

You can see the difference.

2 ml Ampul

**AGGREGATIN**  
**LUNGACIN**

intravenous injection  
Indicated Adult Dosage

Large Insert for  
Federal 101

more

# 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.

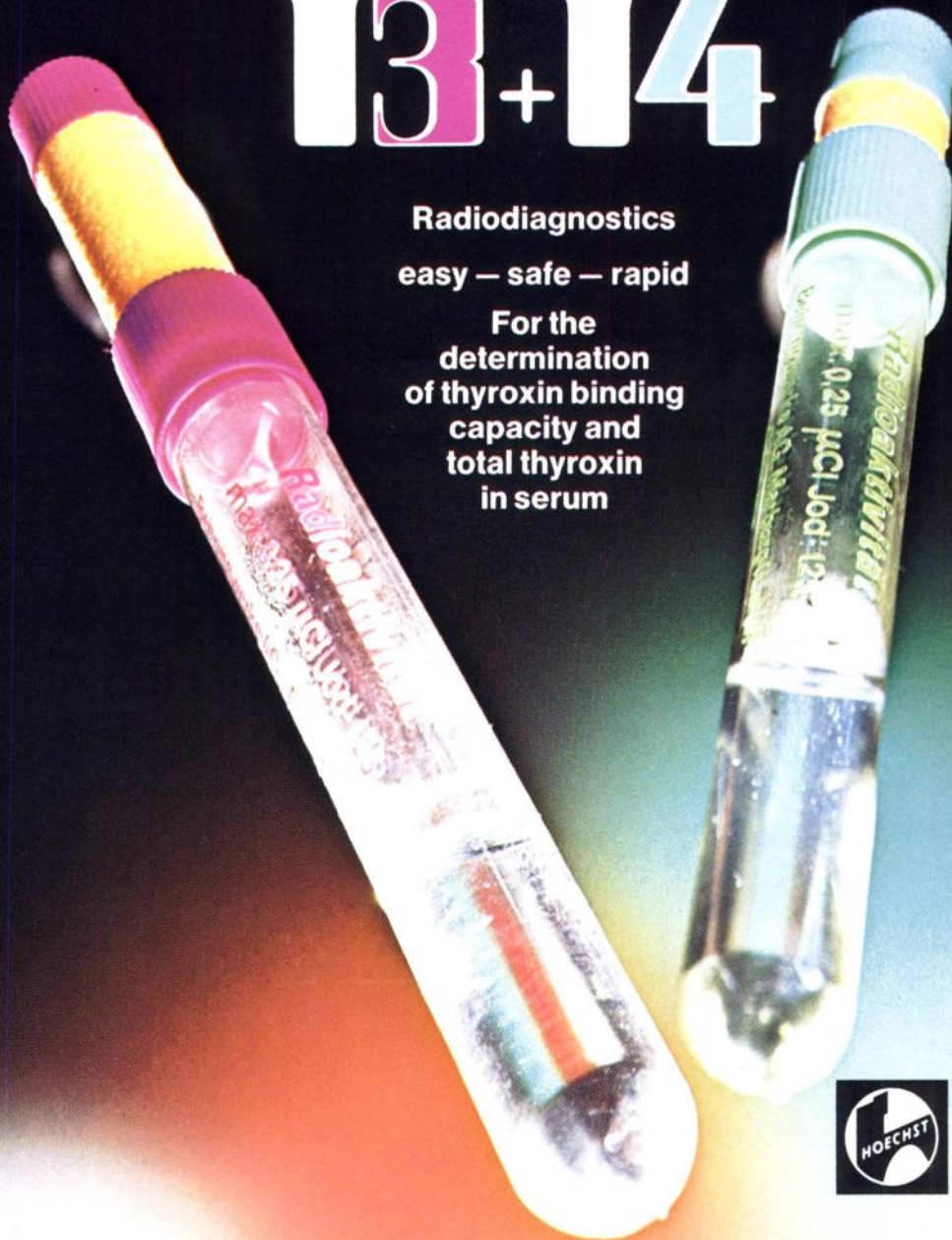
**Adverse reactions:** None reported in over 4,000 patient studies.



medi+physics™

# Ultragnost<sup>®</sup>

## T3+T4



Radiodiagnostics  
easy — safe — rapid

For the  
determination  
of thyroxin binding  
capacity and  
total thyroxin  
in serum

**Two  
time-saving tests  
for your lab.:  
pipette once,  
incubate for one hour,  
automatic  
phase separation,  
measure.**

**Contents T 3 kit:** 12 calibrating tubes with 3.5 ml thybon<sup>®</sup> (J-125)-solution each • total activity: 3  $\mu$ Ci J-125 • preservative: 0,02% sodium azide • 12 adsorption tubes • 1 ml standard serum of defined TBG capacity •

**Storage:** store protected from light in the refrigerator at +4° to +6° C  
**Stability:** 8 weeks at proper storage. The expiry date is indicated on the package.

Order No.: J 5113  
for T3 1 package 12 tests

**Contents T 4 kit:** 12 calibrating tubes with 3.3 ml TBG-T 4- (J-125)- solution each • total activity: 1  $\mu$ Ci J-125 • preservative: 0,02% sodium azide • 12 adsorption tubes • 1 standard serum of defined T 4-concentration •

Order No.: J 5114  
for T4 1 package 12 tests



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

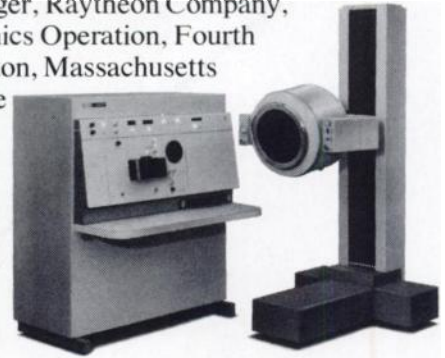
# Film Star

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.

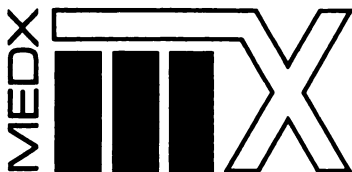
See for yourself how Cameray II measures up. Let your Raytheon representative show you a TSP comparison chart. Then, if you choose the star, we'll give you a director's chair. For more information contact Jay Cone, Marketing Manager, Raytheon Company, Medical Electronics Operation, Fourth Avenue, Burlington,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



A large blue hexagonal graphic with a white border, centered on the page. Inside the hexagon, the text "New England Nuclear Radiopharmaceuticals" is written in white, bold, sans-serif font.

# **New England Nuclear Radiopharmaceuticals**

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



# MEDX Reconditioned Equipment: Better than new?

We think so . . . and the reliable performance of our Medx reconditioned gamma cameras and scanners proves us right.

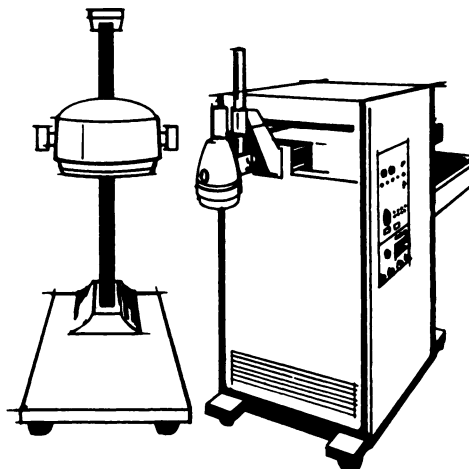
During the past year the need for warranty maintenance on Medx reconditioned cameras has been about **half** that usually required on new systems. This is well below even our own expectations.

As for **performance** — every Medx reconditioned system is guaranteed to equal or exceed the original manufacturer's specifications.

As for **appearance** — every Medx system is totally refinished and new-like in appearance.

As for **back-up** — every Medx scanner and camera has a full one-year warranty identical to that furnished with new equipment.

It's all done through expert reconditioning in our brand new 10,000 square foot factory. There every Medx system undergoes thorough testing, inspection, and repair before shipment. Medx technicians pay particular attention to critical performance-oriented components like crystals, phototubes, CRT's, power supplies, and scanner mechanics. Anything that doesn't



meet new equipment standards is replaced. Then Medx professionals install your system and train your personnel.

**The clincher** is the price — usually about **half** to **two-thirds** that of comparable new systems!

Let's get together to talk about special Medx programs to fit your special needs. Use the coupon or call us collect at (312) 991-0660.

**MEDX inc.**  
501 South Vermont Street  
Palatine, Illinois 60067



Please contact us regarding our immediate needs.

Please add our name to your mailing list to receive future information.

Our main interest is Cameras Scanners Other Instrumentation \_\_\_\_\_

We'd like a trade-in price on \_\_\_\_\_

NAME \_\_\_\_\_ INSTITUTION \_\_\_\_\_

STREET \_\_\_\_\_ PHONE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

CAMX 2

# cerebral function analyzer

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

TASC-5 offers the clinical investigator these advantages—

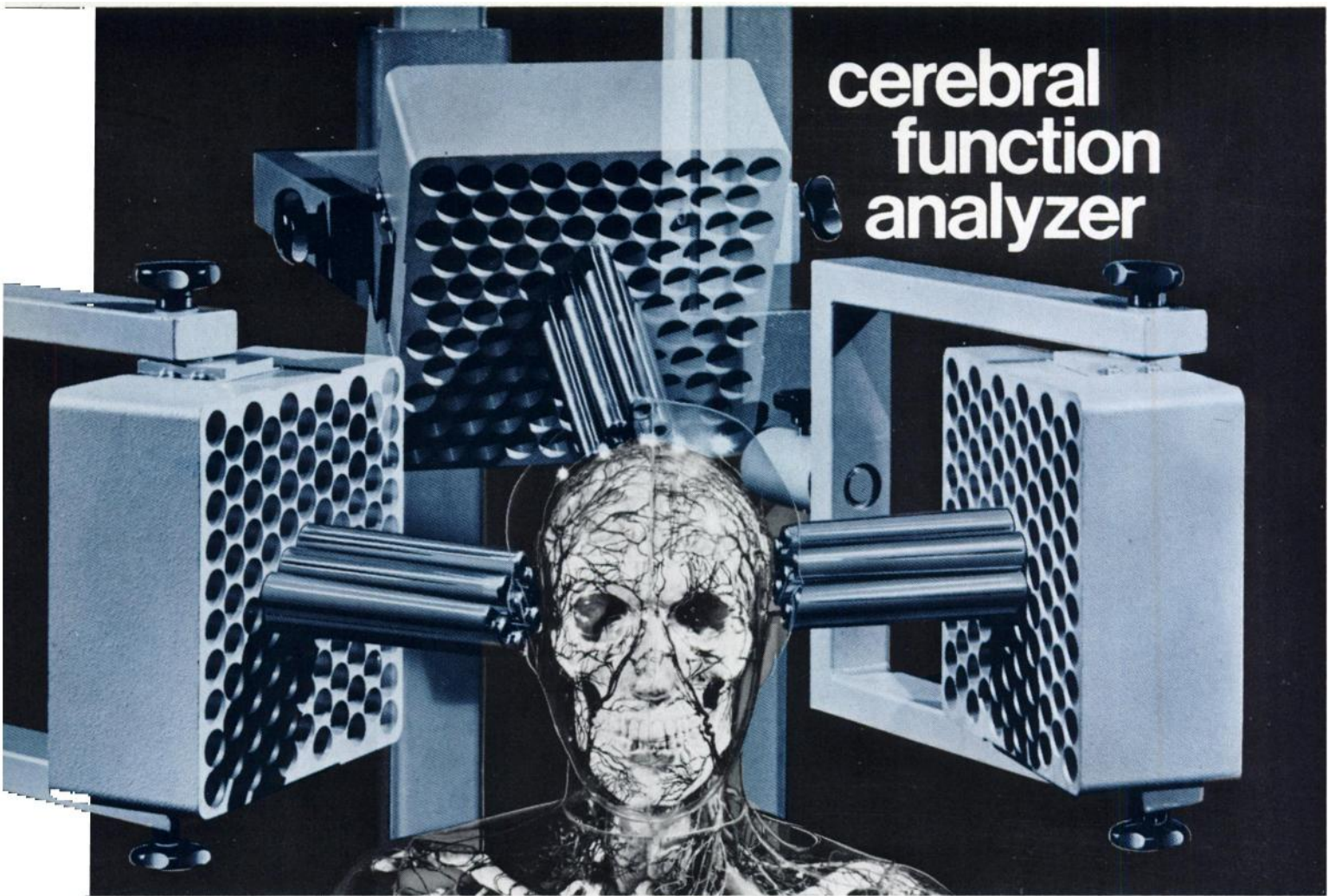
- True modular design allows system expansion at any time and at minimum cost.
- Adaptable to all isotopes.
- Probes easily positioned—Collimators readily interchanged.
- Minimum probe diameter allows maximum number of probes over area of interest.
- Stabilization circuitry maintains probe sensitivity.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

Our new 8-page brochure discusses TASC-5 in detail. Write or call us for a fast reply.



## HARSHAW

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





# 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. Which means

you can count on reliable results, patient after patient, and at the same time, lower your cost of supplies.

If you are interested in good, consistent images, at a good price, please 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:

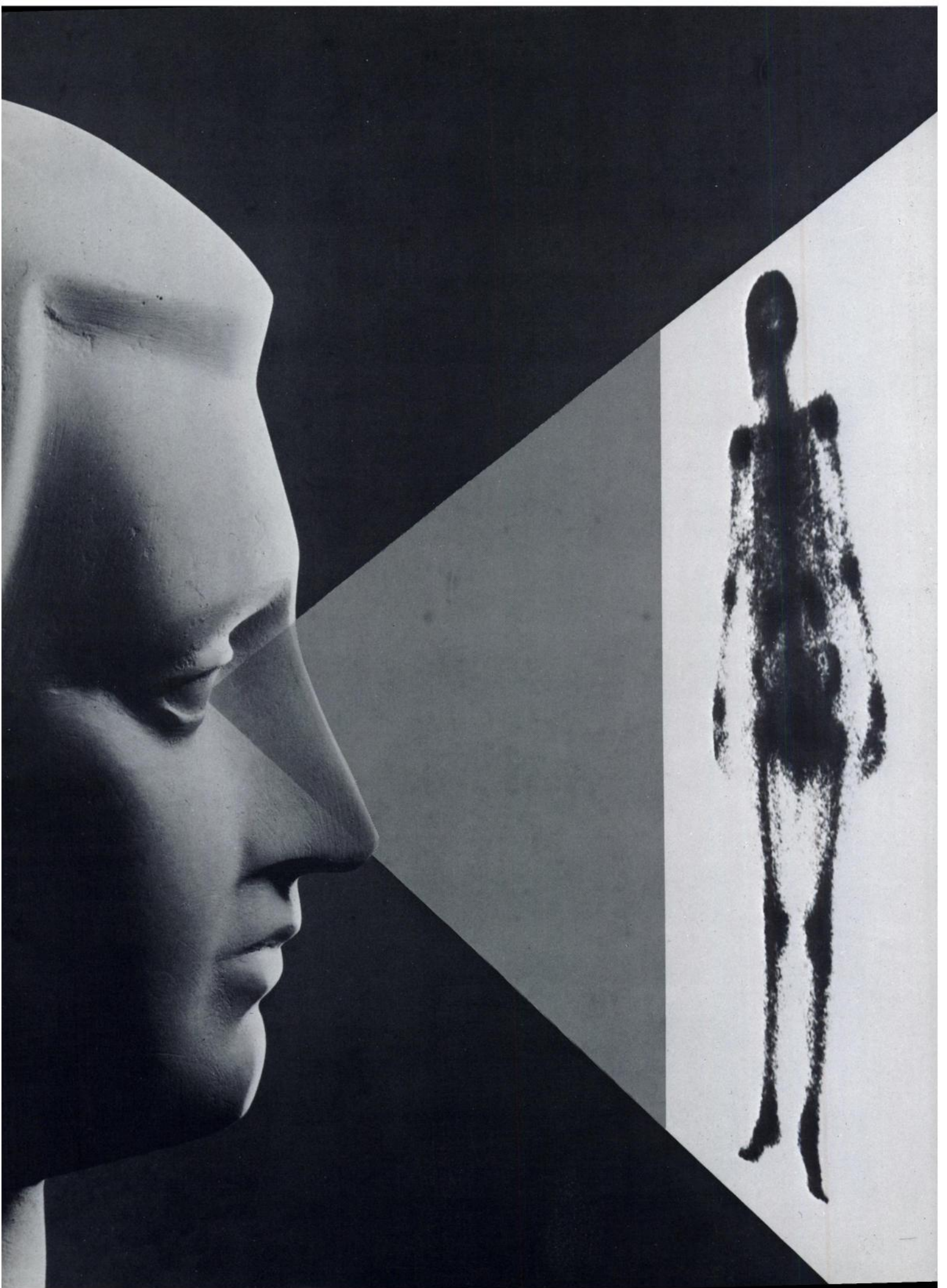
- Xenon-133 in Gas Phase  
10 or 20 mCi/Vial
- Xenon-133 in Saline  
10 or 20 mCi/Vial
- Selenomethionine (Se-75)  
0.250 mCi/Vial



**diagnostic isotopes incorporated**

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# 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 RPX-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.

You have specific needs, and we're ready to help. If you'd like to know more, contact your Kodak Technical Sales Representative or your x-ray products dealer. Or...

**Write Today:** Eastman Kodak Company,  
Department 740, Rochester, New York 14650.

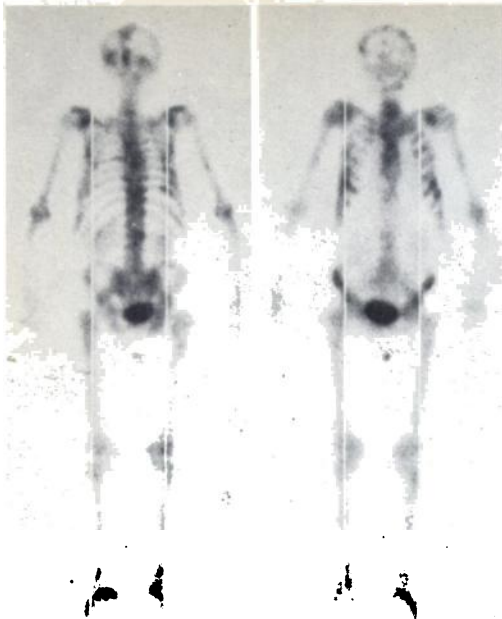


**A commitment to quality**





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



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

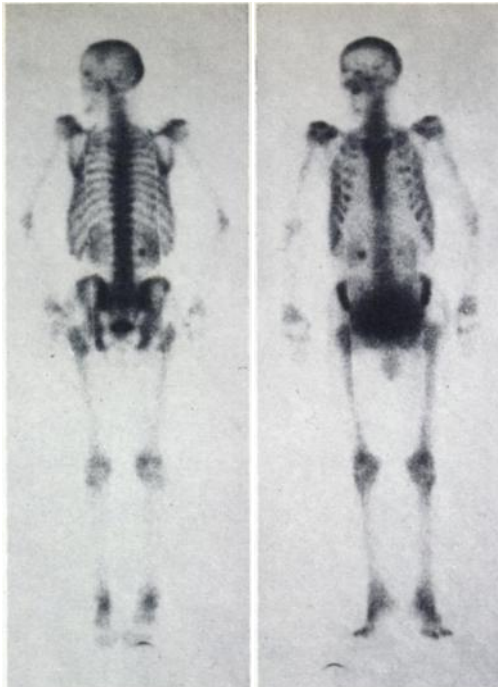
Imaging Agent:  
15 mCi  
<sup>99m</sup>Tc-OSTEOSCAN  
Anterior Count per Time:  
> 1,000,000/30 min  
Posterior Count per Time:  
> 1,000,000/30 min  
Instrument:  
Searle Pho/Gamma®  
HP camera with whole body table, Microdot Imager® and high-sensitivity collimator  
Scanned:  
3 hours postinjection

L POSTERIOR R R ANTERIOR L

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 <sup>99m</sup>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 in vivo stability—to minimize soft tissue uptake.
- Dry mix diphosphonate formulation reduces potential for hydrolysis.
- Formulated to produce consistently high tagging efficiency.



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

Imaging Agent:  
15 mCi  
<sup>99m</sup>Tc-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

L POSTERIOR R R ANTERIOR L

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.

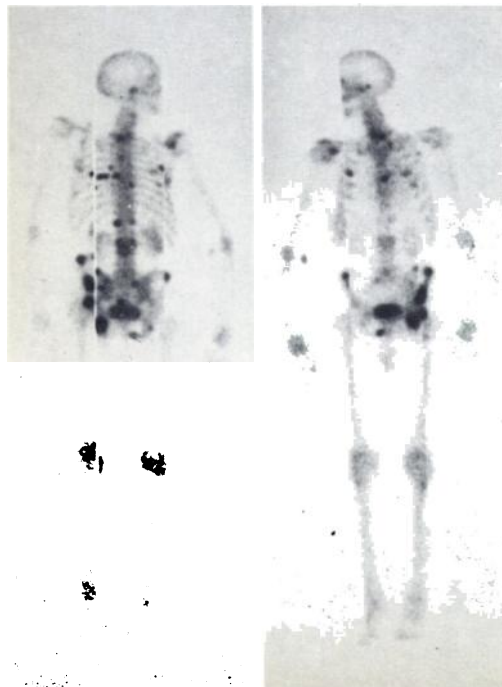
PROCTER & GAMBLE

**OSTEOSCAN®**

(5.9 mg disodium etidronate  
0.16 mg stannous chloride)

SKELTAL IMAGING AGENT

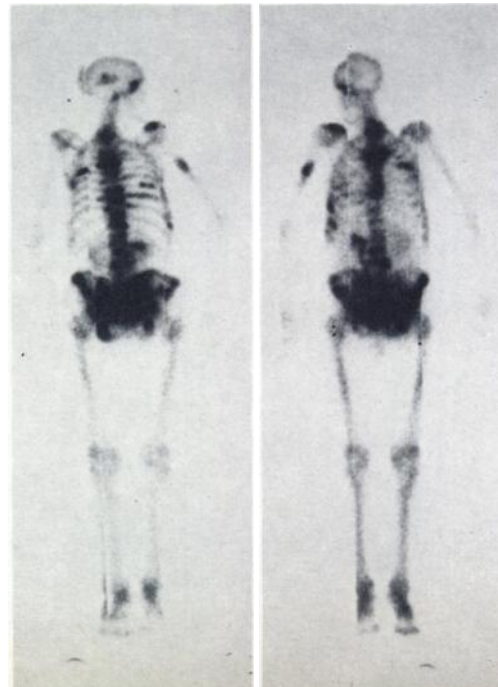
L POSTERIOR R R ANTERIOR L



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

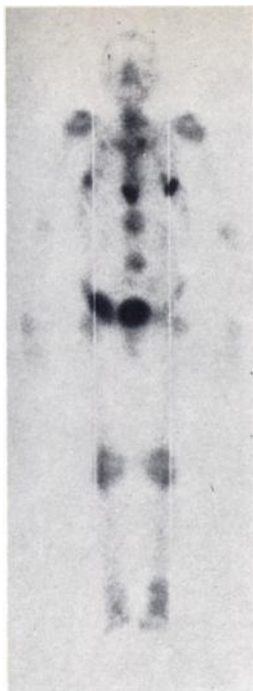
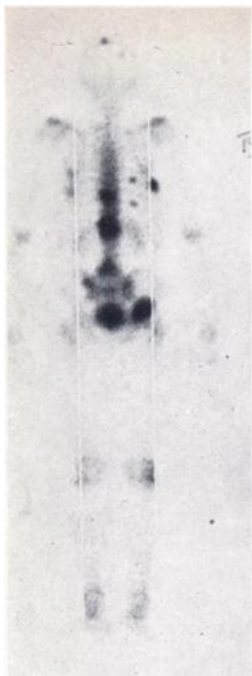
Imaging Agent:  
15 mCi  
<sup>99m</sup>Tc-OSTEOSCAN  
Anterior Count per Time:  
561,220/30 min  
Posterior Count per Time:  
631,388/30 min  
Instrument:  
Picker Dynacamera®  
2C with Omniview® table and ultrafine collimator  
Scanned:  
4 hours postinjection

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  
<sup>99m</sup>Tc-OSTEOSCAN  
Posterior Count per Time:  
621,153/28 min  
Anterior Count per Time:  
649,702/31 min  
Instrument:  
Picker Dynacamera®  
2C with Omniview® table and ultrafine collimator  
Scanned:  
4 hours postinjection



A 56-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  
<sup>99m</sup>Tc-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



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  
<sup>99m</sup>Tc-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

L POSTERIOR R

R ANTERIOR L

L POSTERIOR R

R ANTERIOR L

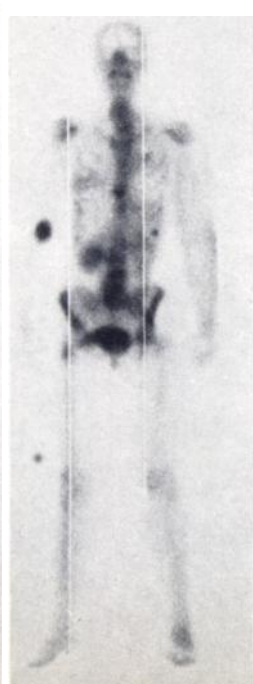
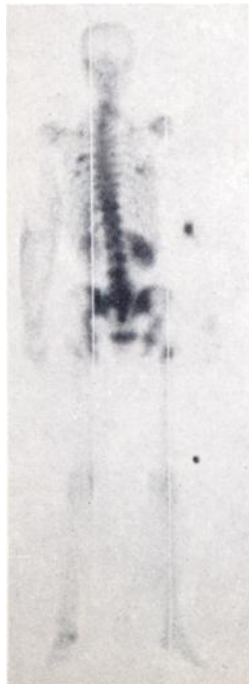
# OSTEOSCAN® consistently delivers:

- Clear, sharp images
- High-quality lesion detection

See following page for brief summary of package insert.

L POSTERIOR R

R ANTERIOR L

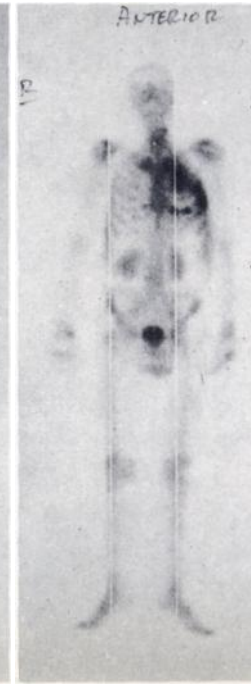
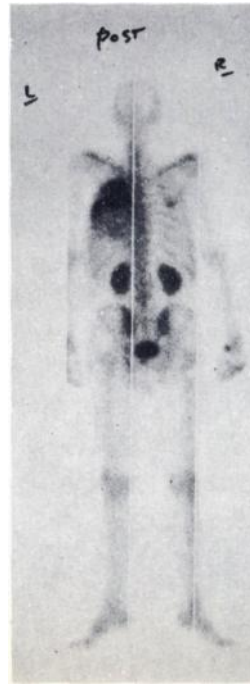


A 43-year-old female with known metastatic disease secondary to carcinoma of the left breast. Swollen left arm is secondary to lymphedema, a result of radical mastectomy. (Note negative defect in region of left breast as a result of prosthesis.) Metastatic disease clearly visualized in vertebral bodies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

Imaging Agent:  
15 mCi  
<sup>99m</sup>Tc-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  
<sup>99m</sup>Tc-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  $^{99m}\text{Tc}$ -pertechnetate, these ingredients combine with  $^{99m}\text{Tc}$  to form a stable soluble complex.

## ACTIONS (CLINICAL PHARMACOLOGY)

When injected intravenously,  $^{99m}\text{Tc}$ -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  $^{99m}\text{Tc}$ -labeled OSTEOSCAN.

Three hours after intravenous injection of 1 ml  $^{99m}\text{Tc}$ -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  $^{99m}\text{Tc}$ -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  $^{99m}\text{Tc}$ -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  $^{99m}\text{Tc}$ -labeled OSTEOSCAN administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the  $^{99m}\text{Tc}$ -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.

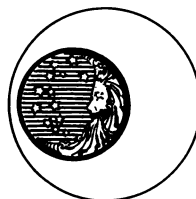
## ADVERSE REACTIONS

None.

## DOSAGE AND ADMINISTRATION

The recommended adult dose of  $^{99m}\text{Tc}$ -labeled OSTEOSCAN is 1 ml with a total activity range of 10-15 mCi.  $^{99m}\text{Tc}$ -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<sup>®</sup>**

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

# 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<sub>3</sub> 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



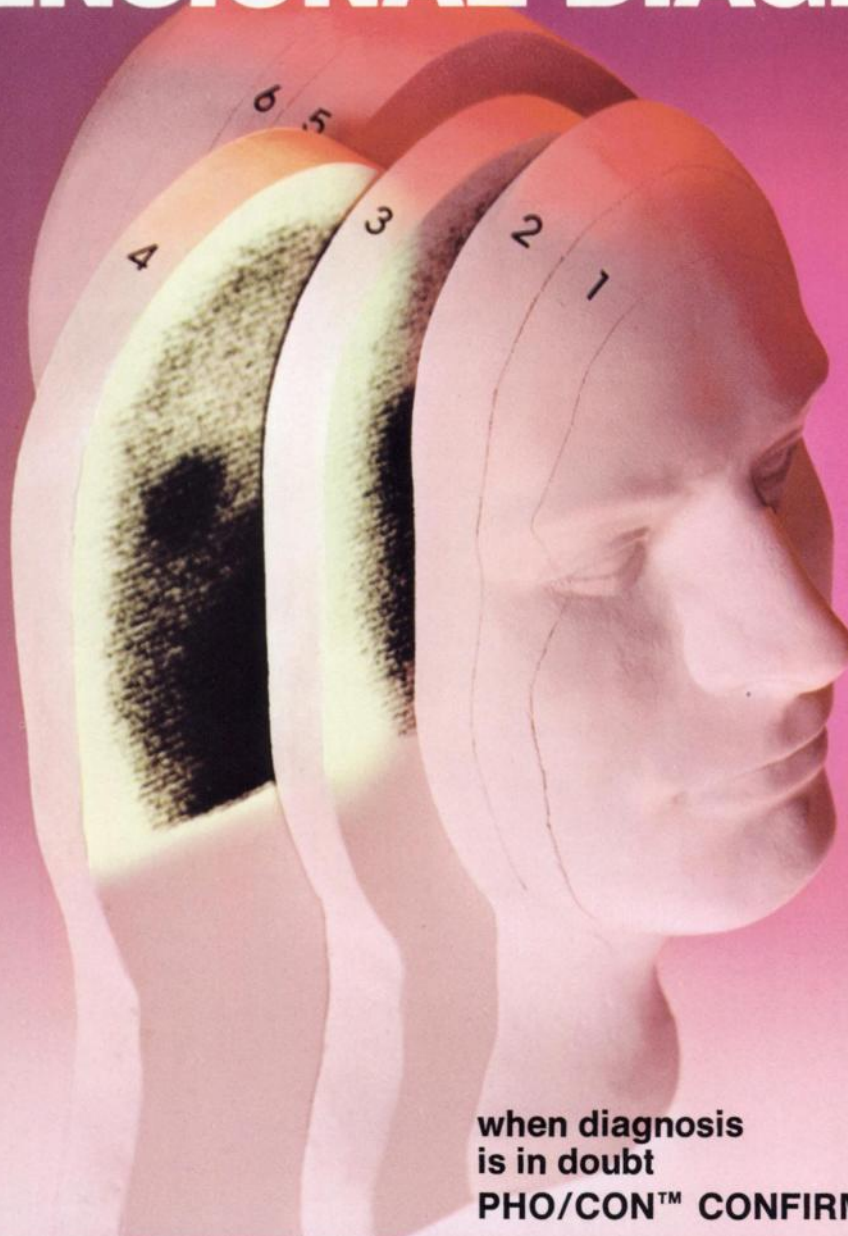
Medotopes®



SQUIBB HOSPITAL DIVISION

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

# 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.

**SEARLE**

## **Searle Radiographics Inc.**

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





**Free  
Yourself**



**Roche T<sub>4</sub>  
RIA**

**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<sub>4</sub> 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  $\mu$ l patient sample. ROCHE T<sub>4</sub> 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<sub>4</sub> RIA has a broader standard curve range than any other major product. Its curve from 0 to 30  $\mu$ g% attests to the procedure's sensitivity, since most other available assays lose sensitivity beyond 15  $\mu$ g%. 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<sub>4</sub> 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<sub>4</sub> You owe it to yourself | RIA



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

...keep yourself free with

# New Roche T<sub>3</sub> UPTAKE

To complement your T<sub>4</sub> results, Roche Diagnostics offers the same superior convenience with the ROCHE T<sub>3</sub> Uptake assay. This test utilizes a resin tablet as the separating medium. ROCHE T<sub>3</sub> Uptake is a rapid procedure which requires no special handling or washing. A T<sub>3</sub> Uptake serum calibrator is included, which makes pre-count and temperature correc-

tion unnecessary.

Together, ROCHE T<sub>4</sub> RIA and ROCHE T<sub>3</sub> 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<sub>4</sub> RIA,  
Roche T<sub>3</sub>  
UPTAKE**

**...why not  
free yourself?**



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

I am interested in knowing more about New  
ROCHE T<sub>4</sub> RIA and ROCHE T<sub>3</sub> Uptake.

F-10

- Please forward complete information by mail.  
 Please have a Roche Diagnostics Representative call to arrange for a product demonstration.

Name \_\_\_\_\_

Title \_\_\_\_\_

Institution Lab \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

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T-1L



# TI 201 opens up the heart

With TI 201 you enter a new era in the diagnostic evaluation of myocardial diseases.  
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# OUR 'KOWS, AND YOUR



## They're all products of the "little extra" philosophy.

There's a little extra in everything you see here. Right down the line. A little extra in terms of quality and convenience.

Our lung scan kit, offering the advantages of a frozen product, gives an excellent particle size range and a tagging efficiency always at or near 100% conversion of pertechnetate to labeled MAA.

Our stannous pyrophosphate product for bone imaging gives high tagging efficiency, consistency and stability both in vitro and in vivo, and high bone-to-soft-tissue ratios.

We package sulfur colloid in a unique dispenser which lets you keep a visual check on your supply. A convenient little extra.

Our line of 14 *Ultra-TechneKow*<sup>®</sup> generators gives you the largest choice of moly and fission moly generators.

That little extra in all of our products adds up to a standard of quality, convenience and reliability that gives you superior scans. So, think of Mallinckrodt and those little extras when you think of a source for your Tc-99m needs.

# OUR KITS SCANS.



Before prescribing please consult the complete product information, a summary of which follows:

#### TechniScan™ MAA Lung Scan Kit

**CONTRAINDICATIONS:** The safety of *TechniScan MAA Tc 99m* in patients with a known right-to-left cardiac shunt has not been established and its use in such patients is contraindicated.

**WARNINGS:** In acute cor pulmonale the administration of aggregated albumin is theoretically hazardous due to the temporary small additional mechanical impediment to pulmonary blood flow. Although not reported with *TechniScan MAA Tc 99m* there are three reports in the literature of deaths occurring after the administration of radioiodinated aggregated albumin as a result of pre-existing primary pulmonary hypertension.<sup>1,2,3</sup>

The contents of the *TechniScan MAA* reaction vial are intended only for use in the preparation of *TechniScan MAA Tc 99m* and are not to be directly administered to the patient.

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

This radiopharmaceutical preparation should not be administered to patients with severe kidney disease unless the benefits to be gained outweigh the potential hazards. Similar care should be observed with patients who are pregnant or who are lactating.

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

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

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

**ADVERSE REACTIONS:** Although no anaphylactoid reactions have been reported in patients following the administration of *TechniScan MAA Tc 99m*, the possibility should be considered that hypersensitivity reactions may occur rarely in patients who, after the initial administration, receive additional doses a number of weeks after the initial dose.

<sup>1</sup>Dworkin, H. J., Smith, J. R., and Bull, F. E.: Reaction after Administration of Macroaggregated Albumin for a Lung Scan, *New England J. Med.*, 275:376, August 18, 1966.

<sup>2</sup>Roberts, H. J.: Fatal hemoptysis in pulmonary embolism probably precipitated by pulmonary scanning—Report of a case

and suggested precautions. *Angiology*, 21:270, 1970.

<sup>3</sup>William, J. O.: Death following injection of lung scanning agent in a case of pulmonary hypertension. *Br. J. Radiol.*, 47:61, 1974.

#### TechniScan™ PYP™ Bone Scan Kit

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

The contents of the *TechniScan 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 *TechniScan 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.

The *TechniScan PYP Tc 99m* should not be used more than six hours after preparation.

**PRECAUTIONS:** Both prior to and following *TechniScan PYP Tc 99m* administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the *TechniScan PYP Tc 99m* 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.

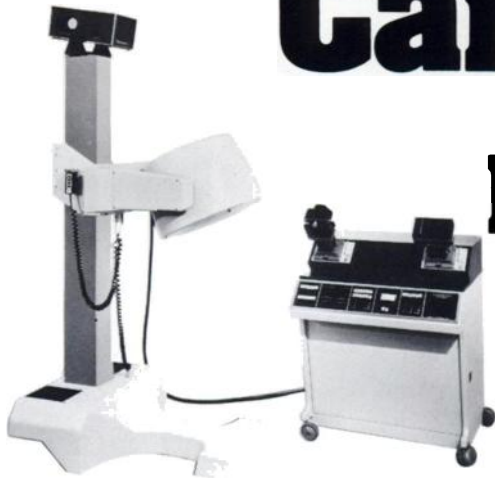
Mallinckrodt

NUCLEAR

RADIOPHARMACEUTICALS

Mallinckrodt, Inc.  
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Hazelwood, Missouri 63042

# Cardiovascular In Black And White



Series 100

All studies are  $^{99m}\text{Tc}$  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.

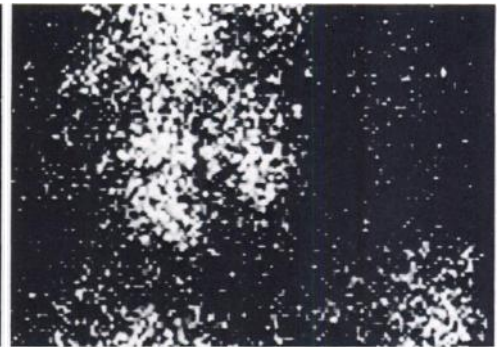
## Normal — LAO View

32 year old male  
History —  
Normal

160 DataSystem  
in half field mode



End Diastole



End Systole

## Focal Akinesis — Anterior View

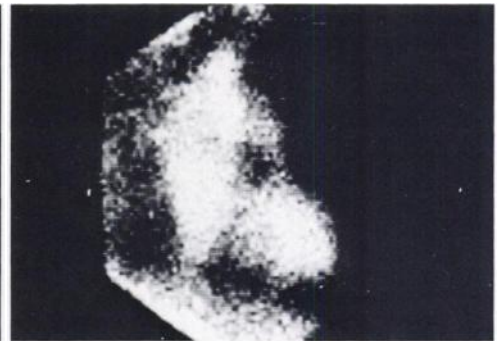
60 year old female  
History — extensive infarct 1972, progressive shortening of breath, congestive heart failure, acute pulmonary embolism, recurring ventricular tachycardia, patient was defibrillated



End Diastole



Gated Study shows  
severe left ventricular 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



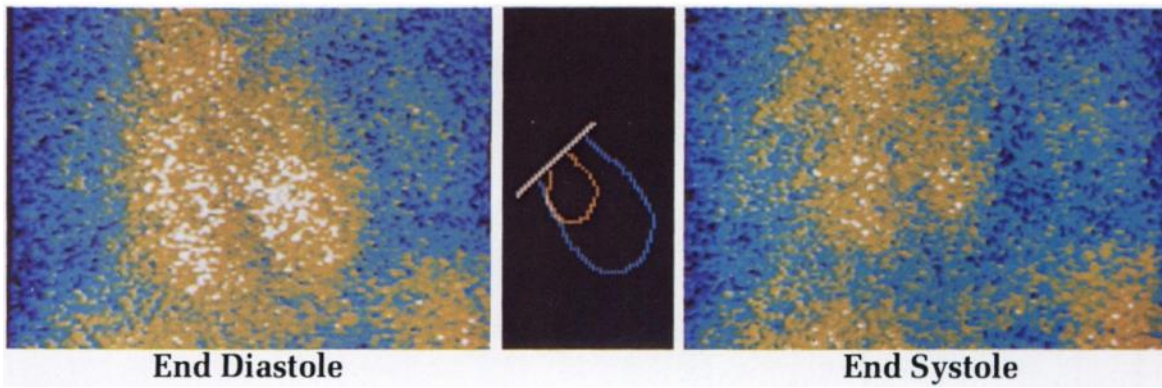
# Nuclear Diagnosis

## Or In Color



Series 160 DataSystem

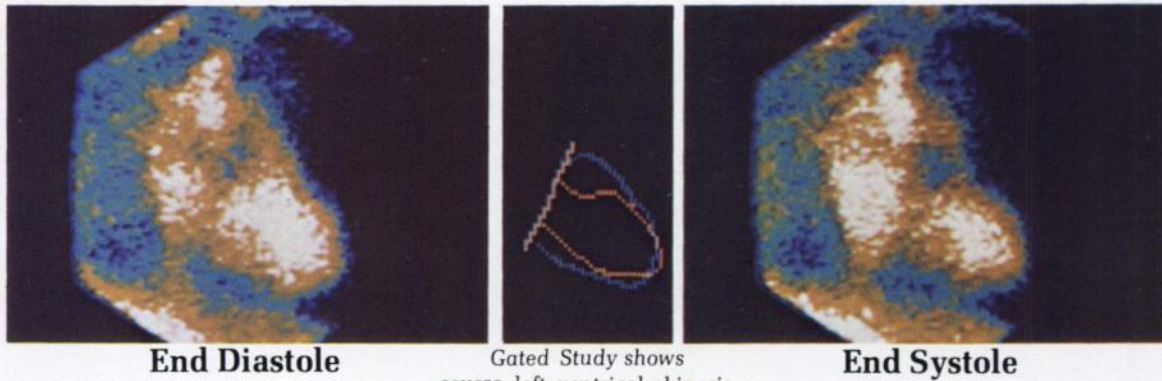
### Normal — LAO View



32 year old male  
History —  
Normal

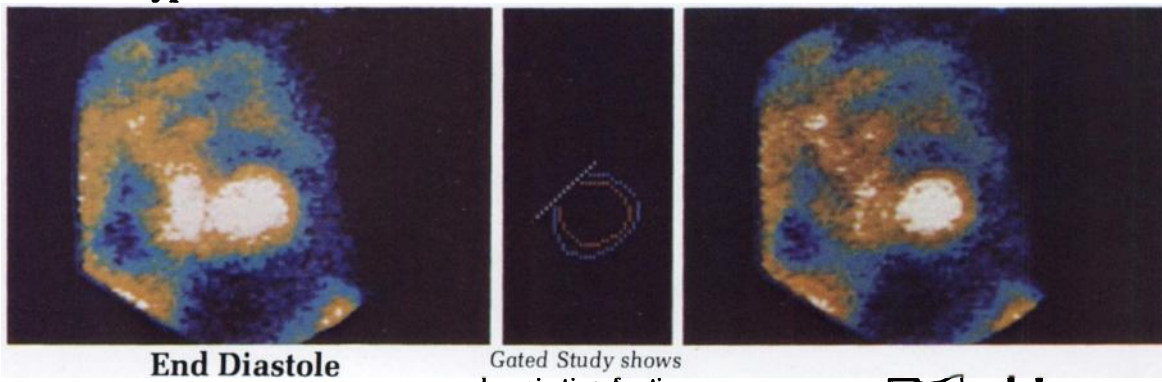
160 DataSystem  
in half field mode

### 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

### Diffuse Hypokinesis — Anterior View



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



**ohio-nuclear, inc.**

6000 COCHRAN ROAD • SOLON, OHIO 44139  
PHONE (216) 248-8500 • TWX NO. 810-427-2998  
(U.K.), Redix House, Central Trading Estate, Staines, Middlesex, England • Phone Staines 51444

# varicam. . . . .

## PICTURES OF PEOPLE

**Monochrome display:** of multicycle grey scale with matrix blocks interpolated out.

Real labelled contours.

Line drawn isometrics with multiple perspective and far-side blanking.

Curves displayed as continuous lines with labelled axes positive and negative, linear or log scale.

**Paper hardcopy:** life size (or other scaling) of all except isometric display. Formatted reports, including billing if required, may be generated cheaply.

**Color display:** for viewing of successive dynamic frames, etc.

## PICTURES BY PEOPLE

**Easy use:** full plain text dialogue separated from display enables sophisticated use under *people* control without the usual secret code of computers.

**Protocols:** routine procedures may be chained into a protocol, with comment, for full automatic *machine* control.

**Identification:** it is impossible to have unidentified displays or to mix patient records in these systems.

## PICTURES FOR PEOPLE

**Dynamic:** flexible visualization and quantification of physiological processes promotes positive diagnoses.

**Static:** finally available, static images significantly better than the raw camera output promote earlier more effective clinical diagnoses.

## PICTURES FOR MORE PEOPLE

**Dual Cameras:** systems for two cameras with simultaneous dynamic capability without interference or record confusion.

**Multi-tasking:** the BETA executive automates the computer functions for clinical use, or permits the computer-orientated to access FORTRAN or ASSEMBLER and to multi-task up to 7 functions (memory size option permitting) simultaneously.

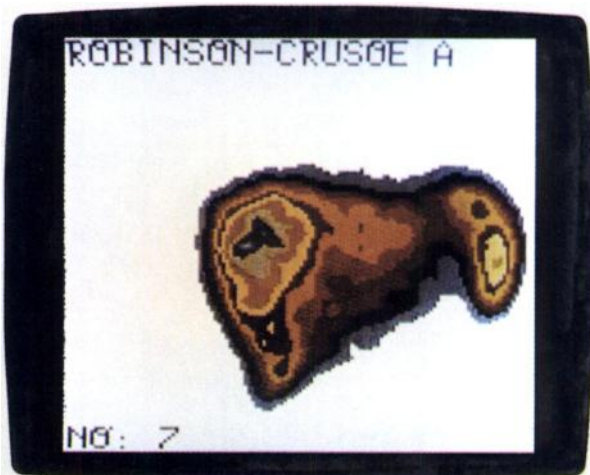
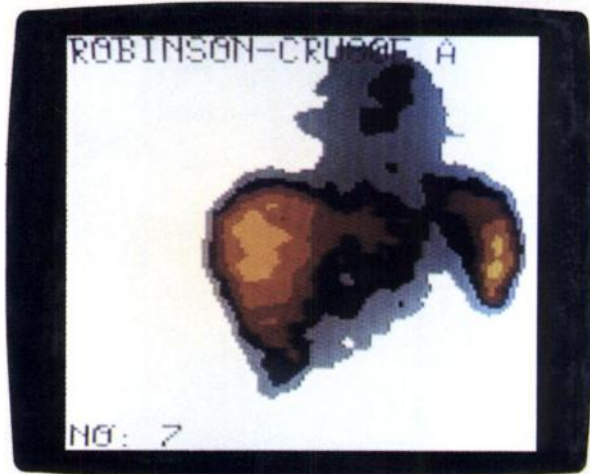
**Multi-accessing:** background tasks may be run such as radio immunoassy, E.K.G., radiotherapy planning, etc., simultaneously with gamma camera use (which has, of course, priority).

**System Growth:** a start may be made with a low-cost budget system. Large comprehensive systems may be built from standard modules.

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# WHAT'S NOW SQUIBB?

On the current nuclear medicine scene



## MINITEC® (Technetium 99m) Generator

The Technetium 99m Generator using fission product molybdenum to produce technetium 99m. MINITEC is unlike any generator you've ever used—made small to make sense.

### Designed for easy handling

- MINITEC has its own handle for easy lifting, easy carrying and reduced hand exposure
- Weighs only 24½ lbs., less than 5" in diameter, under 8½" high

### Designed for easy elution

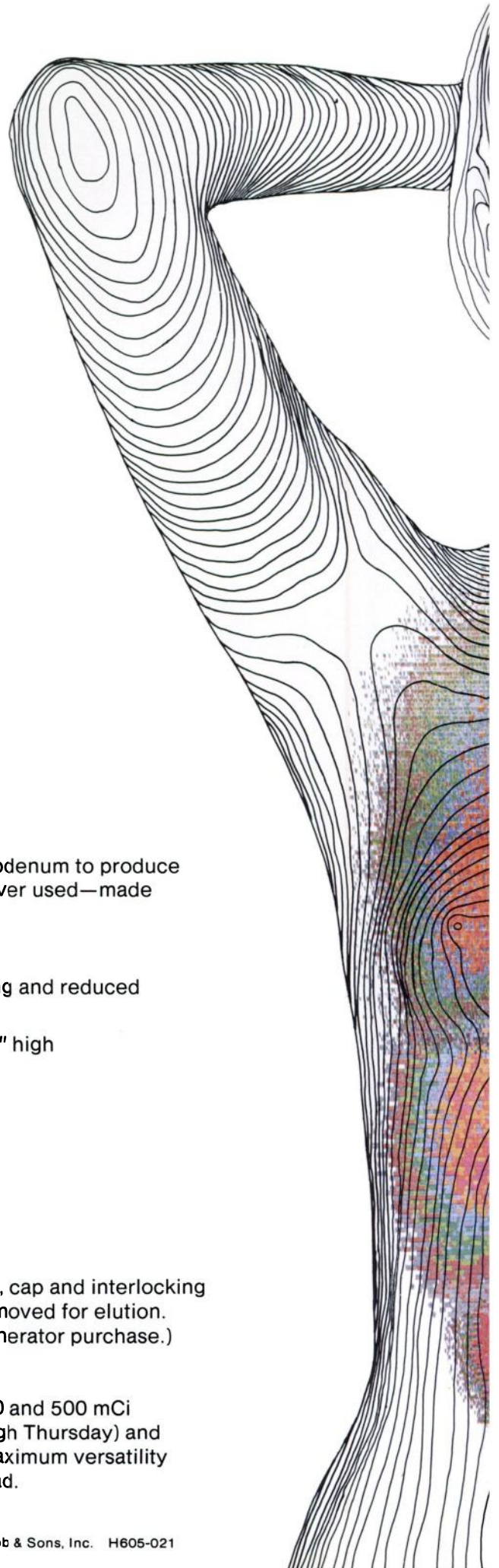
- Sets up in seconds
- Elutes in only 3 minutes after eluent vial has emptied

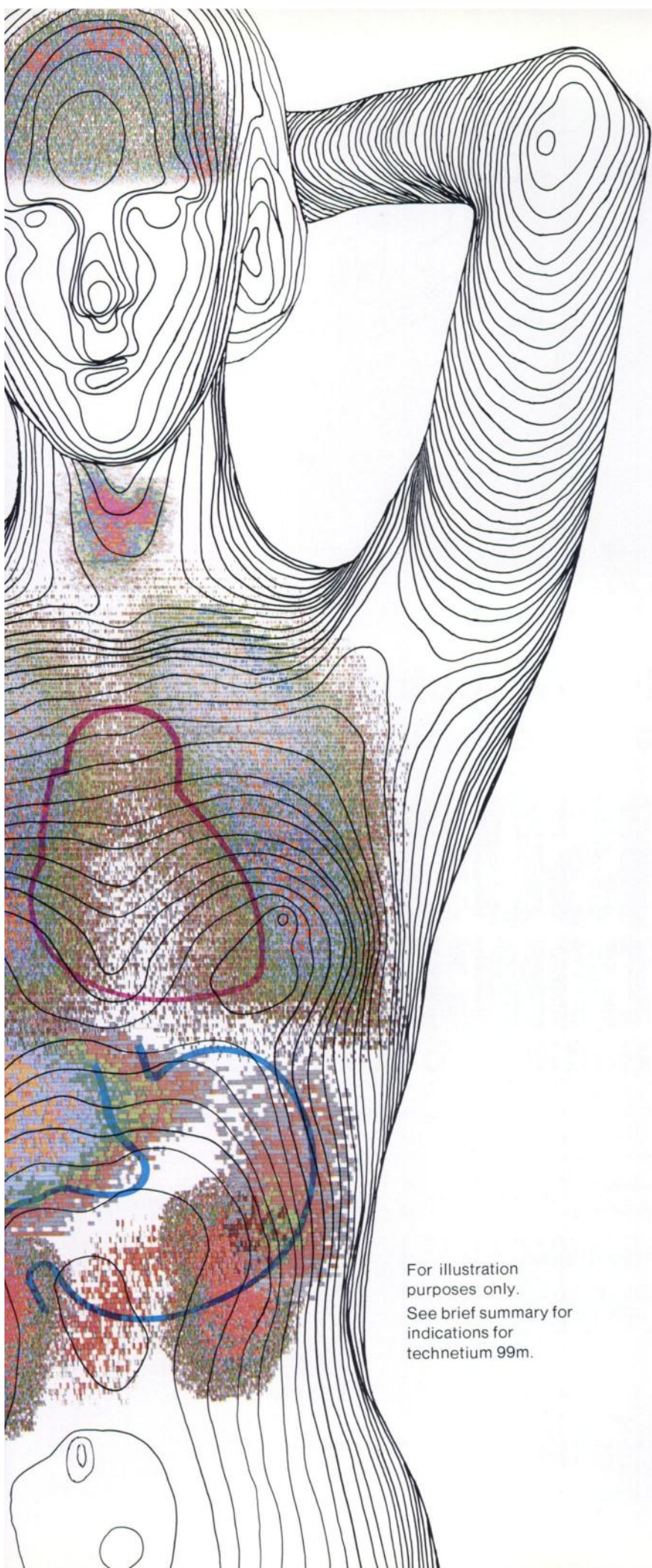
### Designed for safety

- No exposed tubing when eluting
- 1½" lead surrounds the MINITEC column
- 1½" of extra lead protection from MAXI-SHIELD™. Base, cap and interlocking half rings easily assembled on site . . . only the cap is removed for elution. (You get MAXI-SHIELD free with your first MINITEC Generator purchase.)

### Designed for convenience

- MINITEC Generator is available in 50, 100, 200, 300, 400 and 500 mCi potencies. Delivery on Monday AM (precalibrated through Thursday) and Wednesday (precalibrated through Monday) provides maximum versatility to satisfy technetium requirements of your lab's work load.





For illustration purposes only. See brief summary for indications for technetium 99m.

# Minitec® (Technetium 99m) Generator

Minitec® (Technetium 99m) Generator provides a means of obtaining a sterile, non-pyrogenic supply of technetium 99m (<sup>99m</sup>Tc) as sodium pertechnetate <sup>99m</sup>Tc.

**Indications:** Sodium pertechnetate <sup>99m</sup>Tc is indicated for brain imaging, thyroid imaging, salivary gland imaging, blood pool imaging, and placenta localization.

**Contraindications:** At present, there are no known contraindications to the use of sodium pertechnetate <sup>99m</sup>Tc.

**Warnings:** Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and safe handling of radionuclides, produced by nuclear reactor or cyclotron, and whose experience and training have been approved by the appropriate federal or state agency authorized to license the use of radionuclides.

This radiopharmaceutical should not be administered to women who are pregnant or who may become pregnant or during lactation unless the information to be obtained outweighs the possible potential risks from the radiation exposure involved. 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 radioactive pertechnetate is secreted in milk during lactation, formula-feedings should be substituted for breast-feedings.

**Important:** Since material obtained from the generator may be intended for intravenous administration, aseptic technique must be strictly observed in all handling. Only the eluent provided should be used to elute the generator. Do not administer material eluted from the generator if there is any evidence of foreign matter.

**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.

**Adverse Reactions:** At present, adverse reactions have not been reported following the use of sodium pertechnetate <sup>99m</sup>Tc.

For complete prescribing information, consult package insert.

**How Supplied:** Minitec (Technetium 99m) Generator is available in potencies of 50, 100, 200, 300, 400, and 500 mCi. Supplied with the generator are vials of eluent containing 5 ml. of a sterile, non-pyrogenic solution of 0.9% sodium chloride in water for injection. Also supplied is suitable equipment for eluting, collecting, and assaying the technetium 99m.

Medotopes®



**SQUIBB HOSPITAL DIVISION**  
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Princeton, N.J. 08540



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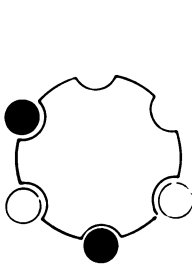
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We believe our RIA kits for total T-3 and T-4 are of unsurpassed quality. We also believe you will agree after using our kits and come to appreciate their high quality, speed, sensitivity, simplicity and reproducibility. Consequently, for a limited time, we are offering free, no obligation, 100 tube evaluation kits. These kits are complete and will be shipped to your attention; not delivered by a salesperson. Look over the features of our kits as shown below and send today for your free 100 tube evaluation kit.

	<sup>125</sup> I T-3 RIA	<sup>125</sup> I T-4 RIA
Incubation time	30 minutes	30 minutes
Sensitivity	10 ng/100 ml	0.3 μg/100 ml
Sample size	100 μl	25 μl
Cross-reaction	0.002% with T-4	0.015% with T-3
Separation	2nd. Antibody	2nd. Antibody
Range	80 - 0.1 ng/ml	32 - 0.3 μg/100 ml
Counting time	1/2 minute	1/2 minute
Extraction	None	None
Convenience	Premeasured Standards	
Reagents	Lyophilized, just add water	
Calculation	Yields straight line on log-logit plot	



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(213) 826-0831

Circle 401 for information only on a complete line of kits including Folate <sup>3</sup>H, Folate <sup>125</sup>I, Aldosterone <sup>3</sup>H, Cortisol <sup>3</sup>H, B<sub>12</sub> <sup>57</sup>Co, Cyclic AMP <sup>3</sup>H, and Cyclic GMP <sup>3</sup>H.

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Shipping address: \_\_\_\_\_

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Kit Requested T-3 RIA \_\_\_\_\_ T-4 RIA \_\_\_\_\_

Are you presently using a T-3 or T-4 RIA kit? yes \_\_\_\_\_, no \_\_\_\_\_

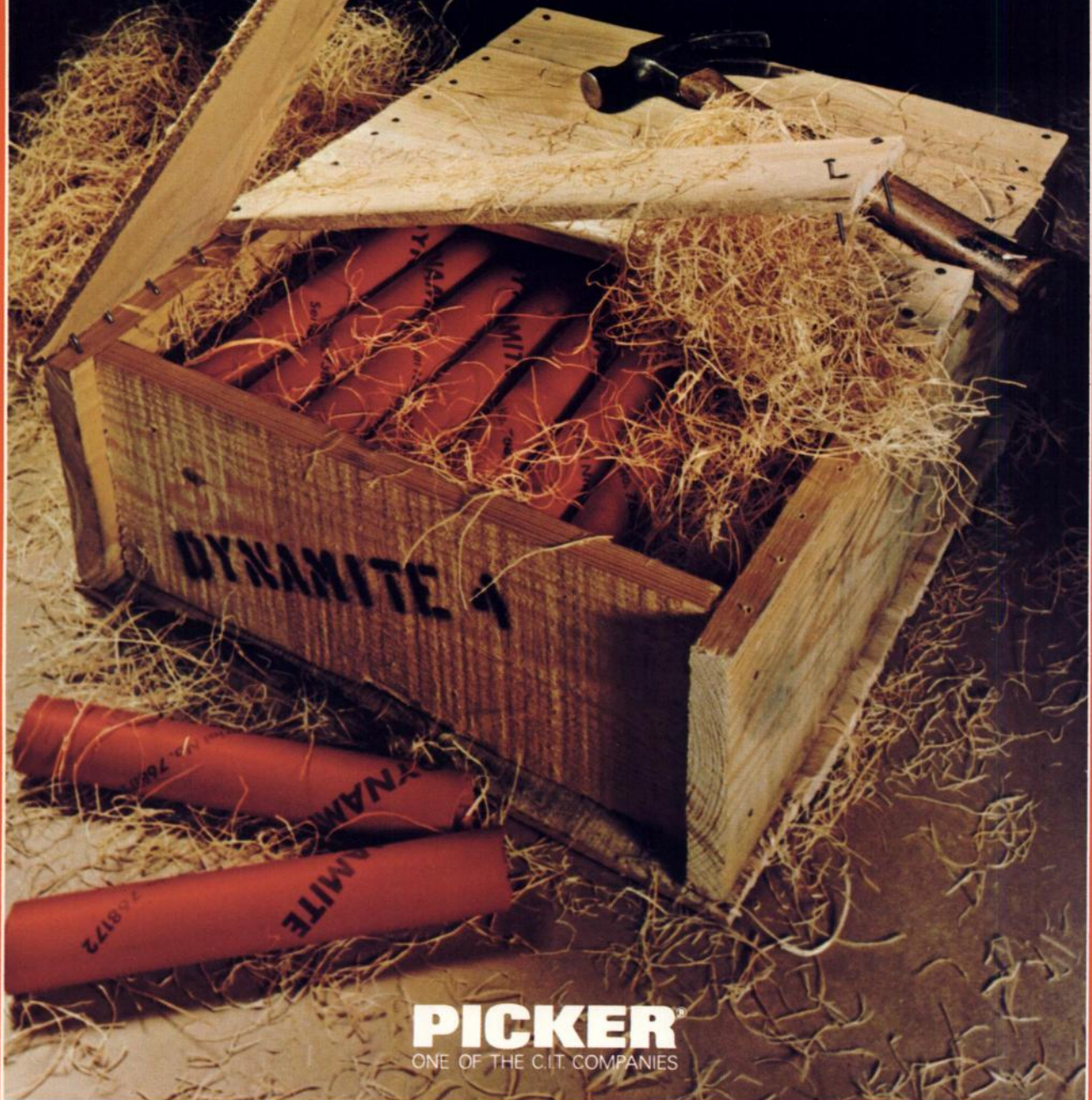
If yes, specify kit(s) currently using: T-3 \_\_\_\_\_, T-4 \_\_\_\_\_

\*Offer limited to potential customers only.

Offer expires November 30, 1975. Form must be completed and attached to an official letterhead.

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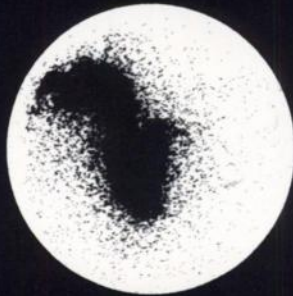
Cardiac Flow Study  
Picker Large Field (15" diameter) Detector  
10mCi  $^{99m}\text{Tc}$  Sodium Pertechnetate



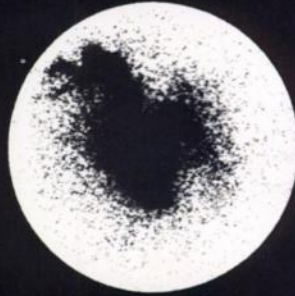
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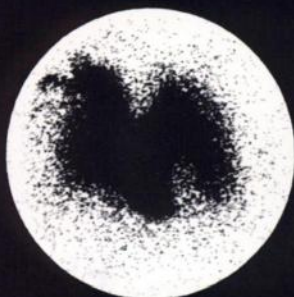
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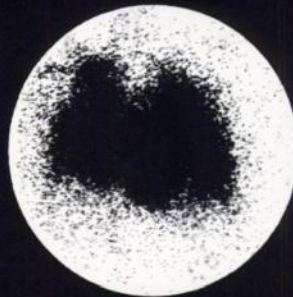
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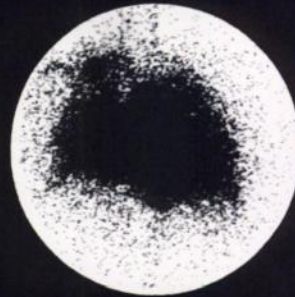
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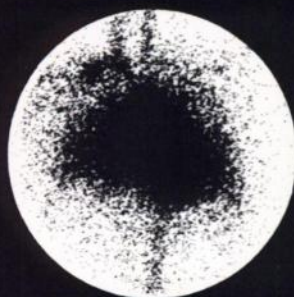
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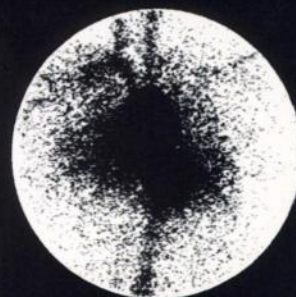
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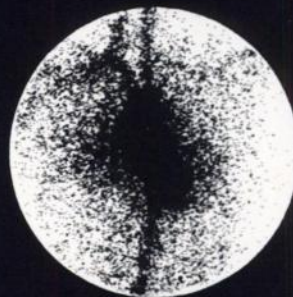
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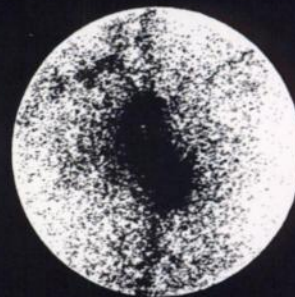
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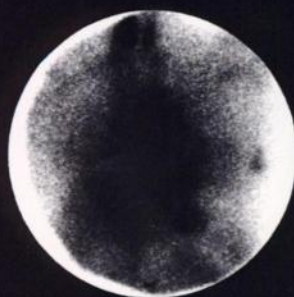
10



11



12



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## 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.

Convenient because you prepare it only as needed.

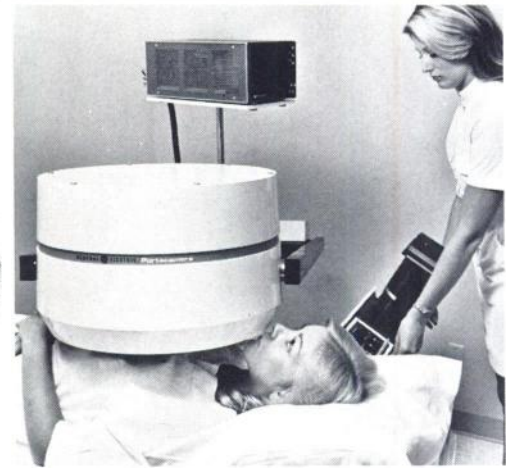
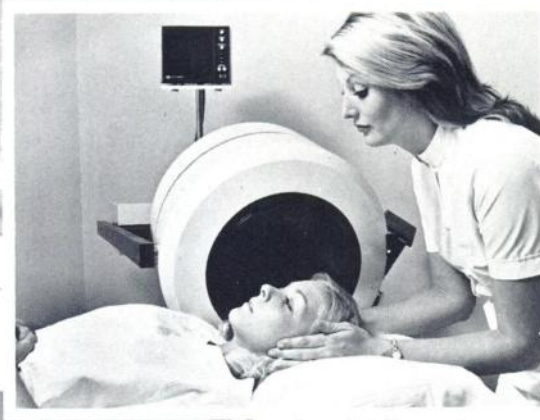
Compact because an average year's supply of 44 kits occupies only two cubic feet.



### New England Nuclear Radiopharmaceutical Division

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

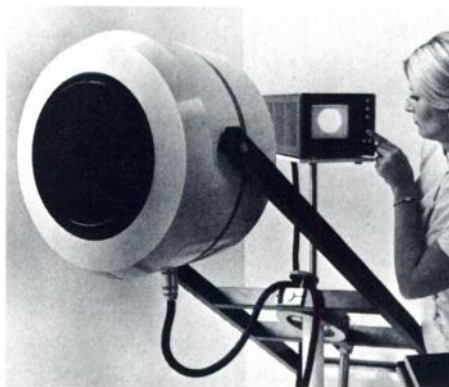
Canada: NEN Canada Ltd, Dorval, Quebec. Tel: 514-636-4971  
Europe: NEN Chemicals GmbH, D6072 Dreieichenhain, W. Germany,  
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# PortaCamera system not only gets around your hospital...it gets around space & budget limitations, too.

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Only one system fits that description: the PortaCamera™ system, by General Electric. Camera and integrated electronics console can serve as a comprehensive nuclear department on wheels for the hospital just getting into nuclear medicine. And as a versatile,



high-performance back-up system to relieve patient loads in established nuclear institutions.

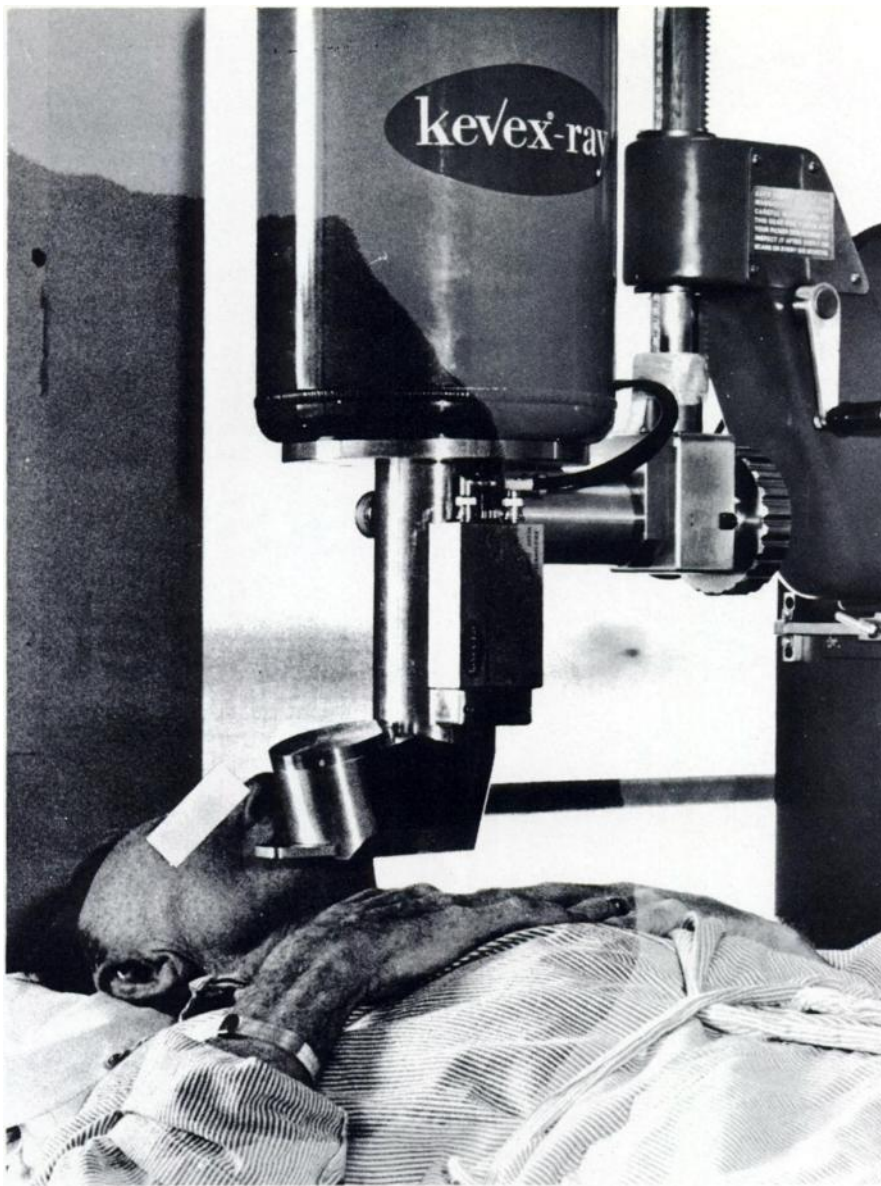
PortaCamera system has no rival for ease of use. Counter-balanced detector permits precise positioning with supine or seated patients. No motors.

No restrictive detector yoke. No awkward pedestal. Two-step operating procedure is quickly mastered by your technician, to speed patient through-put.

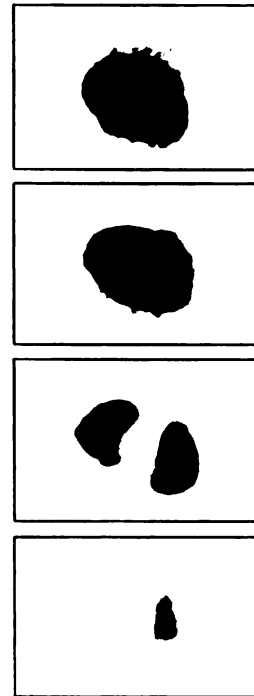
The PortaCamera system is another example of General Electric's expanding nuclear capability. Backed by GE's recognized service organization. And available under attractive lease plans which don't require a capital investment. Look for the commitment behind the equipment. See your GE representative.

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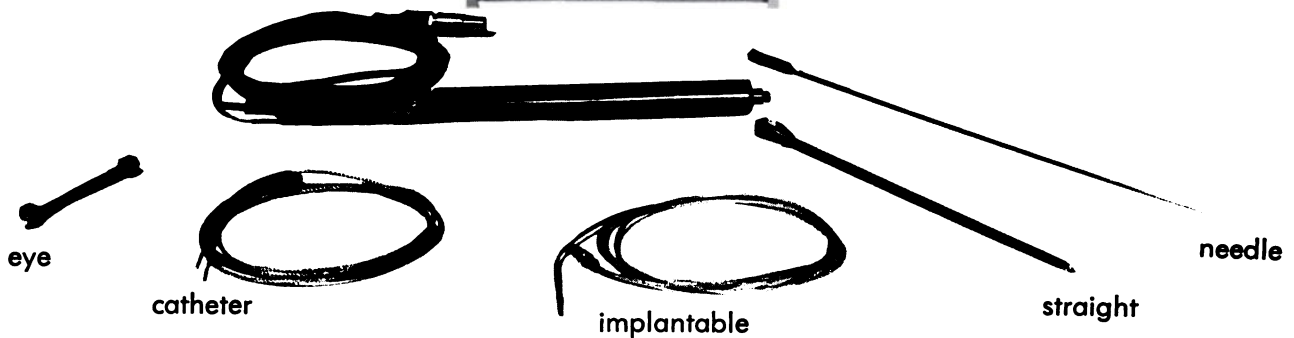
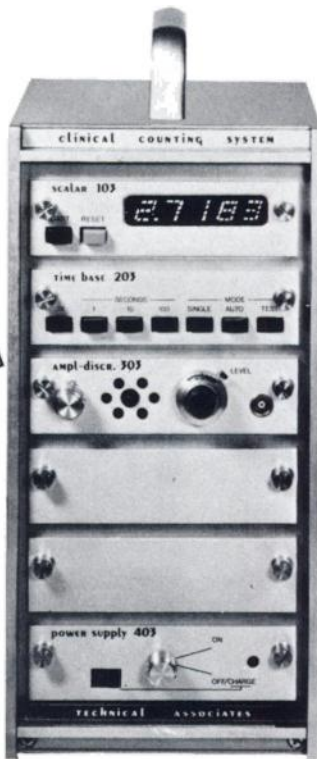
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Albert Einstein College  
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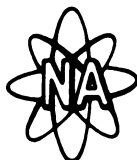
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For DEEP VEIN THROMBOSIS DETECTION, the Model 145 offers the important features of **portability**, standard D cell operation yielding at least 100 hours of uncycled use, **unlimited channel selection**, and **prompt servicing**.

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

### SPECIFICATIONS

RANGE: 30, 100, 300, 1000, 3000 cps  
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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  
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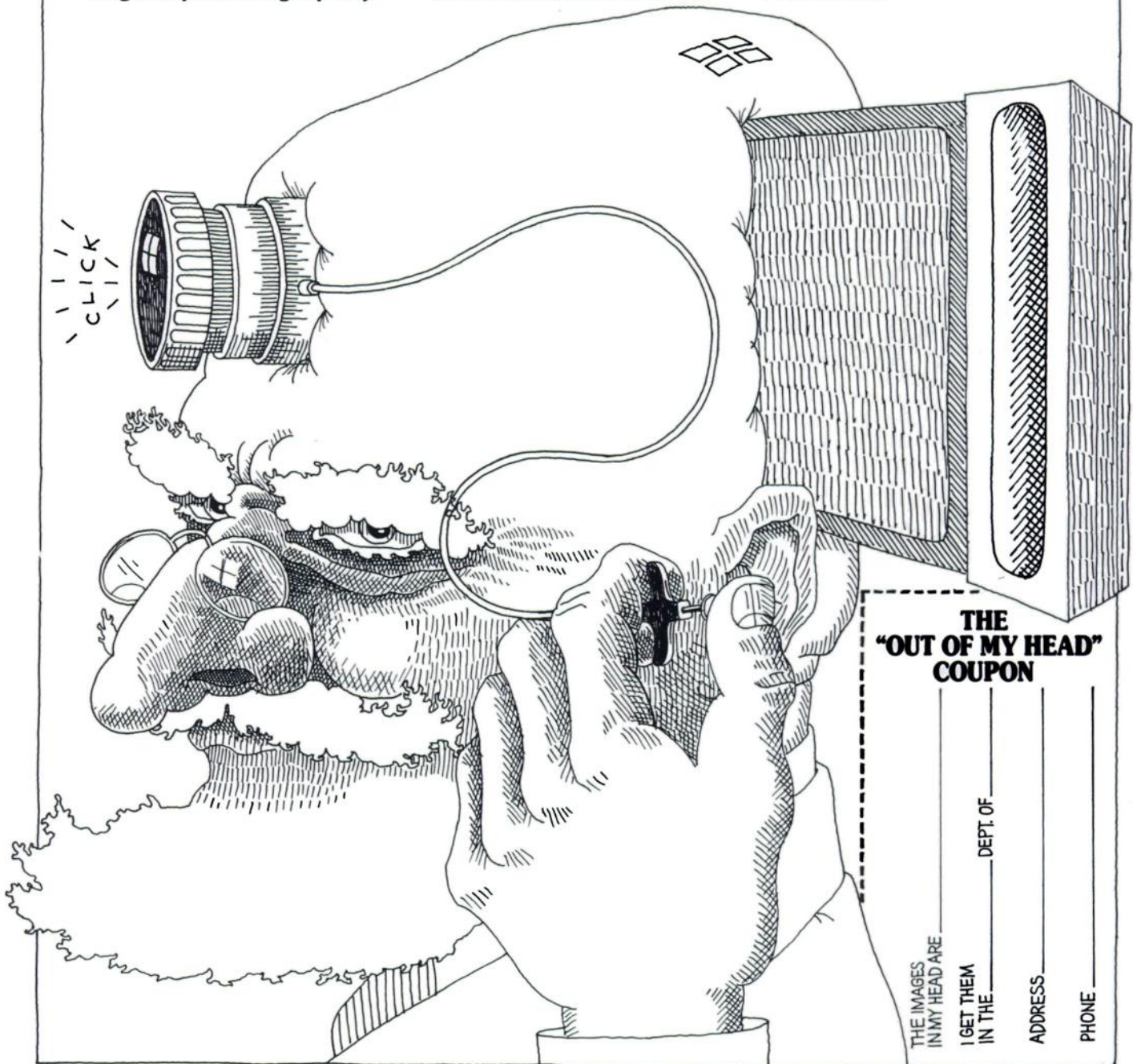
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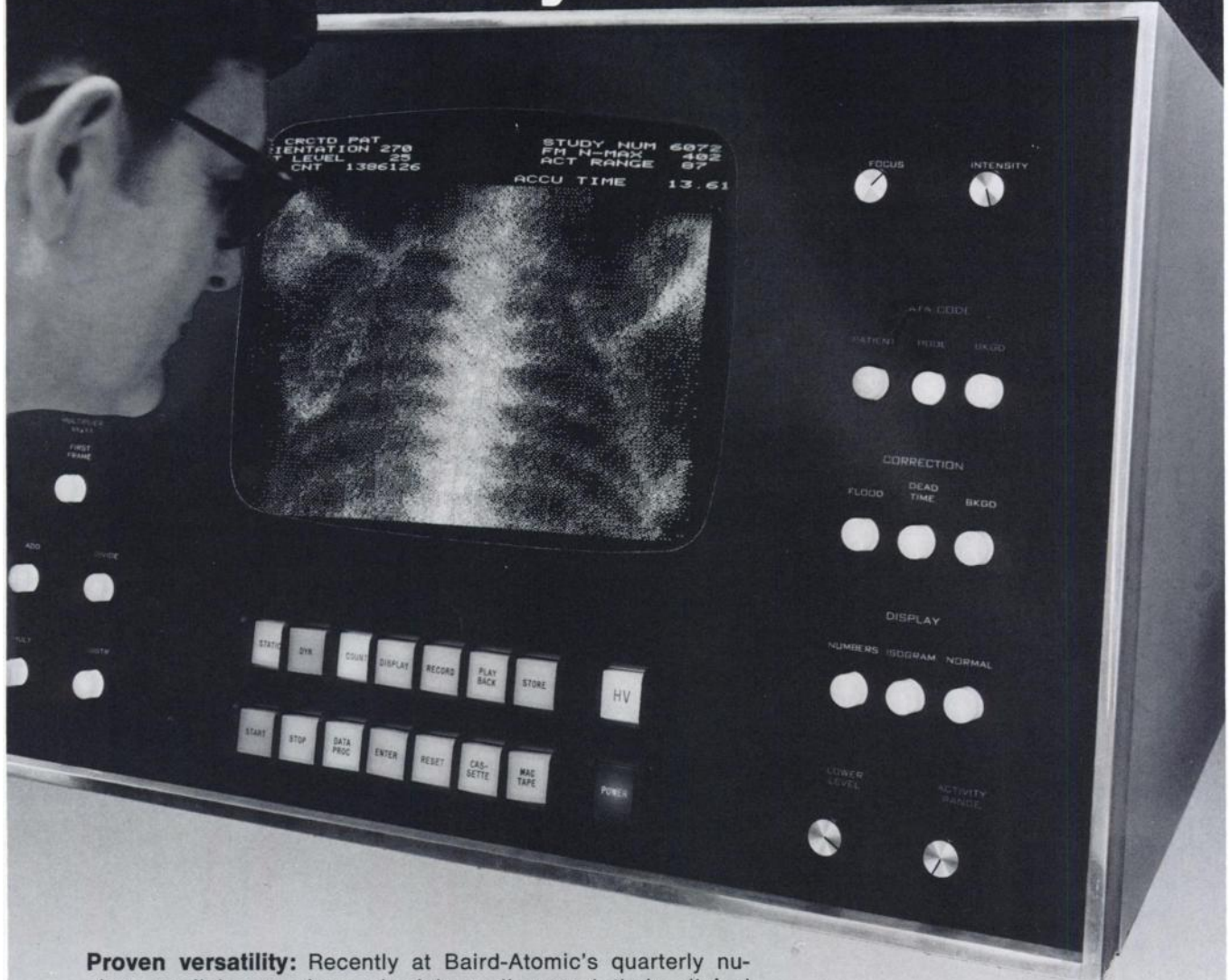
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**Proven versatility:** Recently at Baird-Atomic's quarterly nuclear medicine seminar, physicians discussed their clinical experiences using the System Seventy. The titles of their papers indicate both the versatility and clinical potential of our 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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A <sup>3</sup>H Cortisol RIA with dextran coated charcoal separation is also available.

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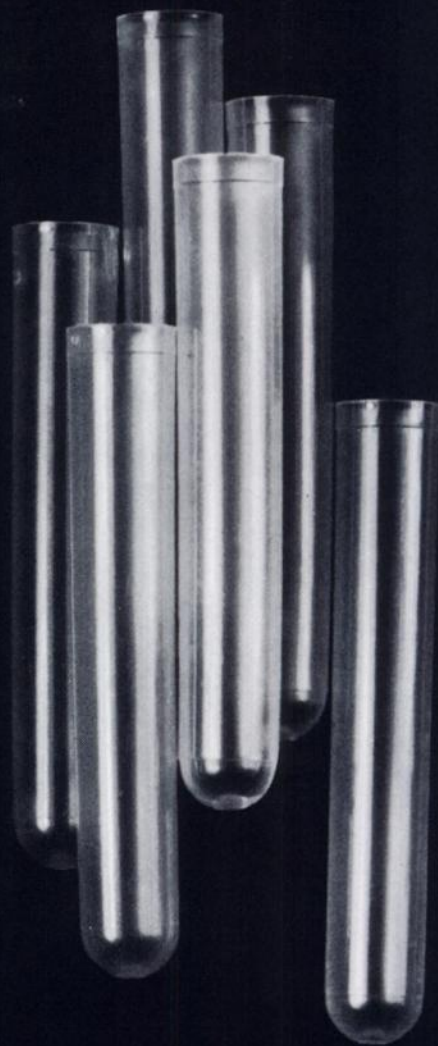
GammaCoat Digoxin <sup>125</sup>I  
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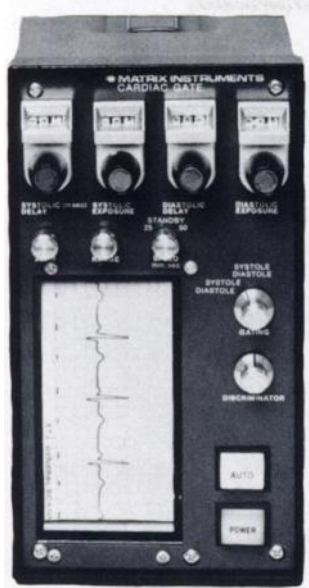
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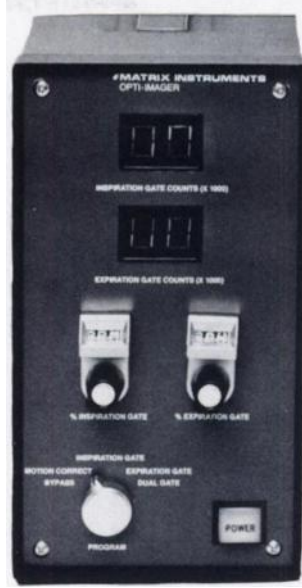
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**Cardiac Gate**



**Opti Imager**



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

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

## #MATRIX INSTRUMENTS

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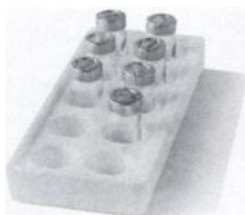
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Please send Cardiac Gate and Opti-Imager literature and sample studies

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# They're all good, but one stands out.

## Theirs versus Ours



Albumin dependence (not specified)

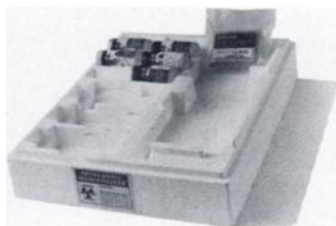
Dextran coated charcoal; protein interference, time & temperature dependent

Two incubations: total time 35 minutes

Albumin independent

Double antibody; no charcoal errors

One incubation: total time 30 minutes



Solid phase  
Albumin dependence (not specified)

Two incubations: total time 40 minutes

Three washes, three centrifugations

Double antibody  
Albumin independent

One incubation: total time 30 minutes

One wash, one centrifugation



Coated tube

Two incubations: total time 45-60 minutes

Double antibody

One incubation: total time 30 minutes



Albumin dependence (not specified)

One incubation: total time 30 minutes

Albumin independent

One incubation: total time 30 minutes





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\*Using the Beckman Microfuge B.

Test results are unaffected by serum albumin levels from 2 g/dl to 8 g/dl. Results are also unaffected by serum cholesterol levels to 700 mg/dl, serum progesterone levels up to 100 mg/dl, and serum testosterone levels up to 100 mg/dl.

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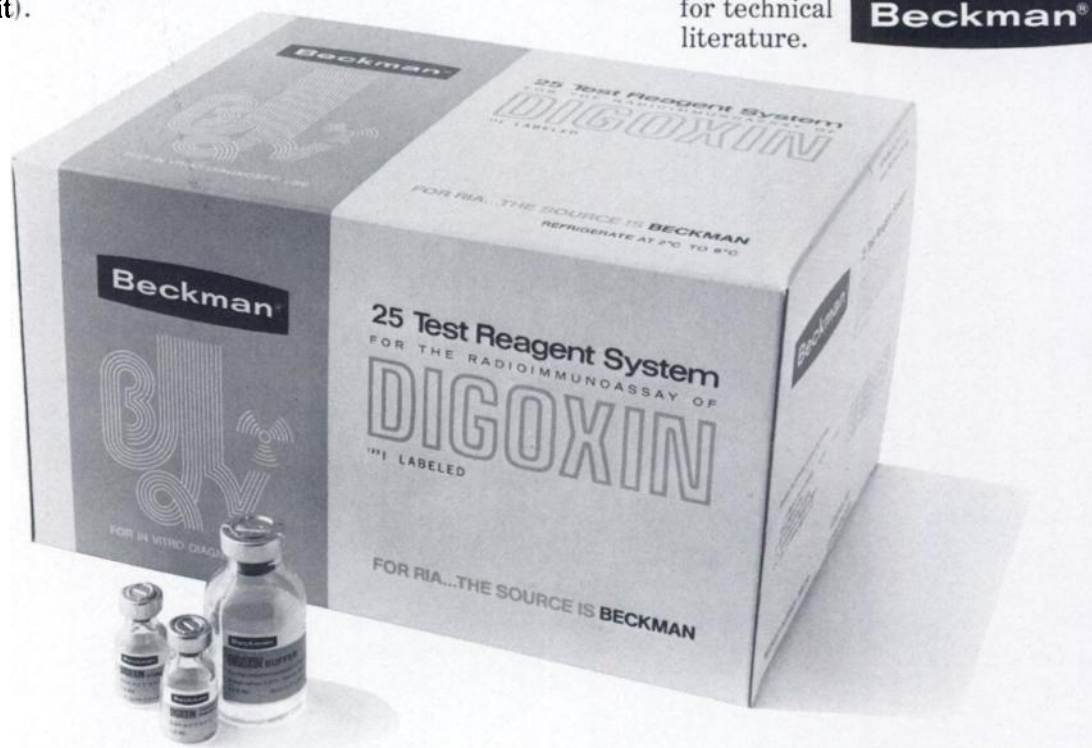
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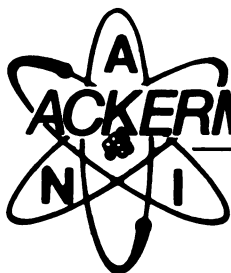
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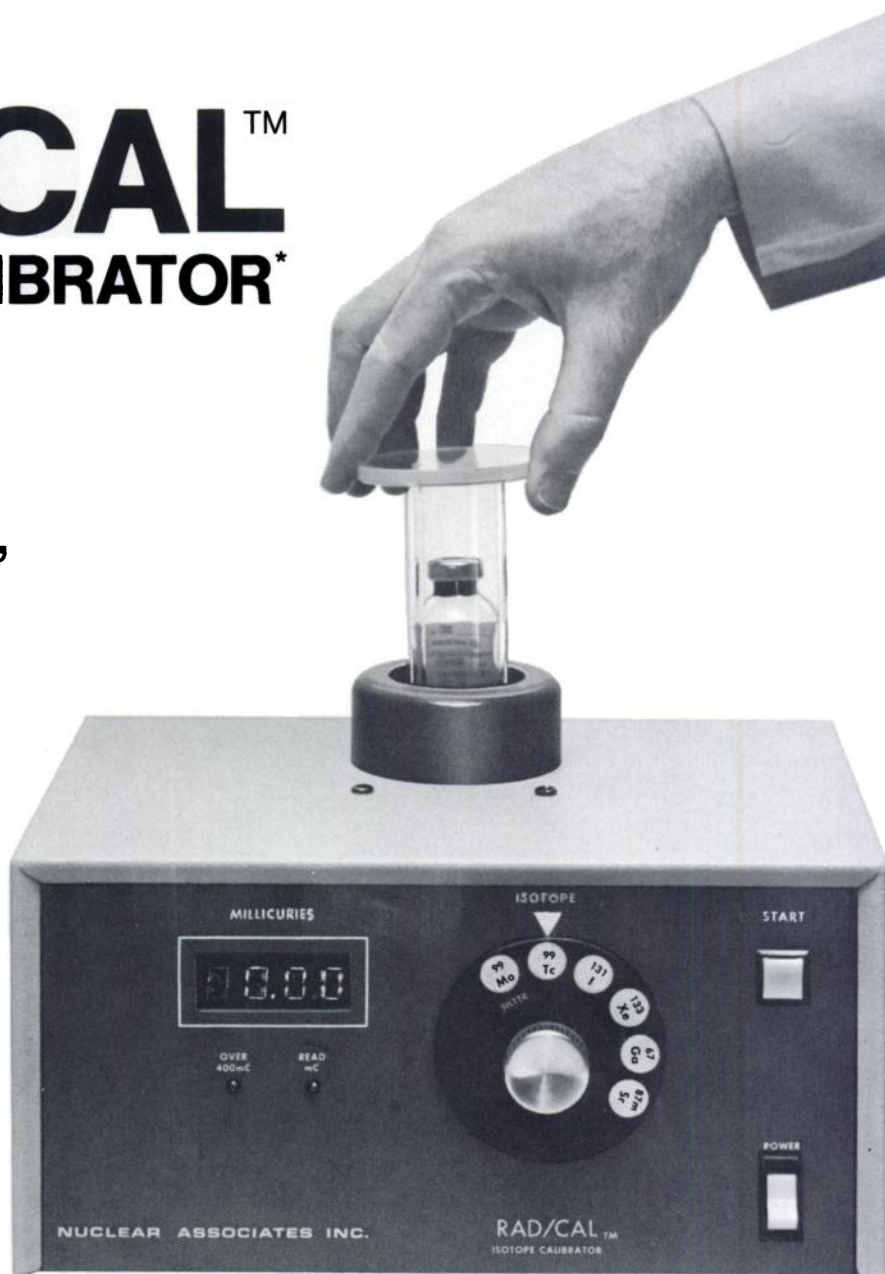
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# The XYZ-101 Imaging Table



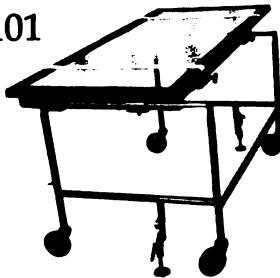
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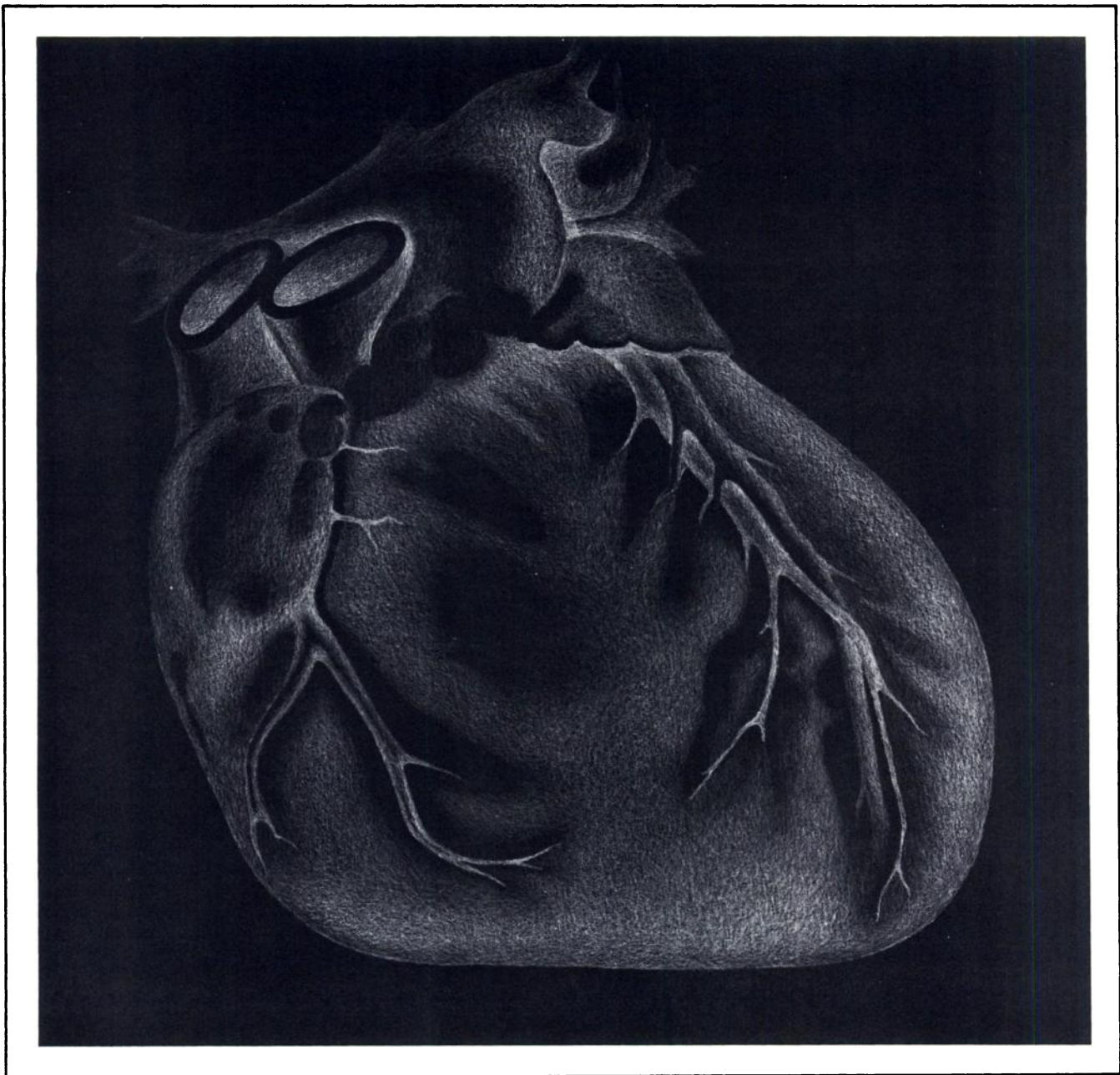
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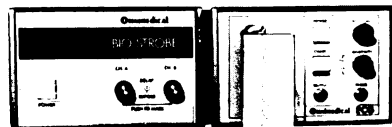
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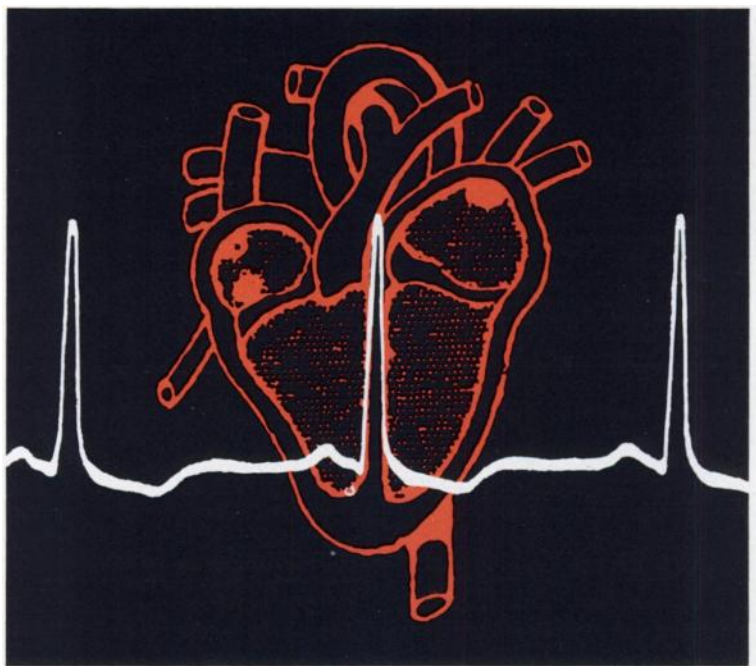
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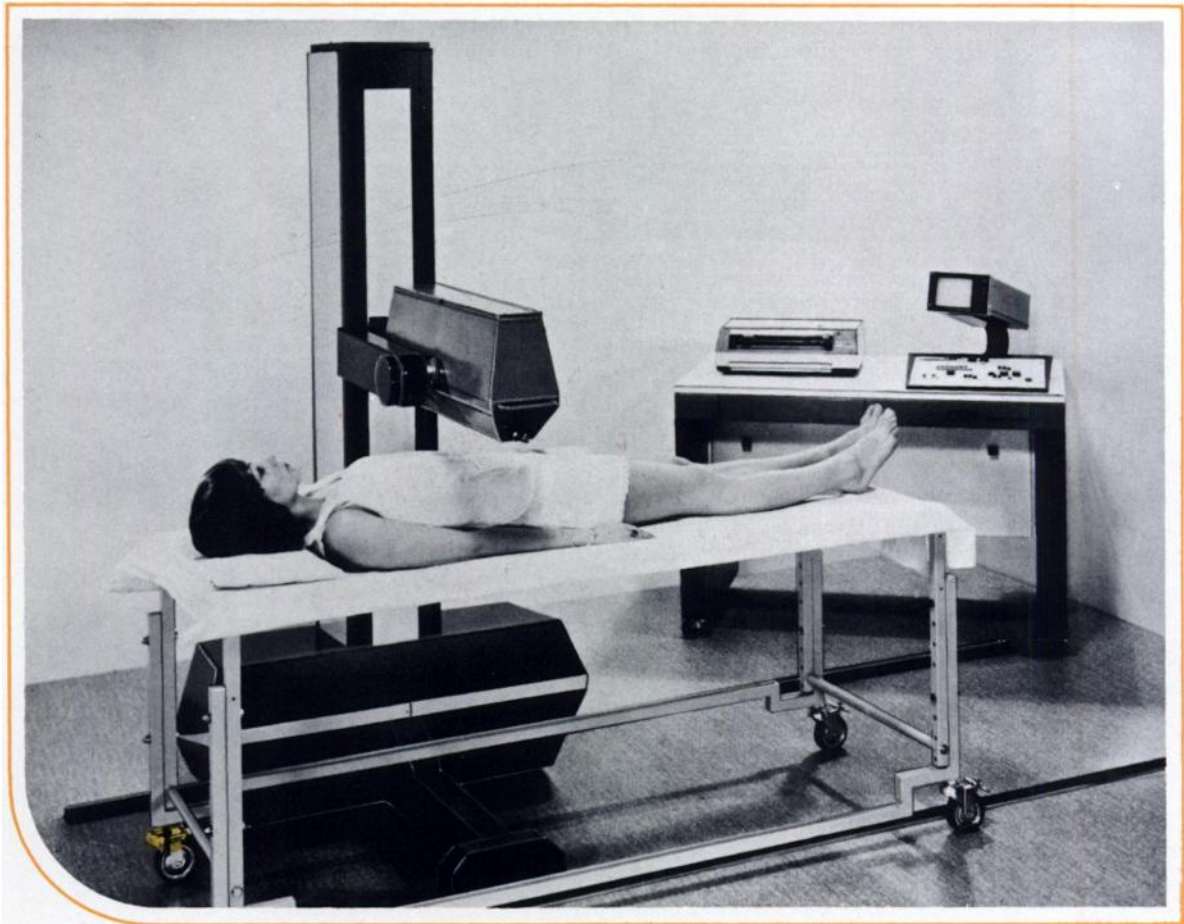
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Customer Service 617-482-9595

Canada: NEN Canada Ltd., Dorval, Quebec, H9P-1B3,  
Tel: (514) 636-4971, Telex: 05-821808  
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the 200 cm × 60 cm linear field gamma camera,  
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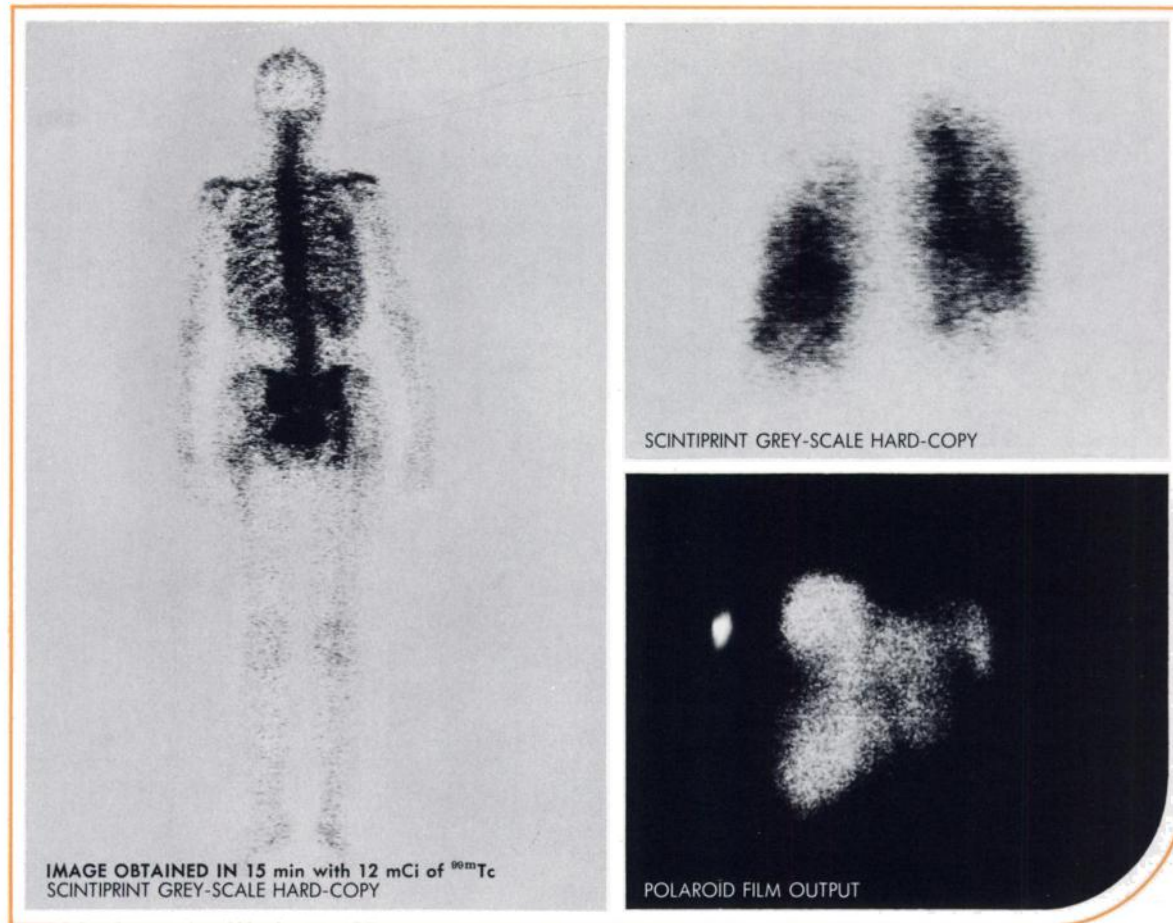
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\*scans courtesy of

- Centre RENE-HUGUENIN de lutte contre le cancer  
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# New England Nuclear Radiopharmaceuticals

**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.



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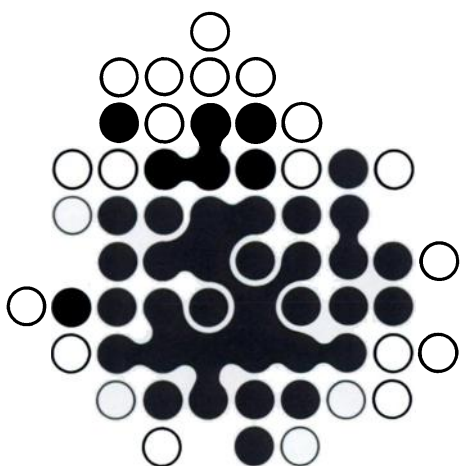
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# CEA-ROCHE

## *Carcinoembryonic Antigen assay*

a valuable adjunct during the  
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- 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.

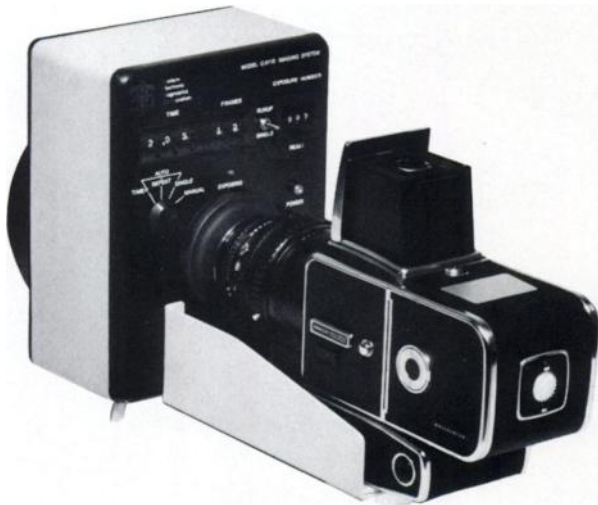
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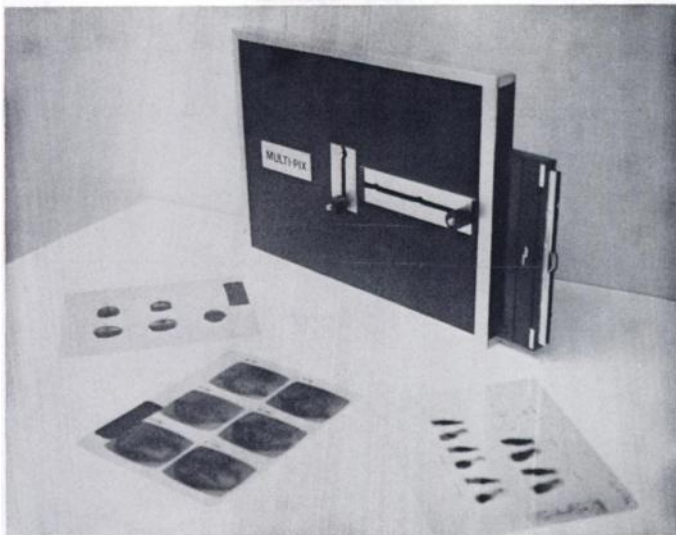
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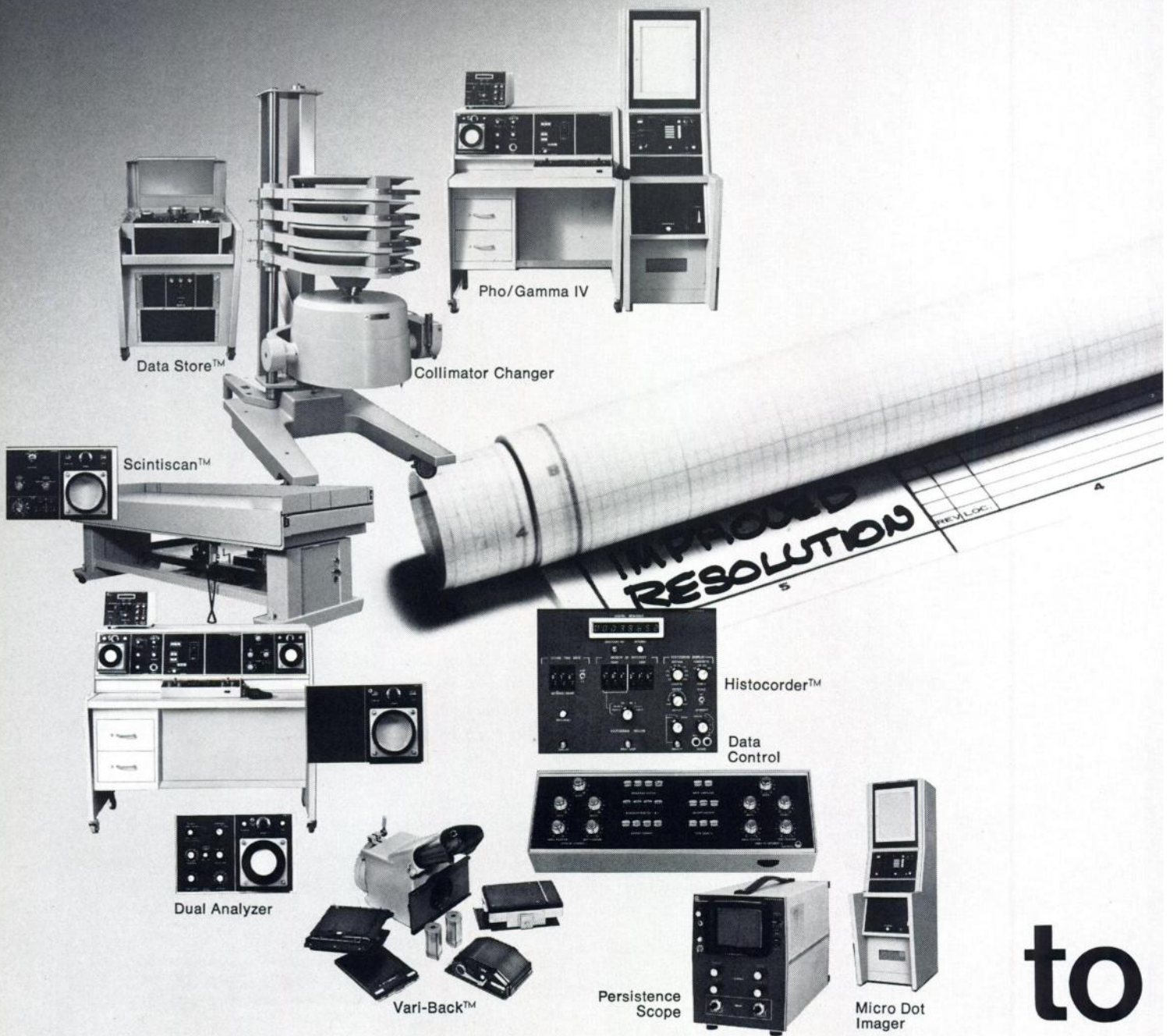
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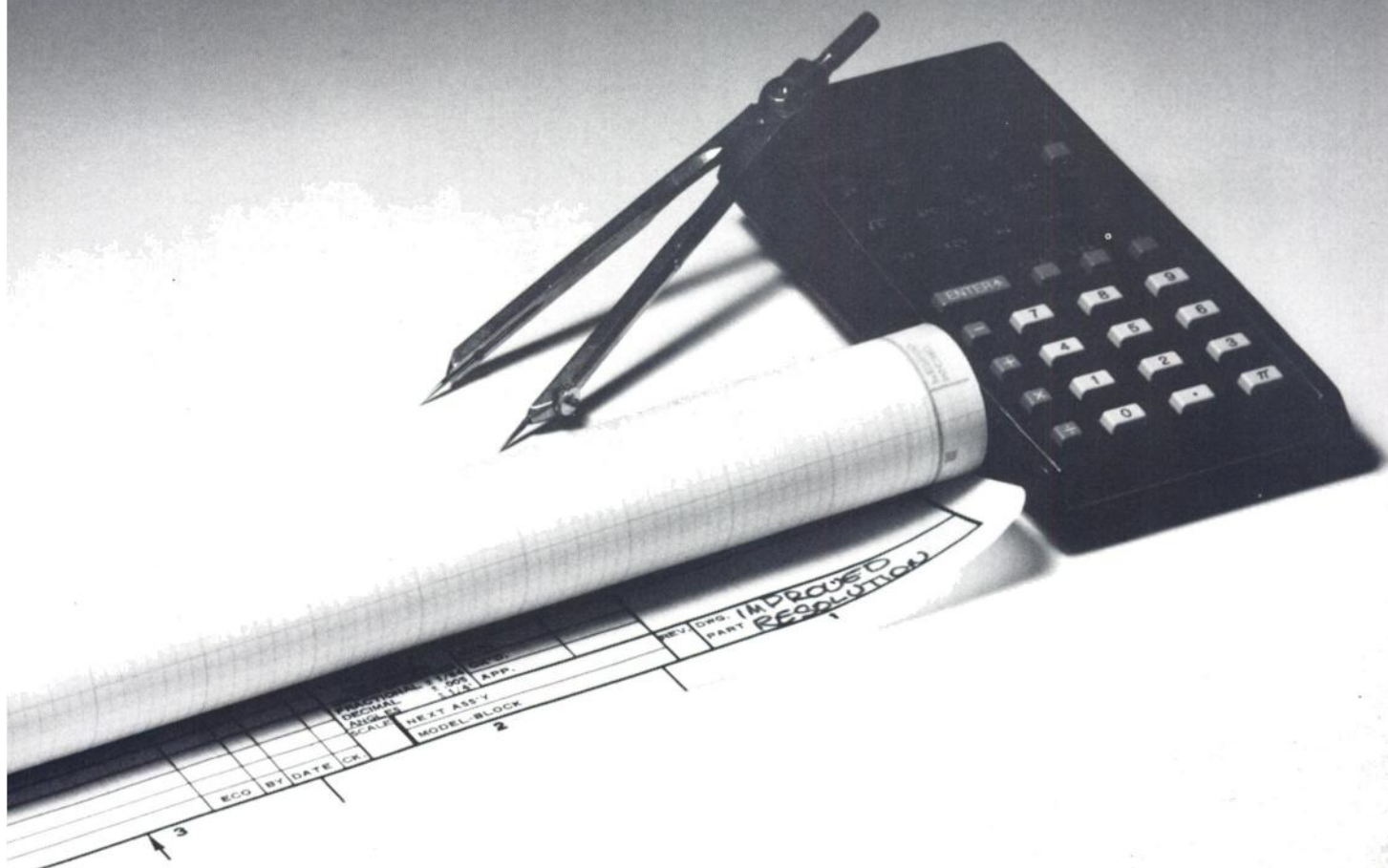
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# be continued...

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
<b>During Periods of Active Therapy</b>		
Surgery	As part of the presurgical workup and approximately 3 weeks after surgery	To monitor the effects of surgery <sup>1,4</sup>
Radiotherapy	Prior to initiating radiotherapy, once at midpoint and/or upon completion of radiation	To monitor the effects of radiation <sup>1,2,5,6</sup>
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 <sup>1,2,5,7</sup>
<b>During Short-term Follow-up After Therapy</b>		
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 <sup>1,2,8</sup>
<b>During Long-term Follow-up</b>		
All types	Every 6 to 12 months	To provide an early indication of recurrence or progression of disease <sup>1,4,9,10</sup>
<b>During Active Change in Clinical Condition</b>		
All types	Every two weeks until trend is established	To aid in determining the probable presence of metastases or local recurrence <sup>1,2,4,10</sup>
<p>When using this assay remember CEA-ROCHE is...</p> <ul style="list-style-type: none"> <li>• <i>not</i> specific for any one type of cancer</li> <li>• best used <i>periodically</i> to establish a trend, usually identifiable within 30 to 90 days</li> <li>• <i>not</i> an absolute test for malignancy and should not be used as the sole criteria for diagnosis (use with other diagnostic tests and procedures)</li> <li>• <i>not</i> recommended as a screen to detect cancer</li> </ul>		
<p>*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.</p>		

**References**

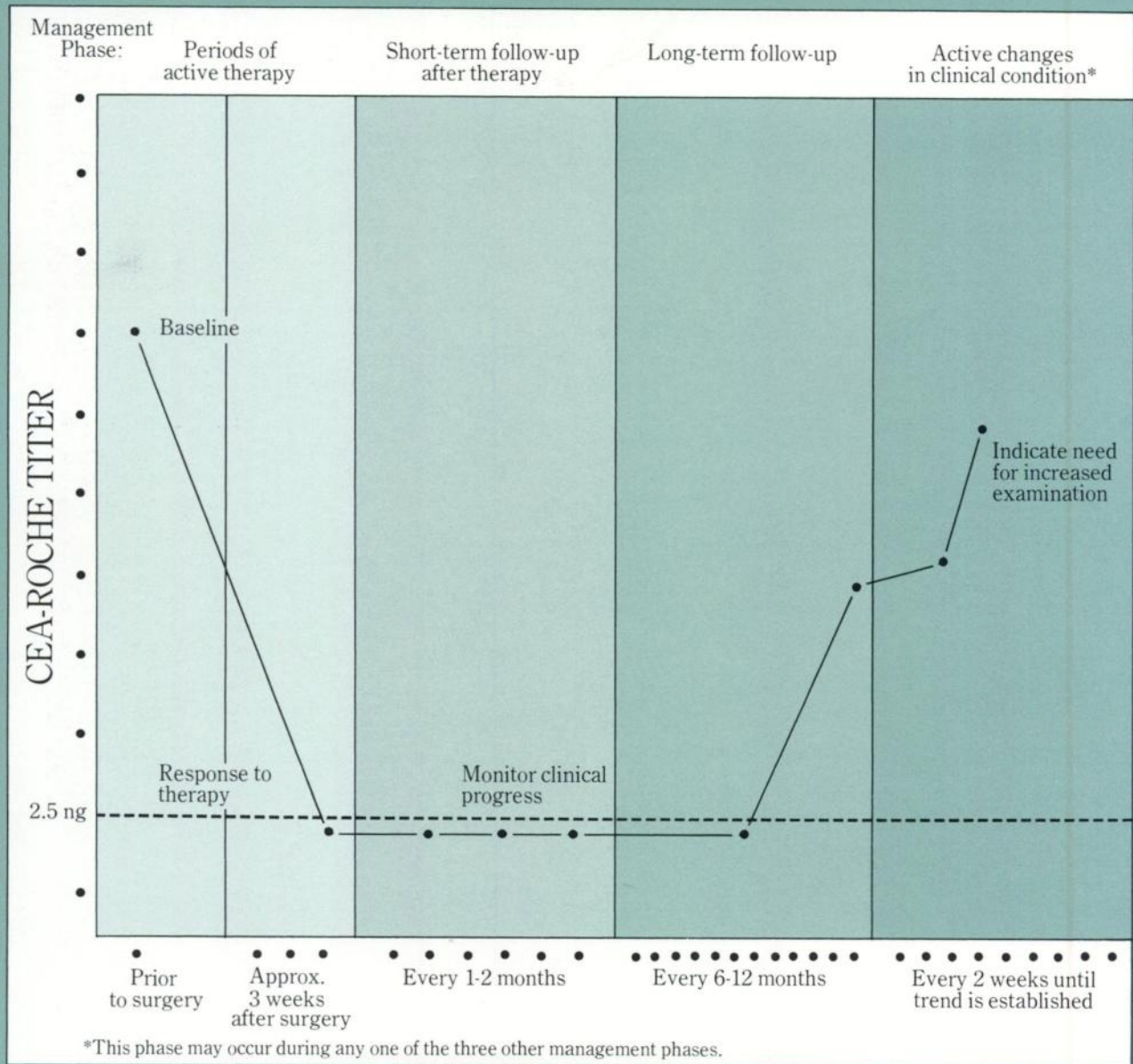
1. CEA-ROCHE: A Clinical Monograph, Hoffmann-La Roche Inc., Nutley NJ
2. Holyoke ED, et al: *Cancer* 35:830-836, Mar 1975
3. Mavligit GM, et al: *Am J Dig Dis* 19(11):1047-1053, Nov 1974
4. Mach J-P, et al: *Lancet* 2:535-540, Sep 7, 1974
5. Barrelet V, Mach J-P: *Am J Obstet Gynecol* 121:164-168, Jan 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





# 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.

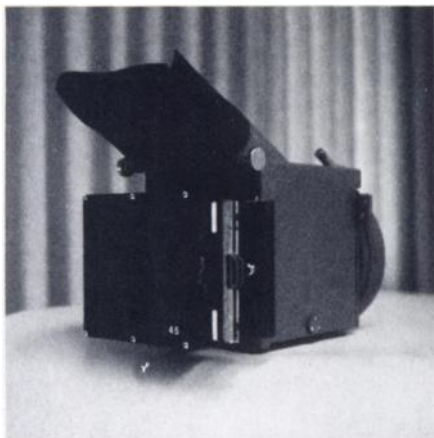


CEA-ROCHE may be ordered from

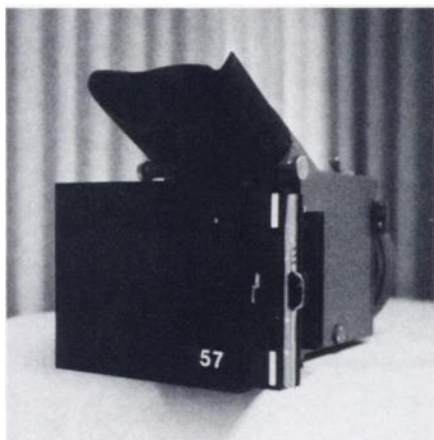
- Roche Clinical Laboratories, Inc., Five Johnson Drive, Raritan, New Jersey 08869 (201) 526-2400
- Major hospital and private laboratories

Additional information may be obtained from

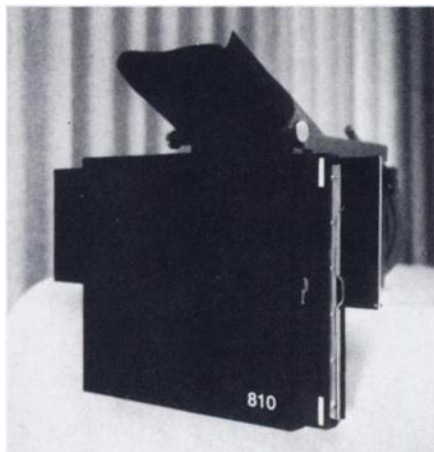
- your Roche Representative
- the Professional Services Department, Roche Laboratories, 340 Kingsland Street, Nutley, New Jersey 07110 (201) 235-4873



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OR

Rex B. Shafer, M.D.  
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Workshops with speakers will take place each afternoon and practical problem-oriented sessions will be encouraged.

The faculty will include Drs. Gottschalk, Potchen, Freeman, O'Mara, Freedman, Handmaker, Bennington, Powell, Oszustowicz, Böer, and specialists from the accounting, tax and legal professions.

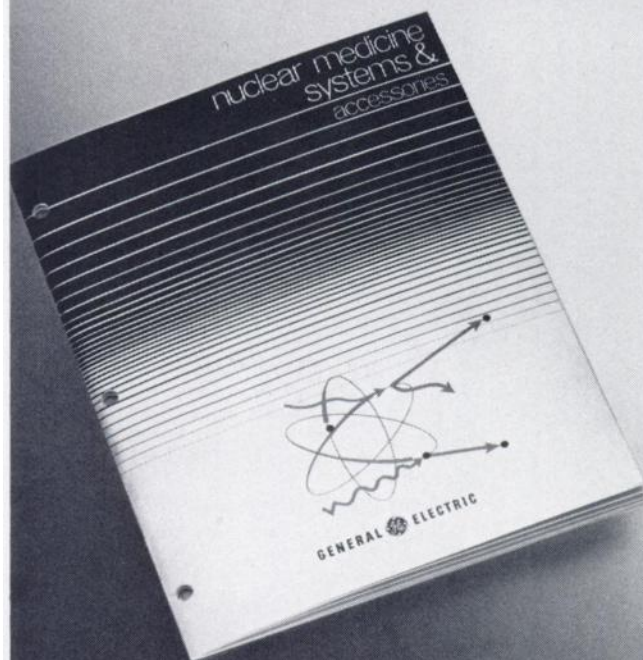
Co-sponsors of the meeting include The American College of Nuclear Physicians and The American Society of Clinical Pathologists.

Category I credit has been applied for.

Registration Fee: 2 days—\$150.00; 3 days—\$200.00.

For more information contact: Marye Rose, Nuclear Medicine Service, Children's Hospital of San Francisco, 3700 California Street, San Francisco, Calif. 94119.

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This radiopharmaceutical should not be administered to patients who are pregnant or during lactation unless the information to be gained outweighs the possible potential risks from the radiation exposure involved.

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Use the preparation within 12 hours after labeling with <sup>99m</sup>Tc.

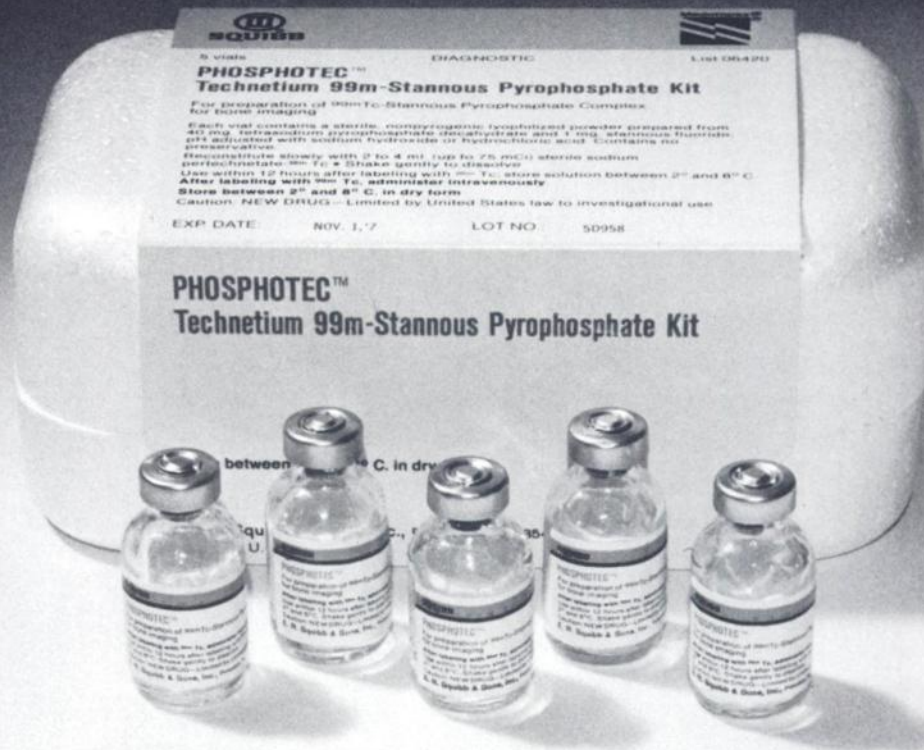
**ADVERSE REACTIONS:** At present, adverse reactions have not been reported following the administration of <sup>99m</sup>Tc-stannous pyrophosphate complex.

**HOW SUPPLIED:** Phosphotec (Technetium 99m-Stannous Pyrophosphate Kit) is supplied in a kit containing five vials.

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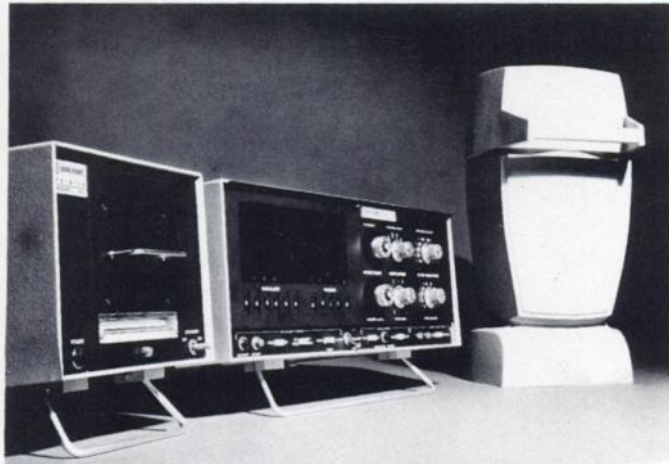
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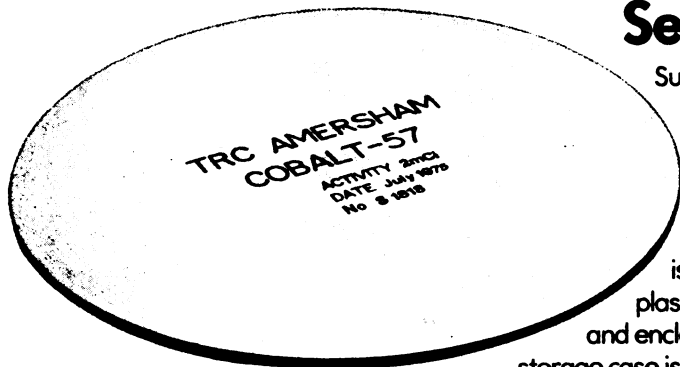
January 4-7, 1976, Sonesta Beach Hotel and Tennis Club, Key Biscayne, Florida. Sponsored by the Division of Nuclear Medicine (Department of Radiology), University of Miami School of Medicine (at Jackson Memorial Hospital), Co-Chairmen: August Miale Jr., M.D. and Stuart Gottlieb, M.D. Fee: General—\$175, Residents and Fellows—\$85. For further information please contact Mrs. Lucy R. Kelley, Department of Radiology, University of Miami School of Medicine, Post Office Box 520875, Biscayne Annex, Miami, Florida 33152.

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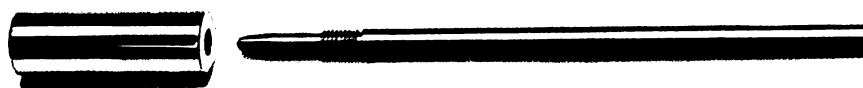
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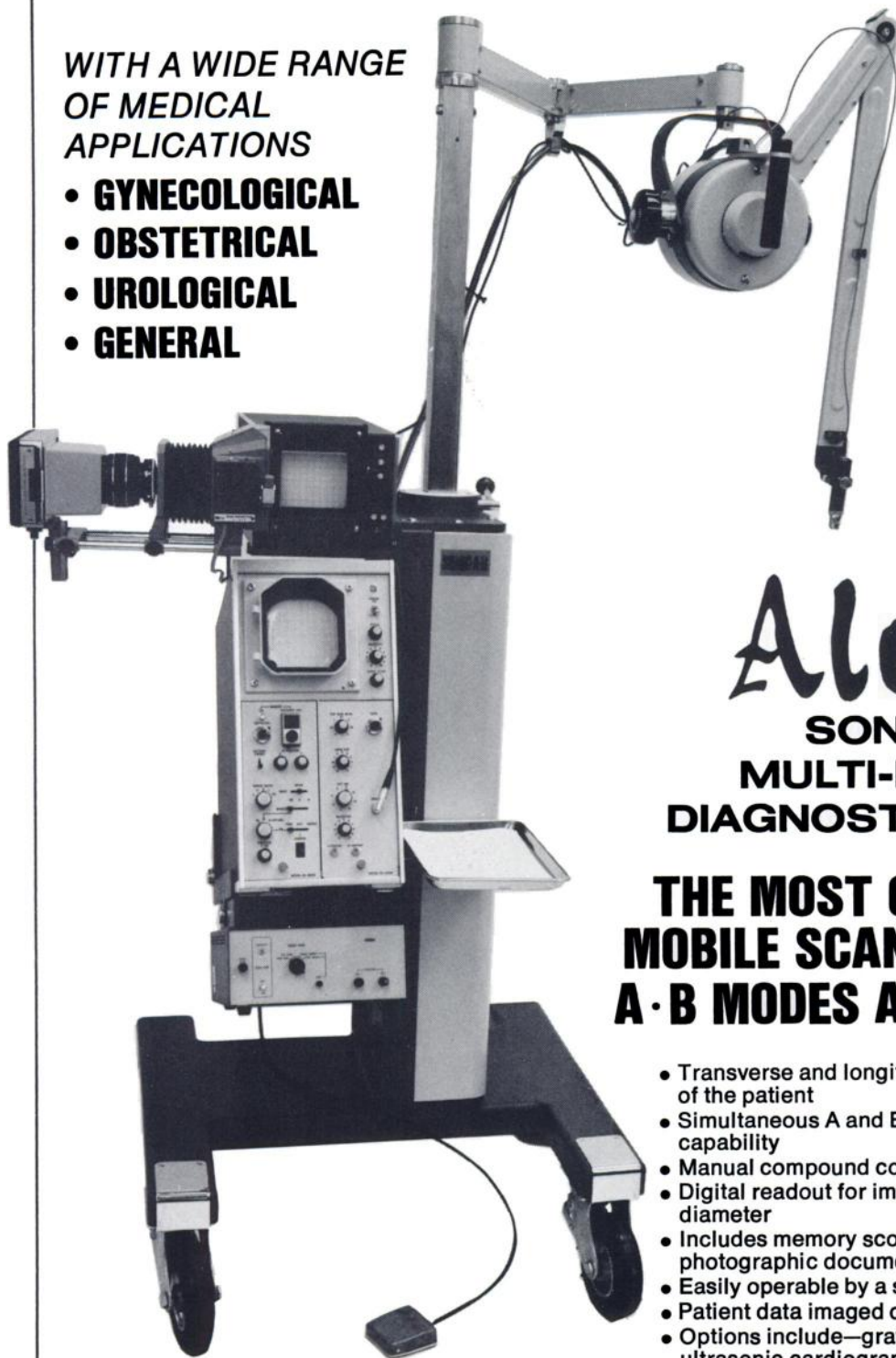
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radiopharmaceuticals and equipment, PDR For Radiology and Nuclear Medicine offers you a strong up-to-date editorial section. It summarizes current practices in nuclear medicine, prepared by Dr. M. Donald Blaufox and Dr. Leonard M. Freeman of the Albert Einstein College of Medicine. The 1975/6 edition will treat iodinated contrast media in detail, other highlights include imaging and non-imaging procedures with T<sub>3</sub>-T<sub>4</sub>, renal function, gastrointestinal function and RIA tests.

PDR For Radiology and Nuclear Medicine is compiled with the same painstaking care and meticulous attention to detail that earns Physicians' Desk Reference its place as the traditional source of physician information. We wouldn't have it any other way.

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# Physicians' Desk Reference

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Time-to-scan (2 views) 24.8 minutes.

Image courtesy of  
Cedars of Lebanon Hospital, Los Angeles.



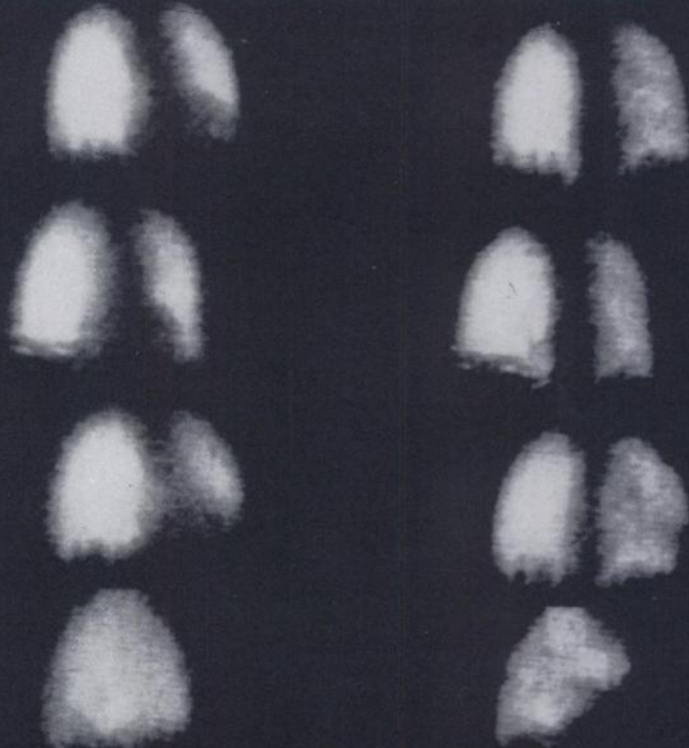
**BRAIN IMAGE.**

Imaging agent: 15 mCi Tc-99m Pertechnetate.

Time-to-scan (4 views): 13.7 minutes.

Image courtesy of Cedars of Lebanon Hospital, Los Angeles.

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**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.

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**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.

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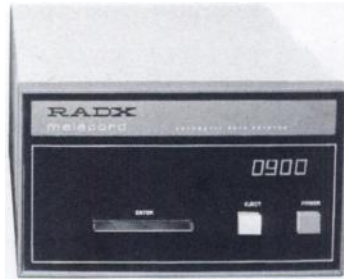
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Source from	Perchlorate to be NA
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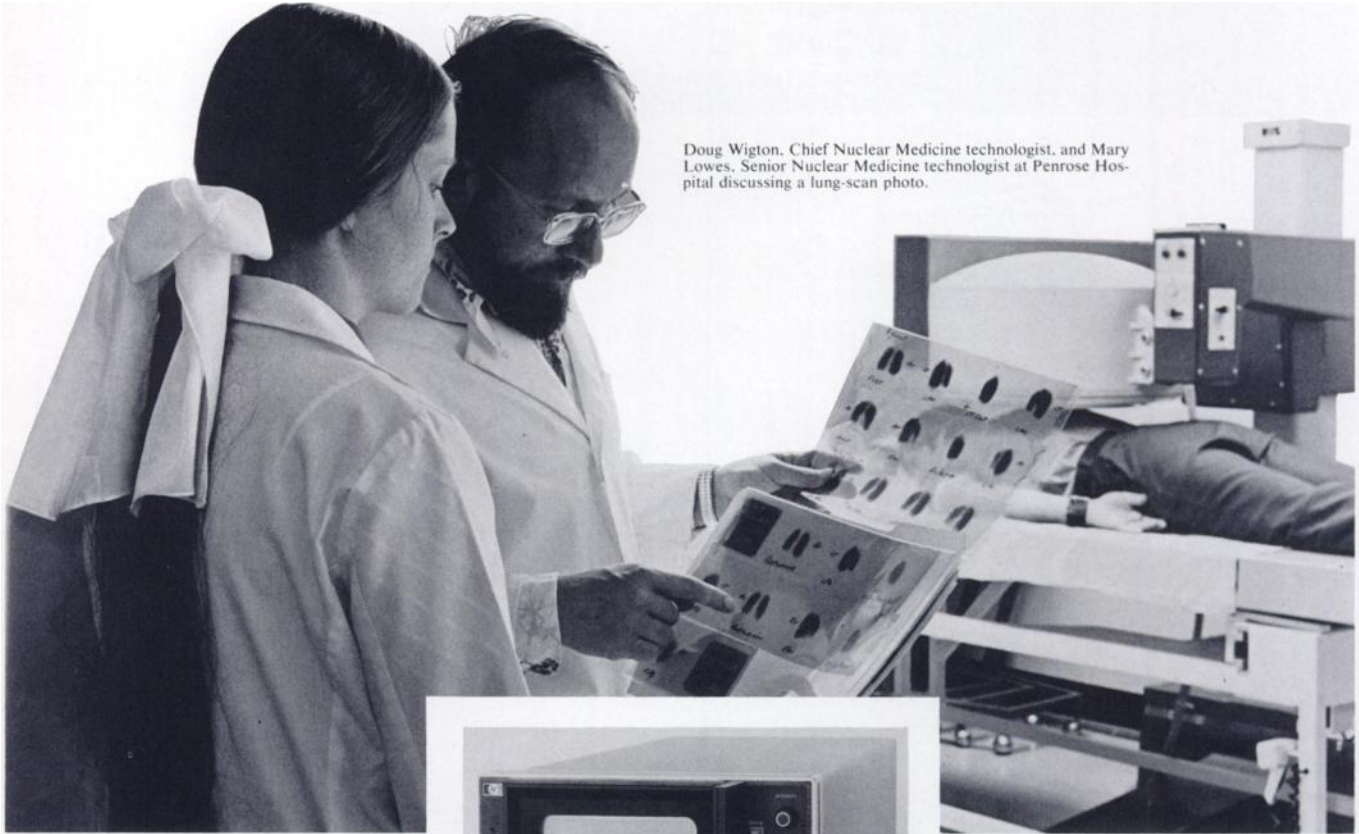
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# For diagnostic imaging, picture quality is crucial.



Doug Wigton, Chief Nuclear Medicine technologist, and Mary Lowes, Senior Nuclear Medicine technologist at Penrose Hospital discussing a lung-scan photo.



Nuclear physicians making diagnostic images want displays that show every detail, for accurate diagnosis of the patient's condition. That means displays that provide exceptionally sharp images with excellent contrast and uniform light output. The kind of picture quality that's necessary to spot even the smallest item of medical significance.

To get resolution and picture quality like that, a growing number of hospitals rely on HP displays. Fred Gydesen, MD/BS in Physics, Chief of Nuclear Medicine at Penrose and Memorial Hospitals in Colorado Springs, Colorado, finds that good diagnostic images are easier to achieve with HP displays. He and his colleagues use the variable persistence and storage capabilities of the HP 1335A, to dynamically position the patient before the scan. Then they use the exceptionally bright and uniform light output of the 1332A non-storage display to take photographs.

The 1335A gives them excellent detailing as each area of the body is scanned. The display's very small spot size focuses uniformly over the entire 8 x 10 division screen regardless of writing speed or intensity level. This eliminates the need to refocus at each

intensity setting and assures crisp images, even around the outer edges of the screen.

For photographing selected areas, the 1332A display gives them a large viewing area (9.6 x 11.9 cm), a bright, uniform image at fast scan rates, and extremely good resolution—an ideal combination for producing quality photographs.

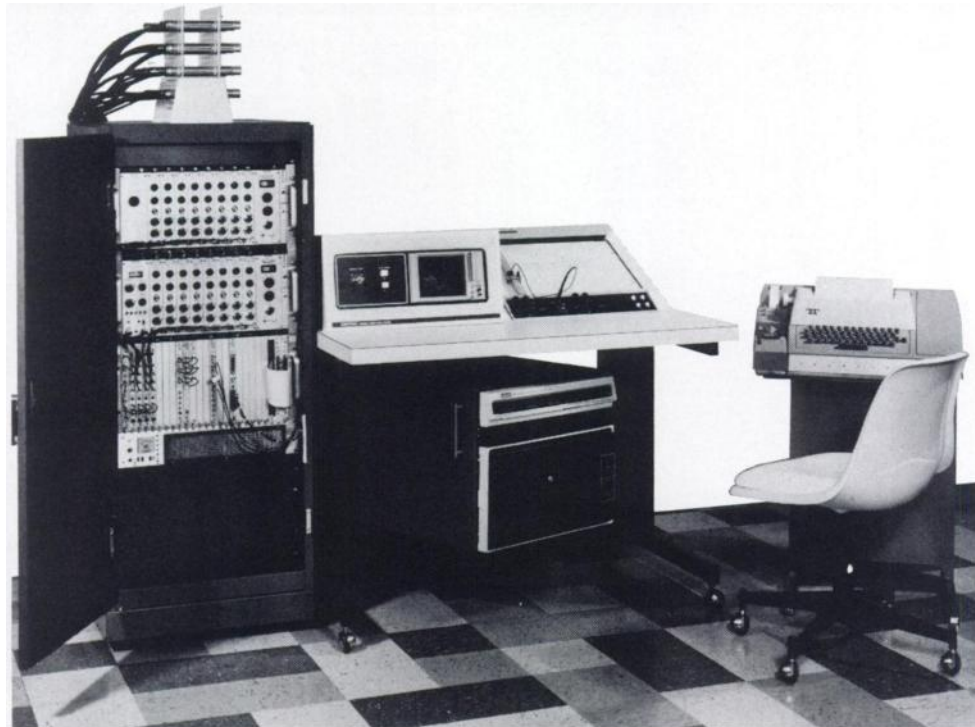
If you need bright, high-resolution displays for your medical and instrumentation systems, ask your local HP field engineer to tell you more about the 1332A and 1335A. These displays offer a variety of operating features that can speed and simplify your work. And they're designed to integrate easily into a variety of racks, cabinets or systems. But judge for yourself. Call or write for complete details.

085/10

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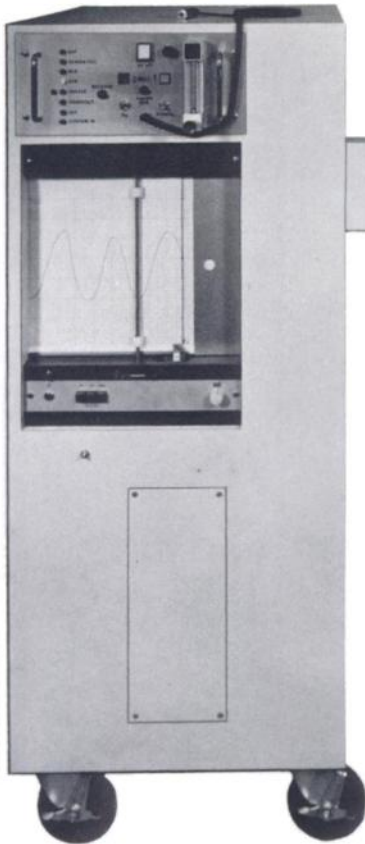
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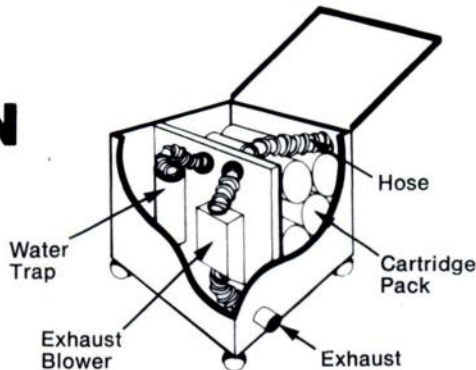
- Allows delivery of a direct bolus of radioactive gas.
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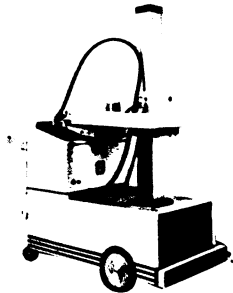
For full details,  
ask for Bulletin  
125-B

# mobility and dependability

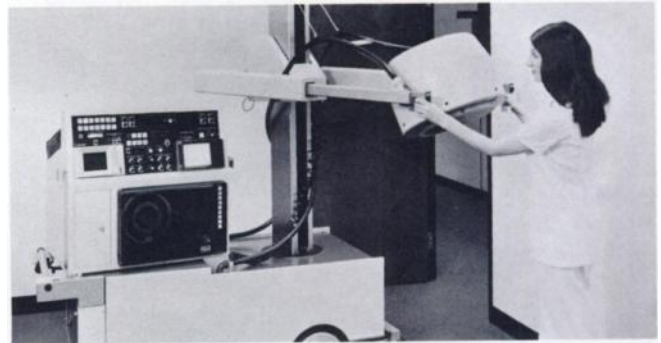


# with no loss in resolution

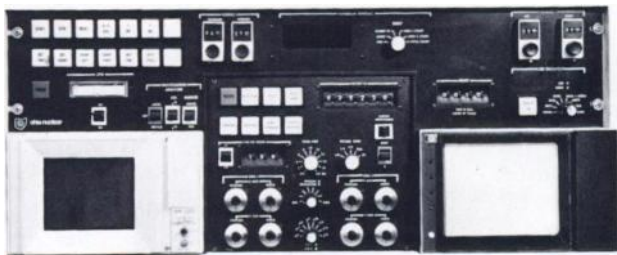
Wherever the need arises, in ICU, CCU, the Emergency Room, or within the NM Department, the Series 120 Mobile Camera is immediately available to generate high quality diagnostic information. And like all Ohio-Nuclear equipment, it is simple to operate.



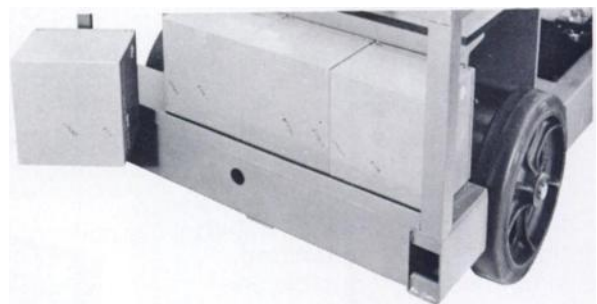
**Mobility.** The self-propelled Series 120 will travel at about 150' per minute, and negotiate a 10% incline under its own power, or it will creep for accurate patient positioning, all while maintaining full HV power to its photomultiplier tubes. This permits operation as soon as the unit is in place.



**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.



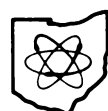
**Capabilities.** The Series 120 is virtually identical to our well-known Series 100 Camera. And the 120 may be equipped with an optional Series 75M storage and retrieval system. This combination permits later re-evaluation, manipulation, and diagnosis of data sometimes captured under critical conditions.



**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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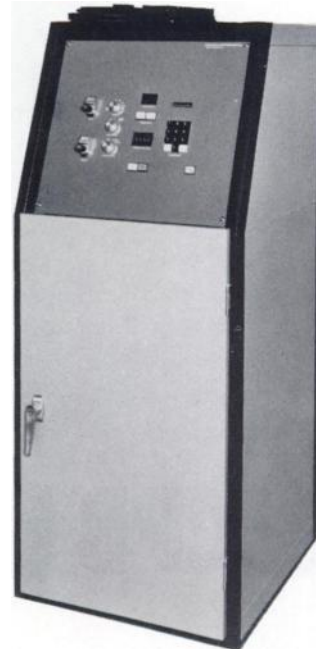


# State of the art in gamma camera hard copy recording.



## 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 identification is achieved through a nine digit keyboard LED system.

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

## # MATRIX INSTRUMENTS

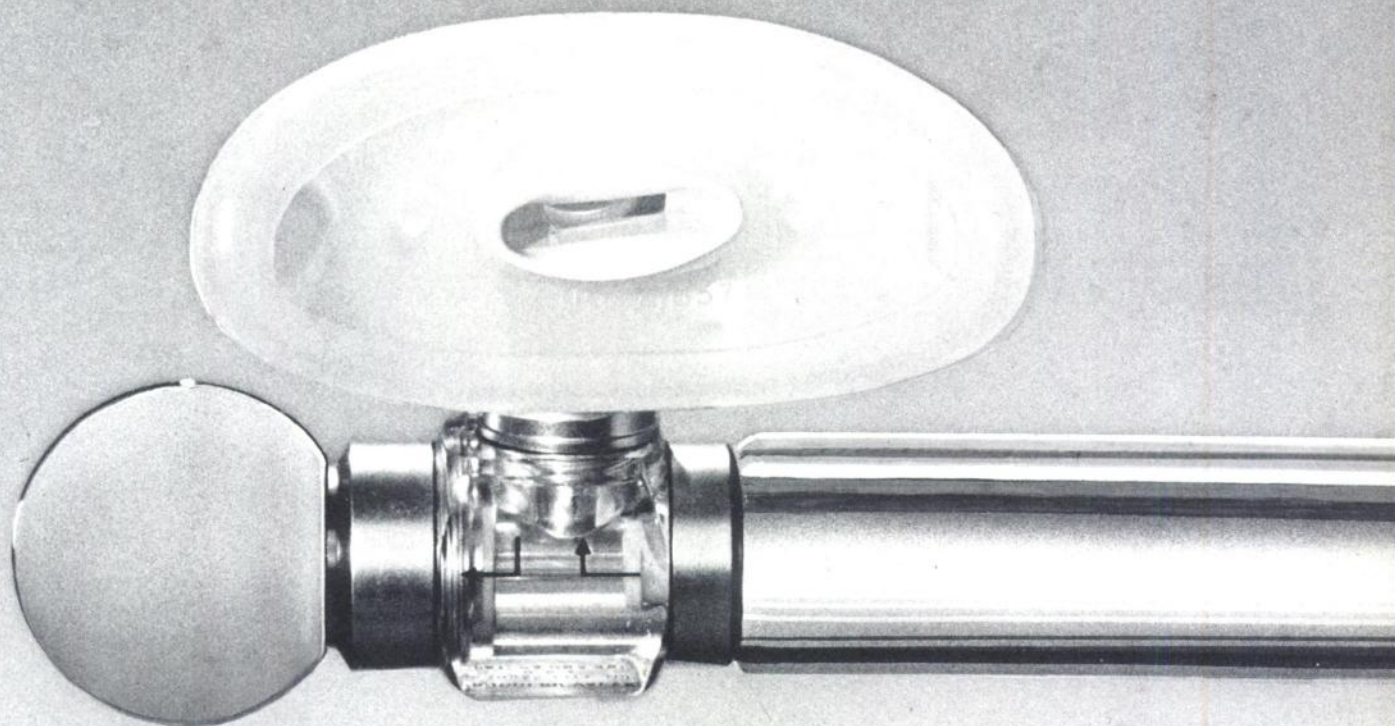
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Clinical Assays introduces the first digoxin specific antibody-coated tube assay system. This assay, in conjunction with the well established GammaCoat <sup>125</sup>I Digoxin Kit, permits the identification and quantitation of both glycosides. The use of the antibody-coated tube and <sup>125</sup>I derivative tracer shortens each RIA procedure to five simple steps.

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Digitoxin (<sup>3</sup>H)  
Cortisol (<sup>3</sup>H)  
Prostaglandins (<sup>3</sup>H)

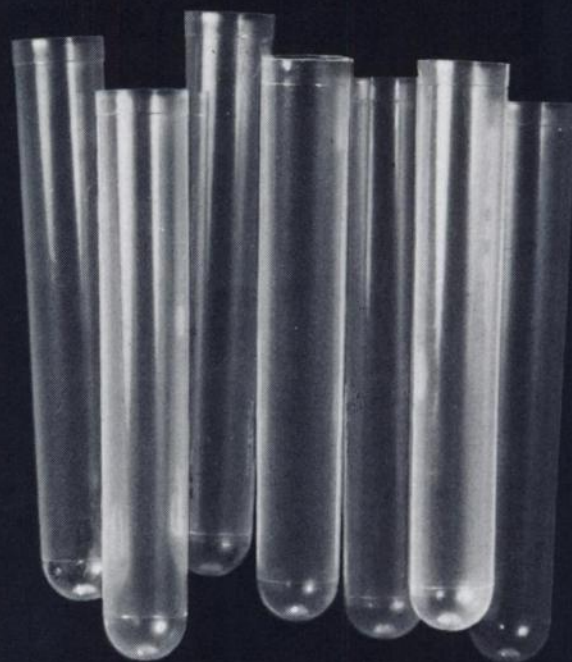
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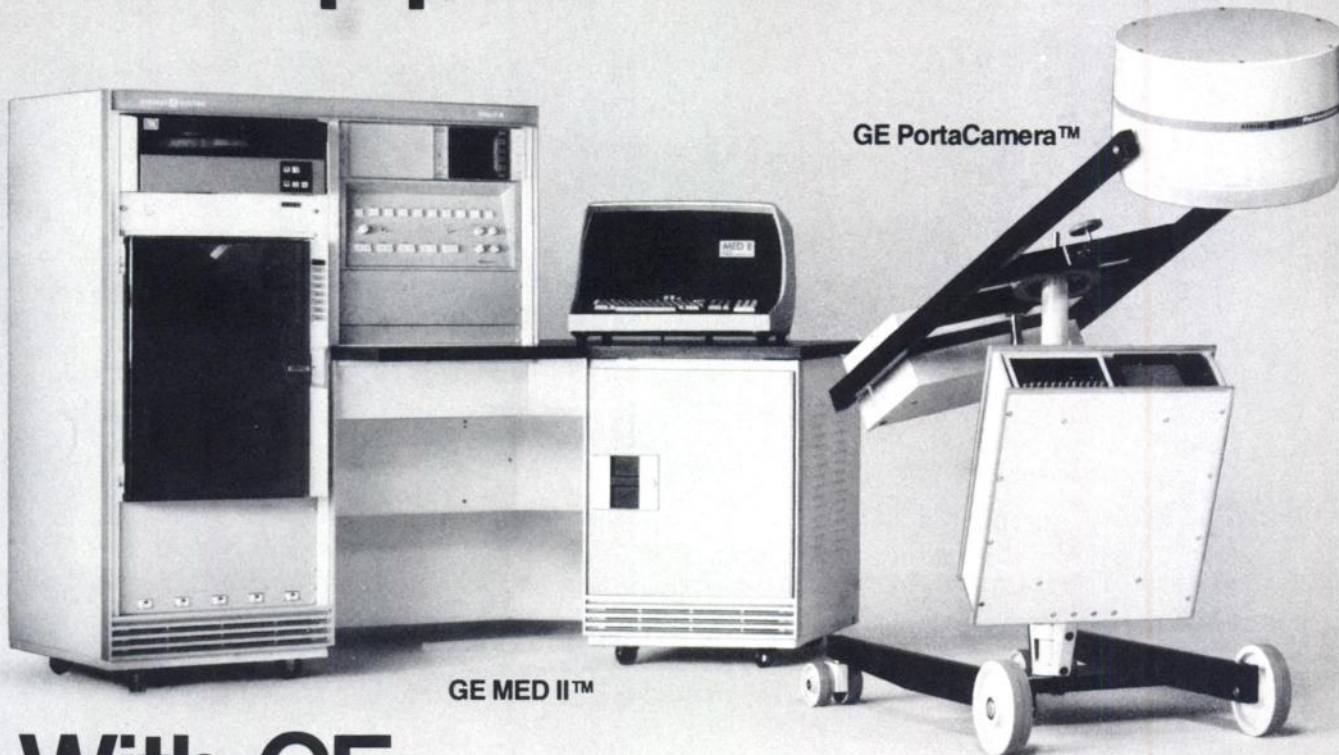
References: 1) Burnett, G. H.; Conklin, R. L.; Wasson, G. W.; MacKinney, A. A.; Clin. Chem. 19 No. 7 725, 1973. 2) Holtzman, J. L.; Shafer, R. B.; Erickson, R. R.; Clin. Chem. 20 No. 9 1194, 1974.



# GammaCoat<sup>TM</sup> <sup>125</sup>I Digoxin & <sup>125</sup>I Digitoxin RIA Kits



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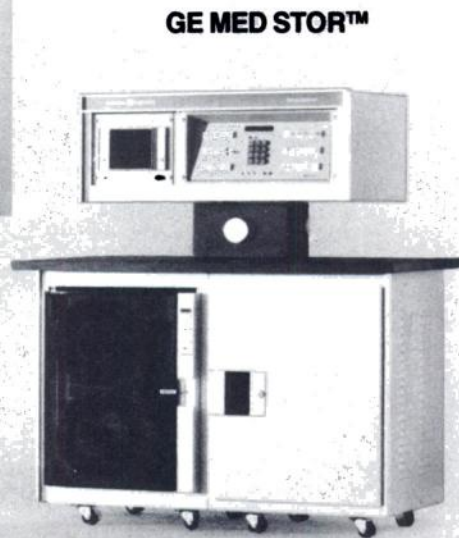
permits precise, motorless positioning by hand. Performs all Technetium 99m studies with high performance results.

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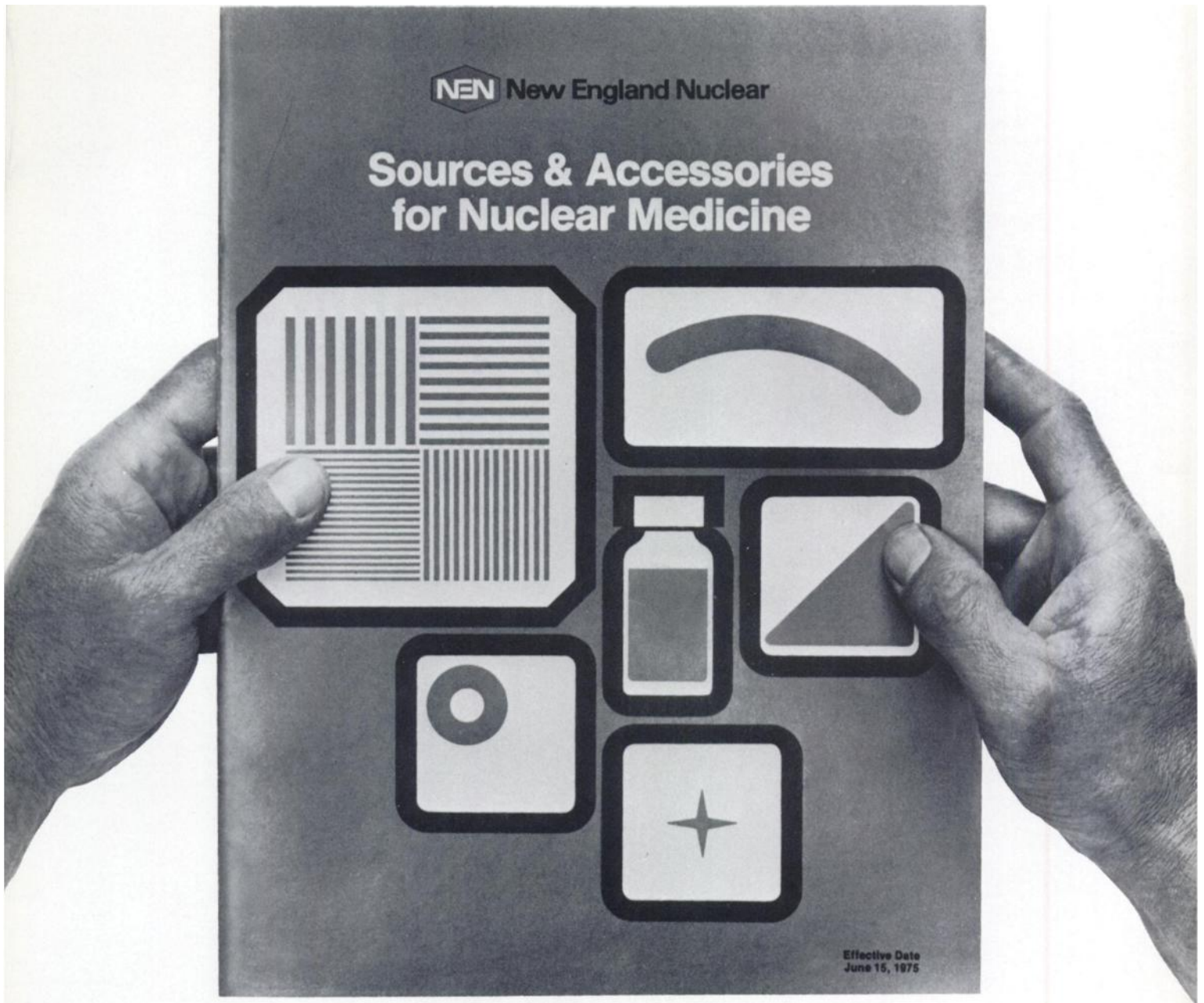
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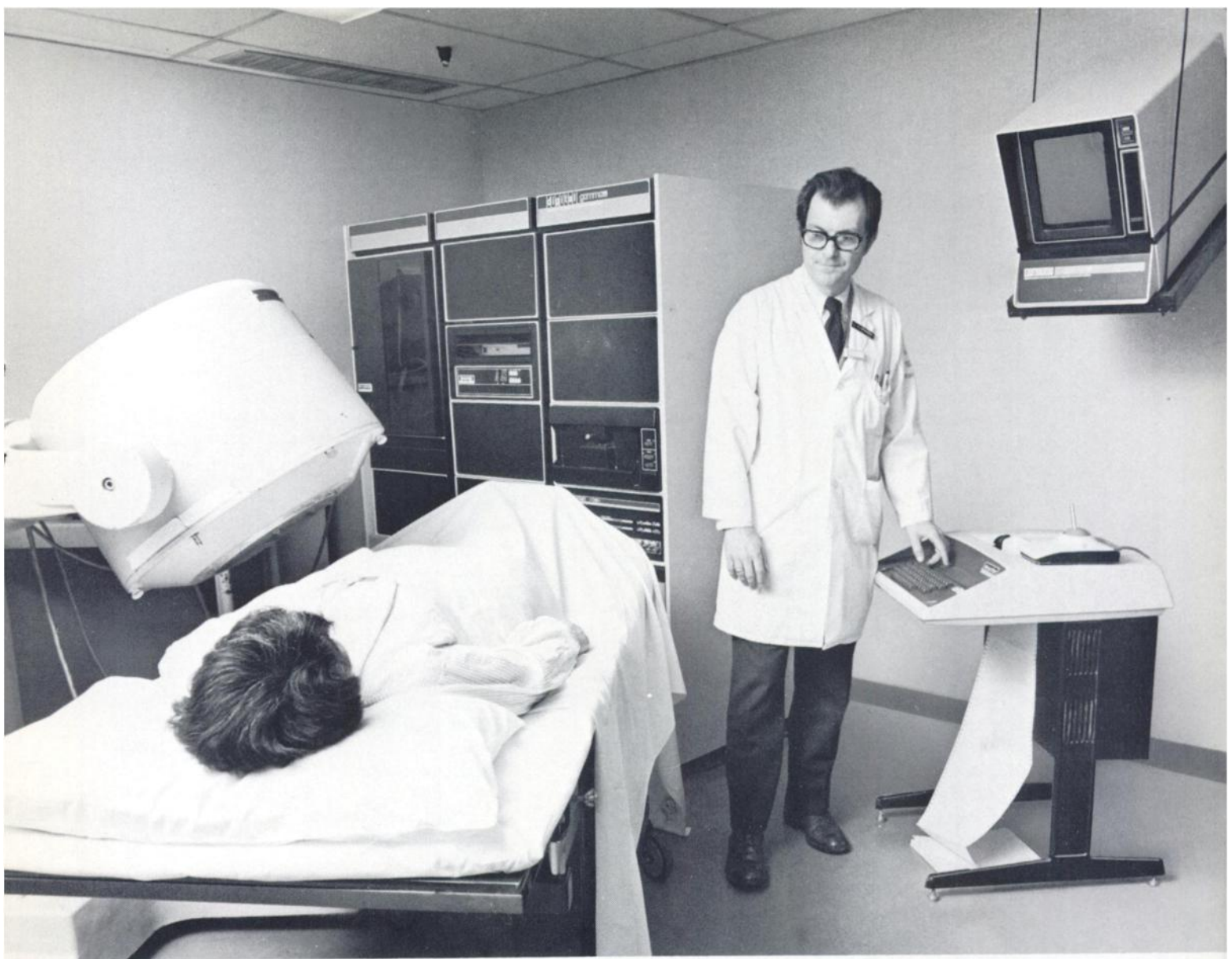
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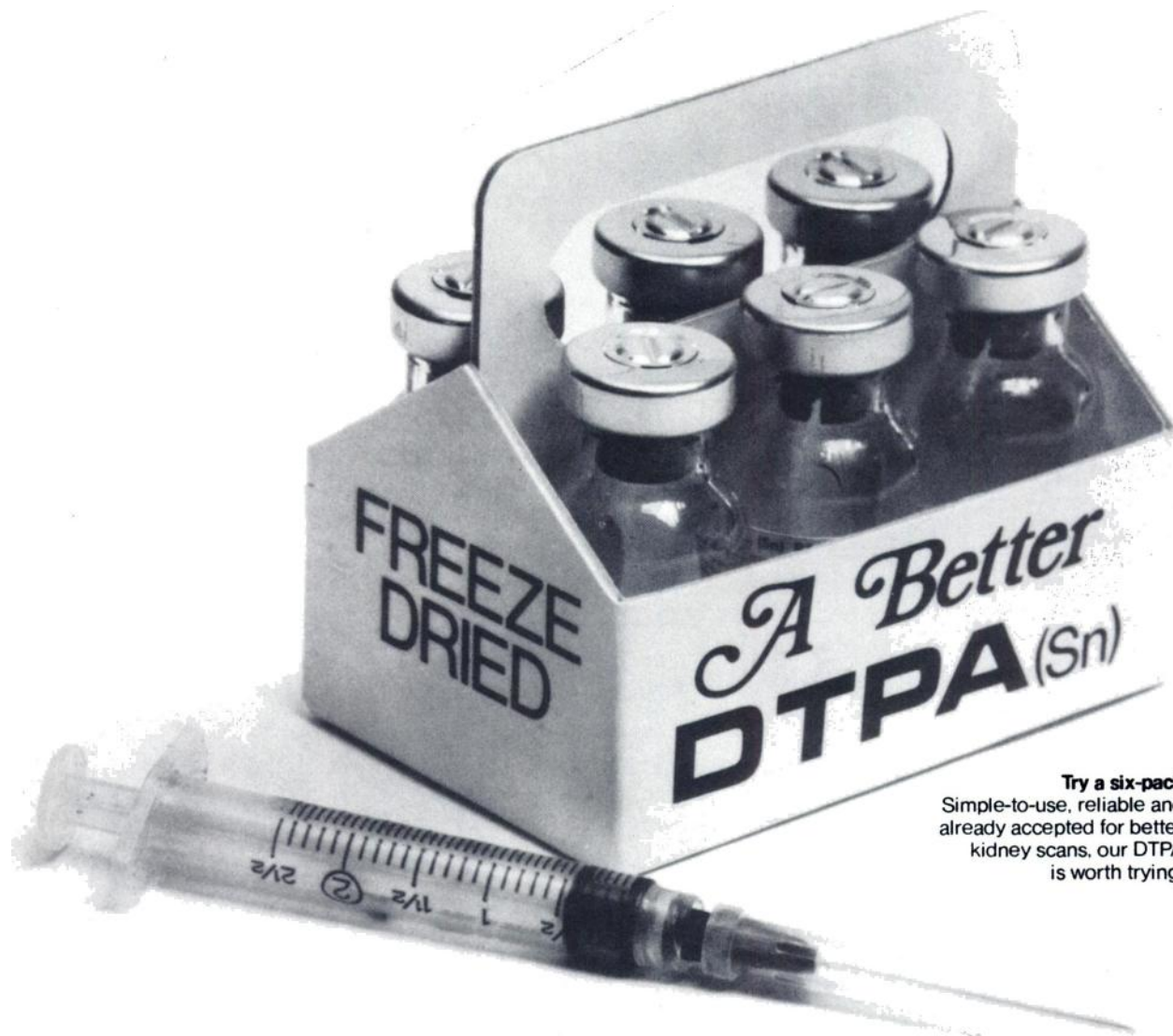
Photo of Gamma-11 installation at  
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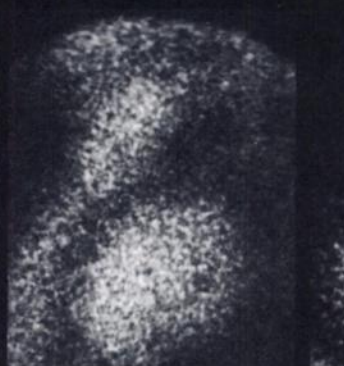
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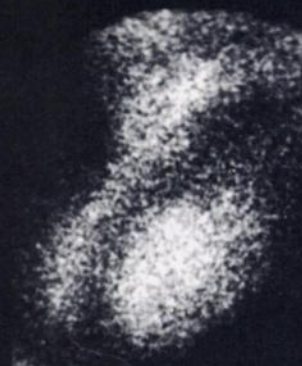
RAO, DIASTOLE



RAO, SYSTOLE



LAO, DIASTOLE

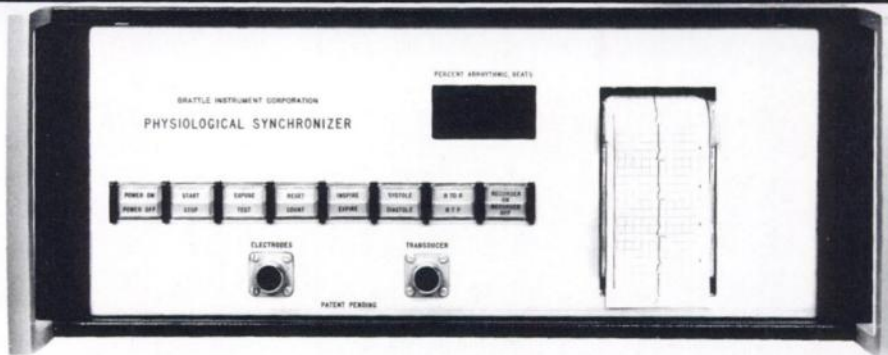


LAO, SYSTOLE

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 contrac-

tion posteriorly and akinesis of the septal aspect of the chamber. Patient was injected IV with 20mCi of  $^{99m}\text{Tc}$ -labelled Human Serum Albumin. The agent was prepared using the New

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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

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cause 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.

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## Some Brattles have been in clinical use for over three years—

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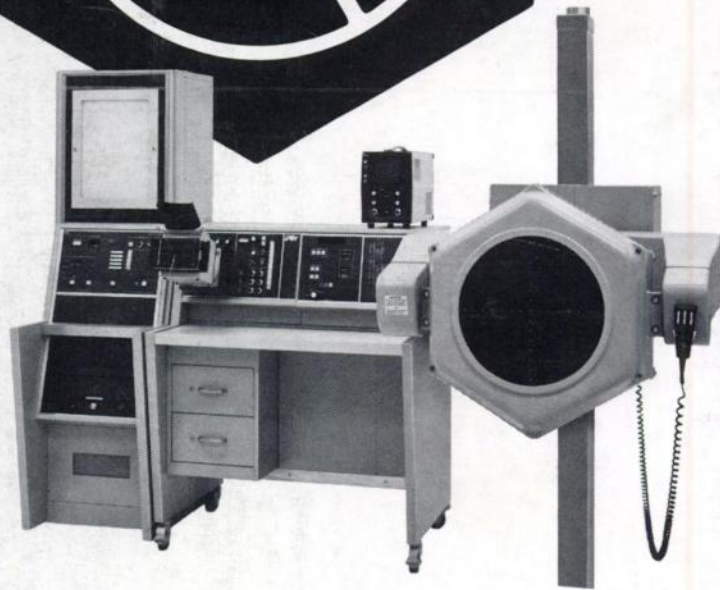
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