One of the safest decisions you'll ever have to make...and as easy as 1,2,3.

Consider the benefits of MPI-iodine-123 and your course of action becomes clear. Don't you and your patients deserve these important benefits?

Greater patient safety because of reduced radiation absorbed dose.
Substitution of I 131 with MPI-iodine-123 reduces the absorbed radiation dose more than 24 times to the thyroid gland.

<table>
<thead>
<tr>
<th>Maximal Thyroid Uptake %</th>
<th>Rads/100μCi MPI-iodine-123</th>
<th>Rads/100μCi I 131</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1.05</td>
<td>26.0</td>
</tr>
<tr>
<td>15</td>
<td>3.19</td>
<td>80.0</td>
</tr>
<tr>
<td>25</td>
<td>5.36</td>
<td>130.0</td>
</tr>
</tbody>
</table>

High counting statistics. MPI-iodine-123 159 keV gamma rays are detected more than 3 times as efficiently on Anger-type cameras as the 364 keV gamma rays emitted by I 131. You get a higher count rate with MPI-iodine-123 than with equivalent amounts of I 131 on gamma cameras. Therefore, scintiphotos can be obtained more rapidly.

Images that demonstrate true thyroid function. MPI-iodine-123 is organified by the thyroid so images obtained will depict total thyroid function—not the trapping mechanism alone.

You save money when MPI-iodine-123 is delivered with other Medi-Physics products. Your Medi-Physics representative will be glad to show you how you can receive MPI-iodine-123 without delivery charges in certain areas. Call for full information about MPI-iodine-123, our reliable shipping procedures and other products you can receive along with MPI-iodine-123.

Use the appropriate toll-free number:
Outside California 800-227-0483
Inside California 800-772-2446

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

**SODIUM IODIDE I 123 CAPSULES AND SOLUTION FOR ORAL ADMINISTRATION DIAGNOSTIC**

**DESCRIPTION:** Sodium iodide I 123 for diagnostic use is supplied as capsules and in vials as an aqueous solution for oral administration. At calibration time each capsule has an activity of 100 microcuries and each vial contains solution with a total specific concentration of 2 millicuries per ml at calibration time.

**INDICATIONS:** Sodium iodide I 123 is indicated for use in the diagnosis of thyroid function and imaging.

**CONTRAINDICATIONS:** None known.

**WARNINGS:** This radiopharmaceutical should not be administered to children or to patients who are pregnant or to nursing mothers unless the information to be gained outweighs the potential hazards. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, in women of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses. However, when studies of thyroid function are clinically indicated for members of these special population groups, use of I 123 would be preferable to the use of I 131 in order to minimize radiation dosage.

**PRECAUTIONS:** Sodium iodide I 123 as well as other radioactive drugs must be handled with care, and appropriate safety measures should be taken to minimize radiation exposure to the patient consistent with proper patient management. The prescribed I 123 dose should be administered as soon as practicable in order to minimize the fraction of radiation exposure due to relative increase of radioiodide contaminants with time. The uptake of I 123 may be decreased by recent administration of iodinated contrast materials, by intake of stable iodine in any form, or by thyroid, anti-thyroid and certain other drugs. Accordingly, the patient should be questioned carefully regarding diet, previous medication, and procedures involving radiographic contrast media.

**ADVERSE REACTIONS:** There were nine adverse reactions reported in a series of 1,393 administrations. None of these were attributed to I 123. Five adverse reactions, consisting of gastric upset and vomiting, were attributed to a filler in the capsule. Two cases of headache and a case of nausea and weakness were attributed to the fasting state. One case of garlic odor in the breath was presumed to be attributable to the presence of tellurium.

**DOSE AND ADMINISTRATION:** The recommended oral dose range for diagnostic studies of thyroid function in the average adult patient (70 kg) is from 100 to 400 microcuries. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration. Concentration of I 123 in the thyroid gland should be measured in accordance with standardized procedures.

**SPECIAL CONSIDERATION:** 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.

**HOW SUPPLIED:** Sodium iodide I 123 for oral administration is supplied in glass vials and in capsules.
L-Selenomethionine
(Se-75)

According to our own new method

For pancreas scintigraphy as a simple detection method for space occupying lesions like tumors or cysts and alterations of parenchyme.

Already after 10 min maximum count rate At least 75% of the initial activity after 60 min
Low radiation dose for 100 μCi in liver, pancreas and kidneys Whole body dose: 0.8 μCi
High radiochemical purity (98%) at calibration date Recommended dose: 300 μCi

Specification
L-Selenomethionine
(Se-75)
Less than 5% D-Selenomethionine.
Concentration of activity:
0.2 mCi Se-75/ml Specific activity:
5–10 mCi Se-75/mg Selenomethionine

Pack
L-Selenomethionine
(Se-75)
in physiological saline for injection
(12 ml beaded rim vial)
Order No.: SE-515
Calibration day:
1st of the month
Dispatch:
daily from the 1st of the previous month on

Contraindications
Radioactive material should be handled with special care to insure minimum radiation exposure to personnel and patients. Unless strictly indicated, radiopharmaceuticals should not be administered to pregnant or nursing women or to juvenile patients.
The Baptist Memorial Hospital in Memphis, one of the nation's biggest and busiest medical institutions, is getting more patient per scan these days. At the same time, the nuclear medicine section, under Doctors John Rockett and Mohammed Moinuddin, is getting high resolution images with every reading. The Cameray XL-91 is on the scene.

Cameray XL-91 just might be the ultimate gamma camera. Because it offers you the widest undistorted field of view you can get. A big 16½ inches. And it's the first wide field gamma camera to produce high resolution images equivalent in all respects to smaller field cameras.

And Cameray XL-91 offers you a choice of console combinations. Or, if you're already a Cameray II owner, a quick conversion. So widen your image horizons. With Cameray XL-91.

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Generators, Kits, and Cyclotron Products
Quality Control and Radiation Safety Products
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Think NEN first when it comes to nuclear medicine.


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Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 23, Postach 1240, Tel: (06103) 85034.
TECHNETIUM-99M DTPA (TIN)

Brief summary of package insert. Before using, please consult the full package insert included in every kit.

DESCRIPTION

The kit contains 10 vials, each vial containing 5 mg sterile, pyrogen-free Sodium salt of Diethylenetriamine-pentacetic Acid (DTPA) and 0.25 mg Stannous Chloride.

Administration is by intravenous injection for diagnostic use. The product as supplied is sterile and pyrogen-free.

When sterile, pyrogen-free Sodium Pertechnetate Tc 99m is added to the vial, a chelate, Technetium Tc 99m DTPA is formed.

HOW SUPPLIED

Diagnostic isotopes: Technetium Tc 99m DTPA Kit (Chelate) is supplied as a sterile, pyrogen-free kit containing 10 vials. Each vial contains 5 mg of Sodium salt of DTPA and 0.25 mg of SnCl2. The pH is adjusted with HCl or NaOH prior to lyophilization. Following lyophilization the vials are sealed under a nitrogen atmosphere.

CLINICAL PHARMACOLOGY

Following its intravenous administration, Technetium Tc 99m DTPA rapidly distributes itself throughout the extracellular fluid space from where it is (promptly) cleared from the body by glomerular filtration. There should be little or no binding of the chelate by the renal parenchyma. A variable percentage of the Technetium Tc 99m DTPA binds to serum proteins; this ranges from 3.7% following the single injection to approximately 10% if the material is continuously infused. Although the chelate gives useful information on the glomerular filtration rate, the variable percent which is protein bound leads to a measured glomerular filtration rate which is lower than the glomerular filtration rate as determined by inulin clearances.

Technetium Tc 99m DTPA tends to accumulate in intracranial lesions with excessive neovascularity or an altered blood-brain barrier. The chelate does not accumulate in the choroid plexus.

Since Technetium Tc 99m DTPA is excreted by glomerular filtration, the images of the kidneys obtained in the first few minutes after injection represent the vascular pool within the kidney. Subsequent images of the kidneys represent radioactivity which is in the urine of both the collecting system and the renal pelvis.

INDICATIONS AND USAGE

Technetium Tc 99m DTPA may be used to perform kidney imaging, brain imaging, to assess renal perfusion, and to estimate glomerular filtration rate.

CONTRAINDICATIONS

None known.

WARNINGS

Technetium Tc 99m DTPA should not be administered to children or to patients who are pregnant, or to nursing mothers unless the benefits to be gained outweigh the potential hazards.

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

PRECAUTIONS

Technetium Tc 99m DTPA 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.

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.

Pregnancy Category C: Adequate reproductive 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 effects on the fetus. Technetium Tc 99m DTPA should be used in pregnant women only when clearly needed.

Nursing Mothers: 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 the drug since many drugs are excreted in human milk.

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

ADVERSE REACTIONS

No adverse reactions specifically attributable to the use of Technetium Tc 99m DTPA have been reported.

DOSEAGE AND ADMINISTRATION

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

Kidney imaging and glomerular filtration rate estimation: 3 to 5 mCi.

Brain imaging or renal perfusion: 10 to 20 mCi.

diagnostic isotopes incorporated

123 Pleasant Ave., Upper Saddle River, New Jersey 07458
Unless you're in the business, this tongue-twister may tie you up for some time. However, it only takes one minute of mixing time to prepare Diagnostic Isotopes' one-step Technetium-99m DTPA agent for injection.

DTPA becomes Technetium-99m DTPA (Tin) after adding sodium pertechnetate Tc-99m. Technetium-99m DTPA may be used to perform kidney imaging, brain imaging, to assess renal perfusion and to estimate glomerular filtration rate.

Each DTPA kit contains 10 vials. The product is sterile, pyrogen-free, has a labeling efficiency of over 95% and a shelf life of one year ... all good reasons for ordering now.

You've got it mixed and ready to use!

See opposite page for a brief summary of the package insert.
The first automatic dose calibrator with a hard-copy data printer system for NRC (AEC) record keeping

The Melécord data card — permanent documentation of all pertinent information

Now you can assay, compute dose, and get an instrument-verified printout—in just 30 seconds.

Melétron—Programmed sequenced instruction eliminates operator errors. All you do to assay a radionuclide is insert the proper key—from the 33 isotope keys now available, with others to come as they are needed—your insurance against instrument obsolescence.

The melétron calculates the volume to administer (in 0.1 ml increments from 0.1 to 99.9) for all patient doses (in 10 uCi increments from 10 uCi to 99.99 mCi.) Accuracy is ± 5%, traceable to a reference dose calibrator calibrated against 16 known standards at the National Bureau of Standards June 20, 1975.

Range capability is up to 10 curies. Lets you handle high-activity Mo 99/Tc 99m generators. Melétron's automatic ranging eliminates manual selection—and another chance for operator error. Background subtraction is also automatic, and design of the ionization chamber will allow a 3/16" lead shield. The large chamber accommodates all standard size vials and syringes, and even an entire generator eluate for checking Mo 99 breakthrough.

Melécord prints permanent copies of all functions—the vital part of your record keeping system. You get hard copy in triplicate. Saves time. Prevents errors. Makes NRC (AEC) accountability far easier.

Melécord also prints the exact time and date of each assay automatically, while it alternately displays them on a digital calendar/clock on the front panel, and Melécord can be factory programmed to generate three lines for printing institution identification on each data card.

To find out how easy it is to solve your dose-calibration and record-keeping problems, call RADX—the innovators in nuclear medicine.

melétron & melécord
Your key to accurate dose calibration and error-free records

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Harshaw's TASC-5 multi-probe system is a new clinical research instrument for the acquisition of quantitative data on regional alterations of cerebral blood flow utilizing Xenon-133.

TASC-5 offers the clinical investigator these advantages—
- True modular design allows system expansion at any time and at minimum cost.
- Adaptable to all isotopes.
- Probes easily positioned—Collimators readily interchanged.
- Minimum probe diameter allows maximum number of probes over area of interest.
- Stabilization circuitry maintains probe sensitivity.
- Provisions for both analog and/or digital data handling.

Our new 8-page brochure discusses TASC-5 in detail. Write or call us for a fast reply.
Introducing the next generation of cortisol determinations — GammaCoat by Clinical Assays — the first solid phase Cortisol RIA. The greatly simplified extraction procedure, a test tube coated with cortisol — specific antibody and a $^{125}\text{I}$ cortisol derivative tracer brings accurate RIA cortisol determinations within reach of every clinical laboratory. A special additive is used to minimize the effects of variable serum proteins on the assay.

The entire RIA procedure is carried out in 6 easy steps:
1. Denature the patient plasma by heating in a borate buffer.
2. Add geltris buffer into coated tubes.
3. Add plasma extract or standard. Incubate 10 minutes.
4. Add tracer. Incubate 45 minutes.
5. Aspirate and wash.
6. Count the coated tubes.

The whole procedure takes less than two hours. Centrifugation and decanting are completely eliminated.

A $^3\text{H}$ Cortisol RIA with dextran coated charcoal separation is also available.

Also available are:
- GammaCoat Digoxin $^{125}\text{I}$
- GammaCoat Renin Activity $^{125}\text{I}$
- GammaCoat Digitoxin $^{125}\text{I}$
- Vitamin B$_{12}$ $^{57}\text{Co}$
- Folate $^{135}\text{I}$
- Folate $^3\text{H}$
- Digoxin $^3\text{H}$
- Digitoxin $^3\text{H}$

For full details contact:

Clinical Assays, Inc.

237 Binney Street • Cambridge, Mass. 02142
(617) 482-2526

JOURNAL OF NUCLEAR MEDICINE
The Pfizer ACTA-Scanner® was the world's first whole body scanner.

Since it was first put into clinical use—in February 1974—the ACTA-Scanner has been used for head and whole body scanning in thousands of patients at the Georgetown University Medical Center, the original development site.

It has also been used in additional thousands of patient procedures in such institutions as the University of Minnesota Hospitals, Thomas Jefferson University Hospital, Yale-New Haven Hospital, Lahey Clinic Foundation and Mount Zion Hospital in San Francisco.
From the very beginning, Pfizer Medical Systems has been aware that growing clinical experience and continuing research would dictate certain refinements and improvements in computerized tomography. Pfizer is determined to be in the forefront of such developments and to make them available as economically as possible.

The first result of this effort is the ACTA-Scanner 0200, which incorporates a more efficient and comfortable patient handling system and an advanced computer system, firmly establishing a modular approach to changing technology. The 0200 user will be able to convert to the 0200FS when available. The 0200FS will enable completion and display of a scan in less than 30 seconds. Other operating refinements are described on the next page.

This modularity, of course, will make the advanced features of the 0200FS just as readily available to current as well as prospective users.
Operation and Control Advances

- Under 30-second scan time minimizes artifacts and increases patient throughput
- Three matrices standard — 160,256,320
- Industry compatible CT numbering system allows universal comparisons
- Advanced computer system
- Light beam guided patient positioning
- Variable scan slice thickness adjustment
- Tiltable gantry (±20°) for increased flexibility of scan position
- 22” tunnel diameter to accommodate most patients
- Area of interest analyses

Versatile Patient Record System

- For data storage — (1) magnetic tape, for low cost mass storage; (2) optional “floppy” disc for easy filing of individual patient scan data
- For photographic recording — (1) 105 mm roll or cut film; (2) Polaroid® copies; (3) Multiformat Scan Recorder (optional)

Advanced Patient Handling System

- Interchangeable bed modules allow maximum patient throughput
- Bed modules may be rolled to patient rooms, simplifying patient transfers
- Head supports on each bed module allow pre-positioning and immobilization
- Human-engineered for increased patient comfort
- Power mechanism raises bed module and locks it into position
- Movements of bed module are remotely controlled after lock-in

Continuing Features

- 320 matrix
- Instant image reconstruction — including 0200FS
- Pfizer commitment to customer service
- 12 month warranty — labor, parts including tube
- Color and black-and-white viewing
- Selective enlargement
DIAGNOSTIC ISOTOPES

Our name tells you what we make

You might guess from our name that we're in the business of providing products used in diagnostic evaluation. But only the quality of the images you obtain will tell you how well we make them.

Our product line includes one-step diagnostic kits and prepared radiopharmaceuticals for use as imaging agents. As pioneers in the business, we have a commitment to quality and service that is second-to-none. And since this is our only business, we have to be good. Consequently, all of our resources are devoted to serving the field of nuclear medicine. So if clear, consistent images are what you would like to end up with, you should start with Diagnostic Isotopes.

Kits Available: DTPA, Polyphosphate, Diphosphonate.
Prepared Radiopharmaceuticals Available: Selenium-75, Xenon-133 (Solution or gas)

diagnostic isotopes incorporated
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- EMERGENCY REPORTS. ADDITIONAL MONITORS AIR-MAILED within 24 hours.
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"...with whole-body scans taking over more of the nuclear imaging load, Cleon is the clear choice."
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Varian's STATOS® together with the sophisticated Varicam software, provides a capability to automatically produce multiple life-size (or other scaling) low-cost paper hardcopies.

Statos images enable the workload to be scheduled in the Nuclear Medicine Dept as it is in Radiology. The reporting physician need not attend the instrumentation, but may work each day at a single session in a convenient location.

The practice of the clinician examining data on the computer from a previous patient whilst the camera/computer is collecting data on a later patient, is thus often rendered unnecessary. Furthermore, the potentially hazardous habit of having one patient under the camera with another's data on the screen, with its concomitant danger of misidentification and breach of confidentiality, is avoided.

Varian

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Telephone (415) 493-4000

European Enquiries: Molesey Road, Walton-on-Thames, Surrey, England.
Telephone: (093 22) 28971 Telex: 281351
MODEL 145 LOCALIZATION MONITOR
Detection of Deep Vein Thrombosis
and other in vivo applications

- CPS & PERCENTAGE READOUT
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- BATTERY OPERATED (3 D cells)
- FULLY TRANSISTORISED
- LINEAR SCALE & WIDE RANGE
- RECORDER OUTPUT
- VARIABLE DEPTH COLLIMATOR
- UNLIMITED CHANNEL SELECTION
- MANUFACTURED & SERVICED IN THE U. S. A.
- CLINICALLY PROVEN FOR OVER ONE YEAR

CONTROLS
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Threshold
Window
Battery test
Response (fast & slow)
CPS or percent switch
Reset

For DEEP VEIN THROMBOSIS DETECTION, the Model 145 offers the important features of portability, standard D cell operation yielding at least 100 hours of uncycled use, unlimited channel selection, and prompt servicing.

Using I-125 labelled fibrinogen and the Model 145, early detection of deep vein thrombosis of the legs can be accomplished. With the Model 145, the leg is scanned after intravenous injection of the labelled fibrinogen. As a thrombosis develops, the radioactive fibrinogen is detected with the Model 145 and measured directly in percentage, where 100% is determined over the precordial area.

SPECIFICATIONS
RANGE: 30, 100, 300, 1000, 3000 cps and 0 - 120%
TIME CONSTANT: Fast 2 sec., slow 14 sec.
SIZE: 4½ x 5½ x 8 inches (HxWxL exclusive of handle).
WEIGHT: 6.5 lbs total

DETECTOR: 1mm x 1 inch NaI (TL) mounted on PMT and 7 mg/cm² aluminum window. Optional – 1 inch x 1 inch NaI (TL) detector with thin window at extra cost.

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T4 Radioimmunoassay is as elegant as it looks:
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Protocol:
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Most clinical lab gamma counters are all hand-me-downs... they do the job but don’t quite fit.
Picker's PACE-1 is the automatic gamma system designed specifically for today's clinical applications.

The PACE-1 gamma radioassay system is as different from other gamma counters as the clinical lab is from the research lab. PACE-1 is accurate, fast, functional and ready for the workaday rigors of the clinical lab.

Take size for example. PACE-1 is only 20" wide at the base because floor space is precious. PACE comes with a standard 200 position sample chain which can be easily upgraded to 400 positions — which we won't try to sell you unless you need it.

For on-line data reduction, Picker offers the PAC, Programmable Automatic Calculator, which uses an advanced curve fitting program (PALL). PAC can be used off-line, to analyze radioassay data or perform hundreds of other data analysis chores in the clinical lab.

But then other counters weren't designed specifically for today's clinical applications. PACE-1 is an example of Picker's synergy — the complete interfacing of systems and services for better diagnostic results.

Get the whole story on the PICKER PACE-1 from your Picker representative. Or write Picker Corporation, Clinical Laboratory Department, 12 Clintonville Road, Northford, CT 06472, or Picker International Operations Gmbh, 6201 Auringen b. Wiesbaden, Feldbergstrasse 6, West Germany.
Estriol results without 24 hour urine collection

New Amersham/Searle Estriol RIA Kit

There is only one thing wrong with measuring estriol in urine, and that's the urine. Amersham/Searle's new Estriol RIA Kit avoids the time consuming and inconvenient 24-hour urine collection.

- Simple, highly specific RIA method—no solvent extraction or chromatography.
- Only 50μl serum or plasma sample.
- Rapid and reproducible results. 5-8% C.V. in an individual hospital.
- Easy gamma counting with I-125 labeled Estriol.

Benefit to the obstetrician:
- no 24-hour wait, high reliability

Benefit to the laboratory:
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Benefit to the patient:
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Complements the clinically-proven HPL RIA Kit from Amersham/Searle

Amersham/Searle

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FEATUREING:

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- TOTAL INCUBATION TIME ................................. 5 Hours
- PRECISION (within-run) ................................. 2-5%
- PRECISION (run-to-run) ................................. 5-7%
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- SECOND ANTIBODY PEG SEPARATION
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- RELIABILITY AND ECONOMY
- LINEAR PLOT (log-logit paper provided)

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125I TOBRAMYCIN  
125I GENTAMICIN  
125I T-3 RIA  
125I T-4 RIA  
125I T3U  
125I FOLATE  
1H FOLATE  
125I CORTISOL  
57Co VITAMIN B-12  
1H Aldosterone (no chromatography)
In lead shielding, there is no room for compromise. At Medi-Ray, we have gained a reputation second to none. The reason? Quality without compromise. From research and development, to manufacturing, to delivery and service, our guideline is the ultimate in quality.

Our new Medi-Pail, Model MRA 150 lead shielded waste container offers the same unstinting quality. MRA 150 is a ½” lead wall container housing a five gallon radioactive waste pail. The shield is constructed with casters to assure ease of mobility. The cover is designed in two parts — an access cap for ease of operation, and the lid section for replacing the waste pail.

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Assistant Professor, Radiopharmaceutical Sciences

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666 Elm Street
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Requests for further information (include C.V. and reference list) should be directed to:

Joseph P. Kriss, M.D.
Director, Division of Nuclear Medicine
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Volume 17, Number 10
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Precautions: Use within 8 hours after aseptic reconstitution with Pertechnetate Sodium Tc 99m. Contains no bacteriostat.

In the use of any radiopharmaceutical, care should be taken to ensure minimal radiation exposure to the patient as well as to personnel involved in the procedure, by using the smallest dose of radioactive material consistent with safety and the relative value of the diagnostic information. The bladder dose may be minimized by encouraging the patient to drink fluids immediately before and after the administration of the radiopharmaceutical, and to void approximately 0.5 hours after the administration and then as frequently as it is convenient. If the pelvic region is to be imaged, it is recommended that the patient be encouraged to void immediately prior to the imaging procedure in order to visualize the bony detail of the pelvis and to minimize the bladder contribution to the image.

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Need an area monitor and a survey meter? Consider the versatile Log Series Meter from Searle. Rugged and easy to use, these meters do double duty, saving you the cost of an additional instrument. Fitted with rechargeable Nickel-Cadmium batteries for long life, the meter stands in a charging base and functions as a highly accurate area monitor. When you need a survey meter, simply remove it from the base and take it to the site. Fully-charged NiCad batteries will provide at least 25 hours of continuous operation. (The meter will also accept standard “D” size flashlight batteries.)

Available in 3 sensitivity ranges (0.02 to 200, 0.2 to 2,000 and 2 to 20,000 mR/hr), these instruments are designed for ease of operation and reliability. The 4-decade meter is always on-scale, so you never need search for the right range. The only controls are an on-off switch and battery check button. Rugged, all solid-state electronics assure drift-free performance. Waterproof construction means the Searle Log Series Meter can be used in severe environmental conditions and is totally immersible for cleaning.

Searle Log Series Meters are available with your choice of 2 bases. The standard charging-monitoring base produces an audible click with each radiation detection event. The deluxe base has an adjustable audible/visual alarm that can be set for any dose rate in the top 3 decades of the meter range.

If your laboratory needs an area monitor and a survey meter, why pay for two when one will do? Get all the facts about the Searle dual-duty radiation monitors. Just write or call us for complete technical information.
Monitor and Survey with the Searle Dual-duty Log Series Meter

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TOLL FREE 800-323-6015
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IN CANADA:
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AHP-324-A

Volume 17, Number 10

77A
The Complete System for Lung Ventilation Studies

Now you can dispense, administer and dispose of $^{133}$Xe safely and economically under controlled conditions with a complete system from Radx. The system is designed to protect the user as well as the environment. Patient comfort, safety and ease of breathing are primary concerns.
WHY BUY TWO WHEN ONE WILL DO?

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From START to FINISH...

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The START
Xenon-Kow II

$^{133}$Xe is most economically obtained in curie quantity glass ampules. The Xenon-Kow II was designed to safely and conveniently crush the ampule and dispense $^{133}$Xe in smaller doses. The dynamic volume storage chamber provides for constant concentrations (decay excepted), and transfer efficiencies exceed 96%. The economies realized will pay for the entire system, usually in the first year. Let us analyze and compare your current cost with our system cost.

The HEART of the System
Ventil-Con

The Ventil-Con controlled gas delivery system is used for patient administration of $^{133}$Xe. You may administer the $^{133}$Xe as a bolus or homogenous mixture with air and oxygen to perform the single breath, equilibrium and washout phases of lung ventilation studies.

Major features are:
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- Manual O$_2$ replenishment
- Emergency O$_2$ assist
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- In line, autoclavable, bacteriological filter
- Wide variety of face mask and mouthpieces available
- 10 liter dry spirometer
- Volume meter
- Dual channel strip chart recorder (optional)
- Breathing resistance less than 0.05-0.1 inches of water
- Arm adjustable for 0-60 inches
- Large CO$_2$ adsorber

We also make special Ventil-Cons for $^{127}$Xe and cerebral perfusion studies by the Obrist technique$^1$.

The FINISH
Xenon Trap

The Radx Xenon Trap is the only activated charcoal trap with a built-in $^{133}$Xe saturation detector/alarm. When the charcoal reaches its saturation point, (because there is no such thing as a “life-time” trap) an audio/visual alarm is activated indicating it’s time to replace the 6-cylinder cartridge pack. Other features are a large desiccant jar for moisture removal, a “flame isolated” pumping system and an optional expandable interface (pictured).

Actually, the Xenon Trap is not the finish because with every piece of Radx equipment goes our one-year warranty, and our commitment to the future needs of nuclear medicine.

A, B, C, D. Normal brain scan multi-image display with CE-1-7 (37 p.m.t.) camera.

E, F, G, H. Positive bone scan patient: CCL-4 Ultrafine — resolution collimator; 400,000 counts accumulated in 90-220 seconds per view; 15 mCi 99mTc pyp; 5 hours post injection.

I, J. Anterior and posterior liver scans: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 3 mCi 99mTc sulfur colloid; ½ hour post injection. 56 sec. for anterior; 66 sec. for posterior.

K, L. Right lateral and posterior brain scans with Elscint CE-1-7 (37 p.m.t.) camera: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 15 mCi 99mTc; 2 hours post injection. 172 sec. for posterior; 169 sec. for right lateral. History: head trauma 2 months prior to brain scan.
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