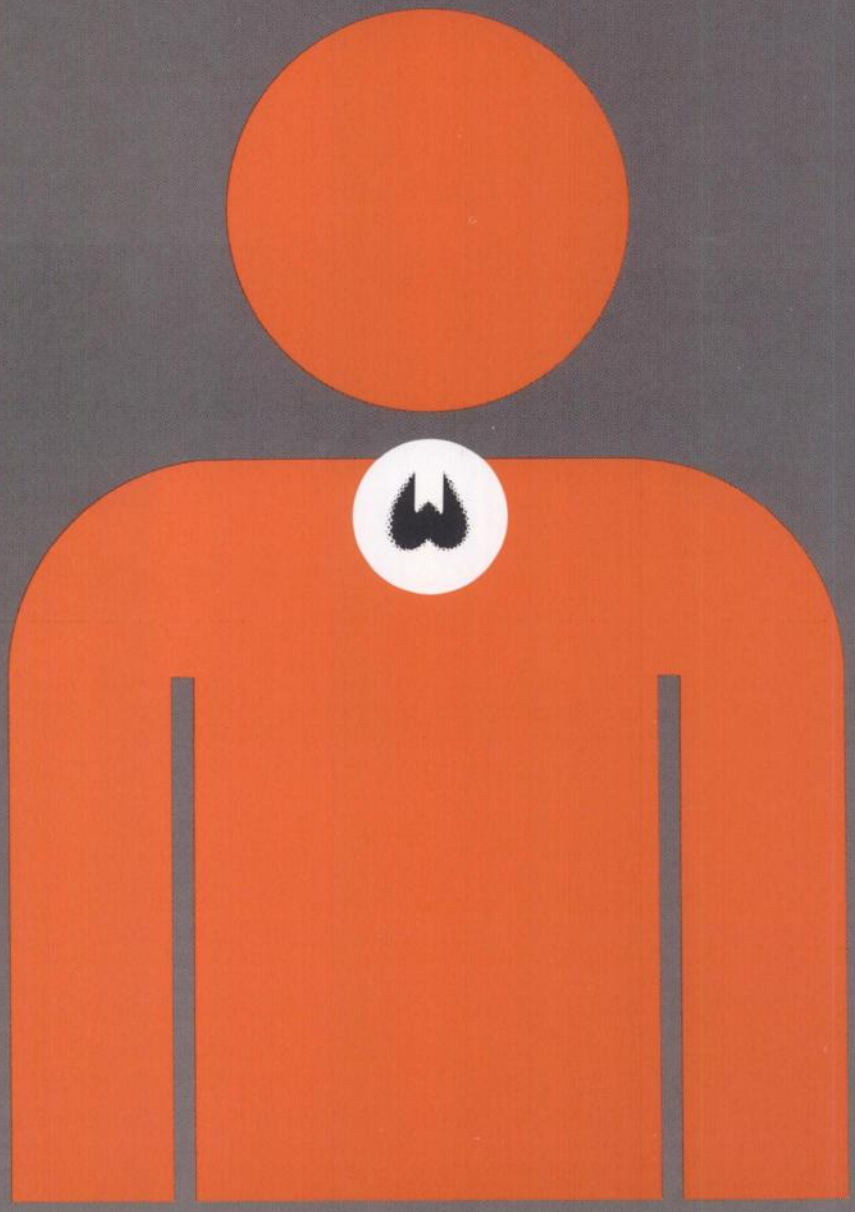
Sodium Iodide I 123

for thyroid studies



medi+physics™

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.

Compare:

Maximal Thyroid Uptake %	Rads/100μCi MPI-Iodine-123	Rads/100μCi I 131
5	1.05	26.0
15	3.19	80.0
25	5.36	130.0

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

medi+physics™

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 radionuclidic 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.

DOSAGE 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.

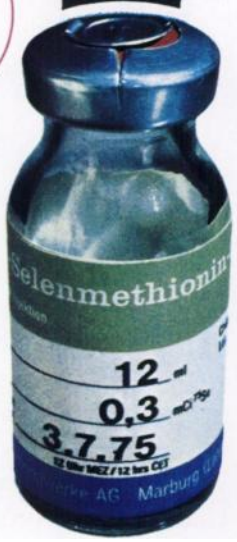
HOECHST

BEHRING INSTITUTE

According to our own new method

L-Seleno-methionine (Se-75)

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 µCe in liver, pancreas and kidneys
Whole body dose: 0.8 rd
High radiochemical purity (98 %) at calibration date
Recommended dose: 300 µCi

Specification
L-Selenomethionine-(Se-75)
Less than 5 % D-Seleno-methionine.
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

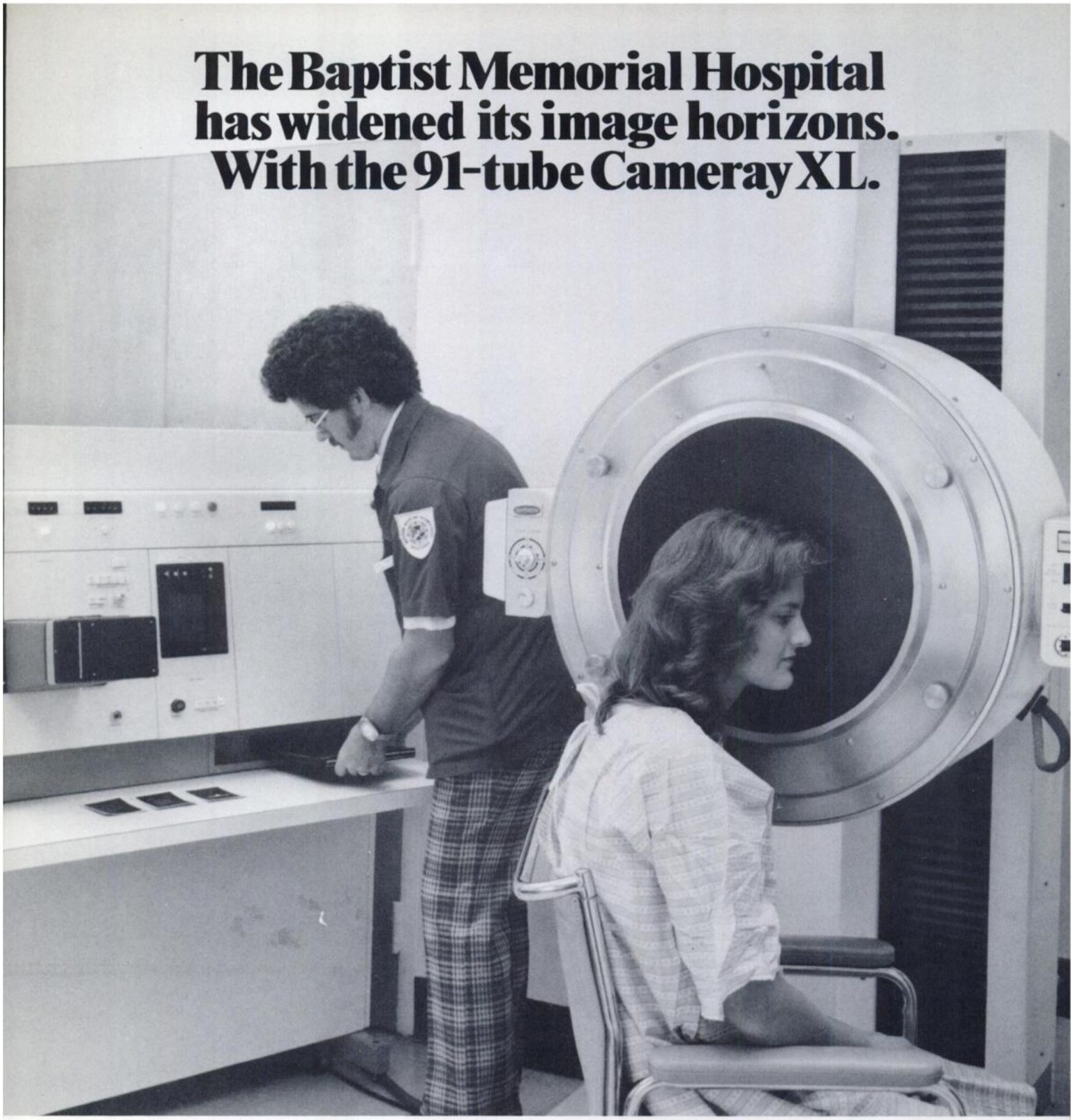
Shelf life:
3 months from the day of first dispatch

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.

Lh 71185

HOECHST AG · 6230 Frankfurt (Main) 80 · Behring Department

The Baptist Memorial Hospital has widened its image horizons. With the 91-tube Cameray XL.

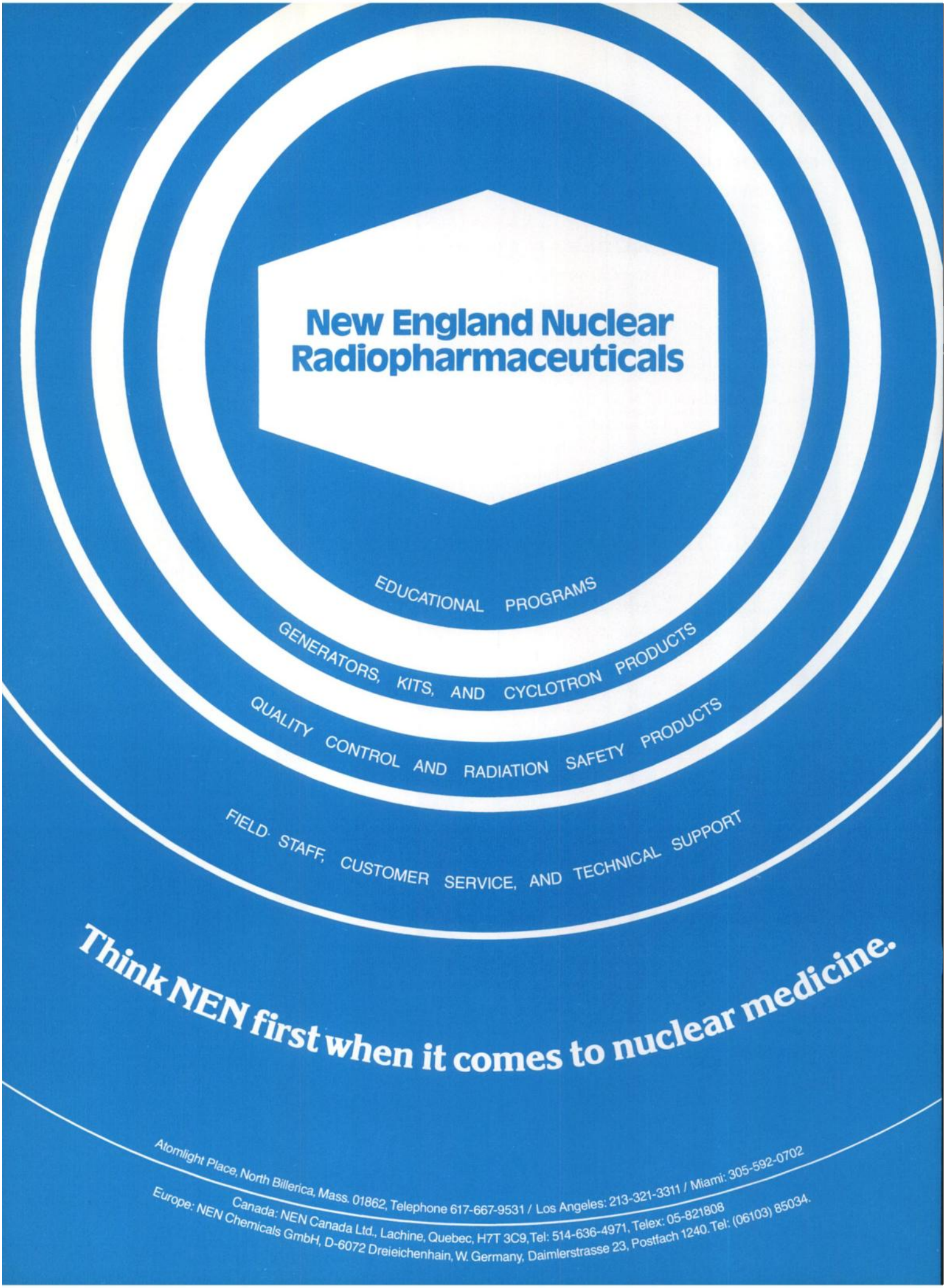


The Baptist Memorial Hospital in Memphis, one of the nation's biggest and busiest medical institutions, is getting more patient per scan these days. At the same time, the nuclear medicine section, under Doctors John Rockett and Mohammed Moinuddin, is getting high resolution images with every reading. 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. Contact Raytheon's Medical Electronics Operation, Fourth Avenue, Burlington, Mass. 01803. (617) 272-7270.

RAYTHEON


New England Nuclear
Radiopharmaceuticals
EDUCATIONAL PROGRAMS
GENERATORS, KITS, AND CYCLOTRON PRODUCTS
QUALITY CONTROL AND RADIATION SAFETY PRODUCTS
FIELD STAFF, CUSTOMER SERVICE, AND TECHNICAL SUPPORT
Think NEN first when it comes to nuclear medicine.
Atomlight Place, North Billerica, Mass. 01862, Telephone 617-667-9531 / Los Angeles: 213-321-3311 / Miami: 305-592-0702
Canada: NEN Canada Ltd., Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 23, Postfach 1240. Tel: (06103) 85034.

BUDGET PROBLEMS?

CALL OR WRITE **TELSTAR**

FOR QUOTATIONS & SPECIFICATIONS ON OUR PRODUCTS

NUCLEAR MEDICAL PRODUCTS SINCE 1971

Syringe Shields, Retractable
Syringe Shields, Fixed
Syringes
Phantoms (All Types)
Filling Funnel
Disposable Rebreathers
Xenon Delivery Systems
Xenon Traps
Decontaminant Solutions
NUCLEARWASH
NUCLEARSPRAY
Air Samplers & Filters
Imaging Tables
XY & XYZ
EZ LIFT
SCANNA-COT
Survey Meters
Shielding Devices
Calibrators
Carts
Refrigerators
Monitors
Signs, Tapes & Labels
Film Holders
X-Ray Glass

TELSTAR

700 HUMMEL AVENUE
SOUTHOLD, N.Y. 11971

TELEPHONE (516) 765-9292

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-pentaacetic 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 $SnCl_2$. 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.

DOSAGE 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.

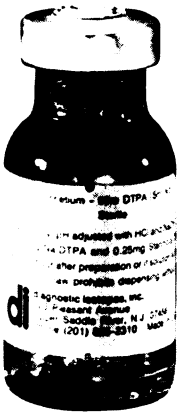
diagnostic isotopes incorporated

123 Pleasant Ave., Upper Saddle River, New Jersey 07458

By the time some people can say:

"DIETHYLENETRIAMINEPENTA-ACETIC ACID AND STANNOUS CHLORIDE IN A LYOPHILIZED STATE UNDER NITROGEN"

You've got it mixed and ready to use!



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.

See opposite page for a brief summary of the package insert.

diagnostic isotopes incorporated
123 Pleasant Avenue, Upper Saddle River, New Jersey 07458
Telex 134408 • Phone: (201) 825-2310 (Call toll free — 800-631-7020)
"OUR QUALITY HELPS YOUR IMAGE"

Kits Available: *DTPA, Polyshosphate, Diphosphonate.*
Prepared Radiopharmaceuticals Available: *Selenium-75, Xenon-133 (solution or gas)*

melétron & melécord

Your key to accurate dosecalibration and error-free records

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 dosecalibrator calibrated against 16 known standards at the National Bureau of Standards June 20, 1975.

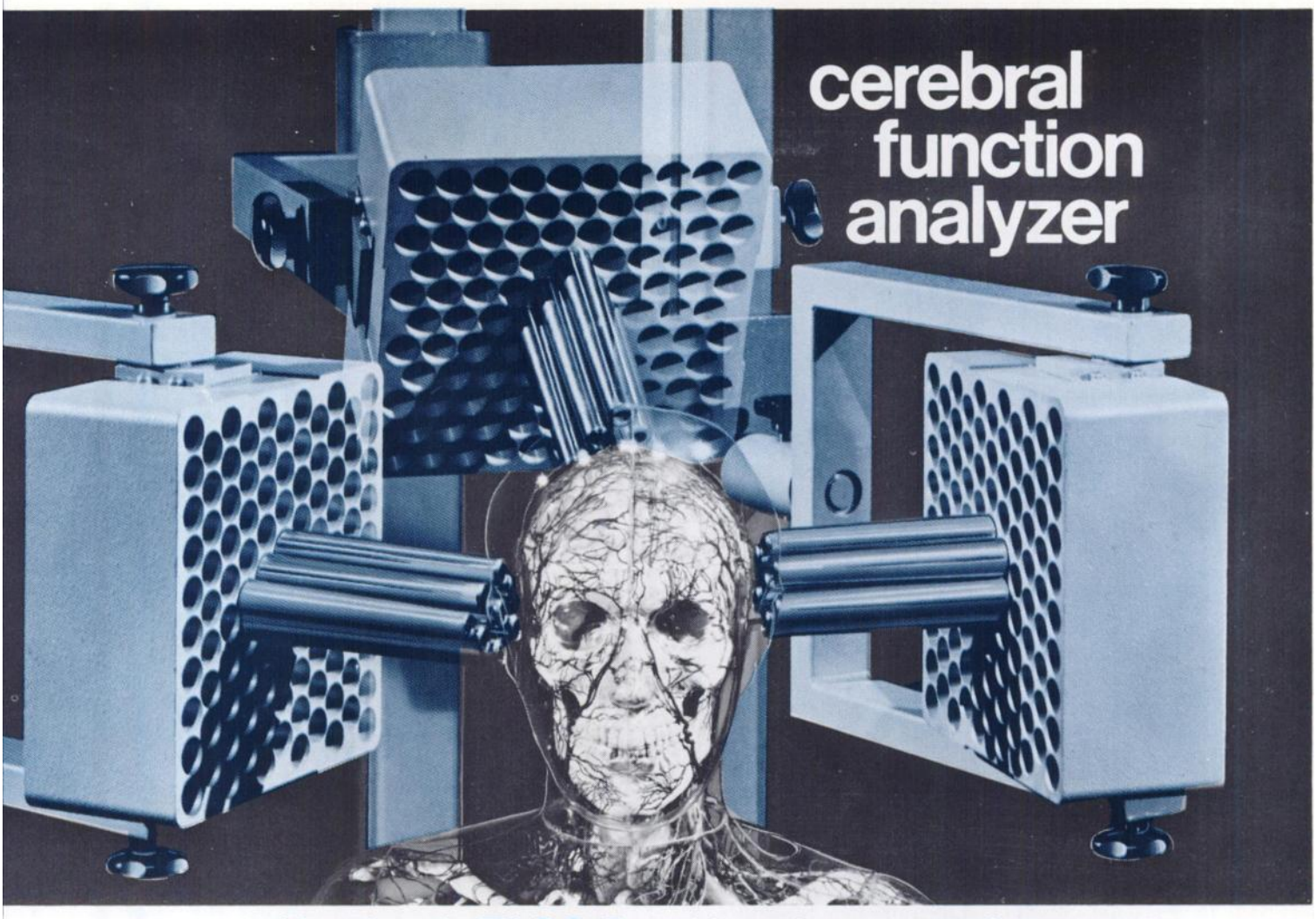
Range capability is up to 10 curies. Lets you handle high-activity Mo 99/Tc 99m generators. Melétron's automatic ranging eliminates manual selection—and another chance for operator error. Background subtraction is also automatic, and design of the ionization chamber will allow a 3/16" lead shield. The 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 dosecalibration and record-keeping problems, call RADX—the innovators in nuclear medicine.

RADX P. O. Box 19164 • Houston, Texas 77024 • 713/468-9628



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.

HARSHAW

HARSHAW

THE HARSHAW CHEMICAL COMPANY
Crystal & Electronic Products Department
6801 Cochran Road • Solon, Ohio 44139
(216) 248-7400

A kewanee INDUSTRY

GammaCoat™
^{125}I Cortisol

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}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.

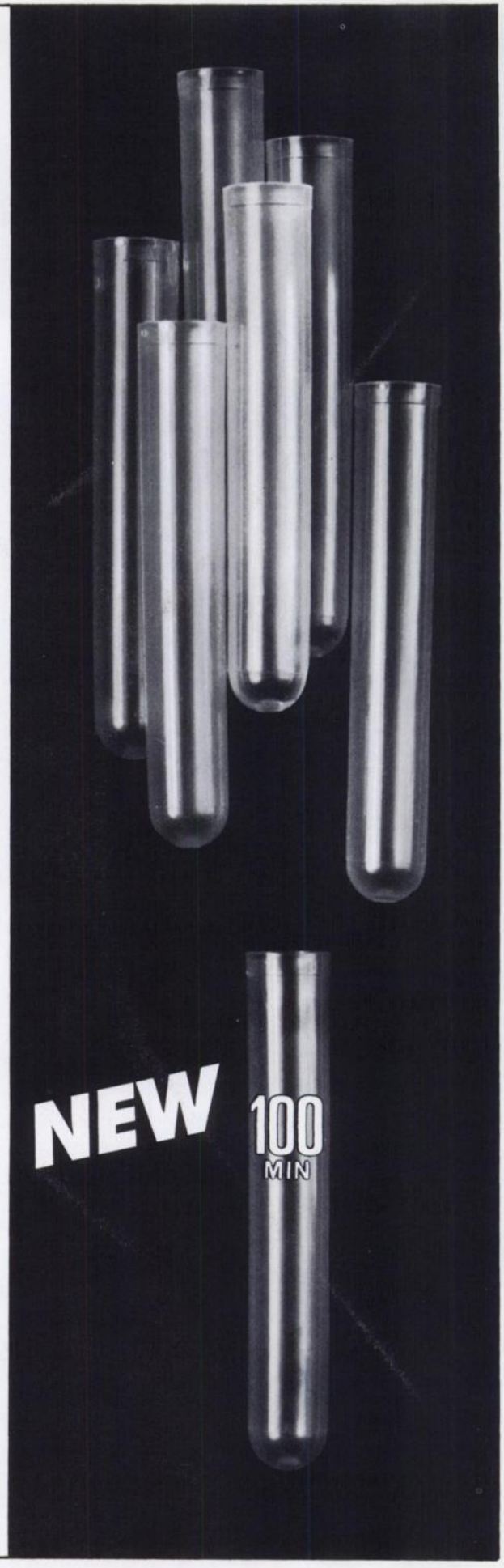
A ^{3}H Cortisol RIA with dextran coated charcoal separation is also available.

Also available are:
GammaCoat Digoxin ^{125}I
GammaCoat Renin Activity ^{125}I
GammaCoat Digitoxin ^{125}I
Vitamin B_{12} ^{57}Co
Folate ^{125}I
Folate ^{3}H
Digoxin ^{3}H
Digitoxin ^{3}H

For full details contact:

Clinical Assays, Inc.

237 Binney Street • Cambridge, Mass. 02142
(617) 492-2526

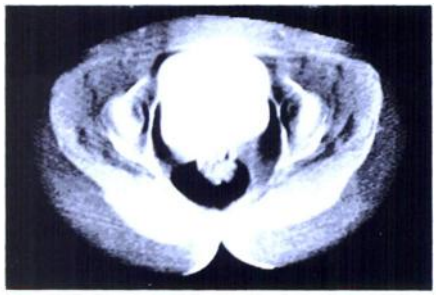


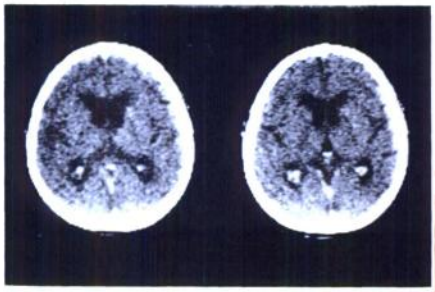
Now...

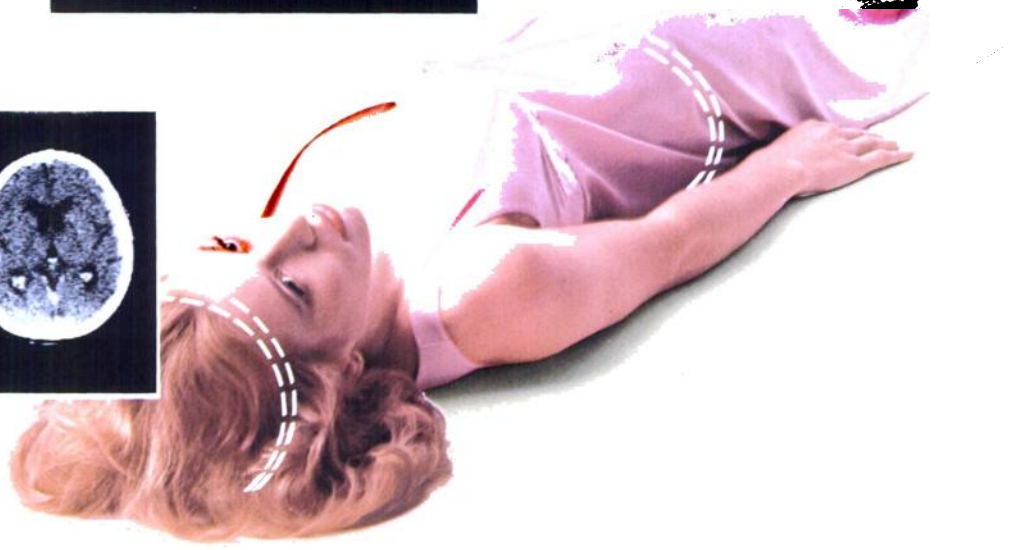
Pfizer **MEDICAL SYSTEMS, INC.**
A SUBSIDIARY OF PFIZER INC.

CT-SCANNER®

0200 & 0200FS







Continuing Leadership

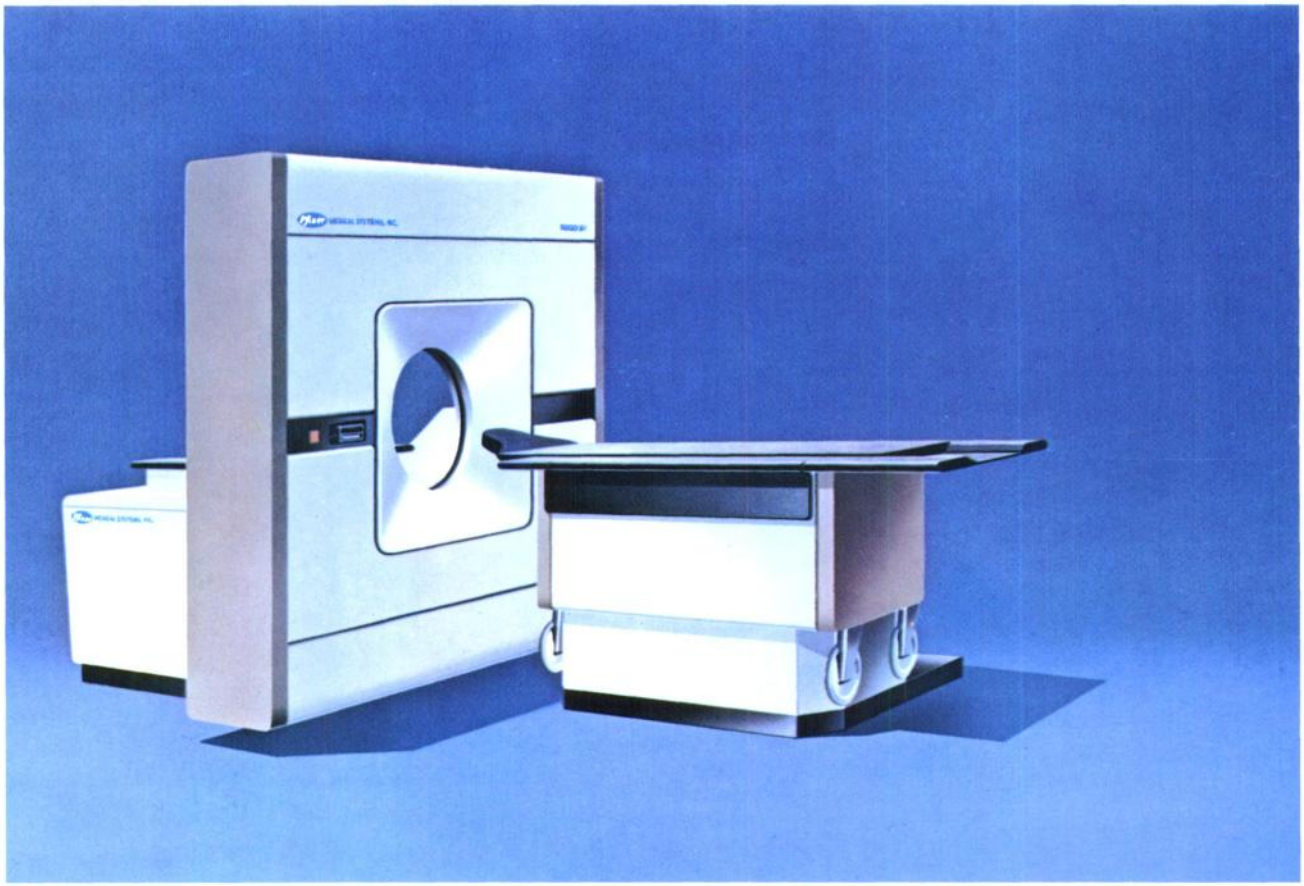
Now...

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.

ACTA-SCANNER



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.

Pfizer **MEDICAL SYSTEMS, INC.**
A SUBSIDIARY OF PFIZER INC.

Distinguishing Features

Pfizer **MEDICAL SYSTEMS, INC.**
A SUBSIDIARY OF PFIZER INC.

0200 & 0200FS

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.

Your results tell you how good we make it

Kits Available: DTPA, Polyshosphate, Diphosphonate.

Prepared Radiopharmaceuticals Available: Selenium-75, Xenon-133 (Solution or gas)

diagnostic isotopes incorporated

123 Pleasant Ave., Upper Saddle River
New Jersey 07458
201-825-2310 Telex 134408
Call toll free — 800-631-7020
"OUR QUALITY HELPS YOUR IMAGE"

"You're Hired"

NUCLIBADGE® II

Instant service for your new employees

Another personalized touch from Searle: NUCLIBADGE® II radiation monitoring badges for your new employees are as near as your telephone. Call toll-free!

You'll receive rapid turn-around service...your Nuclibadges will be sent within hours of your free phone call.

Your new employees can start without costly delays with complete personalized protection: rings, clips or wrist badges...whatever is most suitable.

In addition, Searle does all these other things to make your job easier:

- EMERGENCY REPORTS, ADDITIONAL MONITORS AIR-MAILED within 24 hours.
- EXPOSURE REPORTS WITHIN 5 DAYS.
- SENSITIVITY TO RADIATION low as 6 millirem.
- PUNCHED CARD REPORTS OPTIONALLY AVAILABLE for computerized record keeping systems.
- INDIVIDUAL QUARTERLY or ANNUAL EXPOSURE SUMMARIES to meet state or federal reporting requirements and maintain your own files.

NUCLIBADGE® II radiation monitoring.
CALL TOLL-FREE 800/323-6015
in Illinois: 312/298-6600 collect

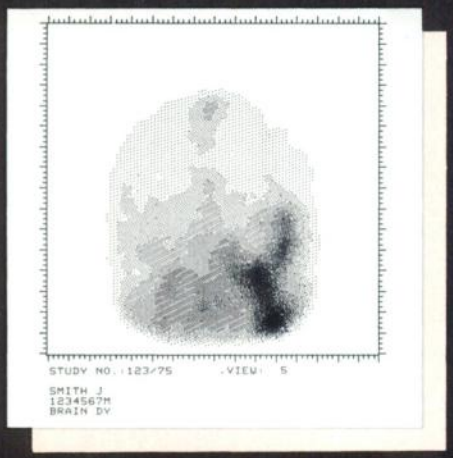
SEARLE **Searle Analytic Inc.**
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Film Badge Manager

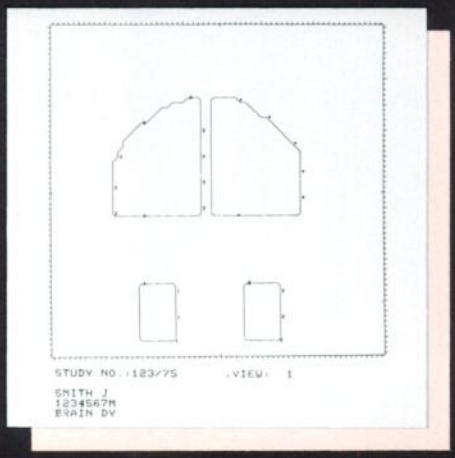
CODE FB-63-A

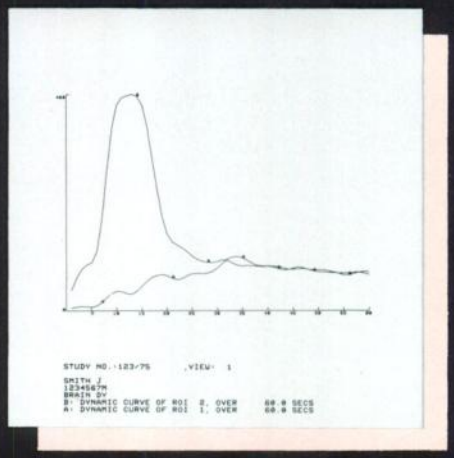
"...with whole-body scans taking over more of the nuclear imaging load, Cleon is the clear choice."

cleon
CORPORATION 150 Gould Street, Needham, Massachusetts 02192/Telephone 617-444-2494

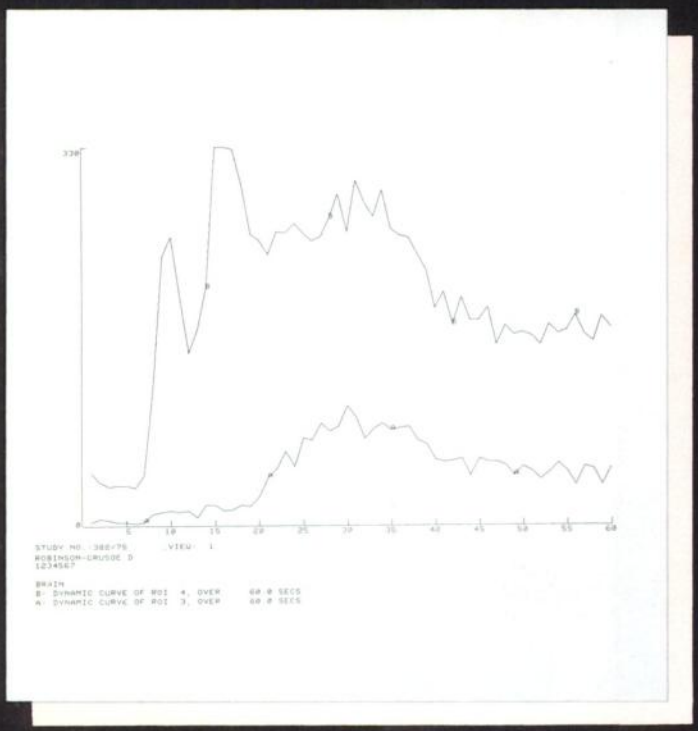
Advances in Low-Cost, Life-Size Paper Hardcopies from varicam



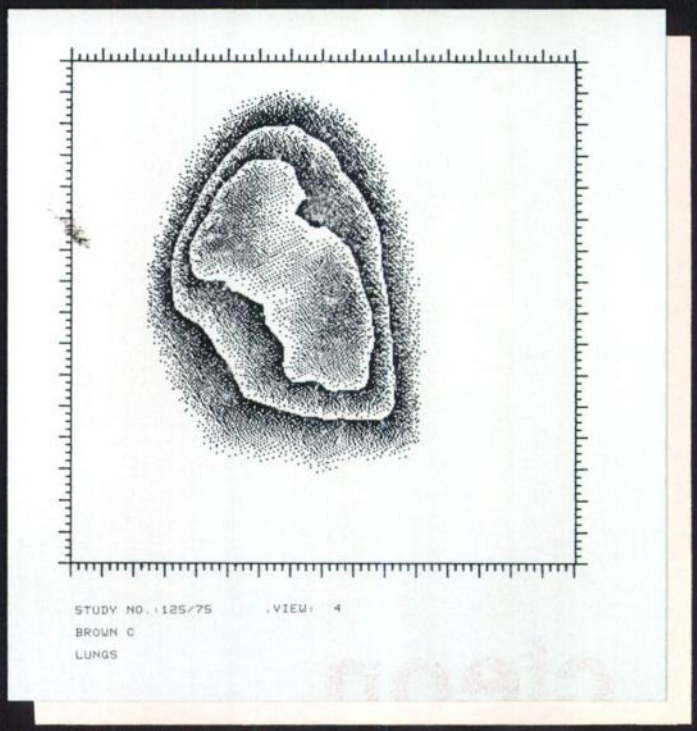




Complete Hardcopy Report on Dynamic Brain Blood-Flow Study.



Dynamic Brain Curve.



Lungs, showing Embolism in Lateral View.

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 clinitian 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

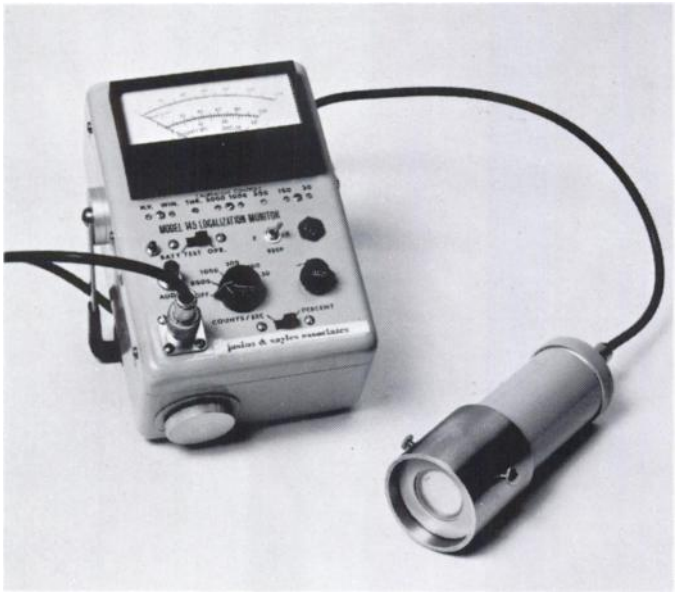
varian radiation division
611 Hansen Way, Palo Alto, California 94303, USA.
Telephone (415) 493-4000

European Enquiries: Molesey Road, Walton-on-Thames, Surrey, England.
Telephone: (093 22) 28971 Telex: 261351

MODEL 145 LOCALIZATION MONITOR

Detection of Deep Vein Thrombosis

and other in vivo applications



- CPS & PERCENTAGE READOUT
- COMPACT & PORTABLE
- 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

High voltage
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/cm^2 aluminum window. Optional – 1 inch x 1 inch NaI (TL) detector with thin window at extra cost.

J&S JASINS & SAYLES ASSOCIATES, INC.
908 CONCORD STREET, FRAMINGHAM, MASSACHUSETTS 01701
(617) 879-3775

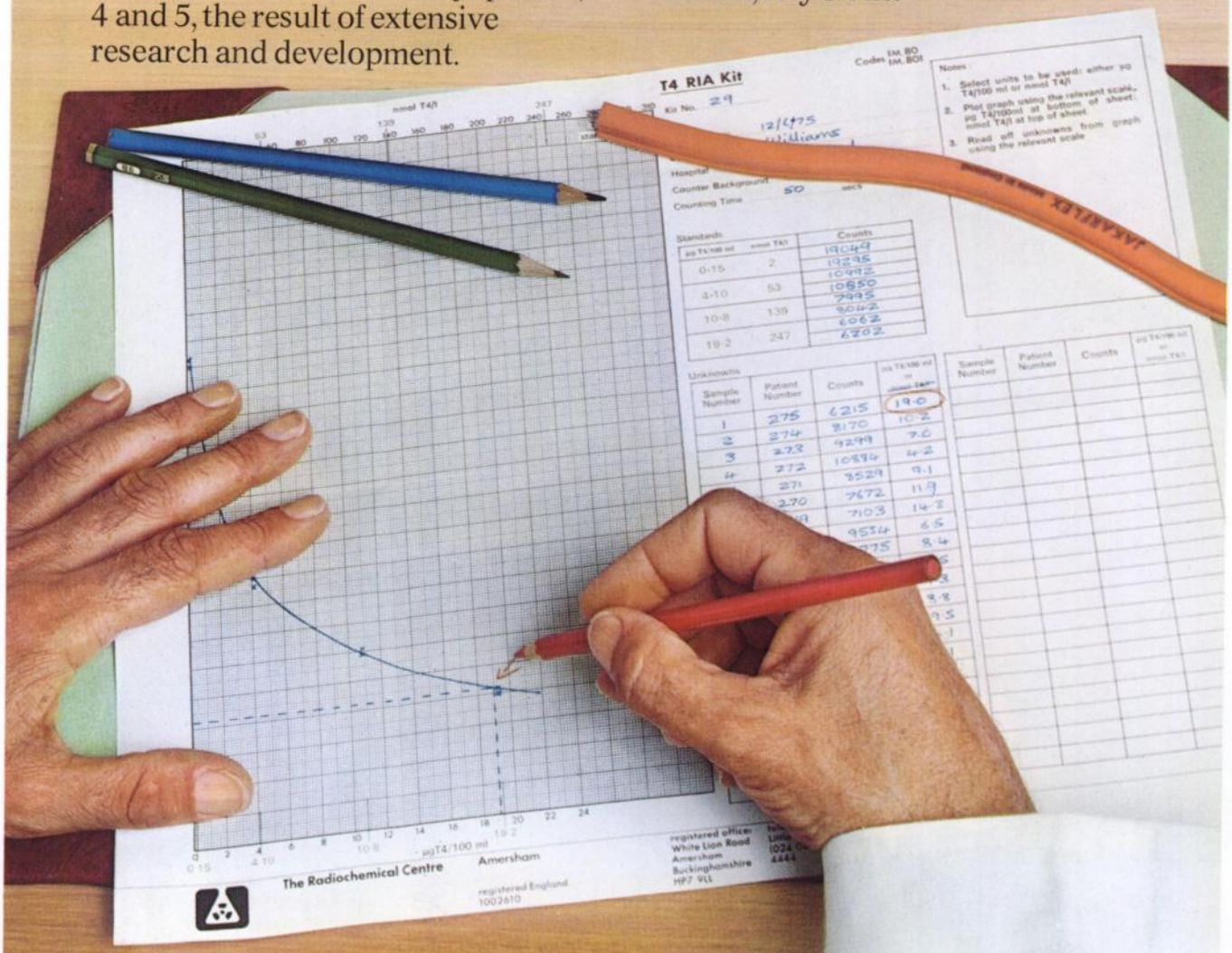
If you get an odd result when using one of our thyroid testing kits, there's something wrong with the patient.

Because when you use one of our kits you can depend on the accuracy and reproducibility of the test.

You can depend, too, upon the simplicity and reliability of every kit, T3 RIA, T4 RIA and Thyopac*-3, 4 and 5, the result of extensive research and development.

When it comes to performance you can rely on the highest standards of Production and Quality Control.

So whatever your needs in thyroid function testing, don't hesitate, rely on us.



Thyroid function kits

*Trademark

The Radiochemical Centre
Amersham

Full information is available on request.
The Radiochemical Centre Limited, Amersham, England. Telephone: 024-04-4444
In the Americas: Amersham Searle Corp. Illinois 60005. Telephone: 312-593-6300
In W.Germany: Amersham Buchler GmbH & Co KG, Braunschweig. Telephone: 05307-4693-97

0824

You Told Us
You Needed

An "Anywhere in the Hospital" nuclear camera with no sacrifice in performance.

High quality images, in ICU, CCU, or the Emergency Room, without moving the patient.

Self-contained data system to provide high speed data acquisition with minimal loss.

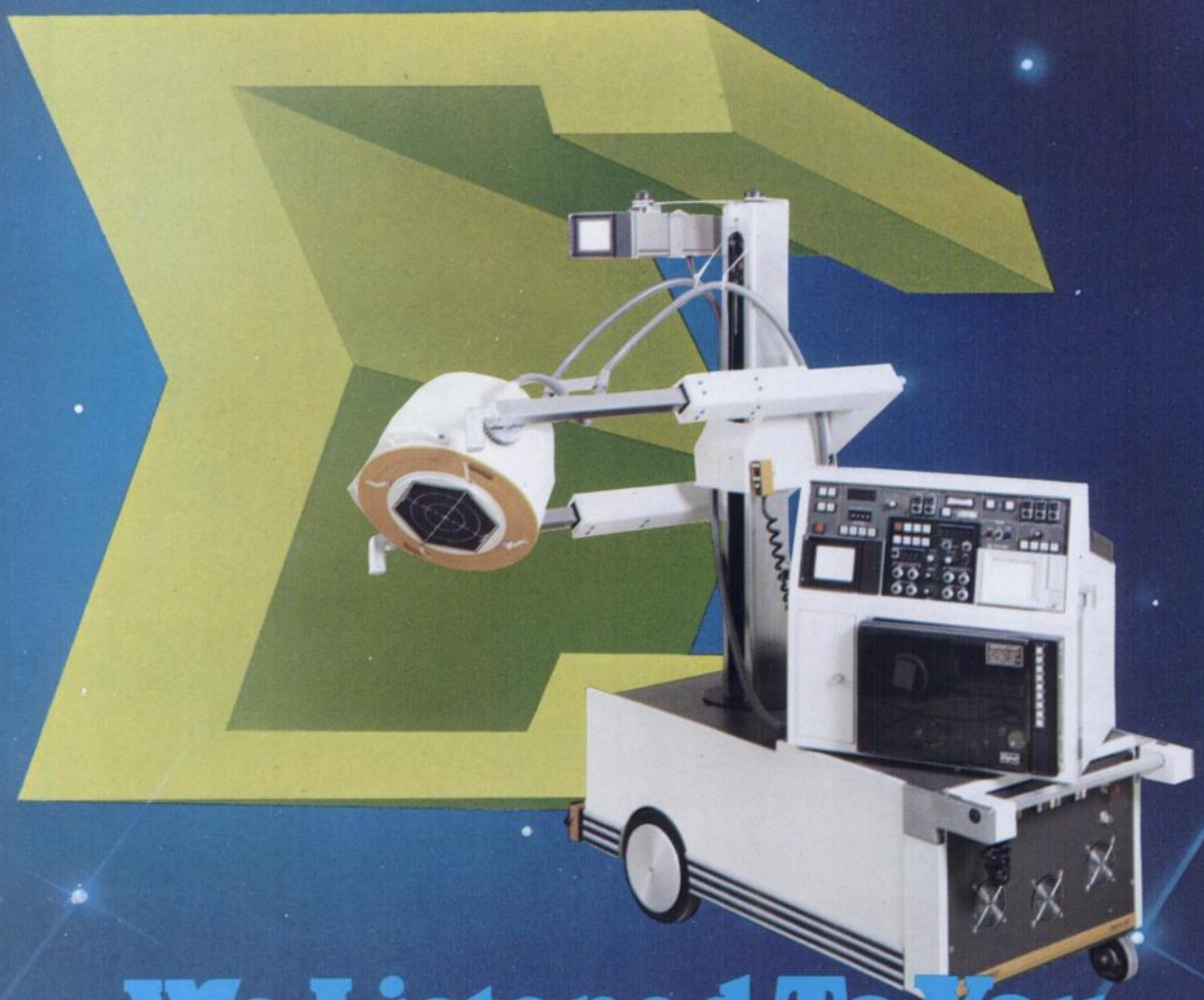
Self-propelled mobility, fast setup, and easy operation.

We Have
Responded With

Σ420 Mobile Camera

With MPC (Micro Processor Control)

± 5% Flood Field, 2.5mm Bar Resolution, 200,000 cps



We Listened To You.

ohio-nuclear, inc.

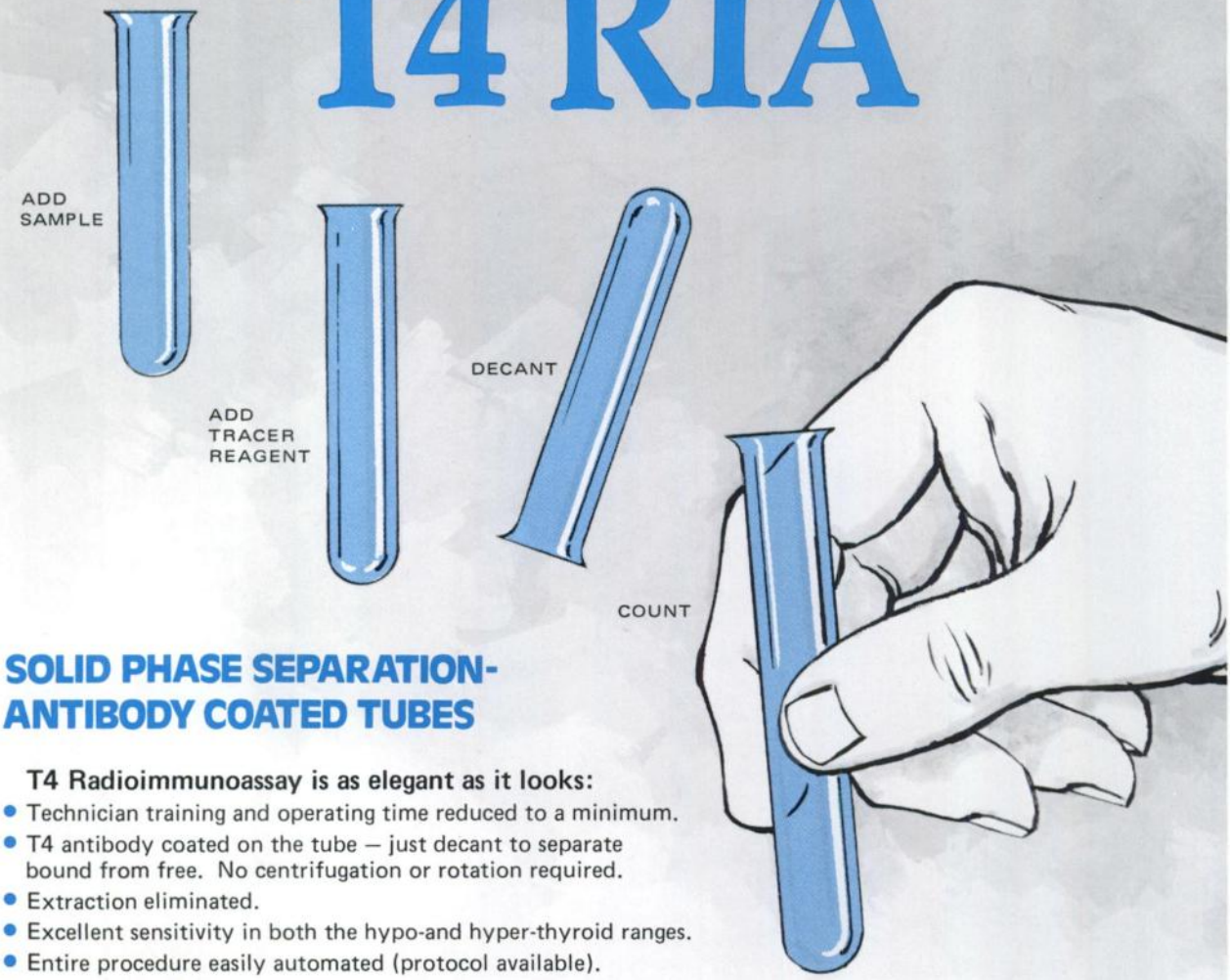
A subsidiary of Technicare Corporation

U. S. — 6000 Cochran Road • Solon, Ohio 44139 — Telephone (216) 248-8500 TWX 810 427 2696

U. K. — Ohio-Nuclear U.K. • Radix House • Central Trading Estate • Staines • Middlesex, England — Telephone Staines 51444

Worldwide — Siemens A. G. Medical Division • D8520 Erlangen • Henkestrasse 127 • West Germany — Telephone 09131 84-1 TWX 841 629 847

Clinical Assays GammaCoat™ T4 RIA



SOLID PHASE SEPARATION- ANTIBODY COATED TUBES

T4 Radioimmunoassay is as elegant as it looks:

- Technician training and operating time reduced to a minimum.
- T4 antibody coated on the tube – just decant to separate bound from free. No centrifugation or rotation required.
- Extraction eliminated.
- Excellent sensitivity in both the hypo-and hyper-thyroid ranges.
- Entire procedure easily automated (protocol available).

Protocol:

- Add sample directly into GammaCoat tube.
- Add Tracer-Buffer Reagent.
- Incubate – for 45 minutes at room temperature.
- Decant or Aspirate.
- Count – the tube is counted for as little as 30 seconds.

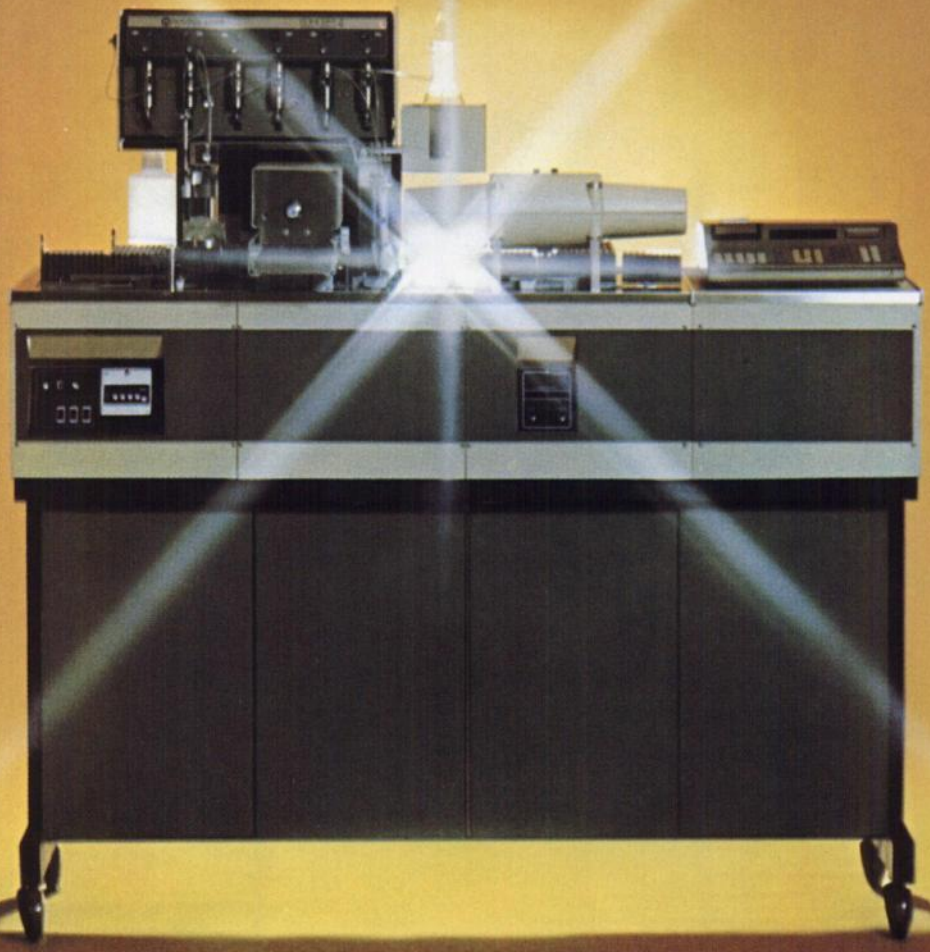
For further information call toll free at 1-800-225-1241 (in Massachusetts call collect 617-492-2526) or TWX (710-320-6460) or write:

Clinical Assays, Inc.

237 BINNEY STREET
CAMBRIDGE, MASS. 02142
(617) 492-2526

CONCEPT 4™
AUTOMATIC RADIOASSAY

CONCEPT 4 begins a whole new way of thinking about radioassay. It brings completely automatic sample-to-answer instrumentation within reach of the clinical laboratory. By adding a premeasured reagent system to the instrumentation it assures you of consistently accurate results, free of human error. In essence, it's an answer system for the five high-volume tests available now—T_4, T_3 RIA, T_3 Uptake, Digoxin and Cortisol. And six more are coming soon. CONCEPT 4 can make your heaviest radioassay workload effortless. For complete information about CONCEPT 4 please write us at the address below:



☐ Ask my Micromedic Systems representative to call. ☐ Send me the CONCEPT 4 Portfolio.

NAME _____ TITLE _____

HOSPITAL OR LABORATORY _____

STREET _____ CITY _____

STATE _____ ZIP _____

© 1976 Rohm and Haas Company

M15

MICROMEDIC SYSTEMS
102 WITMER ROAD
HORSHAM, PA 19044

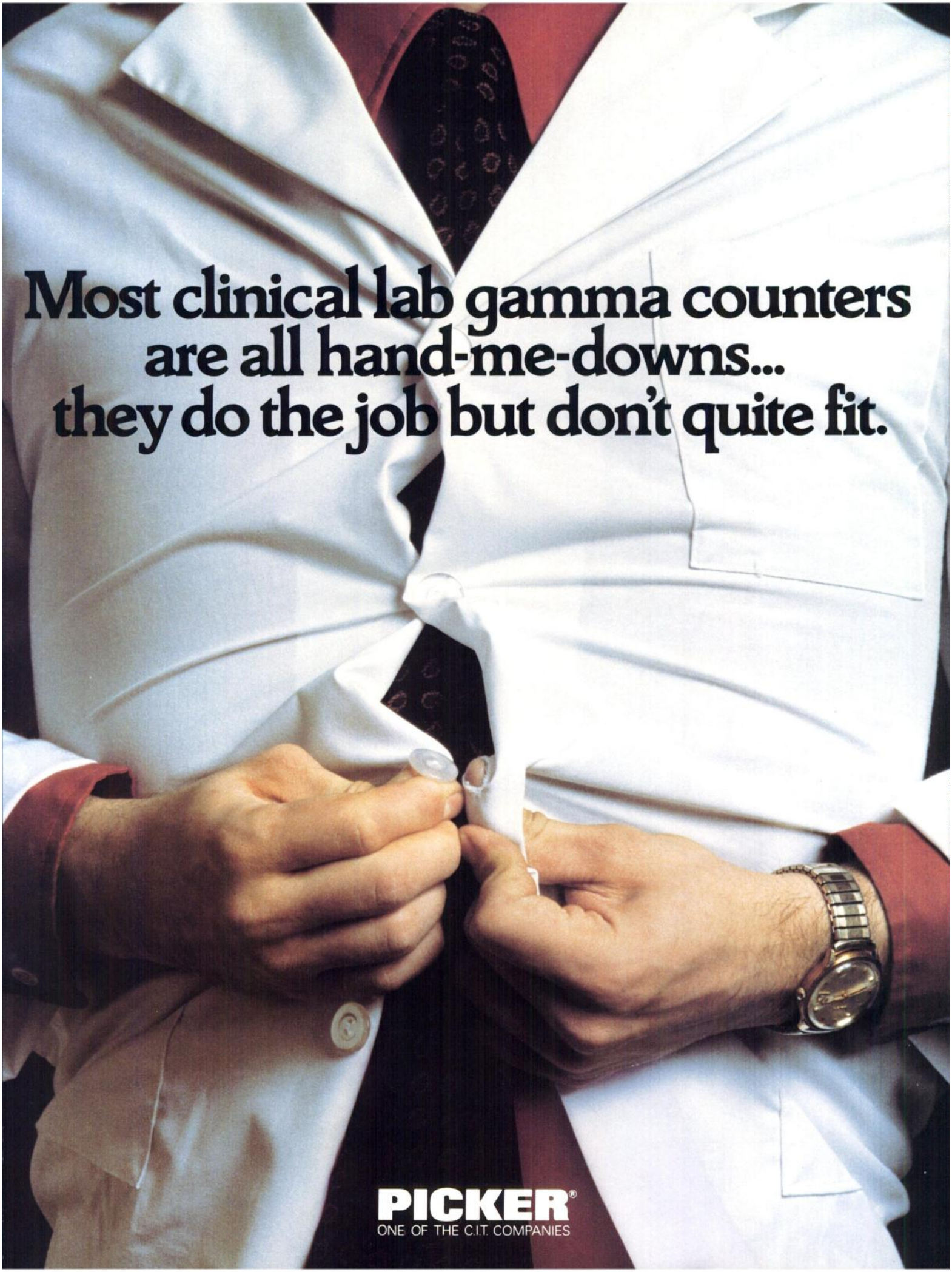
A DIVISION OF ROHM AND HAAS COMPANY

The fission Generator is new.

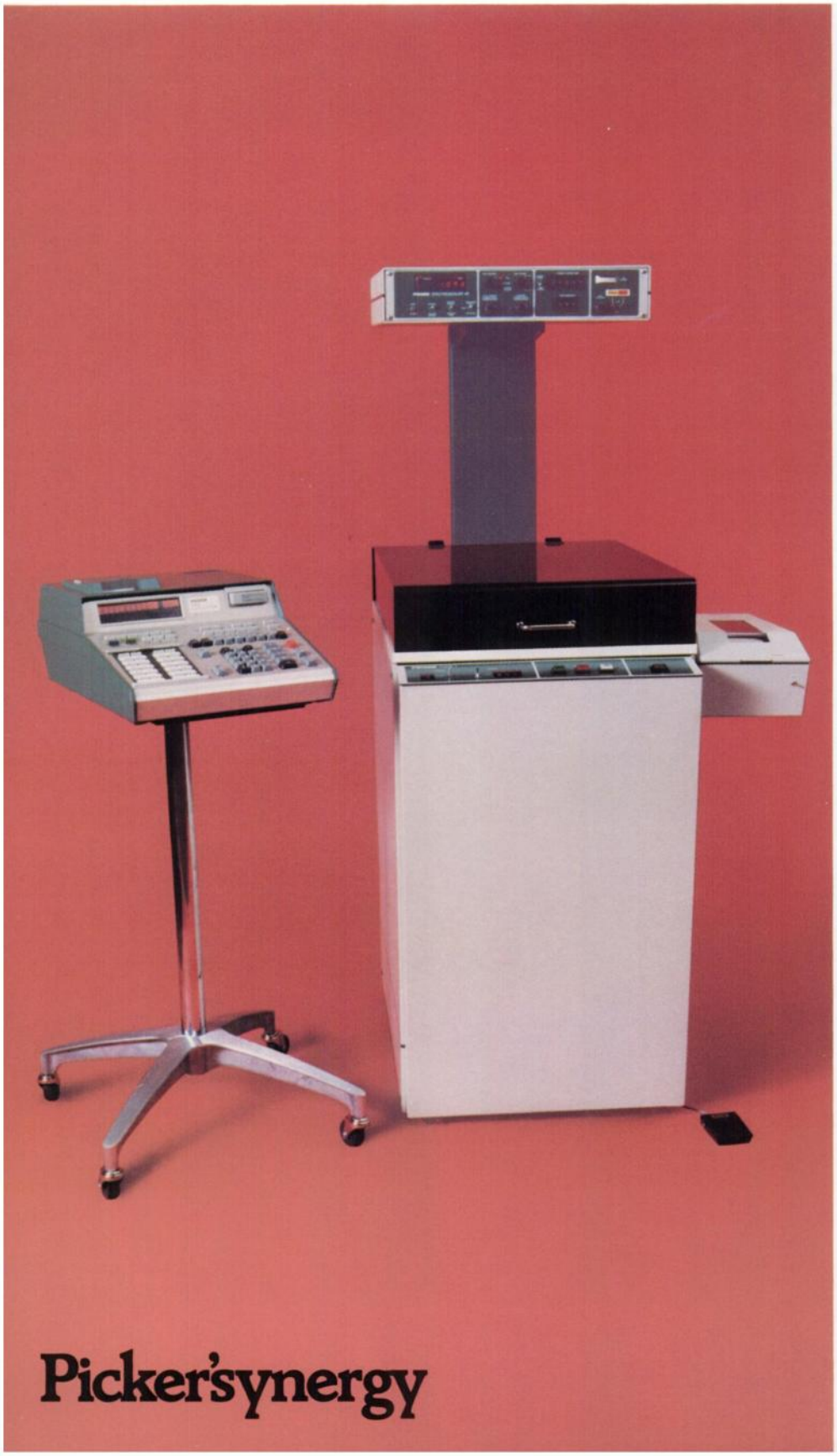
The convenience is traditional:

NEN **New England Nuclear**
Radiopharmaceutical Division
Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531
Los Angeles: 213-321-3311 Miami: 305-592-0702

Canada: NEN Canada Ltd., Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 26, Postfach 1240. Tel: **(06103) 85034.**


Most clinical lab gamma counters
are all hand-me-downs...
they do the job but don't quite fit.
PICKER®
ONE OF THE C.I.T. COMPANIES

Now there's PICKER PACE-1™



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.

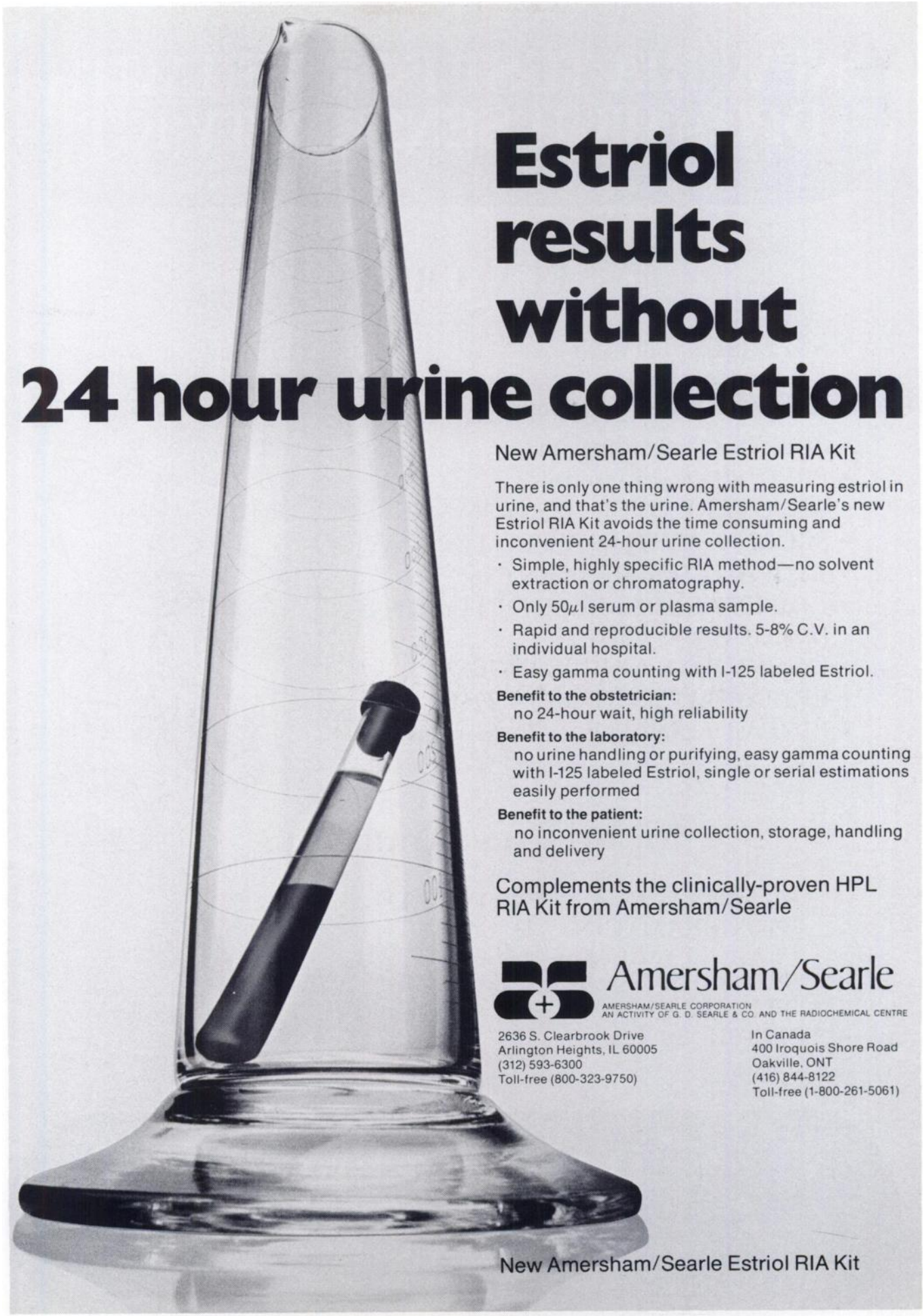
For on-line data reduction, Picker offers the PAC, Programmable Automatic Calculator, which uses an advanced curve fitting program (PALL). PAC can be used off-line, to analyze radioassay data or perform hundreds of other data analysis chores in the clinical lab.

But then other counters weren't designed specifically for today's clinical applications.

PACE-1 is an example of Picker'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.

PICKER®
ONE OF THE C.I.T. COMPANIES



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:
no urine handling or purifying, easy gamma counting with I-125 labeled Estriol, single or serial estimations easily performed

Benefit to the patient:
no inconvenient urine collection, storage, handling and delivery

Complements the clinically-proven HPL RIA Kit from Amersham/Searle

Amersham/Searle

AMERSHAM/SEARLE CORPORATION
AN ACTIVITY OF G. D. SEARLE & CO. AND THE RADIOCHEMICAL CENTRE

2636 S. Clearbrook Drive
Arlington Heights, IL 60005
(312) 593-6300
Toll-free (800-323-9750)

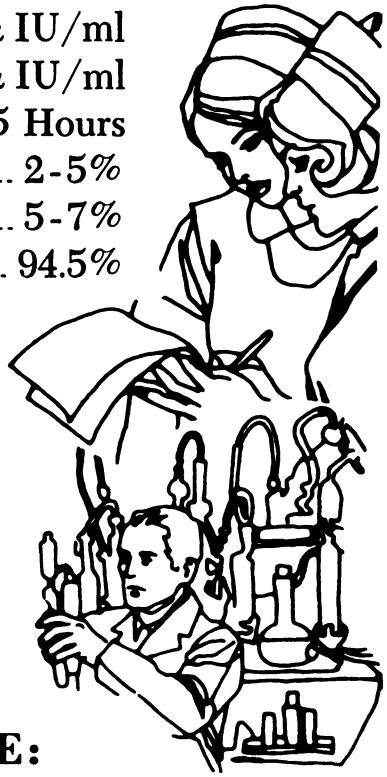
In Canada
400 Iroquois Shore Road
Oakville, ONT
(416) 844-8122
Toll-free (1-800-261-5061)

New Amersham/Searle Estriol RIA Kit

NEW RIA TEST FOR TSH WITH DPC's HIGH SENSITIVITY KIT

FEATURING:

- SUPERSENSITIVITY ..... 2μ IU/ml
- LINEAR RANGE ..... 2-100μ IU/ml
- TOTAL INCUBATION TIME ..... 5 Hours
- PRECISION (within-run) 2-5%
- PRECISION (run-to-run) 5-7%
- RECOVERY OVER ASSAY RANGE 94.5%
- SECOND ANTIBODY PEG SEPARATION
- LYOPHILIZED REAGENTS
- LOWEST CROSS-REACTIVITY WITH HCG, LH and FSH
- INDIVIDUAL CALIBRATORS
- RELIABILITY AND ECONOMY
- LINEAR PLOT (log-logit paper provided)



KITS ALSO AVAILABLE:

^{125}I AMIKACIN
^{125}I TOBRAMYCIN
^{125}I GENTAMICIN
^{125}I T-3 RIA
^{125}I T-4 RIA
^{125}I T3U
^{125}I FOLATE
^{3}H FOLATE
^{125}I CORTISOL
^{57}Co VITAMIN B-12
^{3}H Aldosterone (no chromatography)

Diagnostic Products
CORPORATION
12306 Exposition Boulevard • Los Angeles, Calif. 90064
TWX 910-342-7577 Toll Free (800) 421-7235 In California Collect (213) 826-0831

MOBILITY . . . CAPABILITY . . . SAFETY

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.

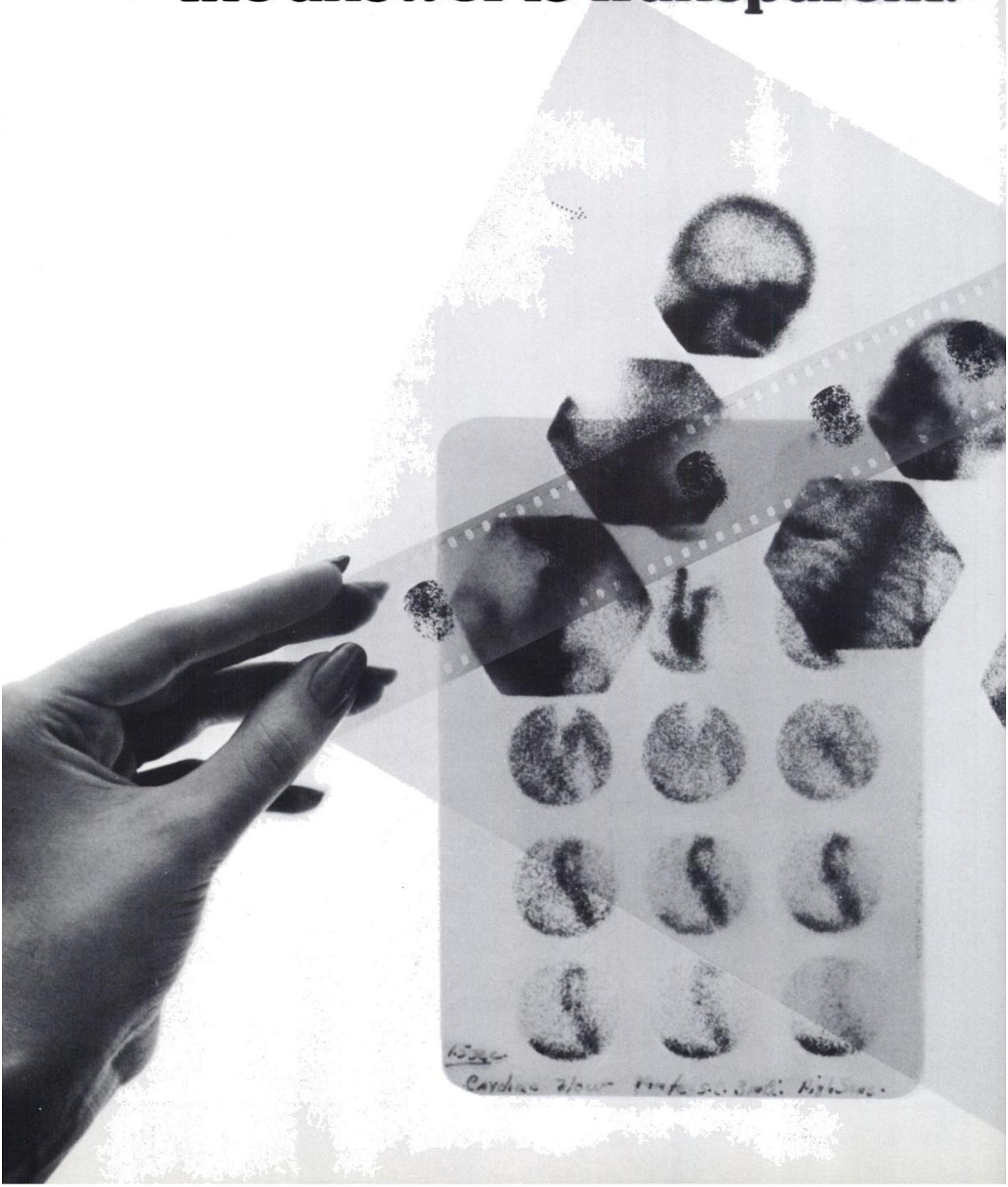
The MRA 150 is finished in Blue Reverse Hammerstone for easy decontamination, or in Yellow Vinyl. Both finishes have the distinctive radiation sign and "Caution Radioactive Materials" prominently displayed on the exterior.

In our opinion, the MRA 150 represents the finest product of its kind in the lead shielding field. Test it yourself – we're sure you'll agree!

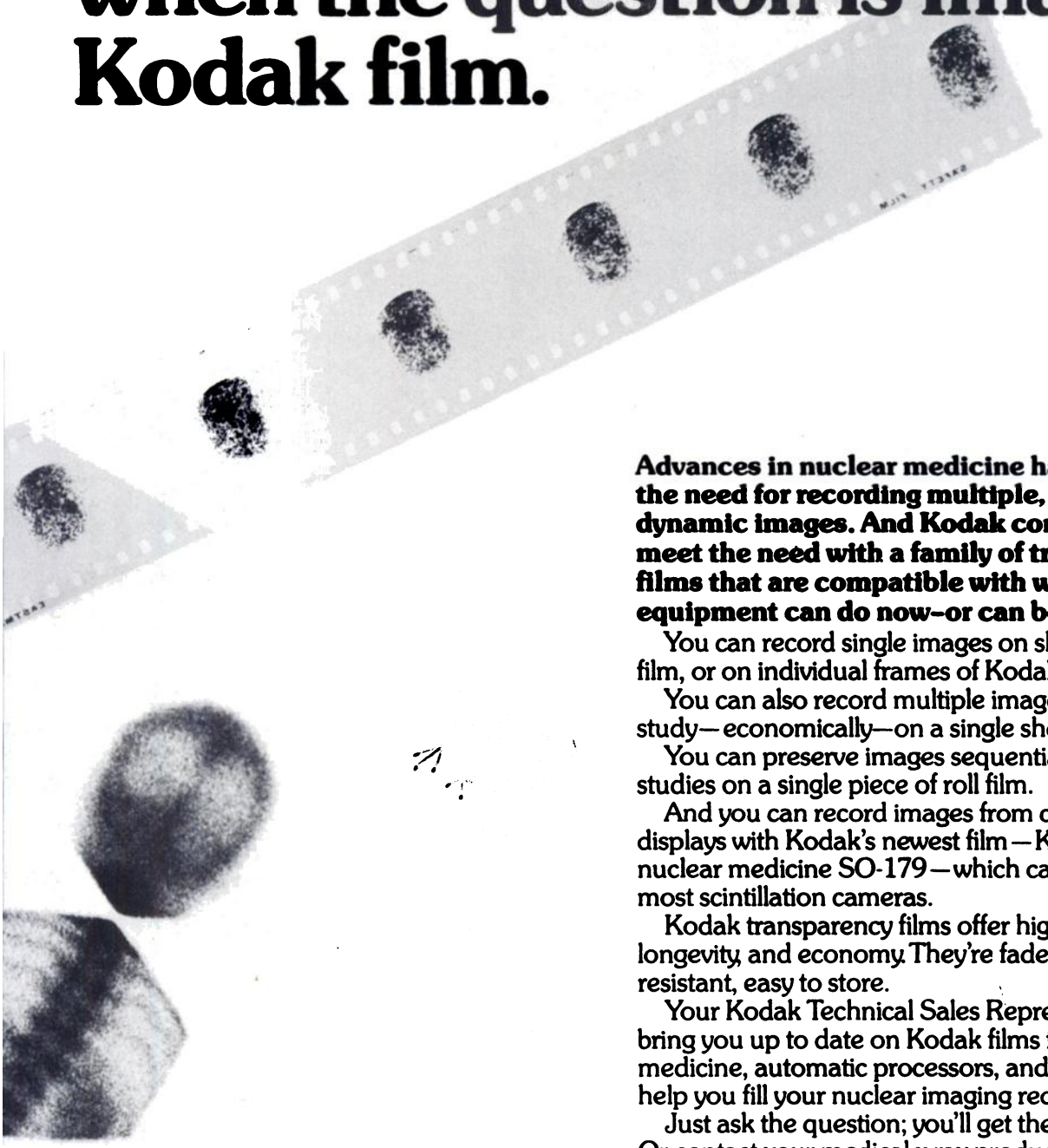
For more information, call or write Medi-Ray, Inc., 150 Marbledale Road, Tuckahoe, N.Y. 10707 (914) 961-8484.

MEDI-RAY INC.

In Nuclear Medicine, the answer is transparent.



when the question is imaging, Kodak film.



Advances in nuclear medicine have increased the need for recording multiple, single, or dynamic images. And Kodak continues to help meet the need with a family of transparency films that are compatible with what your equipment can do now–or can be adapted to do.

You can record single images on sheets of Kodak film, or on individual frames of Kodak roll film.

You can also record multiple images of the same study—economically—on a single sheet of film.

You can preserve images sequentially for dynamic studies on a single piece of roll film.

And you can record images from cathode-ray tube displays with Kodak's newest film—Kodak film for nuclear medicine SO-179—which can be used with most scintillation cameras.

Kodak transparency films offer high image quality, longevity, and economy. They're fade-resistant, curl-resistant, easy to store.

Your Kodak Technical Sales Representative can bring you up to date on Kodak films for nuclear medicine, automatic processors, and chemicals. And help you fill your nuclear imaging requirements.

Just ask the question; you'll get the right answer. Or contact your medical x-ray products dealer. Or write: Eastman Kodak Company, Department 740-B, Rochester, N.Y. 14650.

A commitment to quality.

NEW non-invasive diagnostic methods

Featuring Kevex X-ray fluorescence systems

I. In Vitro:
The Kevex-Ray® Stable Tracer Analyzer.

X-ray fluorescence analysis in-vitro affords tracer studies in new and conventional areas *without* the use of radioactive tracers, i.e., replacing them with *stable tracers.*

- established applications in:

  KINETICS OF X-RAY CONTRAST AGENTS
  GLOMERULAR FILTRATION RATE (GFR)
  RED CELL VOLUMES (RCV)
  EXTRACELLULAR FLUID VOLUME
  PLASMA VOLUME (ECFV)

- high specificity and sensitivity, wide (10^5) dynamic range (from ppm to %)
- no radiation exposure to patient or personnel, with increased capabilities for serial studies and studies of normals
- no storage, handling, or disposal of short half-life radioactive materials
- simple, accurate, cost effective

References

1. Kaufman L., Price, D. C. (Eds): *Semiconductor Detectors in Medicine,* CONF-730321, Washington, D. C., U. S. Atomic Energy Commission, 1973.
2. Kaufman L., Wilson C. J.: Determination of extracellular fluid volume by fluorescence excitation analysis of bromine., *Journal of Nuclear Medicine* 14:812, 1973.
3. Price, D. C., Swann S. J., Hung S., et al: The measurement of circulating red cell volume using nonradioactive cesium and fluorescent excitation analysis., *Journal of Laboratory and Clinical Medicine* (in press).
4. Guesry P., Kaufman L., Orloff S., et al: Measurement of glomerular filtration rate by fluorescent excitation of nonradioactive meglumine iothalmate., *Clin Nephrol* 3:134, 1975.

II. In Vivo:
The Kevex-Scan III B X-ray Fluorescence Thyroid Analyzer.

- High resolution thyroid imaging *without* radioactive tracer
- Quantitative total iodine information with calibration
- Very low local radiation dose-zero whole body dose
- Complementary and unique information of thyroid disease state via the endogenous iodine distribution
- Adaptable to most conventional rectilinear scanner systems (Picker, Ohio Nuclear, Nuclear Chicago, Baird-Atomic, etc.)
- Adaptable for dedicated operation, or in parallel with Na(I) uptake detector

For information write or call:
KEVEX CORPORATION
KEVEX INTERNATIONAL CORPORATION
Medical Systems Division

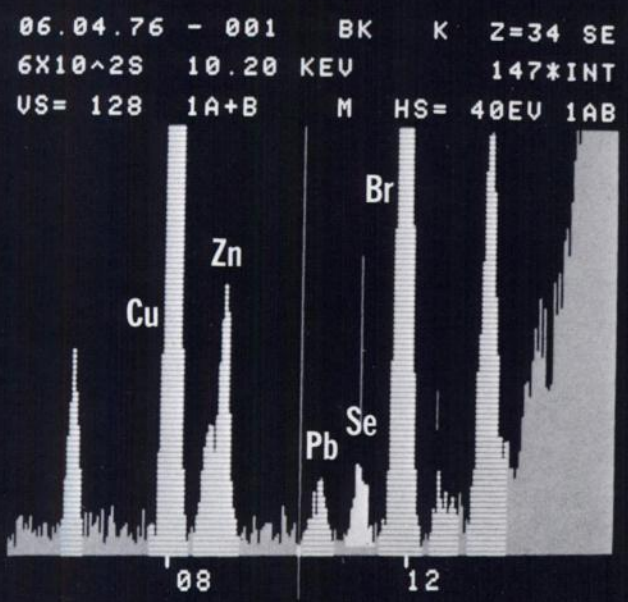
kevex

898 Mahler Road, Burlingame, CA 94010, U.S.A. Tel: (415) 697-6901 TWX 910-371-7249

C&EN May 3, 1976

Heart disease, cancer linked to trace metals

The possibility that variations in dietary and environmental levels of selenium, copper, zinc, and perhaps other metals



Spectrum for copper, zinc and selenium obtained from two microliters of human breast fluid.

The ability to analyze many trace elements simultaneously and nondestructively is what x-ray energy spectrometry is all about. Now, new developments by Kevex provide medical researchers, the pharmaceutical industry and process control engineers with high-speed analytical capabilities that offer far more potential than traditional techniques such as AA.

In this instance, the Kevex x-ray energy spectrometer measured the zinc-to-copper ratio and selenium concentration in two microliters of human breast fluid. A recent study shows a positive correlation between coronary mortality in 47 U.S. cities and the ratio of zinc-to-copper in cow milk of those areas. The connection between low cancer rate and high selenium diet was also reported for both cancer of the colon and breast cancer. (C & E News May 3, 1976).

The new Kevex ULTRA-TRACE™ x-ray energy spectrometer can analyze a fraction of a billionth of a gram of selenium in human breast fluid—total analysis time per determination—5 minutes! ULTRA-TRACE™ is an innovation that combines many seemingly disconnected analytical parameters, each marginally effective, into an integrated system of great usefulness. Are you interested in nondestructive multi-element trace analysis? For more information contact Kevex at:

kevex

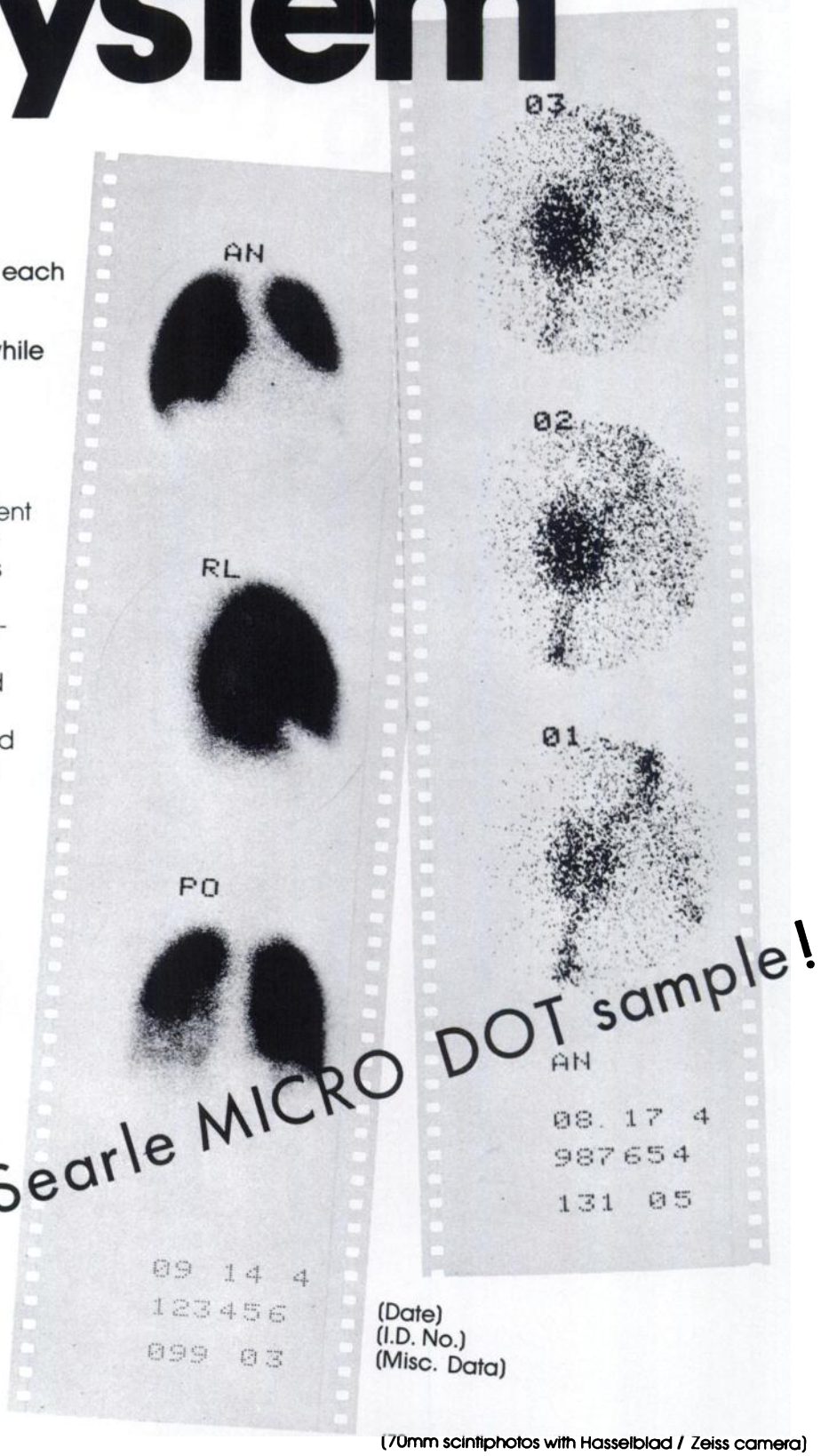
KEVEX CORPORATION
898 Mahler Road
Burlingame, California 94010
Phone (415) 697-6901

Patient I.D. System

- ☐ neatly and permanently label each patient's record
- ☐ minimize mislabelling errors while saving technologists' time
- ☐ display study parameters to enhance diagnostic value

The initial frame lists pertinent patient data and is easily viewed without magnification. Each static study is permanently labelled with the proper view; each dynamic exposure with a sequential number. Data is entered via keyboard and is displayed on the "B" scope for photography. Cables are included for direct connection to Gamma Camera CRT x,y,z input.

Model C-5200 Electronic Patient Identification System
$2150.00 F.O.B. factory



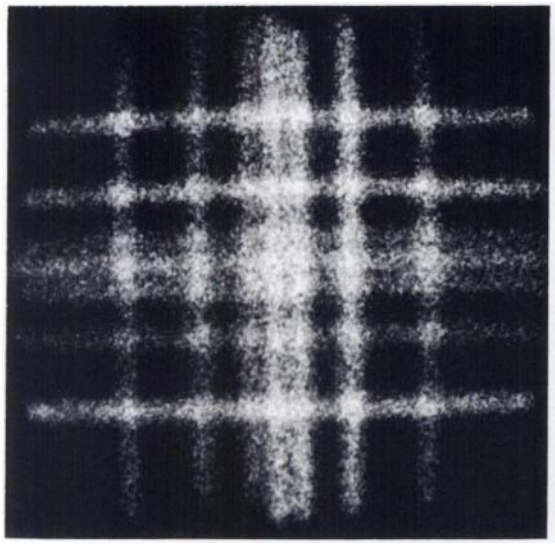
(Date)
(I.D. No.)
(Misc. Data)

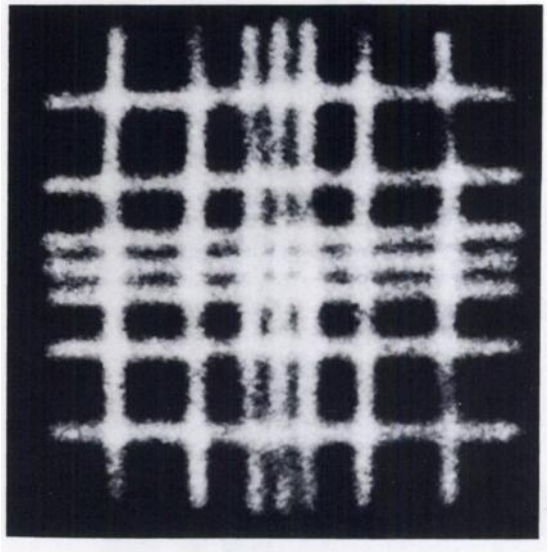
(70mm scintiphotos with Hasselblad / Zeiss camera)

Send for Searle MICRO DOT sample!

Modern
Electronic
Diagnostics
CORPoration

820 West Hyde Park Blvd.
Inglewood, CA 90302
(213)673-2201





Resolved.

Simulated thallium-201 sources from NEN provide a simple, effective means of checking your scintillation camera's intrinsic resolution, collimator spatial resolution, field size, and linearity. Use one daily. It's the only way to be sure of your studies.

No liquids to mix, spill, or dispose of. The gold-195 lines, simulating thallium-201, are neatly sealed in a lucite holder to prevent contamination of the camera or its surroundings. The source has a useful life of 12 to 18 months.

NEN makes lots of other sources and accessories for nuclear medicine too, including cobalt-57 flood sources for technetium-99m studies, ion chamber sources and marker sources.

For details on all of NEN's sources and accessories for nuclear medicine, send for our catalog today.

NEN New England Nuclear
Radiopharmaceutical Division
Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531
Los Angeles: 213-321-3311 Miami: 305-592-0702

Canada: NEN Canada Ltd., 2453 46th Avenue, Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 23, Postfach 1240. Tel: (06103) 85034.

Even more signs of quality in Radioassays

Oestriol
New 1976

Digoxin
New 1976

Folate
New 1976

FSH
New 1976

cGMP
New 1976

Thyopac*—3

Thyopac*—4

Thyopac*—5

T3RIA

T4RIA

Cortipac

ACTH

Insulin

HPL

Anti-DNA

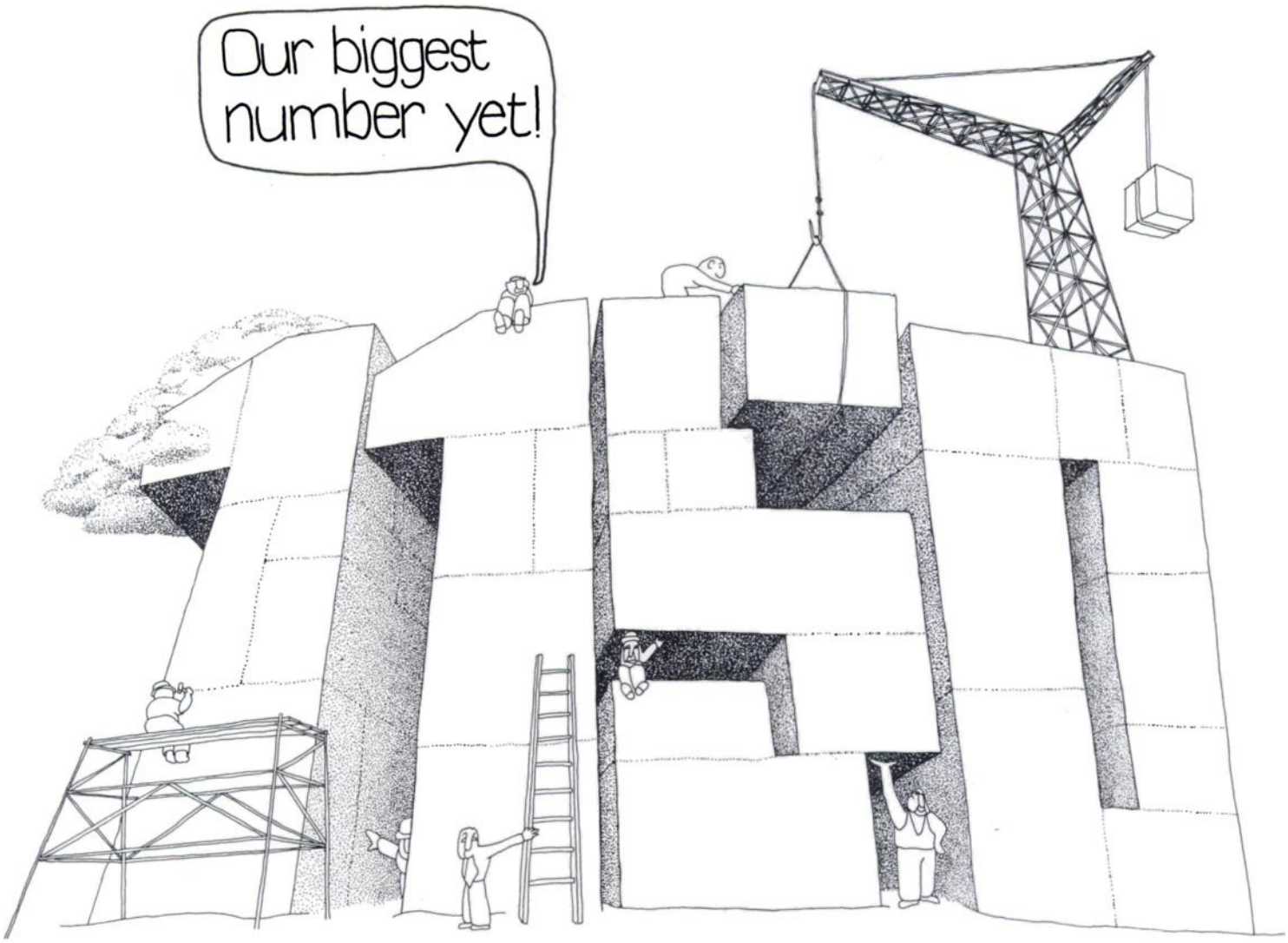
cAMP

Every time you see our symbol on a radioassay kit you know you can depend on its performance. Because we spend a lot of time discovering the needs of radioassay users and on the production and quality control of our kits, we can guarantee they are precise, reliable and simple to use.

In 1976 we added five more kits to our range, making sixteen in all, and there will be more to come.

The Radiochemical Centre Amersham

Full information is available on request.
The Radiochemical Centre Limited, Amersham, England. Telephone: 024-04-4444.
In the Americas: Amersham/Searle Corp., Illinois 60005. Telephone: 312-593-6300.
In W. Germany: Amersham Buchler GmbH & Co., KG., Braunschweig. Telephone: 05307-4693-97.
*Trade Mark 0952



What's an 1150? That's what you get when you combine our 750-04 Electronic Programmer and 400 Oscilloscope Camera. So why not call it an 1150-04? Well, we didn't want *that* big a number.

But seriously, our big number gives you an incredible combination of versatility and for very little money produces some of the sharpest dots available in Nuclear Medicine. Your choice of formats (1,4,9,12, 16,19,21,34,64, etc.) with the 1150 is practically unlimited. Not to mention all the benefits derived from the 8x10 x-ray film format such as availability, gray-scale, group viewing, familiarity, and economy. And not to forget our 750-01 users out there, you can upgrade to 1150 capabilities simply with additional electronics and our 400 Oscilloscope Camera.

So, if you want to know more about our 1150 combination, mail this coupon. Or give a call. We'll be glad to do our big number for you.

MODEL 1150 MULTI•FORMAT CAMERA SYSTEM

DUNN INSTRUMENTS, INC.

52 Colin P. Kelly Jr. Street, P.O. Box 77172,
San Francisco, California 94107, Telephone (415) 957-1600

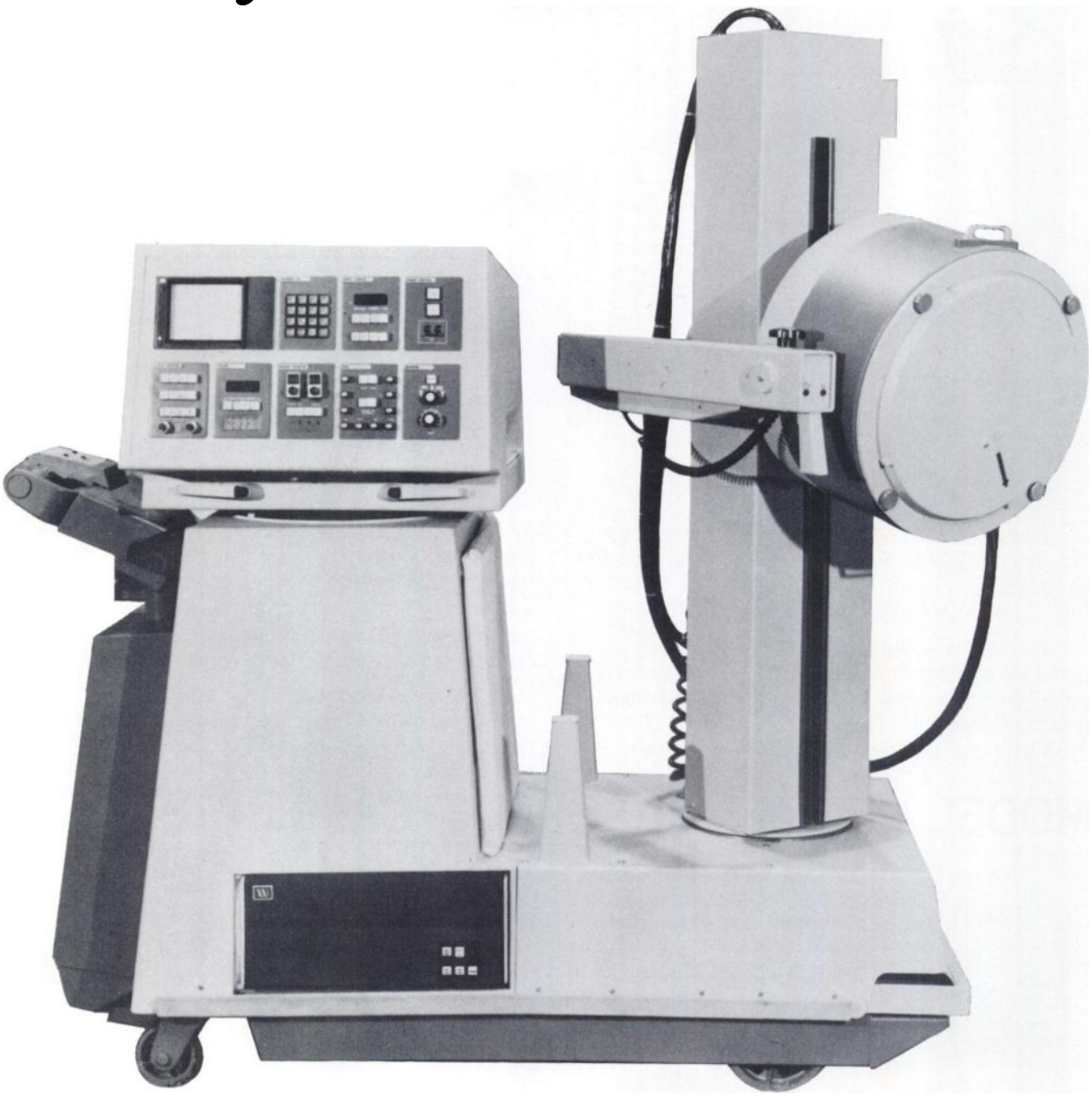
NAME _____ TITLE _____

ADDRESS _____ PHONE _____

CITY _____ STATE _____ ZIP _____

The new Elscint Mobile 1

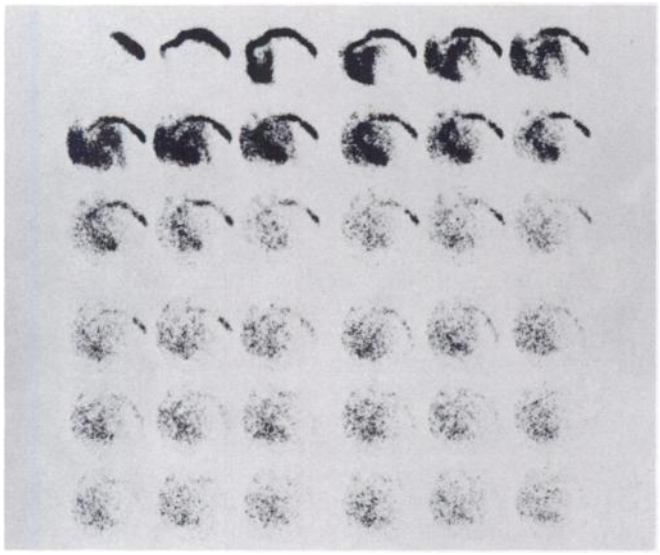
Gentle as a pussycat.
Yet powerful.
For every clinical need.



Elscint's new MOBILE 1 gamma camera offers you the quality and performance of a stationary camera with the fluid mobility of a cat. It moves rapidly yet safely wherever needed. The detector head raises smoothly into position with fully automated two speed controls. Over *or under* the patient. Swings to either side or in front. The new MOBILE 1 camera is quiet and efficient to give you high quality results with maximum flexibility.

Mobile 1: Exceptional performance in a mobile camera

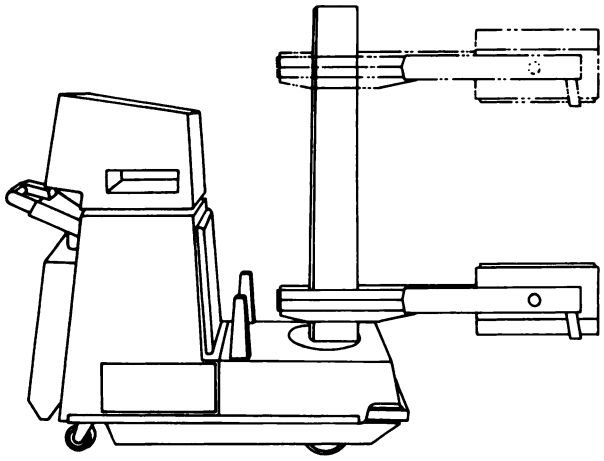
Results, of course, must be the ultimate measure of any diagnostic system. Here, Elscint is second to none. The MOBILE 1 provides a full 12″ FOV with bar resolution better than 3.2 mm. It images at rates



to 200,000 cps. (less than 1.5 μs deadtime) and its usable energy range extends beyond 200 KeV for use with 81^m Kr (190 KeV), 99^m TC (140 KeV) or 201 Tl (70 KeV), or other usable radionuclides within this range. It thus performs as a regular stationary camera for both static and dynamic studies as well as a mobile patient bedside unit. An optional data storage/replay system acquires and records at up to 150,000 cps for later replay or processing, adding time marks for reframing as fast as 100 frames/sec.

Mobile 1: Maximum maneuverability

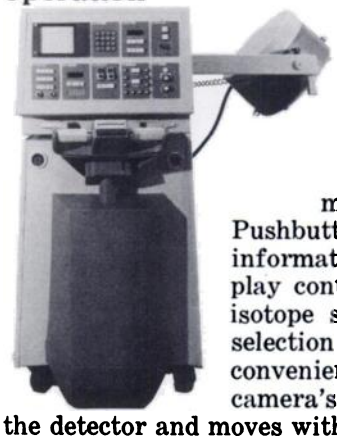
Extreme ease and convenience of movement are major features of the MOBILE 1. Its under-30″ width and compact overall size enable passage through any doorway or narrow hall. Its low profile facilitates excellent forward visibility while in motion and its low center of gravity produces high stability even with full detector extension. Three speed forward and reverse drive and short-turning-radius power steering permit rapid long distance travel as well as precise



Designed for over *and under* patient imaging

positioning at bedside with safety interlocks provided to prevent accidental bumping into objects or people. The MOBILE 1 can pass over a 20 mm obstacle and climb a 10% slope rapidly yet will not run away on downslopes. Positive-locking brakes assure firm positioning and are automatically applied upon release of the control handle.

Mobile 1: Convenient controls for easy operation



All of the operating features employed in our latest stationary cameras are provided in the Mobile 1 with the added convenience of a swivel-mounted operating console. Pushbuttons ease input of patient information, data recording, display control, scaler operation, and isotope selection. Patient rotation selection and region of interest are conveniently controlled as well. The camera's persistence scope faces the detector and moves with it for easy patient setup. Dual isotope operation is available as is a selection of up to 3 single-channel analyzers.

When it's safer, faster and easier to move the camera to the patient, you'll get maximum performance with the Elscint MOBILE 1 Gamma Camera.

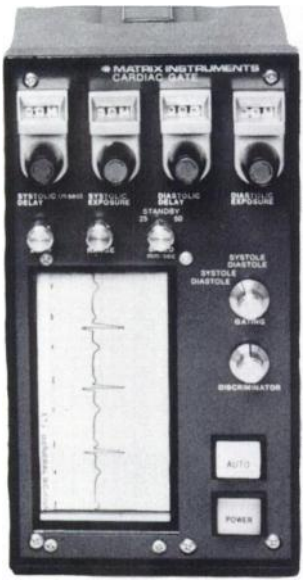
elscint inc. *Where quality counts . . . count on Elscint*

138-160 Johnson Ave. (P.O. Box 832), Hackensack, NJ. 07602, Telephone (2[illegible] 487-5885.

In France: Elscint S.A.R.L., 11 Rue Edouard-Lefebvre 78000 Versailles, Telephone: 950-2767. In Germany: Elscint GmbH, Freudenbergstrasse 27, 62 Wiesbaden-Schierstein, Telephone: (06121) 2786. In U.K.: Elscint (GB) Ltd. 5 Priestley Way, Crawley, Sussex RH10 2DW, Telephone (0293) 21285/6/7. In Belgium: Elscint s.a./n.v. Chaussee de Waterloo No. 1023, Boite No. 3, B-1180 Brussels, Telephone: 02-375.13.54. In other countries: Write to Elscint Ltd., P.O. Box 5258, Haifa, Israel, Telephone: 04-522516, 04-522851, Telex: 46654, Cable: Elscint, Haifa, for the office in your country.

State of the art in cardiac and respiratory synchronization.

Cardiac Gate



Cardiac Gate is designed to synchronize the cardiac image exposure with predetermined phases of the cardiac cycle.

The Cardiac Gate has two modes of operation: manual and automatic. In the manual mode, delay and exposure time parameters are set manually, using the R wave of the electrocardiogram as a reference. In the automatic mode, microprocessor circuitry automatically tracks the cardiac cycle and computes the position of end-systole and end-diastole. In the automatic mode, end-systole and end-diastole exposures are made without any calibration settings.

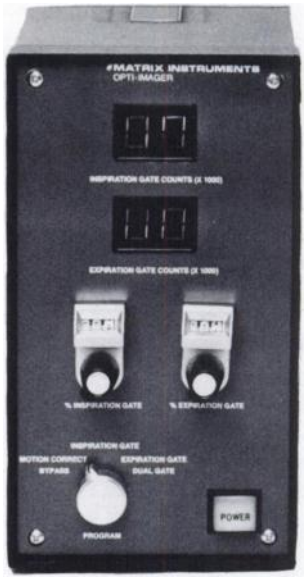
The dual gating operation mode allows recording of both end-systole and end-diastole simultaneously in a split screen two image format.

The cardiac cycle can even be divided into nine equal time segments and the image corresponding to each displayed simultaneously in a nine image format.

The Cardiac Gate includes a complete electrocardiograph module. The built in heated stylus strip chart recorder records both the ECG trace and the gating intervals.

The Cardiac Gate provides both ECG and gating outputs for computer interface.

Opti Imager



Opti-Imager is designed to provide an organ image with effects due to respiratory motion minimized. Opti-Imager has two distinct modes of operation: continuous motion correction and respiratory gating. In the continuous motion correction mode, the motion of the organ is tracked and corrected electronically without the need to attach any sensors to the patient. The distribution of counts within the organ image is monitored and corrections are applied to continuously shift the image before it is displayed to compensate for organ motion. Correction is made for motion in both the X and Y direction. Thus, the gamma camera is not gated and all the counts provided by the detector are recorded. The time required to attain a statistically satisfactory image is the same for both a motion corrected and an uncorrected image. In the gating mode, inspiration plateau and expiration plateau images are recorded. The dual gating operation mode allows recording of both inspiration and expiration plateau images simultaneously in a split screen two frame format. Dual scalers record the number of counts in each image.

The Cardiac Gate and Opti-Imager can be synchronized to yield a combination of both cardiac and respiratory gating. Mail coupon to receive detailed information and sample clinical studies.

#MATRIX INSTRUMENTS

1 Ruckman Rd.
Closter, N.J. 07624
(201) 767-1750

Mail coupon to receive sample clinical studies.

Matrix Instruments, Inc., 1 Ruckman Rd., Closter, N.J. 07624
Please send Cardiac Gate and Opti-Imager literature and samples studies

Name
Hospital
Address
State
Phone
Title
Dept.
City
Zip

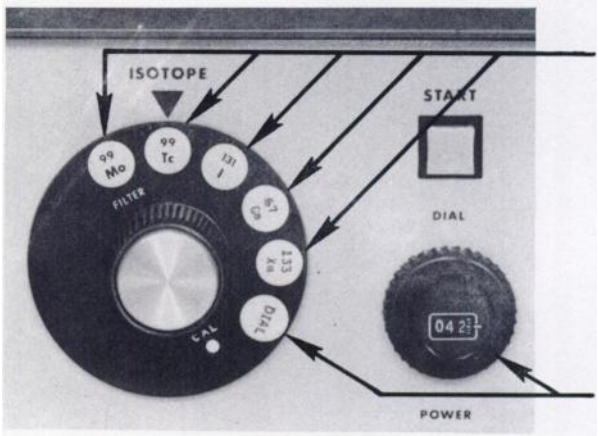
NEW

RAD/CAL™ II DIGITAL ISOTOPE CALIBRATOR

Factory-calibrated for all widely used radionuclides. Others can be added easily.

- Automatic ranging from 1 μc to 1 Ci.
- 4-digit, solid state readout.
- Fully-shielded chamber.
- Molybdenum breakthrough shield.

Also performs as a computing dose calibrator (when used with an optional Hewlett Packard HP-25 Pre-Programmed Calculator).



Has 5 pre-calibrated switch positions for selecting the most commonly used radionuclides.

In "Dial" position, the 10-turn potentiometer permits ANY radionuclide to be measured.

ONLY $1495

For full details write for Bulletin 170-A

NUCLEAR ASSOCIATES, INC.
Subsidiary of
RADIATION-MEDICAL PRODUCTS CORP.
100 VOICE ROAD • CARLE PLACE, N.Y. 11514 • (516) 741-6360

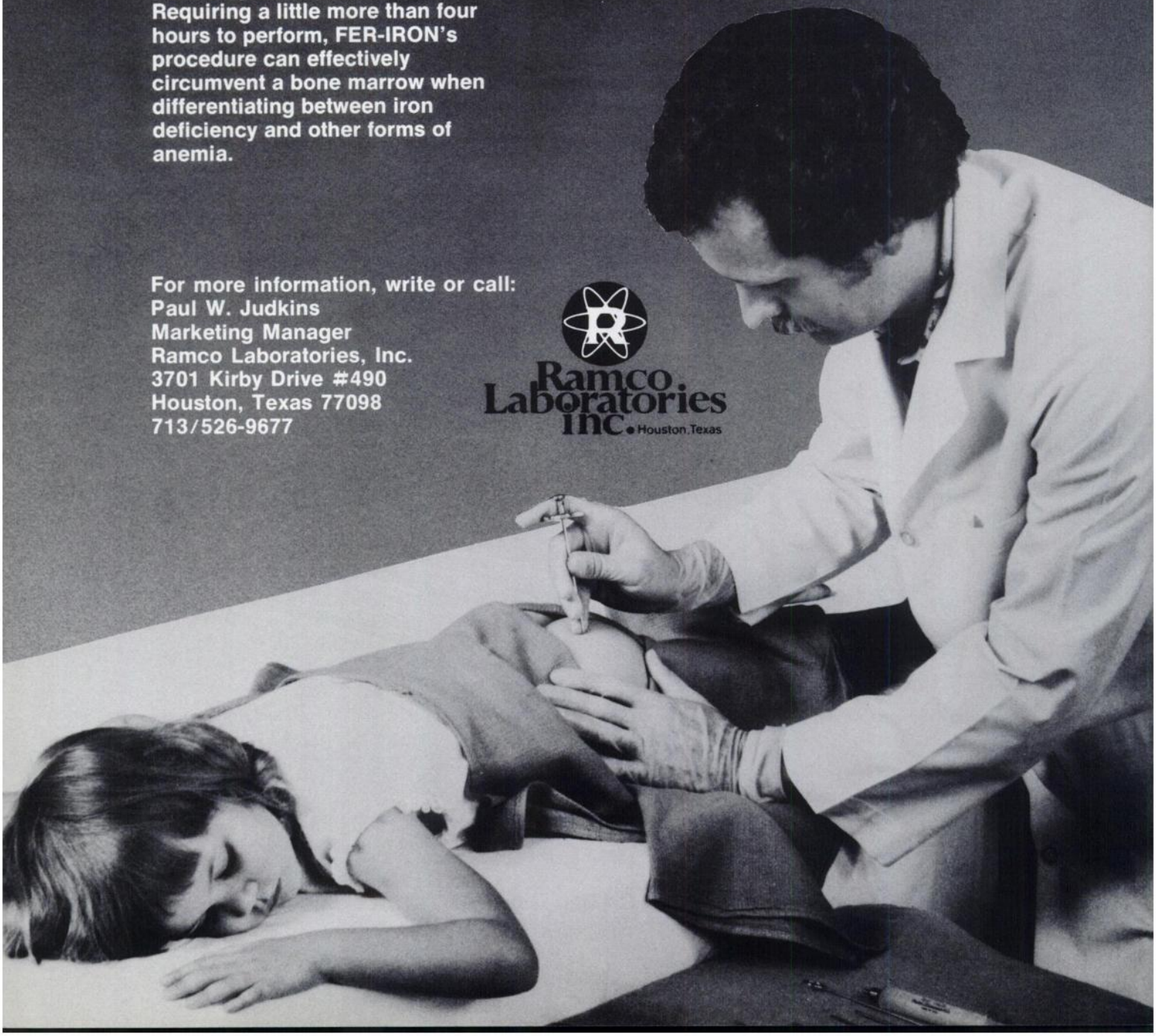
Exclusively from Ramco Laboratories . . .

SERUM FERRITIN BY R.I.A.

FER-IRON™, the first commercially available test kit for determination of serum ferritin, can provide more quantitative information about iron stores than a bone marrow. The FER-IRON test is particularly suitable for pediatric patients as it uses only 50 microliters of serum. Requiring a little more than four hours to perform, FER-IRON's procedure can effectively circumvent a bone marrow when differentiating between iron deficiency and other forms of anemia.

For more information, write or call:
Paul W. Judkins
Marketing Manager
Ramco Laboratories, Inc.
3701 Kirby Drive #490
Houston, Texas 77098
713/526-9677

Ramco Laboratories Inc • Houston, Texas



Better yields Better service

with the improved Minitec® Generator (Technetium 99m)

Medotopes®
SQUIBB®

Squibb Research recently made modifications in Minitec. As a result, yields are better and more consistent. Small-volume, high-concentration eluates provide maximum flexibility. Wide range of potencies—220, 440, 880, 1330, 1770 and 2220 mCi of ^{99}Mo—means there's a Minitec generator to meet every lab's needs.

Let CUSTOMTEC™ solve your delivery problems. This free Squibb computer service custom-tailors generator size and delivery schedule to *your daily* ^{99m}Tc requirements. For more information, mail this coupon to:

Customtec E. R. Squibb & Sons, Inc. Box 4000 Princeton, N.J. 08540

Name

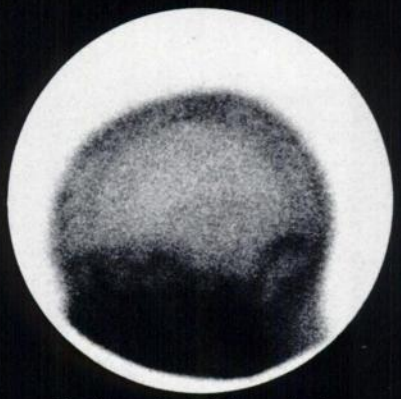
Institution

Address

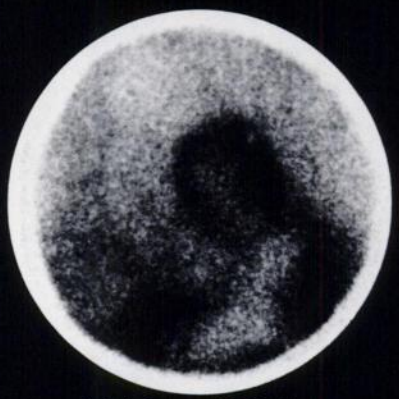
City, State, Zip

©1976 E. R. Squibb & Sons, Inc. H606-502

Think smaller.



Brain study, left lateral view
^{99m}Tc DTPA



Adult heart, LAO view
^{201}Thallium

Brain study, right lateral view
^{99m}Tc Pyrophosphate

For the big job of small area work, think Dyna® Camera 4 with 11" detector—the nuclear imaging system that delivers 2.1mm (1/12") intrinsic resolution.

Small patient or big patient, the excellent resolution of the Picker 4/11 allows you to visualize small lesions previously impossible to locate, as well as to clearly define the larger lesions.

The new DynaCamera 4/11's unparalleled spatial and energy resolution is exceptionally useful in cardiac work with low energy radionuclides such as ^{201} Thallium for imaging the myocardium to locate and measure infarcts, for precise region placement in left ventricular ejection fraction studies, and for cardiac output measurements.

Consider 13% energy resolution and ± 10% uniformity. Include differential quantification, information density, auto expose and anatomical landmarking.

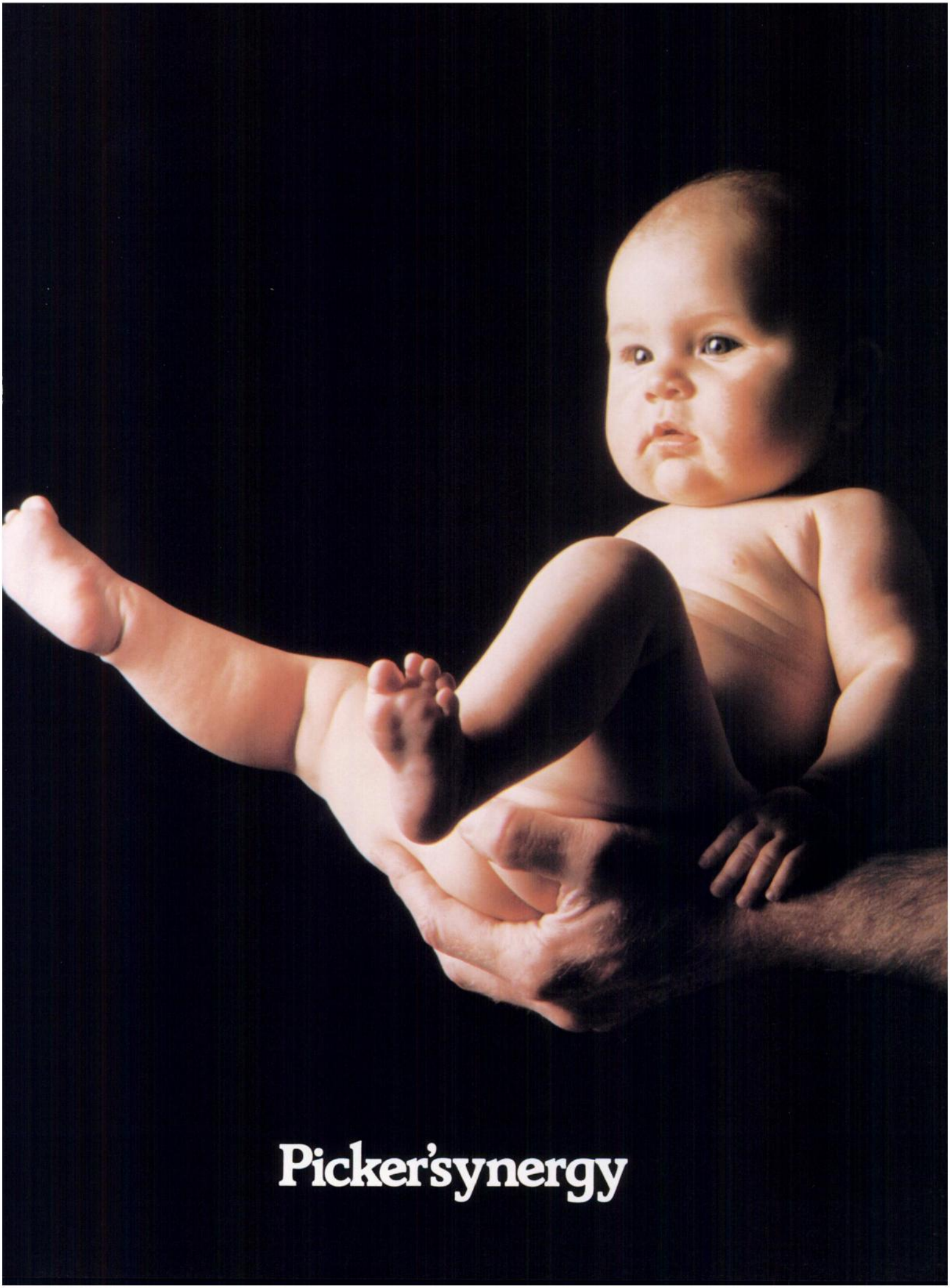
Compare the image divergence/distortion of competitive 10" detectors to Picker's 11" detector. You'll think Picker when you think smaller.

DynaCamera 4/11 is another example of Picker'synergy—the complete interfacing of systems and services for greatly improved diagnostic visualization.

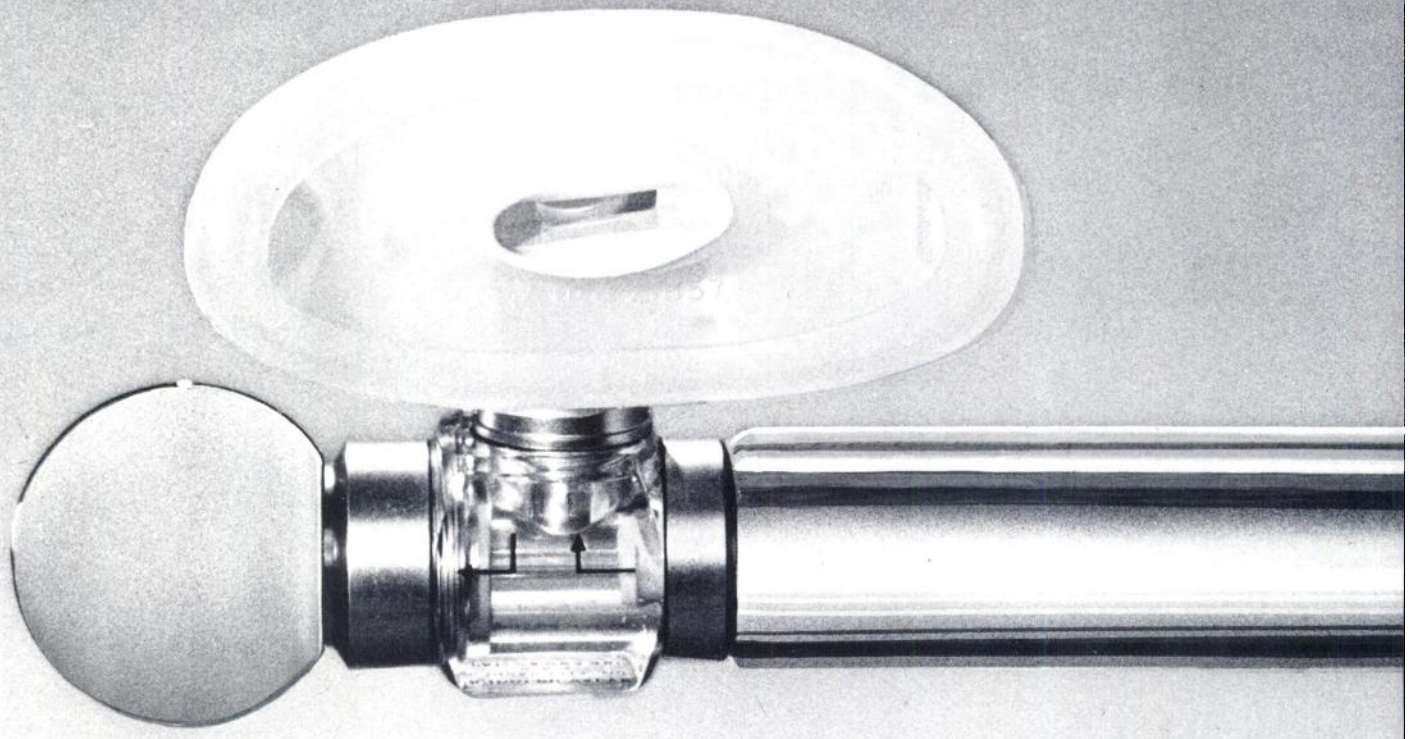
Contact your local Picker representative. Or write Picker Corporation, 12 Clintonville Road, Northford, CT 06472.

PICKER®

ONE OF THE C.I.T. COMPANIES


Picker'synergy

Now Everybody Can Breathe Easier



Everybody benefits from comprehensive technological advances like the widely used Omnimedical AVM-3 Automated Ventilation Module. With the AVM-3 radioxenon ventilation studies are automated, simplified, reproducible one man operations. Patient cooperation is not needed. Interfaced with the gamma camera, the operator selects a study sequence—Single Breath (tidal volume or vital capacity) or Rebreathe, singly or in combination—and pushes the start button. Scintiphotos are initiated automatically at precise predetermined intervals. The data is then collected. The entire system is enclosed in a streamlined case mounted on an overbed table for use on patients in either sitting or supine positions. The AVM-3 is easy to position, easy to use, easy on the patient, even easy to store. And it's easy to buy. $3,750. F.O.B. Los Angeles. Omnimedical guarantees 30 day delivery. Now, you can breathe easier, too! AVM-3 by Omnimedical, P.O. Box 1277, Paramount, Ca. 90723 (213) 633-6660.

OMNIMEDICAL

What calibrates,

Over 92 radionuclides?

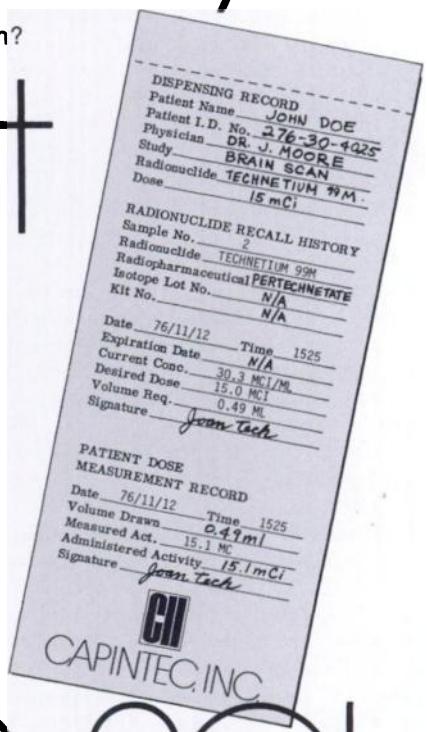
remembers,

The decay scheme for 16 radiopharmaceutical formulations of 9 different radionuclides: ^{99m}Technetium, ^{131}Iodine, ^{123}Iodine, ^{133}Xenon, ^{67}Gallium, ^{201}Thallium, ^{111}Indium, ^{133m}Indium and ^{75}Selenium?

computes,

Dose volume for administration?

then puts it in writing?



The CRC-20!

I want to know everything about the CRC-20!

Name _____ Title _____

Hospital _____

Department _____

Address _____

City/State/Zip _____

Phone _____

CII CAPINTEC, INC.

136 Summit Avenue
Montvale, New Jersey 07645

POSITIONS OPEN

NUCLEAR MEDICINE TECHNOLOgists. Staff. Certified or eligible. Immediate openings in ultra-modern, fully accredited 650-bed hospital located on Gulf of Mexico. Excellent working conditions. Benefits include paid retirement, vacation, holidays, sick pay and insurance. Send resume and salary requirements to Personnel Director, Memorial Hospital, 1901 Arlington Street, Sarasota, Florida 33579.

RESIDENCY IN NUCLEAR MEDICINE (AMA Approved)—800-bed VA general hospital offers two year program closely affiliated UCLA and Wadsworth VA Hospital Center; two positions available July 1977, located San Fernando Valley, 15 minutes from UCLA. Program covers isotope and ultrasound imaging, in vivo and in vitro procedures including RIA; pre-requisite one year approved residency Radiology, Pathology, or Internal Medicine; nondiscrimination in employment. Contact Marvin B. Cohen, M.D., Chief, Nuclear Medicine Service, VA Hospital, 16111 Plummer St., Sepulveda, CA 91343.

NUCLEAR MEDICINE TECHNICIANS —Immediate openings for several techs. Great opportunity. Upgrading new department at Dayton VA Center. Affiliated with new medical school at Wright State University. Imaging and wet work. AS or BS degree. NMT registry or eligibility. Salary range from $11,046 to $17,523 per annum depending upon qualifications. Write: Naomi F. Lindsay, Nuclear Medicine Service, VA Center, 4100 West Third Street, Dayton, OH 45428; or Call: (513) 268-6511, extension 328. An Equal Employment Opportunity.

NUCLEAR MEDICINE TECHNOLOGY. Program Director. To head up the planning and development of a newly authorized Bachelor of Science program in the area. Applicants should be Registered Nuclear Medicine Technologists and hold a master's degree. Salary competitive. Position available September 1, 1976. Interested parties should submit complete resume to: Dr. Alton Hodges, Dean, University of Texas Health Science Center at Houston, School of Allied Health Sciences, P.O. Box 20036, Houston, Texas 77030.

RADIOCHEMIST/RADIOPHARMACIST. Opening available for suitably qualified radiochemist/radiopharmacist in Nuclear Medicine Laboratory of large midwestern university hospital. Position is funded for three years with good prospects of permanency. Position involves teaching, research and nuclear pharmacy supervision. Knowledge of synthesis of radiolabeled pharmaceuticals and radiopharmacology necessary. An equal opportunity employer working with affirmative action program. Send resume and salary requirements to: Society of Nuclear Medicine, P.O. Box 1001, 475 Park Avenue South, New York, New York 10016.

NUCLEAR MEDICINE RESIDENCY— Two year approved residency in Nuclear Medicine affiliated with George Washington University Medical School starting January 1, 1977. Minimum requirements are 2 years of approved residency training in either Internal Medicine, Radiology, or Pathology. For information contact Bertram J. L. Sauerbrunn, M.D., Chief, Nuclear Medicine, VA Hospital, Wash., D.C., (202) 389-7240 or (202) 389-7574. An Equal Opportunity Employer.

RESEARCH MEDICINE SCIENTIST We seek a research physician with training in nuclear medicine, physiology, pathology or surgery. Research program includes *in vivo* investigation of brain, myocardium, pancreas, and liver metabolism using new radio pharmaceuticals and unique instrumentation. Range of work includes nuclear medicine research, development of radioimmune assays, metallo-organic compound *in vivo* studies, cancer detection and basic work in new methods of cancer therapy such as hyperthermia, high pressure hydrogen, heavy ion radiation. Clinical work limited to research patients. Send resume to: Thomas F. Budinger, M.D., Ph.D., Henry Miller, Professor of Medical Research, Donner Laboratory, University of California, Berkeley, CA 94720, with copies to Dorita Crosby, Personnel Office, Lawrence Berkeley Laboratory, Berkeley, CA 94720. An equal opportunity employer m/f.

STAFF NUCLEAR MEDICINE TECHnologist for growing department. Must be registered or registry eligible and have experience in both in vivo and in vitro procedures. Equipment—Pho Gamma IV, whole body, microdot, 5 in. Picker scanner, etc. Located two minutes from beautiful Port Charlotte Bay and Gulf of Mexico. Send resume or call Director of Personnel, St. Joseph Hospital, 601 N.E. Harbor Blvd., Port Charlotte, Fla. 33952. (813) 625-4122 Ext. 213.

SYNTHETIC ORGANIC CHEMIST: Immediate opening for an experienced chemist to help initiate a program of radiopharmaceutical development involving the labeling of organic compounds with ^{11}C, ^{13}N and ^{18}F. The successful candidate will possess a Ph.D. in organic chemistry and will assume considerable responsibility within the program. Experience in cyclotron target development helpful. Send resume to: Dr. D. J. Hnatowich, Massachusetts General Hospital, Boston, Mass. 02114, or call (617) 726-3805.

NUCLEAR MEDICINE RESIDENT. Two year Residency Program in Nuclear Medicine at The New York Hospital-Cornell Medical Center. Position available July 1, 1977. Contact Jerome G. Jacobstein, M.D., Division of Nuclear Medicine, The New York Hospital-Cornell Medical Center, 525 East 68th Street, New York, New York 10021.

NUCLEAR MEDICINE TECHNOLOgist, registered or eligible. Due to rapid expansion of the dept., we have an immediate opening for a staff technologist to work in our full service dept. with imaging, radio-immuno-assay, ultra sound and C.A.T. Scanner. Salary commensurate with experience. Excellent fringe benefits. Qualified candidates summit resume to: Personnel Dept., Mercy Hospital, 6th and University, Des Moines, Iowa 50314.

NUCLEAR MEDICINE ULTRASOUND technologist. Excellent opportunity in a 450 bed comprehensive hospital. In-patient and out-patient services in outstanding medical complex with active teaching program with college and medical school affiliations. Must be able to perform ultrasound procedures at a technical level not requiring constant supervision. Two years experience in ultrasound required. Certification by ultrasound technology desirable but not required. Please send resume and salary requirement to: Employment Manager, The Medical Center, 710 Center Street, Columbus, Georgia 31902.

NUCLEAR MEDICINE TECHNICIAN. ARRT Registered or eligible. We are a 500 bed general hospital, located in the heart of Southwestern Medical Center. We offer an excellent salary and competitive fringe benefits. To apply contact: Employment Office, St. Paul Hospital, 5909 Harry Hines Blvd., Dallas, Texas 75235, (214) 689-2660. An Equal Opportunity Employer.

POSITIONS WANTED

NUCLEAR AND DIAGNOSTIC RADIOlogist; 35, ABR and ABNM certified. University training and experience in all phases of nuclear medicine. Wish to relocate. Reply: M. Yunus, 237 Royal Palm Drive, Belle Glade, Florida 33430.

RADIOLOGIST, CERTIFIED ABNM and ABR desires to relocate. Prefers community hospital. Please reply P.O. Box 1002, Society of Nuclear Medicine, 475 Park Ave. South, New York, N.Y. 10016.

REGISTERED, EXPERIENCED, NUclear Medicine Technologist is seeking a part-time position in the New York Metropolitan area and Long Island, evenings and or weekends. Please reply: P.O. Box 1003, Society of Nuclear Medicine, 475 Park Ave. South, New York, N.Y. 10016.

RADIOCHEMIST: Ph.D. DEC. 1976. Available Jan. 1977. Desires position in a Nuclear Medicine lab. Write: S. Pandian, 206½ 8th St., Troy, New York 12180.

NUCLEAR MEDICINE TECHNOLOgist—TSCP and ARRT certified—BPS degree—Health Sciences and Administration. Ten years clinical plus eight years administrative and educational experience. Desire a position of comparable skills and up-ward mobility. Curriculum vitae available upon request. Would consider some travel and/or relocating. Please reply: P.O. Box 1004, Society of Nuclear Medicine, 475 Park Ave. South, New York, New York 10016.

NUCLEAR PHARMACIST: B.S., Pharm-D with two years experience in operation of University Centralized Nuclear Pharmacy, investigational radiopharmaceuticals, sterile product formulation and teaching in related topics. Desire position in teaching hospital. Please reply: P.O. Box 1005, Society of Nuclear Medicine, 475 Park Ave. So., New York, N.Y. 10016.

FOR SALE

PICKER MAGNASCANNER III, Picker Magnascanner V, Searle Pho Dot 3, Twin Probe System, Uptake System, Baird Atomic 530 Scaler and Well, most Picker and Ohio Nuclear Collimators, other Scalers, Wells and Systems available. Contact: Gentronics, 15 DeWald Avenue, Somerset, New Jersey 08873. (212) 463-8658 or (201) 246-0418.

PICKER ISOTOPE CALIBRATOR Model 632-507, 3 years old, recently reconditioned by Picker prior to sale announcement. Less than ½ original price. Contact: G. W. Enos, Holy Family Hospital, N. 5633 Lidgerwood, Spokane, Washington, 99207. (Phone 509-482-2291)

PICKER MAGNASCANNER 500D — single probe 5"; 4 yrs. old; identical to latest production model. Scan speed up to 500 cm/min. Contact: P. Perkins, M.D., Salem Memorial Hospital, 665 Winter St., S.E. Salem, Oregon 97301 (503) 370-5380.

POSITIONS OPEN

NUCLEAR MEDICINE TECHNOLOgists. Staff. Certified or eligible. Immediate openings in ultra-modern, fully accredited 650-bed hospital located on Gulf of Mexico. Excellent working conditions. Benefits include paid retirement, vacation, holidays, sick pay and insurance. Send resume and salary requirements to Personnel Director, Memorial Hospital, 1901 Arlington Street, Sarasota, Florida 33579.

RESIDENCY IN NUCLEAR MEDICINE (AMA Approved)—800-bed VA general hospital offers two year program closely affiliated UCLA and Wadsworth VA Hospital Center; two positions available July 1977, located San Fernando Valley, 15 minutes from UCLA. Program covers isotope and ultrasound imaging, in vivo and in vitro procedures including RIA; pre-requisite one year approved residency Radiology, Pathology, or Internal Medicine; nondiscrimination in employment. Contact Marvin B. Cohen, M.D., Chief, Nuclear Medicine Service, VA Hospital, 16111 Plummer St., Sepulveda, CA 91343.

NUCLEAR MEDICINE TECHNICIANS —Immediate openings for several techs. Great opportunity. Upgrading new department at Dayton VA Center. Affiliated with new medical school at Wright State University. Imaging and wet work. AS or BS degree. NMT registry or eligibility. Salary range from $11,046 to $17,523 per annum depending upon qualifications. Write: Naomi F. Lindsay, Nuclear Medicine Service, VA Center, 4100 West Third Street, Dayton, OH 45428; or Call: (513) 268-6511, extension 328. An Equal Employment Opportunity.

NUCLEAR MEDICINE TECHNOLOGY. Program Director. To head up the planning and development of a newly authorized Bachelor of Science program in the area. Applicants should be Registered Nuclear Medicine Technologists and hold a master's degree. Salary competitive. Position available September 1, 1976. Interested parties should submit complete resume to: Dr. Alton Hodges, Dean, University of Texas Health Science Center at Houston, School of Allied Health Sciences, P.O. Box 20036, Houston, Texas 77030.

RADIOCHEMIST/RADIOPHARMACIST. Opening available for suitably qualified radiochemist/radiopharmacist in Nuclear Medicine Laboratory of large midwestern university hospital. Position is funded for three years with good prospects of permanency. Position involves teaching, research and nuclear pharmacy supervision. Knowledge of synthesis of radiolabeled pharmaceuticals and radiopharmacology necessary. An equal opportunity employer working with affirmative action program. Send resume and salary requirements to: Society of Nuclear Medicine, P.O. Box 1001, 475 Park Avenue South, New York, New York 10016.

NUCLEAR MEDICINE RESIDENCY— Two year approved residency in Nuclear Medicine affiliated with George Washington University Medical School starting January 1, 1977. Minimum requirements are 2 years of approved residency training in either Internal Medicine, Radiology, or Pathology. For information contact Bertram J. L. Sauerbrunn, M.D., Chief, Nuclear Medicine, VA Hospital, Wash., D.C., (202) 389-7240 or (202) 389-7574. An Equal Opportunity Employer.

RESEARCH MEDICINE SCIENTIST We seek a research physician with training in nuclear medicine, physiology, pathology or surgery. Research program includes *in vivo* investigation of brain, myocardium, pancreas, and liver metabolism using new radio pharmaceuticals and unique instrumentation. Range of work includes nuclear medicine research, development of radioimmune assays, metallo-organic compound *in vivo* studies, cancer detection and basic work in new methods of cancer therapy such as hyperthermia, high pressure hydrogen, heavy ion radiation. Clinical work limited to research patients. Send resume to: Thomas F. Budinger, M.D., Ph.D., Henry Miller, Professor of Medical Research, Donner Laboratory, University of California, Berkeley, CA 94720, with copies to Dorita Crosby, Personnel Office, Lawrence Berkeley Laboratory, Berkeley, CA 94720. An equal opportunity employer m/f.

STAFF NUCLEAR MEDICINE TECHnologist for growing department. Must be registered or registry eligible and have experience in both in vivo and in vitro procedures. Equipment—Pho Gamma IV, whole body, microdot, 5 in. Picker scanner, etc. Located two minutes from beautiful Port Charlotte Bay and Gulf of Mexico. Send resume or call Director of Personnel, St. Joseph Hospital, 601 N.E. Harbor Blvd., Port Charlotte, Fla. 33952. (813) 625-4122 Ext. 213.

SYNTHETIC ORGANIC CHEMIST: Immediate opening for an experienced chemist to help initiate a program of radiopharmaceutical development involving the labeling of organic compounds with ^{11}C, ^{13}N and ^{18}F. The successful candidate will possess a Ph.D. in organic chemistry and will assume considerable responsibility within the program. Experience in cyclotron target development helpful. Send resume to: Dr. D. J. Hnatowich, Massachusetts General Hospital, Boston, Mass. 02114, or call (617) 726-3805.

NUCLEAR MEDICINE RESIDENT. Two year Residency Program in Nuclear Medicine at The New York Hospital-Cornell Medical Center. Position available July 1, 1977. Contact Jerome G. Jacobstein, M.D., Division of Nuclear Medicine, The New York Hospital-Cornell Medical Center, 525 East 68th Street, New York, New York 10021.

NUCLEAR MEDICINE TECHNOLOgist, registered or eligible. Due to rapid expansion of the dept., we have an immediate opening for a staff technologist to work in our full service dept. with imaging, radio-immuno-assay, ultra sound and C.A.T. Scanner. Salary commensurate with experience. Excellent fringe benefits. Qualified candidates summit resume to: Personnel Dept., Mercy Hospital, 6th and University, Des Moines, Iowa 50314.

NUCLEAR MEDICINE ULTRASOUND technologist. Excellent opportunity in a 450 bed comprehensive hospital. In-patient and out-patient services in outstanding medical complex with active teaching program with college and medical school affiliations. Must be able to perform ultrasound procedures at a technical level not requiring constant supervision. Two years experience in ultrasound required. Certification by ultrasound technology desirable but not required. Please send resume and salary requirement to: Employment Manager, The Medical Center, 710 Center Street, Columbus, Georgia 31902.

NUCLEAR MEDICINE TECHNICIAN. ARRT Registered or eligible. We are a 500 bed general hospital, located in the heart of Southwestern Medical Center. We offer an excellent salary and competitive fringe benefits. To apply contact: Employment Office, St. Paul Hospital, 5909 Harry Hines Blvd., Dallas, Texas 75235, (214) 689-2660. An Equal Opportunity Employer.

POSITIONS WANTED

NUCLEAR AND DIAGNOSTIC RADIologist; 35, ABR and ABNM certified. University training and experience in all phases of nuclear medicine. Wish to relocate. Reply: M. Yunus, 237 Royal Palm Drive, Belle Glade, Florida 33430.

RADIOLOGIST, CERTIFIED ABNM and ABR desires to relocate. Prefers community hospital. Please reply P.O. Box 1002, Society of Nuclear Medicine, 475 Park Ave. South, New York, N.Y. 10016.

REGISTERED, EXPERIENCED, NUclear Medicine Technologist is seeking a part-time position in the New York Metropolitan area and Long Island, evenings and or weekends. Please reply: P.O. Box 1003, Society of Nuclear Medicine, 475 Park Ave. South, New York, N.Y. 10016.

RADIOCHEMIST: Ph.D. DEC. 1976. Available Jan. 1977. Desires position in a Nuclear Medicine lab. Write: S. Pandian, 206½ 8th St., Troy, New York 12180.

NUCLEAR MEDICINE TECHNOLOgist—TSCP and ARRT certified—BPS degree—Health Sciences and Administration. Ten years clinical plus eight years administrative and educational experience. Desire a position of comparable skills and up-ward mobility. Curriculum vitae available upon request. Would consider some travel and/or relocating. Please reply: P.O. Box 1004, Society of Nuclear Medicine, 475 Park Ave. South, New York, New York 10016.

NUCLEAR PHARMACIST: B.S., Pharm-D with two years experience in operation of University Centralized Nuclear Pharmacy, investigational radiopharmaceuticals, sterile product formulation and teaching in related topics. Desire position in teaching hospital. Please reply: P.O. Box 1005, Society of Nuclear Medicine, 475 Park Ave. So., New York, N.Y. 10016.

FOR SALE

PICKER MAGNASCANNER III, Picker Magnascanner V, Searle Pho Dot 3, Twin Probe System, Uptake System, Baird Atomic 530 Scaler and Well, most Picker and Ohio Nuclear Collimators, other Scalers, Wells and Systems available. Contact: Gentronics, 15 DeWald Avenue, Somerset, New Jersey 08873. (212) 463-8658 or (201) 246-0418.

PICKER ISOTOPE CALIBRATOR Model 632-507, 3 years old, recently reconditioned by Picker prior to sale announcement. Less than ½ original price. Contact: G. W. Enos, Holy Family Hospital, N. 5633 Lidgerwood, Spokane, Washington, 99207. (Phone 509-482-2291)

PICKER MAGNASCANNER 500D — single probe 5"; 4 yrs. old; identical to latest production model. Scan speed up to 500 cm/min. Contact: P. Perkins, M.D., Salem Memorial Hospital, 665 Winter St., S.E. Salem, Oregon 97301 (503) 370-5380.

Senior Nuclear Medicine Technologist

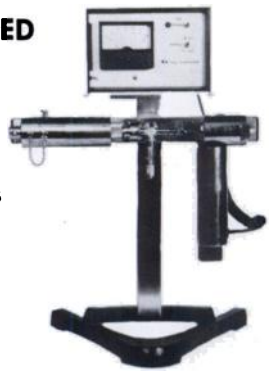
Registry and experience required. To assume supervisory and technical responsibilities in a 400 bed progressive hospital in Central Connecticut. Modern equipment including scintillation cameras, scanner, etc.

Please send resume and salary requirement to:

P.O. Box 1006
Society of Nuclear Medicine
475 Park Ave. South
New York N.Y. 10016

The Laboratory of Nuclear Medicine and Radiation Biology, University of California, Los Angeles, is seeking a candidate with a D.Sc. or Ph.D. in Engineering or Computer Sciences for the development, improvement, and application of mathematical models for reconstruction tomography, physiological modeling and tomographic system design criteria, and for participation in a teaching program to graduate students, residents, and staff. Applicants should have had appropriate experience in Fourier analysis, La Place transforms, integral and differential equations, and communication theory. Send résumé to **Laboratory Personnel Officer, Laboratory of Nuclear Medicine and Radiation Biology, 900 Veteran Avenue, Los Angeles, California 90024.** An Equal Opportunity/Affirmative Action Employer. Résumés received prior to 22 October will be considered.

DISPENSE CALIBRATED DOSES OF ^{133}Xe GAS



NOW you can customize ^{133}Xe doses to your needs while realizing substantial savings in material costs by purchasing one-Ci ampuls.

- Operation is simple and safe.
- Up to 24 ten-mCi doses from a 1-Ci ampul over a 3-week period.
- The cost of the dispenser may be recovered from savings in a few months.
- Unit is shipped complete with hand-operated vacuum pump, dummy ampul and vial for familiarization, and detailed operating and maintenance instructions.

For complete information write to:

Medical Instrument Prod. Div.
William Beaumont Hospital
Royal Oak, Michigan 48072

SEVENTH ANNUAL ASPEN RADIOLOGY CONFERENCE

Sponsored by Beth Israel Hospital, Denver, Colorado

February 27 through March 4, 1977
Aspen, Colorado

Independent five-day Postgraduate Refresher Courses

Nuclear Radiology
Diagnostic Radiology
Diagnostic Ultrasound
CT Scanning Plenary Sessions

Outstanding Nuclear Radiology Faculty

Duncan Burdick, M.D., U. of Colorado; Gerald DeNardo, M.D., U. of California; Alexander Gottschalk, M.D., Yale University; Wil Nelp, M.D., U. of Washington; Peter Ronai, M.D., U. of Colorado; Henry W. Strauss, M.D., Johns Hopkins University

Ample time for skiing and other winter sports. For information, contact: **Emanuel Salzman, M.D., Chairman, Aspen Radiology Conference, 1818 Gaylord St., Denver, Colorado 80206. (303) 320-5333.** Category 1 Credit available.

The Nuclear Medicine Section of the University of Michigan Medical Center offers a two year AMA approved residency in Nuclear Medicine. The clinical staff includes five full time physicians, three physicists, two radiopharmacists, and seven certified technologists. The residency program is divided between clinical training and clinical research. The clinical unit contains 6,500 sq. ft. of space. The 4,000 sq. ft. of research space is in a connected building (Radiopharmaceutical, Physics Instrumentation, and Thyroid Research). The Department is comprehensively equipped with cameras, all of which are interfaced to a computer. The section performs over 20,000 procedures yearly including imaging studies and in-vitro tests. The Nuclear Medicine Section also has a technologist training program in which the residents may participate as instructors. For further information and applications for July 1977, contact **William H. Beierwaltes, M.D., Physician in Charge, Nuclear Medicine Section, University of Michigan Medical Center, Ann Arbor, Michigan 48109.** An Equal Opportunity/Affirmative Action Employer.

DEPARTMENT OF PHARMACEUTICAL SCIENCES
Assistant Professor, Radiopharmaceutical Sciences

Ph.D. required, post-doctoral experience desirable. Teaching in an undergraduate course on application of radiotracer technology to pharmaceuticals and diagnostic agents and a laboratory course in radiotracer techniques. Contribution to graduate teaching in the Department expected. Interaction with an ongoing centralized nuclear pharmacy service in the University of Washington Health Sciences Center is expected. Salary commensurate with experience and training. Position is supported by Health Manpower funds.

Applicants should submit curriculum vitae, transcripts, description of research interests and should arrange for submission of three letters of reference by October 30, 1976 to **Dr. David R. Allen, Department of Pharmaceutical Sciences, School of Pharmacy, University of Washington, Seattle, Washington 98195.**

An Equal Opportunity/Affirmative Action Employer

State of the art in gamma camera hard copy recording.

Multi-Imager 1

Multi-Imager 1 employs the CRT of the gamma camera to record static, dynamic, and whole body imaging procedures on transparency format. The highly versatile Multi-Imager 1 offers film size formats of 5x7 and 8x10, yielding superior quality transparency scintiphotos recorded on a wide range of x-ray film processor compatible films. Up to 30 images can be recorded on a single sheet of film in ten different formats. In addition to the usual 1, 4, and 16 image formats, Multi-Imager 1 offers seven further choices to yield the exact diagnostic format required. For example, Multi-Imager 1 offers a 6 image format to allow recording of static studies that require a fifth and sixth view, and a 30 image format for dynamic studies that require more than sixteen frames. For whole body imaging, the 2 image format records side by side AP and PA views on the same sheet of film. Static, dynamic, and different size images can be mixed on the same sheet of film.

Multi-Imager 4

Multi-Imager 4 yields unmatched performance in gamma camera hard copy recording. A built in high resolution CRT, state of the art microprocessor technology, and electronically synchronized multiple lens optics provide a very small dot size on 8x10 format without increasing the pulse pair resolution dead time of the gamma camera system. The fast lens system of Multi-Imager 4 is compatible with both conventional x-ray film and the slower single emulsion radiographic films that provide the best image quality. Up to 64 images can be recorded in ten different formats. The dual intensity recording mode allows simultaneous acquisition of whole body or static views at two different intensity levels. Positive patient indentification is achieved through a nine digit keyboard LED system.

Both Multi-Imager 1 and Multi-Imager 4 can provide thousands of dollars in annual film cost savings and are compatible with all gamma cameras. Mail coupon to receive detailed information and sample clinical studies.

#MATRIX INSTRUMENTS

1 Ruckman Rd.
Closter, N.J. 07624
(201) 767-1750

Mail coupon to receive sample clinical studies.

Matrix Instruments, Inc., 1 Ruckman Rd., Closter, N.J. 07624
Please send Multi-Imager System literature and sample studies.

Name
Hospital
Address
State
Phone
Title
Dept.
City
Zip

Nuclear Medicine Technologist (part time and full time) for 600 bed teaching hospital providing excellent experience and opportunity for continued learning. Excellent fringe benefits. Registered in Nuclear Medicine or graduate of A.M.A. approved Nuclear Medicine program. Equal opportunity employer.

Send resume to:

Mr. Joseph Wander
University of Ill. Medical Center
840 S. Wood
Chicago, Ill. 60612
Tel. (312) 996-7293

Nuclear Medicine Residency

Two-year approved program offering broad clinical and basic science experience including pediatrics, oncology, radiation safety, radiopharmacy management and research. An integrated program at State University of New York at Buffalo School of Medicine.

Contact: **Merrill A. Bender, M.D., Program Director**
or **Monte Blau, Ph.D., Chairman**
Dept. of Nuclear Medicine
666 Elm Street
Buffalo, New York 14263

SPECIALIST IN NUCLEAR MEDICINE

Required in expanding department of University Hospital. Submit references and curriculum vitae with letter of interest to Simon Kramer, M.D., Professor and Chairman, Radiation Therapy and Nuclear Medicine, Thomas Jefferson University Hospital, Philadelphia, Pennsylvania 19107.

Immediate Opening

EDUCATOR IN NUCLEAR MEDICINE TECHNOLOGY

The University of Oklahoma Health Sciences Center has an immediate opening for an educator in the Nuclear Medicine Technology Baccalaureate program, at the level of assistant professor. A Master of Science degree in education or sciences related to Nuclear Medicine, Registry in Nuclear Medicine Technology, three or more years of clinical and educational experience in Nuclear Medicine are requirements. Excellent facilities include funding for a fully equipped simulated Nuclear Medicine Laboratory with Scintillation Camera, Computer and Invitro Laboratory equipment in addition to three major teaching hospitals with modern Nuclear Medicine equipment. The challenge to continue to develop this program is limited only to the extent of your imagination. Excellent benefits. Write or call collect 405-271-5143.

Vernon J. Ficken, M.S., Nuclear Medicine, University Hospital, P.O. Box 25606. Oklahoma City, Okla. 73125.

The University of Oklahoma is an Affirmative Action Employer.

2nd ANNUAL NORTH-SOUTH ARIZONA SEMINAR FOR NUCLEAR MEDICINE

Nov. 5, 6, 7, 1976
Adams Hotel
Phoenix, Arizona

Further information may be obtained by contacting:

Leanne Michel
Phoenix Endocrinology Clinic
Suite 11
555 W. Catalina Dr.
Phoenix, Az. 85013

Immediate Opening

EDUCATOR IN NUCLEAR MEDICINE TECHNOLOGY

The University of Oklahoma Health Sciences Center has an immediate opening for an educator in the Nuclear Medicine Technology Baccalaureate program, at the level of assistant professor. A Bachelor of Science degree in Nuclear Medicine or related sciences is preferred, registry in Nuclear Medicine Technology with two or more years experience in clinical Nuclear Medicine is required. Excellent facilities include funding for a fully equipped simulated Nuclear Medicine Laboratory with Scintillation Camera, Computer and Invitro Laboratory equipment in addition to three major teaching hospitals with modern Nuclear Medicine equipment. The challenge to continue to develop this program is limited only to the extent of your imagination. Excellent benefits. Write or call collect 405-271-5143.

Vernon J. Ficken, M.S., Nuclear Medicine, University Hospital, P.O. Box 25606, Oklahoma City, Okla. 73125.

The University of Oklahoma is an Affirmative Action Employer.

UNIVERSITY TEACHING HOSPITAL ASSOCIATE CHIEF NUCLEAR MEDICINE TECHNOLOGIST

University of California, Davis-Sacramento Medical Center. Openings for in-vitro and in-vivo Associate Chief positions in progressive, well-equipped Nuclear Medicine department. 9,000 plus procedures a year. Excellent salary and fringe benefits. Davis Campus contains a cyclotron and separate nuclear medicine research facilities. The Medical Center is located in Sacramento in a community of 300,000 population. Great location, close to mountains, ocean and San Francisco. Also have the in-vivo nuclear medical technician position available in near future.

Contact: **Personnel Department, University of California, Davis Sacramento Medical Center, 2315 Stockton Boulevard, Sacramento, California 95817. Attention: Erskine Fuller.**

An equal opportunity/affirmative action employer.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Nuclear Medicine Residency Program—1977/78

Resident positions are available beginning September 1, 1977, for a 2-year program at Stanford University Medical Center and its affiliate Veterans' Administration Hospital. Patients from the Children's Hospital at Stanford are also studied or treated at the University Hospital.

The program goal is to provide well-rounded training to prepare the physician for a career in nuclear medicine. The program, approved by the AMA and satisfying the requirements of the American Board of Nuclear Medicine, includes didactic instruction in radiologic mathematics and physics, radiation safety, dosimetry, electronics, and nuclear medicine instrumentation. A major portion provides practical experience in dynamic and static imaging, computer assisted data manipulation, radioimmunoassay methodology, other *in vitro* test procedures, and radiopharmacy as part of an integrated patient care program, both diagnostic and therapeutic. Our residents are encouraged to participate in ongoing teaching activities and in one or more research projects under preceptor supervision.

Stanford is an equal opportunity affirmative action employer.

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

Joseph P. Kriss, M.D.
Director, Division of Nuclear Medicine
Stanford University Medical Center
Stanford, CA 94305

University of Connecticut Affiliated Hospital Residency Training Program Nuclear Medicine

Principles of Radiation Physics, Radiopharmacy, and associated basic sciences are covered at the Health Center by lectures, demonstrations and laboratories. Clinical rotations are at the University Hospital and affiliated hospitals. Excellent and varied equipment and facilities. Active clinical and basic research programs.

Contact:

Dr. Richard P. Spencer
Dept. of Nuclear Medicine
University of Connecticut Health Center
Farmington, Conn. 06032.
Telephone 203-674-3120.

An Equal Opportunity Employer

M/F

Veterans Administration Hospital University of Minnesota

NUCLEAR MEDICINE RESIDENCY PROGRAM

Resident positions are available in an AMA approved two-year training program beginning January 1, 1977. A combined University of Minnesota-VA Hospital program with active clinical and research opportunities. Minimum stipend $15,100.

An Equal Opportunity Employer

For further information, contact:

Rex B. Shafer, M.D., Chief, Nuclear Medicine Service (115), Veterans Administration Hospital, 54th Street & 48th Avenue South, Minneapolis, MN 55417

OR

Merle K. Loken, M.D., Ph.D., Director, Division of Nuclear Medicine, University of Minnesota Hospitals, Box 382, Mayo Memorial Building, Minneapolis, MN 55455

A WORKSHOP IN CLINICAL NUCLEAR CARDIOLOGY
"What To Do And How To Do It"

Co-Sponsored By:
O'Neill Consulting
Ann Arbor, Michigan
and
Marshal Hale Memorial Hospital
San Francisco, California

Faculty:
William Ashburn, M.D.
Daniel Berman, M.D.
James Fletcher, M.D.
Donald R. Strange
William J. O'Neill

Friday and Saturday—December 3 & 4, 1976
Airport Hilton Hotel, San Francisco, California

This workshop is intended to instruct physicians and technologists in the performance of clinical nuclear cardiology procedures.

These important areas will be covered:

What Studies To Do
What Instrumentation Is Necessary
How To Do Them
How To Interpret Results

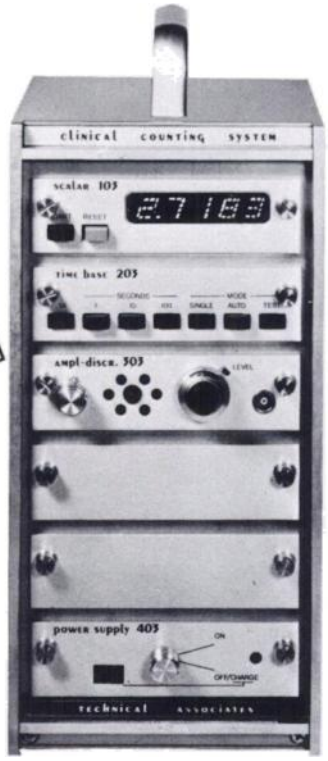
$200 Registration Fee (Includes Luncheon Both Days)

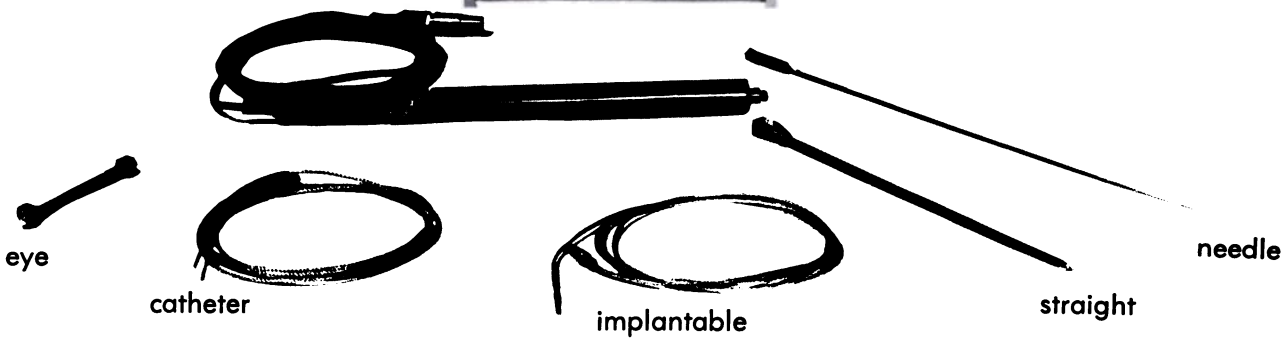
For Further Information Please Contact:

William J. O'Neill
O'NEILL CONSULTING
2901 Eisenhower Parkway
Ann Arbor, Michigan 48104
313/373-2335

the proven clinical counting system

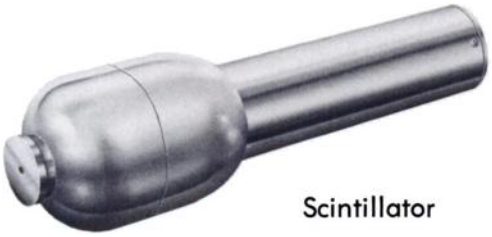
NEW
Thrombus Detectors
write for details





Solid State Probes

G.I.



Scintillator

- Operating room design
- In vivo use
- Single, dual and multiple or matrix detectors
- Intracavitary, intraorgan, or surface
- Real time information
- Chart, printer, and computer compatible

TECHNICAL ASSOCIATES

7051 ETON AVE., CANOGA PARK, CA. 91303
(213) 883-7043

MEDI-RAY ELECTRONICS, INC.

A Subsidiary of Medi-Ray, Inc.

POWERTROL

Instrument Power Protection!

POWERTROL was designed to protect electronic equipment from power line fluctuations. Intermittent loss of power, brown-outs, emergency power change over, and normal power company line transients can seriously damage electronic equipment.

POWERTROL will render immunity to your equipment. Simply plug POWERTROL into any AC outlet and forget about potential power related failures.

For more information Write or Call Collect

Medi-Ray, Inc.

150 Marbledale Road, Tuckahoe, New York 10707 • (914) 961-8484

The GE commitment to nuclear medicine: complete equipment, software and service.

GE: new ideas solve nuclear needs.

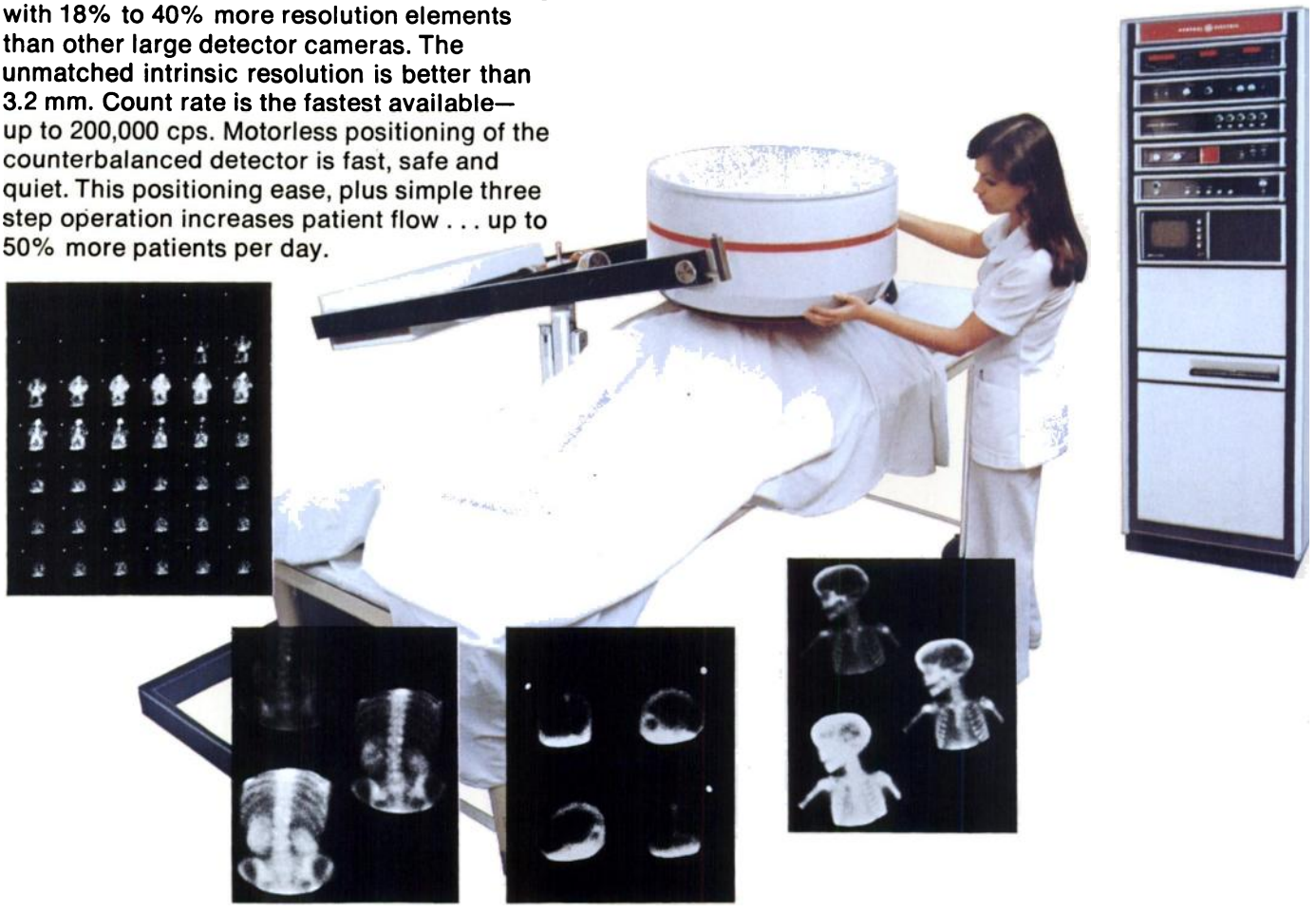
Innovative systems are needed to meet the many needs of today's nuclear departments. That's why GE has combined new product ideas with proven concepts to provide the latest in nuclear capability.

MaxiCamera system: largest field of view delivers unprecedented image quality.

MaxiCamera™ system's 400 mm field of view—the largest of any scintillation unit—offers nuclear departments important new advantages. The big field allows imaging of both lungs at the same time—reducing lung study time by more than 30%. Large livers can also be imaged rapidly and easily. MaxiCamera system handles whole body scanning, yet the unit requires only a 6 x 12 foot area. Image quality is outstanding, with 18% to 40% more resolution elements than other large detector cameras. The unmatched intrinsic resolution is better than 3.2 mm. Count rate is the fastest available—up to 200,000 cps. Motorless positioning of the counterbalanced detector is fast, safe and quiet. This positioning ease, plus simple three step operation increases patient flow . . . up to 50% more patients per day.

GE Formatter system: records much faster with no data loss.

During dynamic studies, valuable diagnostic information may be lost if the formatter cannot keep pace with the camera. Now General Electric offers a formatter that records data as fast as the camera detects it, with no data loss. GE Formatter system records up to 10 frames per second . . . many times faster than any other unit. This makes the GE Formatter the system of choice for dynamic studies. You can record up to 42 dynamic images on one 8 x 10 film, using economical, standard photographic cassettes. Standard multiple formats are available: 35, 70 and 105 mm. Valuable floor space is conserved because all formatter and camera controls are combined in one compact cabinet, occupying just 4½ square feet.



PortaCamera system: nuclear department on wheels.

This compact, mobile scintillation unit is easily wheeled throughout the hospital to facilitate studies on immobile patients. The PortaCamera™ system weighs less than 1,000 lbs., about half the weight of most other portable cameras. The counterbalanced detector allows fast, precise positioning at a touch. A conveniently located, integral console includes all controls and oscilloscope. Easy two-step operation increases patient throughput potential. PortaCamera system also serves as an excellent, low-cost backup unit for ICU, CCU, surgery and emergency rooms.

GE computer capability improves diagnostic data.

Med II™ is a complete image processing and data analysis system. It allows the physician to use the latest GE computer capability to maximize diagnostic information. The Med II system is a second-generation, push-button operated unit with a comprehensive library of nuclear medicine programs: left ventricular ejection fraction, left to right shunt, cardiac output, renal function, gated blood pool studies, ventricular volume, and many more. Combined, the Med II, MaxiCamera and GE Formatter provide the most powerful nuclear diagnostic system available today.

MedStor™ is a moderately priced image storage and processing system which can be used with any scintillation camera, including the PortaCamera. The MedStor system provides computer-controlled playback of static and dynamic data, allows selection of up to four regions of interest, and simultaneously generates up to 4 time/activity histograms. The system is pre-programmed, with easy-to-operate push-button control. Image information can be accessed as rapidly as 6 images per second.

Nuclear parts and service in 8 hours or less.

When your nuclear equipment needs service, GE will provide parts and professionals . . . fast. Our highly trained nuclear service specialists are strategically located throughout the country. One is located near you, for fast response. And General Electric has developed a new computerized parts inventory system. This new service links over 30 GE parts depots nationwide, and keeps them fully stocked at all times. You receive parts from the nearest depot, usually within 8 hours. Transportation costs are minimized, and your nuclear equipment is back serving patients sooner.

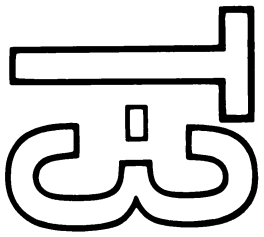
Unmatched equipment; the latest diagnostic software; and prompt, reliable service: that's the GE commitment to nuclear medicine. Find out how that commitment can benefit your department. See our product listings in the "PDR for Radiology and Nuclear Medicine." Then talk to your GE representative about our full line of nuclear equipment.

General Electric Medical Systems,
Milwaukee, Toronto, Madrid.

GE: leading the way in diagnostic imaging.

GENERAL ELECTRIC

REVERSE



Some companies might not market an RIA kit that didn't promise an extremely profitable 'clinical significance' . . . . but if a company happens to be a pioneer in the field, and would like to remain that way, it can't afford not to.

Serono

. . . unsurpassed in research, development and service.

For ordering and technical information contact:
Serono Laboratories, Inc., 607 Boylston St., Boston, MA 02116 (617) 261-8265

Aggregated Albumin (Human) Kit

DESCRIPTION - The kit contains 6 sterile vials containing 9-11 mg. of pyrogen-free aggregated albumin (human), 0.67 - 0.83 mg. stannous chloride, and 18 mg. sodium chloride. When sterile, pyrogen-free sodium pertechnetate Tc99m is added to the vial, technetium-labelled macroaggregated human serum albumin (Technetium MAA Tc 99m Technetium Macroaggregates) is formed. The particles of aggregated albumin in the kit are formed by the denaturation of Normal Serum Albumin (Human) USP through heat and pH adjustment. Sodium hydroxide of hydrochloric acid may be present in variable amounts. At least 95% of the macroaggregated particles are between 10 and 100 microns in size, the great bulk, (as seen on a microscope slide) being an average of 10 to 70 microns. None are larger than 150 microns. Vial counts indicate that each vial contains 6.8 ± 0.8 million particles per mg. The labelling efficiency is essentially quantitative and the bound Tc-MAA remains stable *in vitro* throughout the useful period after preparation.

Application has been filed with the U. S. Nuclear Regulatory Commission for distribution of this reagent kit to persons licensed pursuant to §35.14 and §35.100, Group III of CFR Part 35, or under equivalant licenses of agreement states; and is still pending.

ACTIONS - Following intravenous injection, Technetium MAA Tc 99m is rapidly transported by the blood stream to the lungs. The aggregates do not enter the tissues of the lungs, but remain in the pulmonary vasculature. When pulmonary blood flow is normal, the material is carried throughout the entire lung field; when pulmonary blood flow is diminished or obstructed by a disease process, the particles are correspondingly prevented in part of in whole from passage through the affected portion of the pulmonary vasculature.

Technetium Macroaggregates remain in the lungs for variable amounts of time depending on particle size. The particles disappear from the lungs in exponential fashion with the larger-sized aggregates having the longer half-life; particles ranging from 10 to 90 microns in diameter usually have a half-life of 2 to 8 hours. Apparently, the aggregates are temporarily trapped by the narrow pulmonary capillaries where the particles are broken down until they are small enough to pass. In rats 4.3% of the Tc 99m remains in the lungs after 24 hours.

Although the particles of macroaggregates remain for a time in the pulmonary capillaries, they do not appear to interfere even temporarily with pulmonary blood flow or ventilation in the dosage required for lung scanning. This is evidenced by the fact that these doses do not produce any respiratory distress nor any tachycardia, even in patients severely ill with pulmonary and/or cardiac disorders.

Once the albumin particles leave the lungs, they are carried to the liver, where they are removed from the blood stream primarily by the Kupffer cells. There, the particles are phagocytized and rapidly metabolized.

INDICATIONS - Scintillation scanning of the lungs with Technetium Macroaggregates is indicated as an adjunct to other diagnostic procedures whenever information about pulmonary vasculature is desired. The most useful clinical applications of lung scanning have been outlined by one investigator: 1) The diagnosis of pulmonary embolism; 2) differentiation of focal conditions such as bullae or cysts from diffuse pulmonary disorders; 3) determination of the degree of pulmonary vascular obliteration in parenchymal disease; and 4) evaluation of the patient's ability to withstand pulmonary surgery.

Perhaps the most frequently useful indication for the lung scan has been the early detection of pulmonary emboli. The lung scan is uniquely able to demonstrate the existence of an embolism before radiological signs become apparent. Although an area of increased radiolucency on the chest film may suggest an embolism, X-ray findings do not usually become apparent until the embolism has produced signs of ischemia or infarction. Once an embolism has been diagnosed, information obtained from the scan is of value in determining the desirability of surgical embolectomy, while subsequent scans provide information on the effectiveness of surgical or anticoagulant therapy.

Lung scanning is similarly helpful in the diagnosis of various types of malignancies affecting the lungs. Again, scanning is of value in locating the affected areas, in determining the need for and probable effectiveness of surgery or of radiation therapy, and in following up the benefits of treatment.

Useful information is also provided by the scan in the diagnosis or evaluation of other pulmonary problems, such as pneumonia, atelectasis pleural effusion, pulmonary tuberculosis, parenchymal disease, emphysema and chronic asthmatic bronchitis.

CONTRAINDICATIONS - The presence of right to left shunts which would allow Technetium MAA Tc 99m injected in a systemic vein to reach a systemic artery is contraindication to the use of this material. Particulate material such as Technetium MAA Tc99m should not be administered to patients with evidence of severe restriction to pulmonary blood flow such as may be present in pulmonary hypertension.

WARNINGS - Technetium MAA Tc99m should not be administered to patients who are pregnant, or during lactation unless the benefits to be gained outweigh the potential hazards.

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.

Radiopharmaceuticals should be used only by physicians 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 agency authorized to license the use of radionuclides.

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

To insure the integrity of this product use needles in gauge sizes 18 to 21.

ADVERSE REACTIONS - No adverse reactions have been observed with this product. However Vincent et al (3) have recorded the only immediate and fatal reaction following infusion of Tc 99m macroaggregates (technetium labelled macroaggregates). This was in a seven-year-old child who had severe pulmonary vascular disease. The exact size of the particles used was not disclosed, and in the summary of the publication "it is suggested that this type of reaction will continue to be rare and that it will probably be somewhat predictable on the basis of clinical and laboratory evidence of severe pulmonary hypertension. Such a patient might be scanned safely by strict control of macroaggregates dose, size range and mean particle size".

The literature has recorded two adverse reactions to lung scanning with I-131 labelled macroaggregates. Wagner et al (4) observed that urticaria developed in a young girl several hours after lung-scanning procedure with Iodine-131 macroaggregates where Lugol's solution was administered to block the thyroid gland. The subject had a history of angio-edema. The reaction may have been caused by either material. Dworkin et al (5, 6) reported "I-131-labelled macroaggregated albumin highly suspect as the causative agent" in the death of a woman who was scanned for the possibility of demonstrating pulmonary embolism. With a 2½-year history of adenocarcinoma of the breast she had severe and rapidly progressive edema. Prior to scanning, the nasal administration of oxygen was interrupted. "Within 1 or 2 minutes after injection of 300 uCi of I-131 labelled macroaggregates albumin (11 mg. of albumin or 0.219 mg. per kilogram of body weight) she complained of faintness and became cyanotic, diaphoretic, and agitated with distended neck veins. The initial pulse rate of 50 rose to 140 with a fall in blood pressure to 100/30. Oxygen therapy relieved the profound dyspnea and cyanosis. An electrocardiogram 40 minutes later was compatible with acute cor pulmonale. Within several hours she had returned to her pre-scan status, but on the next day the temperature rose, dyspnea increased and she died 26 hours after the lung scan. We have continued lung scanning but limit the albumin to 0.020 mg. per kilogram, reject lots with more than 15 percent of particles over 40 microns and require two minutes for injection".

More recently, Williams (7) has reported a severe reaction immediately after injection of macroaggregated albumin (MAA) particles followed by death six hours later (while the patient was undergoing right-heart catheterization). Like those previously reported, it occurred in a patient with severe chronic pulmonary hypertension due to disease of the pulmonary vascular bed. The patient died in right heart failure. Post-mortem examination revealed "severe atheroma and thickening of all the pulmonary arteries but no macroscopic evidence of emboli. The right heart was hypertrouphied and dilated".

Transient neurological complications following intra-arterial injection of I-131 labelled macroaggregates have been reported (3).

REFERENCES

1. Surprenant E. L., Webber M.M., Bennett L. R., *International Journal of Applied Radiation and Isotopes, 20,* 77-79 (1969).
2. De Paoli T., Hager A., Micolini J., *International Journal of Applied Radiation and Isotopes, 17,* 551-556 (1966).
3. Vincent, W. R., Goldberg, S. J. and Disilets, D., *Radiology 91,* 1181-1184 (1968).
4. Wagner, H. N., Jr., et al., *N. Engl. J. Med.* 271, 377-384 (1964).
5. Dworkin, J. J., Smith, J. R. and Bull, F. E., *N. Engl. J. Med.* 275, 376 (1966).
6. Dworkin, J. J., Smith, J. R. and Bull, F. E., *Am. J. Roetgenol. Ther. Nucl. Med.* 98, 427-433 (1966).
7. Williams, J. O., *Brit. J. Radiol.* 47, 61-63 (1974).

CIS Radiopharmaceuticals, Inc.

There goes our MAA reputation again.

That's the way we feel about every shipment that leaves our plant. Every time we ship your order our reputation for safety and high quality is on the line — and we recognize it.

Check our reputation on our MAA 6-pack Kit

- Freeze dried
- No freezing necessary
- Long, six month shelf life from date of manufacture
- Easy to prepare
- Short tagging time
- Use up to 100mCi of Tc99m
- Use as much as 5ml Tc99m Pertechnetate solution
- May be used for 8 hours after preparation
- 99% plus labelling efficiency
- Same-day service for increased orders
- Toll-free number 800-225-1145 for orders and service

CIS®

CIS Radiopharmaceuticals, Inc.
5 DeAngelo Drive, Bedford, Ma. 01730
Telephone: (617) 275-7120; outside Massachusetts (800) 225-1145
TELEX 94-9465

Use our toll-free number to order our MAA kit, any of our radiopharmaceutical kits or our new imaging kit brochure. We will ship to you promptly.

Send complete information on:
☐ Technetium Sulfur Colloid Kit
☐ Technetium DTPA(Sn) Kit
☐ Technetium Pyrophosphate(Sn) Kit
☐ Aggregated Albumin (Human) MAA Kit

Please ship me_____ Kits. My order number is _____.

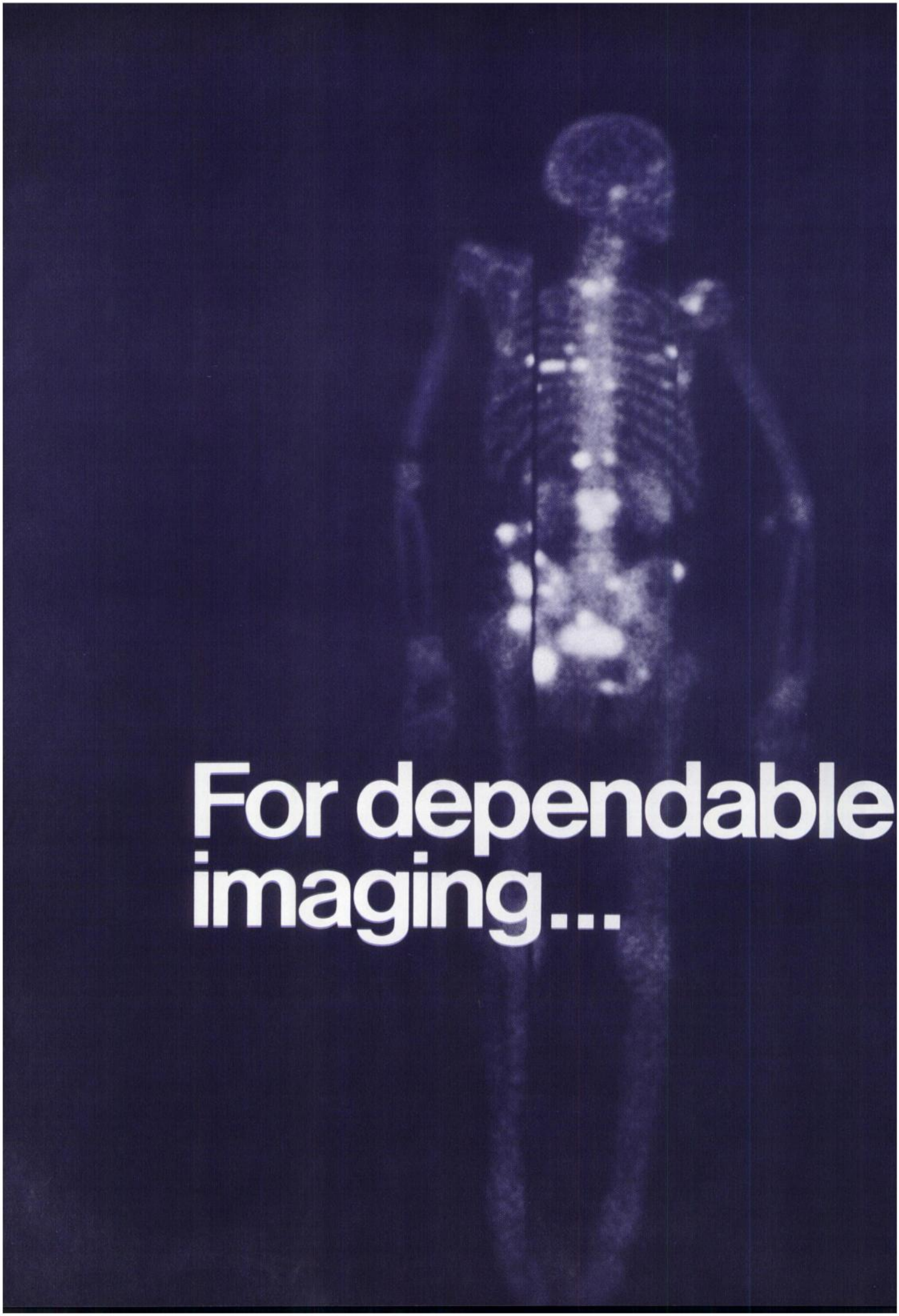
NAME _____

DEPT. _____ TEL ( ) _____

ORGANIZATION _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____


For dependable
imaging...

Dependable imaging of skeletal lesions —that's what bone scanning is all about. And that's what the unique, dry-mix formulation and stable PCP bond of Osteoscan assure. Osteoscan's diphosphonate formulation, when labeled with ^{99m}Tc, provides:

- ☐ dependably high tagging efficiency
- ☐ rapid blood and soft tissue clearance to assure high target-to-nontarget ratio
- ☐ excellent in vivo stability
- ☐ low tin level—to minimize the potential for liver uptake and interference with subsequent brain scans

For further information about Osteoscan, please contact: Arnold Austin, Technical Manager, Professional Services Division, Procter & Gamble (513) 977-8547.

the dependable diphosphonate

PROCTER & GAMBLE

OSTEOSCAN®

(5.9 MG DISODIUM ETIDRONATE, 0.16 MG STANNOUS CHLORIDE)

SKELETAL IMAGING AGENT

In Europe, contact: Philips-Duphar B.V.,
Cyclotron and Isotope Laboratories, Petten, Holland.

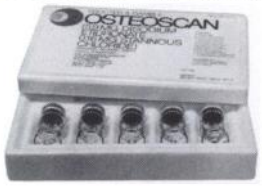
See following page for a brief summary of package insert.

PROCTER & GAMBLE

OSTEOSCAN®

(5.9MG DISODIUM ETIDRONATE, 0.16MG STANNOUS CHLORIDE)

SKELETAL IMAGING AGENT

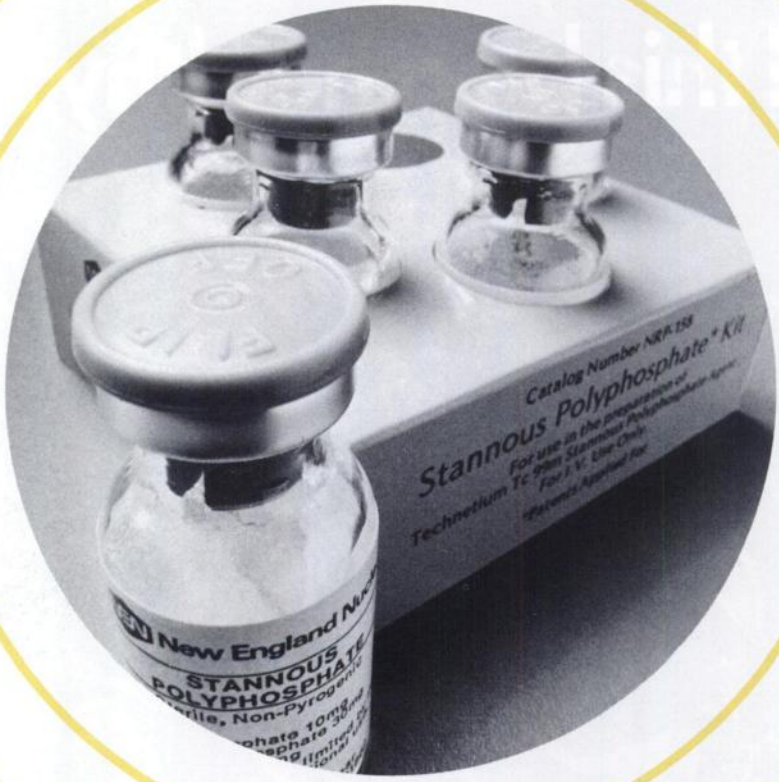


Brief summary of Package Insert. Before using, please consult the full Package Insert included in each kit.

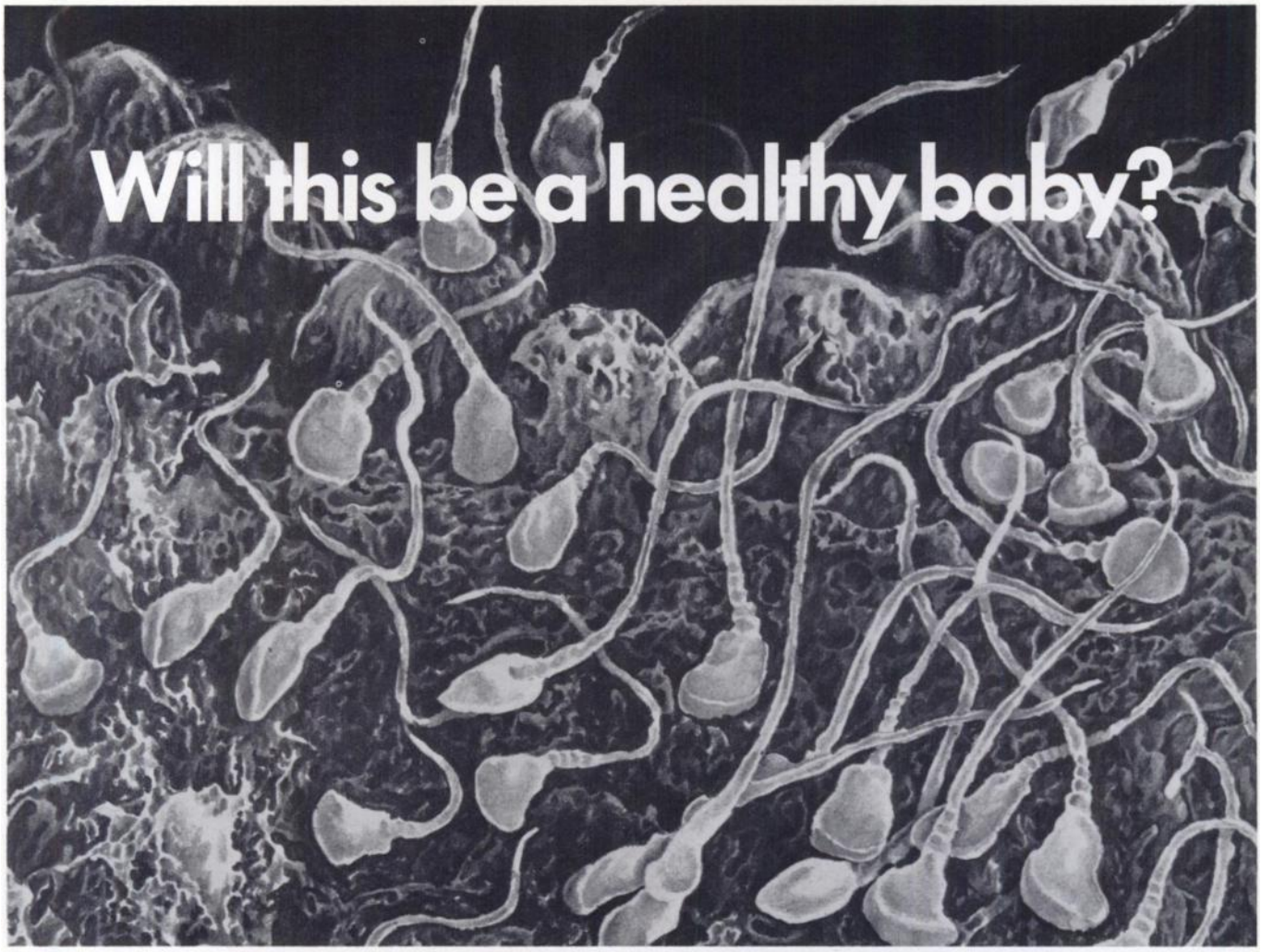
DESCRIPTION

Each vial of OSTEOSCAN contains 5.9 mg disodium etidronate and 0.16

What kind of fool would get involved in something that: Is without



One simple step to a bone imaging agent



Representation of Spermatozoa at the surface of an ovum magnified approximately 2000 times.

Yes, if everything goes well. Even so, it needs all the skills of the gynaecologist and obstetrician to monitor progress and take action when complications arise. To support clinical judgment we offer three simple quantitative tests.

Each test, requiring only a small serum sample, is a highly specific radioimmunoassay giving excellent reproducibility with simple gamma counting. All are backed by extensive clinical trials.

New FSH Kit

Our latest kit measures this valuable parameter for the study of infertility in both sexes.

Not only is it a highly reproducible test with a coefficient of variation of less than 6%, it also provides the gynaecologist with results within 24 hours.

HPL Kit

Used in the assessment of threatened abortion during the first trimester or for identifying foetal distress during the third trimester.

Only 2-3 hours are required to complete the test giving the obstetrician rapid results in emergencies.

Oestriol Kit

For measuring circulating oestriol levels in the third trimester.

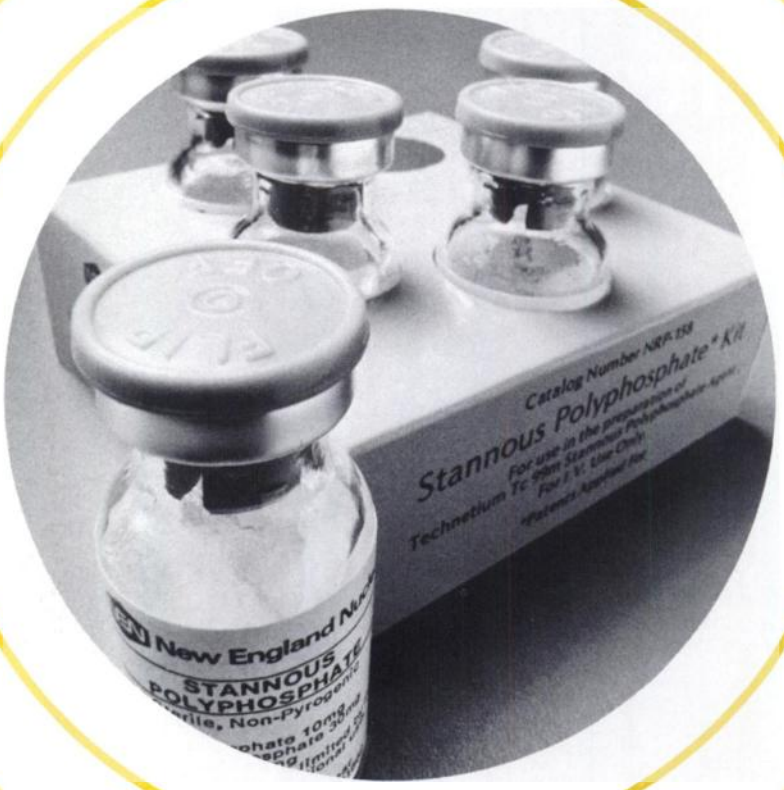
A simple 3-4 hour test using serum or plasma eliminating the need for urine collection.

FSH, HPL & OESTRIOL RIA KITS

A VALUABLE SERVICE TO OBSTETRICS AND GYNAECOLOGY

The Radiochemical Centre Amersham

Full information is available on request.
The Radiochemical Centre Limited, Amersham, England. Telephone: 024-04-4444
In the Americas: Amersham Searle Corp. Illinois 60005. Telephone: 312-593-6300
In W. Germany: Amersham Buchler GmbH & Co KG, Braunschweig. Telephone: 05307-4693-97
0881



One simple step to a bone imaging agent

It's quick – it's convenient. Add the sodium pertechnetate Tc 99m into a vial of NEN Stannous Polyphosphate and swirl. Now you have a bone imaging agent that provides a high target/non-target ratio, excellent lesion detection and consistent results.

Our unique formulation – Pyrophosphate and Trimetaphosphate – has long shelf life – 1½ years. Low Stannous Chloride content – 1 mg/vial. No refrigeration required... a truly effective bone imaging agent.

Indications: Technetium Tc 99m Stannous Polyphosphate is primarily used as a skeletal imaging agent to evaluate areas of altered osteogenesis.

Contraindications: None.

Warnings: This radiopharmaceutical preparation should not be administered to pregnant or lactating women or to children under 18 years of age unless the benefits to be gained outweigh the potential hazards.

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 the menses.

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

The contents of the Stannous Polyphosphate vial are intended only for use in the preparation of Tc 99m Stannous Polyphosphate and are not to be directly administered to the patient.

Medical judgment appropriate for any agent should be maintained. As polyphosphates are known to complex cations such as calcium, particular caution should be used with patients potentially suffering from hypocalcemia.

Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and handling of radionuclides produced by a nuclear reactor or particle accelerator, and whose experience and training have been approved by the appropriate governmental agency authorized to license the use of radionuclides.

The Tc 99m labeling reactions involved in preparing the Tc 99m Stannous Polyphosphate depend on maintaining the tin in the reduced state. Any oxidant present in the Pertechnetate Sodium Tc 99m supply may thus adversely affect the quality of the prepared agent. Hence, Pertechnetate Sodium Tc 99m containing oxidants should not be employed without first demonstrating that it is without adverse effect on the properties of the resulting agent.

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 insure minimal radiation exposure to the patient as well as to personnel involved in the procedure, by using the smallest dose of radioactivity 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 at 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.

Adverse Reactions: One investigator noted that out of 340 cases he studied within one year, 4 patients reported a mild faintness and numbness of one of the limbs within one hour of dose administration. In all cases the symptoms disappeared after several hours.

Dosage and Administration: Technetium Tc 99m Stannous Polyphosphate may only be administered by intravenous injection. In making dosage calculations, corrections must be made for radioactive decay. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

The recommended intravenous dose in the average patient (70kg) is 10mCi with a range of 5-15mCi. Optimal imaging results are obtained within 1-6 hours after administration.

How Supplied: The NEN Stannous Polyphosphate Kit is supplied as a set of five vials, sterile and non-pyrogenic. Each nitrogen-flushed vial contains in lyophilized form:

Sodium Pyrophosphate	– 10mg
Sodium Trimetaphosphate	– 30mg
Stannous Chloride	– 1mg

The kit may be stored at room temperature.

New England Nuclear
Radiopharmaceutical Division
Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531
Los Angeles: 213-321-3311 Miami: 305-592-0702

Canada: NEN Canada Ltd., 2453 46th Avenue, Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 23, Postfach 1240. Tel: (06103) 85034.

It asks for your instructions, repeats them and gives you a chance to change them. Then, it even talks back if an instruction is wrong.

That's smart. But that's not all.

The SKI Gamma System has a microprocessor with a magnetic disc memory that calculates, controls the counter, spots errors, makes sound evaluations about data quality.

And the microprocessor is an integral part of the system—not just added on. In the unlikely event something goes wrong, you have only one number to call. Ours.

The SKI Gamma System is *fully* automatic—so there's no raw data to pat, prod, calculate or manipulate. You can put up to 200 tubes in the changer, key in your instructions and walk away. While you are doing something else, it counts your samples, alters assay routines if you're doing more than one type of test, plots standard curves, reduces data to medically useful answers and prints them on tape in easy-to-read form.

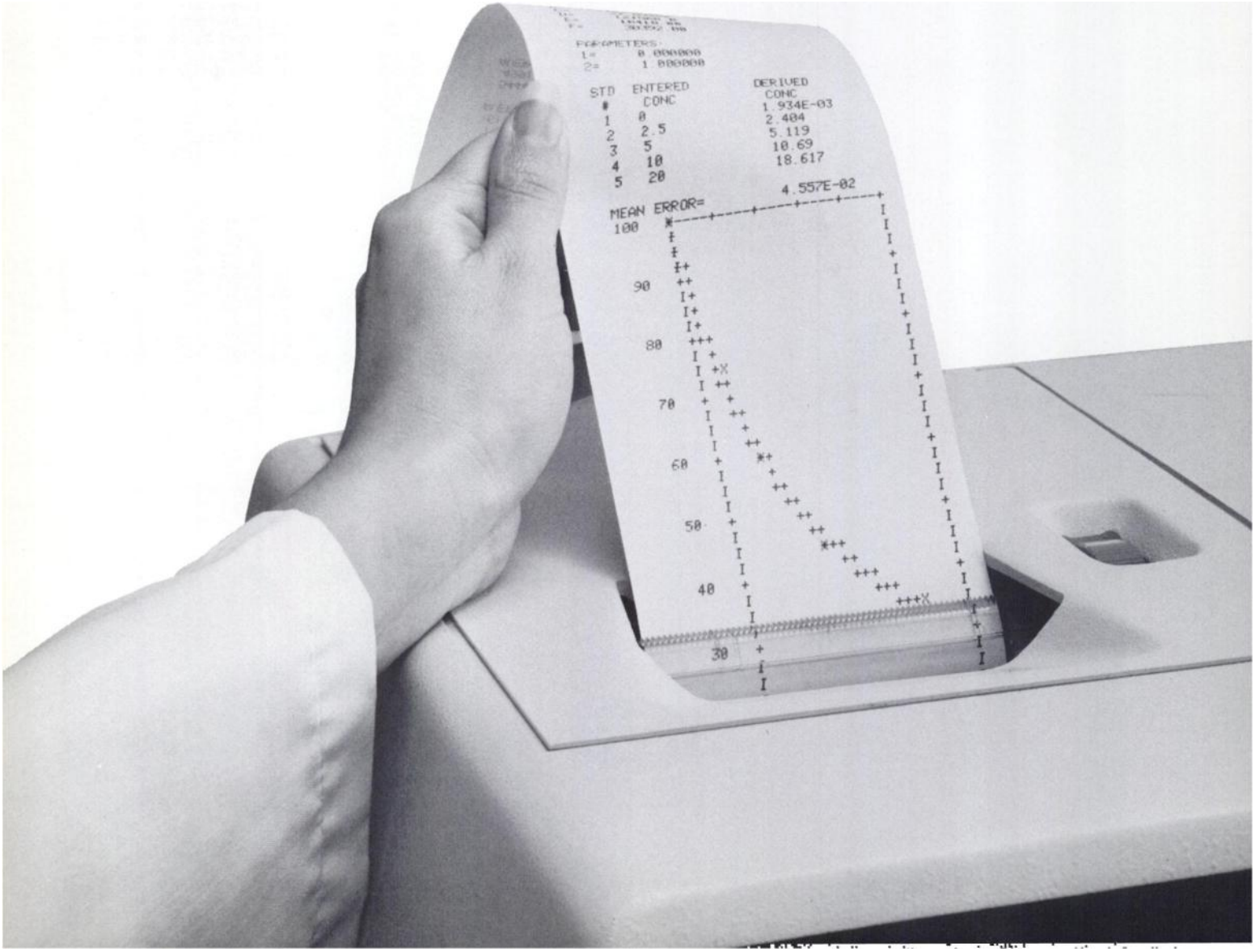
That's smart.

Because of all this, more and more laboratories are enjoying the speed, dependability and flexibility of The SKI Gamma System.

Call us for details—or a free demonstration—and learn how much simpler RIA and other radioassays can be.

SKI Smith Kline Instruments, Inc.
880 West Maude Ave • Sunnyvale, CA 94086 • (408) 732-6000
A Subsidiary of SmithKline Corporation

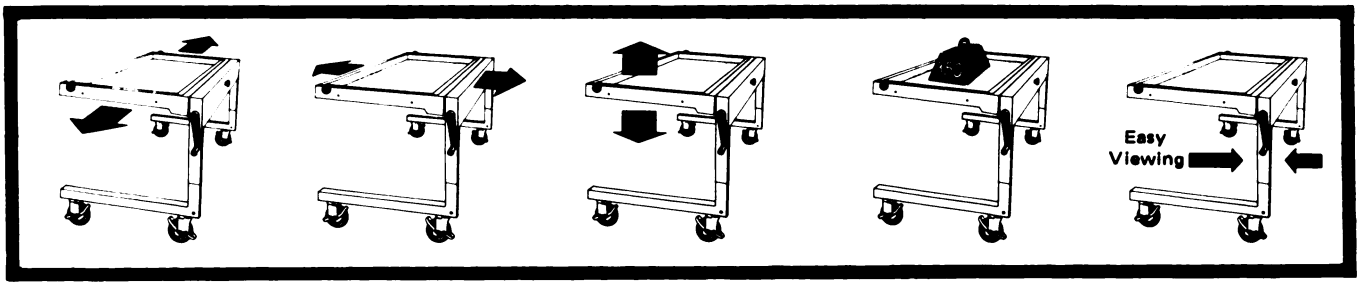
The SKI Gamma System. A little smarter than the rest.



THE PANORAMIC XYZ IMAGING TABLE

designed specifically for Todays Nuclear Medicine Procedures

Unobstructed Viewing for ALL Cameras and Scanners

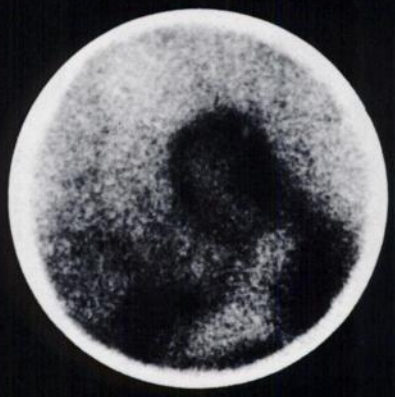


- Fingertip control for all movements
- Transparent top moves 10 inches in both X and Y planes
- 14 inches of vertical movement
- Obstruction free clearance in all positions
- Constant stability assured by ultra sturdy construction
- Smooth transport on large swivel casters
- Designed to accommodate all imaging devices including jumbo cameras

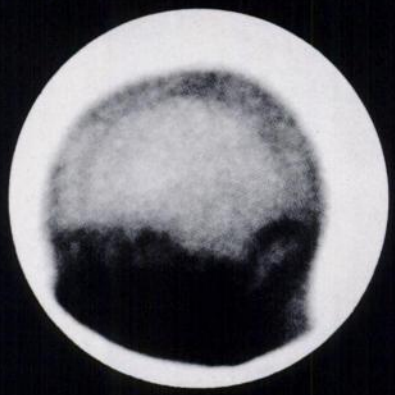
Atomic Products Corporation

Center Moriches, L.I., New York 11934, U.S.A.
(516) 878-1074

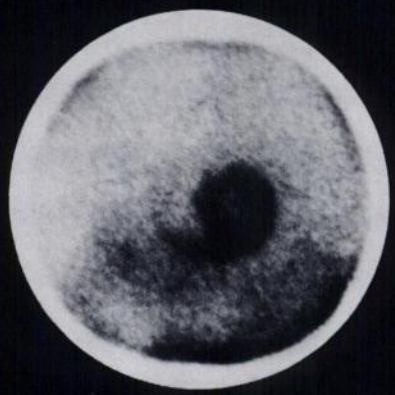
Think mobility.



Adult heart LAO view ^{201}Thallium



Adult brain left lateral view ^{99m}Tc DTPA



Adult heart LAO view ^{201}Thallium

Dyna® Mo is the mobile DynaCamera that extends the scope of nuclear diagnosis throughout your hospital.

The Dyna Mo mobile scintillation camera is fully powered with continuously variable speeds up to 2 mph. Dyna Mo is compact, maneuvers easily around corners, through cramped quarters, up inclines and between beds.

But think about versatility and performance, too. Versatility means Dyna Mo is capable of performing every nuclear study you need from cardiac work to bone imaging. The Dyna Mo detector positions easily for any organ view with minimum discomfort to the patient.

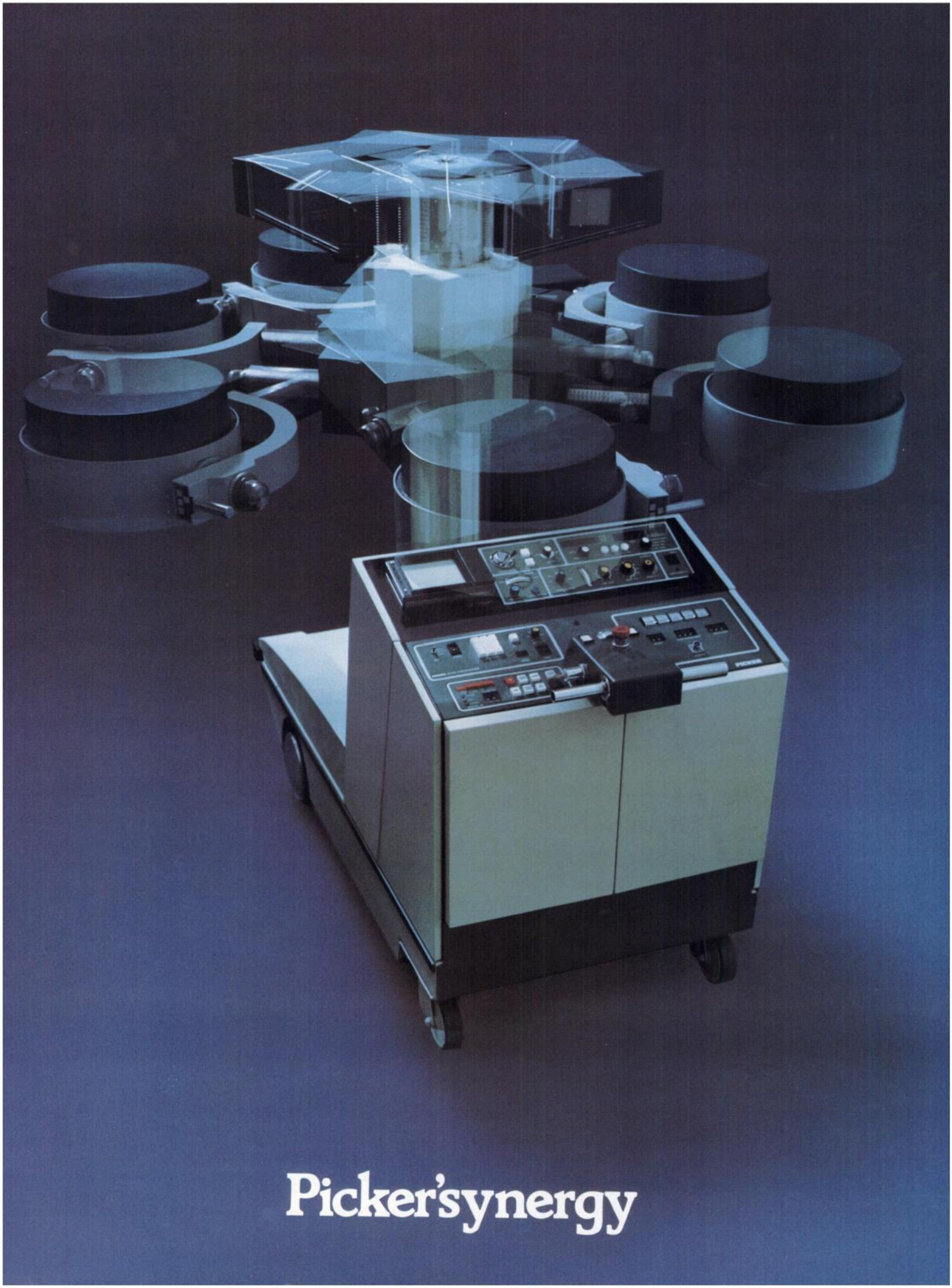
Dyna Mo performance is unexcelled: 2.1mm (1/12") resolution, ±10% uniformity, ±3% linearity, 100,000 CPS (in a 20% window).

It features quick-change collimators, ECG gating, exclusive five-motion detector head, integral tape recorder and a list of options and accessories unmatched by any other mobile camera. Dyna Mo contains the most comprehensive nuclear capabilities ever put on wheels.

Dyna Mo is another example of Picker synergy—the complete interfacing of systems and services for improved diagnostic visualization. Send for a catalog or contact your local Picker representative. Picker Corporation, 12 Clintonville Road, Northford, CT 06472.

PICKER®

ONE OF THE C.I.T. COMPANIES


Picker'synergy

World-Wide Acceptance ...Global Availability

ISOLAB inc.
INNOVATIVE PRODUCTS FOR RESEARCH
Drawer 4350 Akron Ohio USA 44321

Phone: 216/825-4528 collect Or
800/321-9632 toll-free
Cables: ISOLAB AKRON
Telex: 98-6475

ISOCLEAN CONCENTRATE

Radio-Labware Cleaner

The most effective solution anywhere offered for cleansing hot-lab apparatus of adherent radioactivity. Safe and easy-to-use. Proves itself thousands of times daily in research and clinical laboratories throughout the world.

Now available at reasonable cost, internationally, through licensed manufacture to Isolab's exacting specifications, plus national distribution from local stocks.

Contact your nearest Isoclean *licensee or distributor for complete information.*

WESTERN EUROPE
BIOLAB S. A.
Ave. Michel-Ange 8
1040 Brussels, Belgium

IBERIAN PENINSULA
ATOM
Paseo del Monte, 34
Barcelona-12, Spain

SOUTH AFRICA
CHEMLAB Pty. Ltd.
P.O. Box 56218
Pinegowrie, Transvaal, RSA

AUSTRALASIA
S.R.E. Pty. Ltd.
P.O. Box 69
Pennant Hills, N.S.W. 2120

In the U.S. and Canada: Order from any office of Amersham-Searle, Nuclear Associates, Picker and other distributors—or call Isolab collect.

WHY BUY TWO WHEN ONE WILL DO?

Monitor and Survey with the Searle Dual-duty Log Series Meter

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.

SEARLE

Searle Analytic Inc.
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Health Physics
Instrumentation Manager
TOLL FREE 800-323-6015
(In Illinois 312-298-6600 COLLECT)

IN CANADA:
Searle Instrumentation
Division of G. D. Searle & Co. of Canada, Ltd.
400 Iroquois Shore Road
Oakville, Ontario L6H1M5

AHP-324-A

WHY BUY TWO WHEN ONE WILL DO?

Monitor and Survey with the Searle Dual-duty Log Series Meter

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.

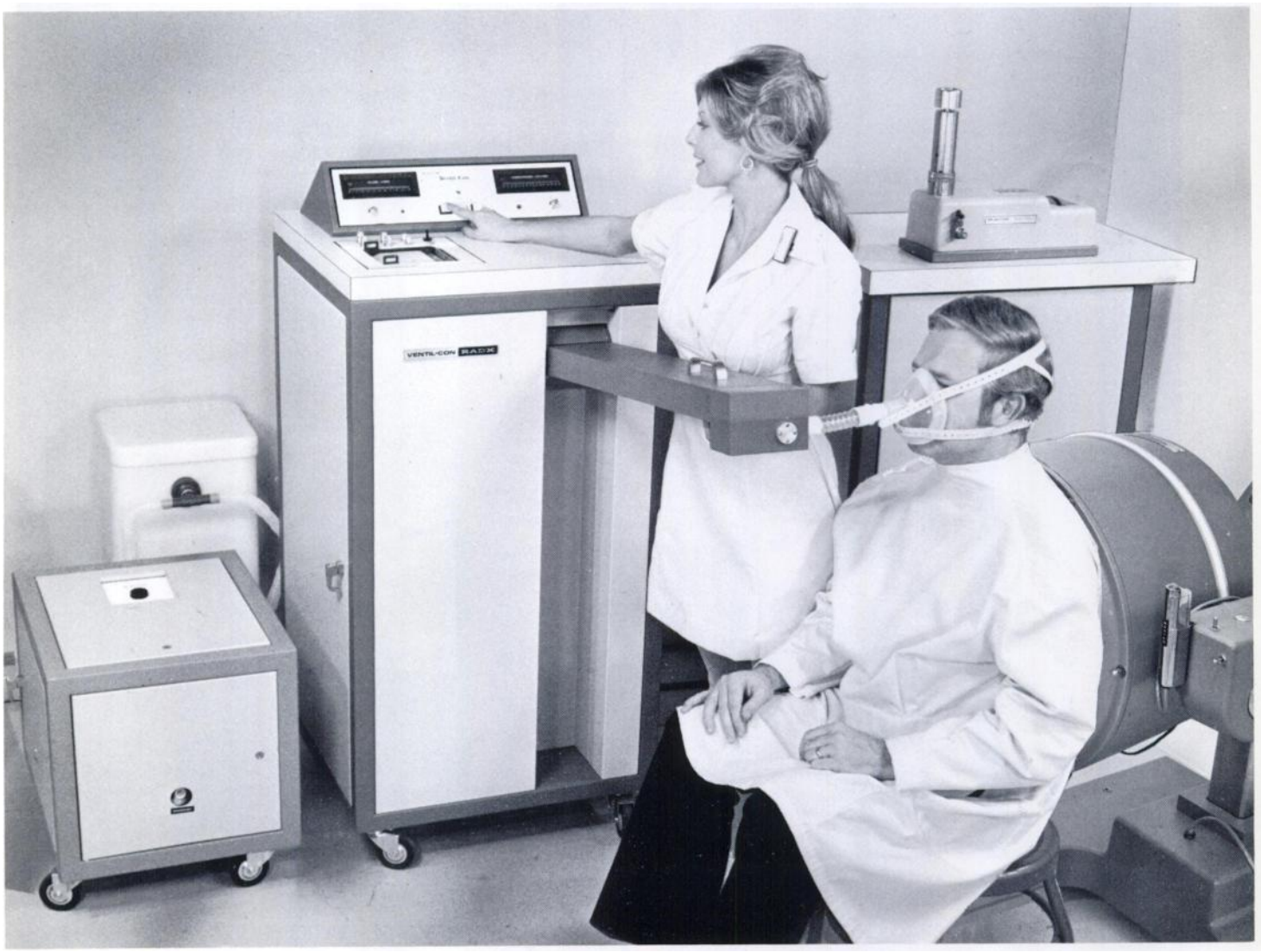
SEARLE

Searle Analytic Inc.
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Health Physics
Instrumentation Manager
TOLL FREE 800-323-6015
(In Illinois 312-298-6600 COLLECT)

IN CANADA:
Searle Instrumentation
Division of G. D. Searle & Co. of Canada, Ltd.
400 Iroquois Shore Road
Oakville, Ontario L6H1M5

AHP-324-A

From START to FINISH...



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?

Monitor and Survey with the Searle Dual-duty Log Series Meter

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.

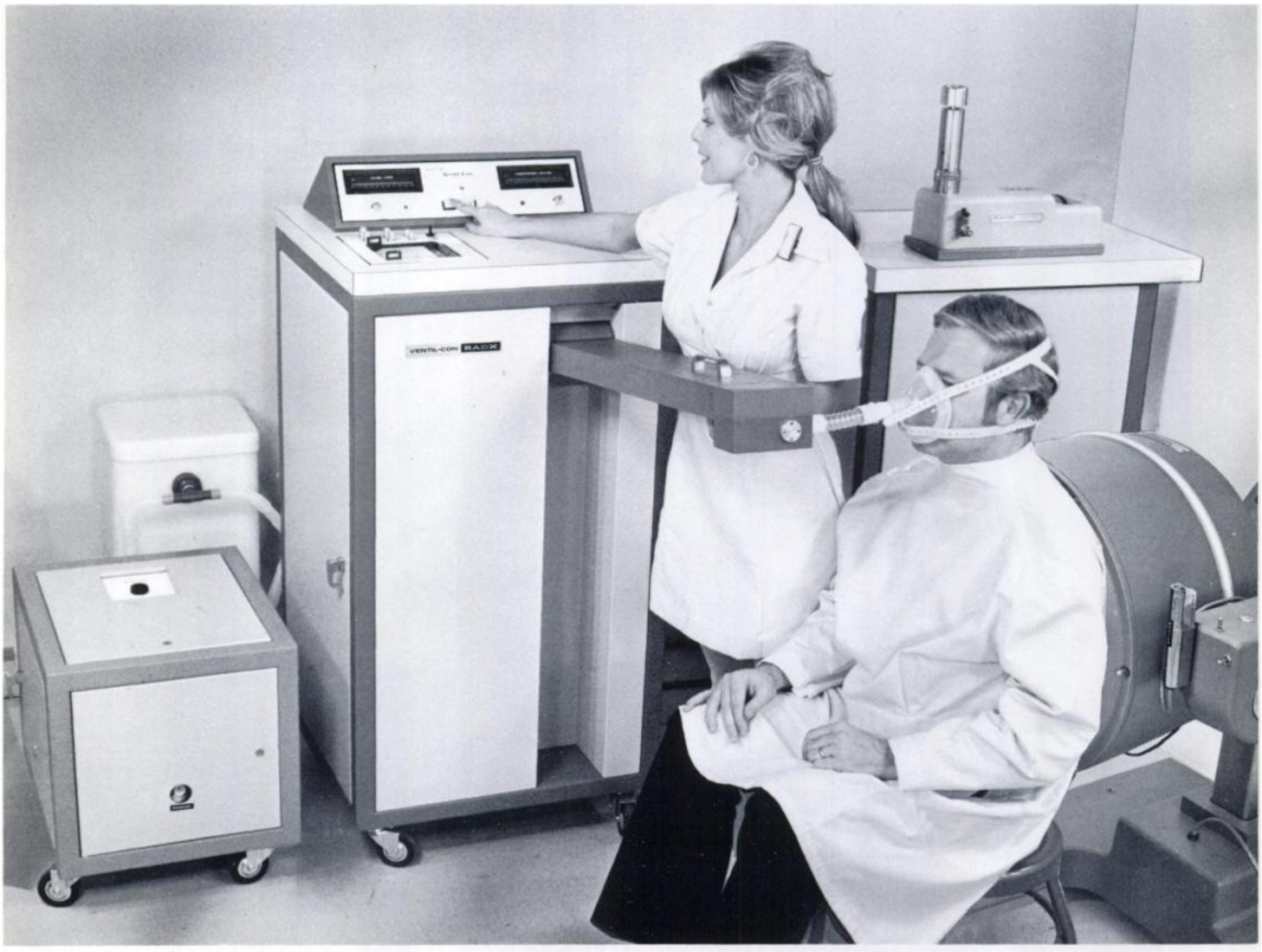
SEARLE

Searle Analytic Inc.
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Health Physics
Instrumentation Manager
TOLL FREE 800-323-6015
(In Illinois 312-298-6600 COLLECT)

IN CANADA:
Searle Instrumentation
Division of G. D. Searle & Co. of Canada, Ltd.
400 Iroquois Shore Road
Oakville, Ontario L6H1M5

AHP-324-A

From START to FINISH...



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?

Monitor and Survey with the Searle Dual-duty Log Series Meter

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.

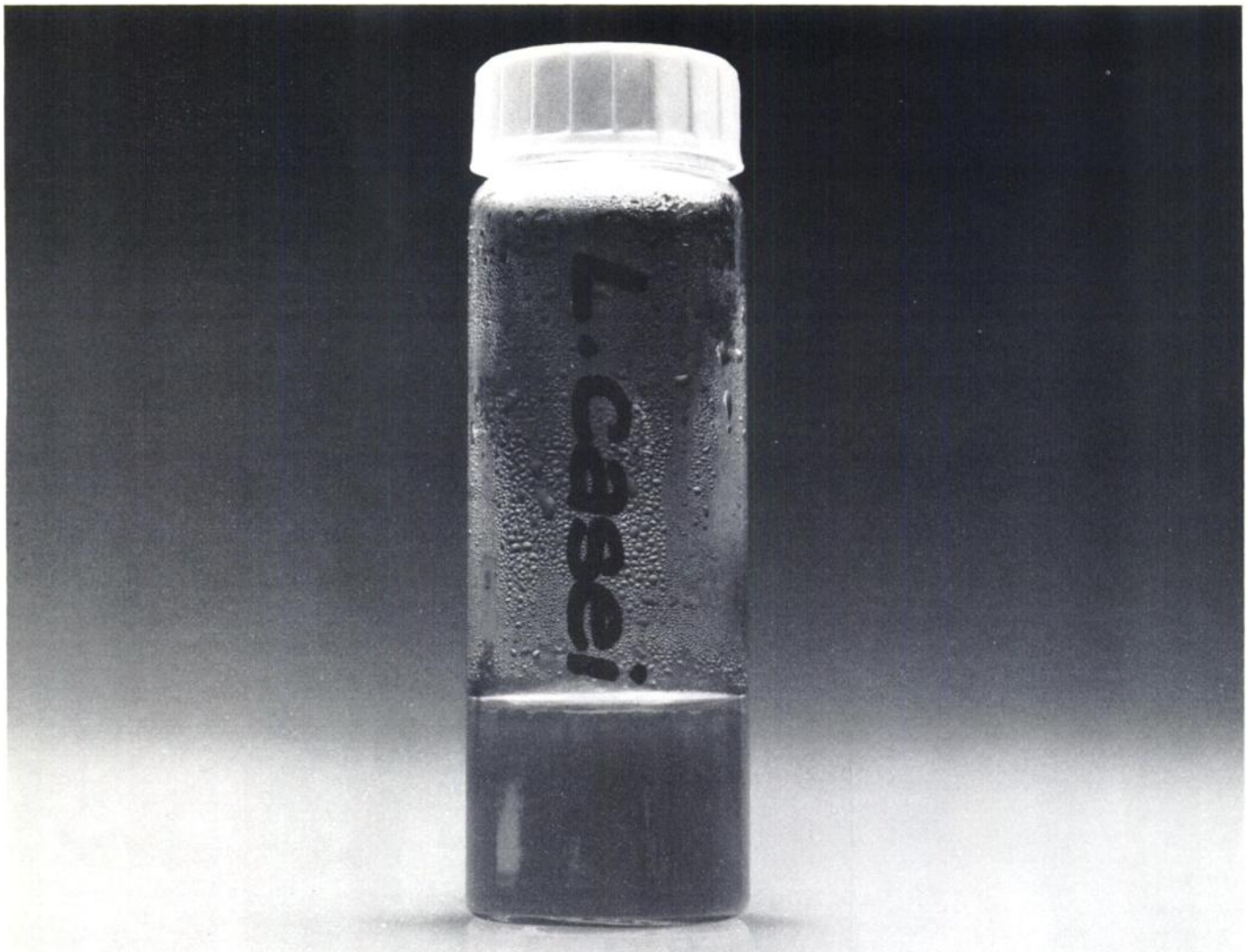
If your laboratory needs an area monitor *and* a survey meter, why pay for two when one will do? Get all the facts about the Searle dual-duty radiation monitors. Just write or call us for complete technical information.

SEARLE

Searle Analytic Inc.
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Health Physics
Instrumentation Manager
TOLL FREE 800-323-6015
(In Illinois 312-298-6600 COLLECT)

IN CANADA:
Searle Instrumentation
Division of G. D. Searle & Co. of Canada, Ltd.
400 Iroquois Shore Road
Oakville, Ontario L6H1M5

AHP-324-A



Is serum folate bioassay now due for retirement?

Until now, bioassay has been the method of choice in folate testing. Even though there are inherent disadvantages in the method, there hasn't been a more reliable alternative.

Now there is, with our new Serum Folate Radioassay which is simpler, faster and more reproducible than bioassay.

Our test is not affected by antibiotics, and is standardised on N^5methyltetrahydrofolate the predominant form of folate circulating in blood. A unique selenium-75 γ-label is used for ease of counting, and the assay has been designed to be most precise in the clinically important range of 1.5–4.0ng/ml.

Added to all these advantages our radioassay only takes 2-3 hours, so who needs bioassay?

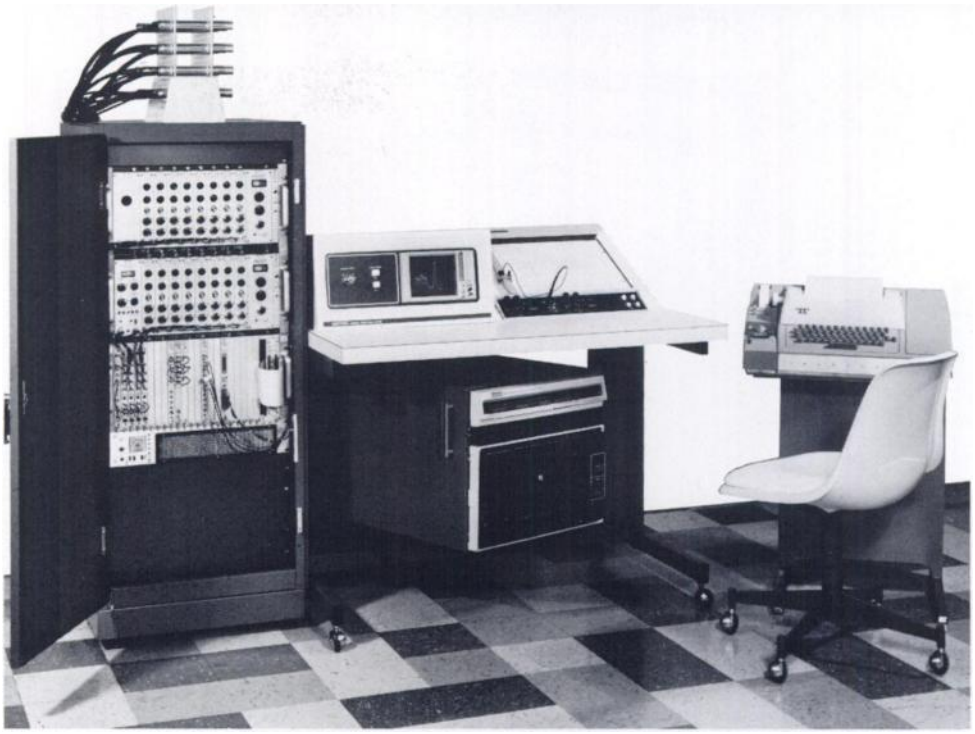
The new Serum Folate Radioassay kit

The Radiochemical Centre Amersham

Full information is available on request.
The Radiochemical Centre Limited, Amersham, England. Telephone: 024-04-4444
In the Americas: Amersham Searle Corp. Illinois 60005. Telephone: 312-593-6300
In W. Germany: Amersham Buchler GmbH & Co KG, Braunschweig. Telephone: 05307-4693-97

0823

When you need that EXTRA capability...



Model 4840/16 Cerebral Blood-Flow System

Solid-state detectors ☑
NIM electronics ☑
MCA's ☑
☑ CAMAC
☑ Computer systems
☑ Scintillation detectors

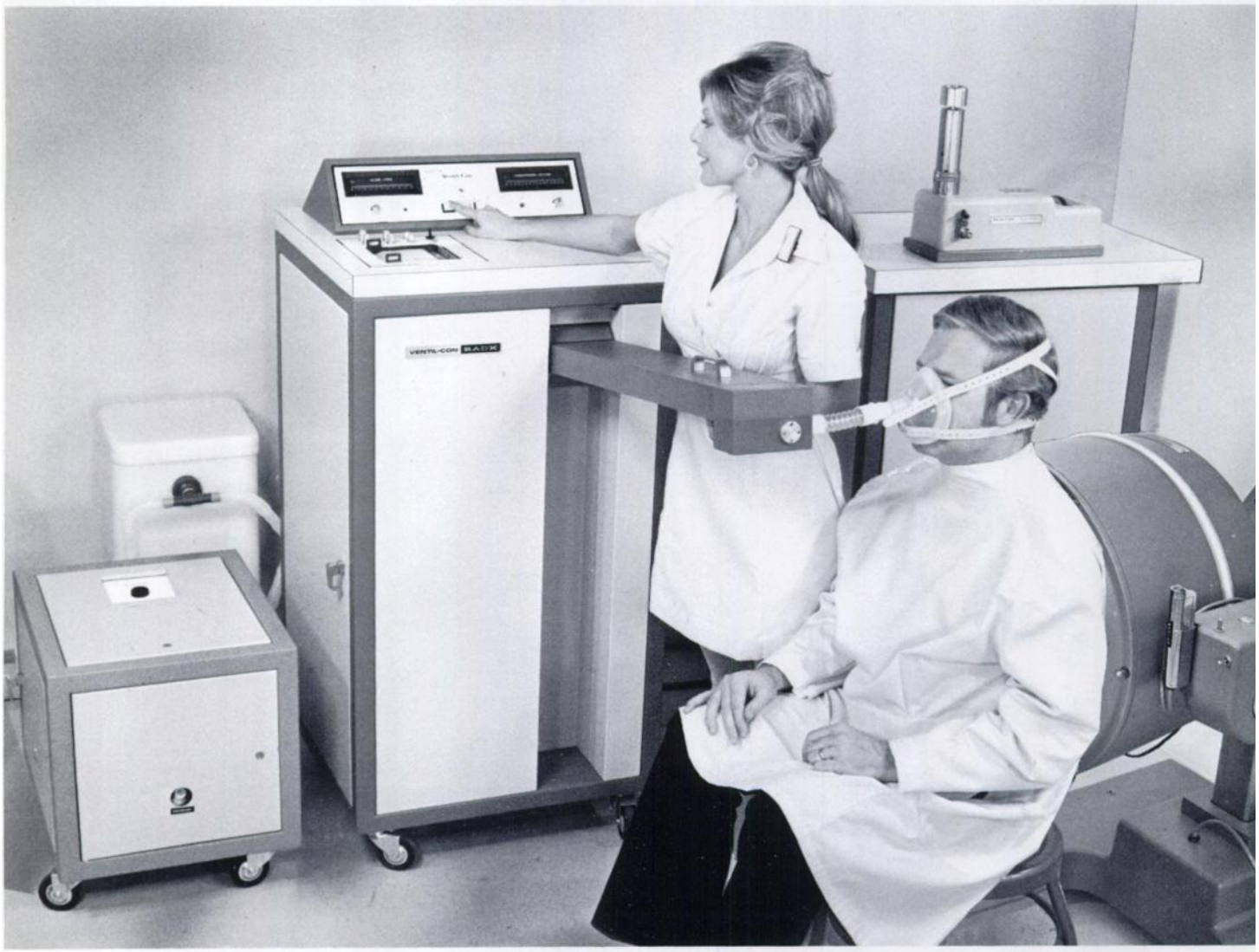
. . . then you should ask yourself this important question: Where else can you obtain all these (plus the experience that goes with them) from one source?

For complete information, write Life Sciences Division, Ortec Incorporated, 110 Midland Road, Oak Ridge, TN 37830; phone (615) 482-4411. Worldwide sales and service.

ORTEC®
AN EG&G COMPANY

Discover what you've been missing.

From START to FINISH...



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.

a ^{133}Xe Gas Control System from RADX

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 98%. 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.

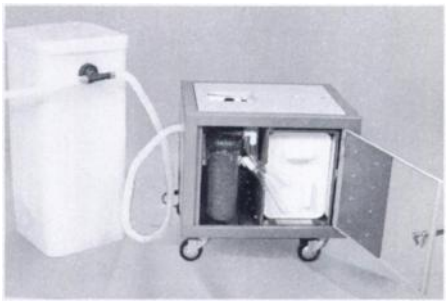
The HEART of the System
Ventil-Con

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:

- GM detector for ^{133}Xe concentration determinations
- Automatic O_2 replenishment
- Manual O_2 replenishment
- Emergency O_2 assist
- Swivel adapter for multiple views available
- 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).

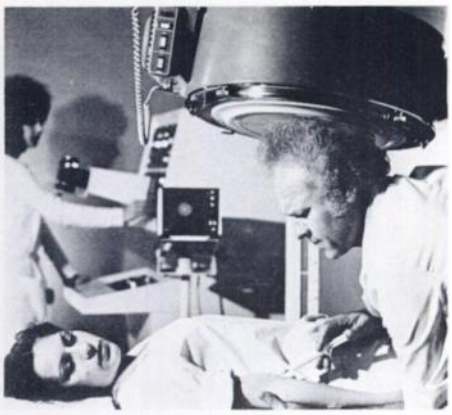
Actually, the Xenon Trap is not the finish because with every piece of Radx equipment goes our one-year warranty, and our commitment to the future needs of nuclear medicine.

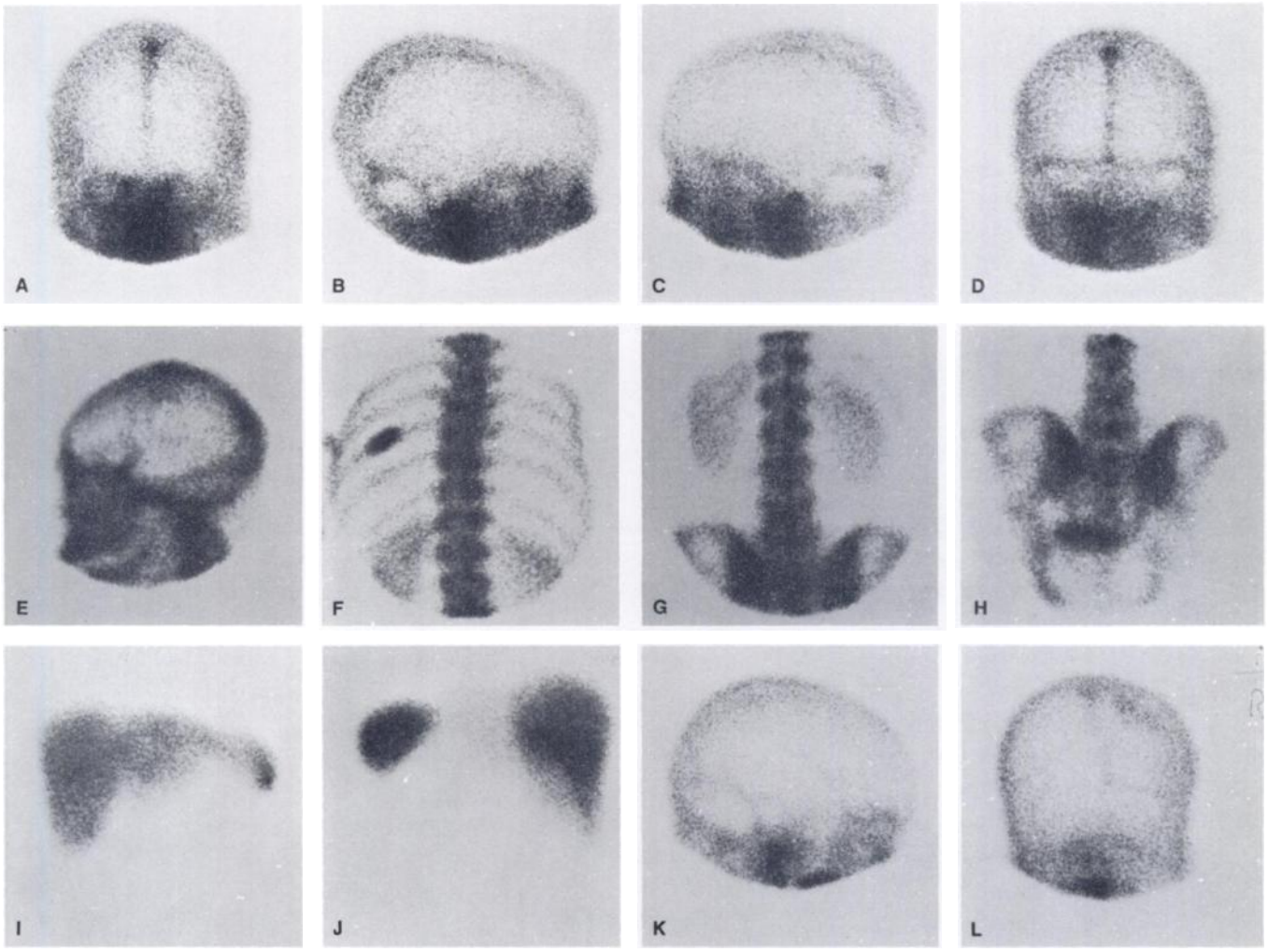
1. Obrist, W. D. et al, "Determination of Regional Cerebral Blood Flow by Inhalation of Xenon-133", Circulation Research, XX,124-134, January 1967.

RADX

P.O. Box 19164, Houston, Texas 77024 • (713) 468-9628

In less time, Elscint Gamma Cameras give you high resolution images like these...





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 ^{99m}Tc pyp; 5 hours post injection.

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

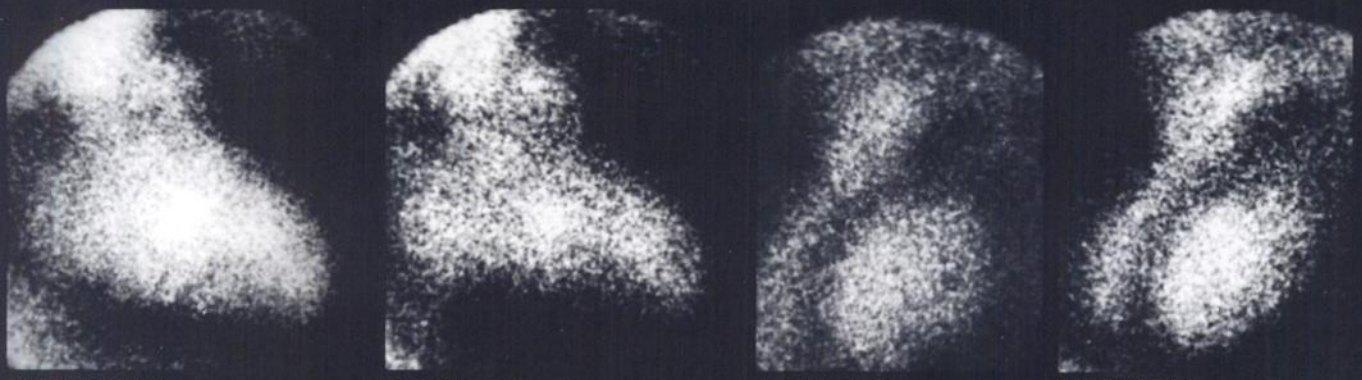
K, L. Right lateral and posterior brain scans with Elscint CE-1-7 (37 p.m.t.) camera: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 15 mCi ^{99m}Tc; 2 hours post injection. 172 sec. for posterior; 169 sec. for right lateral. History: head trauma 2 months prior to brain scan.

elscint inc. ***Where quality counts . . . count on Elscint***

P.O. Box 832; 138-160 Johnson Avenue; Hackensack, N.J. 07602 Tel. (201) 487-5885.

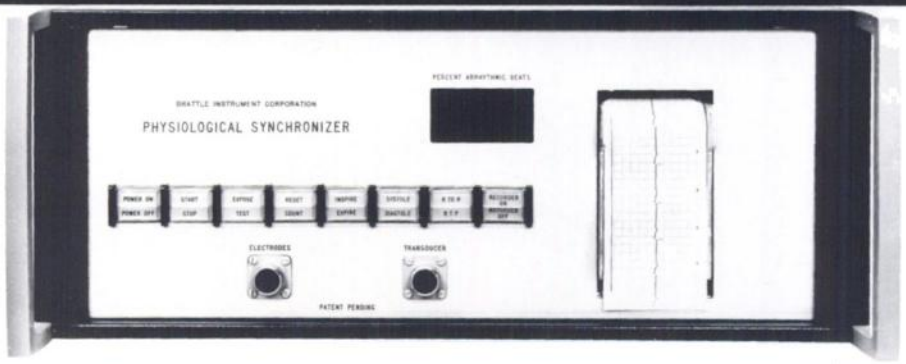
In United Kingdom: Elscint GB, 5 Priestley Way, Crawley Sussex RH102DW. Telephone: Crawley (0293) 21285/6/7. In France: Elscint S.A.R.L., 11 Rue Edouard-Lefebvre 78000 Versailles, Telephone: 950-2767. In Germany: Elscint GMBH, Freudenbergstrasse 27, 62 Wiesbaden-Schierstein, Telephone: (06121) 2786. In other countries: Write to Elscint Ltd., P.O. Box 5258, Haifa, Israel for the office in your country.

Help your cardiologist study heart kinetics non-invasively with Brattle-gated scintiphotos.



RAO, DIASTOLE | RAO, SYSTOLE | LAO, DIASTOLE | LAO, SYSTOLE

The RAO view shows akinesis of the lower antero-lateral wall and apex; and contraction of the inferior wall and high up the antero-lateral wall. The LAO view shows good contraction posteriorly and akinesis of the septal aspect of the chamber. Patient was injected IV with 20mCi of ^{99m}Tc-labelled Human Serum Albumin. The agent was prepared using the New England Nuclear Electrolysis Kit for labelling HSA. Write or call for a portfolio of Brattle-gated lung, liver and heart studies.



No knobs, no meters, no errors
The spartan panel above tells the second-best part of our story. If you want to photograph peak systole, press the SYSTOLE button. If, say, you want systole only at full expiration, press the EXPIRATION button as well. If only breathing is relevant, don't press the heart button.

The Brattle is connected to the patient and to your gamma (or x-ray or ultrasonic) camera. Whenever the patient is in the selected phase, both the scope and the scaler on your gamma camera are gated ON, and film is exposed. Otherwise, they are OFF.

Brattles lock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath
It's easy. And we supply disposable, pre-filled electrodes.

Some Brattles have been in clinical use for over three years—in community and major hospitals
More than half of our instruments are in community hospitals and the list is growing rapidly. Upon request, we'll supply names of happy users in your area.

What's the next step? Get in touch
Ask your NEN man about Brattles and HSA Kits. He can show you a portfolio of clinical pictures and arrange to have one of our people give you a demo. Or write or call us direct. We'll send you brochures on this and other models, and will give you your own set of clinical pictures and a bibliography on gated scintigraphy. If you wish, we'll even make you a Brattle owner. (This is the best part of our story.)

Brattle Instrument Corporation

243 Vassar Street • Cambridge, Massachusetts 02139 • 617-661-0300

You are entering a remarkable era of diagnostic advancement. Instead of being limited to a single imaging method, you will take advantage of many techniques, choosing them to meet your specific diagnostic criteria and the condition of your patient.

Searle is helping shape this era of advancement. Over the past decade, guided by your needs, we have developed sophisticated nuclear imaging instruments to a high degree of performance. Now, the knowledge gained during that time is being applied to the creation of instrumentation in the fields of ultrasound and CT scanning.

What Searle developed yesterday in nuclear imaging, the medical community relies on today. And *today* we are planning significant advances in ultrasonic, CT, and nuclear imaging. Tomorrow is in view.

IMAGING:
The Living Art

SEARLE

Searle Radiographics Inc.
Subsidiary of G. D. Searle & Co.

SR-514