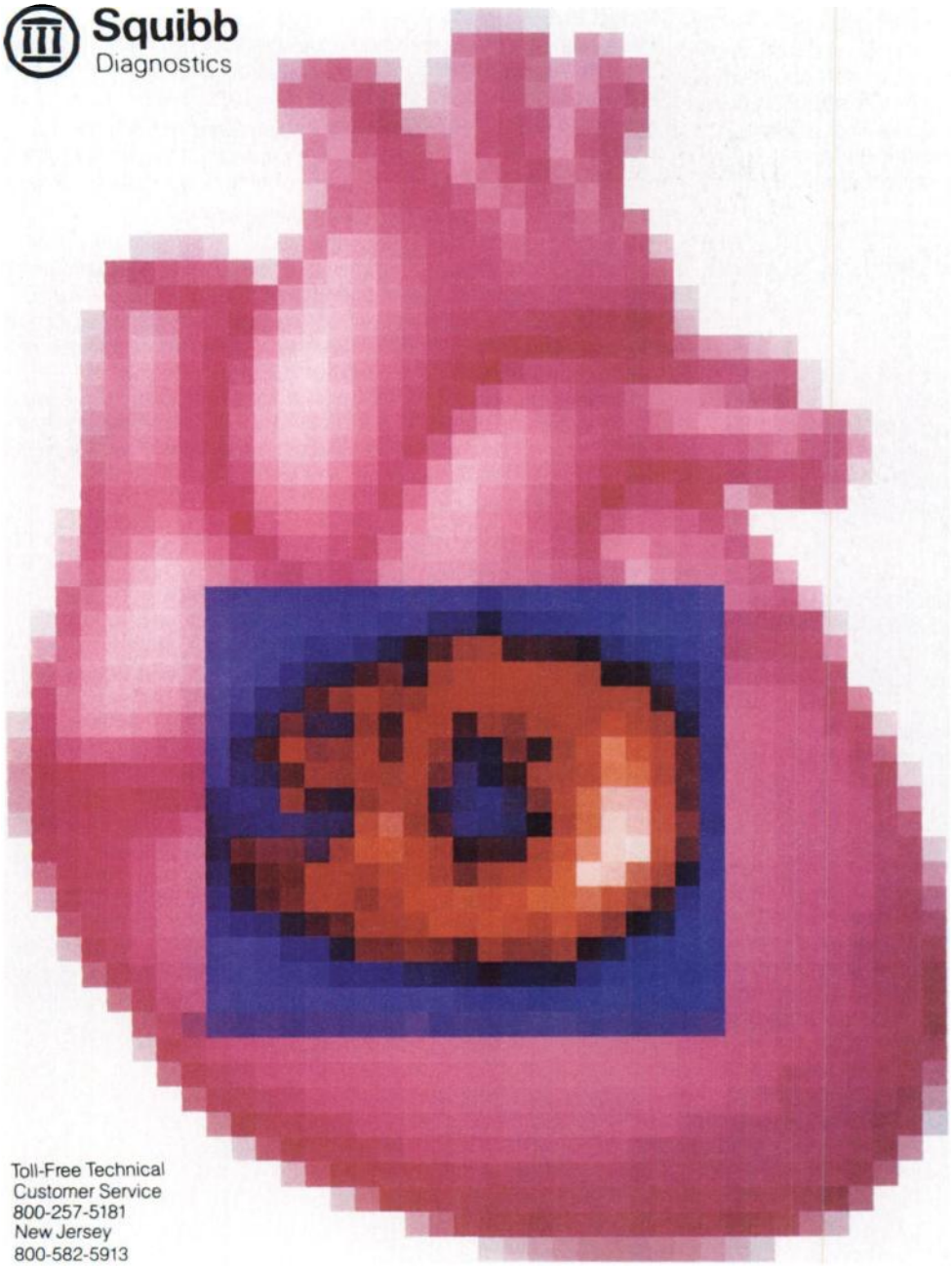
Diagnostics



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See next page for brief summary.

PHOSPHOTEC®
Technetium Tc 99m Pyrophosphate Kit
For Diagnostic Use

DESCRIPTION: Each reaction vial contains 40 mg sodium pyrophosphate (equivalent to 23.9 mg anhydrous sodium pyrophosphate)and 0.4 mg stannous fluoride (minimum) and 0.9 mg total tin (maximum) as stannous fluoride; the product does not contain a preservative. The pH of the product is adjusted with sodium hydroxide or hydrochloric acid prior to lyophilization. At the time of manufacture, the air in the vial is replaced with a nitrogen gas atmosphere. When sterile, nonpyrogenic sodium pertechnetate Tc 99m solution is added to the vial, a diagnostic agent, technetium Tc 99m pyrophosphate, is formed for intravenous administration; the structure of this radiolabeled complex is unknown.

The product as supplied is sterile and nonpyrogenic.

INDICATIONS AND USAGE: Bone Imaging
Phosphotec (Technetium Tc 99m Pyrophosphate Kit) may be used as a bone imaging agent to delineate areas of altered osteogenesis.

Cardiac Imaging
Phosphotec is a cardiac imaging agent used as an adjunct in the diagnosis of acute myocardial infarction. The infarction is best visualized one to six days after onset of symptoms. False-negative images can occur if imaging is done too early in the evolutionary phase of the infarct or too late in the resolution phase. The incidence of false-positives may range from 5 to 9 percent and of false-negatives from 6 to 9 percent but may vary even more depending on selection criteria of patient populations.

Blood Pool Imaging
Phosphotec is also a blood pool imaging agent which may be used for gated cardiac blood pool imaging.

CONTRAINDICATIONS: None known.

WARNINGS: 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. The impairment may result in false-positive or false-negative brain scans. It is recommended, where feasible, that brain scans precede bone imaging procedures. Alternatively, a brain-imaging agent such as technetium Tc 99m pentetate may be employed.

PRECAUTIONS: General
The lyophilized contents of the Phosphotec reaction vial are to be administered to the patient only as an intravenous solution.

Any sodium pertechnetate Tc 99m solution which contains an oxidizing agent is **not** suitable for use with Phosphotec (Technetium Tc 99m Pyrophosphate Kit).

When reconstituted with sodium pertechnetate Tc 99m, Phosphotec must be used within 6 hours. **When reconstituted with Sodium Chloride Injection USP** for blood pool imaging, use the solution within 30 minutes.

Technetium Tc 99m pyrophosphate as well as other radioactive drugs must be handled with care, and appropriate safety measures should be used to minimize radiation exposure to the patient and occupational workers 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.

Bone Imaging
Both prior to and following administration of the technetium Tc 99m pyrophosphate, the patient should be encouraged to drink fluids and to void as often as possible thereafter to minimize radiation exposure to the bladder and background interference during imaging.

Cardiac Imaging
The patient's cardiac condition should be stable before beginning the cardiac imaging procedure. If not contraindicated by the patient's cardiac status, patients should be encouraged to drink fluids and to void as often as possible in order to reduce unnecessary radiation exposure to the bladder. Interference from chest wall lesions such as breast tumors and healing rib fractures can be minimized by employing the three recommended projections. False-positive and false-negative myocardial scans may occur; therefore, the diagnosis of acute myocardial infarction depends on the overall assessment of laboratory and clinical findings.

Blood Pool Imaging
The reconstituted agent should be injected by direct venipuncture. Heparinized catheter systems should be avoided, as interference with red blood cell tagging will result.

Carcinogenesis, Mutagenesis, Impairment of Fertility
No long-term animal studies have been performed to determine any carcinogenic potential or impairment of fertility in males or females.

Teratogenic Effects: Pregnancy Category C
Animal reproduction studies have not been conducted with technetium Tc 99m pyrophosphate. It is also not known whether technetium Tc 99m pyrophosphate can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Technetium Tc 99m pyrophosphate should be administered 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
Caution should be exercised when technetium Tc 99m pyrophosphate is administered to a nursing woman. 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: Some hypersensitivity reactions have been associated with pyrophosphate use.

HOW SUPPLIED: Phosphotec (Technetium Tc 99m Pyrophosphate Kit) is supplied in a kit containing 10 reaction vials (5 ml size).

For full prescribing information, consult package insert.

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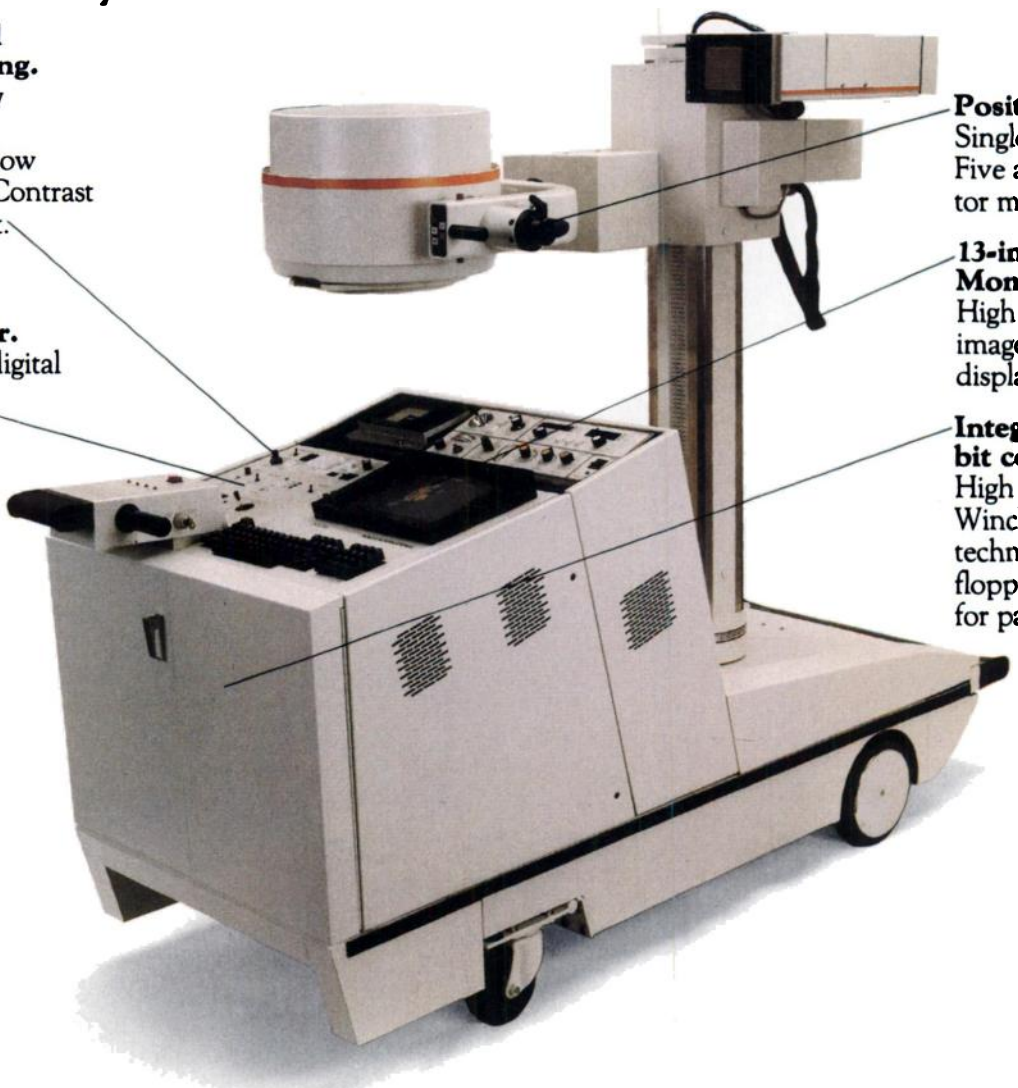

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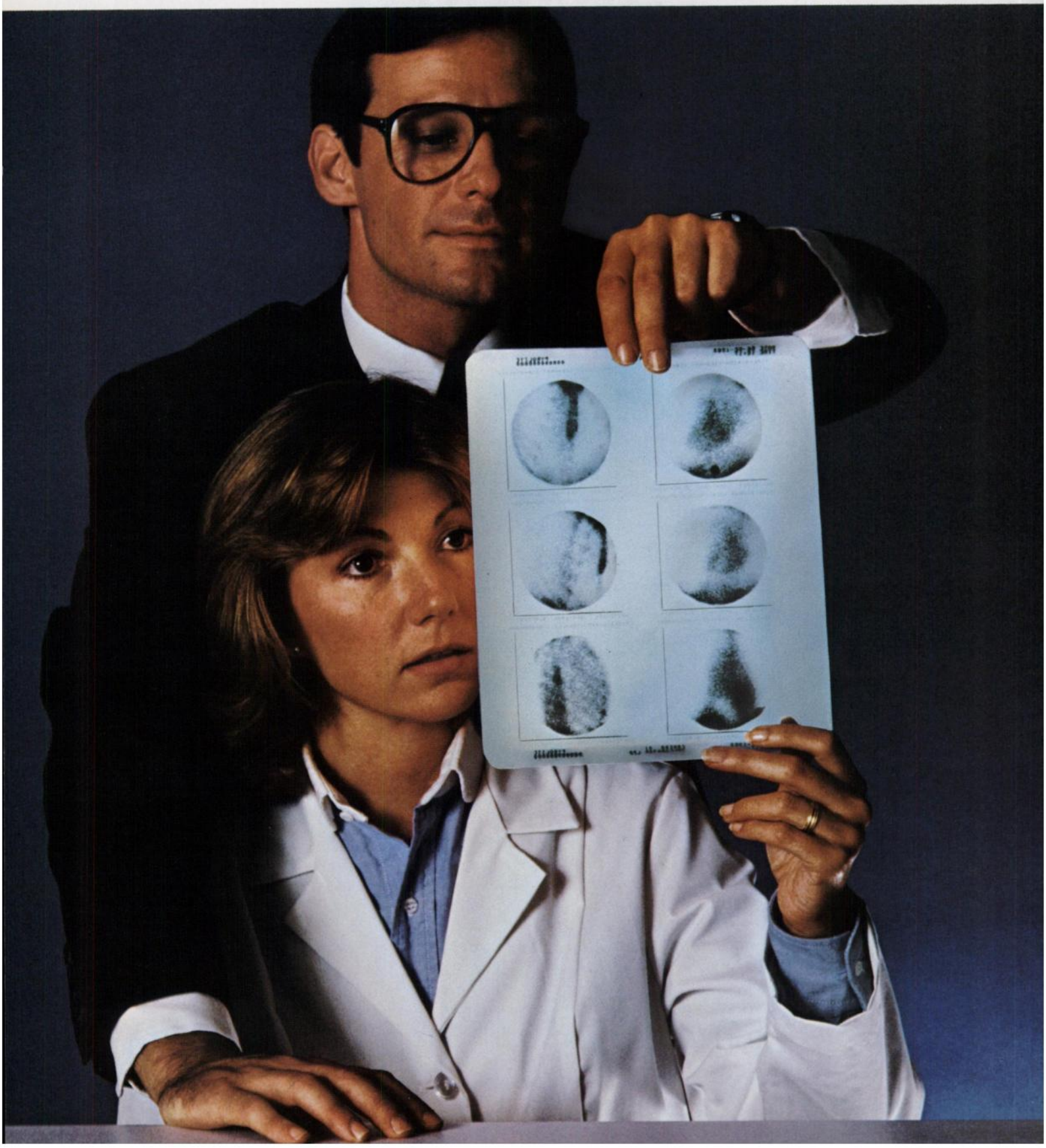

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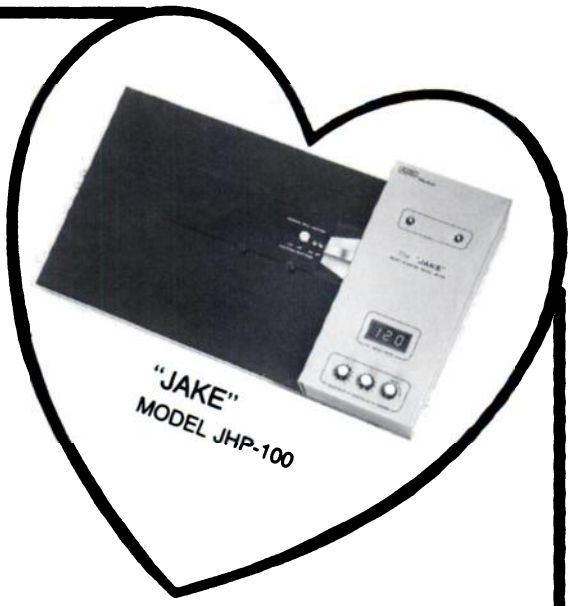

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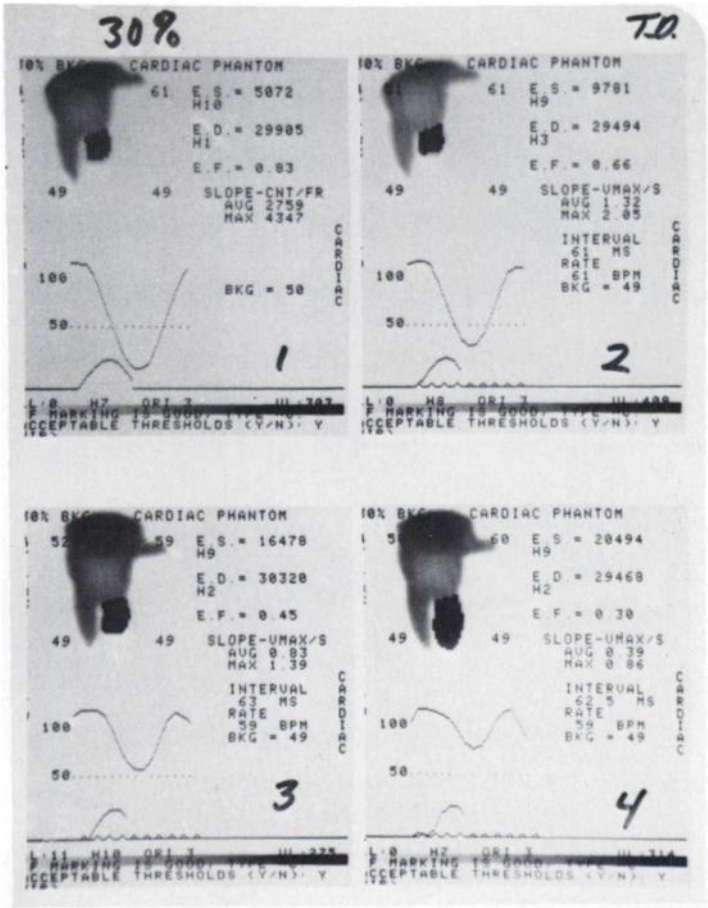

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AccuSync-4	All **AccuSync-3** features with the exception of the Heart Rate/R-R int. display.

AMR **A**dvanced **M**edical **R**esearch Corp./301 Brewster Road/P.O. Box 3094
Milford, CT 06460/Telephone: (203) 877-1610

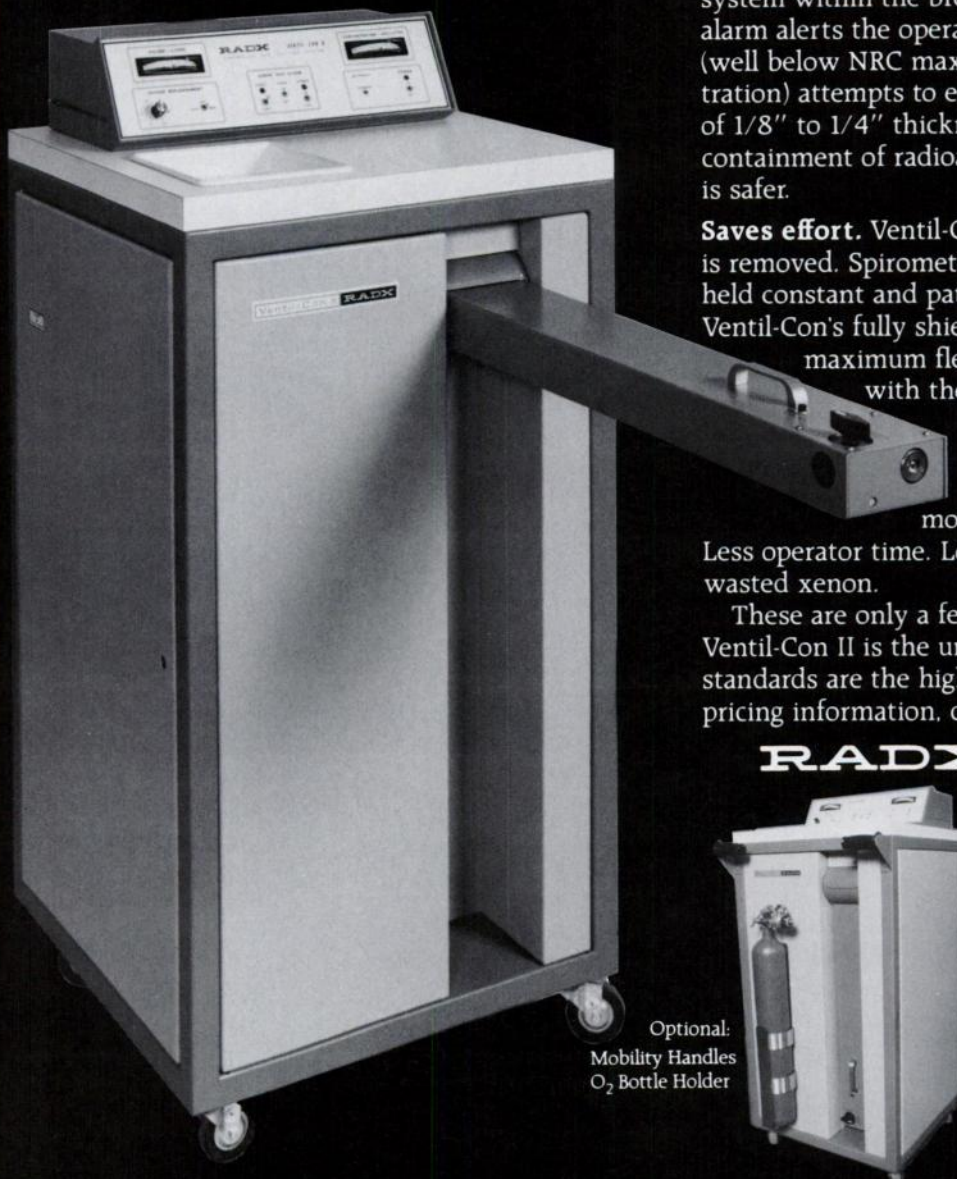
Ventil-Con II

The number one ^{133}Xe System in use today

Ask about the ^{127}Xe expanded capability

And there are plenty of good reasons for Ventil-Con's leadership. Quality is the first. Only RADX builds in the kind of excellence that has set the worldwide standard for reliability. Ventil-Con II is also the **only** completely mobile xenon gas ventilation unit available anywhere.

Saves money and time. Ventil-Con retains over 90% of the xenon gas within its dry spirometer system, ready for use and re-use in examination after examination. A bacteriological filter and CO_2 absorber within the spirometer breathing system continuously filter the xenon enriched atmosphere breathed by the patient. Breathing resistance is only 0.2" of water. No disconnects or aborted exams caused by breathing resistance. Result: More patient throughput.



Saves radiation. An internal charcoal cartridge pack traps the xenon gas exhausted by the patient at washout. The flow of gas to the charcoal pack is completely controlled by an interface system within the breathing apparatus. A built-in alarm alerts the operator if more than 2 uCi/liter (well below NRC maximum permissable concentration) attempts to escape. Radiation shielding of 1/8" to 1/4" thickness of lead provides positive containment of radioactivity. Result: Ventil-Con II is safer.

Saves effort. Ventil-Con II admits oxygen as CO_2 is removed. Spirometer volume is automatically held constant and patient comfort is assured. Ventil-Con's fully shielded movable arm provides maximum flexibility in patient positioning, with the least amount of "dead air" space. A volume meter and xenon concentration meter allow continuous operator monitoring. Results: Less effort. Less operator time. Lower operating costs. Less wasted xenon.

These are only a few of the reasons why Ventil-Con II is the unchallenged leader where standards are the highest. For more details and pricing information, contact RADX.

Optional:
Mobility Handles
O_2 Bottle Holder

RADX

1390 West Belt Drive
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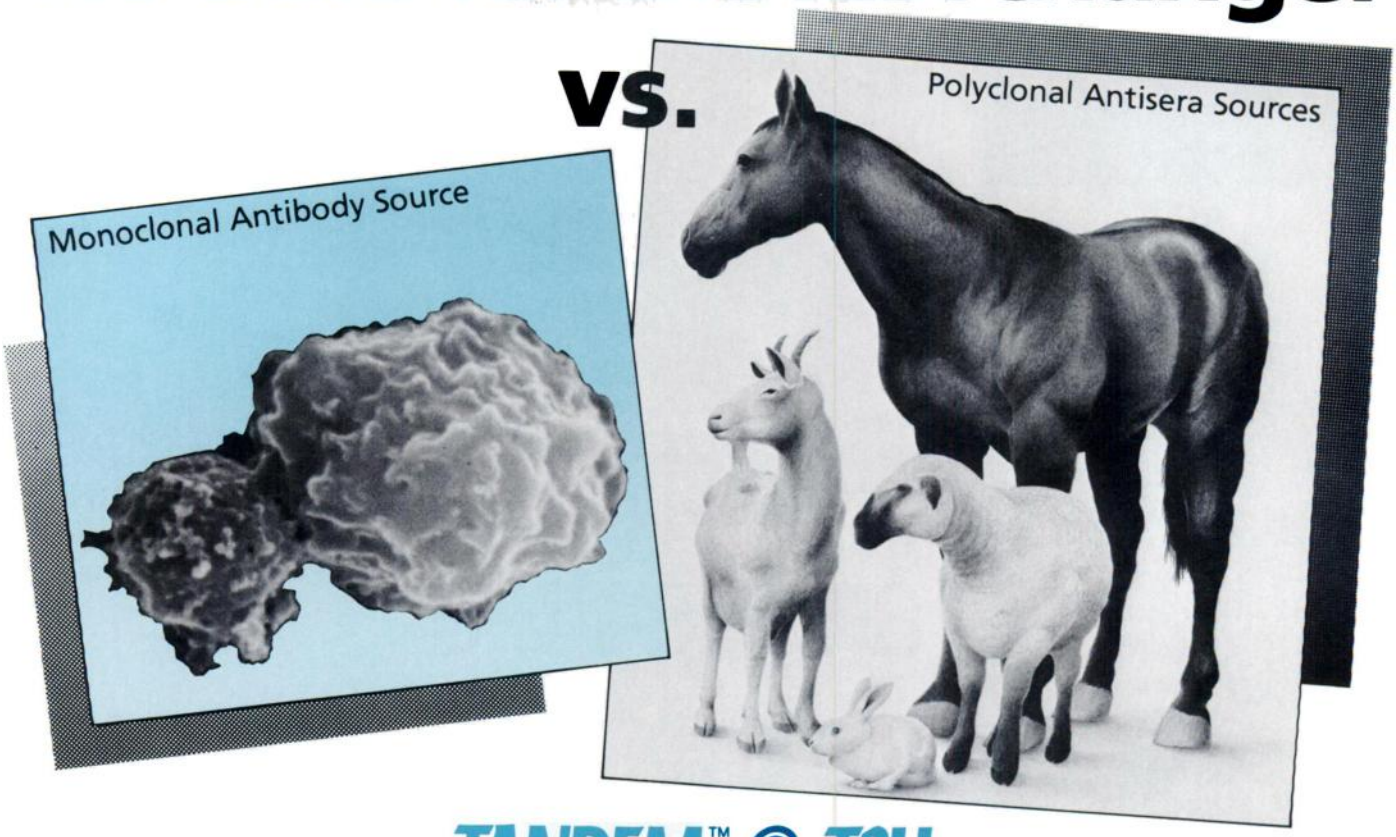
713/468-9628

RADX has a better way!

In TSH Testing. It's time for the last change.



TANDEM™-R TSH

Like most laboratories you've probably changed TSH assays several times in the past few years. Chances are you're still not entirely satisfied with the precision and reproducibility of results you're getting.

POLYCLONAL ANTISERUM —THE PROBLEM

We think we know the source of your problem—the polyclonal antiserum used in conventional RIA assays. Cross-reactivity and batch-to-batch variation problems, inherent with traditional TSH assays, compromise the reliability of results—no matter whose kit you use.

MONOCLONAL ANTIBODIES —THE SOLUTION

Now it's time for one last change—to **TANDEM-R TSH.** Monoclonal antibodies used in **TANDEM** are available in unvarying unending supply, eliminating once and for all the potential for batch-to-batch antibody variability. Two *different* monoclonal antibodies in a solid phase two-site IRMA assure *precise* identification of the TSH molecule.

MORE TO OFFER

But consistency is only the beginning. There are other important reasons to consider changing to **TANDEM.**

- ***Precision.*** **TANDEM-R TSH** has consistently lower between run percent CV's than leading competitors.
- ***No lipids interference.*** **TANDEM-R TSH** eliminates special handling of lipemic samples.
- ***Most sensitive assay available.*** **TANDEM-R TSH** measures less than 0.2 μIU/ml.

REVIEW ALL THE REASONS

We want to show you why the time has come to change to **TANDEM-R TSH.** An indepth report is available with facts and figures which will convince you that **TANDEM-R TSH** is an easier, more reliable assay than the one you're currently using.

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TANDEM-R TSH
Catalog No. 3153, 100 determinations
Also available in 400 determinations

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28

Unique multiprocessor architecture is behind apex high-power processing, easy servicing, compact design and full upgradeability.

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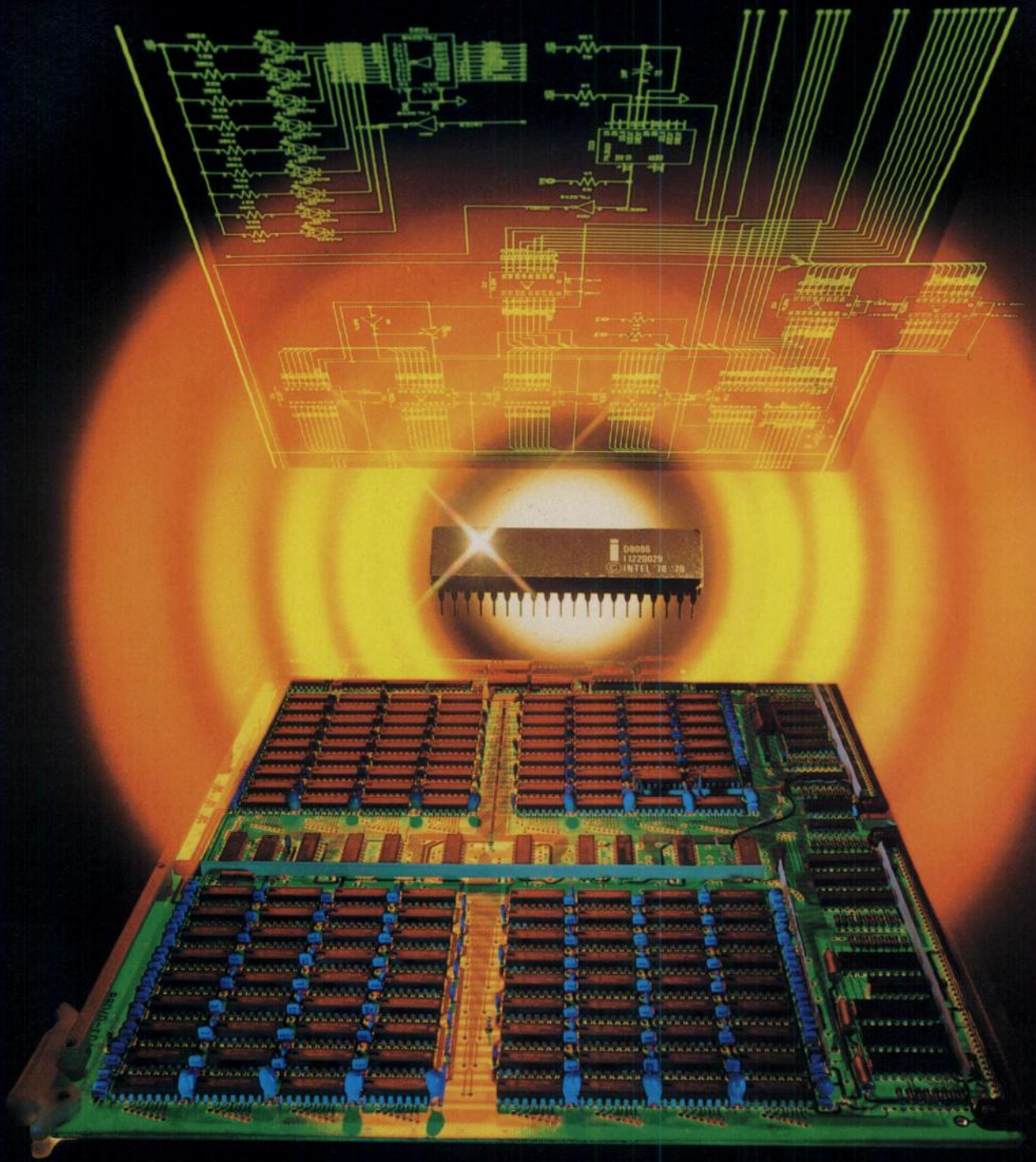
Elscint has prepared a full-color booklet detailing all 32 reasons. Contact us today for your personal copy.

28

Apex architecture represents a significant advance in NM imaging technology. Four separate processors, integrated with a 545 Kbyte memory, are in constant communication to provide maximum speed, versatility, and processing power, through multitasking.

In addition to the basic Apex system, there are advanced models capable of simultaneous multicamera acquisition and concurrent processing of acquired and stored data. Apex multiprocessor architecture enables upgrading of any system to a higher configuration to meet growth requirements.

Apex Processors: 32 Ways Better!



Elscint Inc., *930 Commonwealth Avenue, Boston, MA 02215, U.S.A. Call Toll Free: 800-343-9504.*
Elscint European Operations, *40 Rue Jean Jaurès, 93170 Bagnolet, France. Tel: (01)362.13.05.*

NEN announces

PYROLITE™

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates Kit

our new blood pool imaging agent

☐ High target-activity concentration
☐ Efficient labeling that persists for several hours
☐ Rapid, simple preparation

INDICATIONS AND USAGE: Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates may be used as a bone imaging agent to delineate areas of altered osteogenesis.

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates may also be useful in myocardial imaging as an adjunct in the diagnosis of acute myocardial infarction. False negative images can occur if done too early in the evolutionary phase of the infarct or too late in the resolution phase. False positive images have been reported following coronary bypass graft surgery, in unstable angina pectoris, old myocardial infarcts, and in cardiac contusions.

PYROLITE is a blood pool imaging agent which may be used for gated cardiac blood pool imaging. When administered intravenously thirty minutes prior to the intravenous administration of sodium pertechnetate Tc 99m approximately 75% of the injected activity remains in the blood pool.

CONTRAINDICATIONS: None known.

WARNINGS: It has been reported that false-positive or false-negative brain scans may result when brain scans using sodium pertechnetate Tc 99m are performed after a bone scan has been done using an agent containing stannous chloride, e.g., a pyrophosphate or polyphosphate bone agent. Therefore, in those cases where both brain and bone scans are indicated, the brain scan should be performed first, if feasible. Alternatively, another brain imaging agent, such as Technetium Tc 99m Pertechnetate DTPA, may be employed.

PRECAUTIONS: Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates, as well as any radioactive agent, must be handled with care. Once sodium pertechnetate Tc 99m is added to the vial, appropriate safety measures should be used to minimize external radiation exposure to clinical 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 void when the examination is completed and as often thereafter as possible for the next 4-6 hours, if not contraindicated by the patient's cardiac status.

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates should be used within six hours of preparation.

Carcinogenesis, Mutagenesis, Impairment of Fertility

No long term animal studies have been performed to evaluate carcinogenic potential or whether Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates affects fertility in males or females.

Pregnancy Category C

Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse affects on the fetus. Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates should be used in pregnant women only when 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 feeding.

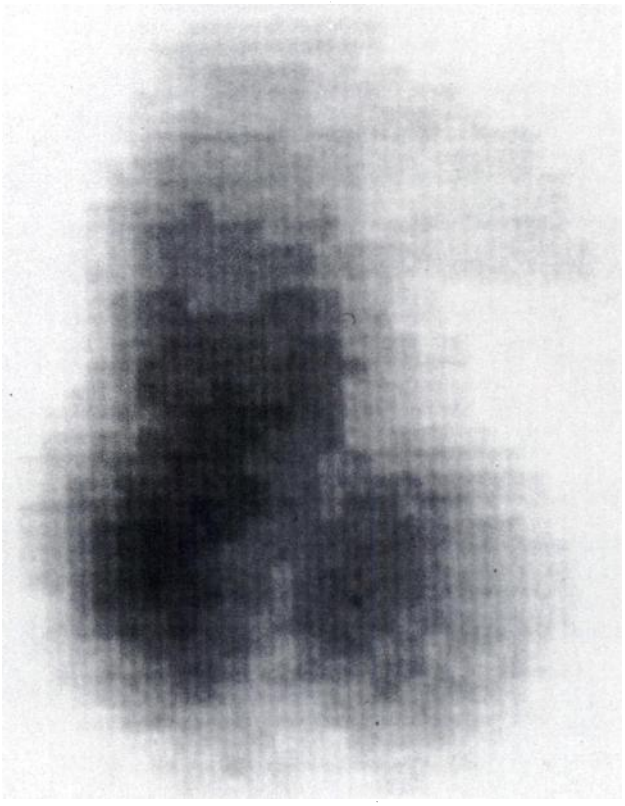
Pediatric Use

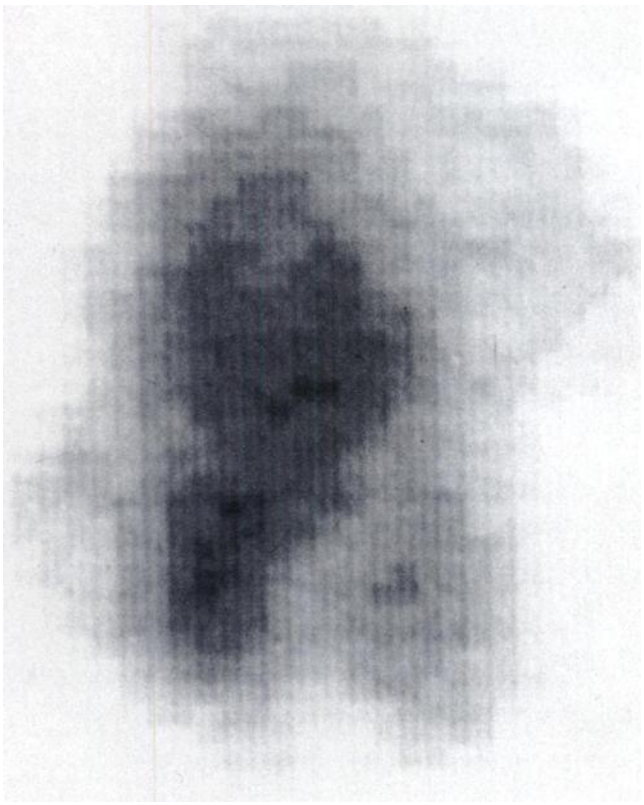
Safety and effectiveness in children have not been established.

General

Radiopharmaceuticals should be used by persons who are qualified by specific training in the safe use and handling of radionuclides produced by nuclear reactor or particle accelerator and whose experience and training have been approved by the appropriate government agencies authorized to license the use of radionuclides.

ADVERSE REACTIONS: No adverse reactions specifically attributable to the use of Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates have been reported.





DOSAGE AND ADMINISTRATION: The suggested dose range for i.v. administration to be employed in the average patient (70kg) is:

Bone imaging: 5-15mCi Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates

Scanning post-injection is optimal at about 3-4 hours

Myocardial Imaging: 10-20mCi Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates

Scanning post-injection is optimal at 60-90 minutes.

Blood pool imaging: 5-20mCi of sodium pertechnetate Tc 99m.

For blood pool imaging the PYROLITE kit is reconstituted with three to four ml of sterile sodium chloride injection, U.S.P. and sufficient solution is injected intravenously to yield a patient dose of 14-42mg Sodium (Pyro- and Trimeta-) Phosphates (to provide a range of 3-15μg of tin per kilogram body weight). Five to thirty minutes later, 5 to 20mCi of sodium pertechnetate Tc 99m is administered intravenously. Imaging can begin at once for "first pass" studies and after about five minutes for static blood pool imaging.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

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

Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates is prepared by simply adding 3-7 ml of sodium pertechnetate Tc 99m solution to the vial and swirling for about one minute.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration.

Shielding should be utilized when preparing the Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates.

HOW SUPPLIED: NEN's PYROLITE™ Technetium Tc 99m Sodium (Pyro- and Trimeta-) Phosphates Kit is supplied as a set of five or thirty vials, sterile and non-pyrogenic. Each vial contains in lyophilized form:

Sodium Pyrophosphate—10mg

Sodium Trimetaphosphate—30mg

Stannous Chloride ($SnCl_2 \cdot 2H_2O$) (Minimum)—0.95mg

Total Tin, maximum (as stannous chloride $SnCl_2 \cdot 2H_2O$)—1.8mg

Prior to lyophilization the pH is adjusted to between 4.5-5.5 with hydrochloric acid and/or sodium hydroxide solution. The contents of the vial are lyophilized and stored under nitrogen. Store at room temperature (15°-30°C). Contains no bacteriostatic preservative.

Included in each five vial kit is one (1) package insert and twelve (12) radiation labels. Included in each thirty vial kit is one (1) package insert and seventy-two (72) radiation labels.

Catalog Number NRP-430 (5-Vial Kit)
Catalog Number NRP-430C (30-Vial Kit)

February 1983

New England Nuclear, 549 Albany St., Boston, MA 02118, Toll-Free 800-225-1572, In Mass. and International 617-482-9595, Telex: 94-0996
Europe: NEN Chemicals GmbH, D-6072 Dreieich, W. Germany, Postfach 401240, Tel: (06103) 803-0, Order Entry: (06103) 803115 Telex: 4-17993 NEN D
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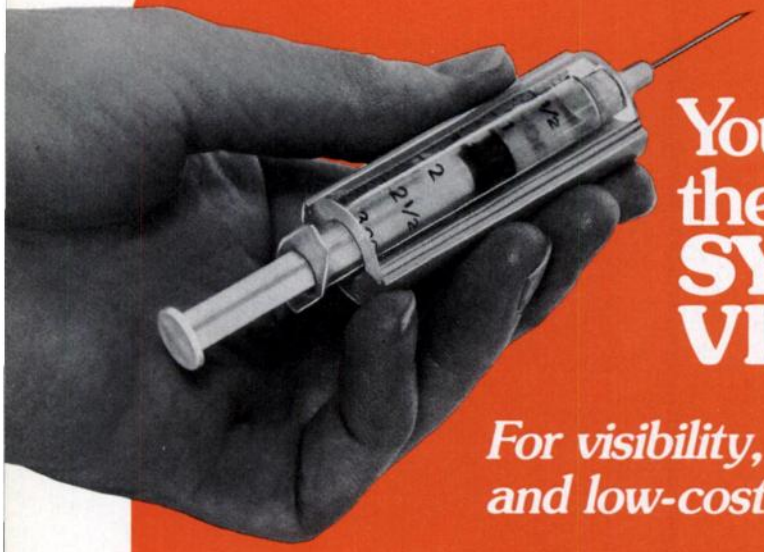


You can't beat the NEW ALL-VUE™ SYRINGE and VIAL SHIELDS

For visibility, personal safety and low-cost window replaceability

All-Vue SYRINGE SHIELDS

- **Large, crystal-clear viewing area assures maximum visibility of syringe.**

An "*All-Vue*" Syringe Shield provides the maximum viewing area required when dispensing radionuclides—a full 180°. Half of the shield is made of lead; the other half is clear, high-density lead glass. Exposure to the technologist is reduced by over 95%. A major feature is the replaceable lead-glass window. If it should crack or break accidentally, a new window can be installed easily and at a relatively low cost. The shield's lightweight, slim design does not interfere with injection techniques.

56-211B	"All-Vue" Syringe Shield, 1 cc	$110.00
56-212B	"All-Vue" Syringe Shield, 2½ to 3 cc	110.00
56-213B	"All-Vue" Syringe Shield, 5 to 6 cc	120.00
G-56211B	Replacement Window for 56-211B Shield	40.00
G-56212B	Replacement Window for 56-212B Shield	40.00
G-56213B	Replacement Window for 56-213B Shield	45.00

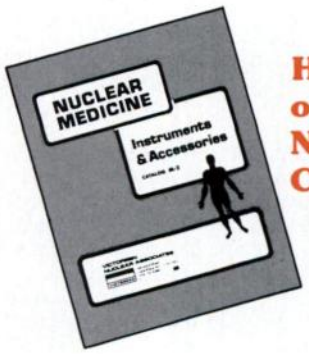
All-Vue VIAL SHIELDS

- **For viewing, handling and dispensing the radioactive contents of shielded vials and containers without removal from their shielding.**

An *"All-Vue"* Vial Shield assures the greatest safety and convenience for personnel who handle radionuclides in vials and other small containers. It consists of a lead container with a large lead-glass window for viewing the exact liquid level in the enclosed vial. An opening in the screw-on cover permits the insertion of a syringe for withdrawing the radionuclide (see photo).

Has ¼" lead walls; ideal for ^{99m}Tc and other low-energy gamma emitters. Accepts vials up to 3⅛" high x 1½" diam. Measures 4" high x 2" O.D. Weighs 2¼ lbs.

56-230B	"All-Vue" Vial Shield	$185.00
G-56230B	Replacement Lead-Glass Window	40.00



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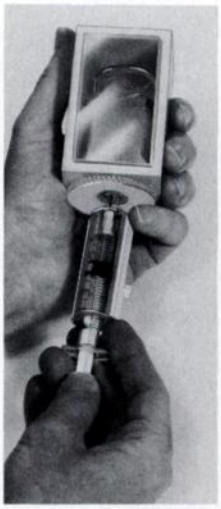
Available on request.



Syringe Shield in use with Vial Shield

Vial Shield

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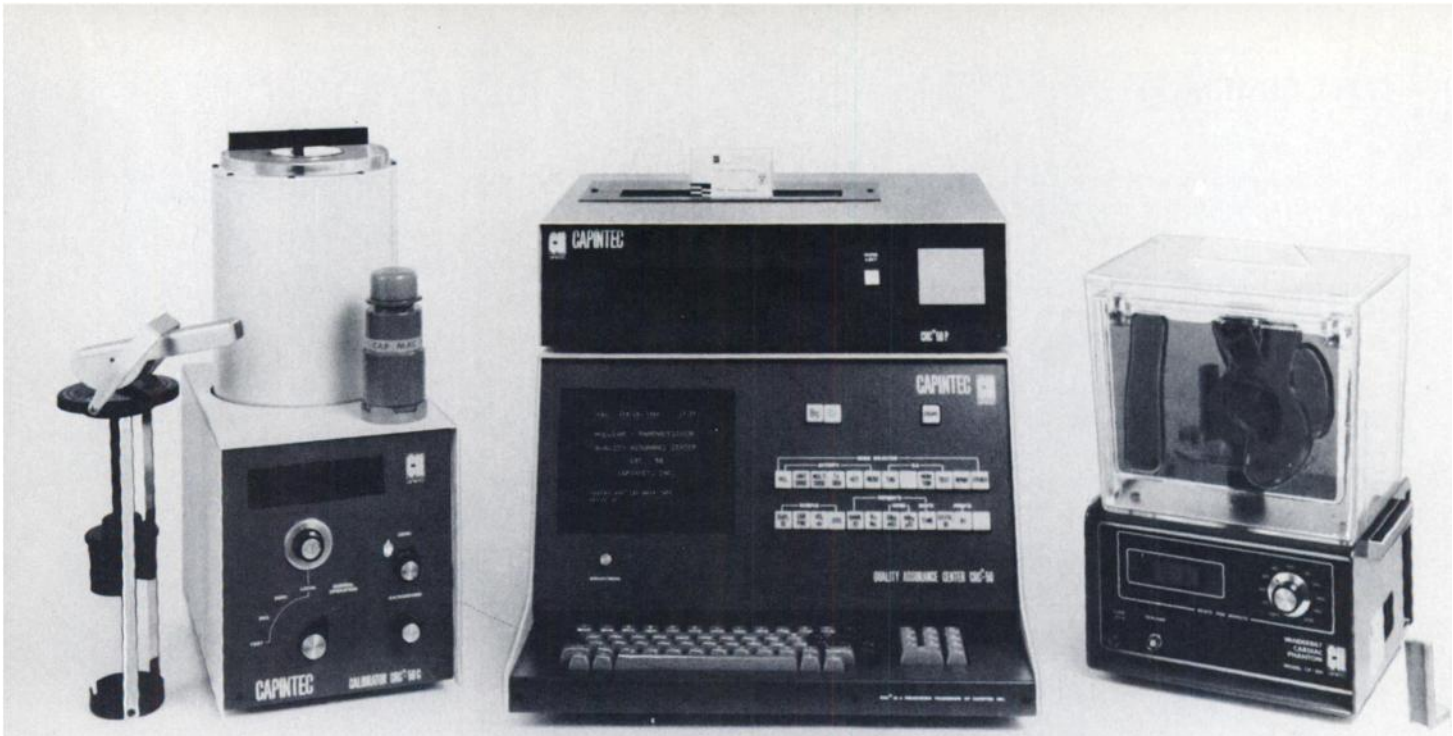

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  All the radionuclide dose calibration data you need is at your fingertips with the CRC-50. The compact modular system provides future dose planning, inventory control, and record keeping capabilities. You'll have push-button access to ten program modes, CRT display, both ticket and page-size reports plus a minicassette record — all together in an easy-to-operate, easy-to-own system.

- **The CAP-MAC™ Moly Assay Canister**
  A fully shielded method for molybdenum breakthrough assays. The CAP-MAC encloses the vial during "milking" of your technetium generator; during transport to the ionization chamber; during Mo99 and Tc99m activity measurement; and, finally, for safe removal from the chamber. It's safe — and simple.

- **The Vanderbilt Cardiac Phantom (CP-201)**
  The CP-201 provides unparalleled simulation of left ventricle and atrium geometry. It produces a variable heartbeat rate and assesses ejection fraction. It rotates to allow for exact determinations of wall motion. The Vanderbilt Cardiac Phantom is the new standard in total imaging system evaluation, including gated studies.

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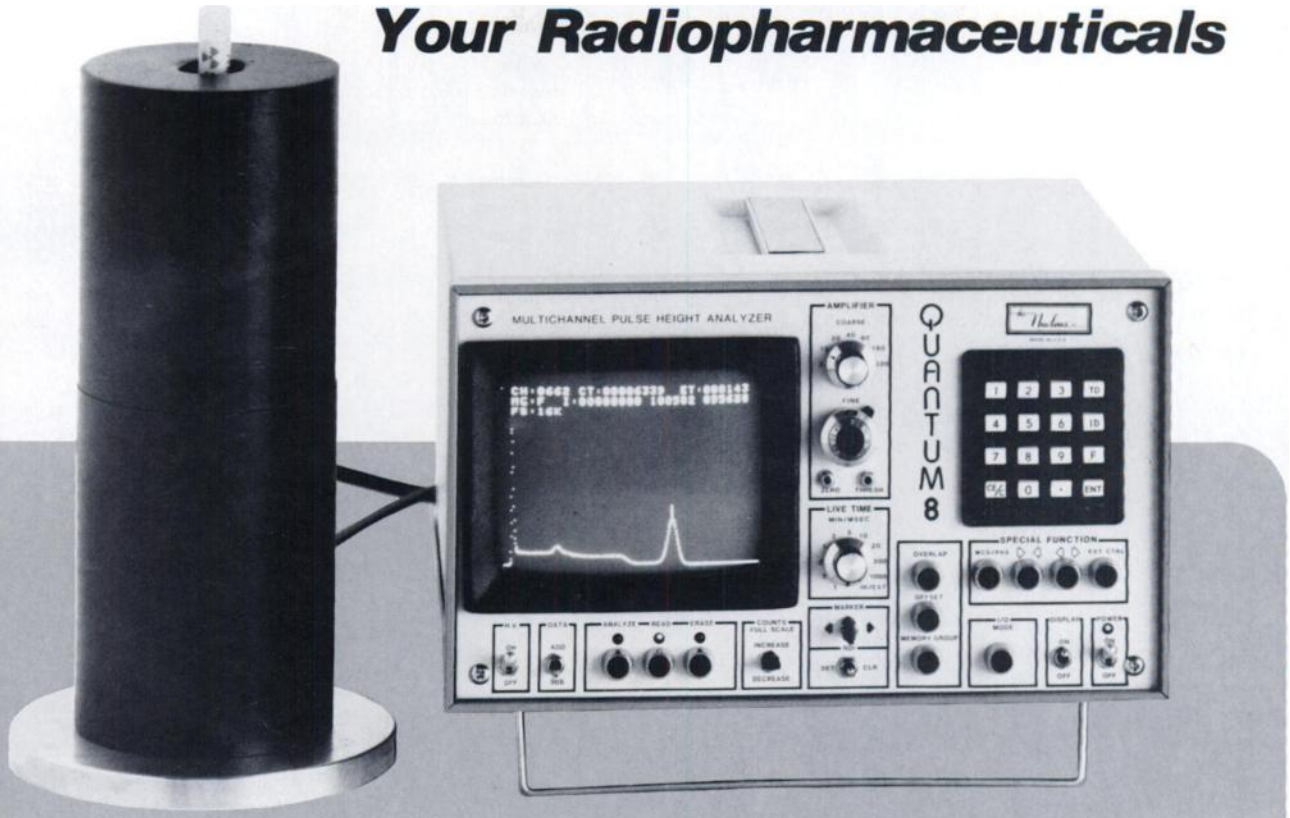

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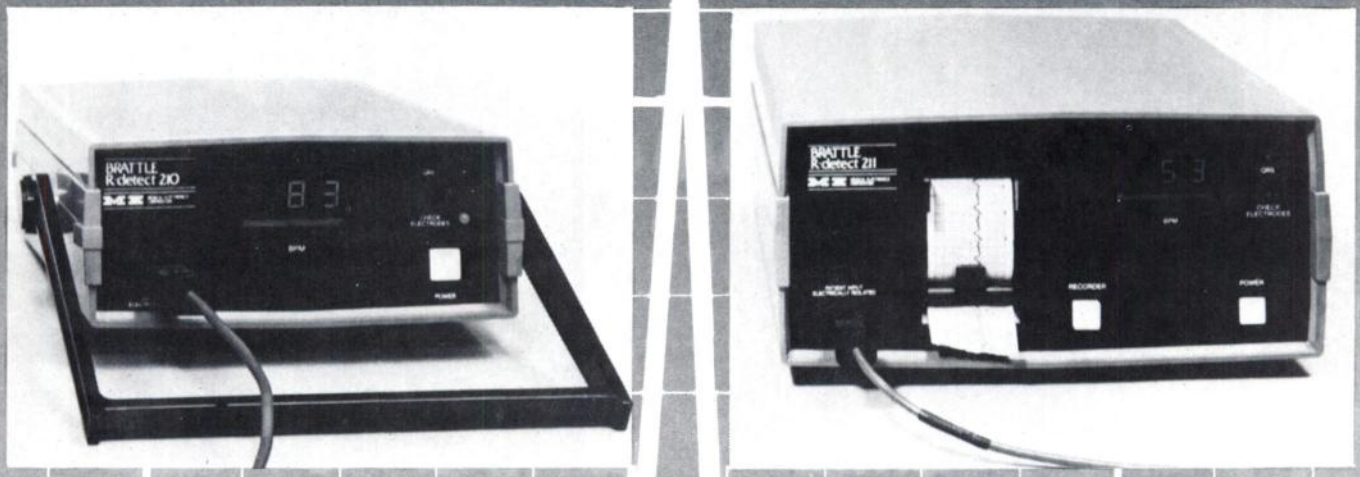
The BRATTLE R-DETECT automatically adjusts the threshold level . . . there is *no* manual setting needed.



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On February 5–6, 1984 the Computer and Instrumentation Councils of the Society of Nuclear Medicine will present 2 days of symposia on one of the most challenging developments in nuclear medicine.

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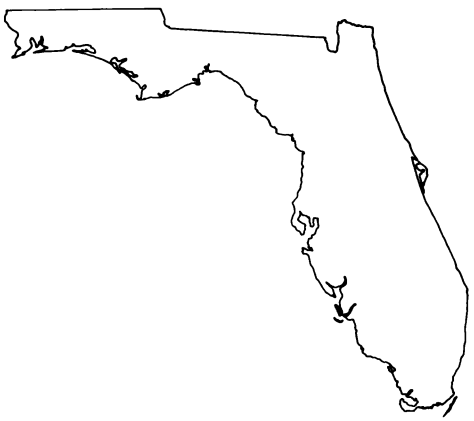
- Imaging techniques for spacial encoding
- Problems of pulse sequencing
- Image processing and display
- Spectroscopy
- System evaluation and phantom design

Physicians, basic scientists and senior technologists are invited to attend. The program is approved for AMA Category I credit.

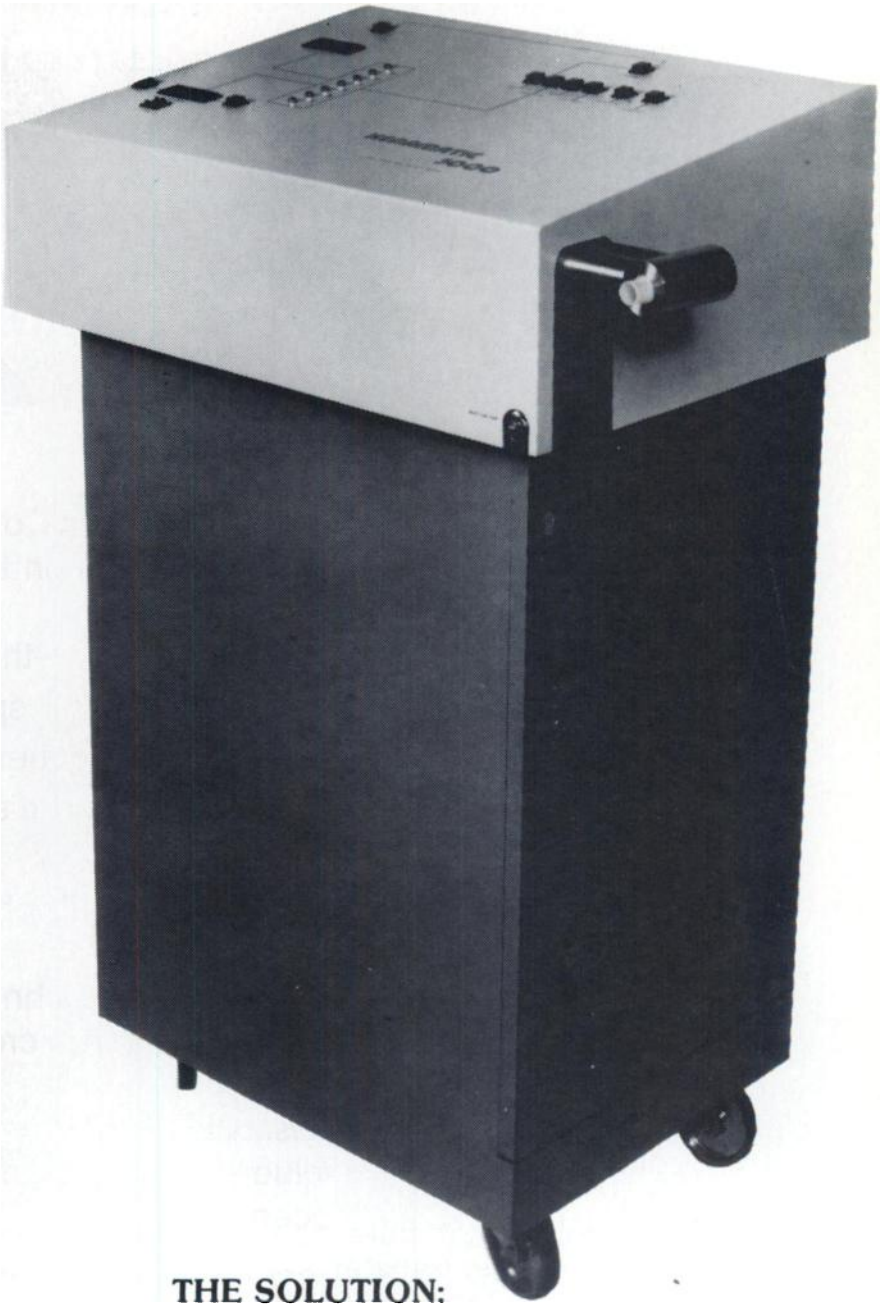
Registration Fee: (Includes a copy of the proceedings.)	SNM member	$50
	Nonmember	$80
Room Accommodation:	$57/night	

For more information write: Society of Nuclear Medicine, Meetings Department, 475 Park Avenue South, New York, NY 10016 or call (212)889-0717.



Sheraton World Hotel
Orlando, Florida
February 5–6, 1984

XE 127 + XENAMATIC™ = THE SOLUTION



THE PROBLEM:
You would like to do the lung perfusion images first, look at the images and decide if a ventilation study is called for.

THE SOLUTION:
Xenon 127. Its higher energies allow effective elimination of Tc 99m gammas from subsequent ventilation images.

THE PROBLEM:
The short half-life of Xenon 133 makes availability a problem, increases shipping costs, and we lose much of it through decay.

THE SOLUTION:
Xenon 127. Its 36 day half-life eliminates the inherent problems of short lived Xenon 133.

THE PROBLEM:
Xenon delivery systems currently being offered are not sufficiently shielded for Xenon 127.

THE SOLUTION:
The XENAMATIC Xenon Gas Delivery System with the optional Xenon 127 lead shielding. Additional lead is provided throughout the unit. In strategic locations we provide up to 1/2 inch of lead. Our goal: to achieve a radiation level of less than 2 mr/hr at the surface under normal use conditions.

THE PROBLEM:
Xenon Traps are really delay systems. If it delays the Xenon long enough for it to decay, then it approaches a trap in function. With Xenon 127, activated charcoal traps either must be significantly larger than previously available traps or they must be refrigerated.

THE SOLUTION:
The XENAMATIC. Our Xenon Trap Cartridge Pack offers 20 feet of continuous activated charcoal pathway (3" in diameter) via nine individual tubes connected in series. Additionally, the individual tubes are specially constructed to inhibit the normal redistribution of "trapped" Xenon which occurs even when the trap is not being used.

THE XENAMATIC™ IS THE ONLY ANSWER!

For more information, call or write today:

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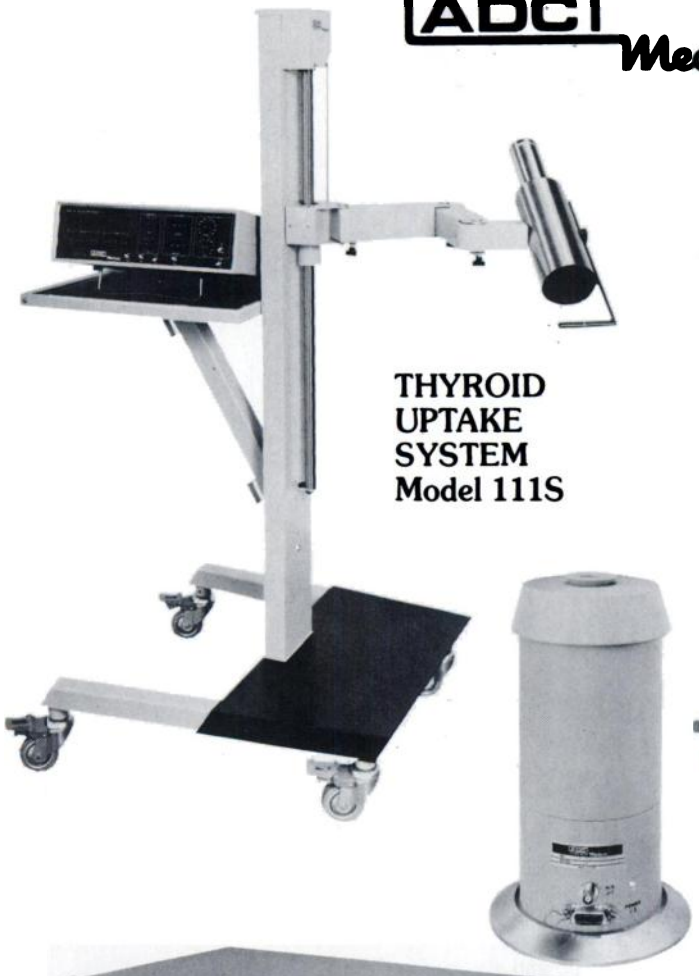

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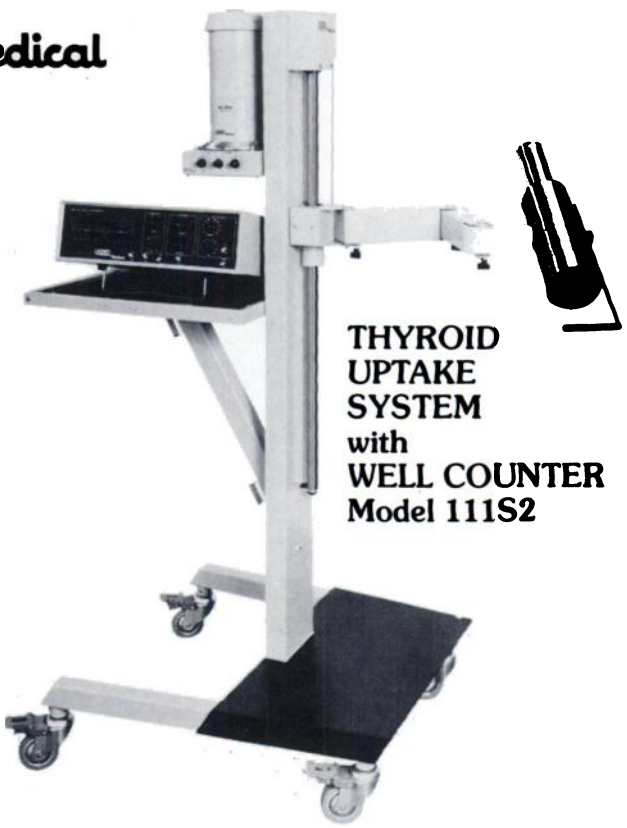
SYSTEM
Model 111S



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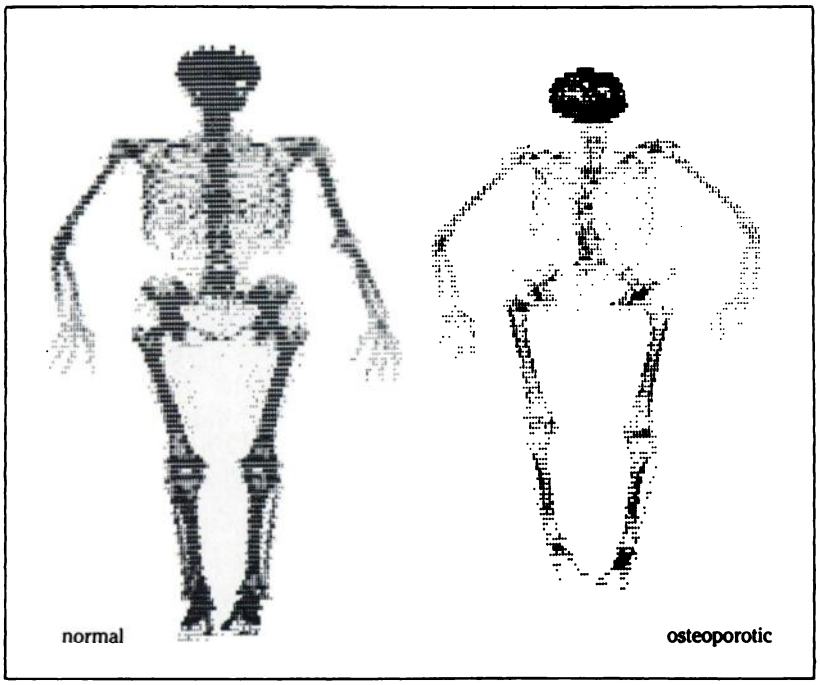
The Leader in Bone Measurement



courtesy of J.C. Gallagher - Creighton Univ., Omaha, NE

Metabolic bone disease isn't always as evident as in these quantitative images from our DP4 Total Body Scanner using dual photon (^{153}Gd) absoptiometry but it is usually evident in the spine (60-80% of osteoporotics are below the fifth percentile).

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DP4 Total Body Scanner: *"The Total Picture"* *Measures the total skeleton as well as spine and femoral neck for clinical research.*	*$65,000*
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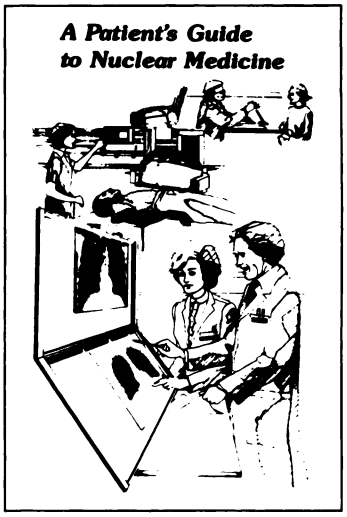
2 New Patient Information Pamphlets

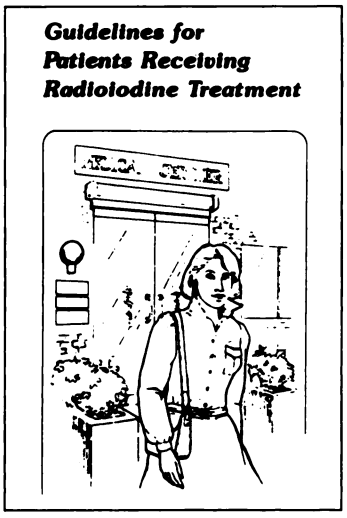
A Patient's Guide to Nuclear Medicine



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 x 8½; in 2 colors;
20¢ per pamphlet; minimum order: 100 copies



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 x 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 of proper health care.

ORDERING INFORMATION

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.*

THE SOCIETY OF NUCLEAR MEDICINE
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POSITIONS OPEN

NUCLEAR RADIOLOGIST. The Department of Radiology at The University of Florida College of Medicine is currently recruiting for the position of Section Chief of Nuclear Radiology Service at the Gainesville Veterans Administration Hospital, to begin January 1, 1984. Certification in Diagnostic Radiology desirable. One or more years additional training in nuclear radiology desirable. Instructor to Assistant Professor rank and salary subject to qualifications and experience. Application deadline is December 1, 1983. Contact Clyde M. Williams, MD, Chairman, Department of Radiology, University of Florida, Box J-374 JHMHC, Gainesville, FL 32610. An equal employment/affirmative action employer.

NUCLEAR MEDICINE STAFF PHYSICIAN, ABNM Board certified at a 490-bed general medicine/surgical Veterans Administration hospital with academic appointment of Assist/Assoc. Prof. Radiol., Univ. of PA Medical School. An Equal Opportunity/Affirmative Action Employer. Please contact Ms. Juanita Norwood at (215)382-2400 X6259.

EXPERIENCED RADIOLOGIST with special training in computerized tomography, ultrasound, echocardiography, doppler studies of carotid arteries and heart, general and cardiac nuclear medicine, and digital angiography needed for medical diagnostic scanning center. Please respond with *curriculum vitae* to: Robert J. Matthews, MD, 14140 Magnolia Blvd., Sherman Oaks, CA 91423.

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NUCLEAR MEDICINE PHYSICIAN. Position open in University Hospital. ABNM certified or eligible. Background of pathology or internal medicine preferred. Interest in radiochemistry/radiopharmacy appreciated. Ample opportunity for research and development work. Excellent fringe benefits. Please send resume to: D. Pavel, MD, University of Illinois Hospital, PO Box 6998, Chicago, IL 60680. An Equal Opportunity Employer.

RADIOLOGIST wanted to join a seven-man private practice group in a 500-bed, progressive hospital in suburban New Orleans. Prefer applicant Board certified in radiology and certified or eligible in nuclear medicine. Nuclear Medicine Section is well-equipped with emphasis on nuclear cardiology. Please send resume to: A.R. Sandrock, MD, Dept. of Radiology, East Jefferson General Hospital, 4200 Houma Blvd., Metairie, LA 70011.

POSITION OPEN at The University of Texas System Cancer Center for a Research Associate, organic chemist, PhD, with 2-5 years postdoctoral experience required for synthesis of radiolabeled compounds from cycloton-produced radioisotopes. Send resume to Roy S. Tilbury, PhD, Nuclear Medicine Section, Box 81, M.D. Anderson Hospital, 6723 Bertner, Houston, TX 77030, or call (713)792-2867.

RESIDENCY IN NUCLEAR MEDICINE. 2-year approved program offering broad clinical experience at tertiary care and community hospitals in oncology and pediatrics, ultrasound and CT, strong basic science teaching, radiation safety, central radiopharmacy and RIA, opportunity for research, an integrated program at State University of New York at Buffalo School of Medicine. Available January 1, 1984 and July 1, 1984. Contact: J.A. Prezio, MD, FACP, Program Director and Acting Chairman, Dept. of Nuclear Medicine, SUNY/Buffalo, 3495 Bailey Ave., Building 5, Buffalo, NY 14215.

NUCLEAR MEDICINE RESIDENCY IN AGGME-approved program leading to ABNM eligibility at VAMC, West Los Angeles, Wadsworth Division, available July 1, 1984. Program provides opportunity in ultrasonography. Salary range $26,000-$30,000, depending on prior postgraduate training. Contact: William H. Blahd, MD, Chief, Nuclear Medicine Ultrasound Service, VAMC, West Los Angeles, Wadsworth Division, Los Angeles, CA 90073; (213)824-3130.

NUCLEAR MEDICINE FELLOWSHIP/RESIDENCY. July 1, 1984 at the Los Angeles County-University of Southern California Medical Center, the largest teaching hospital in the nation. Active training program with abundance of clinical pathology. The Department offers a "hands on" training experience with multiple computer systems, as well as linear and transaxial tomography. There is a close working relationship with the Department of Radiopharmacy, as well as active, on-going multi-discipline nuclear cardiology/oncology programs. Reply to: Michael E. Siegel, MD, Director of Nuclear Medicine, LAC-USC Medical Center, Box 693, 1200 N. State St., Los Angeles, CA 90033. The LAC-USC Medical Center is an equal opportunity, affirmative action employer.

NUCLEAR MEDICINE TECHNOLOGIST. Full-time position in Central Valley of California within 2 hours of mountains and ocean. Must be certified or eligible for certification. Competitive salary, excellent benefits. Send resume to: Barbara Henderson, Employment Coordinator, Valley Medical Center, 445 S. Cedar Ave., Fresno, CA 93702; (209) 453-5753. E.O.E.

NUCLEAR MEDICINE TECHNOLOGIST. Position available for a full-time nuclear medicine technologist in a cardiologist's office on the west coast of Florida. Should be registered/certified or registry eligible. Will perform full range of nuclear medicine imaging studies in nuclear cardiology, radiopharmaceutical preparation, and record keeping. Excellent salary and benefits package available. Interested candidates should send resume to: Box 1002, Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016.

NUCLEAR MEDICINE TECHNOLOGIST. New position available immediately for nuclear medicine/CT technologist. Full-time days. Will work half-time in each department. Require CNMT with a minimum of 1-year's experience. CT experience also preferred. Skagit Valley Hospital is a progressive, 137-bed, acute care facility located in the beautiful Pacific northwest, 1 hour north of Seattle, and surrounded by excellent recreational opportunities. Contact Personnel Department, Skagit Valley Hospital, 1415 E. Kincaid St., Mount Vernon, WA 98273; (206)428-2174. Equal Opportunity Employer.

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NUCLEAR MEDICINE TECHNOLOGIST. Position available at Bergan Mercy Hospital, Omaha, Nebraska. Position requires experience in imaging and certification by either ARRT or NMTCB. Large, progressive institution offering a competitive salary and excellent benefits. Call or write: Employee Relations, Bergan Mercy Hospital, 7500 Mercy Rd., Omaha, NE 68124; (402)398-6168.

NUCLEAR MEDICINE TECHNOLOGISTS. Staff and supervisory positions available in hospitals nationwide. Tell us your geographic preferences, career objectives, and personal needs. Our health care consultants will work with you to find your next position. All positions fee paid. Contact: Chuck Snyder, Dunhill of Orlando, Inc., 3800A Silver Star Road, Orlando, FL 32808 (305)291-2111.

NUCLEAR MEDICINE TECHNOLOGISTS needed NATIONWIDE! Attractive locations, excellent salaries, career opportunities. No cost to you. Contact Ruth Knight, Nationwide Recruiters, 3710 Landmark Dr., Suite 111, Columbia, SC 29204; (800)845-0992 or (803)738-1790.

NUCLEAR MEDICINE TECHNOLOGIST. Position now available for an experienced Nuclear Medicine Technologist certified by SNM or registered technologist in a private progressive outpatient nuclear medicine laboratory in a large city in a large medical center in the Sun Belt. Knowledge of radioimmunoassay, imaging, computer, and nuclear cardiology in addition to supervisory, administrative, and teaching experience required. Please send resume to: Box 1000, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE PHYSICIAN. Experienced Nuclear Medicine Physician in expanding progressive private in vivo and in vitro NM outpatient laboratory. Applicant should be board certified by ABNM or board eligible in Nuclear Medicine with preferably two years internal medicine residency training. Medical school association or affiliation possible if desired. Please send resume to: Box 1001, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

FOR SALE

Used ADAC dual sided disk computer with matrix cardiac gate. All set to run. Diagnostic Imaging, 509 Olive, Seattle, WA 98101. (206)621-8686. 25k.

RESIDENCY and FELLOWSHIP PROGRAM
BAYLOR COLLEGE OF MEDICINE
NUCLEAR MEDICINE SECTION

Baylor College of Medicine is now accepting applications for residency and fellowship positions starting July 1984 and July 1985. The residency program includes training in three large nuclear medicine laboratories: St. Luke's Episcopal Hospital-Texas Children's Hospital-Texas Heart Institute joint facilities, Ben Taub General Hospital, and Veterans Administration Medical Center.

Residency training encompasses the full spectrum of nuclear medicine procedures, both in vivo and in vitro, in pediatric and adult inpatients and outpatients. Instruction includes clinical nuclear medicine, radiopharmacy, radioimmunoassay, and basic sciences, as well as experience with computer applications and tomographic imaging.

Fellowships with emphasis on cardiac and pulmonary disease are available in association with the Texas Heart Institute. With mobile capabilities and a large population of critically ill patients (total hospital beds, 1260; intensive care beds, 190) there is ample potential for participation in research projects related to cardiovascular, pulmonary, and critical care medicine.

Requests for further information should be directed to:
John A. Burdine, MD, Chief or
Paul H. Murphy, PhD, Training Coordinator
Nuclear Medicine Section, Department of Radiology
Baylor College of Medicine
Houston, TX 77030

NUCLEAR MEDICINE RESIDENCY PROGRAM 1984/1985

Resident positions (PGY-3) are available beginning July 1, 1984 in an AMA-approved two-year program. A well-rounded program is provided with didactic instruction in physical sciences and clinical applications of radionuclides.

Extensive clinical experience at VA Medical Center, South Nassau Communities Hospital, and University Hospital, Stony Brook plus unique training at Brookhaven National Laboratory Research Hospital. Teaching and research opportunities available. Computer assisted data manipulation and other special facilities.

For further information contact:
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Chief, Nuclear Medicine Service (115)
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The successful candidate will have a solid technical background in clinical nuclear medicine, including quality control, radiopharmaceuticals, allied health physics, and general administration. Experience in nuclear cardiology and nuclear medicine education is desired. A strong personality and ability to organize as well as implement is desired.

The position requires ability to document educational materials, coordinate programs, and exercise outstanding communication abilities. Some travel will be required for this Colorado-based position.

Send C.V. to C.H. Rose, President, National Institutes for Professional Education, 4880 Riverbend Road, Boulder, CO 80301.

Fourth Annual Midwestern Cell Labeling Conference
Saturday, November 5, 1983
The University of Iowa Hospitals and Clinics
Iowa City, Iowa

The purpose of the conference is to update interested physicians and technologists on recent progress in the science and clinical utilization of labeled blood components.

Conference participants will be from: Henry Ford Hospital, Loyola University Medical Center, Mallinckrodt Institute of Radiology, Mayo Clinic, State University of New York Upstate Medical Center, Indiana University, University of Iowa, University of Michigan, University of Minnesota, University of Nebraska, and the University of Wisconsin.

Credit: 6.5 hours AMA Category 1 credits; no registration fee.

For more information, please contact: Continuing Medical Education, the University of Iowa College of Medicine, 102 CMAB, Iowa City, IA 52242 or telephone (319)353-5763 or James E. Seabold, MD, Conference Director, at (319)356-4302.

RADIONUCLIDE UTILIZATION CONSULTANT

THE KING FAISAL SPECIALIST HOSPITAL AND RESEARCH CENTRE in Riyadh, Saudi Arabia, currently seeks a CONSULTANT IN RADIONUCLIDE UTILIZATION to join its new CANCER THERAPY INSTITUTE.

The Hospital, a modern tertiary care facility dedicated to providing advanced programs of medical care for the people of Saudi Arabia, has 250 private beds, a 150-bed medical care unit, a rapidly expanding high-volume outpatient service and The Cancer Therapy Institute (CTI). The CTI is a sophisticated, technologically oriented facility designed to heighten diagnostic capabilities through the production of radionuclides on a seven beam-line medical cyclotron and a Positron Emission Tomography (PET) Camera, and to advance radiation therapy techniques using Neutron therapy equipment, two linear accelerators, a Cobalt-60 unit, an RT-100 x-ray machine and an RT-305 x-ray machine.

The CONSULTANT, RADIONUCLIDE UTILIZATION, will act as the primary consultant to the Hospital's medical staff regarding the uses of radionuclides in patient diagnosis and therapy. Qualified candidates must have a Ph.D. in an appropriate area of science, with a minimum of ten years experience of which at least five years being at a medical cyclotron facility or in a nuclear medicine program at a major medical institution. Applicants must be able to demonstrate their knowledge of production and use of radionuclides in patient care through significant publications dealing with their expertise in these areas.

Starting annual salary is approximately $76,000 (U.S.) which may be potentially tax-free under new U.S. tax laws upon qualification. The benefits are exceptional and include free furnished housing, free first-class transportation, 30-days annual paid vacation, educational tuition for eligible dependents, professional yearly leave time, bonus pay and leave, and more. The selected candidate will be employed by, have a contract with, and work directly for the Government of the Kingdom of Saudi Arabia.

If you wish to be considered for this unique and extremely challenging opportunity with the Hospital's multi-national health care team, please call toll-free **800-251-2561** or send your curriculum vitae for processing to: **Steven H. Ludlam, Personnel Consultant, HCA International Company, P.O. Box 550, Nashville, TN 37202.** (HCA International Company is an Equal Opportunity Employer.)

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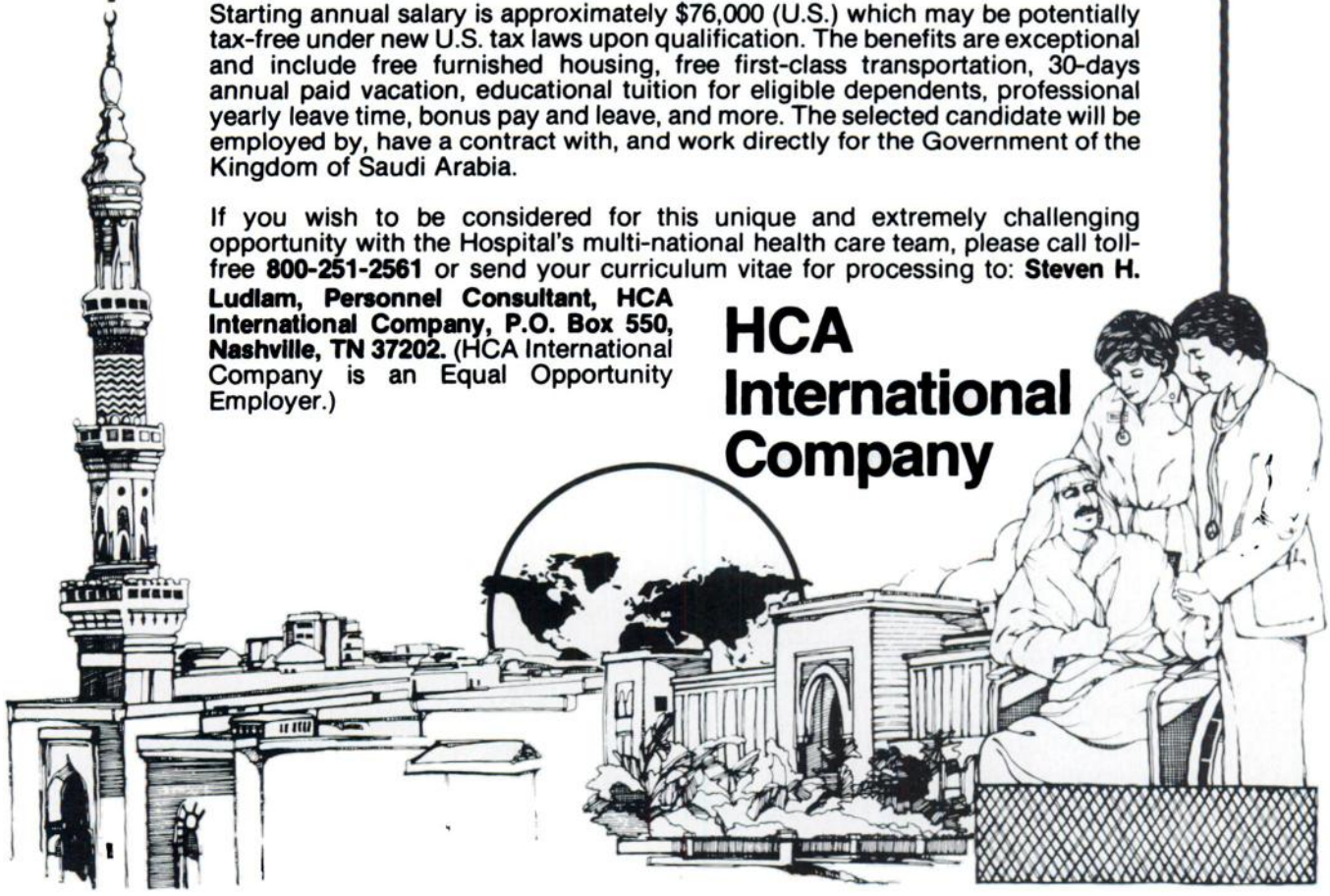

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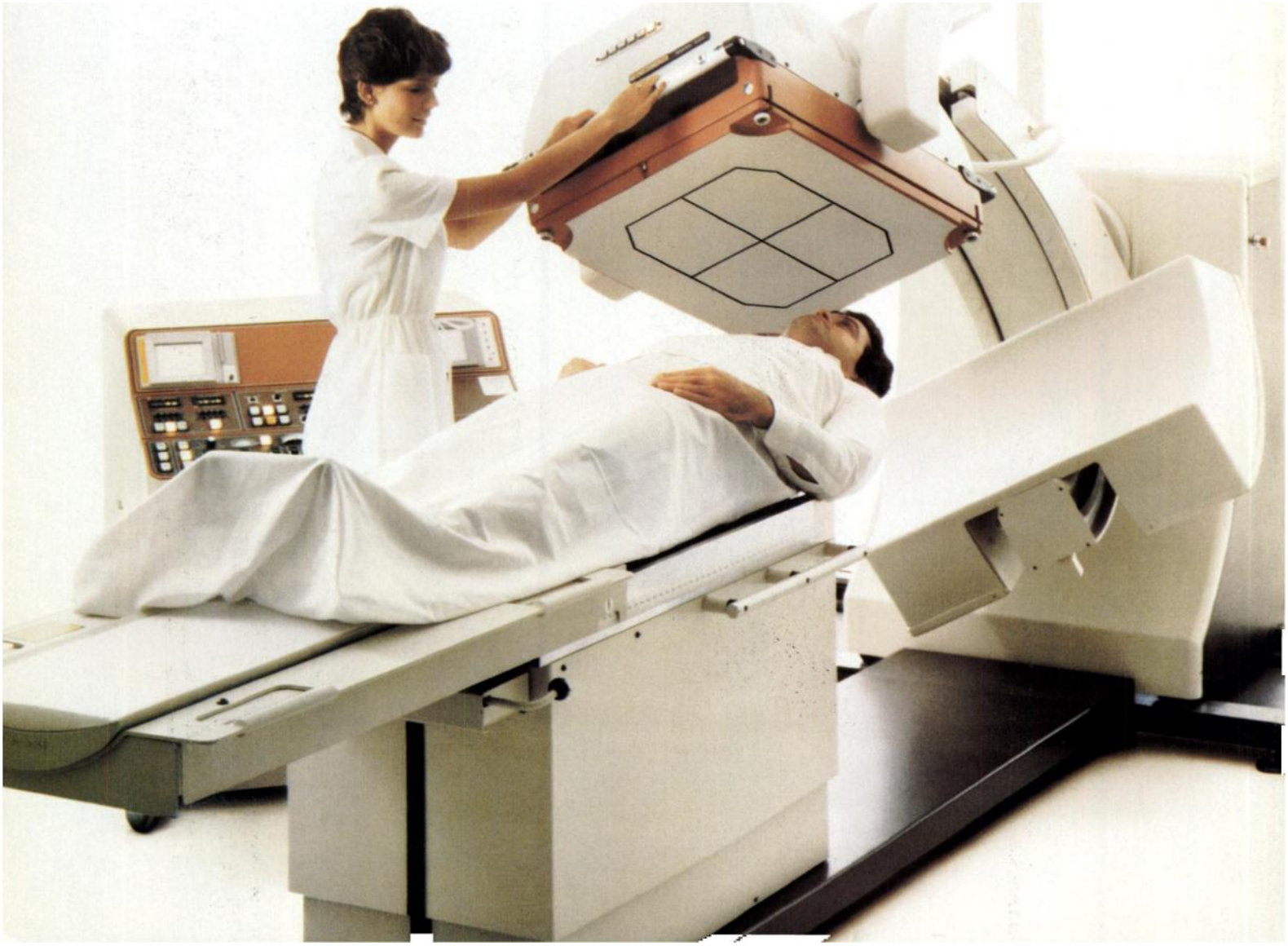

OUR Omega™ 500 Rectangular Field Gamma Camera has earned an outstanding reputation for conventional nuclear and high resolution whole body imaging. And our 560 Computer has earned a similar reputation in all areas of nuclear medicine processing.

Now, they can do even more together. Through custom designed software and a powerful Array Processor developed by Technicare, they have been coupled to give you, for the first time, the added capability of a fully integrated, second-generation system for faster, better ECT imaging.

Why faster and better? Because camera and computer actually talk to each other, exchanging information for more accurate data collection and storage. Our computer delivers the fastest image processing available for ECT — so fast, it permits "on-the-fly" reconstruction. And our camera's precision movement and mechanical stability, combined with high resolution 128 x 128 acquisition matrix, produces superior image quality and unparalleled clinical confidence.

You know what our 500 Camera and 560 Computer can do separately. Now see what they can do when we bring them together. For a demonstration, contact the Director of Marketing, Nuclear Medicine.

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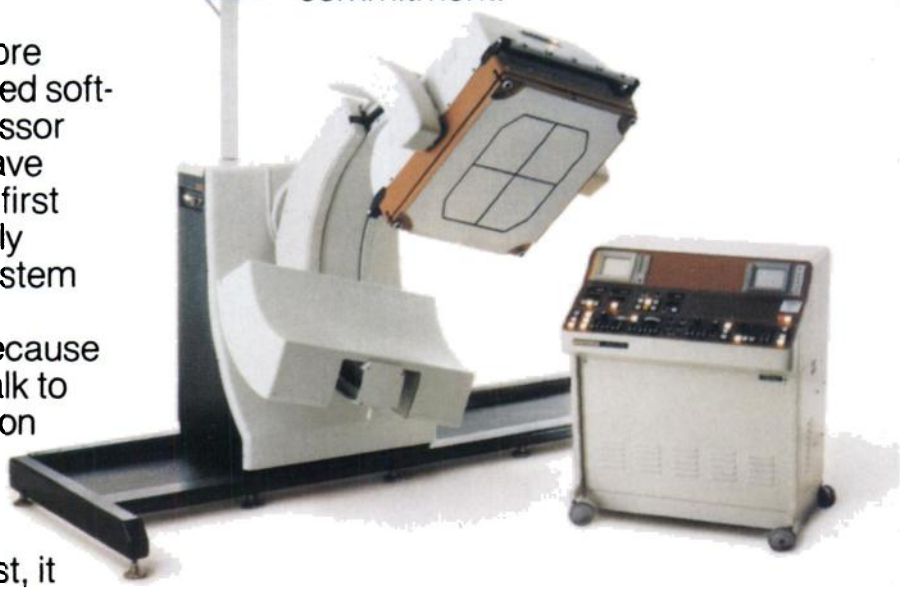
As a world leader in diagnostic imaging and as part of the world's largest health care organization, Technicare is committed to product innovation, superior clinical performance, and future upgradeability in Nuclear Medicine, Computed Tomography, Digital Radiography, and Ultrasound. Our Omega 500 Camera and 560 Nuclear Medicine Computer, separately and together, represent that commitment.



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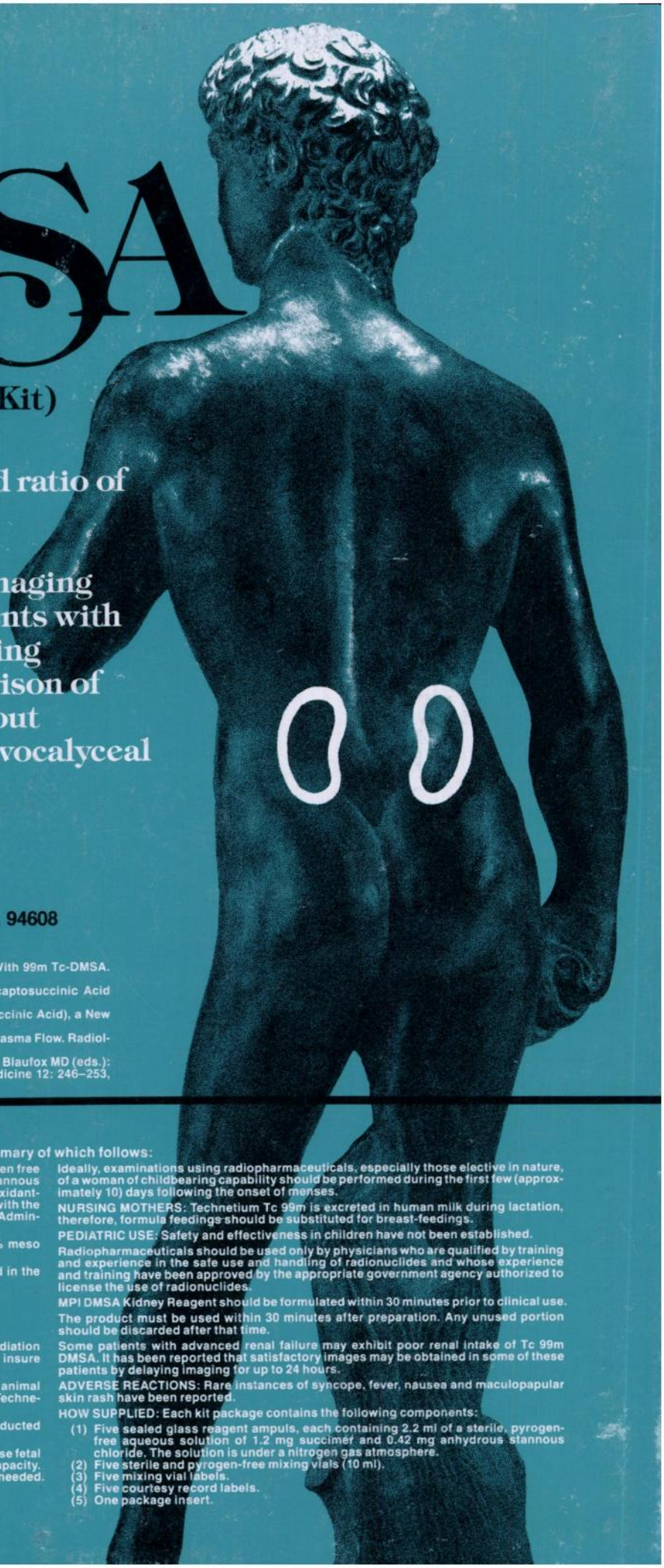
MPI DMSA KIDNEY REAGENT

(Technetium Tc 99m Succimer Kit)



- Localizes in the renal cortex
- Highest target to background ratio of Tc 99m agents[1,2]
- Low excretion rate[2,3]
- DMSA is the renal cortical imaging agent of choice. Even in patients with obstructed or dilated collecting systems, an accurate comparison of relative cortical uptake without interfering activity in the pelvocalyceal structures can be made.[4,5]

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1. Enlander D. et al: Renal Cortical Imaging in 35 Patients: Superior Quality With 99m Tc-DMSA. J. Nuc. Med. 15: 743–749, 1974.
2. Daly M.J. et al: Differential Renal Function Using Technetium-99m Dimercaptosuccinic Acid (DMSA): In Vitro Correlation. J. Nuc. Med. 20: 63–66, 1979.
3. Handmaker H. et al: Clinical Experience With 99m Tc-DMSA (Dimercaptosuccinic Acid), a New Renal-imaging Agent. J. Nuc. Med. 16: 28–32, 1975.
4. Taylor A.: Delayed Scanning With DMSA: A Simple Index of Relative Renal Plasma Flow. Radiology 136: 449-453, 1980.
5. Handmaker H: Nuclear Renal Imaging in Acute Pyelonephritis. in Freeman L. Blaufox MD (eds.): Update on Radionuclide Assessment of the Kidney (I): Semin. Nuclear Medicine 12: 246–253, 1982.

MPI DMSA Kidney Reagent (Technetium Tc 99m Succimer Kit)

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

DESCRIPTION: Each reagent ampul of the kit contains 2.2 ml of a sterile, pyrogen free aqueous solution containing 1.2 mg of succimer and 0.42 mg of anhydrous stannous chloride in aqueous solution under a nitrogen gas atmosphere. When sterile, oxidant-free, pyrogen-free sodium pertechnetate Tc 99m in isotonic saline is combined with the reagent, following the instructions provided with the kit, a complex is formed. Administration is by intravenous injection for diagnostic use.

The succimer component of MPI Kidney Reagent consists of more than 90% meso isomer and less than 10% d,l isomer.

INDICATIONS AND USAGE: MPI DMSA Kidney Reagent is to be used as an aid in the scintigraphic evaluation of renal parenchymal disorders.

CONTRAINDICATIONS: None known.

WARNINGS: None.

PRECAUTIONS: General

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 carcinogenesis potential or whether Technetium Tc 99m Succimer affects fertility in males or females.

PREGNANCY CATEGORY C: Animal reproduction studies have not been conducted with the MPI DMSA Kidney Reagent either with or without Tc 99m.

It is also not known whether Technetium Tc 99m alone or with Succimer can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m should be administered 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.

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.

MPI DMSA Kidney Reagent should be formulated within 30 minutes prior to clinical use.

The product must be used within 30 minutes after preparation. Any unused portion should be discarded after that time.

Some patients with advanced renal failure may exhibit poor renal intake of Tc 99m DMSA. It has been reported that satisfactory images may be obtained in some of these patients by delaying imaging for up to 24 hours.

ADVERSE REACTIONS: Rare instances of syncope, fever, nausea and maculopapular skin rash have been reported.

HOW SUPPLIED: Each kit package contains the following components:

(1) Five sealed glass reagent ampuls, each containing 2.2 ml of a sterile, pyrogen-free aqueous solution of 1.2 mg succimer and 0.42 mg anhydrous stannous chloride. The solution is under a nitrogen gas atmosphere.
(2) Five sterile and pyrogen-free mixing vials (10 ml).
(3) Five mixing vial labels.
(4) Five courtesy record labels.
(5) One package insert.