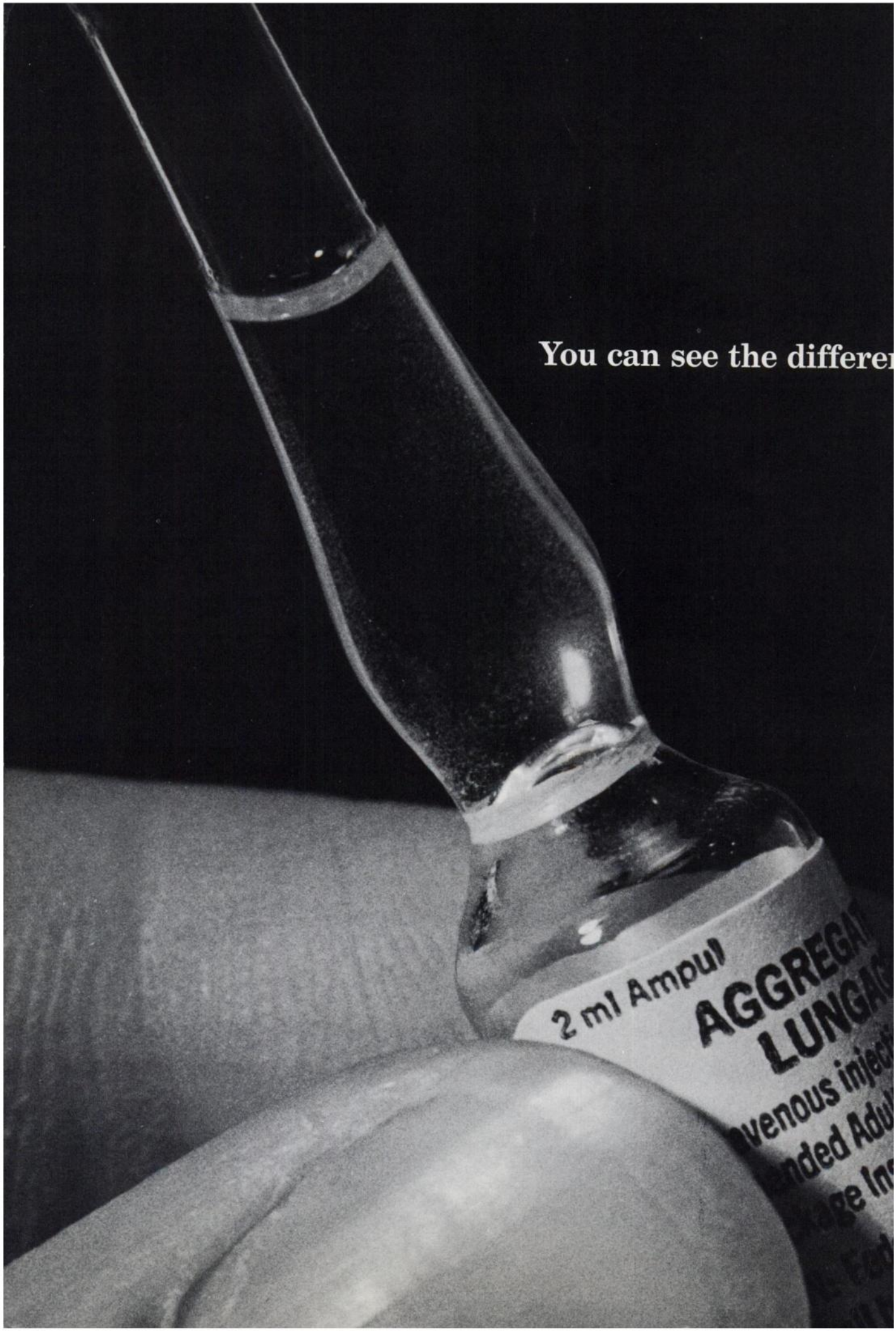
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2 ml Ampul
AGGREGA
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Lungaggregate™ Reagent [Aggregated Albumin (Human)] has eight important advantages for pulmonary scintigraphy.

The first one is obvious:

1. Particles Presuspended in Solution.
Lungaggregate Reagent is the only Tc 99m-labeled MAA agent containing albumin aggregate particles that are already suspended in an aqueous solution. There is less chance for radiation exposure to the user since no visual inspection is required after radioactive labeling.

2. Soft Particles for Rapid Lung Clearance.
The uniform-size particles in Lungaggregate Reagent have a biological half-time of 4.77 hours.

3. Quick, Easy Preparation.
No thawing, reconstitution of lyophilized particles, or ultrasonic agitation are required.

4. Conveniently Stable.
Lungaggregate Reagent, labeled with Tc 99m, may be used up to 24 hours after preparation when stored as directed. A supply of Tc 99m-Lungaggregate Reagent is therefore available when emergency studies are required.

5. Multi-Dose Economy.
Each vial can be used to give several patient doses since Lungaggregate Reagent contains a preservative.

6. Imaging Excellence.
Tc 99m is the radionuclide of choice for scintigraphy. With a 4 mCi dose of Tc 99m-Lungaggregate Reagent, up to 500,000 counts can be obtained in two to three minutes on a gamma camera.

7. High Lung/Liver Activity Ratio.
The ratio of lung to liver-and-spleen activity is over 10/1.

8. Patient Safety.
No adverse reactions have been reported. See the brief summary section below.

For a monograph summarizing clinical experience with Lungaggregate Reagent, or for additional information, call Medi-Physics toll free: (800) 772-2446 in California or (800) 227-0483 outside California.

Brief Summary
(For full product information including method of preparation and administration procedure, see package insert.)

Description: Lungaggregate™ Reagent is a sterile, apyrogenic, buffered, preserved, aqueous preparation of aggregated albumin from human plasma.

Indications: For imaging regional pulmonary perfusion in the presence of clinically suspected regional ischemia.

Contraindications: This agent is contraindicated (1) in the presence of large right-to-left cardiovascular shunts which could allow direct entry of macroaggregates into systemic circulation; (2) in patients with cyanosis or evidence of severely restricted pulmonary blood flow, as in pulmonary hypertension; (3) in pregnant or lactating women and in patients under 18 years, unless expected benefits outweigh risks involved.

Warnings: Whenever protein-containing materials such as Tc 99m-labeled Lungaggregate Reagent are used in man, hypersensitivity reactions are possible. Have epinephrine, antihistamines, and corticosteroid agents available.

Precautions: Note—Follow aseptic techniques in preparing this agent to minimize the possibility of contamination with microorganisms. Take steps to minimize exposure to patient and attending personnel, including use of minimum dosage to achieve useful diagnostic data. Make injection slowly. Use an 18-21 gauge needle. After withdrawal from the vial the material should be administered promptly; also avoid aspirating blood and tissue fluids into the syringe.

Adverse reactions: None reported in over 4,000 patient studies.

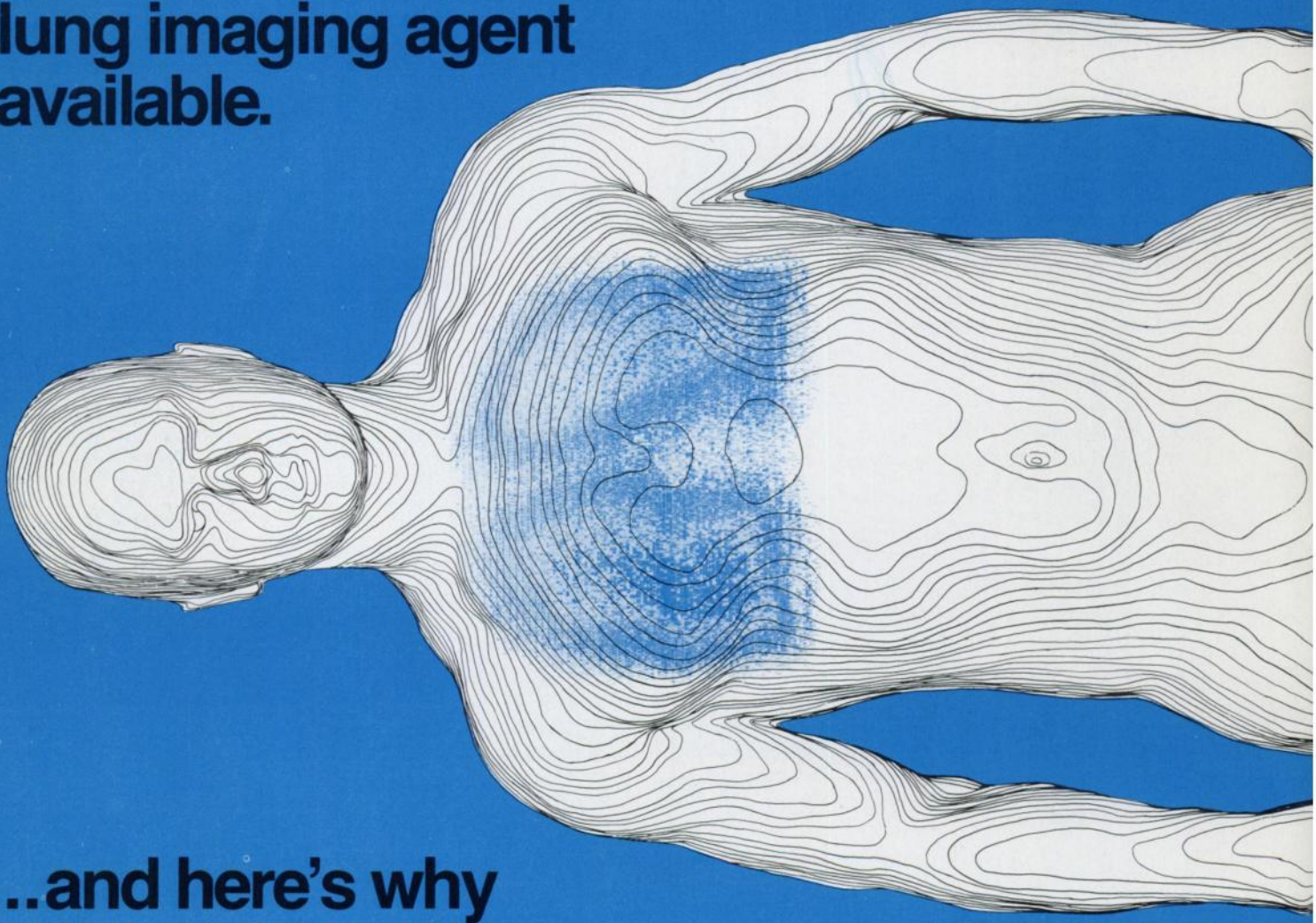
™

medi+physics

Macrotec®

Aggregated Albumin (Human)
for labeling with technetium 99m

STILL! the simplest, quickest to prepare lung imaging agent available.



...and here's why

Simple, two-step procedure. Not an ampul, not a frozen material. No waiting, no complicated procedures or specialized equipment required. Just two easy steps and you're ready to assay and inject.

Uniform particle size, excellent labeling efficiency. Particle size meets or exceeds Bureau of Biologics standards; 90% in 5-60 micron range. Excellent labeling efficiency when reconstituted with a compatible technetium 99m.

Won't agglomerate in the vial, loses virtually no labeling for 8 hours (if stored between 2°C. and 8°C.).

Ideal for the busy lab. Recommended amount of 99mTc for reconstitution high enough to allow numerous scans from a single vial.

BASIC STEPS IN PREPARING FOUR TECHNETIUM

Squibb Macrotec® Aggregated Albumin (Human)	**1. Add 1-3 ml. of 99mTc** Maintain shielding at all times.**	**2. Shake vigorously for 10-15 seconds.**
Mallinckrodt TechneScan™ MAA Aggregated Albumin (Human)	**1.** Remove reaction vial from *freezer* and *wait approximately 5 minutes* for contents to come to room temperature.	**2.** Add 99mTc** Maintain shielding at all times.
3M Albumin Microspheres (Human)	**1.** Add 4-10 ml. of 99mTc**	**2.** Shield completely and vigorously shake for 5-15 seconds.
Medi+Physics Lungaggregate™ Reagent Aggregated Albumin (Human)	**1.** Shake *ampul* vigorously to suspend particles.	**2.** Open ampul.

Emphasis added by Squibb to point out certain differences in procedures.

MACROTEC® (Aggregated Albumin [Human])

Macrotec (Aggregated Albumin [Human]) is a sterile, non-pyrogenic, lyophilized prepararion of aggregated albumin. Each vial of the preparation contains 0.08 mg. tin as chloride, 1.5 mg. denatured human serum albumin, and 10 mg. Normal Serum Albumin (Human).

INDICATIONS: For use in perfusion lung imaging as an adjunct to other diagnostic procedures.

CONTRAINDICATIONS: At present there are no known contraindications to the use of this product.

WARNINGS: Radiopharmaceuticals 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.

Since ^{99m}Tc is excreted in milk during lactation, formula-feedings should be substituted for breast-feedings.

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.

Note: Macrotec (Aggregated Albumin [Human]) is not radioactive. However, after ^{99m}Tc is added, adequate shielding of the resultant preparation should be maintained.

PRECAUTIONS: In the use of any 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.

Aseptic technique is essential in the preparation of Technetated (Tc-99m) Aggregated Albumin (Human).

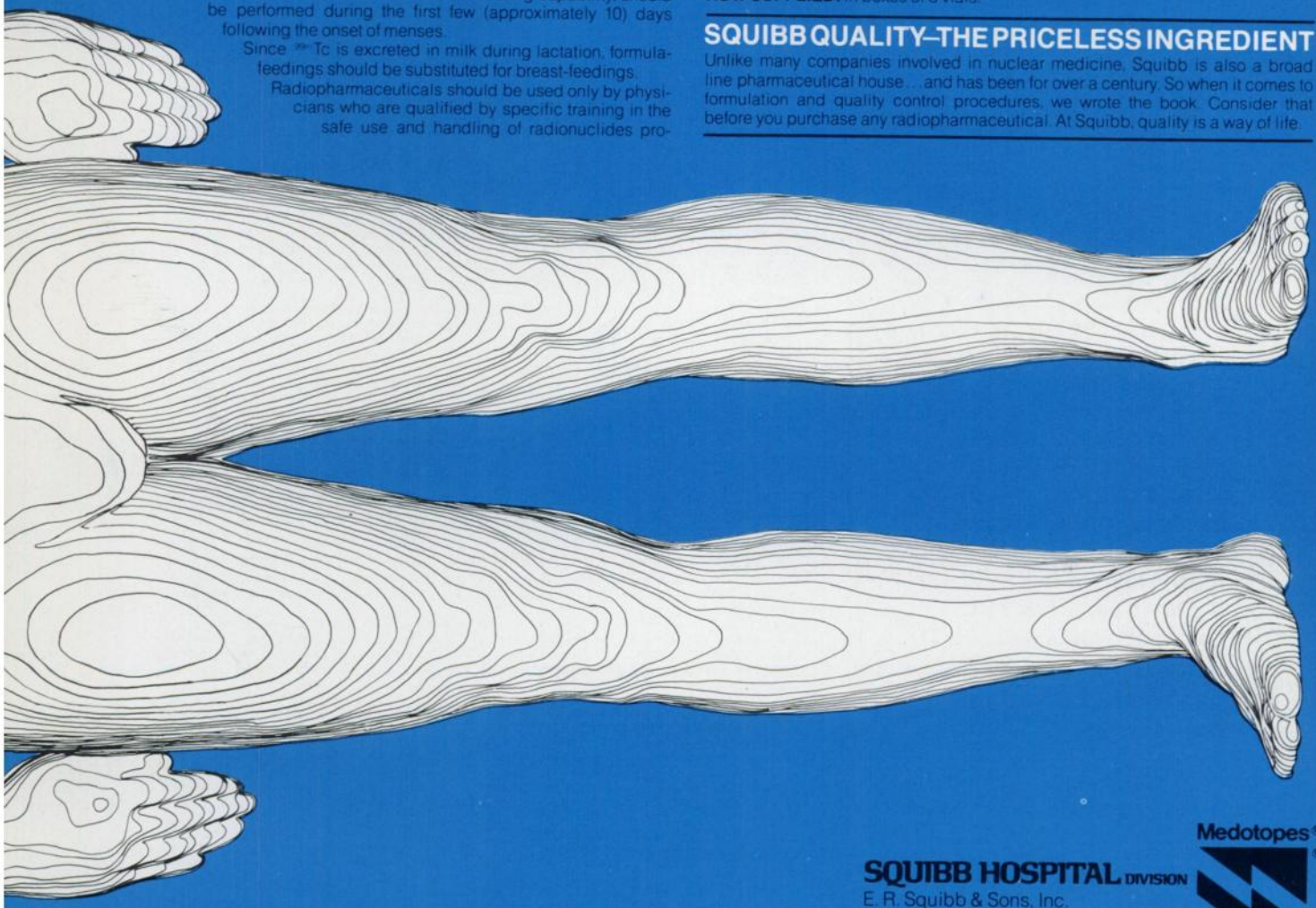
ADVERSE REACTIONS: At present, adverse reactions have not been reported following the administration of this product.

For full prescribing information, consult package insert.

HOW SUPPLIED: In boxes of 5 vials.

SQUIBB QUALITY–THE PRICELESS INGREDIENT

Unlike many companies involved in nuclear medicine, Squibb is also a broad line pharmaceutical house...and has been for over a century. So when it comes to formulation and quality control procedures, we wrote the book. Consider that before you purchase any radiopharmaceutical. At Squibb, quality is a way of life.



Medotopes®

SQUIBB HOSPITAL DIVISION
E. R. Squibb & Sons, Inc.
Princeton, N.J. 08540

H605-507

99m-LABELED LUNG IMAGING AGENTS*

3. Gently agitate vial for few seconds. **4.** *Allow to stand for 15 minutes* at room temperature. **5.** Visually inspect vial for presence of large aggregates. *If present, do not use.* **6.** *Agitate* to effect homogenous suspension of the aggregated albumin.

**Recommended maximum activity: 60 mCi.

3. Remove vial from shield (with forceps) and place in center of operating *ultrasonic bath* containing 3/4" of water. Bath should be protected by *lead glass or bricks.* *Ultrasound for 5 minutes.*

**Recommended maximum activity: 30 mCi.

3. Withdraw (very slowly) 1.5-2.0 ml. of aggregate from ampul with *syringe.* **4.** Inject (very slowly) syringe contents into *mixing vial.* **5.** Wrap mixing vial in *absorbent paper disc* and place in lead shield. **6.** Add 0.5-2.0 ml. of 99mTc** in saline into shielded mixing vial. Shake vigorously for at least 30 seconds. *Incubate* at room temperature *for 30 minutes.* **7.** Shake contents vigorously just before removing aliquot intended for patient use.

**Recommended maximum activity: 25 mCi/ml.

*Based on manufacturers' product information. **NOTE: See manufacturers' package inserts before the preparation of any of these products.**

HOECHST

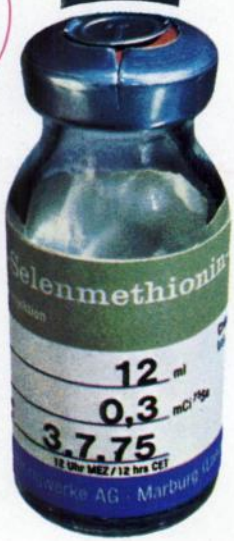
BEHRING INSTITUTE

E. v. Behring

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

Film Star.

With Cameray II, the new 37-tube scintillation camera from Raytheon, you get what you'd expect from a star: Performance. Total System Performance. TSP.

Any scintillation camera that's a top performer has to put a lot of good operating characteristics together. System and energy resolution. Uniformity. Linearity. Count rate. Price. Consider all these together and you'll find Cameray II at the top. There are other reasons too. Choice of 8 x 10 or 14 x 17 film size. Whole body capability. Full range of accessories. Together they add up to TSP. And TSP is what makes Cameray II a film star.

See for yourself how Cameray II measures up. Let your Raytheon representative show you a TSP comparison chart. Then, if you choose the star, we'll give you a director's chair. For more information contact Jay Cone, Marketing Manager, Raytheon Company, Medical Electronics Operation, Fourth Avenue, Burlington, Massachusetts 01803. Telephone (617) 272-7270.

RAYTHEON

Call (617) 667-9531 for technical consultation or product information.

Cardiovascular

In Black And White

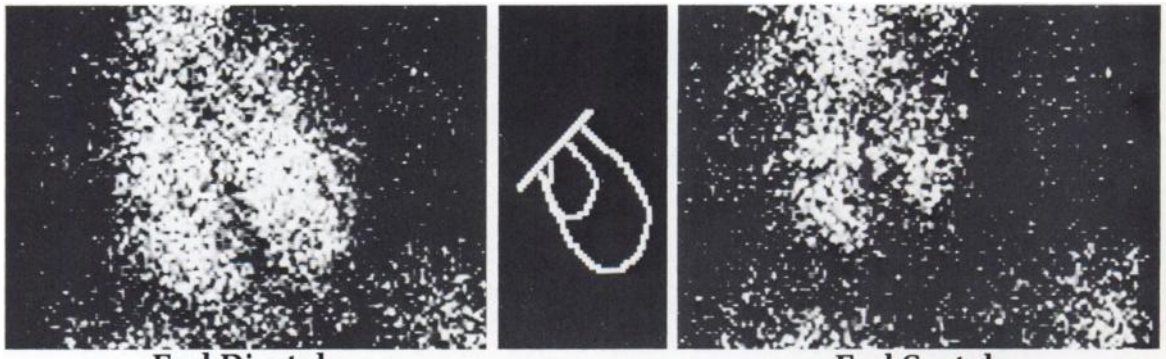
Series 100

All studies are ^{99m}Tc albumin gated blood pool studies. All studies done on Ohio-Nuclear Series 160 DataSystem with the Series 100 Camera gated directly into the 2 separate 16K memories of the DataSystem. Studies performed in December, 1974.

Normal — LAO View

32 year old male
History —
Normal

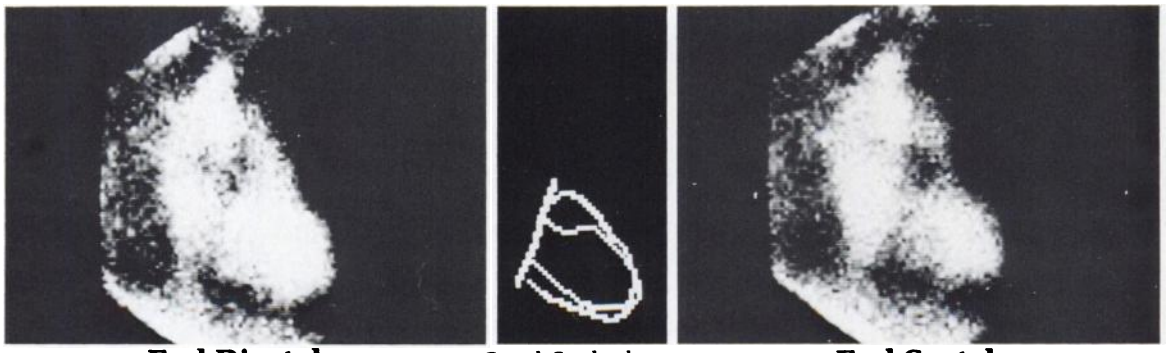
160 DataSystem
in half field mode



End Diastole — End Systole

Focal Akinesis — Anterior View

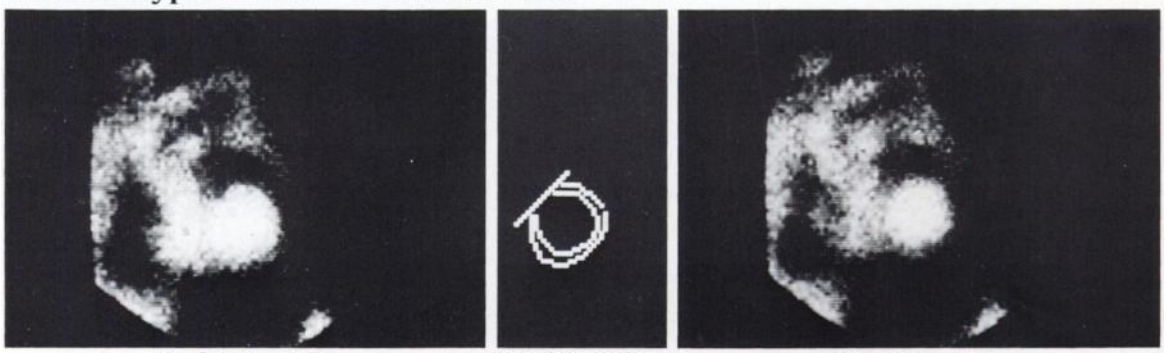
60 year old female
History — extensive infarct 1972, progressive shortening of breath, congestive heart failure, acute pulmonary embolism, recurring ventricular tachycardia, patient was defibrillated



End Diastole — *Gated Study shows* severe left ventrical akinesis — **End Systole**

Diffuse Hypokinesis — Anterior View

63 year old male
History — acute infarction Aug. '74, ventricular tachycardia, patient was defibrillated.



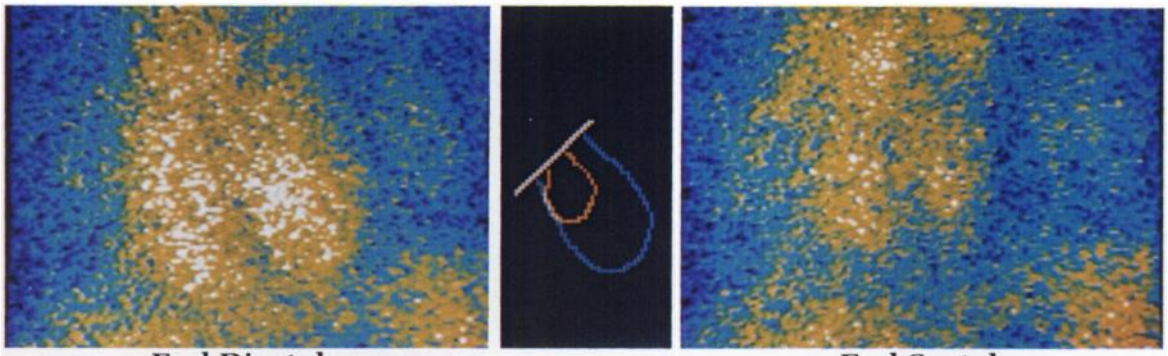
End Diastole — *Gated Study shows* low ejection fraction diffuse hypokinesis — End Systole

Nuclear Diagnosis

Or In Color

Series 160 DataSystem

Normal — LAO View

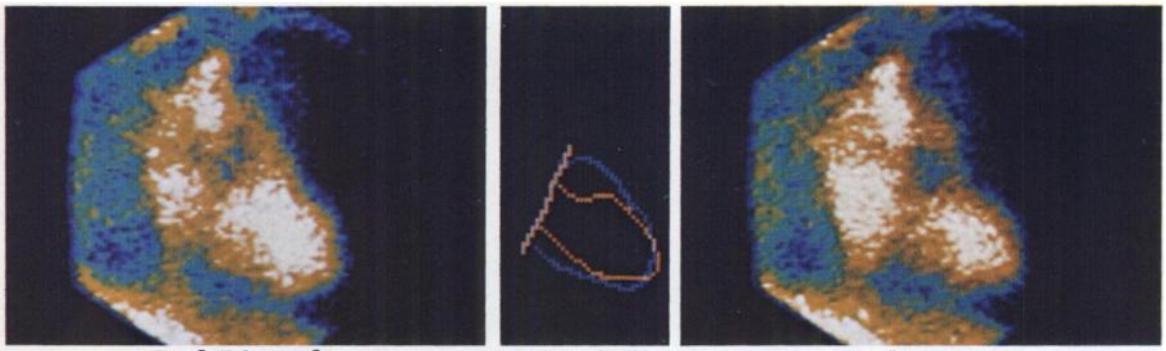


End Diastole — End Systole

32 year old male
History — Normal

160 DataSystem in half field mode

Focal Akinesis — Anterior View

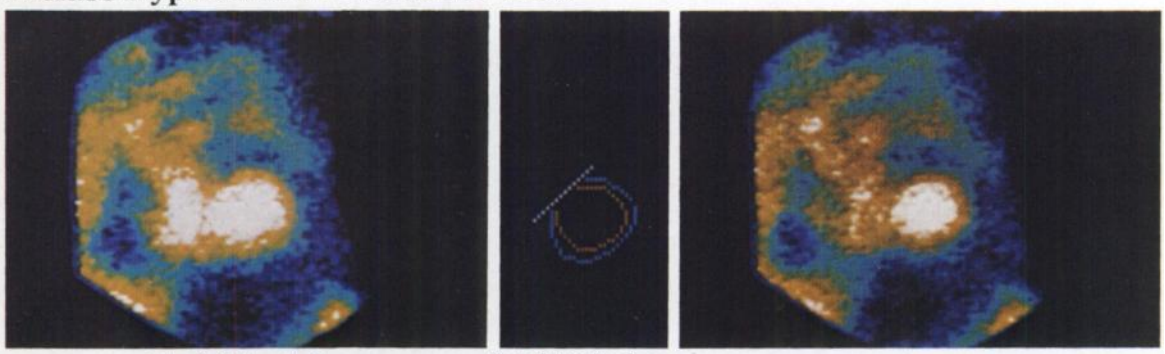


End Diastole — End Systole

60 year old female
History — extensive infarct 1972, progressive shortening of breath, congestive heart failure, acute pulmonary embolism, recurring ventricular tachycardia, patient was defibrillated

Gated Study shows
severe left ventrical akinesis

Diffuse Hypokinesis — Anterior View



End Diastole

63 year old male
History — acute infarction Aug. '74, ventricular tachycardia, patient was defibrillated.

Gated Study shows
low ejection fraction
diffuse hypokinesis

ohio-nuclear, inc.
6000 COCHRAN ROAD • SOLON, OHIO 44139
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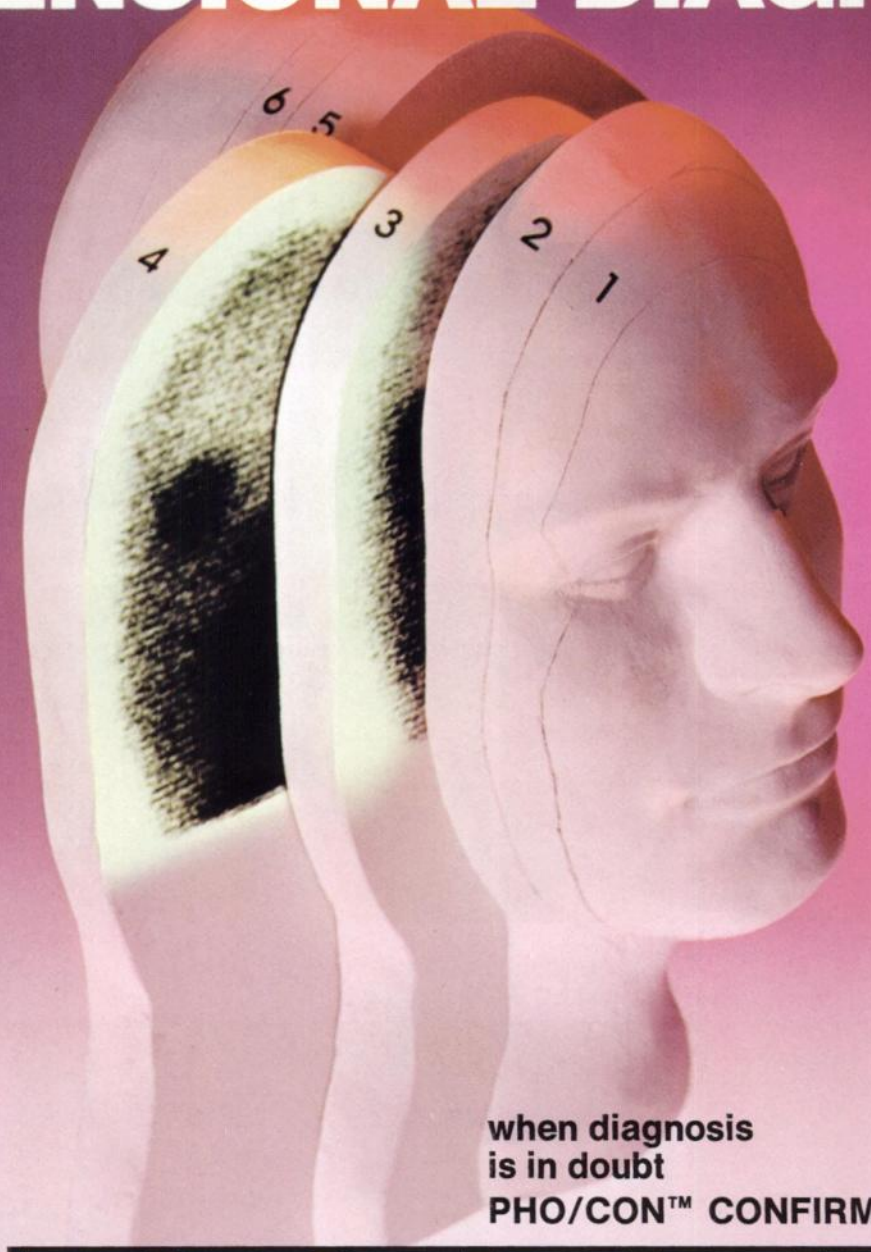
(U.K.), Radix House, Central Trading Estate, Staines, Middlesex, England • Phone Staines 51444

DIMENSIONAL DIAGNOSIS



when diagnosis is in doubt PHO/CON™ CONFIRMS

PHO/CON — the first of a new generation of multi-plane imaging devices — gives you significant new dimensions, whether you are imaging the brain, whole-body organs, individual organs, or bone. It can quickly confirm lesions masked by normal anatomical structures and provide definitive visualizations when other methods fail.

Your facility gets up to six anterior and six posterior tomographic images from one PHO/CON scan, each readout being sharply focused on a different plane in the subject. Lesions can be dramatically visualized with near-constant resolution regardless of depth or the organ being imaged.

PHO/CON utilizes two detector heads for simultaneous anterior-posterior imaging. It has a 26″ x 70″ scan field, suitable for any size study. Each detector head produces six simultaneous 2″ x 2″ tomographic images on 5″ x 7″ film, or three simultaneous 2″ x 5½″ whole body images on 8″ x 10″ film.

PHO/CON's tomographic capability provides significantly more data than is available from conventional dual-headed scanners. In addition, PHO/CON has 3 times the crystal area of a dual 5″ scanner, with scanning speed up to 1000 cm/min. A full range of collimators is available.

PHO/CON is now proving its dimensional diagnostic value in teaching hospitals and cancer clinics worldwide. For complete information on this first of the new multi-plane imagers, write or phone.

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Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
Des Plaines, IL 60018, U.S.A.
Telephone: 312-298-6600

CM-363

It's Simpler to be sure... with the new TC99m

MAC•1 Miniaturized Ascending Chromatography System

Scanning Control Kit

For the determination of the chemical states of Technetium 99m in DTPA, pyrophosphate, polyphosphate and diphosphonate

Confirm the percentage of chemically bound TC-99m in reconstituted solutions with stannous DTPA, pyrophosphate, polyphosphate and diphosphonate.

Protect your diagnostic picture from interference by excessive unbound or oxidized TC-99m.

Avoid the expense of complicated equipment and procedures for electrophoresis or chromatography by column, thin-layer and descending methods.

Increase your speed and ease in accurate determination of chemically bound TC-99m —within less than 10 minutes—using color-coded, disposable paper chromatograms and any standard radioactivity measuring system.

with the new

MAC•1 Miniaturized Ascending Chromatography System

Scanning Control Kit

For the determination of the chemical states of Technetium 99m in DTPA, pyrophosphate, polyphosphate and diphosphonate

Because MAC is a miniaturized system to determine the chemical state of Tc-99m by developing two **disposable** paper chromatograms whose radioactivity can be measured and the percentage of carrier-bound Tc-99m easily calculated—**all within 10 minutes or less.**

Each of the two miniature paper chromatography procedures is **color-coded,** and they can be run simultaneously—to permit determining percentages of activity for (1) hydrolyzed and (2) oxidized Tc-99m.

The **MAC** procedure is a **simple** one:
(1) Place a drop of the radiopharmaceutical solution containing Tc-99m on each of the chromatographic papers—green and black.

(2) Insert each paper into the correspondingly color-coded chamber, to which you have previously added solvent from the color-coded dropper.

(3) Remove the papers after development, cut each one in two on the indicated line, and count each piece in a suitable radioactivity counter.

(4) Calculate the percentage of chemically bound Tc-99m as 100 minus the previously calculated percentages of hydrolyzed and oxidized Tc-99m.

HOW SUPPLIED: TECHNETIUM 99m **MAC** KITS, in individual carriers containing:
2 chromatography vials—1 green labeled, 1 black-labeled.

2 solvent dropper-bottles—color-coded green for normal saline (15 ml) and black for acetone-acetic acid mixture (15ml)

50 color-coded chromatography strips—25 green line, 25 black line.

1 pair of forceps for handling strips.

A clear, step-by-step explanation of simplified testing procedure is provided with each kit.

HOW TO ORDER: Catalog Number MAC-1, Price $25 per kit, for shipment Monday through Friday, from:

General Radioisotope Products
3120 Crow Canyon Road San Ramon, California 94583
Telephone: (415) 837-1321
A subsidiary of Bio-Dynamics, Inc.

See the new MAC-1
Booth 1222 at the RSNA meeting

Free Yourself

More convenient than any other thyroxine testing procedure

- **frees you from complicated extraction procedures**
- **frees you from tedious separations**
- **frees you from the need to rerun high values**

Its simplicity saves you time

Roche Diagnostics' new T_4 RIA eliminates the cumbersome and time-consuming extraction and separation steps associated with competitive protein binding (CPB) assays. This unique procedure can be run in less than two hours, requires minimal "hands on" bench time, is easily automated for large volume testing and utilizes only a 25 μl patient sample. ROCHE T_4 RIA is a convenient assay which requires no additional equipment if you are currently running radioassays, and frees your time for other laboratory work.

Its wide range saves you reruns

ROCHE T_4 RIA has a broader standard curve range than any other major product. Its curve from 0 to 30 μg% attests to the procedure's sensitivity, since most other available assays lose sensitivity beyond 15 μg%. This increased range, which is easily transformed to a linear plot, virtually eliminates the need to rerun high values and provides more free time.

Its economy saves you money

Roche Diagnostics offers this assay at a low cost with attractive discounts geared to your testing volume. The greatest economy in ROCHE T_4 RIA is in time saved and increased productivity for your lab.

Along with all these advantages we have created a new, compact packaging system for our assay—providing an economy of refrigeration space.

New Roche T_4 RIA

You owe it to yourself

ROCHE

Turn the page to see the rest of our offer...

...keep yourself free with

New Roche T_3 UPTAKE

To complement your T_4 results, Roche Diagnostics offers the same superior convenience with the ROCHE T_3 Uptake assay. This test utilizes a resin tablet as the separating medium. ROCHE T_3 Uptake is a rapid procedure which requires no special handling or washing. A T_3 Uptake serum calibrator is included, which makes precount and temperature correction unnecessary.

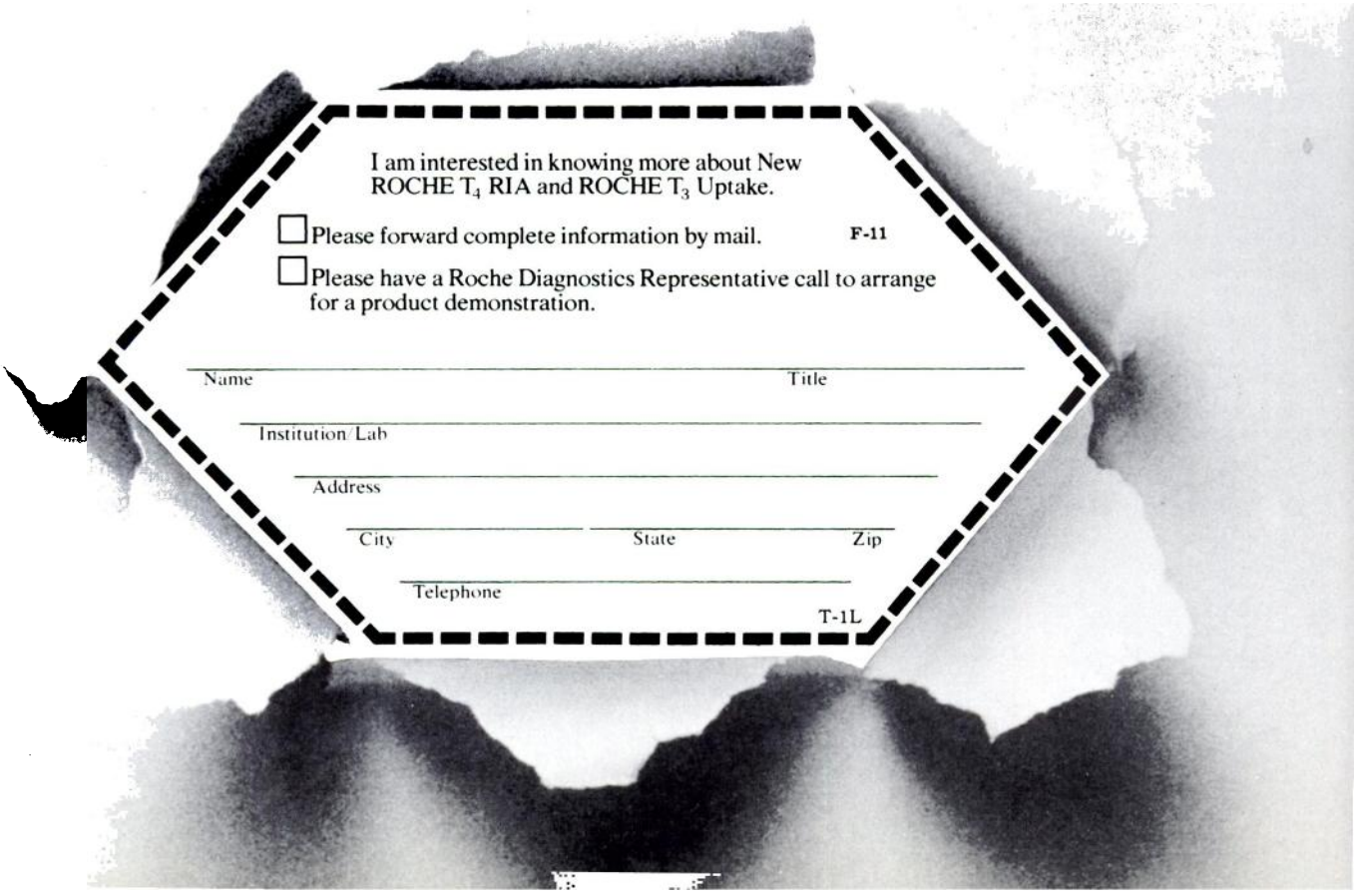
Together, ROCHE T_4 RIA and ROCHE T_3 Uptake offer you a complete convenient package for the major thyroid assays. The pricing schedule for both assays is responsive to your volume needs. From start to finish, it's a system which makes your work easier with sensitive, reliable products.

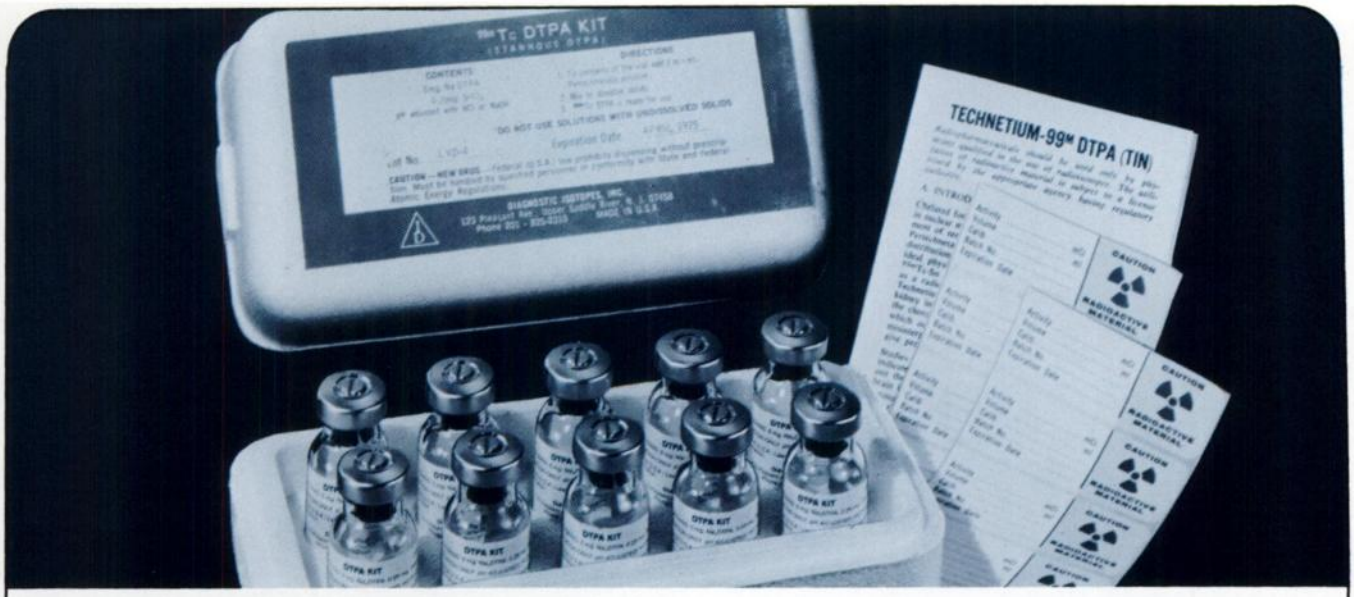
Roche T_4 RIA, Roche T_3 UPTAKE

...why not free yourself?

ROCHE

ROCHE DIAGNOSTICS
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110





Radiopharmaceuticals, need not be expensive.

The radiopharmaceuticals you depend on must be predictable and consistently pure, as well as efficacious. But radiopharmaceuticals need not be expensive.

Many of our kits and ready-to-use radiopharmaceuticals actually cost less than products of comparable quality and consistency.

Our kits which come in 10cc vials, are easy to prepare, require no refrigeration, and have long shelf life. As an independent, pioneering company in the industry, we've managed to keep our standards up and our costs down.

Find out for yourself. Call us and speak directly with our President or Marketing Manager. Either one will be happy to discuss your needs.

KITS:

- 99m Diphosphonate-Tin
  5mg Diphosphonate and 0.5mg Stannous Chloride
- 99m Tc Polyphosphate-Tin
  100mg Polyphosphate and 2mg Stannous Chloride
- 99m Tc DTPA-Tin
  5mg DTPA and 0.25mg Stannous Chloride

Ready-to-use:

- Xenon-133 in Gas Phase
  10 or 20 mCi/Vial
- Xenon-133 in Saline
  10 or 20 mCi/Vial
- Selenomethionine (Se-75)
  0.250 mCi/Vial

diagnostic isotopes incorporated

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Telex 134408 • Phone: (201) 825-2310
Call Toll Free — 800-631-7020

^{125}I Folate Radioassay Kit

^{57}Co Vitamin B_{12} Radioassay Kit

Introducing another first — Clinical Assays GAMMA LABELED FOLATE and VITAMIN B_{12} radioassay kits for the determination of the etiologic diagnosis of megaloblastic anemia and nutritional deficiencies.

Fast — Accurate — Reproducible —

Maximum sensitivity in the diagnostic range below 6ng/ml for Folate and 400 pg/ml for Vitamin B_{12}.

Denaturation of the buffered samples at 100°C prior to assay eliminates the need for running individual patient "blanks"(1). Pipettings, counting time and calculations are cut in half.

A new, improved ^{3}H Folate radioassay kit which utilizes the buffered sample denaturation step is also available. Once again, pipettings, counting time and calculations are halved.

Other kits available:

GammaCoat Digoxin (^{125}I)	Digoxin (^{3}H)
GammaCoat Digitoxin (^{125}I)	Digitoxin (^{3}H)
GammaCoat Cortisol (^{125}I)	Cortisol (^{3}H)
GammaCoat Renin Activity (^{125}I)	Prostaglandins (^{3}H)

For Full Details Contact:

Clinical Assays, Inc.

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

References: 1) Dunn, R. T.; Foster, L. B.; Clin. Chem. 19, No. 10,1101, 1973.

THE SQUIBB THYROID 'EXPRESS'

You get fast delivery of accurate assay results - with no detours

THYROSTAT®-FTI DIAGNOSTIC TEST KIT

The most specific *single* screening test of thyroid function; ideal for large labs.

Unaffected by drug/physiologic-induced fluctuations in TBP.

THYROSTAT®-4/FTI DIAGNOSTIC TEST KIT

Both total serum thyroxine and free thyroxine index tests available *in one kit*.

THYROSTAT®-3 DIAGNOSTIC TEST KIT

For Uptake Ratio *or* % T_3 Uptake procedures; Normal *and* Hyper Control Serums included.

. . . all with the unique Squibb adsorbent tablet *for immediate uptake*

. . . all assays done *in minutes* — no lengthy evaporation, rotation or incubation steps required

. . . all packaged in compact, self-supporting "lab station" containers

. . . all available in 25, 100 and 500 test kits

. . . all backed by Squibb Quality — The Priceless Ingredient

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SQUIBB HOSPITAL DIVISION

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Tl 201 opens up the heart

With Tl 201 you enter a new era in the diagnostic evaluation of myocardial diseases.
Myocard scintigraphy can now be carried out on a routine basis.
Philips-Duphar supplies Tl 201 wherever you are, whenever you want.

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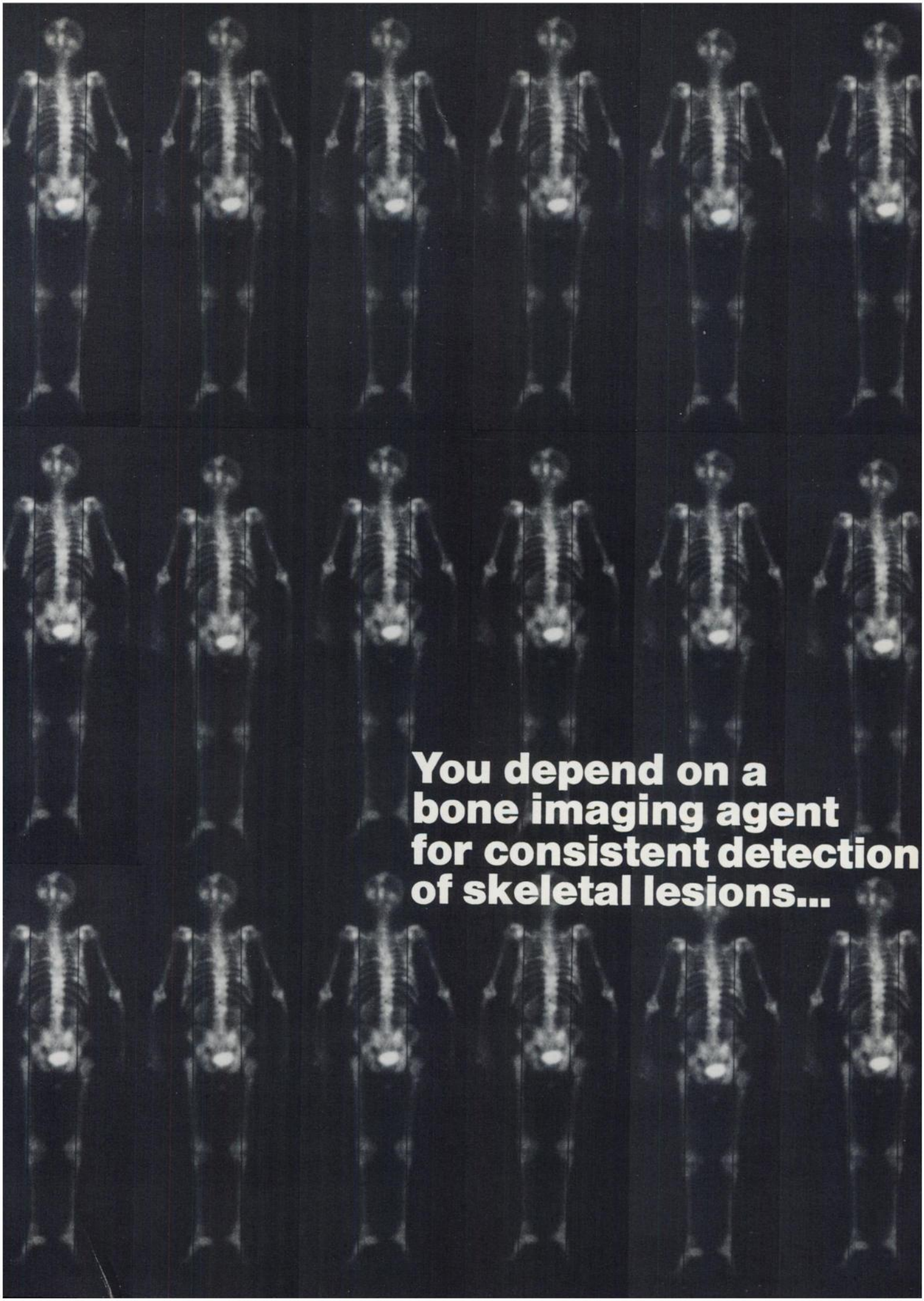
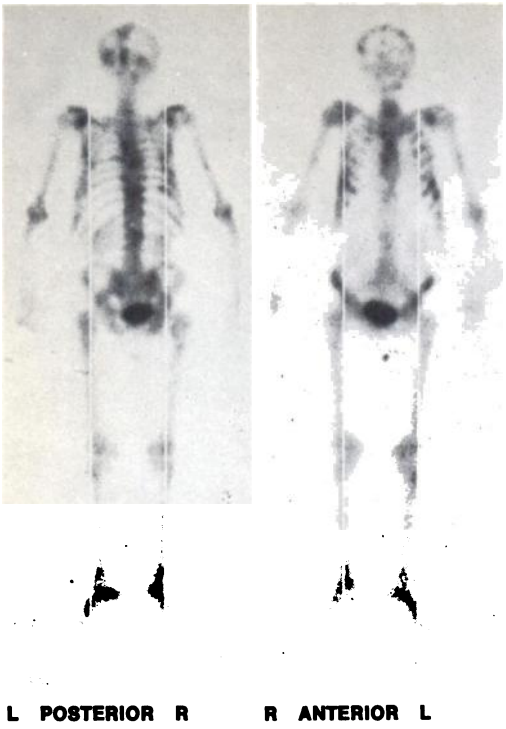
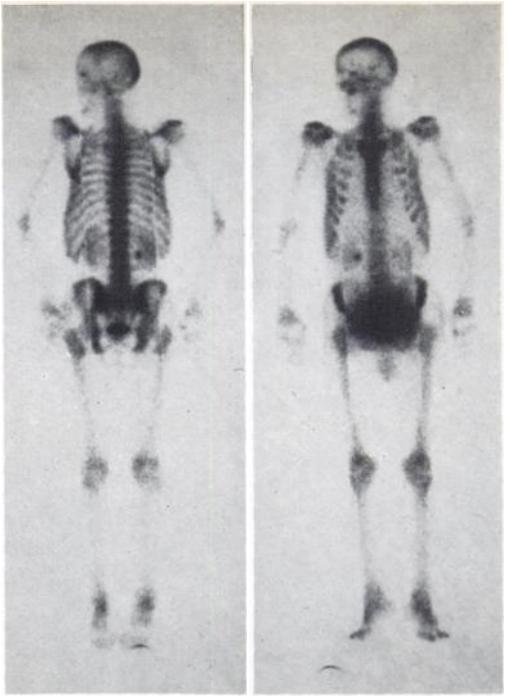

You depend on a
bone imaging agent
for consistent detection
of skeletal lesions...



L POSTERIOR R R ANTERIOR L

A 65-year-old patient with known carcinoma of the prostate. Note pelvic, skull, rib, sternum and vertebral lesions.

Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Anterior Count per Time:
> 1,000,000/30 min
Posterior Count per Time:
> 1,000,000/30 min
Instrument:
Searle Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator
Scanned:
3 hours postinjection



L POSTERIOR R R ANTERIOR L

A 66-year-old male with prostatic carcinoma and no conclusive evidence of metastasis to bone.

Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Posterior Count per Time:
636,690/35 min
Anterior Count per Time:
613,007/35 min
Instrument:
Picker Dynacamera® 2C with Omniview® table and ultrafine collimator
Scanned:
4 hours postinjection

When selecting a bone scanning agent for your department, there is a single overriding concern: Which will most consistently image the patient's detectable bone lesions?

When labeled with ^{99m}Tc, the physical and chemical properties of Osteoscan's diphosphonate formula deliver the excellent lesion imaging you need . . . scan after scan, day after day.

- P–C–P molecular bonding assures excellent <u>in vivo</u> stability—to minimize soft tissue uptake.
- Dry mix diphosphonate formulation reduces potential for hydrolysis.
- Formulated to produce consistently high tagging efficiency.

The result:

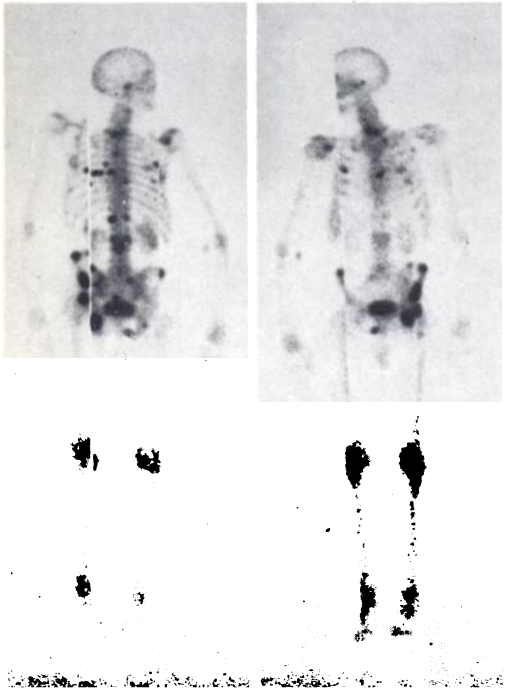
- Rapid blood clearance
- High target/non-target ratios
- Clear imaging of detectable bone lesions

If you would like further information about Osteoscan's performance benefits or would like to prove Osteoscan's consistent lesion imaging for yourself —please call Arnold Austin, Technical Manager, Professional Services Division, Procter & Gamble, (513) 977-8547.

PROCTER & GAMBLE

OSTEOSCAN®

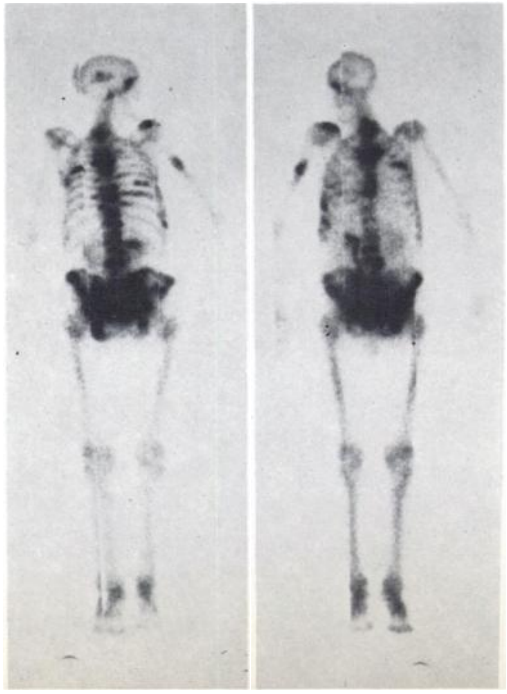
(5.9 mg disodium etidronate
0.16 mg stannous chloride)
SKELETAL IMAGING AGENT



L POSTERIOR R R ANTERIOR L

An 82-year-old patient with extensive metastatic bone disease secondary to known carcinoma of the prostate.

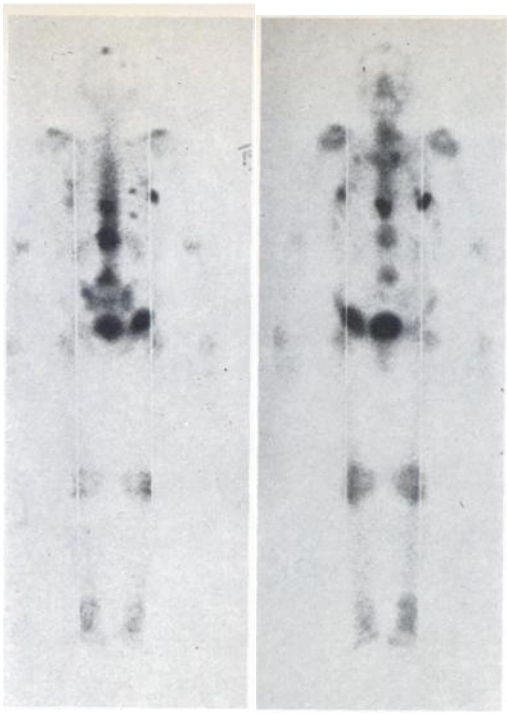
Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Anterior Count per Time:
561,220/30 min
Posterior Count per Time:
631,388/30 min
Instrument:
Picker Dynacamera® 2C with Omniview® table and ultrafine collimator
Scanned:
4 hours postinjection



L POSTERIOR R R ANTERIOR L

A 79-year-old male with known prostatic carcinoma metastatic to bone. Multiple lesions are seen throughout skeletal system.

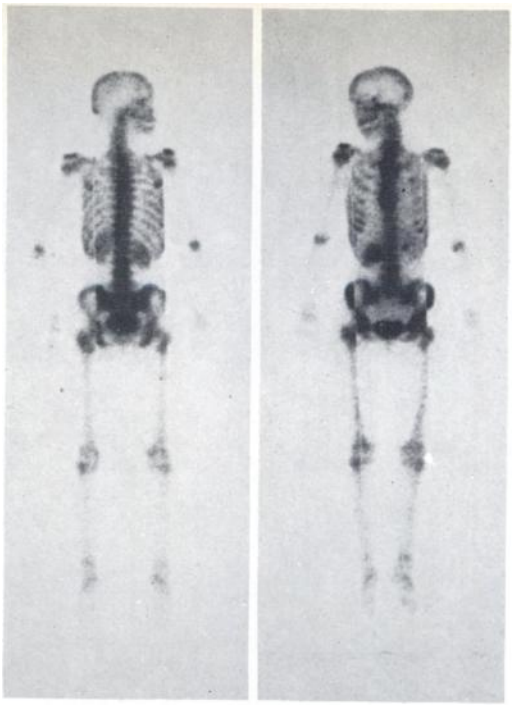
Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Posterior Count per Time:
621,153/26 min
Anterior Count per Time:
649,702/31 min
Instrument:
Picker Dynacamera® 2C with Omniview® table and ultrafine collimator
Scanned:
4 hours postinjection



L POSTERIOR R R ANTERIOR L

A 58-year-old male with a 41-year history of smoking displays extensive metastatic disease in ribs, vertebral bodies, pelvis, sternum and skull, secondary to known carcinoma of the lung.

Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Anterior Count per Time:
> 1,000,000/30 min
Posterior Count per Time:
> 1,000,000/30 min
Instrument:
Searle Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator
Scanned:
3 hours postinjection



L POSTERIOR R R ANTERIOR L

A 49-year-old female with previous right radical mastectomy for malignancy, having rib pain. Increased uptake in ribs suggests metastatic disease.

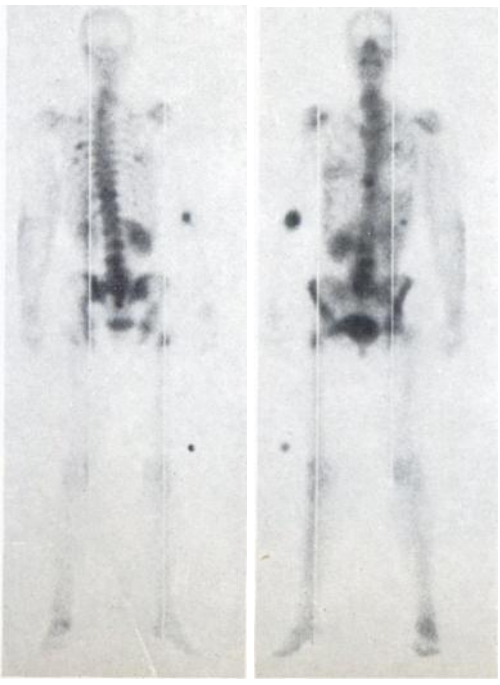
Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Posterior Count per Time:
500,361/28 min
Anterior Count per Time:
508,462/27 min
Instrument:
Picker Dynacamera® 2C with Omniview® table and ultrafine collimator
Scanned:
4 hours postinjection

OSTEOSCAN® consistently delivers:

- Clear, sharp images
- High-quality lesion detection

See following page for brief summary of package insert.

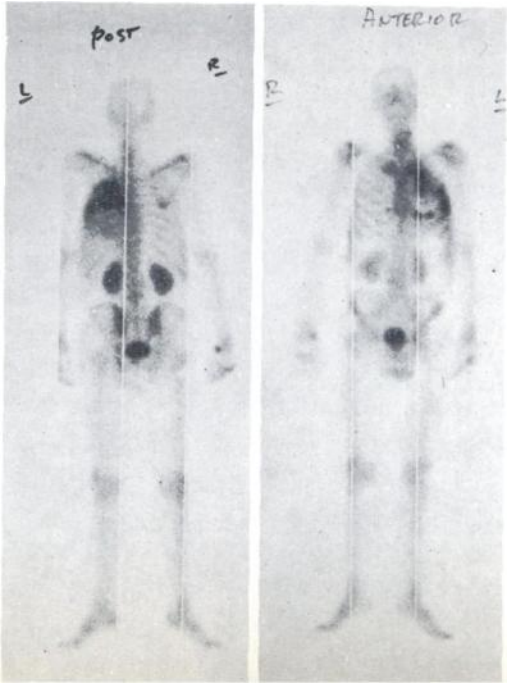
L POSTERIOR R R ANTERIOR L



A 43-year-old female with known metastatic disease secondary to carcinoma of the left breast. Swollen left arm is secondary to lymphedema, a result of radical mastectomy. (Note negative defect in region of left breast as a result of prosthesis.) Metastatic disease clearly visualized in vertebral bodies and ribs. Uptake at elbow is extravasation at injection site.

Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Anterior Count per Time:
> 1,000,000/30 min
Posterior Count per Time:
> 1,000,000/30 min
Instrument:
Searle Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator
Scanned:
3 hours postinjection

L POSTERIOR R R ANTERIOR L



A 61-year-old male following thoracotomy for carcinoma of the left lung. Two rib fractures (anterior view) of unknown etiology. Right thumb uptake (posterior view) secondary to arthritic changes.

Imaging Agent:
15 mCi
99mTc-OSTEOSCAN
Anterior Count per Time:
> 1,000,000/30 min
Posterior Count per Time:
> 1,000,000/30 min
Instrument:
Searle Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator
Scanned:
5 hours postinjection

OSTEOSCAN... Clear, sharp images for high-quality lesion detection... consistently

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 three (3) 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.

PROCTER & GAMBLE

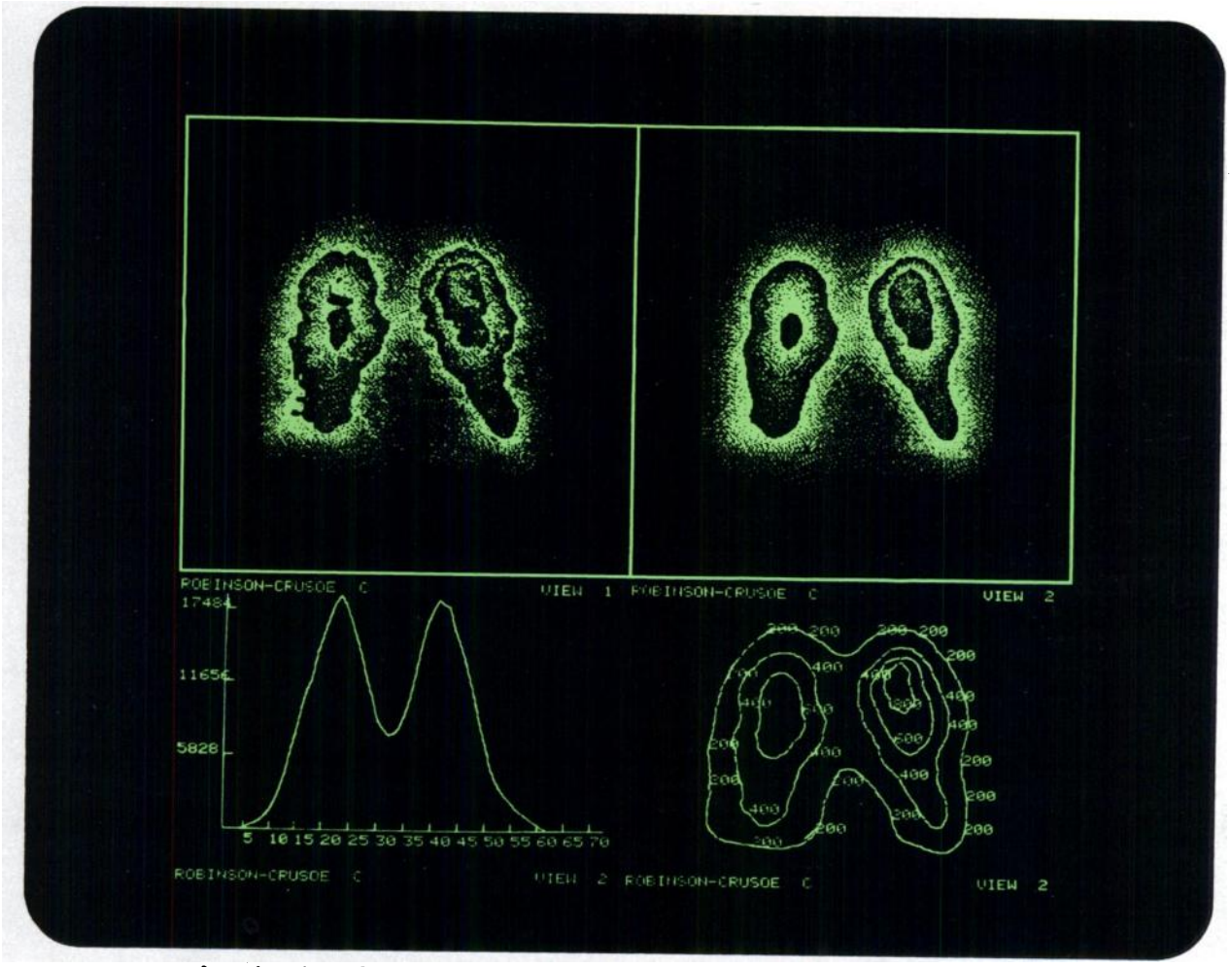
OSTEOSCAN®

(5.9 mg disodium etidronate
0.16 mg stannous chloride)

SKELETAL IMAGING AGENT

692-8437

People Pictures for Clinical Clarity



Anterior view of lungs, raw data, variably smoothed data, relative perfusion curve and contours on monochrome display.

At last ! varicam, a sophisticated gamma camera computing system which not only provides a dynamic capability but more significant static images without requiring computer expertise.

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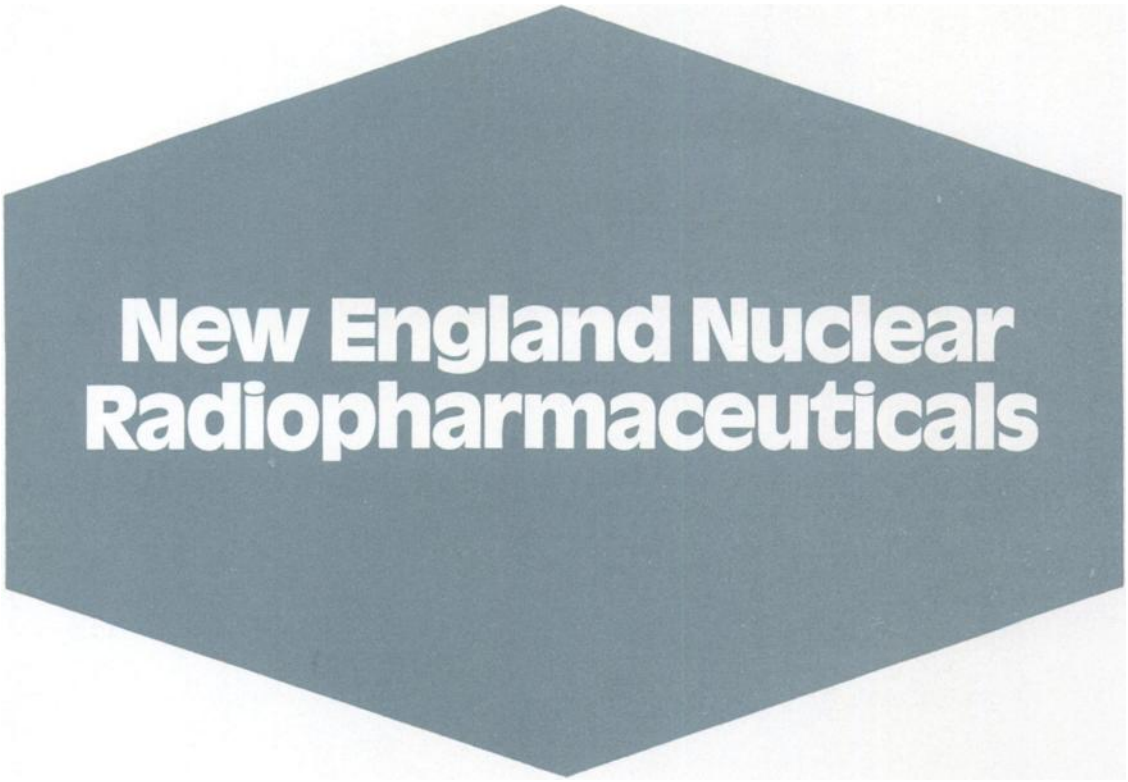
New England Nuclear
Radiopharmaceuticals

Six good things come in one small package

NEN's Sulfur Colloid is a reliable, economical, convenient, compact kit.

Reliable because of long consistent performance and backed up by our optional Minichromatography System, which verifies labeling efficiency.

Economical because NEN's kit has six preparations, not the usual five.

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Compact because an average year's supply of 44 kits occupies only two cubic feet.

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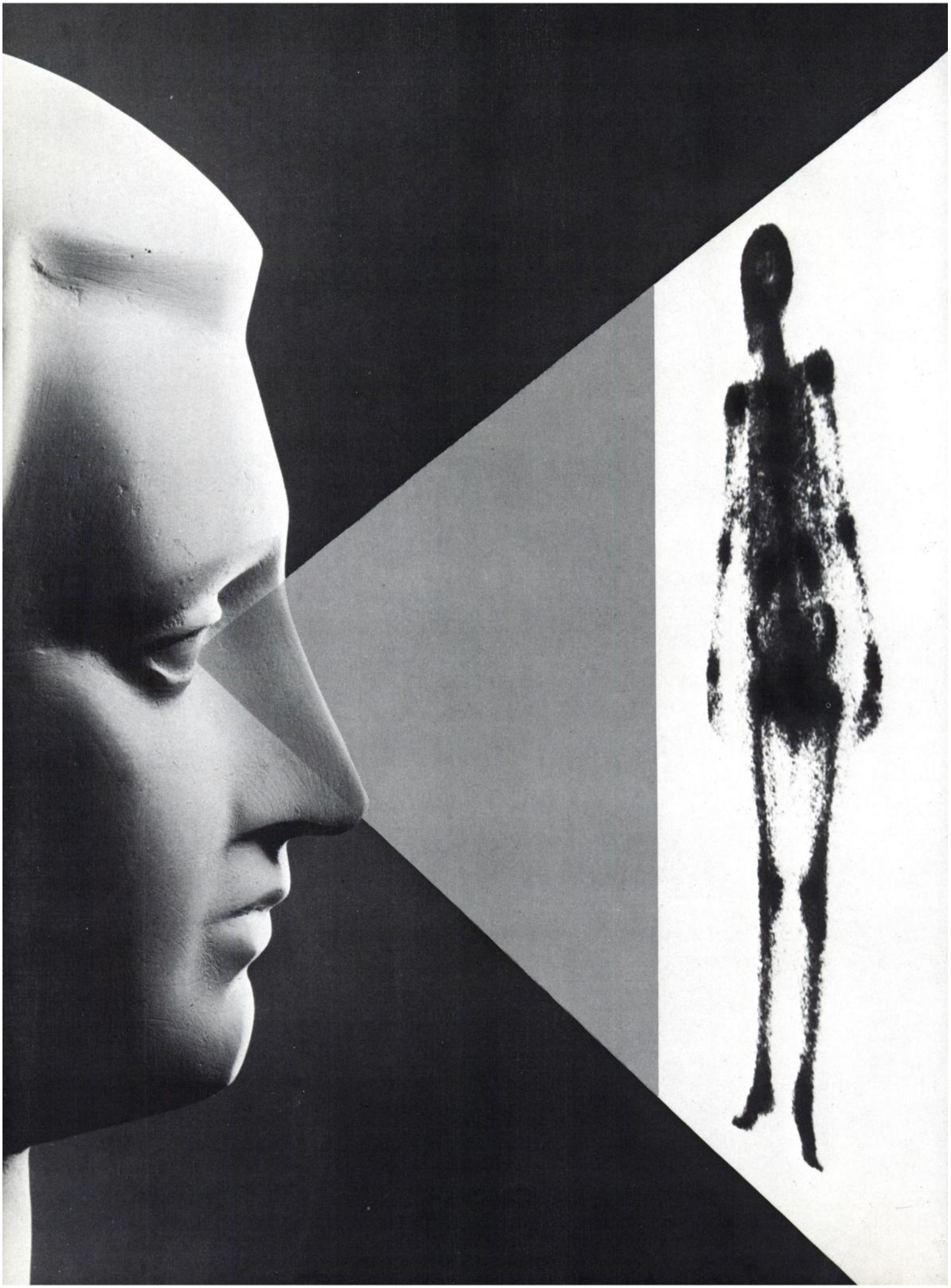
Canada: NEN Canada Ltd, Dorval, Quebec. Tel: 514-636-4971
Europe: NEN Chemicals GmbH, D6072 Dreieichenhain, W. Germany, Siemensstrasse 1. Tel: Langen 06103-85035



Kodak products can help sharpen the probing eyes of nuclear medicine.

Flexible options and fast answers count when it comes to making diagnostic decisions...and Kodak offers help with a broad background in imaging technology, a selection of products and a representative who is ready to serve you.

With continuing improvement in both equipment and radionuclides, you have a need for films with longer linear slopes and improved contrast characteristics. Kodak provides a choice of films, including our new Kodak film for nuclear medicine SO-179 to meet your current diagnostic imaging requirements.

Because time is just as important, the Kodak *RP* X-Omat processor, model M7A, can help provide answers to your questions with ready-to-read images in 2½ minutes. You can cut water heating costs, too, because it uses water from 40 to 85° F.

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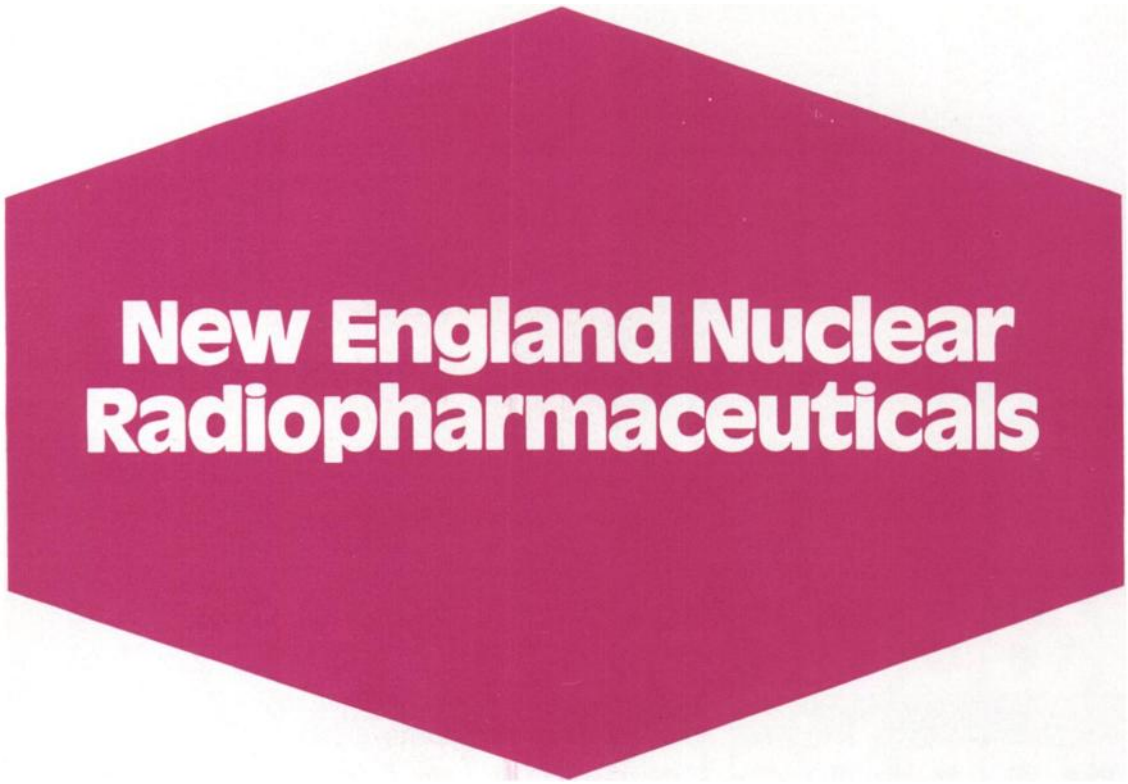
A commitment to quality



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

CONTRAINDICATIONS. None.

WARNINGS. Technetium 99m DTPA chelate 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 a 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.

Sodium pertechnetate Tc-99m may contain oxidants or other contaminants which will prevent the pertechnetate from binding to the DTPA chelate. Although both "instant" and generator-produced pertechnetates have been successfully employed, the user should demonstrate that his source is without adverse effect on the properties of the resulting Tc-99m DTPA chelate before administration to humans.

PRECAUTIONS. 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.

In the use of any 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.

Technetium 99m DTPA must be formulated within six hours prior to clinical use. For optimum results, this time should be minimized. Intervals longer than one hour should be the exception.

The components of the kit are sterile and non-pyrogenic. It is essential that the user follows the directions carefully and adheres to strict aseptic procedures during preparation of the agent.

ADVERSE REACTIONS. None.

DOSAGE AND ADMINISTRATION. The suggested dose range employed in the average adult is: kidney functions and imaging 3 to 5 mCi; brain imaging 10 to 20 mCi. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

Tc99m DTPA(Sn) Reagent Kit

Versatile: Renal perfusion and imaging, GFR Studies; Brain imaging.
Fast: One minute preparation.
Stable: Six months shelf life; no refrigeration.
Safe: Special radiation shield with each kit.

This kit produces a true DTPA chelate which, in addition to being an agent of choice in renal imaging, has been found to produce an excellent tumor-to-brain ratio. Contact your NEN sales representative for complete information.

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Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531

Canada: NEN Canada Ltd, Dorval, Quebec. Tel: 514-636-4971
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PACE and Picker's commitment to serve the clinical pathology lab are part of what we call Picker'synergy — the complete interfacing of systems and services for better diagnostic results.

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Picker'synergy

Picker PACE-1 specifications meet your clinical applications.

Fast (5 sec.) sample changer with a 200 position sample chain, simple to upgrade to 400.

Sample chain composed of rugged, interlocking links which easily disassemble for thorough cleaning.

Function regulators define standards, samples, replicates, isotopes and start/stop modes.

Thermal alphanumeric printer prints headings and data.

Teletypewriter compatibility.

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Low-background, high-efficiency NaI (Tl) crystal detector.

Time-tested Spectroscaler, 3-mode analyzer with preset ^{125}I window.

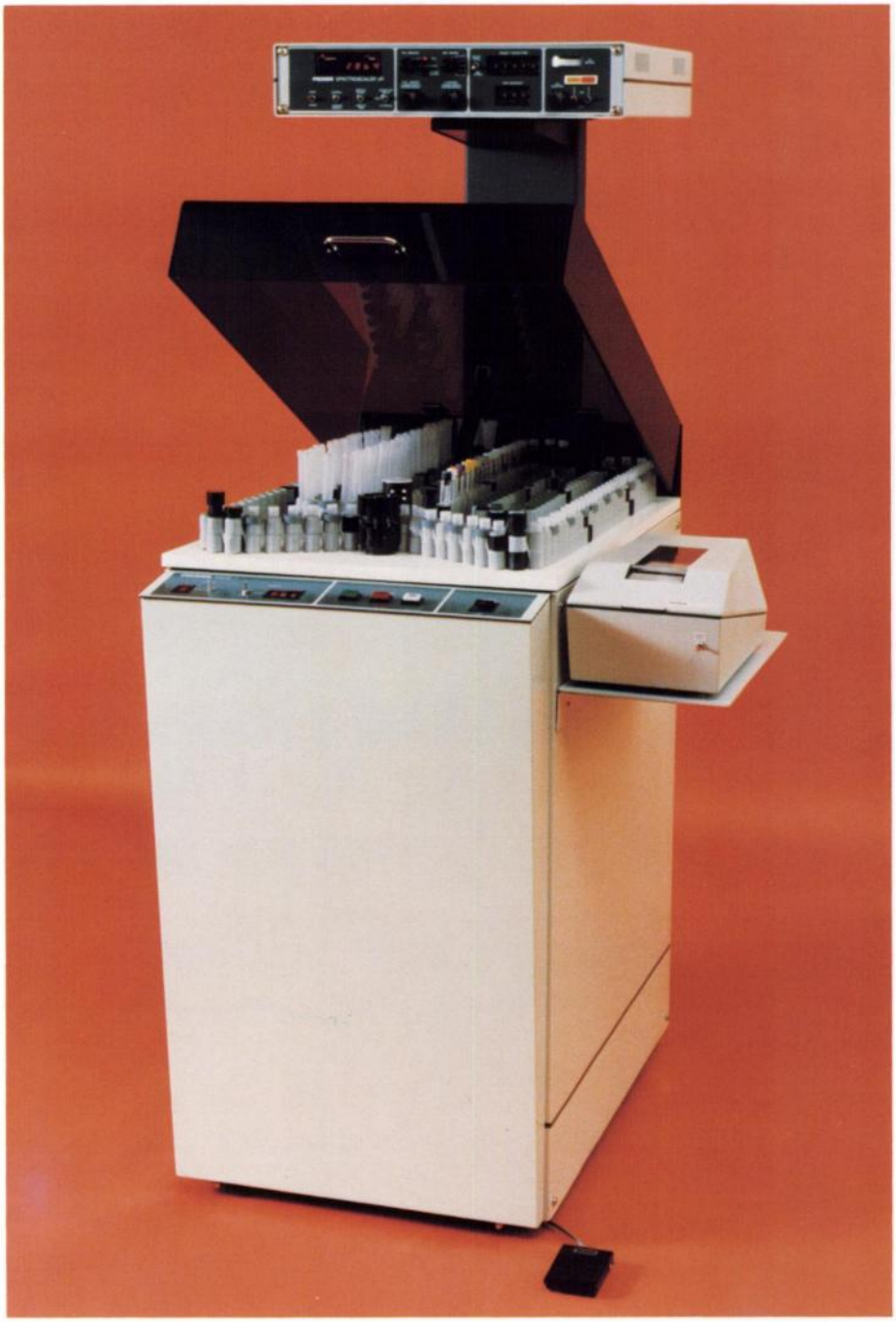
Automatic switching capabilities to second isotopes.

Available with the programmable automatic calculator (PAC) system to meet radioassay data reduction needs.

Samples can be loaded and counted in a repeat and manual mode.

A 6-decade scaler/timer with solid state display permits count totals to 999,999 and elapsed times to 99.999 mins.

Ultra-stable, temperature-regulated electronics minimize short and long term drift.



Automatic background subtraction by thumbwheel selector.

A transparent cover with safety interlock allows observation of samples in the changer and protection from contamination.

Compact design, only 20 inches wide.

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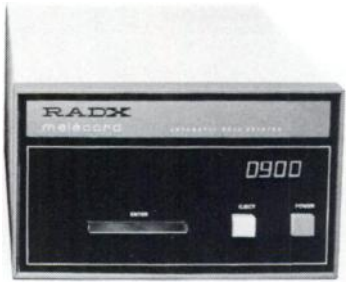
ONE OF THE C.I.T. COMPANIES

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.

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%, with calibrations traceable to the National Bureau of Standards.

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.

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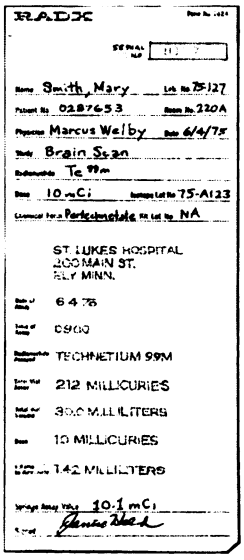

Compact, filing cabinets hold tab cards, lot number cards to identify and account for radio pharmaceuticals, and patient data cards. Keeps records organized and readily accesible when you need them for any reason.

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The Melécord data card — permanent documentation of all pertinent information

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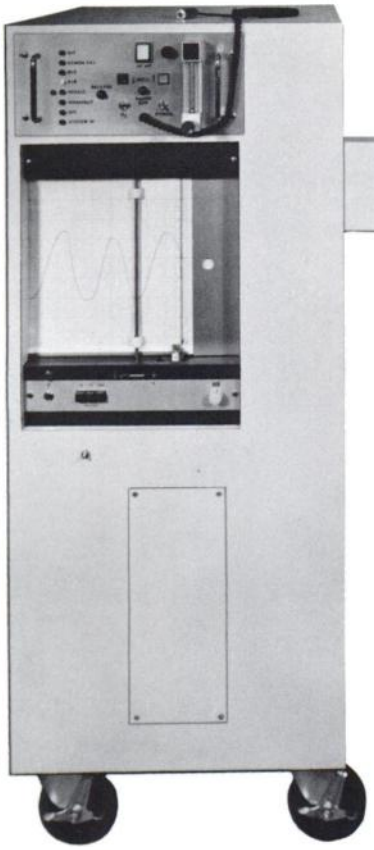

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- **Allows delivery of a direct bolus of radioactive gas.**
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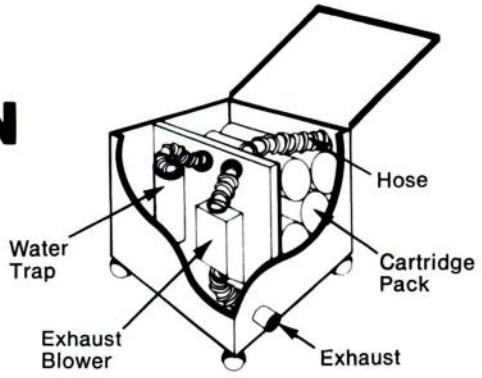

- Compatible with any Xenon-133 gas handling system.
- Disposable 5-cartridge tandem filter removes all radioactive xenon from exhaled air. Outlasts single-cartridge units.

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For full details, ask for Bulletin 125-B

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.

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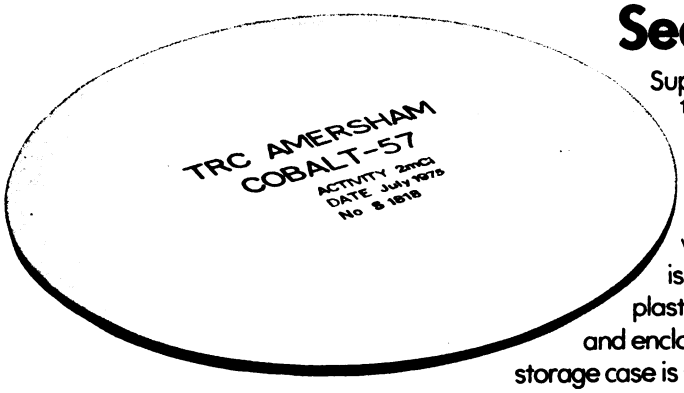
City
Zip

A reference is only as good as its source

Our sources have an excellent reputation for safety and convenience; they offer you references you can trust.



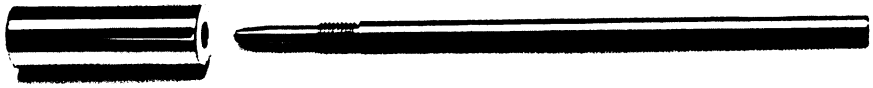
Sealed flood sources

Supplied as ^{57}Co (2 and 3mCi) and ^{133}Ba (0.5 and 1.0mCi) in two sizes, to check the uniformity and resolution of conventional and wide field-of-view gamma cameras, and for transmission imaging. The maximum acceptable variation in activity over the entire active area, is ±1% of the mean value. Each uniformly active plastic component is surrounded by inactive plastic and enclosed in an anodized aluminium casing. A shielded storage case is supplied with each source.

Anatomical marker sources

Spot sources are available as a 1mm bead of ^{57}Co or ^{133}Ba (10 and 100μCi). Features include a welded plastic capsule, point source geometry with a visible active bead, and colour coding for quick identification of nuclide and activity. They are packed in sets of three in shielded boxes; replacements are available separately.

Pen point tracers have a 1mm diameter bead of ^{57}Co (100μCi) sealed in the tip of a ball-point pen shaped holder with a brass shield for the active end.



Flexible sources are 50cm x 4mm diameter; ^{57}Co (100μCi) is dispersed in an inner core of active plastic, sealed in an inactive PVC tube, and closed by aluminium caps.

^{129}I rod sources for γ counters

^{129}I (0.1μCi) gamma/X-ray spectrum is virtually identical to ^{125}I, and has a half-life of 1.57×10^7 years. Calibration in terms of ^{125}I is available. The length is 100mm, maximum diameter 15mm—suitable for most manual and automatic counters. Active material is sealed in a plastic capsule attached to a handling rod. Other nuclides ^{241}Am, ^{133}Ba, ^{57}Co, ^{60}Co, ^{137}Cs, ^{54}Mn, ^{22}Na, ^{75}Se, ^{123m}Te, ^{88}Y and mock ^{131}I.

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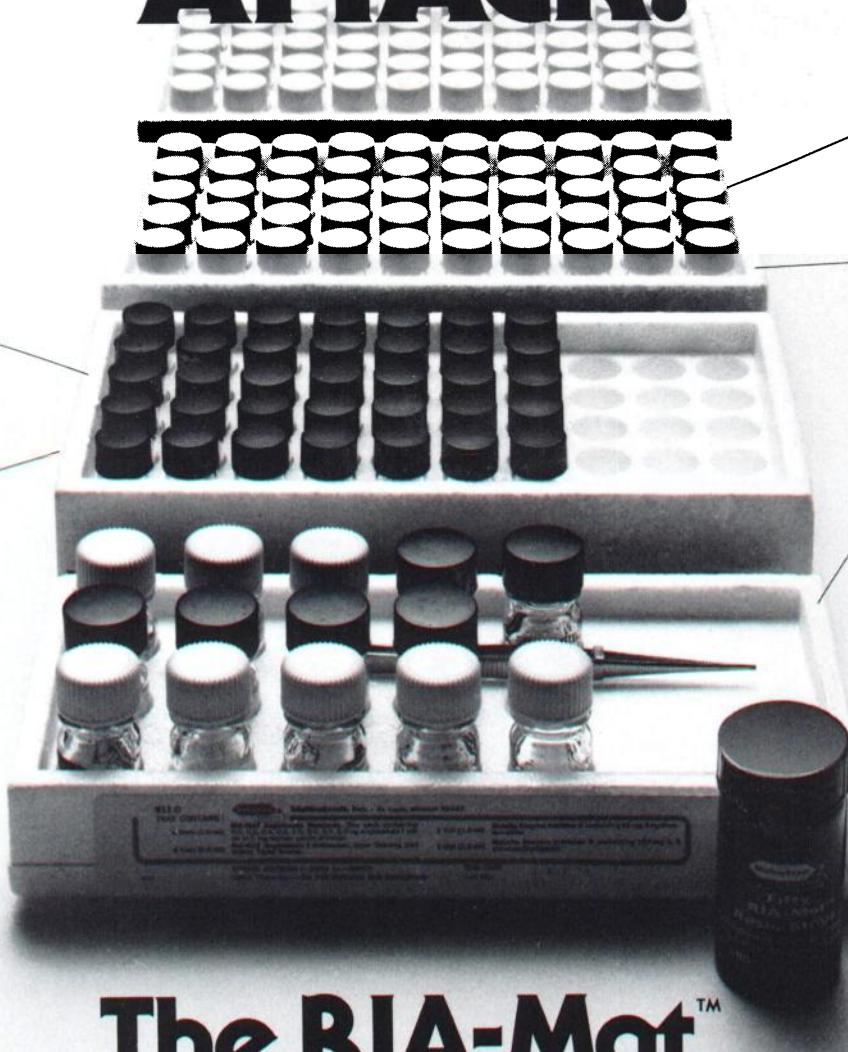

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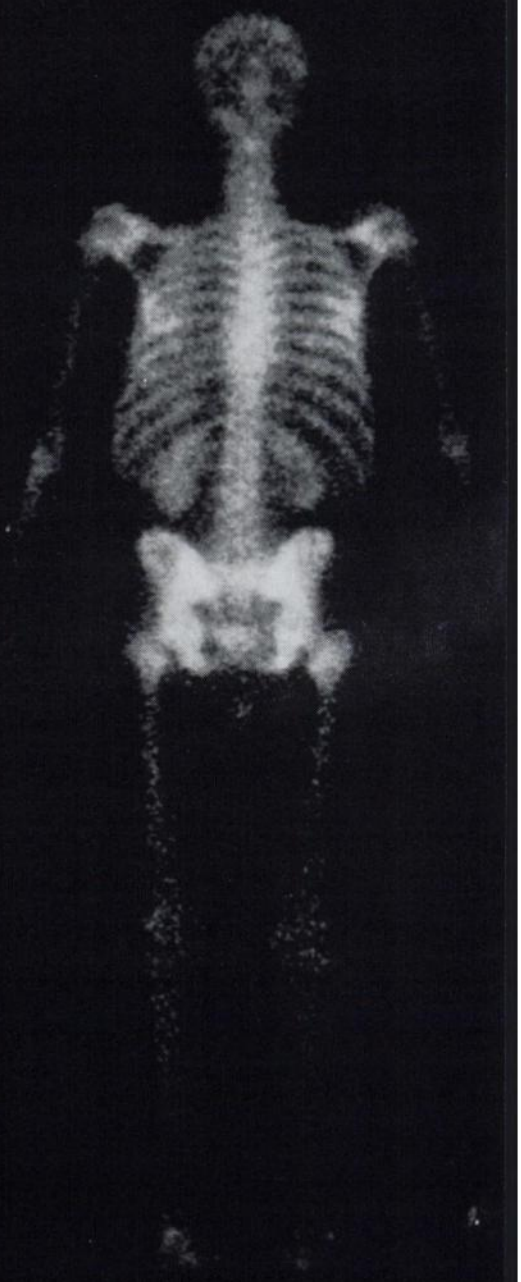
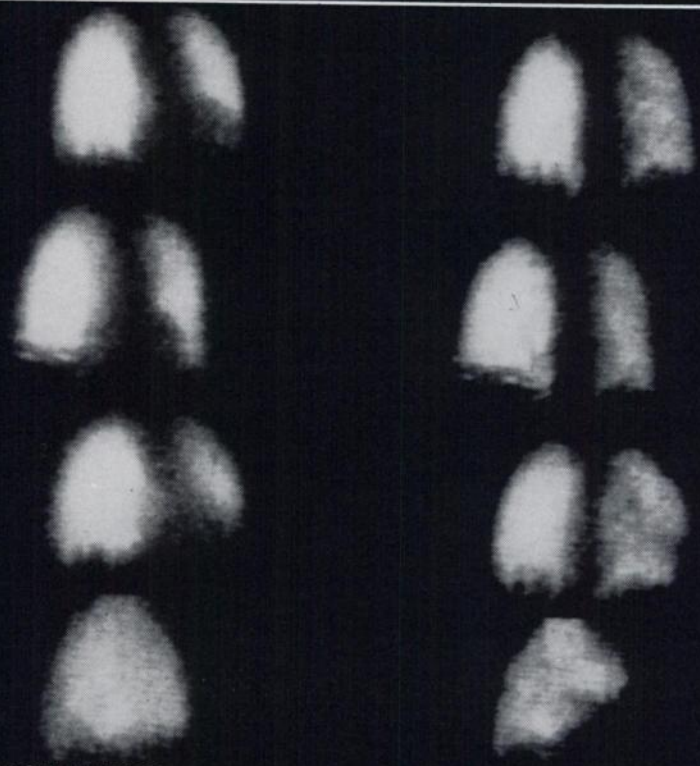


BONE IMAGE OF 58-YEAR-OLD MALE.
Imaging agent: 15 mCi Tc-99m Pyrophosphate.
Time-to-scan (2 views) 24.8 minutes.
Image courtesy of
Cedars of Lebanon Hospital, Los Angeles.

BRAIN IMAGE.
Imaging agent: 15 mCi Tc-99m Pertechnetate.
Time-to-scan (4 views): 13.7 minutes.
Image courtesy of *Cedars of Lebanon Hospital, Los Angeles.*



LUNG IMAGE SERIES.
Imaging agent: 1.5 mCi Tc-99m MAA.
Time-to-scan (8 views): 16 minutes.
Image courtesy of *Leonard Morse Hospital, Natick, MA.*

LIVER AND SPLEEN IMAGE OF PATIENT SHOWING SPLENOMEGALY AND CIRRHOTIC LIVER.
Imaging agent: 1.5 mCi TC-99m Sulfur Colloid.
Time-to-scan (4 views) 14 minutes.
Image courtesy of *Cedars of Lebanon Hospital, Los Angeles.*

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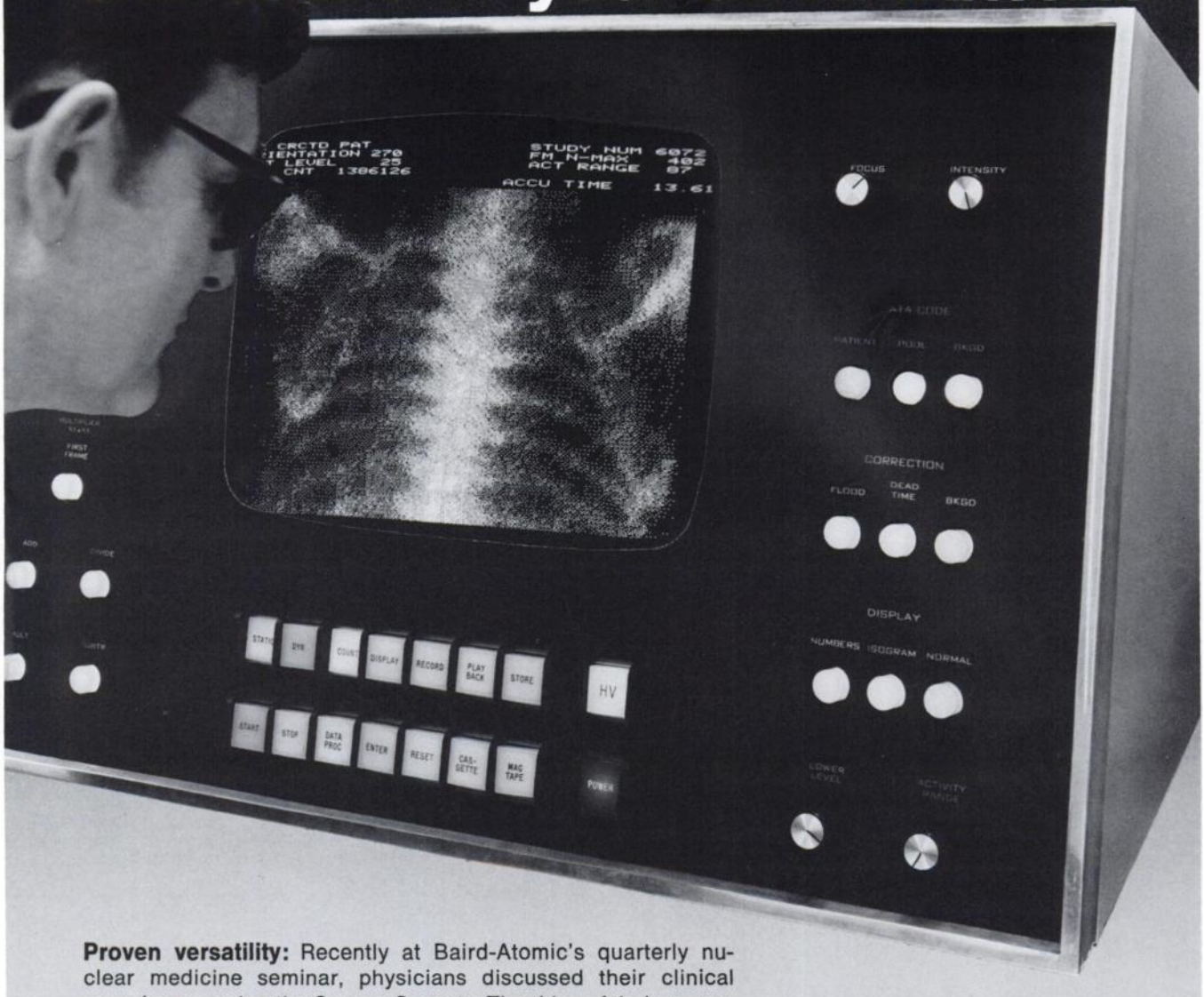
SYSTEM SEVENTY:
Our share in your commitment



Proven versatility: Recently at Baird-Atomic's quarterly nuclear medicine seminar, physicians discussed their clinical experiences using the System Seventy. The titles of their papers indicate both the versatility and clinical potential of our Computerized Multi-Crystal Camera: e.g., *Myocardial Perfusion Studies with Radionuclides; Cerebral Blood Flow; Quantitative Color; Ventilation and Perfusion (V/Q) Lung Studies; Cardiac Flow Studies with ECG Synchronization of Bolus Injection.*

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Commitment: We are committed to nuclear medicine as a total diagnostic procedure. System Seventy, the ultimate refinement in Computerized Gamma Cameras, is a working symbol of this continuing commitment.

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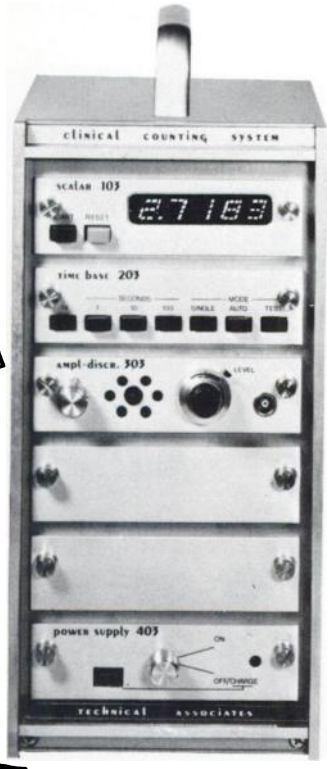

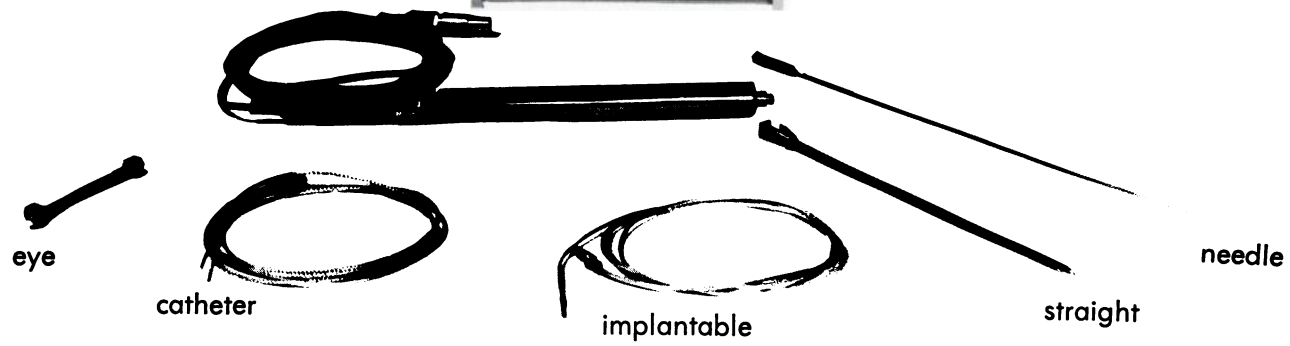

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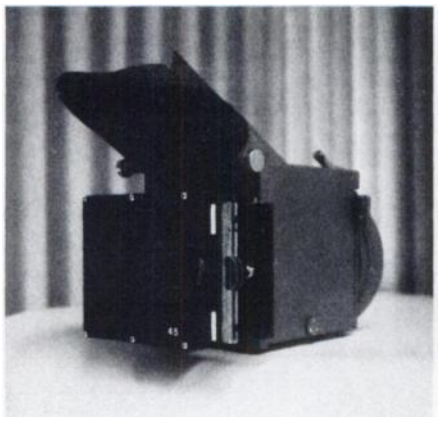
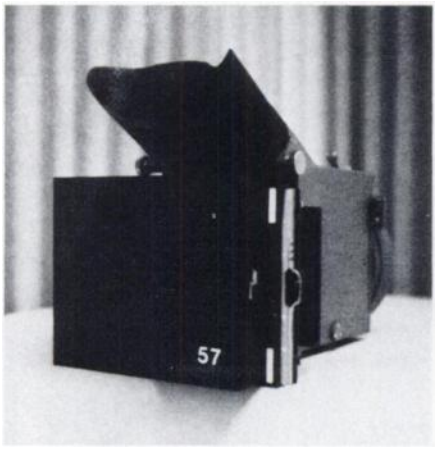
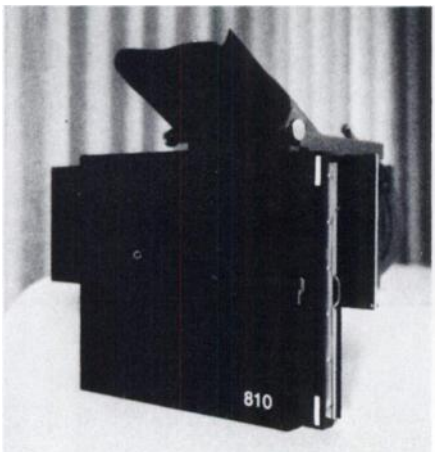


MODEL "45" (4 x 5)



MODEL "57" (5 x 7)



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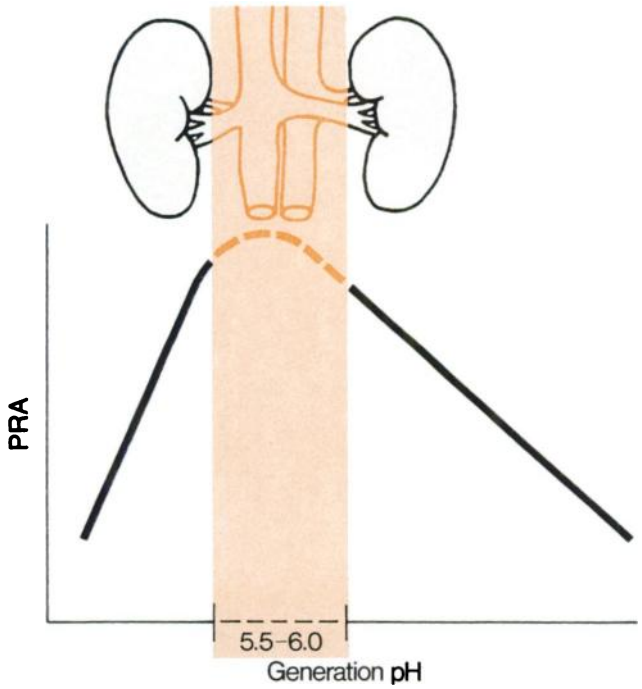

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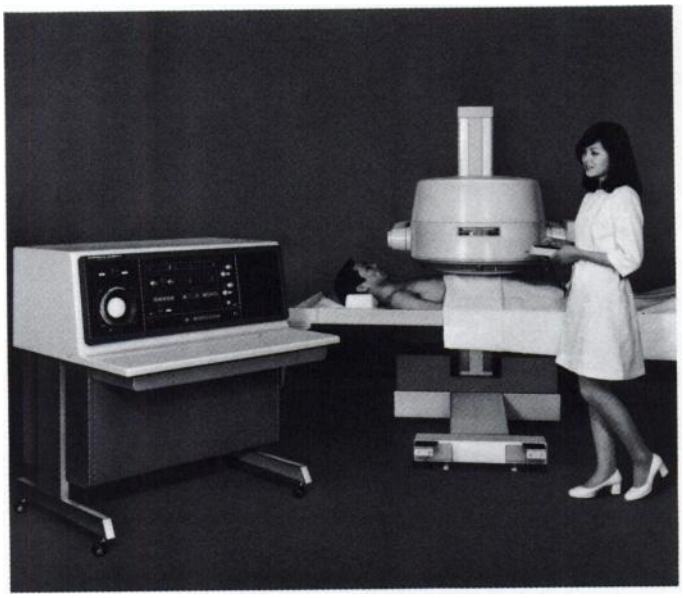

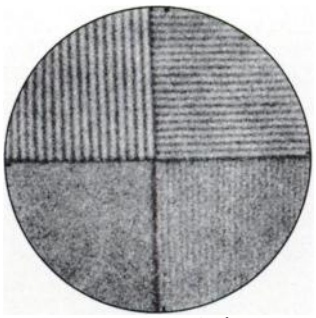
Intrinsic Resolution
^{57}Co 999 K-counts,
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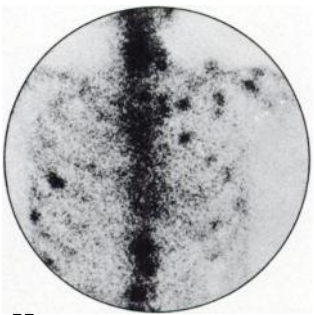
Pb-Bar pattern; 2.4, 3.2, 4.0, 4.8 mm


^{99m}Tc-DTPA, 24m Ci,
300 K-counts, Window; 20%
Collimator; High resolution.


^{99m}Tc-pyrophosphate, 13m Ci,
200 K-counts, Window: 20%
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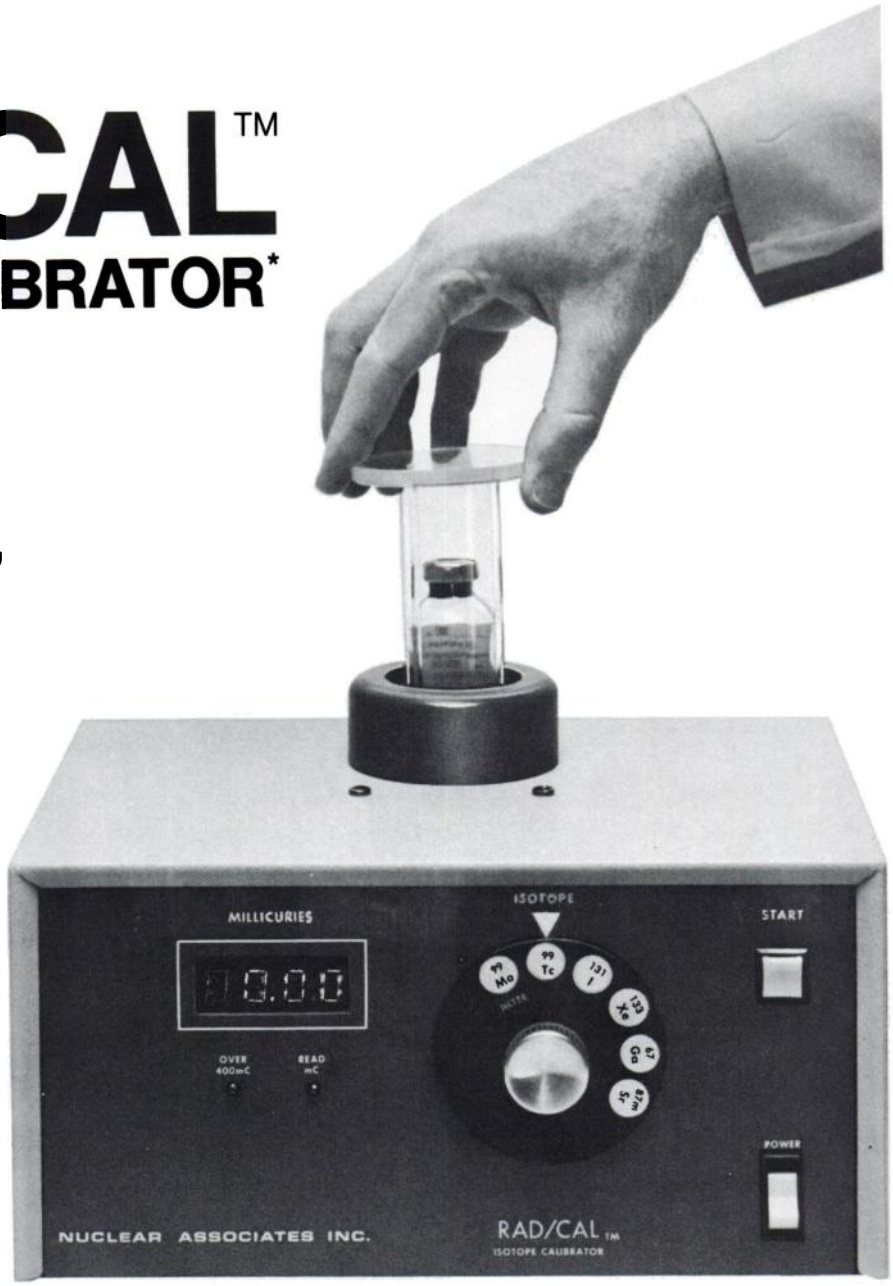
RAD/CAL™
ISOTOPE CALIBRATOR*



The low-cost digital isotope calibrator with "big instrument" versatility

- 3-digit, solid state, digital readout
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- Fully shielded chamber.
- Factory calibrated for 6 isotopes. Additional isotopes may be substituted.
- Molybdenum-99 Breakthrough Shield included.

Send for complete information.
Request Bulletin 170-B.

*Patent Pending

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Director, Division of Nuclear Medicine
University of Minnesota Hospitals
Box 382, Mayo Memorial Building
Minneapolis, Minn. 55455

OR

Rex B. Shafer, M.D.
Chief, Nuclear Medicine Service (172)
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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
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666 Elm Street
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Applications are invited from Registered Nuclear Medicine Technologists for a staff position in the Nuclear Medicine Department. English and French language courses are available.

Apply to:
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Sub-Dept. of Nuclear Medicine
Royal Victoria Hospital
687 Pine Avenue West
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Rectilinear 5-in. Scanners. Will purchase in "as is" condition. Give complete details, age, accessories.

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CAREER OPPORTUNITIES

The Squibb Institute for Medical Research has the following attractive opportunities available in our Diagnostic R&D division in New Brunswick, New Jersey.

Research Investigator: Radiopharmaceutical research and development in vivo organ imaging agents requiring a Ph.D. in Pharmacology, Physiology, Biochemistry with radioisotope experience.

Research Investigator: Radiopharmaceutical process development in vivo organ imaging agents requiring a Ph.D. in Pharmaceutical Chemistry, Radiochemistry with process engineering experience desirable.

Qualified candidates should forward their C.V. to the Employment Supervisor, Department GB, E. R. Squibb & Sons, Inc., P.O. Box 4000, Princeton, New Jersey 08540.

AN EQUAL OPPORTUNITY EMPLOYER M/F

THE SQUIBB INSTITUTE FOR MEDICAL RESEARCH

INDICATIONS: Pertechnetate Sodium Tc 99m is used for brain imaging, thyroid imaging, salivary gland imaging, placental localization and blood pool imaging.

CONTRAINDICATIONS: To date, there are no contraindications to the use of Pertechnetate Sodium Tc 99m.

WARNINGS: This radiopharmaceutical should not be administered to pregnant or lactating women 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 the 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 governmental 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 occupational workers.

At the time of administration the solution should be crystal clear.

IMPORTANT: Refer to Operating Instructions on the proper use of the New England Nuclear Generator. These instructions are enclosed with each generator.

ADVERSE REACTIONS: To date, no adverse reactions based on the use of this agent have been reported.

DOSAGE AND ADMINISTRATION: Pertechnetate Sodium Tc 99m is usually administered by intravenous injection but can be given orally. The dosage employed varies with each diagnostic procedure.

The suggested dose range employed for various diagnostic indications in the average patient (70 kg) is:

Brain Imaging:	10-20mCi
Thyroid Imaging:	1-10mCi
Salivary Gland Imaging:	1-5mCi
Placental Localization:	1-3mCi
Blood Pool Imaging:	10-20mCi

Note: Up to 1 gram of reagent grade potassium perchlorate in a suitable base or capsule may be given orally prior to administration of Pertechnetate Sodium Tc 99m injection for brain imaging, placental localization and blood pool imaging.

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

Have a good M, T, W, Th, F & S.

M begins with a handy lifting handle and a quick peel-off top. No pre-assembly. From then on you simply charge and elute. Any day you can get extra high concentrations with fractional elutions (useful on Th, F, and S to compensate for radioactive decay since M).

Every generator is tested for sterility, non-pyrogenicity, Mo 99 breakthrough, alumina breakthrough, and functionality.

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Telephone 617-667-9531

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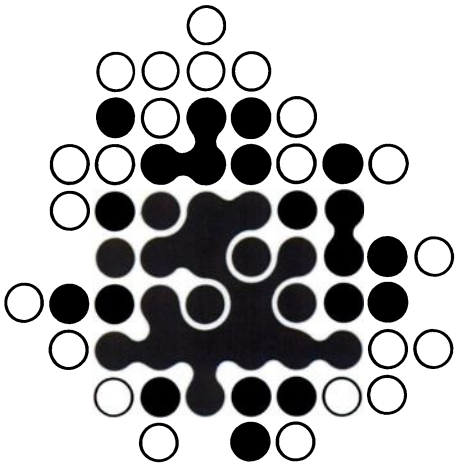
Europe: NEN Chemicals GmbH, D6072 Dreieichenhain, W. Germany, Siemensstrasse 1. Tel: Langen 06103-85035



CEA-ROCHE
Carcinoembryonic Antigen assay
a valuable adjunct during the various phases of cancer management

CEA-ROCHE has been the subject of numerous clinical studies over the past four years to assess its value in cancer management. Most investigators have found this assay to be a useful biological marker for following the clinical course of patients with many types of internal carcinoma.* These studies have reported CEA-ROCHE to be a valuable adjunct in the overall evaluation of the patient's clinical progress and prognosis by indicating...

- lack of response to or escape from therapy
- need for a change or reevaluation of therapy
- development of metastases and/or local recurrence
- the need for more intensive patient examination and observation since a rise in CEA titer has been reported to precede other evidence of recurrence by periods averaging 2 months and up to as much as 29 months.*

CEA-ROCHE may also be used...

- as an adjunct to other diagnostic tests or procedures in the patient suspected of having cancer

*Literature available upon request from Professional Services Department, Roche Laboratories, 340 Kingsland Street, Nutley, N.J. 07110.

Tear out here.

CEA-ROCHE
Carcinoembryonic Antigen assay

Suggested Guidelines for the Use of CEA-ROCHE as an Aid in the Management of the Cancer Patient*

Type of Therapy	When to order CEA-ROCHE	Why order CEA-ROCHE
	During Periods of Active Therapy	
Surgery	As part of the presurgical workup and approximately 3 weeks after surgery	To monitor the effects of surgery[1-4]
Radiotherapy	Prior to initiating radiotherapy, once at midpoint and/or upon completion of radiation	To monitor the effects of radiation[1,2,5,6]
Chemotherapy	Prior to initiating chemotherapy, once at midpoint if therapy extends over a 6-week period and upon completion of chemotherapy	To monitor the effects of chemotherapy[1,2,5,7]
	During Short-term Follow-up After Therapy	
All types	Every 1 to 2 months during the first 6 months following therapy	To provide a basis for the reevaluation of therapy and/or an early indication of recurrence or progression of disease[1,2,8]
	During Long-term Follow-up	
All types	Every 6 to 12 months	To provide an early indication of recurrence or progression of disease[1,4,9,10]
	During Active Change in Clinical Condition	
All types	Every two weeks until trend is established	To aid in determining the probable presence of metastases or local recurrence[1,2,4,10]

When using this assay remember CEA-ROCHE is...

- *not* specific for any one type of cancer
- best used *periodically* to establish a trend, usually identifiable within 30 to 90 days
- *not* an absolute test for malignancy and should not be used as the sole criteria for diagnosis (use with other diagnostic tests and procedures)
- *not* recommended as a screen to detect cancer

*These are general guidelines for the use of CEA-ROCHE only and may vary widely depending on such factors as patient status, clinical symptoms, type of malignancy, results of other tests and procedures.

References

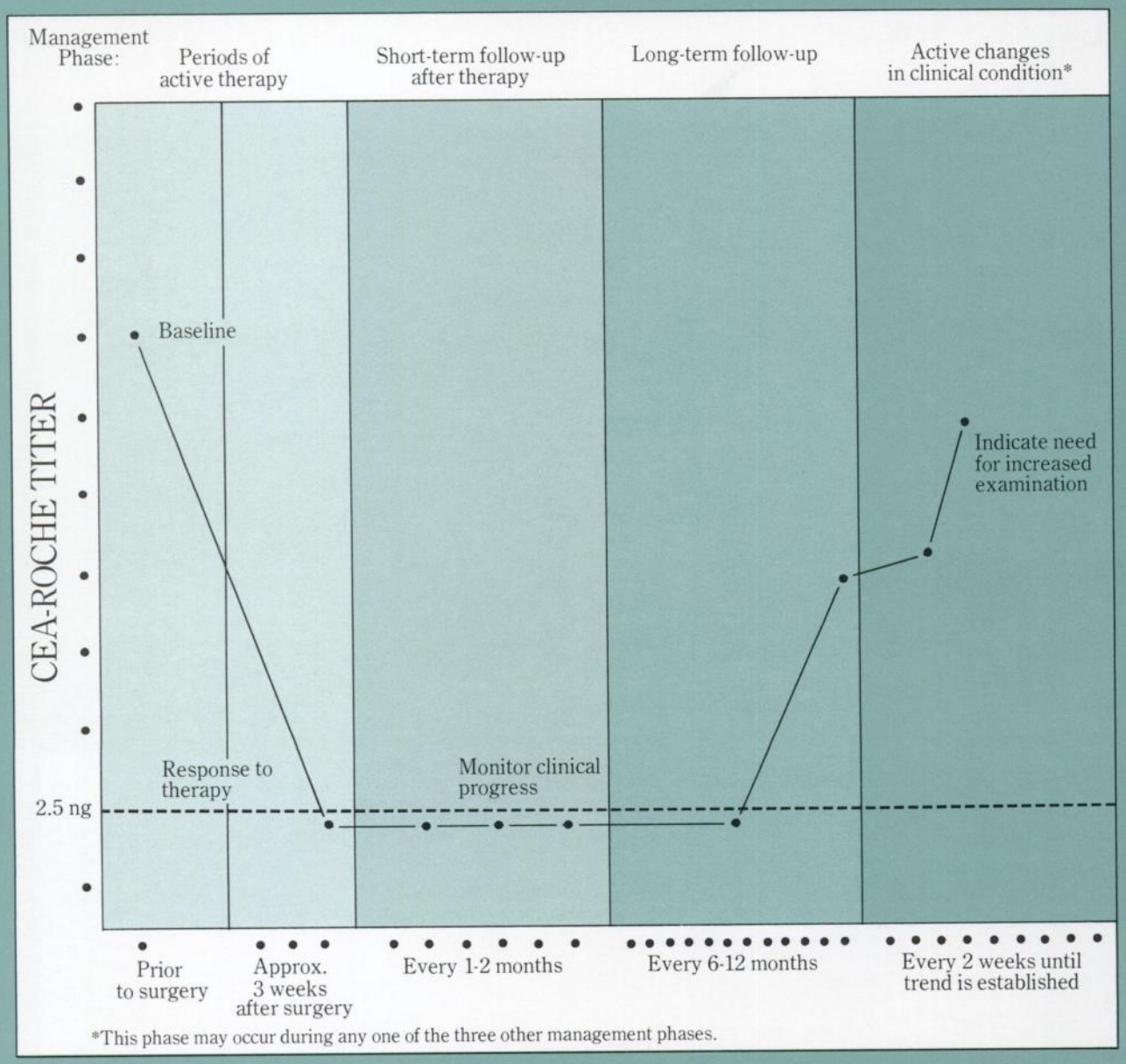
1. *CEA-ROCHE: A Clinical Monograph*, Hoffmann-La Roche Inc., Nutley NJ
2. Holyoke ED, *et al: Cancer 35*:830-836, Mar 1975
3. Mavligit GM, *et al: Am J Dig Dis 19* (11):1047-1053, Nov 1974
4. Mach J-P, *et al: Lancet 2*:535-540, Sep 7, 1974
5. Barrelet V, Mach J-P: *Am J Obstet Gynecol 121*:164-168, Jan 15, 1975
6. Khoo SK, Mackay EV: *Aust NZ J Obstet Gynaecol 13* (1): 1-7, Feb 1973
7. Skarin AT, *et al: Cancer 33*:1239-1245, May 1974
8. Dhar P, *et al: JAMA 221* (1):31-35, Jul 3, 1972
9. Steward AM, *et al: Cancer 33*:1246-1252, May 1974
10. Holyoke ED, Chu TM: *Med Opinion 4*:51-54, Apr 1975

ROCHE

ROCHE

When to use CEA-ROCHE as an aid in the postsurgical management of a cancer patient

A simulation of a representative patient showing graphically when to perform CEA-ROCHE assays using the suggested guidelines appearing on the reverse side.



CEA-ROCHE may be ordered from

- Roche Clinical Laboratories, Inc., Five Johnson Drive, Raritan, New Jersey 08869 (201) 526-2400
- Major hospital and private laboratories

Additional information may be obtained from

- your Roche Representative
- the Professional Services Department, Roche Laboratories, 340 Kingsland Street, Nutley, New Jersey 07110 (201) 235-4873

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REQUIRED BY: The University of Alberta Hospital and the Dr. W. W. Cross Cancer Institute, Edmonton, Alberta—a qualified instructor in Nuclear Medicine Technology to commence employment in Fall of 1975.

Preference will be given to applicants having several years work experience. Previous teaching experience is desirable. A complete working knowledge of all in-vitro and in-vivo procedures is essential.

Full range of benefits available. Position will be Grade III classification. Salary range—$12,060–$14,220. Actual salary will be based on previous experience.

Information requests should be directed to W. R. Hansen, Technical Director, Department of Radiology.

In application, submit resume of experience, training and references to:

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Department of Radiology
University of Alberta Hospital
Edmonton, Alberta

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For information contact: Ben I. Friedman, M.D., Chairman, Department of Nuclear Medicine, 150C Chandler Building, 865 Jefferson Avenue, Memphis, Tennessee 38163.
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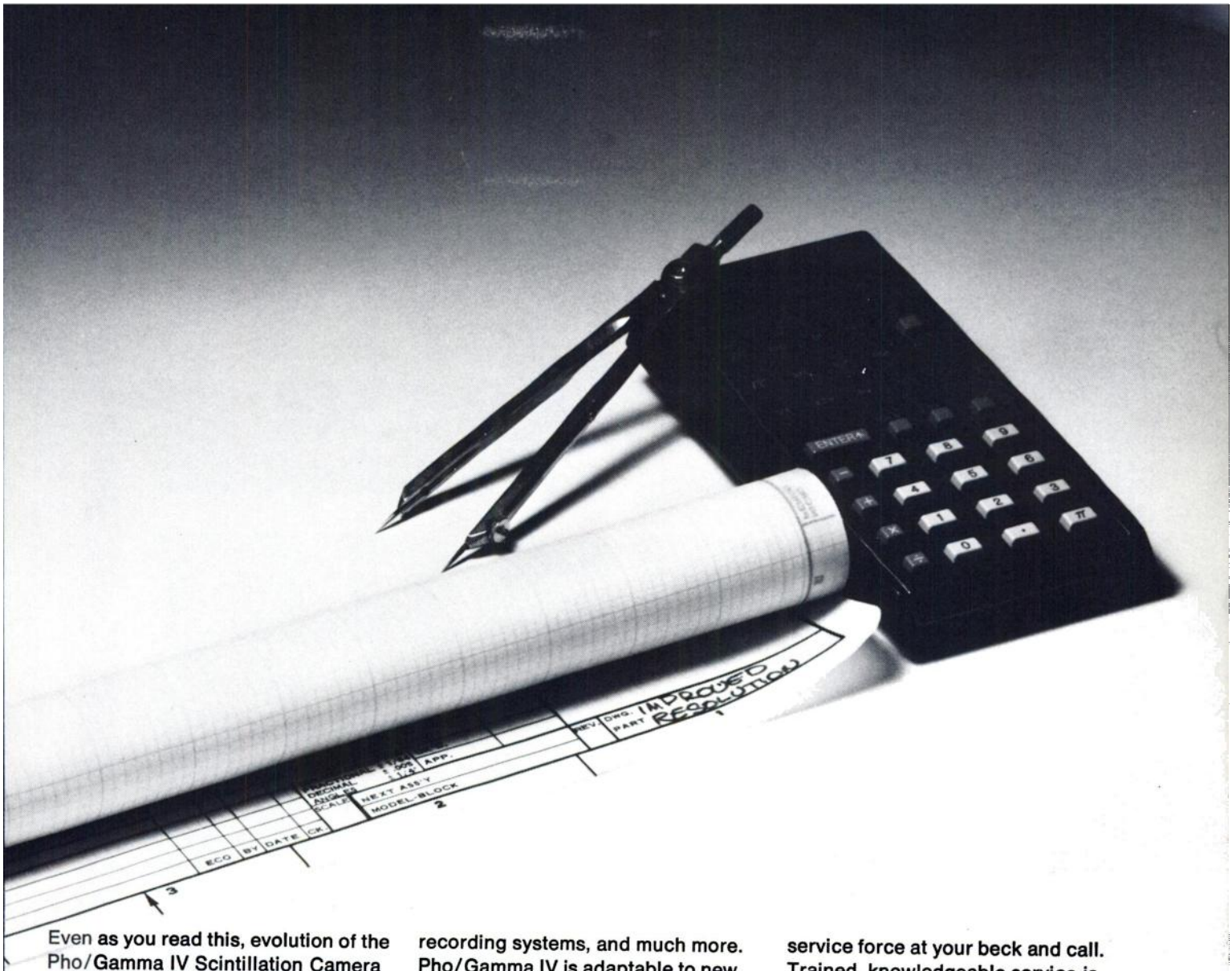

Even as you read this, evolution of the Pho/Gamma IV Scintillation Camera system goes on. Our product development engineers are in daily contact with working laboratories nationwide. And the Pho/Gamma IV is being continuously improved to meet your growing, changing needs.

One result of this effort is Pho/Gamma IV's versatility. Over the years, accessory adaptability has been expanded so that you can now build *whole systems* around the Pho/Gamma IV, with ease unmatched by any other manufacturer. You can integrate Pho/Gamma IV with units such as the Micro Dot Imager, a wide range of collimators, photographic readout equipment, display and data recording systems, and much more. Pho/Gamma IV is adaptable to new radioisotopes and procedures as you need them.

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- Will measure Folate concentration in whole blood
- ½ hour incubation

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- No extraction
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- 30 minute incubation
- Cross-reactivity with T-3 – 0.015%

T-3 RIA

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Also Available:

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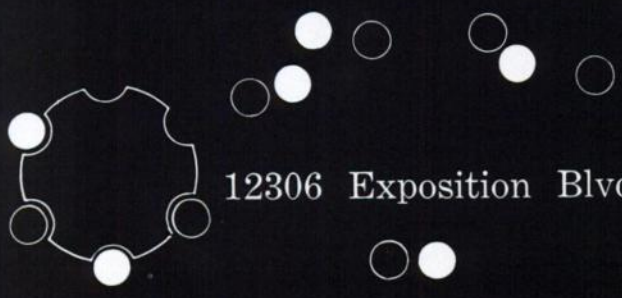

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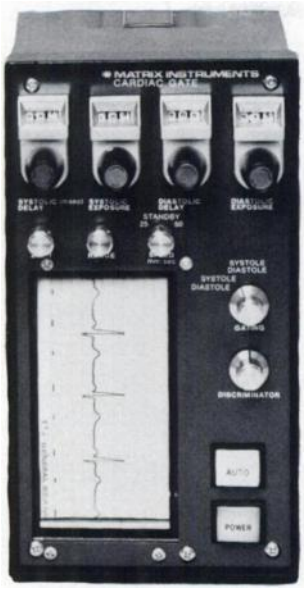
State of the art in cardiac and respiratory synchronization.

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.

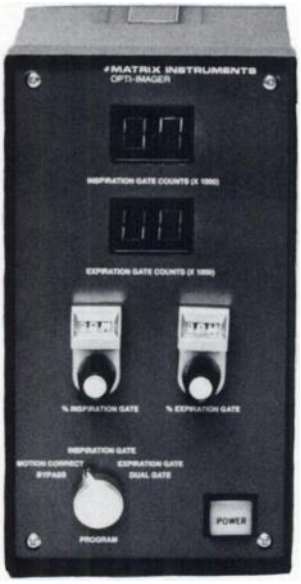
The dual gating operation mode allows recording of both end-systole and end-diastole simultaneously in a split screen two image format.

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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Please send Cardiac Gate and Opti-Imager literature and samples studies

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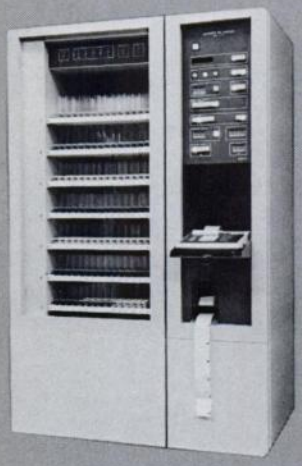
Whether it's *in-vivo* or



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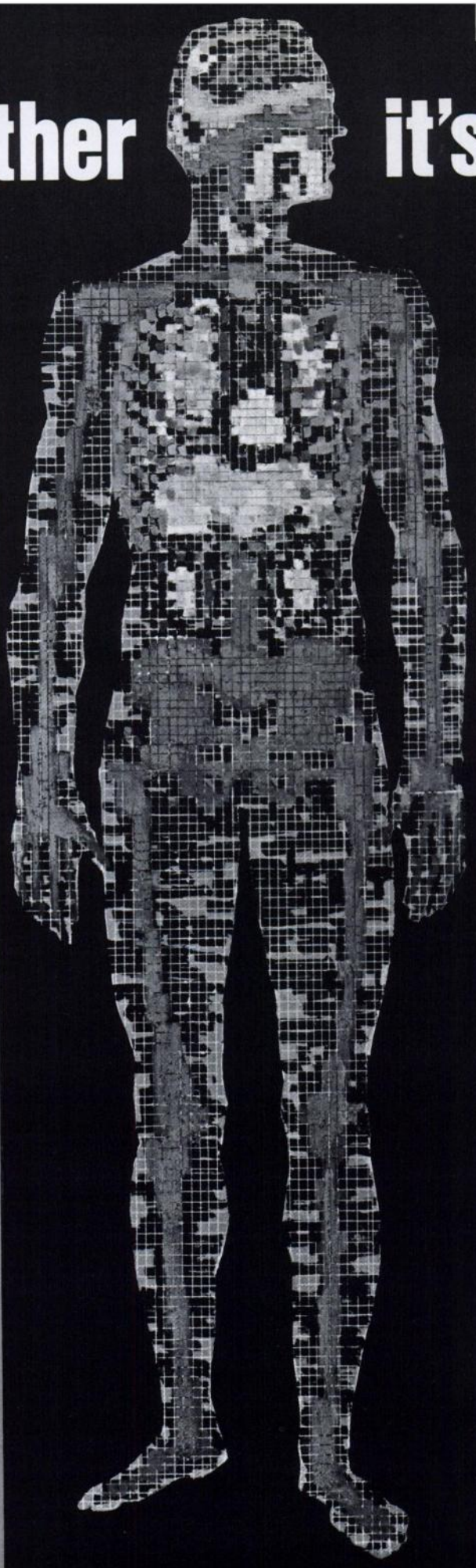

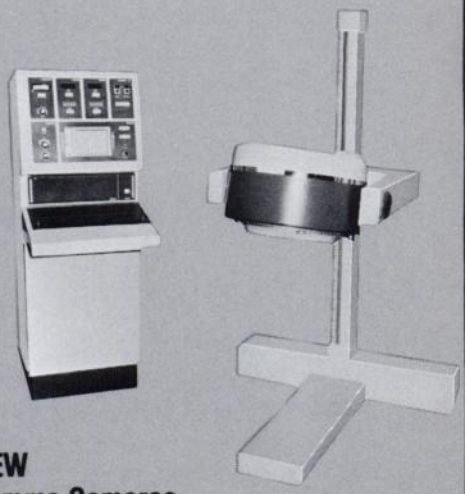

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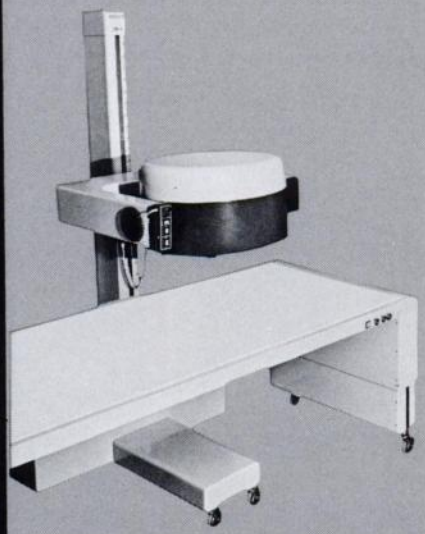

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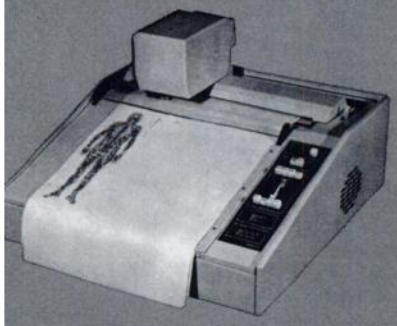

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Provides full color hard copies of images, printed on regular paper, either minified or at actual body size.

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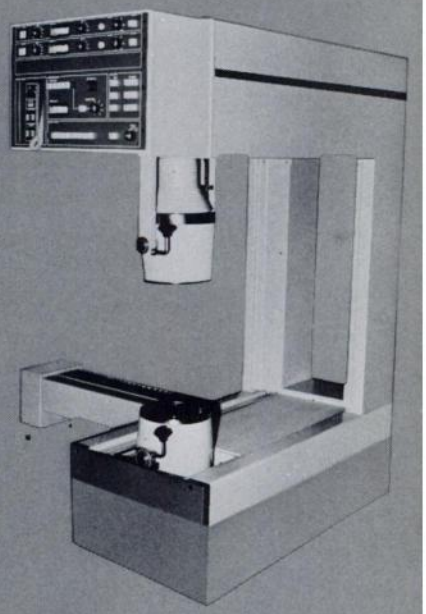

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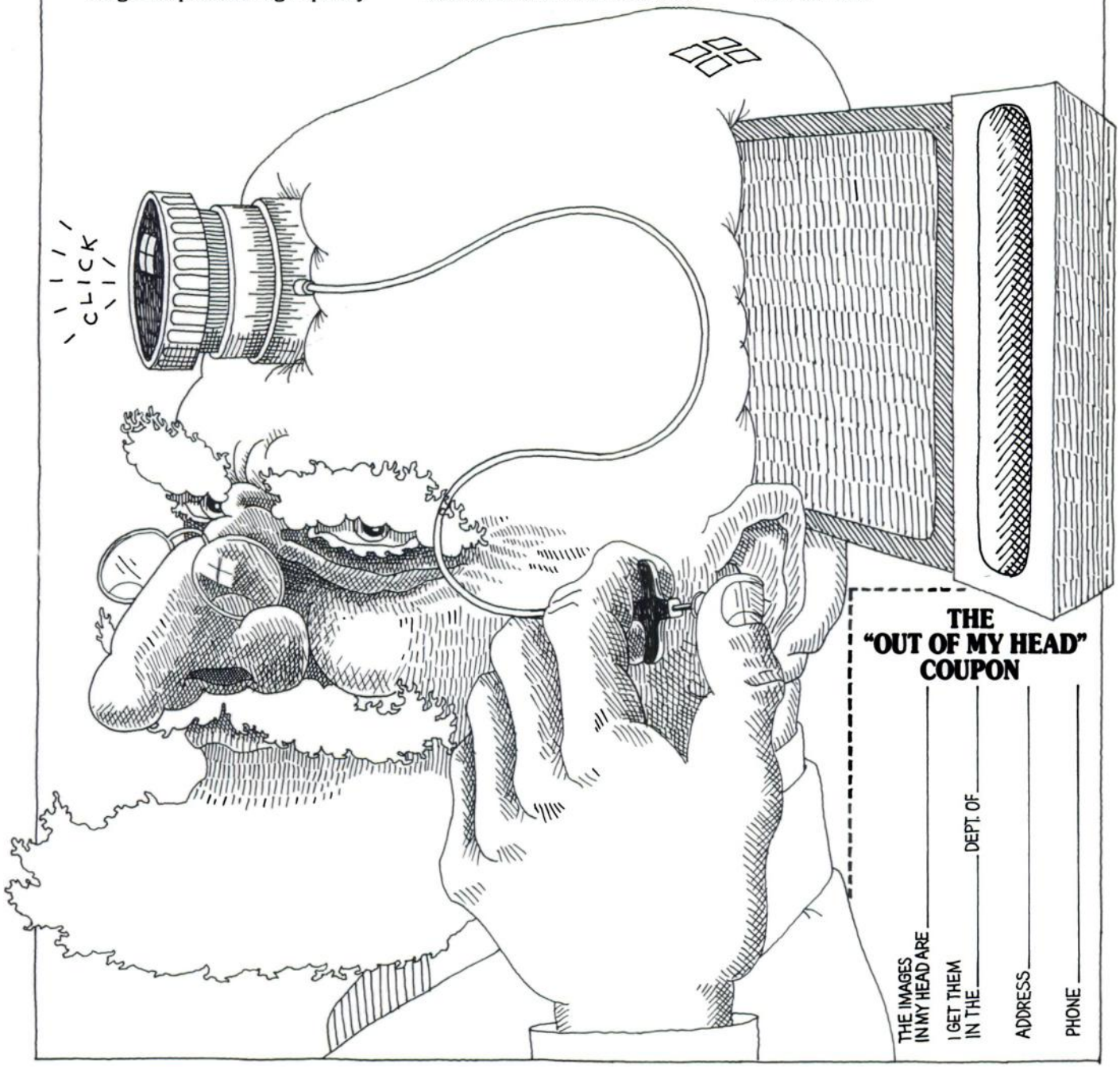
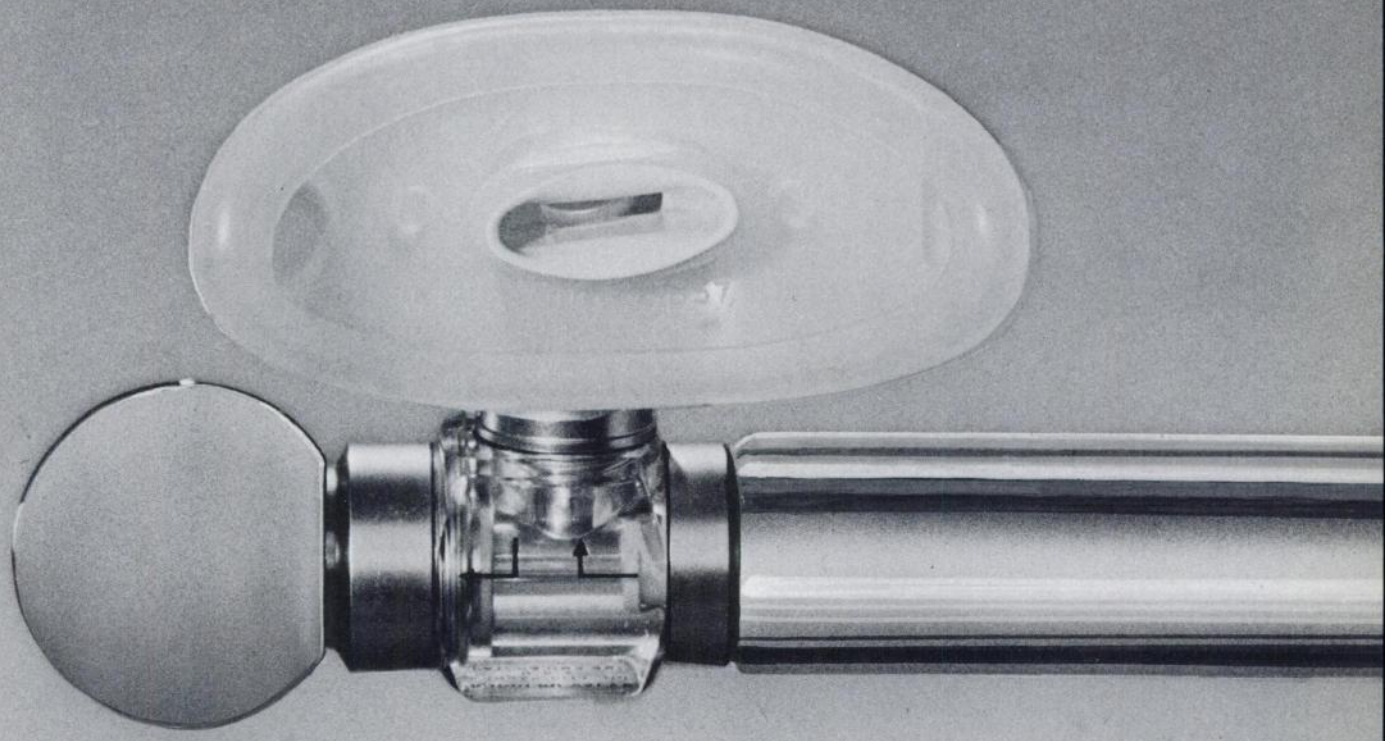


Now Everybody Can Breathe Easier



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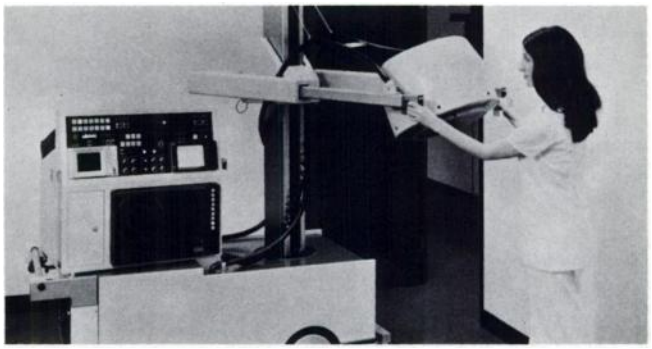
with no loss in resolution

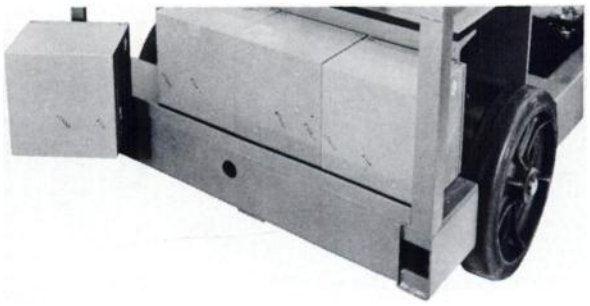
Wherever the need arises, in ICU, CCU, the Emergency Room, or within the NM Department, the Series 120 Mobile Camera is immediately available to generate high quality diagnostic information. And like all Ohio-Nuclear equipment, it is simple to operate.

Mobility. The self-propelled Series 120 will travel at about 150′ per minute, and negotiate a 10% incline under its own power, or it will creep for accurate patient positioning, all while maintaining full HV power to its photomultiplier tubes. This permits operation as soon as the unit is in place.



Positioning. Column, yoke, and head rotation movements are all performed manually. Yoke extension is also manual, to a maximum "reach over bed" distance of 22″ (to center of collimator). Vertical yoke movement is motor driven, two speed, and controlled by the hand grips on the hand control.

Capabilities. The Series 120 is virtually identical to our well-known Series 100 Camera. And the 120 may be equipped with an optional Series 75M storage and retrieval system. This combination permits later re-evaluation, manipulation, and diagnosis of data sometimes captured under critical conditions.



Battery Power. Spill Proof Gel Cell Batteries, with negligible production of hydrogen, are automatically maintained by the system, charging whenever needed, as long as the AC line is plugged in. The batteries, DC, constantly maintain HV supply to the PM tubes, independently of the AC power.

Collimators. All collimators are insert type and weigh approximately 23 pounds each. A variety of collimators is available. They may be easily and quickly changed by your technologist.

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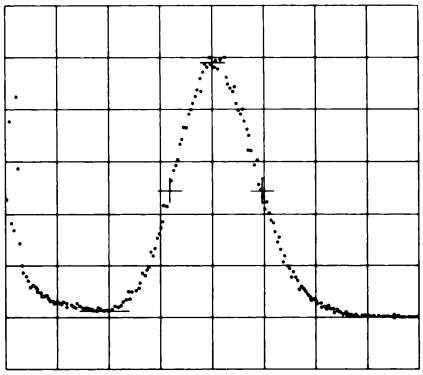

Pulse height distribution of Fe55 X-rays using RCA-4855

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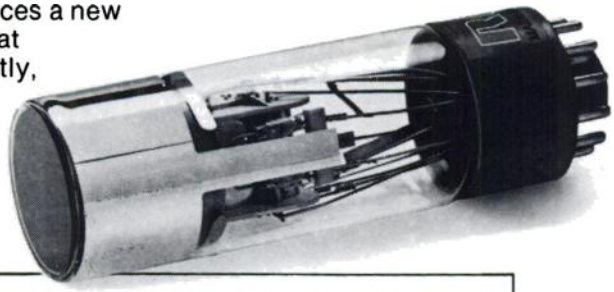

Typical Parameters	RCA-4855
Pulse Height Resolution (with Fe55 — 5.9 KeV.)	47%
Peak-to-valley ratio	30:1
Dark Noise 32 pe Σ 1/4 pe	200 cps

*U.S. Distributor optional resale price.

Manager, Phototube Marketing
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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.

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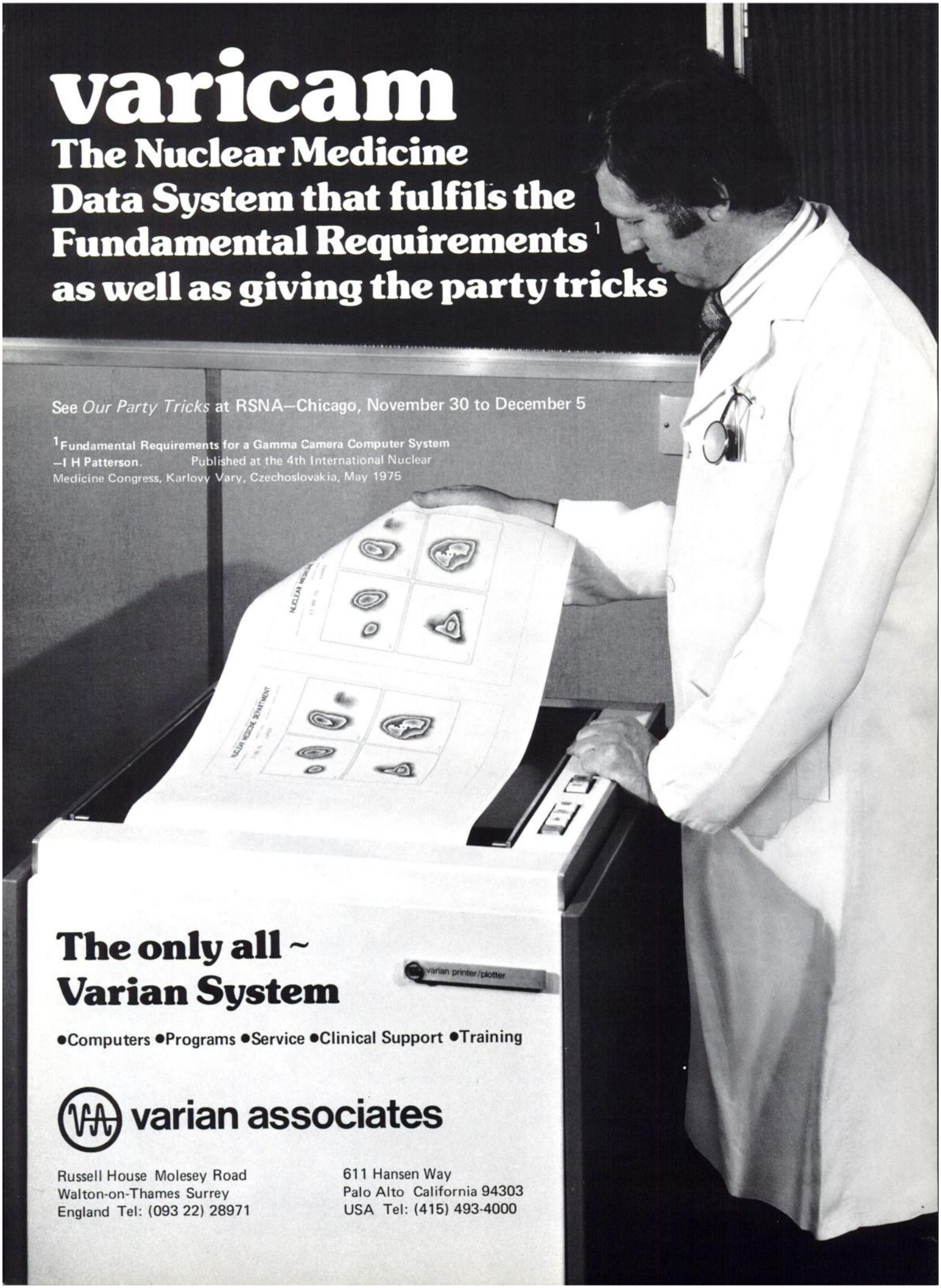
The Nuclear Medicine Data System that fulfils the Fundamental Requirements [1] as well as giving the party tricks



See *Our Party Tricks* at RSNA—Chicago, November 30 to December 5

[1] **Fundamental Requirements for a Gamma Camera Computer System** —I H Patterson. Published at the 4th International Nuclear Medicine Congress, Karlovy Vary, Czechoslovakia, May 1975

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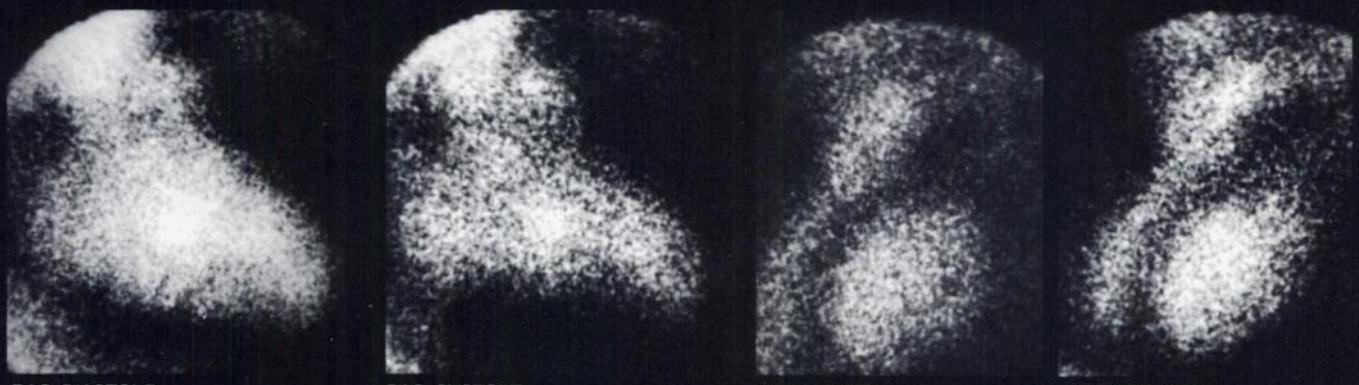
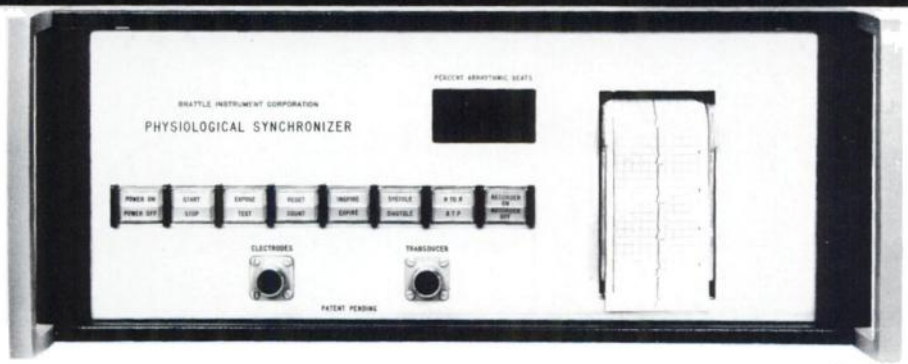


RAO, DIASTOLE | RAO, SYSTOLE | LAO, DIASTOLE | LAO, SYSTOLE

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.)

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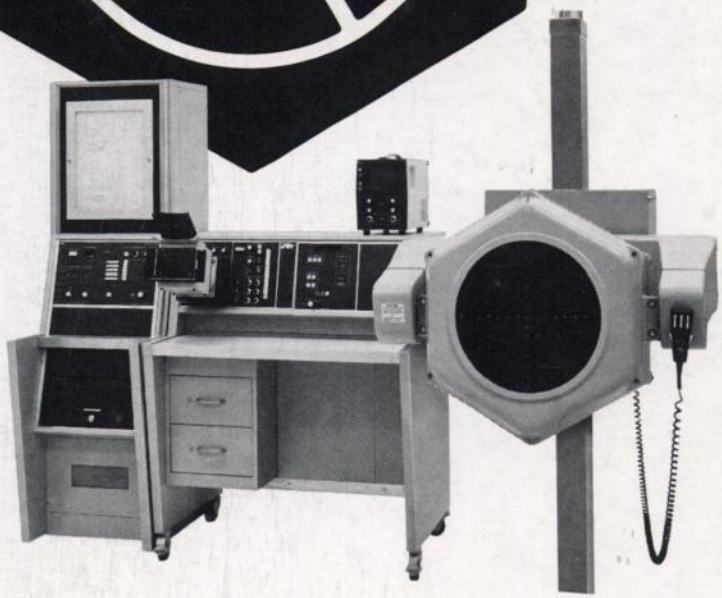

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