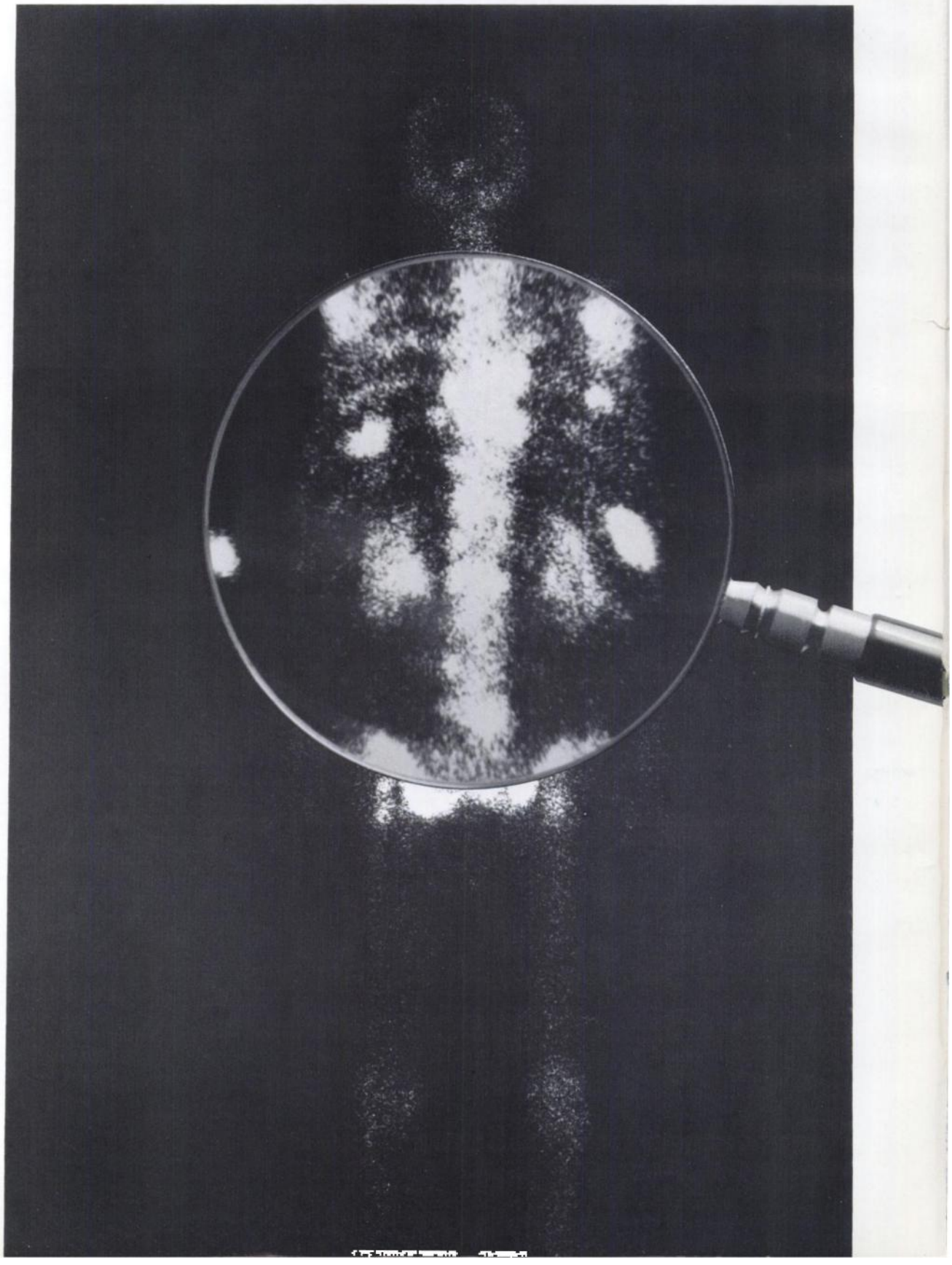
The Bone



Seeker

MPI STANNOUS DIPHOSPHONATE (TECHNETIUM Tc 99m ETIDRONATE KIT) CONSISTENTLY SEEKS BONE... AND BONE LESIONS.

MPI Stannous Diphosphonate targets areas of diagnostic significance. Its reliability is magnified with:

Rapid Blood Clearance. The P-C-P bond of diphosphonate resists hydrolysis; clears the kidneys rapidly. Optimum imaging time is in two to four hours.

Increased Stability. Ascorbic acid within the reagent aids in maintaining tin in its reduced state. The ^{99m}Tc pertechnetate stays where it belongs...tagged to the reagent.

Optimum Tin Levels. The Sn(II) level provides high labeling efficiency, with minimum interference with subsequent brain scans.

Investigate the economy of MPI Stannous Diphosphonate

You can use up to 8 ml of 5 to 15 mCi ^{99m}Tc in each vial. The reagent is usable for six hours after labeling.

You also have no delivery charges when you order MPI Stannous Diphosphonate with any other MPI products.

Ask your Medi-Physics representative about our economical, reliable delivery procedures ....or call toll free:

(800) 227-0483—Outside California
(800) 772-2446—Inside California

medi+physics™

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

MPI Stannous Diphosphonate
Technetium Tc 99m Etidronate Kit-Diagnostic

DESCRIPTION: Each ampul contains a total of 1.54 mg of the sodium salt of etidronate, 0.42 mg stannous chloride, and 3.87 mg ascorbic acid in a 2.2-ml sterile, pyrogen-free aqueous solution. Hydrochloric acid and/or sodium hydroxide may have been added to adjust the pH to 2.5-5.0. The solution is under a nitrogen atmosphere. A complex is formed with the addition to the reagent of sterile, pyrogen-free sodium pertechnetate Tc 99m in isotonic saline.

INDICATIONS: Technetium Tc 99m etidronate is used as a bone imaging agent to delineate areas of altered osteogenesis.

CONTRAINDICATIONS: None known.

WARNINGS: This radiopharmaceutical should not be administered to children, pregnant women, or nursing mothers unless the expected benefit outweighs the potential risk. Radiopharmaceutical examinations of women of childbearing capability should be performed during the first few days following the onset of menses.

PRECAUTIONS: To minimize radiation dose to the bladder, the patient should be encouraged to drink fluids and void when the examination is completed and as often thereafter as possible for the next 4-6 hours. Where feasible, brain scans should precede bone imaging procedures. Technetium Tc 99m etidronate should be formulated, following aseptic procedures, within 6 hours prior to clinical use.

ADVERSE REACTIONS: Seven suspected reactions to technetium Tc 99m etidronate were reported in more than 22,500 clinical reports. There were two instances each of headaches and allergic reactions and one each of vomiting, rheumatoid arthritis flare-up, and skin rash.

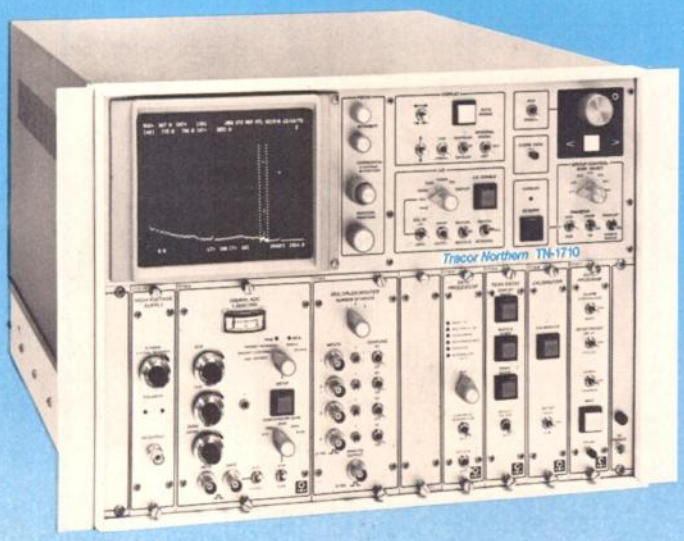
DOSAGE AND ADMINISTRATION: The suggested adult dose is 5-15 mCi administered by slow I.V. injection. Do not administer more than 2.0 ml of unlabeled reagent per patient. Measure the patient dose with a suitable radioactivity calibration system immediately prior to administration. Scanning post-injection is optimal at 2-4 hours.

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

HOW SUPPLIED: Each kit package contains five sealed glass ampuls as described above, five sterile, pyrogen-free mixing vials, five each of mixing-vial and record labels and one package insert. Store at 5°-8°C; protect from light.

NEW FROM
TRACOR NORTHERN

TN-1710 MICROCOMPUTER BASED MODULAR MCA



Low-priced Compact Powerful features.

The TN-1710 features the new LSI-11* microcomputer, far superior to simple microprocessor components for power and flexibility. The TN-1710 also offers a wide range of modules so you can be sure of a system tailored to your needs. This innovative data acquisition system is available now at a remarkably low price.

STANDARD FEATURES

- Large 6.5" CRT display with alphanumeric character generator
- Simultaneous acquisition and spectral readout
- Log display plus Tracor Northern's exclusive autoranging feature
- Regions of interest with gross integral and net integral above background
- Unique bipolar or unipolar memory display
- Cursor for region of interest and individual channel selection
- LSI-11* microcomputer-based
- Field expandable with extra memory and new function modules
- Additive and subtractive transfer
- X-Y analog output for recorders or plotters with alphanumeric character plotting
- New modular chassis capable of housing a wide variety of ADC and scaling inputs plus many data processing and display options
- Interface for teletype or serial printer
- Multiple regions of interest with overlapping region limits

SIGNAL INPUT MODULES AVAILABLE

- Choice of 50, 100 or 200 MHz ADCs
- Multiple input scalers (MCS)
- Preamplifier/amplifier for scintillation detectors
- Detector high voltage supplies, 2kV or 5kV
- Multiplex/routers for multiple PHA inputs

DATA PROCESSING MODULES AVAILABLE

- Energy and time calibration for PHA/MCS data
- Data processing including smoothing, stripping, normalization, plus spectrum integration and differentiation
- Automatic learn mode for operation of complex analysis sequences
- Peak or region of interest ratio
- X-ray, K, L and M line markers

INPUT/OUTPUT INTERFACES AVAILABLE

- EIA, RS-232C
- Parallel printer interface
- Paper tape punch and reader
- Floppy disk

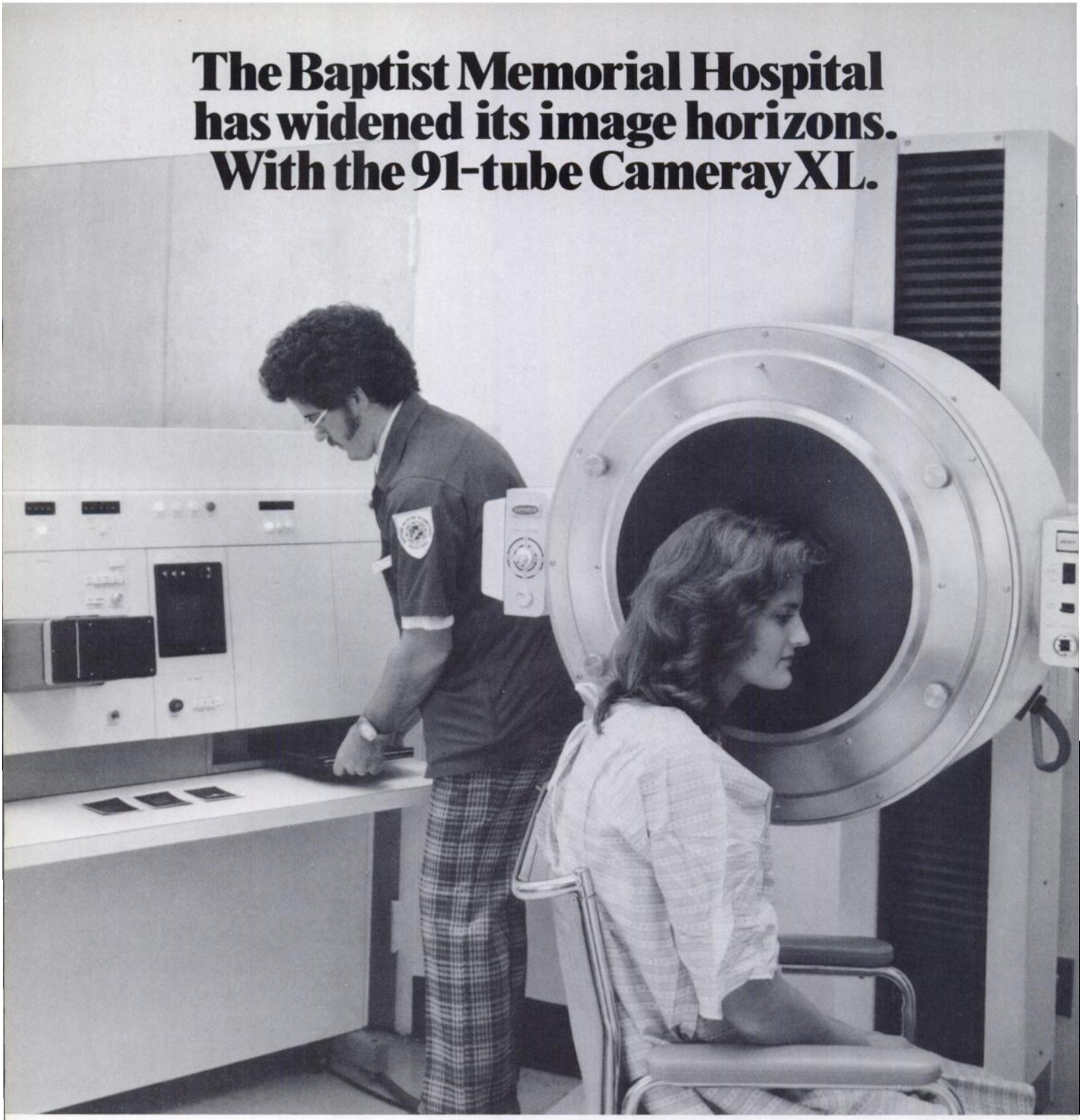
Tracor Northern

Tracor Europa B.V.
Schiphol Airport Amsterdam
Building 106, The Netherlands
Telephone (020) 41 18 65
Telex 13695

2551 West Beltline Highway
Middleton, Wisconsin 53562
(608) 831-6511
TWX-910-280-2521

*LSI-11 is a registered trademark of the Digital Equipment Corp.

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.

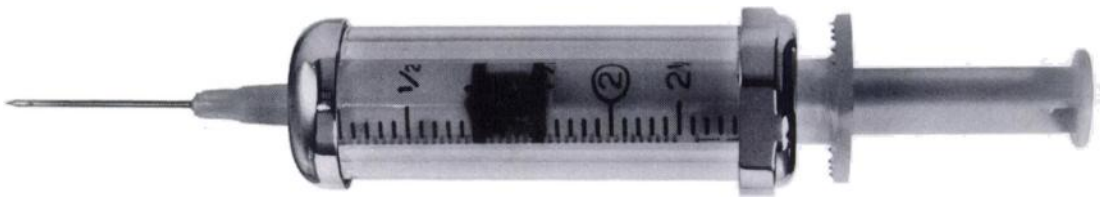
And Cameray XL-91 offers you a choice of console combinations. Or, if you're already a Cameray II owner, a quick conversion. So widen your image horizons. With Cameray XL-91. Contact Raytheon's Medical Electronics Operation, Fourth Avenue, Burlington, Mass. 01803. (617) 272-7270.

RAYTHEON

A distinguished family.

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

CANADA: NEN Canada Ltd., 2453 46th Avenue, Lachine, Que. H7T 3C9, Telephone: 514-636-4971, Telex: 05-821808
EUROPE: NEN Chemicals GmbH, D-6072 Dreieich, W. Germany, Daimlerstrasse 23, Postfach 401240, Telephone: (06103) 85034, Telex: 4-17993 NEN D



Now.
A syringe shield that offers nearly as much visibility as the syringe itself.

360 degree visibility.
Lightweight. Easy to handle.
Quick, smooth insertion and removal with an "O" ring seal.
Safe. Made of Hi-D® lead glass (6.2gm/cm³).
Reduces exposure of ^{99m}Tc by a factor of 70.

Anti-roll design.
Professional appearance reduces patient anxiety.
No shielding leakage.
Models for 1cc, 3cc and 5cc syringes with or without Luer Locks.
Available for immediate shipment.

Developed by a company with 27 years experience in radiation shielding.
Currently in use in hospitals worldwide.

*3cc syringe shown actual size.

Prices as low as $94 each.
Additional price information on request. Pat. Pend.

Nuclear Pacific, Inc.

For additional information, contact: Nuclear Pacific, Inc. 6701 Sixth Avenue So. Seattle, Wa. 98108 (206) 763-2170

*Registered U.S. Patent Office. Platinum melted ultra high density optical glass.

Varian Clinical Computation Systems

New Dimensions in Advanced Computer Applications

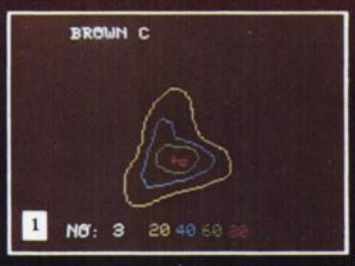
The fast and flexible Varian V-70 series minicomputers and supporting software have, through application in the Varian CT scanner and other medical equipment, proven to be ideal for clinical use. Varian's real-time, multi-task operating systems VORTEX and BETA give wide flexibility and ease of use for busy, patient-oriented environments. Combined with Varian special application software, Varian systems put the most advanced digital data-processing tools at the medical staff's fingertips.

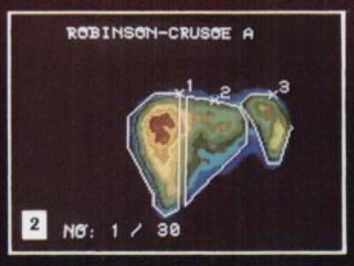
The first standardized clinical system introduced by Varian was VARICAM, a comprehensive nuclear medicine data processing system, now in use in many hospitals around the world. Gamma camera raw-data are directly input to VARICAM and submitted to data processing procedures according to simple operator instructions. VARICAM gives the user unique options for developing his own processing protocols and manipulating data output format. VARICAM processed data are displayed in video black and white, color, or as life-sized hard-copy by the remarkable Varian STATOS® electro-static printer/plotter.

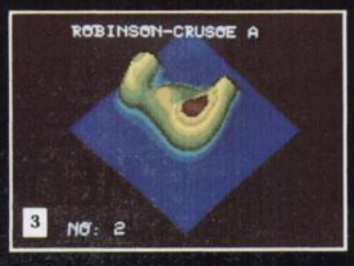
Varian computers are used for many other clinical applications including radiotherapy planning, ultra-sound image processing, electro-cardiology diagnosis, and intensive care monitoring.

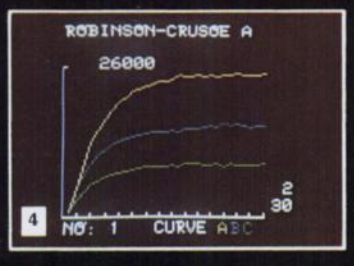
Write Varian Radiation Division, 611 Hansen Way, Palo Alto, CA 94303

varian









1 Contour map of embolized lung in left lateral view.

2 Dynamic liver examination showing Regions of Interest as defined by operator.

3 Isometric view of summed matrix of dynamic liver examination.

4 Curves formed from each Region of Interest shown in 2.

KODAK: HELPING TURN ENERGY INTO IMAGES.

RADIOGRAPHY · COMPUTERIZED TOMOGRAPHY
ULTRASOUND · NUCLEAR MEDICINE · THERMOGRAPHY

Kodak products. For the constant imaging needs of today's radiography.

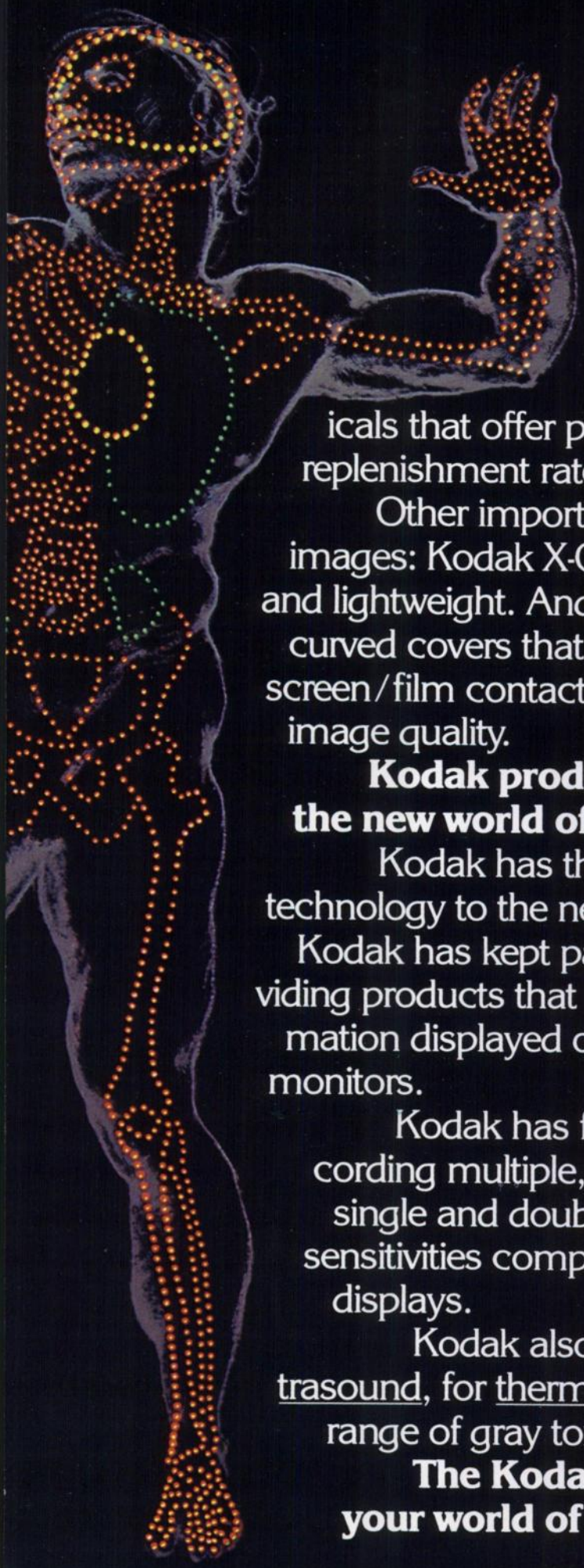
Kodak's role in diagnostic imaging stems from almost a century of expertise in photography—out of which Kodak has built a background of expertise in radiography.

And this translates into Kodak products: quality medical x-ray films and intensifying screens that interact with energy to help create diagnostic images.

For general radiography:
Kodak X-Omat RP film—a high-contrast, fast film, providing excellent detail; Kodak X-Omat L film—a wide-latitude film that can record a wide range of tissue densities; Kodak X-Omat G film—a high-contrast film, providing excellent sharpness of detail with a low quantum mottle graininess. And many others... plus Kodak Lanex screens which, when used with Kodak ortho G film, provide increased speed and reduced patient exposure.

For special imaging technics:
Kodak X-Omat subtraction masking film, as well as Kodak films for radiation therapy monitoring, for duplicating, for cinefluorography, for spot filming, and for photofluorography, and Kodak Min-R screen and film for mammography.

All of these films can be automatically processed in the dependable, 90-second Kodak RP X-Omat processor, model M6A-N—for high-volume radiography; or the smaller, compact, 150-second Kodak RP X-Omat processor, model M7A—for satellite areas. The model



M7A processor uses tap water to wash films, saves on water heating costs. The model M7A processor also offers an energy-saving, standby-control unit that conserves power when the processor is not in use. Both processors can use our carefully formulated chemicals that offer potential economies through lower replenishment rates.

Other important tools for turning energy into images: Kodak X-Omatic cassettes. They're durable and lightweight. And they have specially designed curved covers that roll out air to create an intimate screen/film contact when closed, for consistently high image quality.

Kodak products. For the changing needs of the new world of diagnostic imaging.

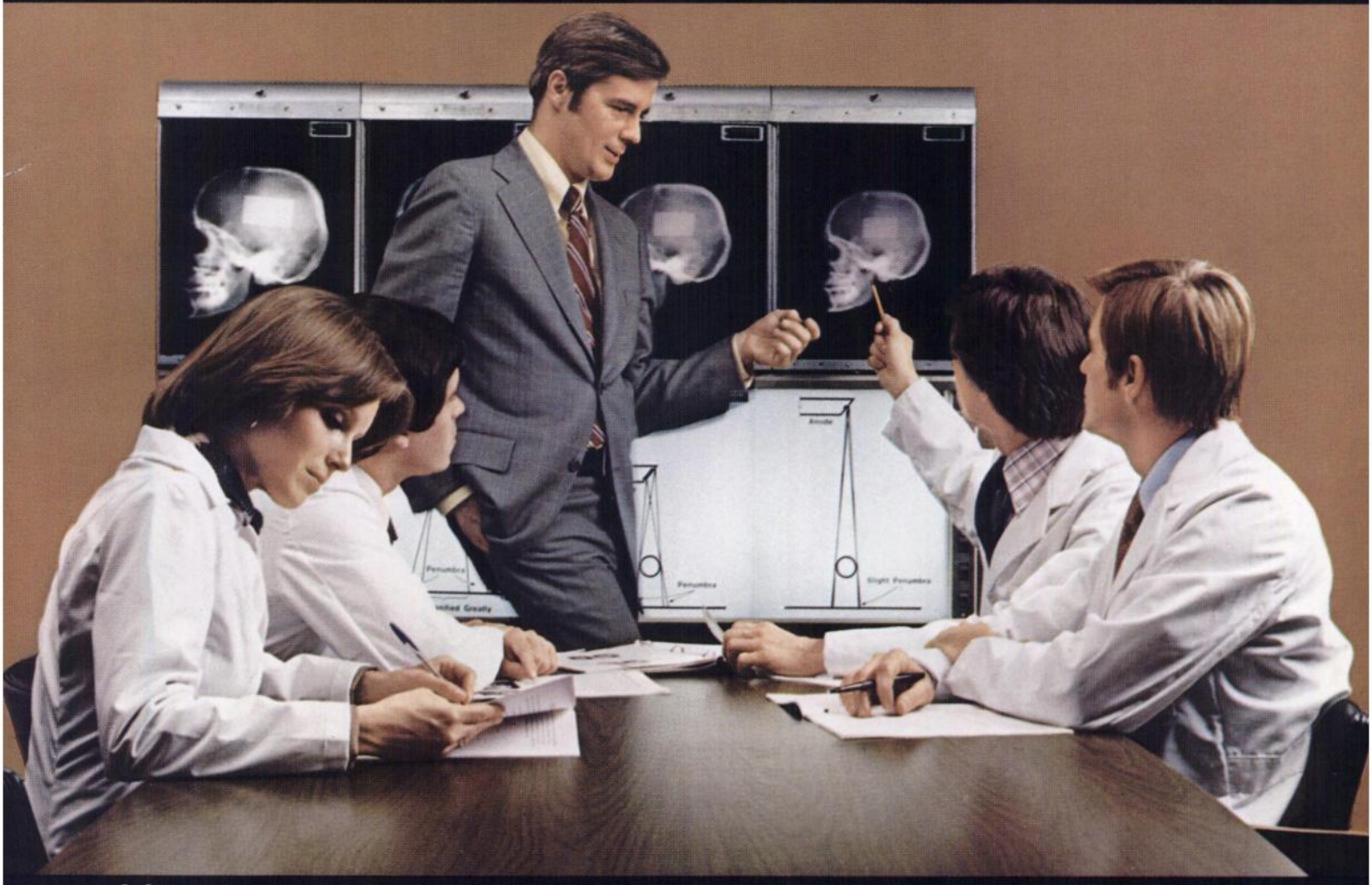
Kodak has the expertise in how to apply imaging technology to the new diagnostic modalities. And Kodak has kept pace with the growing needs by providing products that can accurately record the information displayed on cathode-ray tubes or video monitors.

Kodak has films for nuclear medicine; for recording multiple, single, or dynamic images. Both single and double emulsion films. With spectral sensitivities compatible with cathode-ray tube displays.

Kodak also has films for CT scanning, for ultrasound, for thermography that can capture a wide range of gray tones.

The Kodak TSR: The logical link with your world of diagnostic imaging.

Your needs direct the extent of Kodak's help to you and your staff—through the services of your Kodak Technical Sales Representative whose qualifications are based on extensive training and experience in diagnostic imaging. Your Kodak TSR offers personal service and technical expertise directed to producing quality results on the view box. Your TSR can also arrange for seminars, lectures, special training courses for technologists, maintenance training for personnel involved with processors . . . or provide manuals, product brochures, technical



publications, technical aid materials, slide lectures, medical charts and audiovisual presentations. Contact your TSR to help you get the most out of your Kodak products and to help you get the most out of your x-ray department. Or consult your medical x-ray products dealer. Or write:
Eastman Kodak Company, Dept. 740-B,
Rochester, New York 14650.

TURNING ENERGY INTO IMAGES

RADIOGRAPHY • COMPUTERIZED TOMOGRAPHY
ULTRASOUND • NUCLEAR MEDICINE • THERMOGRAPHY

When NDL and DSI asked they meant mobile.

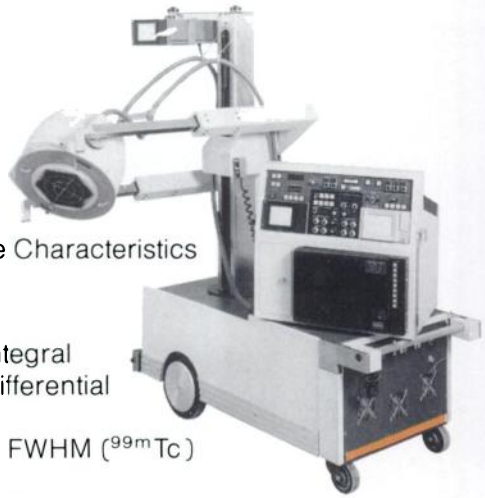
George West and Bill Hinkle, the presidents of Nuclear Diagnostic Laboratories of Irving, Texas and Diagnostic Services Incorporated of Buena Park, Calif., are in the business of taking the latest in medical technology and equipment to hospitals on an "as-required" basis. So when they each decided to put mobile gamma cameras in trucks to improve the quality of the mobile services they offer in their areas, they made exhaustive studies of the equipment available to them.

Their choices? Ohio-Nuclear Sigma 420 mobile gamma cameras with MPC (micro-processor control).

Why Ohio-Nuclear? "Reliability," according to George West. "We have to be able to schedule with certainty, to know our equipment will be available when it is needed. It has to be ready to provide optimum uniformity and resolution as soon as it is wheeled into the hospital. Ohio-Nuclear cameras give us that assurance. They offer us the best value for our investment."

"We have to offer the highest quality instrumentation available, in order to compete in our market area," Bill Hinkle stressed. "We picked Ohio-Nuclear because we think it gives us that. It's reliable, MPC is the most advanced state of the art technology available today, and the Ohio-Nuclear cameras don't lose any of the quality of the images they produce despite being transported in a truck."

Ohio-Nuclear gave them what they wanted.



Sigma 420
Performance Characteristics

Uniformity
- ±5% Integral
- ±3% Differential

Resolution
- 4.5mm FWHM (^{99m}Tc)

Count Rate
- 200K cps

for mobile gamma cameras,

Reliability is only one factor.
Several other factors helped persuade NDL and DSI.

- The Sigma 420 has the same outstanding uniformity, resolution, and count characteristics as the Ohio-Nuclear Sigma 400 and 410 Series stationary cameras.
- Power drive makes the Sigma 420 easy to move and maneuver.
- With no foot to go under the patient bed, the Sigma 420 can be used in almost any room, regardless of the equipment in the room.
- A built-in data system allows post-study data manipulation and analysis.
- Built-in head protection increases reliability.
- The Sigma 420 maintains high voltage to the PM tubes at all times. This allows instant response with no degradation in uniformity.

Nuclear Diagnostic Laboratories serves the five-state area of Texas, Oklahoma, Arkansas, Louisiana and Mississippi with a complete nuclear medicine and electroencephalographic laboratory. Diagnostic Services Incorporated serves a 2,500-square mile area of Orange and Los Angeles Counties with nuclear medicine, ultrasound and echocardiography.

Despite the vast differences in their operations, both companies decided on Ohio-Nuclear Sigma cameras.

If Ohio-Nuclear Sigma Series cameras can perform that well for them, under those conditions, imagine how well a Sigma 400, 410 or 420 could serve your nuclear medicine department.

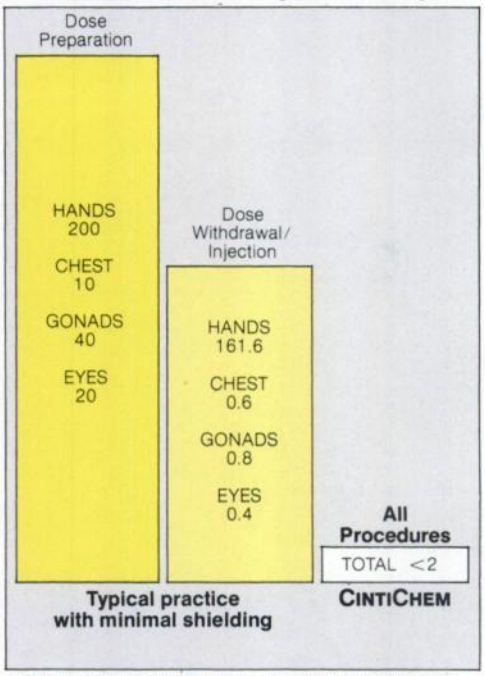
ohio-nuclear, inc.
A subsidiary of Technicare Corporation
29100 Aurora Road, Solon, Ohio 44139
Phone: (216) 248-8500
TWX No. 810-427-2696

UNBURDEN

Radiation safety is always a compromise. The ideal exposure is none. The protective clothing shown is not always practical. That's why we've "tamed" technetium and put it into a unit-dose system that makes it easier and safer to handle.

The CINTICHEM® System reduces both the radiation burden and the labor of imaging agent preparation by effective shielding and by automating isotope measurement, dose volume calculations, dose preparation and final dose assay.

RELATIVE ABSORBED RADIATION DOSE (in mrem/hr)



Source of Data: F. D. Rollo, M.D., PhD., Associate Professor of Medicine & Radiology, University of California, San Francisco, and Director, Nuclear Medicine Service, Veterans Administration Hospital, San Francisco. Data on file.

YOURSELF.

At the same time, it reduces the 24 typical steps in the manual method of preparing the initial patient dose—and the 13 in subsequent doses—to just five each. The CINTICHEM Dispenser constantly subtracts background activity and displays available technetium concentration, checks for moly breakthrough, makes two independent measurements of the dispensed dose, and signals you if anything's amiss.

Chances of reagent stability problems occurring are lessened and decay calculations are eliminated because each dose is prepared as needed, not before. The unique lead glass syringe shield allows you to withdraw accurate doses with rapid visual observation. And throughout the system, strict Union Carbide quality control assures you of accurate, safe agent preparation with dependable, rugged, precise equipment.

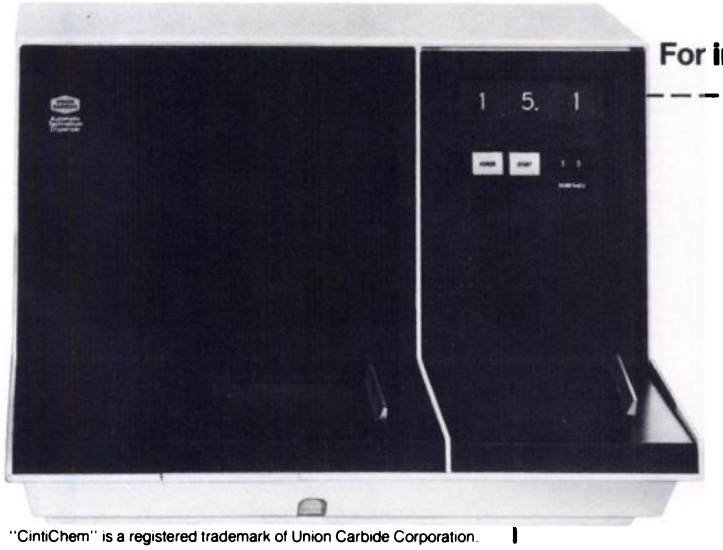
You can unburden yourself from radiation safety problems in imaging agent preparation. The CINTICHEM System tames technetium to help you do it.

UNION CARBIDE

CintiChem®

Automated ^{99m}Tc Unit-Dose Delivery System

SYSTEMATICALLY SAFER.



"CintiChem" is a registered trademark of Union Carbide Corporation.

For information call toll-free (800) 431-1146. Or write:

NM4

Union Carbide Corporation
Clinical Diagnostics
401 Theodore Fremd Avenue
Rye, New York 10580

☐ Send me literature on the CINTICHEM System.
☐ Have your representative call for an appointment.

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Position_____

Organization_____

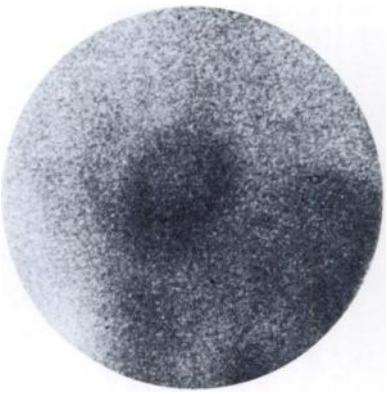
Address_____

City_____ State_____ Zip_____

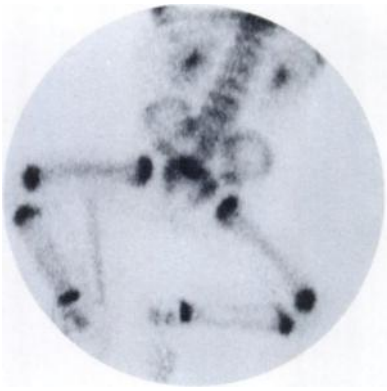
Tel. area code (_____) Number_____

How to find a small lesion in any body.

Pediatric Bone Study
Upper Torso
^{99m}Tc-Pyrophosphate



Cardiac Study
^{201}Thallium
LAO View

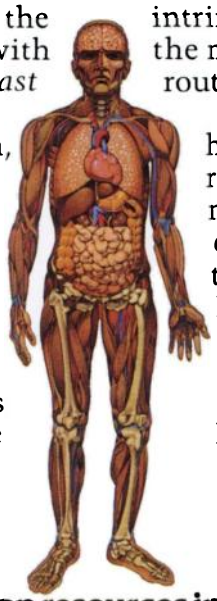


Pediatric Bone Study
Lower Torso
^{99m}Tc-Pyrophosphate

Regardless of your particular application, the Dyna®Camera 4/11 will provide studies with a degree of resolution and *Clinical Contrast* never before available.

This superb, state-of-the-art detector system, with unmatched energy resolution for improved scatter rejection, greatly enhances the probability of revealing deep-seated abnormalities exhibiting poor object contrast ratios.

Small lesion detection is unsurpassed with the DynaCamera 4/11's 2.1mm (1/12") intrinsic resolution. Combined with its high energy resolution (less than 13%), the intrinsic resolution of this system will provide the most revealing images ever observed on a routine basis.



This is another example of Picker's unique human resources benefiting you. It's a result of our expertise in the diagnostic modalities of nuclear, x-ray, ultrasound, computed tomography, clinical laboratory, therapy, film systems and supplies. Only Picker has all these resources.

Talk to your Picker representative about our unique 11" detector. Or write Picker Corporation, 12 Clintonville Road, Northford, CT 06472.

Discover the human resources in Picker'synergy

PICKER®

ONE OF THE C.I.T. COMPANIES

UL listed

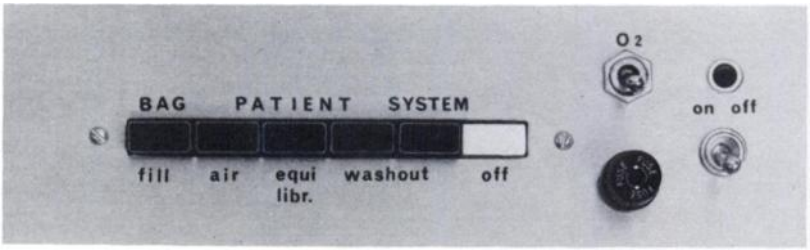
NEW... automatic XDS (Xenon Delivery System)

For the busy department that demands operating ease, speed and efficiency in ventilation and perfusion studies using any radioactive xenon

- Push-button control.
- All functions facilitated by two internal blowers.
- Resistance-free patient breathing.
- Uses 20-liter breathing bags in fully-shielded chamber.
- Accepts any radioactive xenon... ^{133}Xe, ^{127}Xe, ^{125}Xe.

XDS makes lung function studies easier for both the patient and the technologist. With "up-front" push-button controls and two internal blowers doing the work, the patient enjoys resistance-free breathing; the technologist has full control of each programmed function at his fingertips. Studies are fast, efficient and effortless.

XDS— the system with the versatility and performance features of more-expensive systems.



Control Panel
Each programmed function is controlled by two in-system blowers which are independent of the patient's breathing efforts. From "Fill" to "System Washout" the blowers automatically balance the breathing circuits, providing resistance-free patient breathing and complete system clearance.

For full details, write for Bulletin 217-H

NUCLEAR ASSOCIATES, INC.
Subsidiary of
RADIATION-MEDICAL PRODUCTS CORP.
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J&S Model 145A Portable Localization Monitor for I-125 Labeled Fibrinogen Scanning.

Early detection of deep vein thrombosis of the legs can be accomplished using I-125 labelled fibrinogen and the Model 145A. The leg is scanned after intravenous injection of the labelled fibrinogen. As a thrombosis develops, the radio-active fibrinogen is detected at predetermined points and measured directly as a percentage of the pre-cordial count.

Handily compact and portable, with standard D cell battery operation providing at least 100 hours of uncycled use, the 145A Localization Monitor offers unlimited isotope selection, stainless steel collimator, and solid state design.

Features

- Direct *Percentage* Analog Display
- Compact & Portable (6½ lbs including batteries & probe)
- Powered by 3 flashlight batteries (No A.C. Hazards)
- Unlimited Isotope Selection

Specifications

Range: Percent Scale — 0-120%
CPS Scale — 30, 100, 300, 1000, 3000 CPS

Meter Response: Fast — 2 seconds
Slow — 14 seconds

Dimensions: 4½″ H × 5½″ W × 8″ L (exclusive of handle)

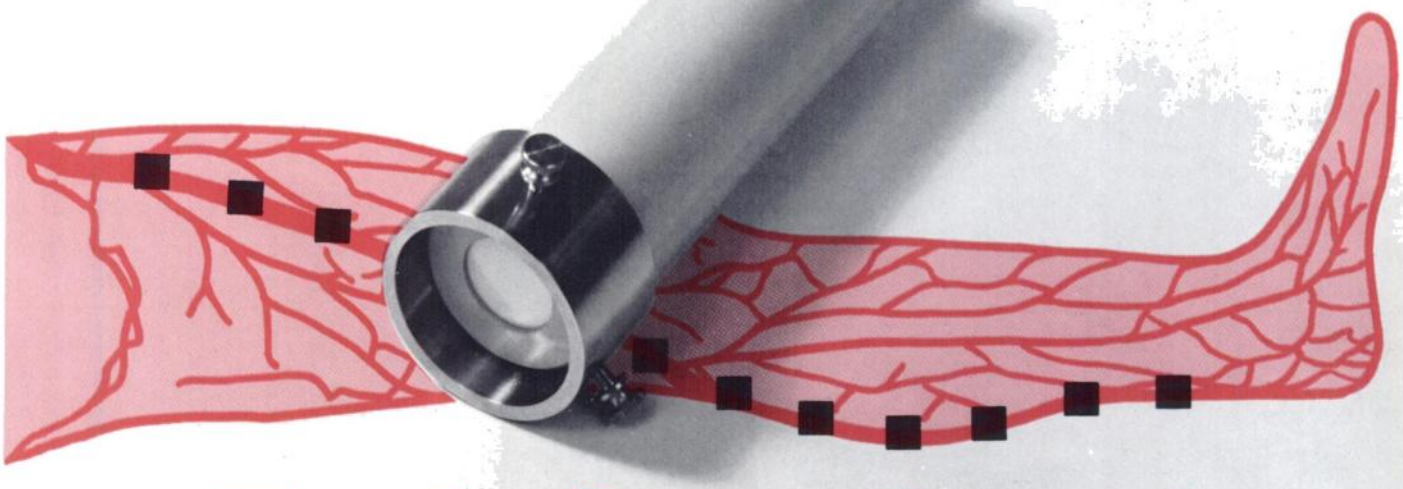
Recorder Output: 10 mv

Detector: NaI (Tl) crystal, 1″ diam. × 1 mm thick, mounted on PMT with 7 mg/cm² aluminum window

And our service, when you need it, is courteous and quick. Write or call for complete information.

j&S

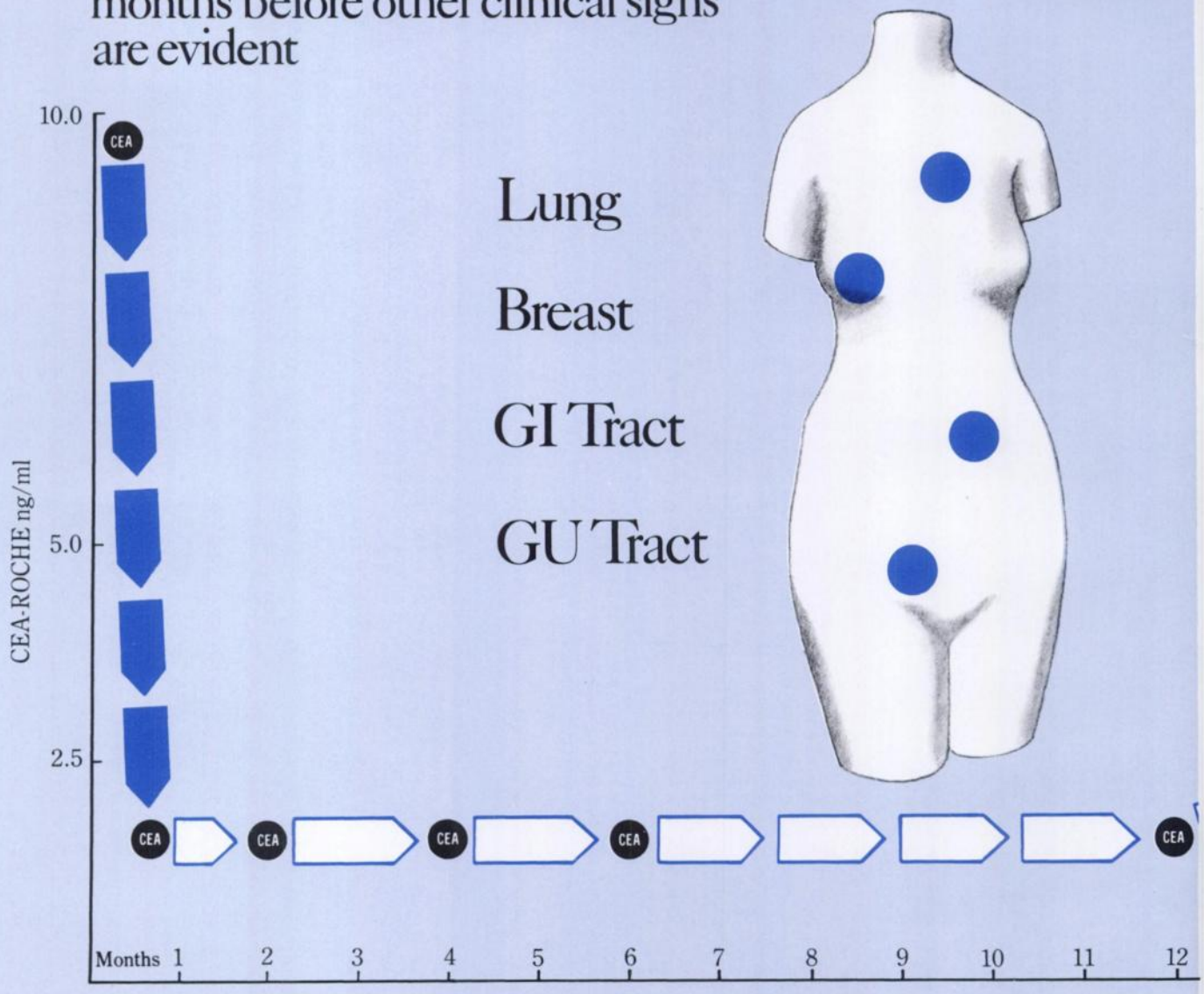
JASINS & SAYLES ASSOC.
908 Concord Street
Framingham, MA 01701
(617) 879-3775



Early detection of Deep Vein Thrombosis

In cancer management

periodic CEA-ROCHE assays may detect recurrence of disease months before other clinical signs are evident



Therapeutic Response Curve

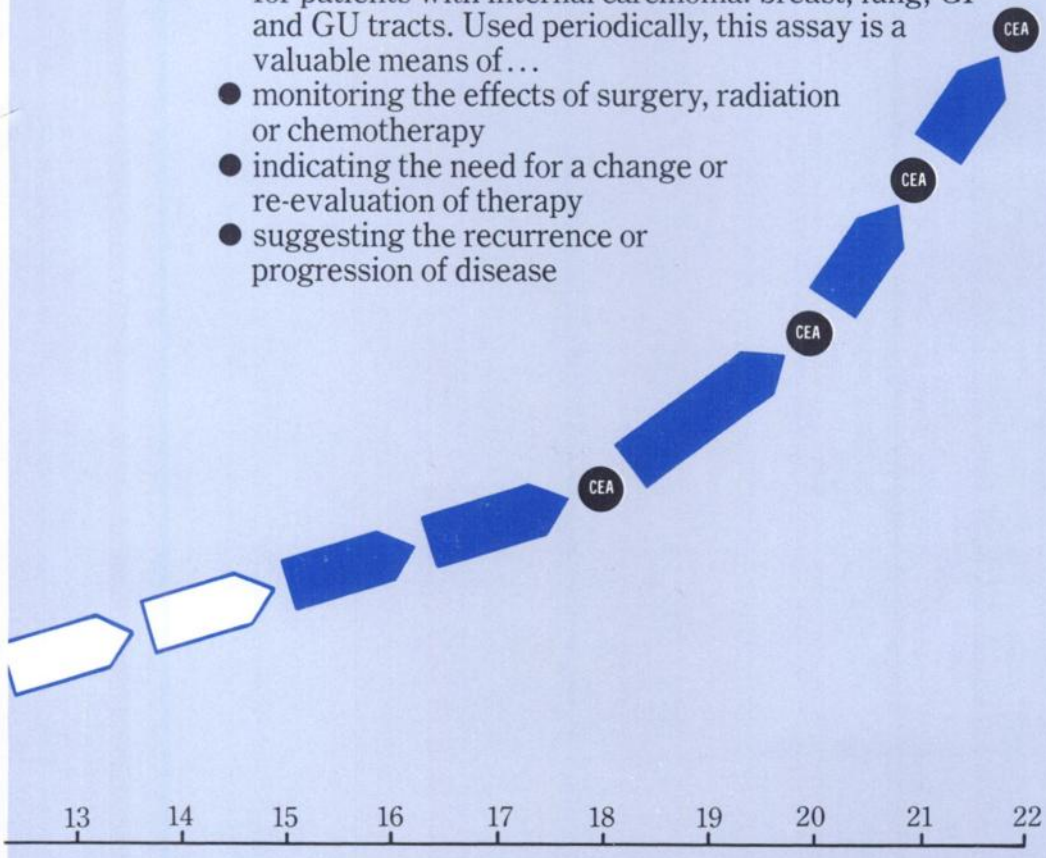
CEA-ROCHE, when used as a biological marker for following the cancer patient's response to therapy, should be employed periodically to determine a trend. The first test (preferably taken prior to beginning treatment) is used as a baseline against which subsequent tests are measured. Investigators have recommended that assays be run every 3-4 weeks during periods of active therapy, then once every 1-2 months for the first six months after completion of therapy; and finally, every 6-12 months as part of the long-term follow-up.

Results of periodic CEA-ROCHE assays have been found to closely mirror clinical response to therapy. Effective therapy normally results in a drop in an elevated CEA titer to levels below 2.5 ng/ml. Conversely, CEA titers usually remain elevated in the presence of refractory disease or when therapy is unsuccessful.

CEA-ROCHE
Carcinoembryonic Antigen assay
a valuable adjunct to other laboratory tests for monitoring the cancer patient's status

Four years of extensive clinical use have shown CEA-ROCHE to be an important part of the total management program for patients with internal carcinoma: breast, lung, GI and GU tracts. Used periodically, this assay is a valuable means of...

- monitoring the effects of surgery, radiation or chemotherapy
- indicating the need for a change or re-evaluation of therapy
- suggesting the recurrence or progression of disease



CEA-ROCHE
may be ordered from
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  Five Johnson Drive
  Raritan, New Jersey 08869
  (201) 526-2400
  800-631-5250
- Major hospital and private laboratories

ROCHE

Progression/Recurrence Curve

The importance of periodic CEA-ROCHE assays for the prompt recognition of tumor progression/recurrence has been found to be "crucial in the clinical follow-up of these [cancer] patients." The same report also showed that progressively rising titer levels often preceded actual clinical relapse by weeks to months.*

*Mavligit GM, *et al: Cancer 36:* 2421-2427, June 1975

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Contraindications: None known.

Warnings: Gallium Citrate Ga 67 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 radiopharmaceutical drug products, especially those elective in nature of a woman of childbearing capability should be performed during the first few (approximately ten) days following the onset of menses.

Precautions:

General

A thorough knowledge of the normal distribution of intravenously administered Gallium Citrate Ga 67 is essential in order to accurately interpret pathologic studies.

The finding of an abnormal gallium concentration usually implies the existence of underlying pathology, but further diagnostic studies should be done to distinguish benign from malignant lesions. Gallium Citrate Ga 67 is intended for use as an adjunct in the diagnosis of certain neoplasms. Certain pathologic conditions may yield up to 40% false negative gallium studies. Therefore a negative study cannot be definitively interpreted as ruling out the presence of disease.

Lymphocytic lymphoma frequently does not accumulate Gallium Ga 67 sufficiently for unequivocal imaging; and the use of gallium with this histologic type of lymphoma is not recommended at this time.

Gallium Citrate Ga 67, 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.

Carcinogenesis

No long term animal studies have been performed to evaluate carcinogenic potential.

Pregnancy Category C

Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Gallium Citrate Ga 67 should be used in pregnant women only when clearly needed.

Nursing Mothers

Gallium Citrate Ga 67 has been found to accumulate in breast milk and should not be used in nursing mothers.

Pediatric Use

Safety and effectiveness in children have not been established.

Adverse Reactions: Severe itching, erythema and rash were observed in one patient of 300 studied.

Dosage and Administration: The recommended adult (70kg) dose of Gallium Citrate Ga 67 is 2-5mCi. Gallium Citrate Ga 67 is intended for intravenous administration only.

Approximately 10% of the administered dose is excreted in the feces during the first week after injection. Daily laxatives and/or enemas are recommended from the day of injection until the final images are obtained in order to cleanse the bowel of radioactive material and minimize the possibility of false positive studies.

Studies indicate the optimal tumor to background concentration of ratios are often obtained about 48 hours post-injection. However, considerable biological variability may occur in individuals, and acceptable images may be obtained as early as 6 hours and as late as 120 hours after injection.

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

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

How Supplied: Gallium Citrate Ga 67 is supplied sterile and non-pyrogenic for intravenous use. Each ml contains 2mCi of Gallium Ga 67 on the calibration date, as a complex formed from 9ng gallium chloride Ga 67, 2mg of sodium citrate, 6.8mg sodium chloride, and 0.9% benzyl alcohol w/v as preservative. The pH is adjusted to between 4.5-7.5 with hydrochloric acid and/or sodium hydroxide solution.

Vials are available from 3mCi to 18mCi in increments of 3mCi on calibration date.

The contents of the vial are radioactive and adequate shielding and handling precautions must be maintained.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.

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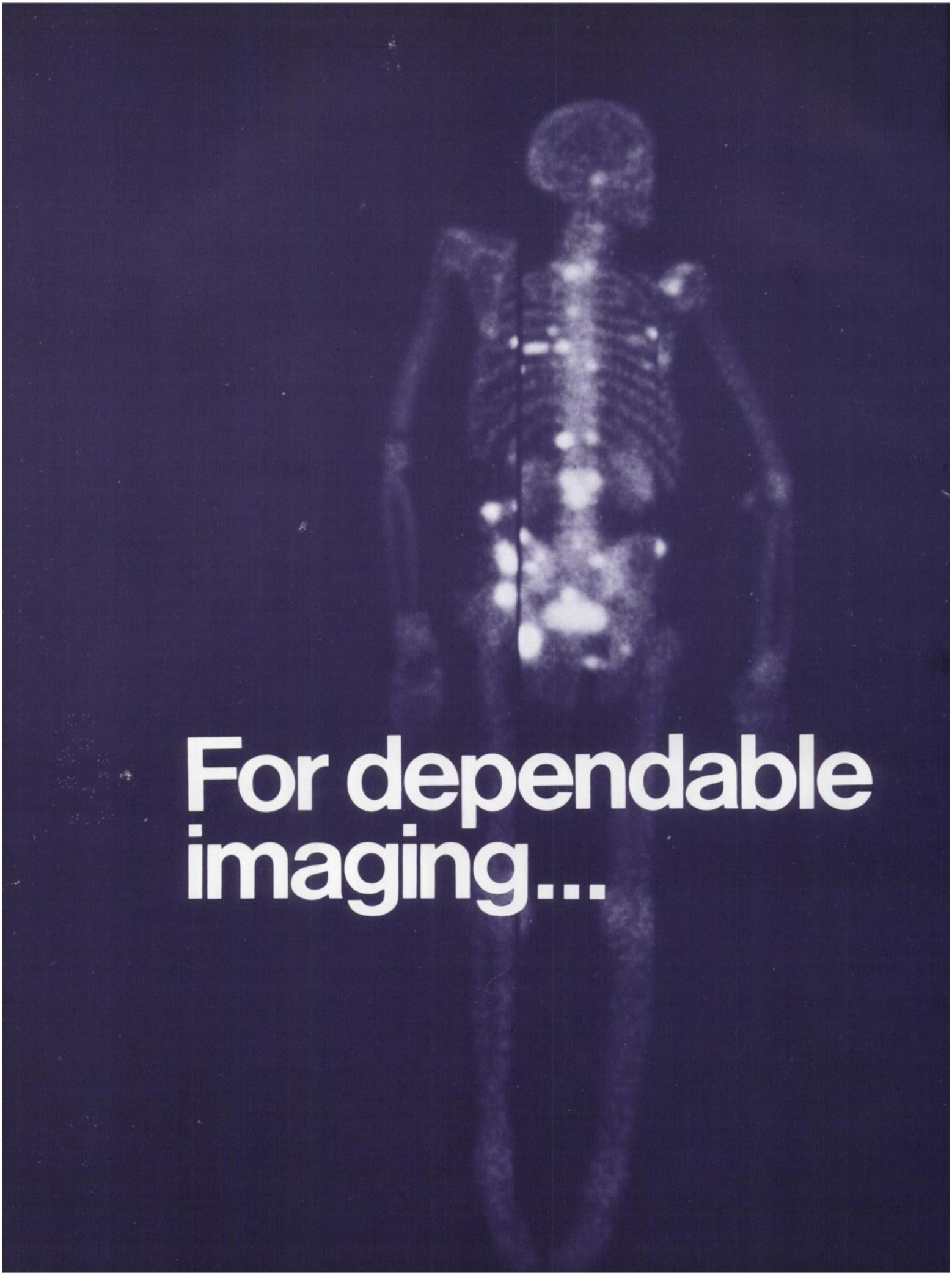
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See following page for a brief summary of package insert.

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(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 mg stannous chloride as active ingredients. Upon addition of ADDITIVE-FREE ^{99m}Tc-pertechnetate, these ingredients combine with ^{99m}Tc to form a stable soluble complex.

ACTIONS (CLINICAL PHARMACOLOGY)

When injected intravenously, ^{99m}Tc-labeled OSTEOSCAN has a specific affinity for areas of altered osteogenesis. Areas of bone which are undergoing neoplastic invasion often have an unusually high turnover rate which may be imaged with ^{99m}Tc-labeled OSTEOSCAN.

Three hours after intravenous injection of 1 ml ^{99m}Tc-labeled OSTEOSCAN, an estimated 40-50% of the injected dose has been taken up by the skeleton. At this time approximately 50% has been excreted in the urine and 6% remains in the blood. A small amount is retained by the soft tissue. The level of ^{99m}Tc-labeled OSTEOSCAN excreted in the feces is below the level detectable by routine laboratory techniques.

INDICATIONS

OSTEOSCAN is a skeletal imaging agent used to demonstrate areas of altered osteogenesis.

CONTRAINDICATIONS

None.

WARNINGS

This radiopharmaceutical should not be administered to patients who are pregnant or lactating unless the information to be gained outweighs 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.

The ^{99m}Tc-generator should be tested routinely for molybdenum breakthrough and aluminum. If either is detected, the eluate should not be used.

PRECAUTIONS

Both prior to and following ^{99m}Tc-labeled OSTEOSCAN administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the ^{99m}Tc-labeled OSTEOSCAN injection to minimize background interference from accumulation in the bladder and unnecessary exposure to radiation.

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 occupational workers.

ADVERSE REACTIONS

None.

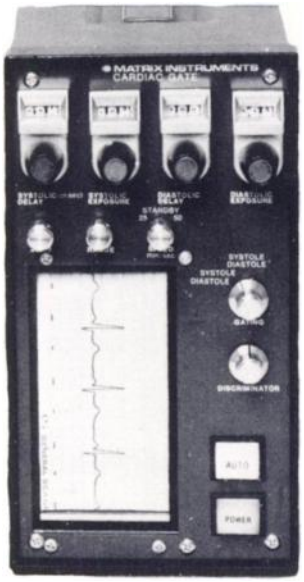
DOSAGE AND ADMINISTRATION

The recommended adult dose of ^{99m}Tc-labeled OSTEOSCAN is 1 ml with a total activity range of 10-15 mCi. ^{99m}Tc-labeled OSTEOSCAN should be given intravenously by slow injection over a period of 30 seconds within eight (8) hours after its preparation. Optimum scanning time is 3-4 hours postinjection.

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

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.

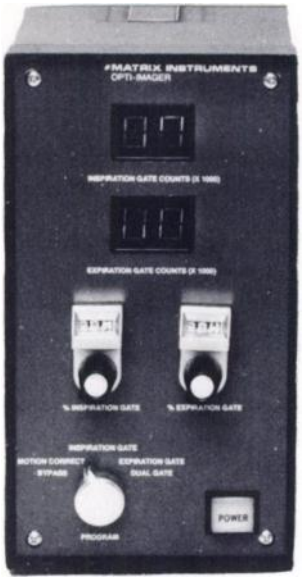
The dual gating operation mode allows recording of both end-systole and end-diastole simultaneously in a split screen two image format.

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.

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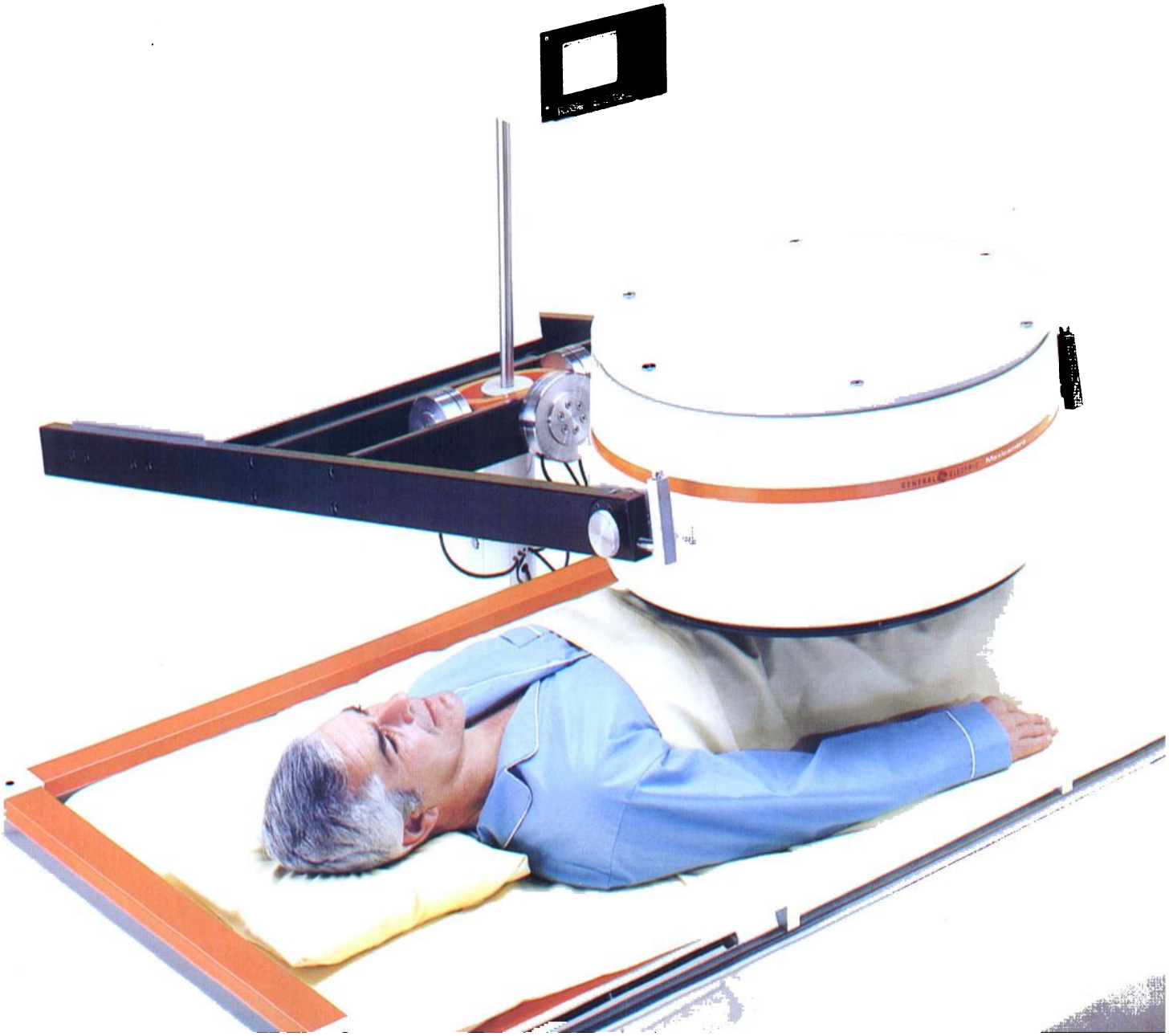

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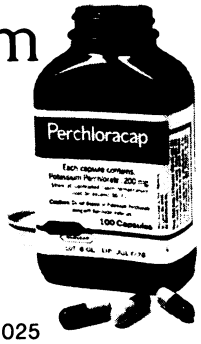

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INDICATIONS
Potassium perchlorate should be administered to minimize the accumulation of pertechnetate Tc-99m in the choroid plexus and in the salivary and thyroid glands in those patients receiving sodium pertechnetate Tc-99m injection for brain and blood pool imaging and placenta localization.

CONTRAINDICATIONS
None.

WARNINGS
Potassium perchlorate has been administered chronically in doses of 200-1000 mg per day for the treatment of hyperthyroidism. Fever, rash, lymphadenopathy, renal damage, agranulocytosis, and fatal aplastic anemia have all been reported as complications of this therapy. Because several alternative therapies for hyperthyroidism are available, **Perchloracap** Capsules are not recommended for treatment of this condition. These adverse effects are dose related and have not been observed in patients receiving single doses of potassium perchlorate under the conditions described under Dosage and Administration.

Use in Pregnancy: The safety of this drug in pregnant women is not known and the agent should not be administered during pregnancy or lactation unless the information to be gained outweighs the predicted hazard.

Do not administer **Perchloracap** Capsules that have been subjected to excessive heat and/or moisture as manifested by deformation and/or discoloration of the capsule.

To prevent loss of the desiccated atmosphere always replace the bottle cap immediately after use.

ADVERSE REACTIONS
Gastric irritation has been reported in therapeutic doses of perchlorate greater than one gram per day. The possibility of temporary local gastric irritation exists with the administration of subtherapeutic doses in capsule form.

DOSAGE AND ADMINISTRATION
The usual adult dose is 200 to 400 milligrams of potassium perchlorate administered orally one-half to one hour before injection of sodium pertechnetate Tc-99m. The maximum dose should not exceed one gram. **Perchloracap** Capsules should be administered with several ounces of water to prevent gastric irritation.

See package insert for prescribing information.

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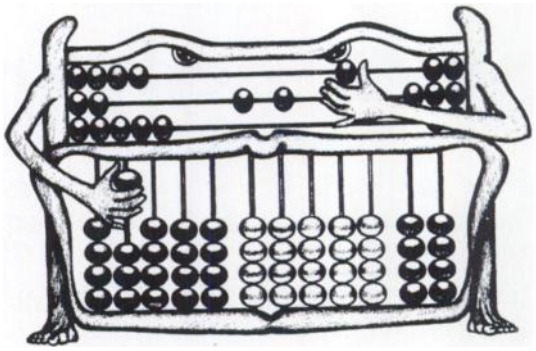

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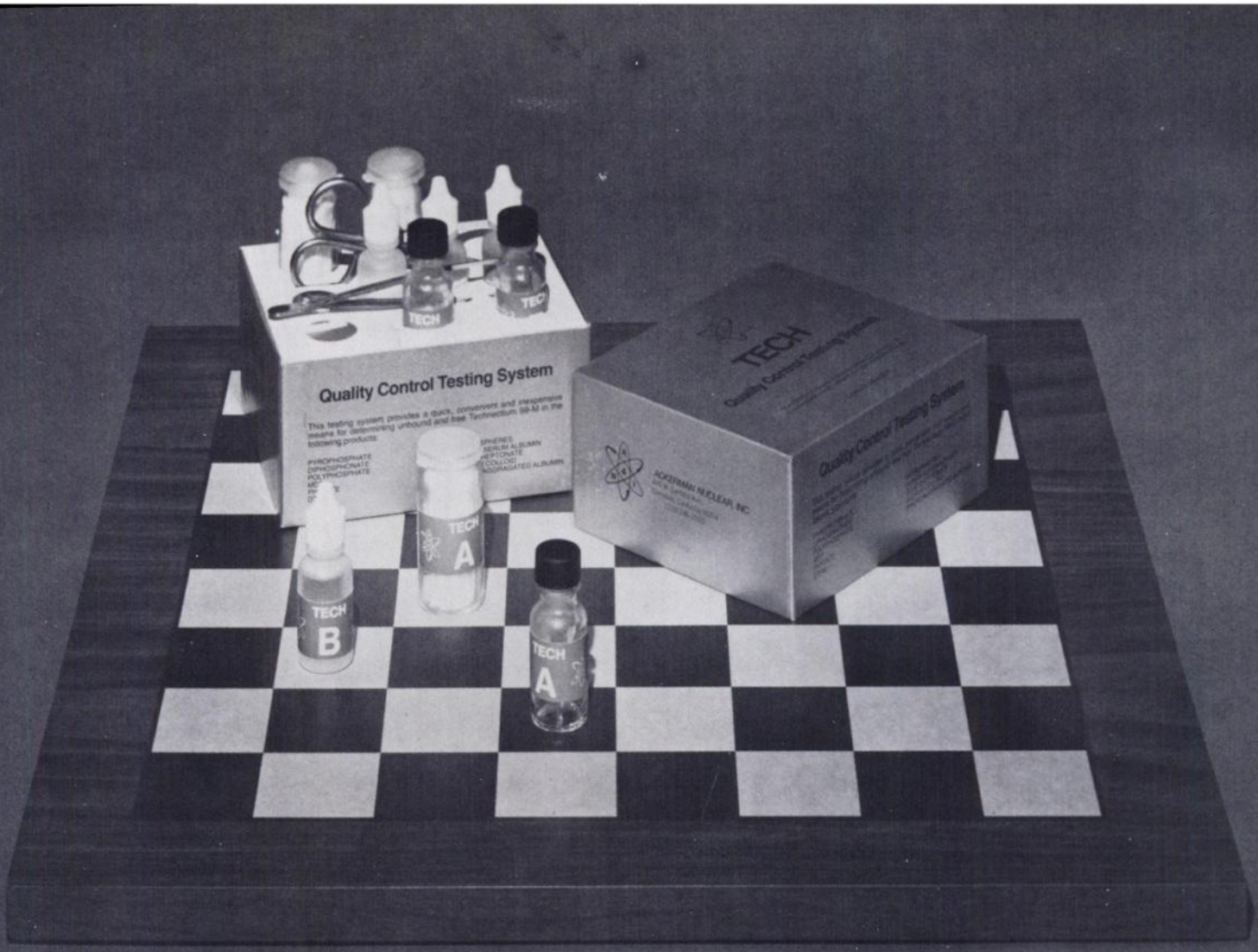

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Edited by David Norman, M.D.; Melvyn Korobkin, M.D.; and Thomas H. Newton, M.D.; with 29 contributors. February, 1977. Approx. 300 pages, 8½" x 11", illustrated. About $32.00.

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Edited by Alexander B. Margulis, M.D. and Charles A. Gooding, M.D.; with 31 contributors. March, 1977. Approx. 500 pages, 8½" x 11", illustrated. About $37.50.

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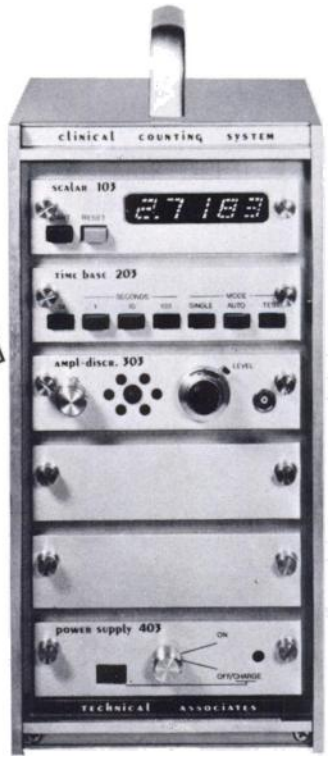

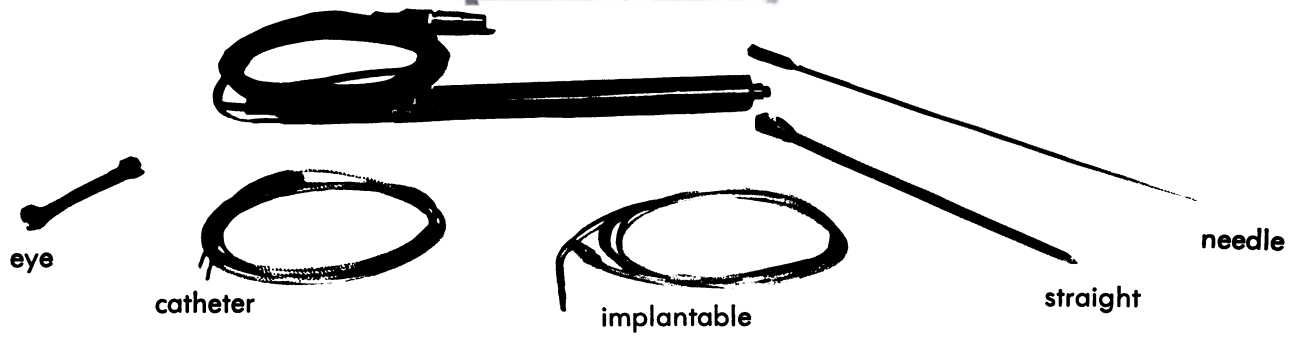

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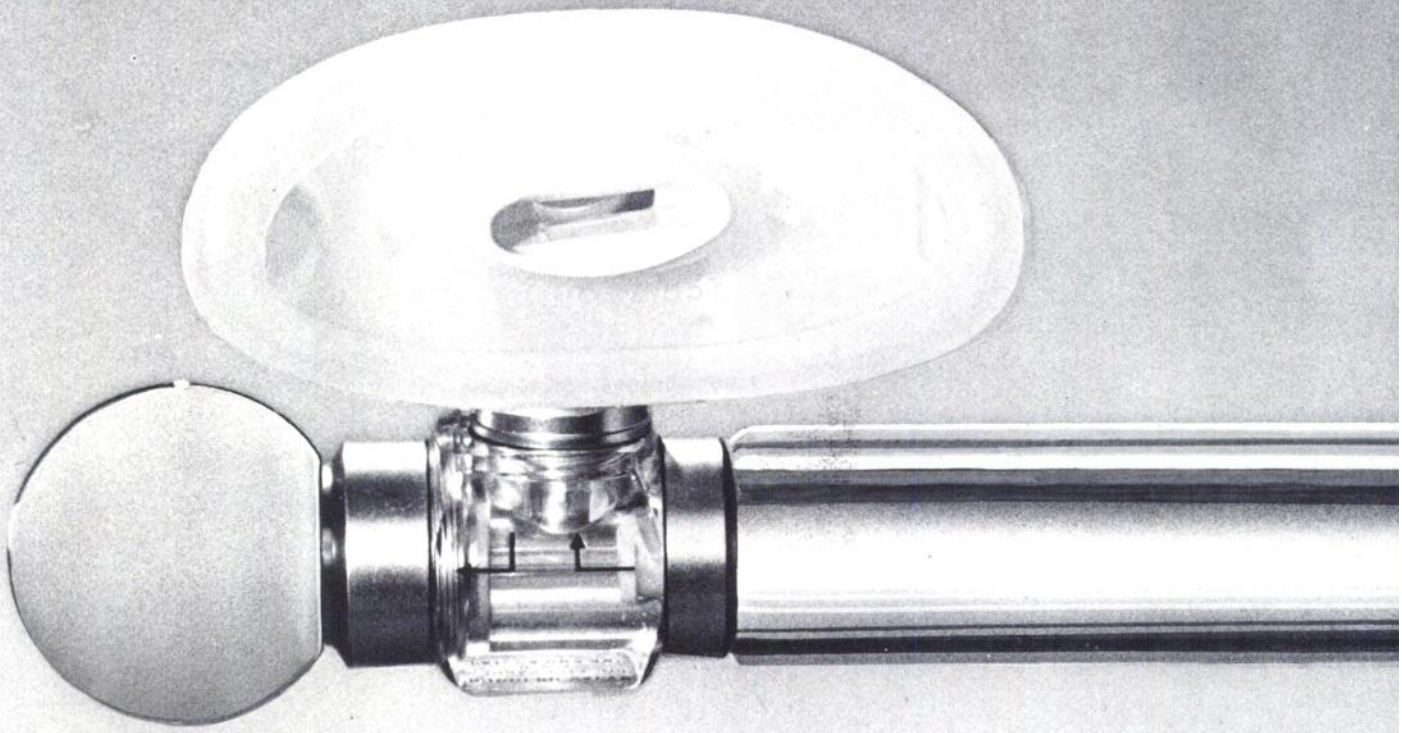

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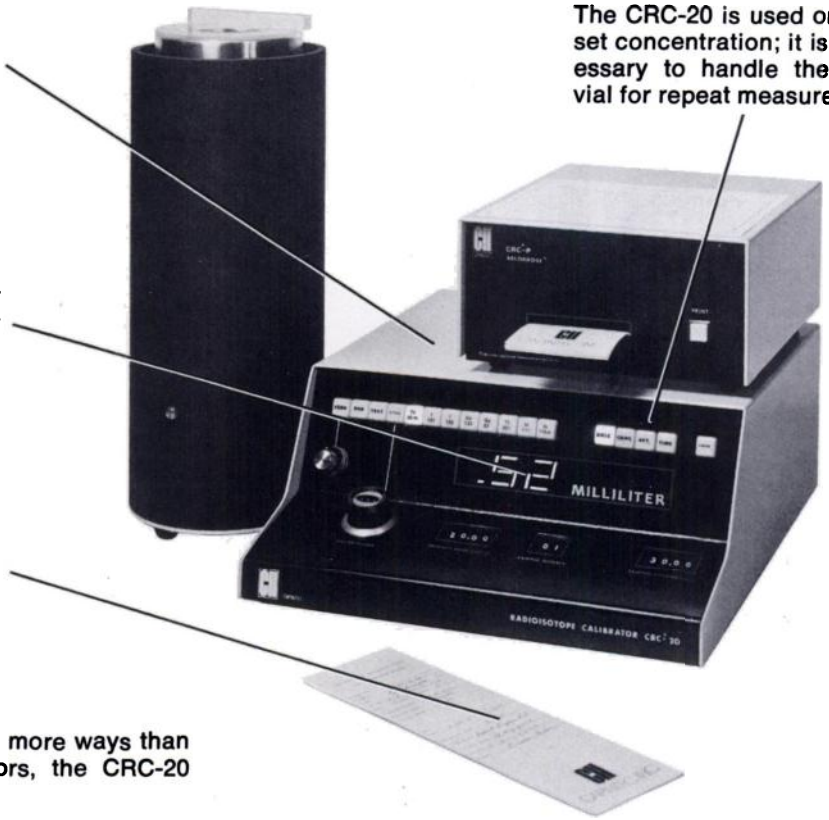

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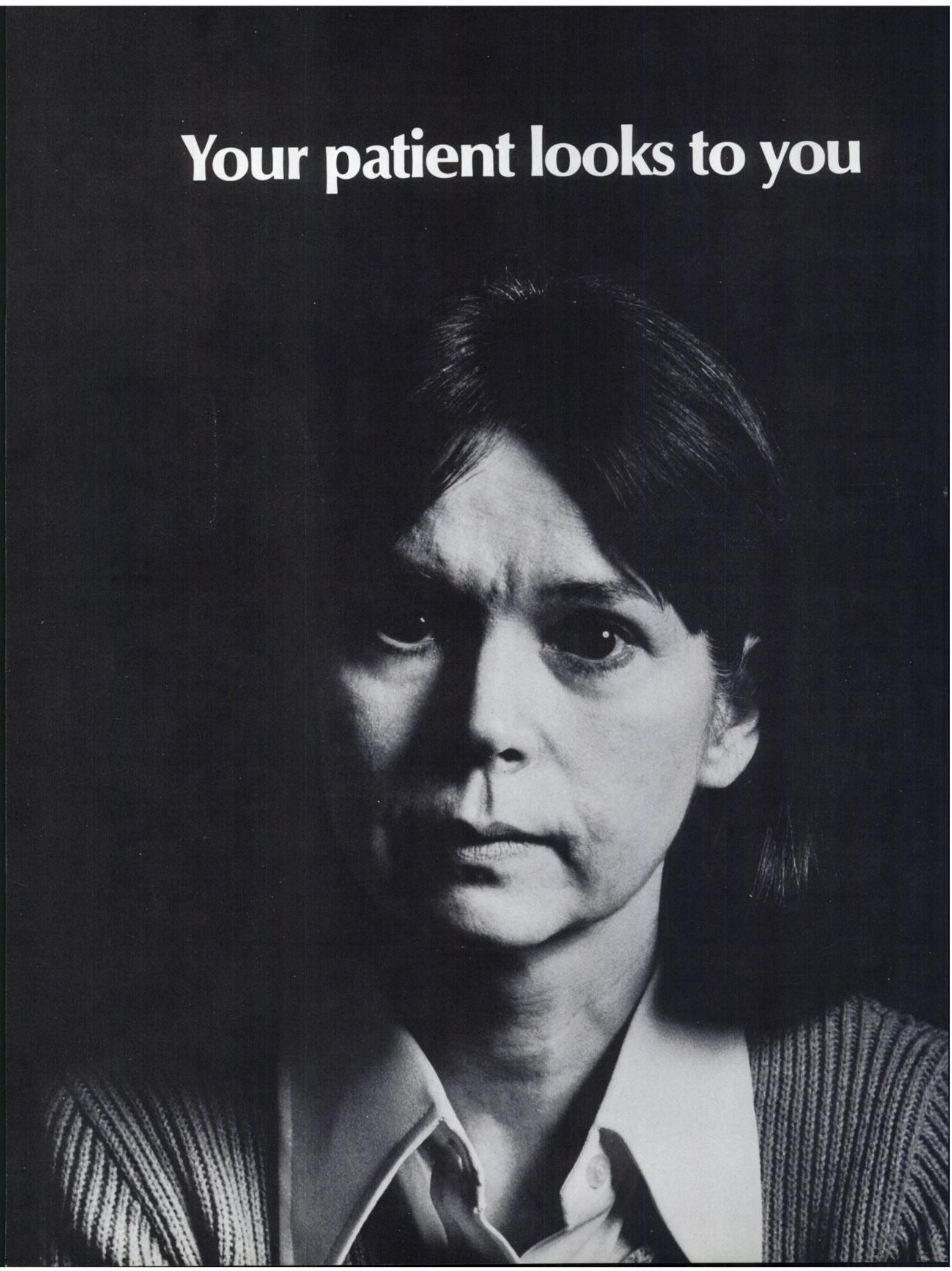

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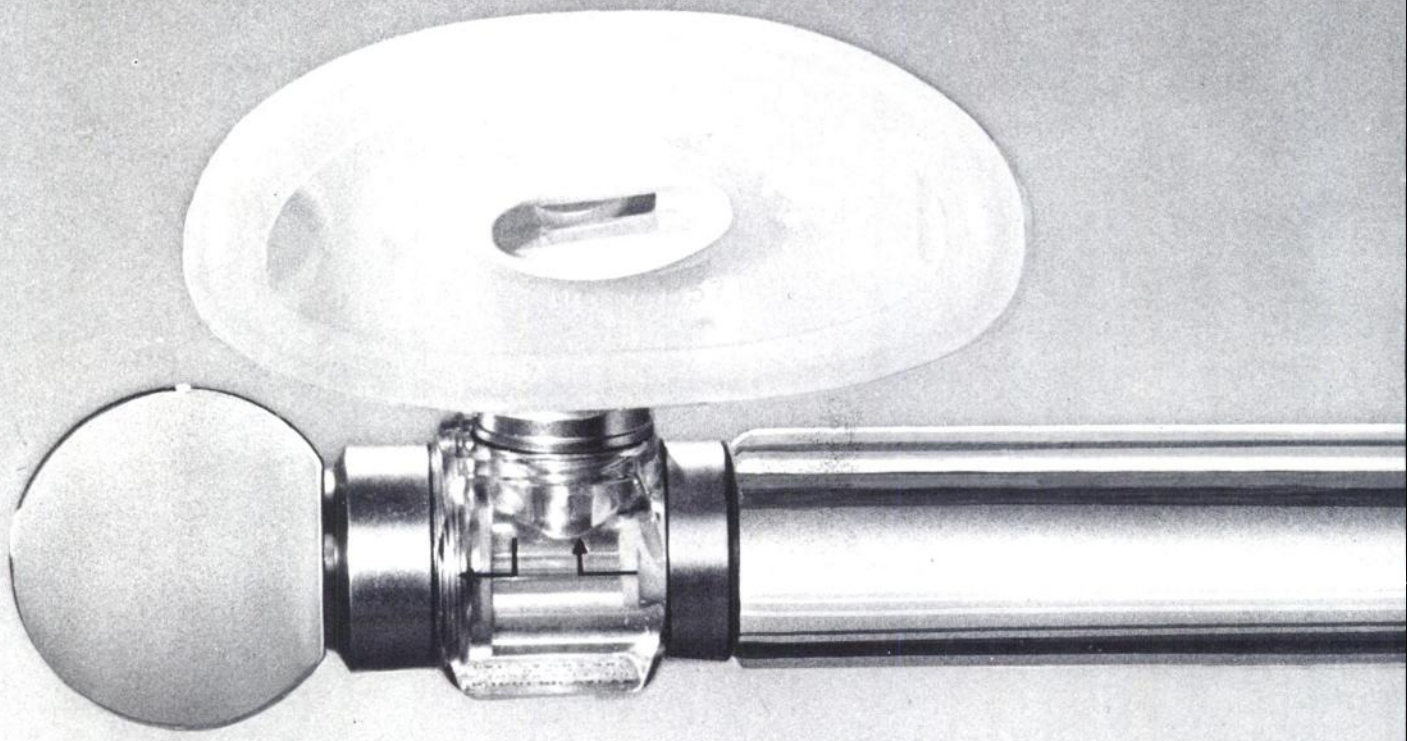

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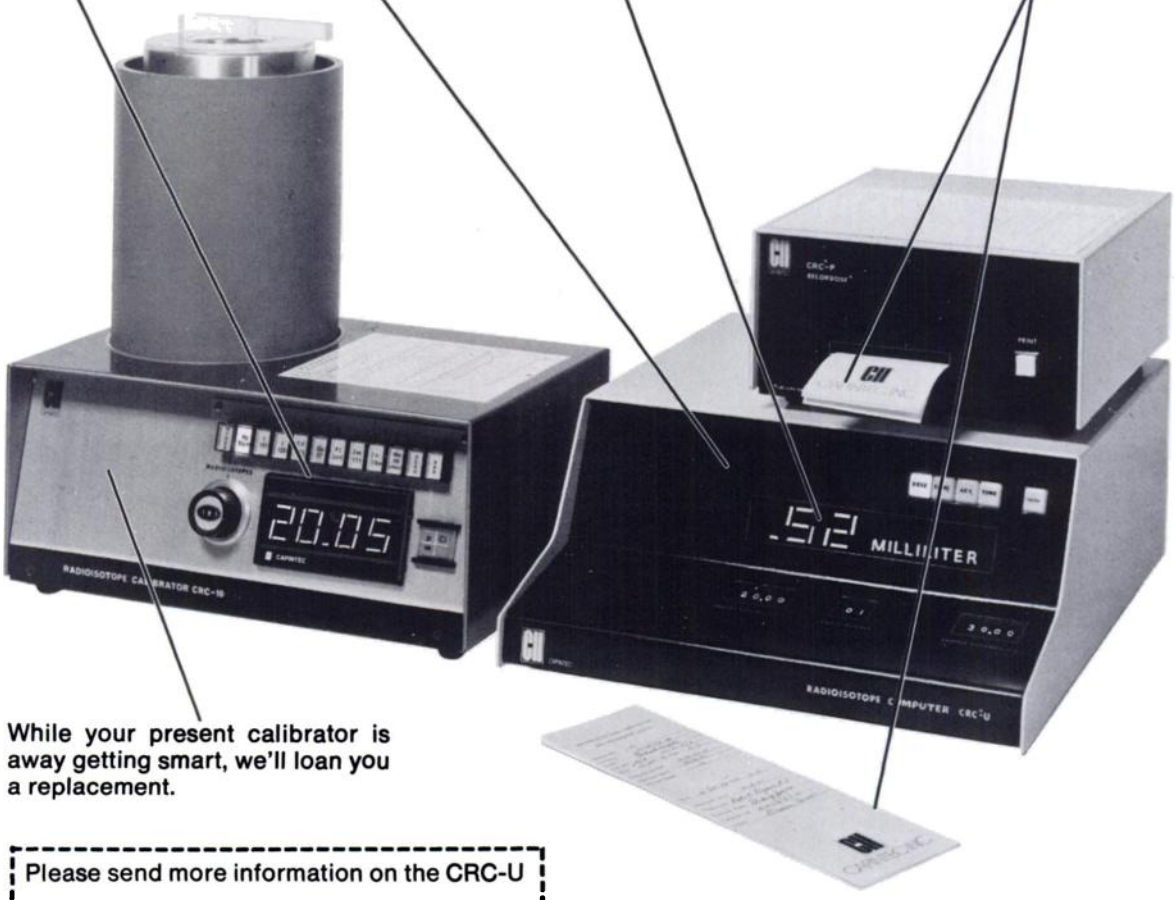

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Joseph P. Kriss, M.D., Director, Division of Nuclear Medicine, Stanford University Medical Center, Stanford, CA 94305

JNM CLASSIFIED PLACEMENT SERVICE SECTION

This section in the Journal of Nuclear Medicine contains "Positions Open", "Positions Wanted", and "For Sale" listings. Nondisplay "Positions Wanted" ads by members of the Society are billed at 30¢ per word for each insertion with no minimum rate. Nondisplay "Positions Wanted" ads by nonmembers and all nondisplay "Positions Open" and "For Sale" ads by members and nonmembers are charged at 65¢ per word. Display advertisements are accepted at $90 for ⅛ page, $125 for ¼ page, $210 for ½ page, and $370 for a full page. Closing date for each issue is the 1st of the month preceding publication. Agency commissions and cash discounts are allowed on display ads only. Box numbers are available for those who wish them.

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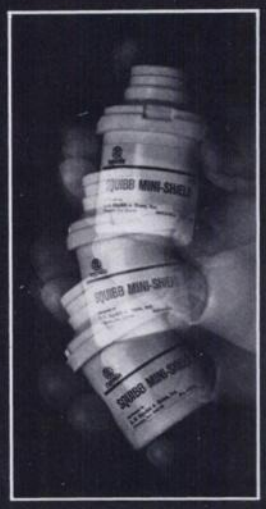

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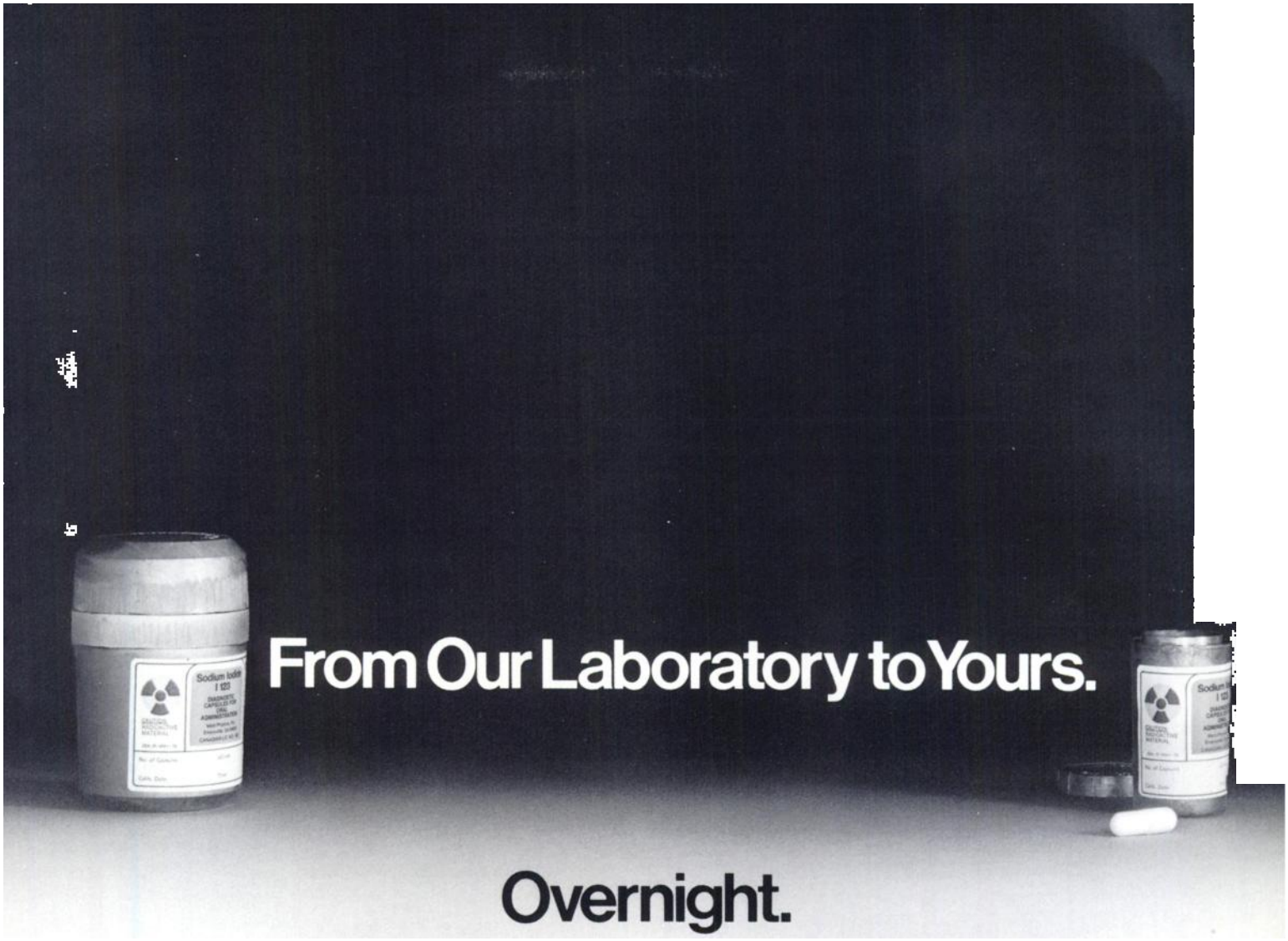

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Multi-Imager 1 employs the CRT of the gamma camera to record static, dynamic, and whole body imaging procedures on transparency format. The highly versatile Multi-Imager 1 offers film size formats of 5x7 and 8x10, yielding superior quality transparency 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.

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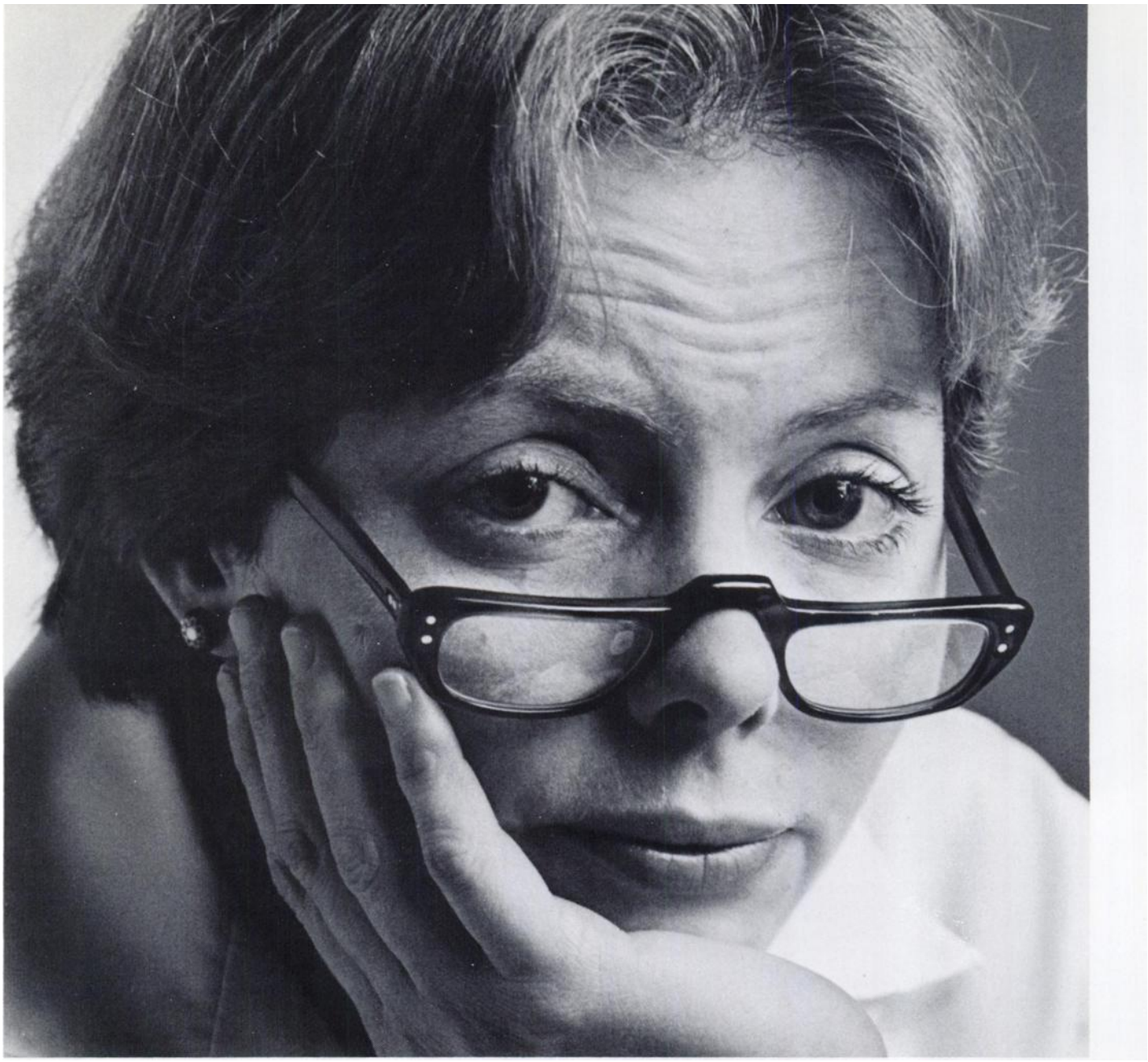

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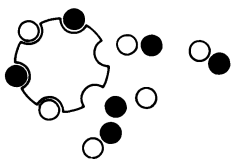

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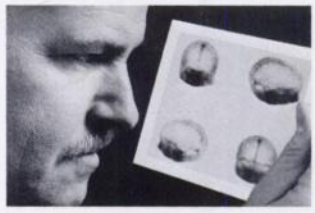

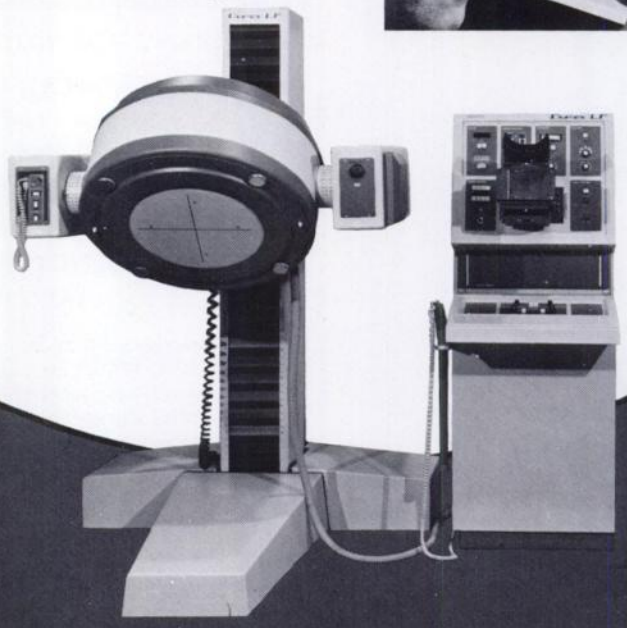

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INTRODUCING

the only fully automated pulmonary investigation unit with a permanent gas trap... to insure your protection!

Here is the Medi-Ray pulmonary investigation unit . . . fully automated, completely enclosed, incorporating a built-in permanent gas trap. That's right, a permanent gas trap that needs no replacing or refilling. This unit represents the ultimate in state-of-the-art technology and insures the safety of the operator.

In addition to this unique capability, the Medi-Ray unit offers a long list of features including complete enclosure of the Xenon delivery and removal system in one unit; large air bag capacity facilitating extended equilibrium and washout time; compatible with Xenon 133 and Xenon 127; requires no oxygen.

These are only a few of the many features that make the Medi-Ray pulmonary investigation unit the most unique and advanced unit of its kind.

Call us collect at (914) 961-8484 and get the whole story, or write us at Medi-Ray, Inc., 150 Marbledale Road, Tuckahoe, N.Y. 10707.

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ACKERMAN NUCLEAR INC. is tuned into the refinement and improvement of Cold Kit imaging reagents. Fine tuning these products, however, is not really as easy as turning a dial or flipping a switch. Years of research and concentrated effort by skilled professionals have gone into bringing the reliability, quality and service of our Cold Kit products up to a standard of dependability and efficiency day after day and batch after batch.

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A Complete ^{133}Xe Gas Control System from RADX

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.

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.

The HEART of the System Ventil-Con

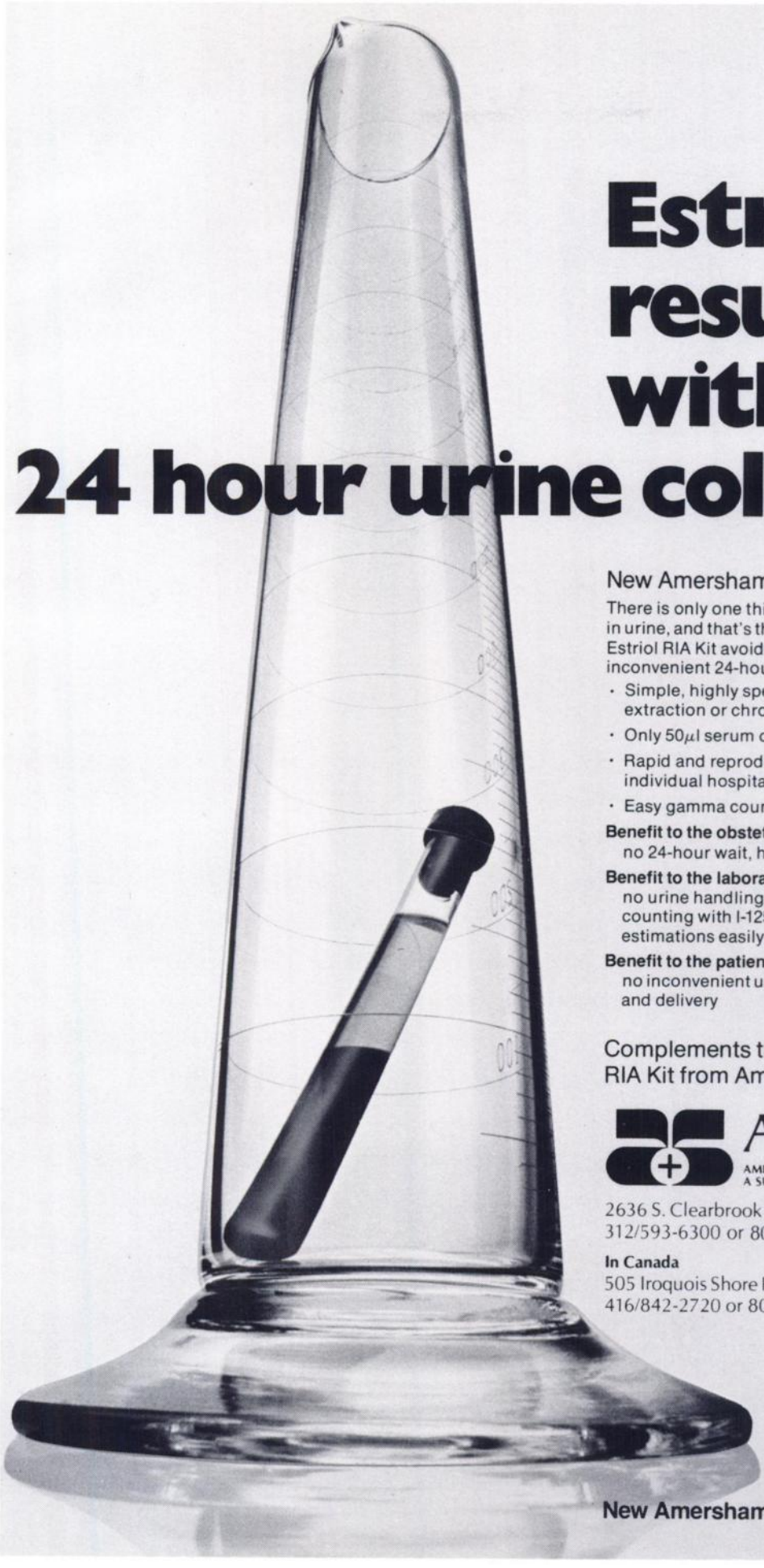
The Ventil-Con controlled gas delivery system is used for patient administration of ^{133}Xe. You may administer the ^{133}Xe as a bolus or homogenous mixture with air and oxygen to perform the single breath, equilibrium and washout phases of lung ventilation studies.

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, 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).

Call Radx, let us analyze and compare your current cost with our cost.

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



Estriol results without 24 hour urine collection

New Amersham Estriol RIA Kit

There is only one thing wrong with measuring estriol in urine, and that's the urine. Amersham'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

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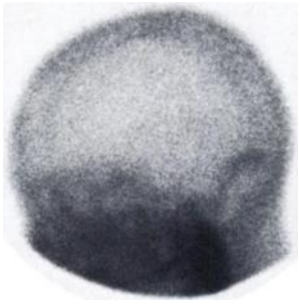
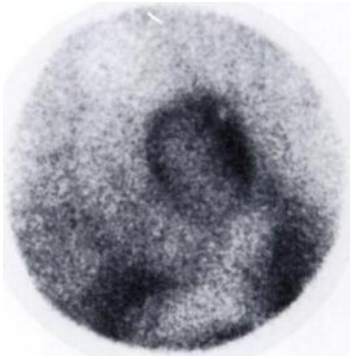
New Amersham Estriol RIA Kit

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.

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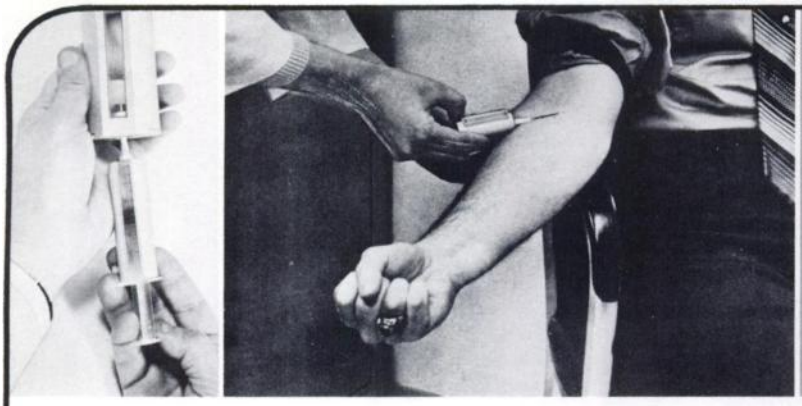
ONE OF THE C.I.T. COMPANIES


Picker'synergy

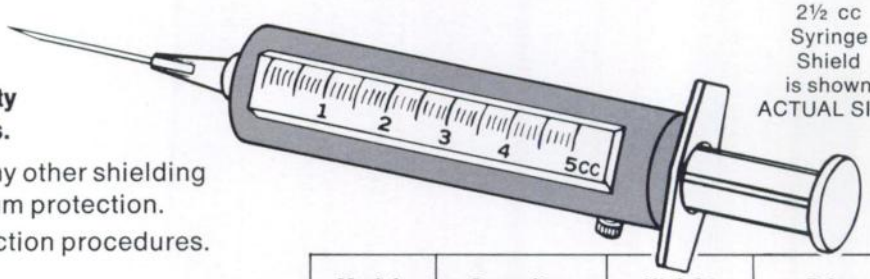


NEW...

Added protection against excessive radiation levels from radionuclides

ULTRA-LITE SYRINGE SHIELD

The LIGHTEST and SMALLEST syringe shield ever made



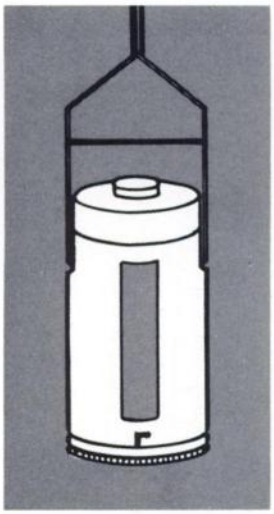
2½ cc Syringe Shield is shown ACTUAL SIZE

Permits unparalleled dexterity when handling radionuclides.

- 40% to 60% lighter than any other shielding material, yet offers maximum protection.
- Slim design facilitates injection procedures.
- Virtually indestructible.

So light and easy to use, you'll check twice to see if it's in your hand.

Model	Capacity	Weight	Price
56-292B 56-293B	2½ to 3 cc 5 to 6 cc	1.4 oz. 1.7 oz.	$95.00



"L-U-8" VIAL SHIELD*

Unique, all-in-one vial shield offers total radiation protection, from milking to injection. Permits direct measurement of ^{99m}Tc and molybdenum breakthrough without ANY exposure...in one operation.

- All procedures performed without removing vial from shield.
- Fits into detector chamber of all radioisotope calibrators.

Assures total exposure-free control, from milking through measurement and ultimate use... simply, safely, conveniently.

56-240B
"L-U-8" Vial Shield
$225.00

*Patent Pending

Need more information? Ask for Bulletin 216-B.

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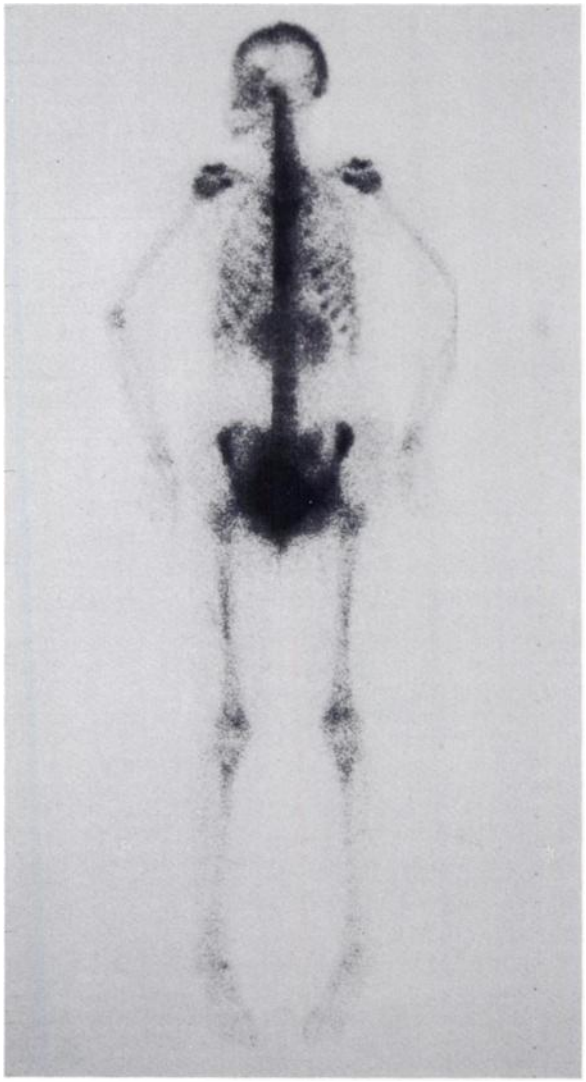
TechneScan® PYP™ Kit
(Stannous Pyrophosphate)

A consistent skeletal imaging agent since 1974...



For further information contact your Mallinckrodt representative, or, to order call toll free 800-325-3688.

Mallinckrodt, Inc.
675 Brown Road
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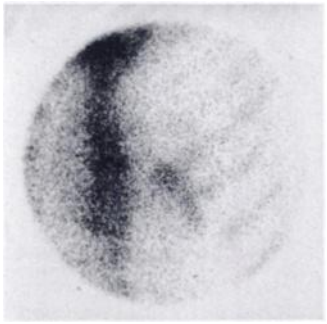
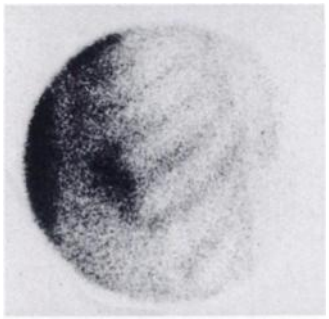
Mallinckrodt NUCLEAR
RADIOPHARMACEUTICALS

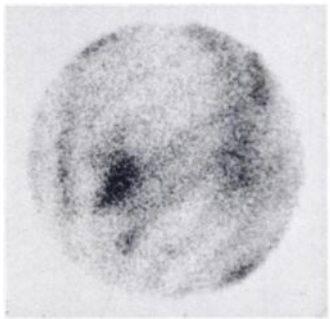
Now also available for routine use as an adjunct in the diagnosis of acute myocardial infarction.



Anterior wall infarction, anterior view



Left anterior oblique



Left lateral

For brief summary of prescribing information, please see next page.

TechneScan® PYP™ Kit
(Stannous Pyrophosphate)

Kit for the Preparation of Technetium Tc 99m Stannous Pyrophosphate
Diagnostic—For Intravenous Use

CLINICAL PHARMACOLOGY

When injected intravenously, **TechneScan PYP Tc 99m** has a specific affinity for areas of altered osteogenesis. It is also concentrated in the injured myocardium, primarily in areas of irreversibly damaged myocardial cells.

One to two hours after intravenous injection of **TechneScan PYP Tc 99m,** an estimated 40 to 50 percent of the injected dose has been taken up by the skeleton, and approximately 0.01 to 0.02 percent per gram of acutely infarcted myocardium. Within a period of one hour, 10 to 11 percent remains in the vascular system, declining to approximately 2 to 3 percent twenty-four hours post injection. The average urinary excretion was observed to be about 40 percent of the administered dose after 24 hours.

INDICATIONS AND USAGE

TechneScan PYP Tc 99m is a skeletal imaging agent used to demonstrate areas of altered osteogenesis, and a cardiac imaging agent used as an adjunct in the diagnosis of acute myocardial infarction.

As an adjunct in the diagnosis of confirmed myocardial infarction (ECG and serum enzymes positive), the incidence of false negative images has been found to be 6 percent. False negative images can also occur if made too early in the evolutionary phase of the infarct or too late in the resolution phase. In a limited study involving 22 patients in whom the ECG was positive and serum enzymes questionable or negative, but in whom the final diagnosis of acute myocardial infarction was made, the incidence of false negative images was 23 percent. The incidence of false positive images has been found to be 7 to 9 percent. False positive images have also been reported following coronary by-pass graft surgery, in unstable angina pectoris, old myocardial infarcts and in cardiac contusions.

CONTRAINDICATIONS

None.

WARNINGS

This radiopharmaceutical should not be administered to patients who are pregnant or lactating unless the information to be gained outweighs 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.

Warning: Preliminary reports indicate impairment of brain scans using Tc 99m pertechnetate which have been preceded by bone scan. The impairment may result in false positives or false negatives. It is recommended, where feasible, that brain scans precede bone imaging procedures.

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.

The **TechneScan PYP Kit** must be maintained at refrigerator temperature until use.

The contents of the **TechneScan PYP** reaction vial are intended only for use in the preparation of Technetium Tc 99m Stannous Pyrophosphate and are not to be directly administered to the patient.

Sodium pertechnetate Tc-99m solutions containing an oxidizing agent are *not* suitable for use with the **TechneScan PYP Kit.**

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

TechneScan PYP Tc 99m should not be used more than six hours after preparation.

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 occupational workers.

Bone Imaging

Both prior to and following **TechneScan PYP Tc 99m** administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the **TechneScan PYP Tc 99m** injection to minimize background interference from accumulation in the bladder and unnecessary exposure to radiation.

Cardiac Imaging

Patient's cardiac condition should be stable before beginning the cardiac imaging procedure.

If not contraindicated by the cardiac status, patients should be encouraged to injest fluids and to void frequently in order to reduce unnecessary radiation exposure.

Interference from chest wall lesions such as breast tumors and healing rib fractures can be minimized by employing the three recommended projections.

ADVERSE REACTIONS

None.

DOSAGE AND ADMINISTRATION

The recommended adult dose of **TechneScan PYP** is:

1. Skeletal Imaging — 5 to 15 millicuries (1 to 14 milligrams stannous pyrophosphate).
2. Cardiac Imaging — 10 to 15 millicuries (4 to 7 milligrams of stannous pyrophosphate).

TechneScan PYP Tc 99m is injected intravenously over a 10- to 20-second period. For optimal results, bone imaging should be done 1 to 6 hours following administration. Cardiac imaging should be done 60 to 90 minutes following administration. The acute myocardial infarct can be visualized from 24 hours to 9 days following onset of symptoms, with maximum localization at 48 to 72 hours. Cardiac imaging should be done with a gamma scintillation camera. It is recommended that images be made of the anterior, left anterior oblique and left lateral projections.

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

HOW SUPPLIED

Catalog Number—*094* **TechneScan PYP Kit**

Kit Contains:

5—Stannous Pyrophosphate Reaction Vials (Lyophilized) for the preparation of Technetium Tc 99m Stannous Pyrophosphate.

Reaction Vial Contains:

15.4 mg Sterile Stannous Pyrophosphate (Lyophilized). Hydrochloric acid is added for pH adjustment prior to lyophilization.

5—Pressure-sensitive "Caution—Radioactive Material" labels.

5—Radioassay Information String Tags.

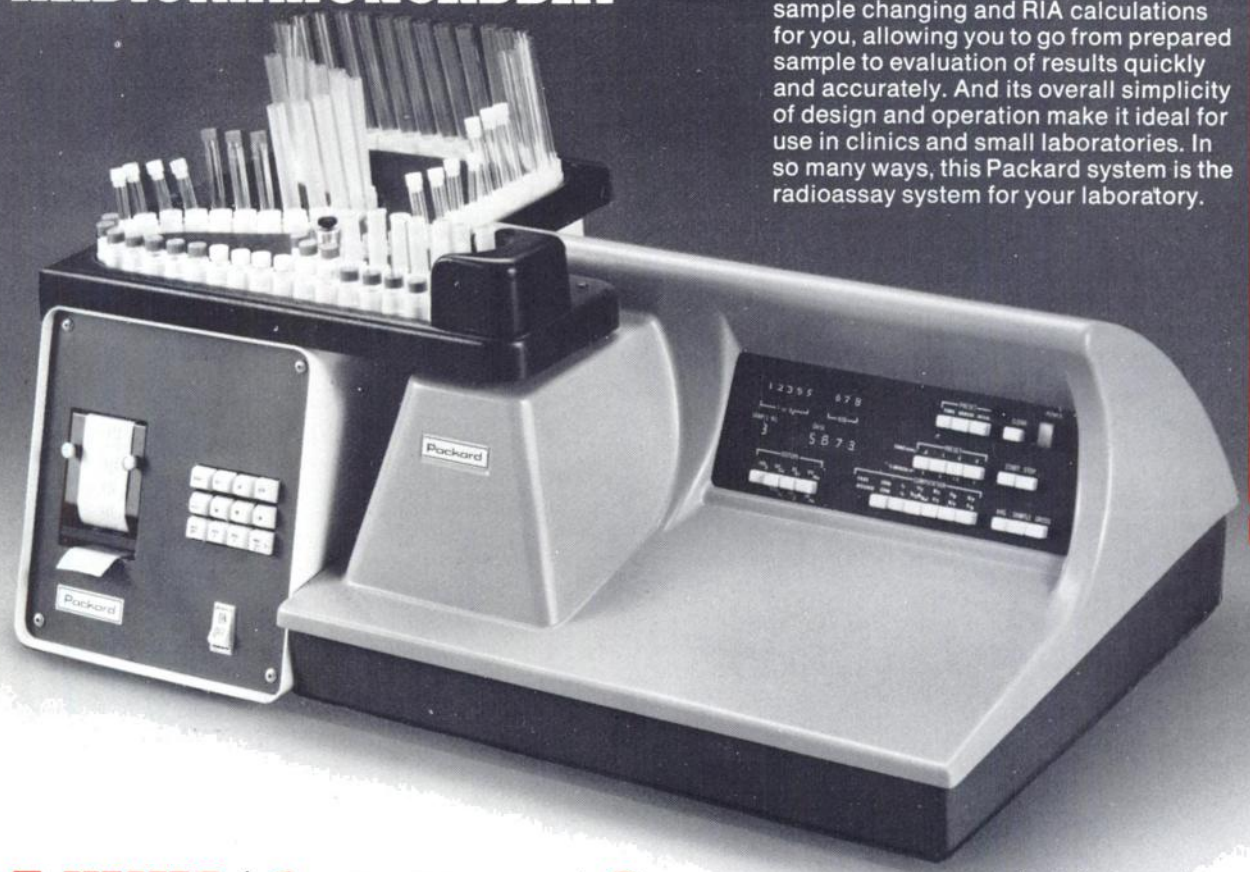
Mallinckrodt® NUCLEAR RADIOPHARMACEUTICALS

Mallinckrodt, Inc.
675 Brown Road
Hazelwood, MO 63042

CALCULATING AUTOMATIC GAMMA COUNTER FOR RADIOIMMUNOASSAY

INTRODUCING PACKARD MODEL 5176

Here is the unique counting system to meet the demands of RIA and related radioassays when automation is needed for the expanding laboratory. Packard's Model 5176 automatically performs all sample changing and RIA calculations for you, allowing you to go from prepared sample to evaluation of results quickly and accurately. And its overall simplicity of design and operation make it ideal for use in clinics and small laboratories. In so many ways, this Packard system is the radioassay system for your laboratory.



5 WAYS BETTER

1 AUTOMATIC CALCULATIONS

Model 5176 automatically performs the calculations needed for controls, standards and samples in RIA—including replicate averages, per cent bound or binding index, reciprocal binding, normalized binding, binding ratios, subtraction of blanks and counts per minute (cpm).

2 SAVES TIME

Technician time is freed from the repetitive tasks required to count samples and reduce data. Changing tubes, pushing buttons, recording numbers—these manual steps are automated. Calculations are performed while the changer operates. At the end of counting only standard, curve plot and dose determination steps remain. There are no further calculations or delays.

3 ERROR ALERT

Automatic calculations provide that the instrument will perform programmed routines with unchanging accuracy, free from human computational error. A built-in automatic "error-signal" alerts the operator to mistakes such as changing preset conditions, entering values that are mathematical impossibilities, or obtaining relationships that exceed normal assay values or ranges.

4 ADVANCED COUNTING FUNCTIONS

All counting can be done to fixed limits of statistical error or to a fixed time, with averaging of up to four samples to reduce error from preparative variations. The instrument can automatically deduct the assay background due to nonspecific binding of the radioactive antigen, or blank counts due to instrument background.

5 OUTSTANDING FLEXIBILITY

The 5176 System is composed of a manual gamma counter (Model 5105) and an add-on automatic sample changer (Model 5076). By starting or augmenting your radioassay facility with the Packard "manual well", an ability to grow is assured. You can easily automate to handle work loads in excess of 100 tubes *daily* without acquiring additional computing or counting systems. This system also gives calculation and push-button window capability for uses other than RIA. Or, it can be operated as an ordinary bench-top manual or automatic counter.

Request Bulletin No. 1225.

Packard

Packard

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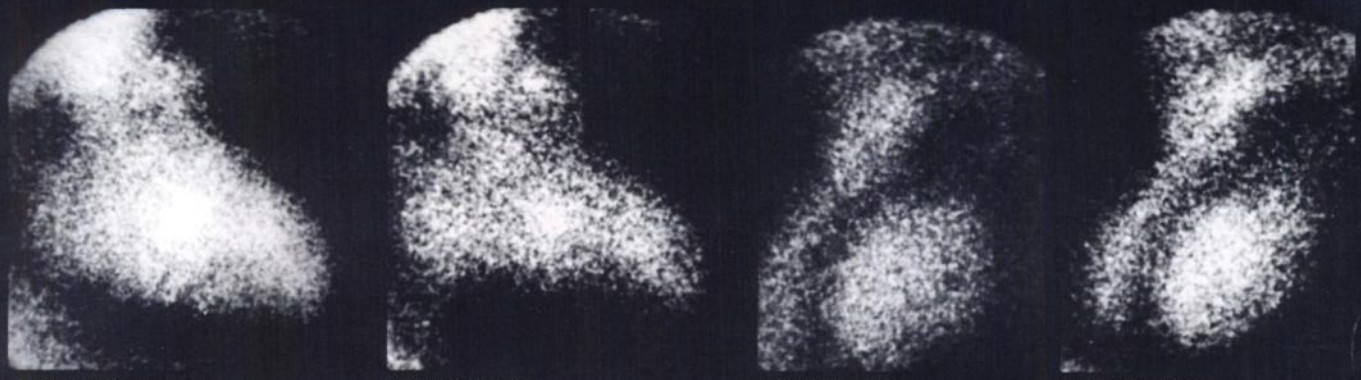
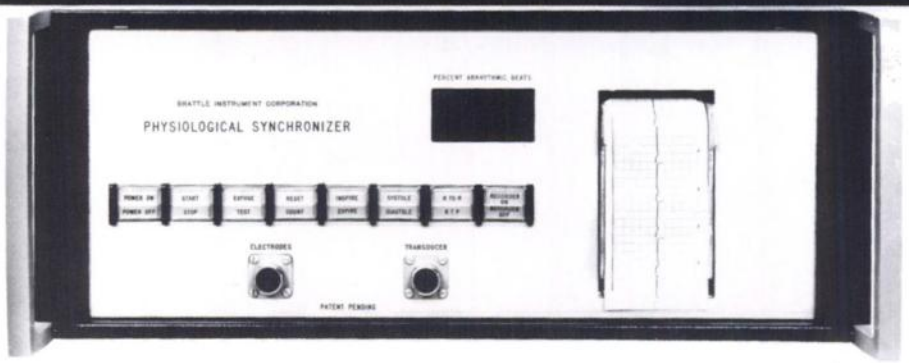
INDEX TO ADVERTISERS

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