

You can see the difference.

2 ml Ampul

AGGREGALIN
LUNG

venous injection
nded Adult Dose

Insert for

eral (US)
ore us

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™

OUR 'KOW, AND YOUR



**The lung scan at 1:28 am...
at 4:30 am...at 2:10 pm...10:30 pm...
is now a practical emergency procedure.**

With a Mallinckrodt *Ultra-TechneKow*[®] Generator and *TechneScan*[®] MAA [Aggregated Albumin (Human)] Lung Scan Kit . . . and with your technologist you've got a complete emergency "team." Always just minutes away from furnishing you with a 24-hour capability in lung imaging.

The saline supply of Mallinckrodt's 'Kows allows you as many as 15 to 16 elutions per week. You can actually increase efficiency by milking twice a day.

The second member of the "team," the

TechneScan MAA Kit, offers high tagging efficiency and excellent particle size range. It's also remarkably consistent. Always provides 90% or greater tagging efficiency of pertechnetate to labeled MAA. Since no heating, sonication, centrifugation, cleanup or transfer is required, preparation time of *TechneScan* MAA Tc 99m is less than 20 minutes.

Our 'Kow and our kit. A capability that makes the lung scan a practical emergency procedure—anytime.

OUR KIT EMERGENCIES.

MOLYBDENUM-99 Tc 99m				
PERCENT REMAINING				
HOURS	PERCENT REMAINING	HOURS	PERCENT REMAINING	
34.7	—3	141	11	28.1
270	—2	126	12	25.0
211	—1	112	13	22.3
164	0	100	14	19.8
128	1	89.1	15	17.7
100	2	79.4	16	15.8
78.0	3	70.7	17	14.0
60.9	4	63.0	18	12.5
47.5	5	56.2	19	11.2
37.0	6	50.0	20	10.0
28.9	7	44.6	21	8.9
22.5	8	39.7	22	7.9
17.6	9	35.4	23	7.0
13.7	10	31.5	24	6.2
10.7				

Ultra-TechneKow[®] FM
(TECHNETIUM Tc 99m
GENERATOR)
Parent Molybdenum-99 prepared from
Fission Produced Molybdenum

Mallinckrodt, Inc.
ST. LOUIS, MISSOURI 63147

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

CONTRAINDICATIONS—The safety of *TechneScan 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 *TechneScan 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.^{1,2,3}

The contents of the *TechneScan MAA* reaction vial are intended only for use in the preparation of *TechneScan 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 *TechneScan 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.

¹Dworkin, 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.

²Roberts, H. J. Fatal hemoptysis in pulmonary embolism probably precipitated by pulmonary scanning—Report of a case and suggested precautions. *Angiology*, 21:270, 1970.

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



RADIOPHARMACEUTICALS

Mallinckrodt, Inc.
675 Brown Road
Hazelwood, Missouri 63042

Ultragnost[®] T4

Radiodiagnostics

easy — safe — rapid
For the determination
of total thyroxin
in serum



Lh 82171



**The time-saving
T4-test for your lab:
pipette once,
incubate
for one hour,
automatic phase
separation,
measure.**

Contents: 12 calibrated tubes each with 3.3 ml TBG-T4-(I-125)-solution • total activity $1\mu\text{Ci}$ I-125 • preservative 0.02 % sodium azide • 12 adsorption inserts • 1 standard serum of defined T4-concentration, lyophilized.

Storage: store protected from light in the refrigerator at $+4^\circ$ to $+6^\circ\text{C}$.

Stability: 8 weeks properly stored. The expiry date is indicated on the package.

Order No: J 5114 • 1 package 12 tests

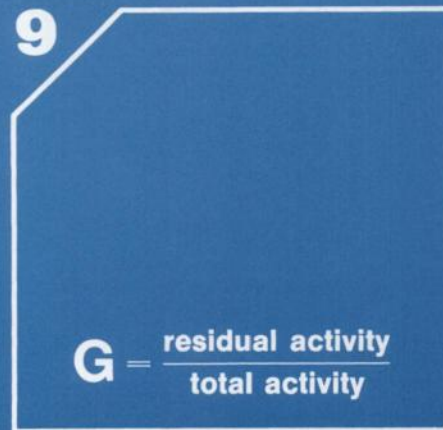
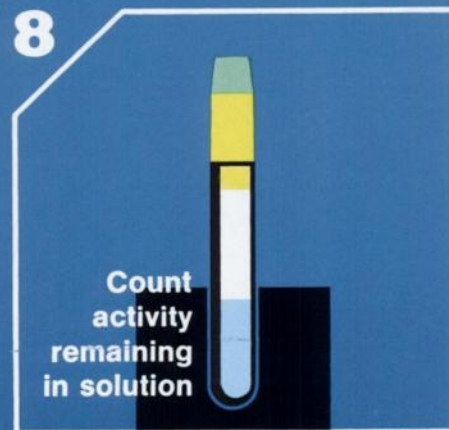
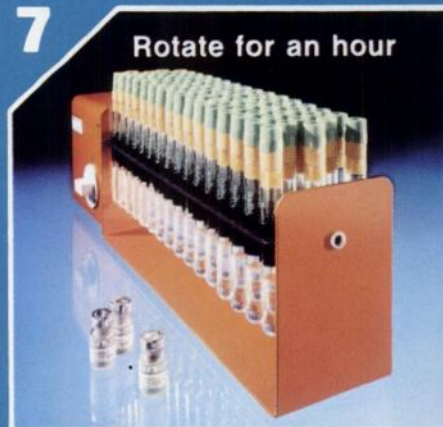
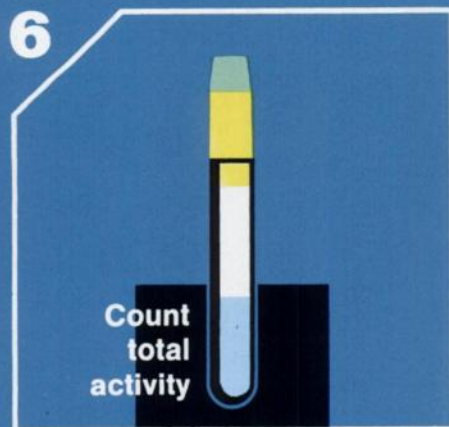
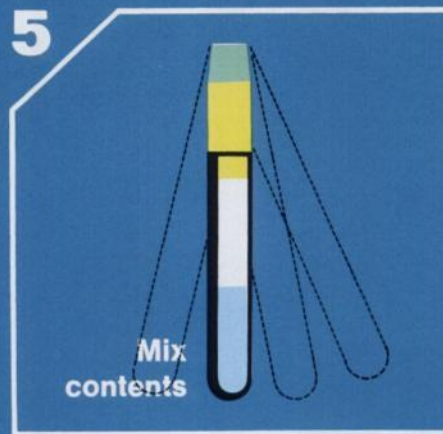
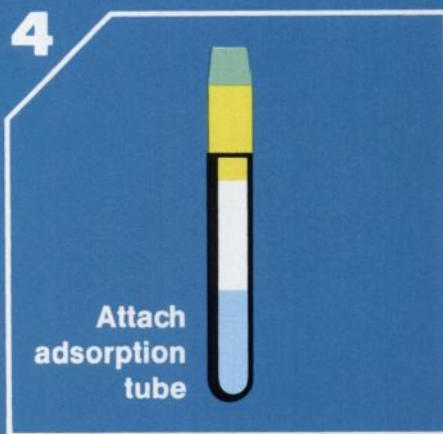
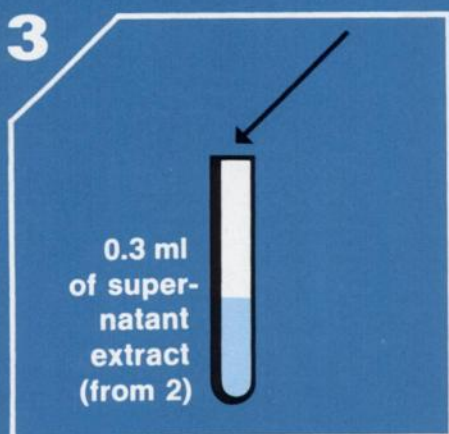
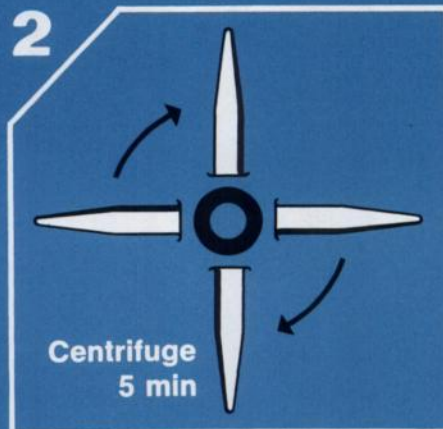
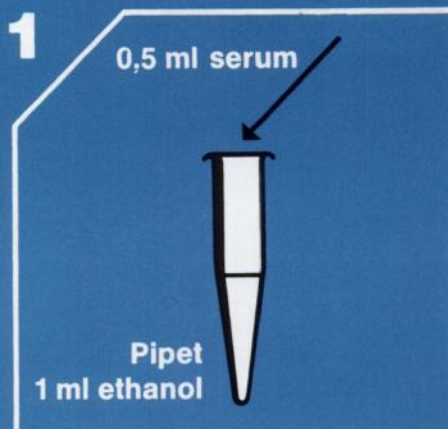
HOECHST Aktiengesellschaft, Pharmaceutical Marketing, Planning International, 6230 Frankfurt (Main) 80, West-Germany

Ultragnost[®]T4

Lh 82172

Steps for the determination of total thyroxin in serum

Extraction in centrifuge tube



DIMENSIONAL DIAGNOSIS



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.
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Des Plaines, IL 60018, U.S.A.
Telephone: 312-298-6600

Don't buy a scintillation camera until you check it for T.S.P.

T. S. P. Total System Performance. *That's* what you should look for in any scintillation camera you consider. Because you can't rely on just one characteristic for optimum results. It takes the *best overall* combination of characteristics such as system and energy resolution, uniformity, linearity, and count rate, to produce the *best overall* results, consistently and efficiently.

That's T. S. P.
And that's what the Raytheon Cameray

has more of than any other camera.

You can convince yourself that Cameray is the best gamma camera for your facility. Just compare all the T. S. P. factors — plus price and delivery — of all the cameras available. We have a comparison chart to help you. For your copy, contact Jay Cone, Marketing Manager at Raytheon Company, Medical Electronics Operation, Fourth Avenue, Burlington, Mass. 01803. (617) 272-7270. T. S. P. It's the best reason to choose Cameray.



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.

WHAT'S NOW SQUIBB?

On the current radioimmunoassay scene

RIA systems that add greater dimensions of specificity and sensitivity to your special procedures. Along with characteristic Squibb quality and dependability, these diagnostics offer the convenience of speed and simplicity.

Quality of labeled antigen insures reliable test results for the entire life of the Digoxin IMMUTOPE® Kit. Unique formulation of ¹²⁵I digoxigenin retards formation of unbound iodine.



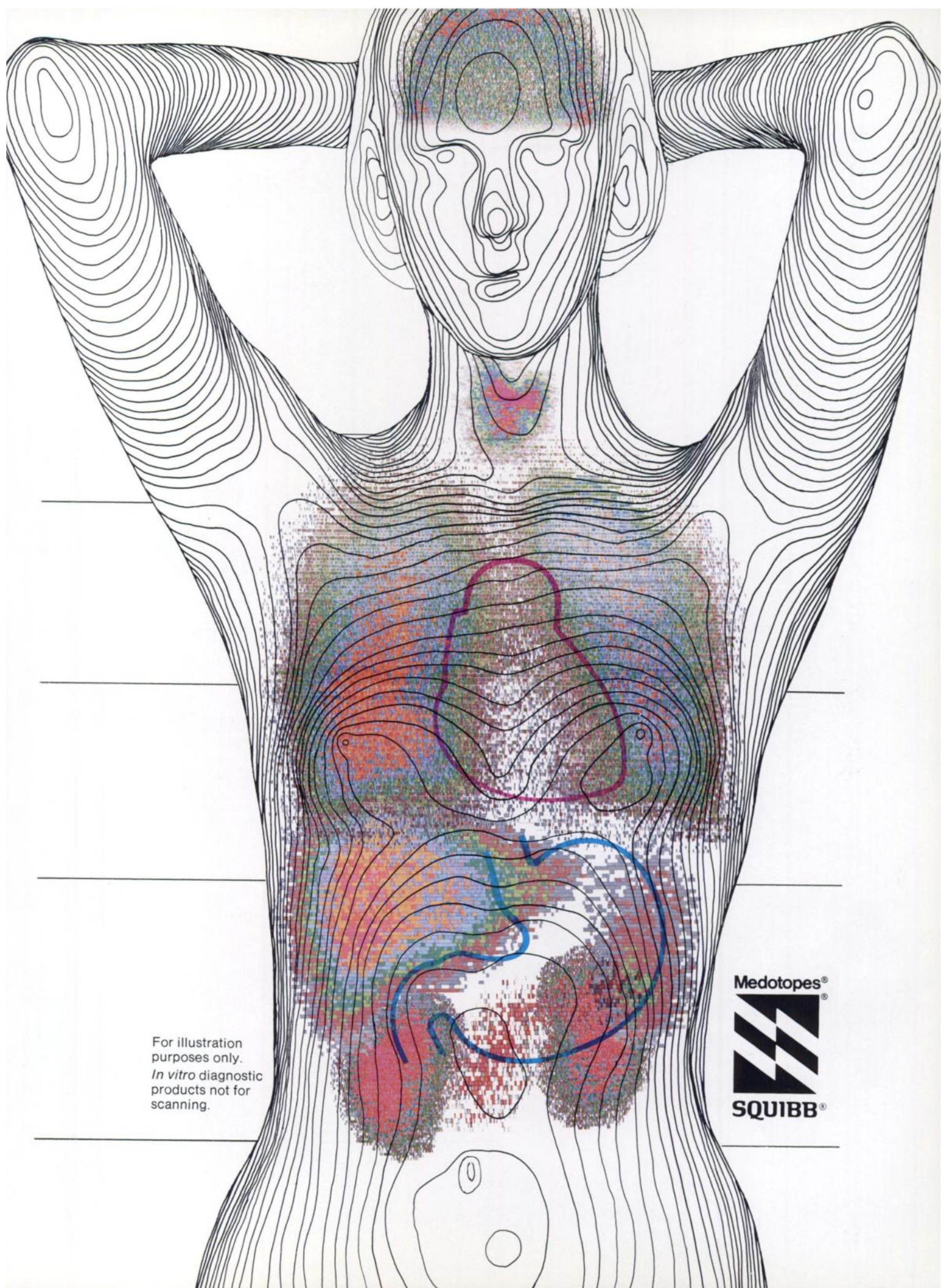
The Gastrin IMMUTOPE® Kit makes gastrin RIA as routine as gastric analysis. Involves minimal investment in time (four hours ± 30 minutes), personnel, training and instrumentation.



The Angiotensin I IMMUTOPE® Kit for the simple, accurate estimate of plasma renin activity. Pre-measured, matched reagents make daily mixing and repeat reagent blanks unnecessary.



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In vitro diagnostic
products not for
scanning.

Medotopes®



SQUIBB®

OUR 'KOWS, AND YOUR

Catalog No. 090

Malinckrodt
NUCLEAR

TechneColl™

Kit for preparation of Technetium Tc 99m Sulfur Colloid

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

READ ENTIRE PROCEDURE BEFORE USE (SEE PACKAGE INSERT)

Malinckrodt, Inc./St. Louis, Missouri 63147

PACKAGE CONTENTS

1. 100 capsules of Potassium Perchlorate
2. 100 capsules of Sodium Pertechnetate Tc 99m
3. 100 capsules of Sodium Sulfur Colloid
4. 100 capsules of Sodium Tc 99m
5. 100 capsules of Sodium Tc 99m
6. 100 capsules of Sodium Tc 99m
7. 100 capsules of Sodium Tc 99m
8. 100 capsules of Sodium Tc 99m
9. 100 capsules of Sodium Tc 99m
10. 100 capsules of Sodium Tc 99m

TIME TO REORDER

5
4
3
2

Perchloracap
(Potassium Perchlorate)

025

Perchloracap
(Potassium Perchlorate)

Each capsule contains Potassium Perchlorate 200 mg.

STORE AT CONTROLLED ROOM TEMPERATURE (DO NOT EXCEED 80°F)

CAUTION: Do not dispense of Potassium Perchlorate along with flammable materials.

100 capsules

Malinckrodt
NUCLEAR

Res-O-Mat™ ET
Diagnostic Kit

Res-O-Mat™ T4 I125
Diagnostic Kit

Res-O-Mat™ T4 I125
Diagnostic Kit

Malinckrodt
NUCLEAR

TechneScan™ MAA KIT

ALBUMIN MACROAGGREGATES
CARRIER NO. 200
CAUTION: RADIOACTIVE MATERIAL
DO NOT OPEN UNLESS YOU ARE
PROPERLY TRAINED

Malinckrodt
NUCLEAR

TechneScan™ PYP

PHOSPHONATE
CARRIER NO. 200
CAUTION: RADIOACTIVE MATERIAL
DO NOT OPEN UNLESS YOU ARE
PROPERLY TRAINED

OUR KITS FUTURE.



Mallinckrodt
RIA-Mat™
Angiotensin I125
Kit

A short look at our past can give you an idea of what to expect in your future.

You're looking at progress. You're seeing evidence of some of our recent developments after more than twenty years of being involved in nuclear medicine. In just a few years the Mallinckrodt generator line has increased from four to fourteen *Ultra-TechneKow*® units. Our kits tell an additional story of our commitment to breadth and convenience in radiopharmaceuticals . . . from our *Res-O-Mat*® *ETR*® test, which added a new dimension to thyroid testing, to an expanding line of premeasured and

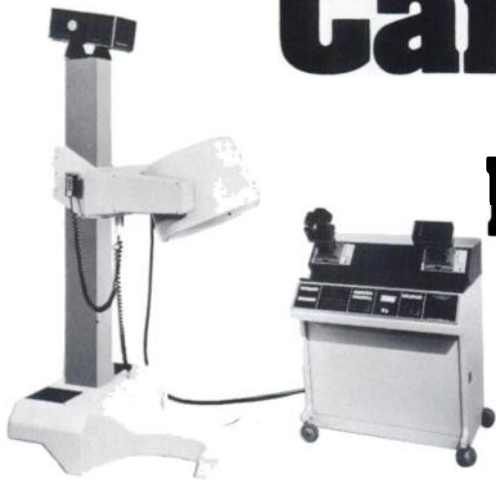
predispensed RIA tests . . . to a growing family of scanning and imaging products. This short look gives you an idea of where to look now and in the future. We're keeping up the momentum to give you convenient, more reliable radiopharmaceuticals. Look to Mallinckrodt. You'll be looking at the leader.

Mallinckrodt, Inc.
675 Brown Road
Hazelwood, Missouri 63042

Mallinckrodt
NUCLEAR
RADIOPHARMACEUTICALS

Cardiovascular

In Black And White



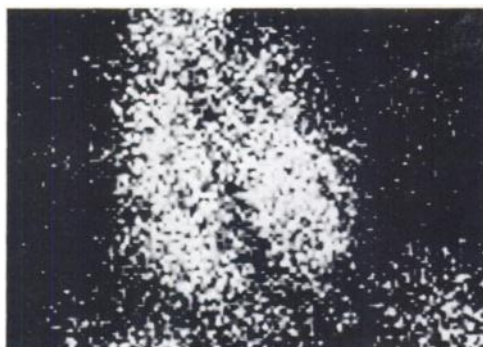
Series 100

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

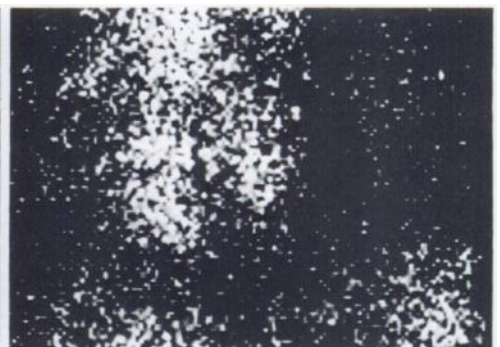
Normal — LAO View

32 year old male
History —
Normal

160 DataSystem
in half field mode



End Diastole



End Systole

Focal Akinesis — Anterior View

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



End Diastole



Gated Study shows
severe left 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

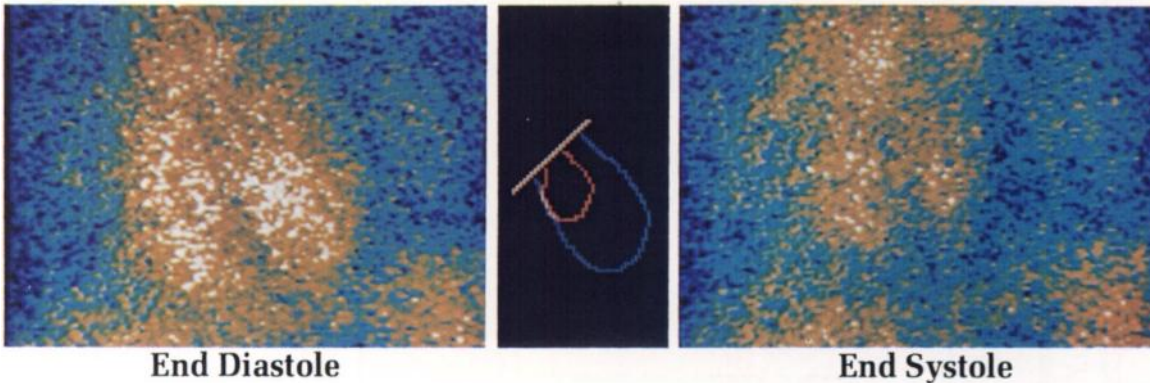
Nuclear Diagnosis

Or In Color



Series 160 DataSystem

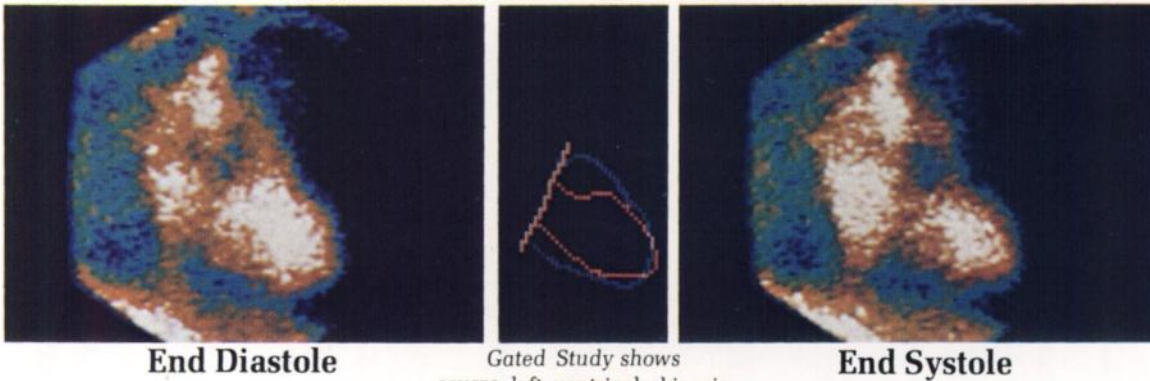
Normal — LAO View



32 year old male
History —
Normal

160 DataSystem
in half field mode

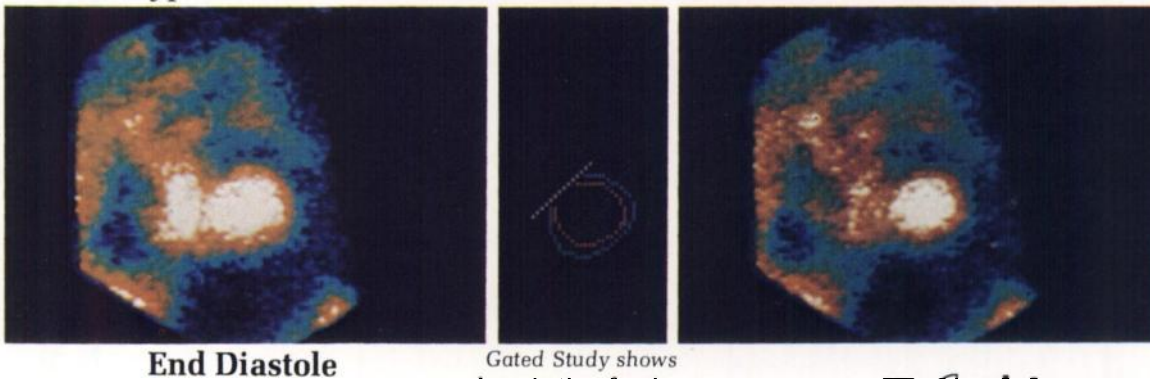
Focal Akinesis — Anterior View



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

Gated Study shows
severe left ventricular akinesis

Diffuse Hypokinesis — Anterior View



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

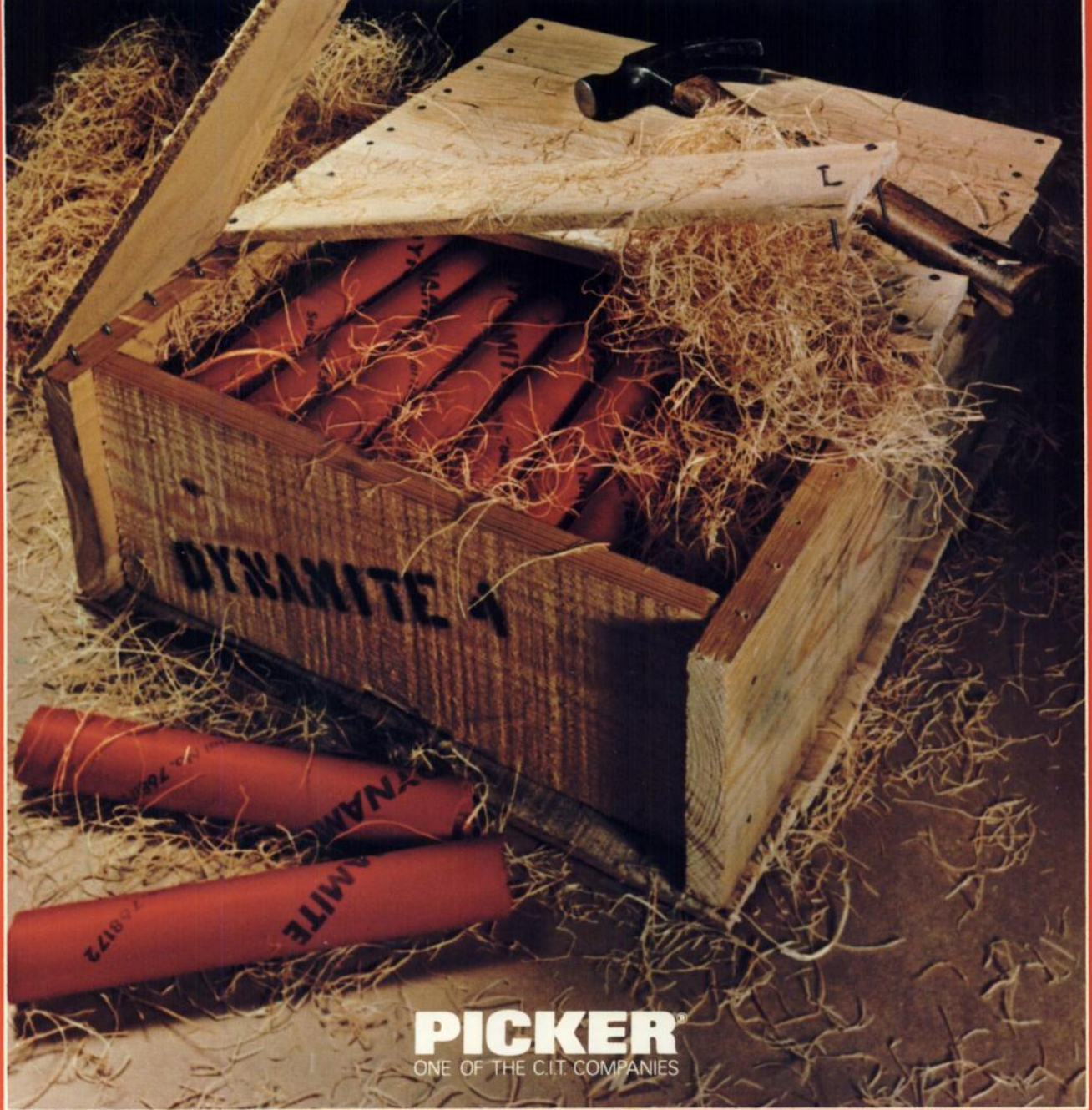
Gated Study shows
low ejection fraction
diffuse hypokinesis



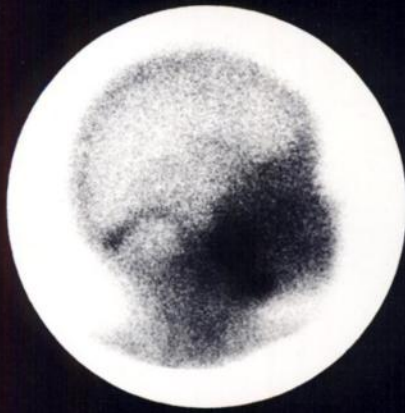
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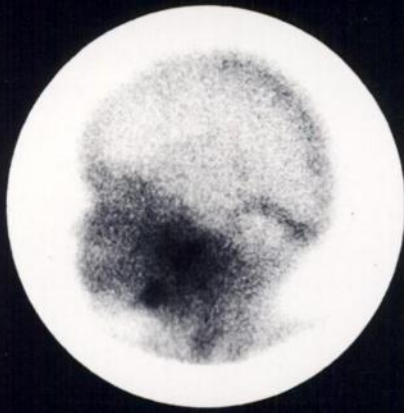
DYNAMAMITE RESULTS



PICKER
ONE OF THE C.I.T. COMPANIES



RL

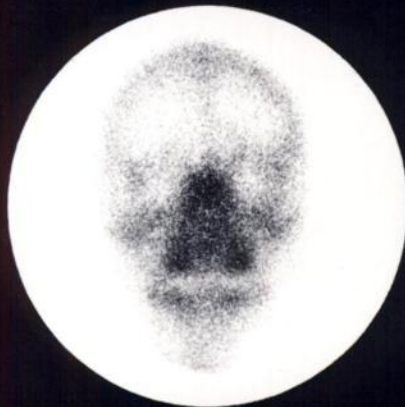


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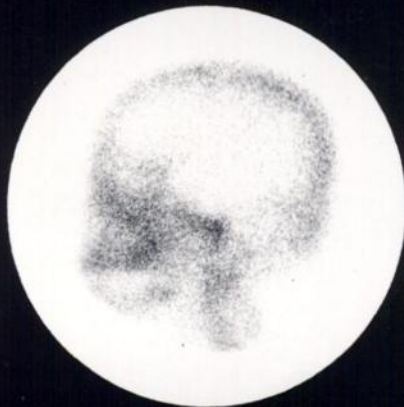


POS

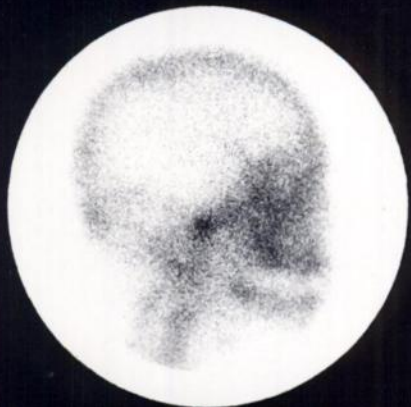
Brain Study, ^{99m}Tc Pertechnetate



ANT

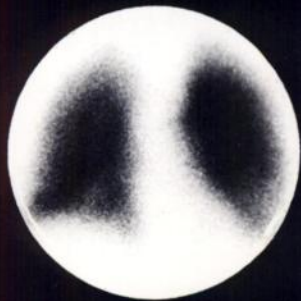


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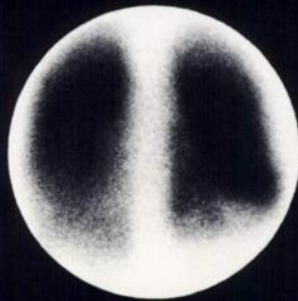


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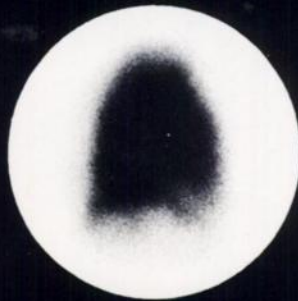
Bone Study, ^{99m}Tc Pyrophosphate



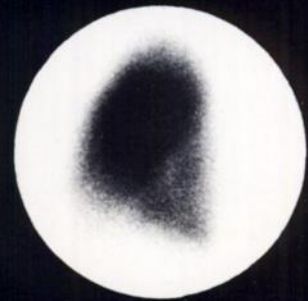
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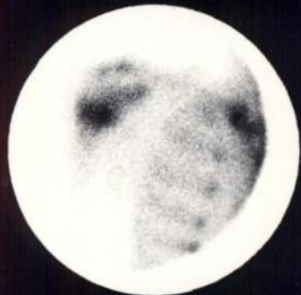


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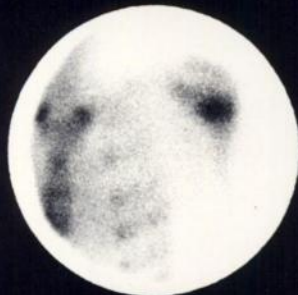


LL

Lung Study, ^{99m}Tc MAA



RIGHT SHOULDER,
ANTERIOR



LEFT SHOULDER,
ANTERIOR

Bone Study, ^{99m}Tc Pyrophosphate

For dynamite clinical results, get the dynamite DynaTMCamera 4 system. Contact your Picker representative or write: Picker Corporation, 12 Clintonville Road, Northford, CT 06472

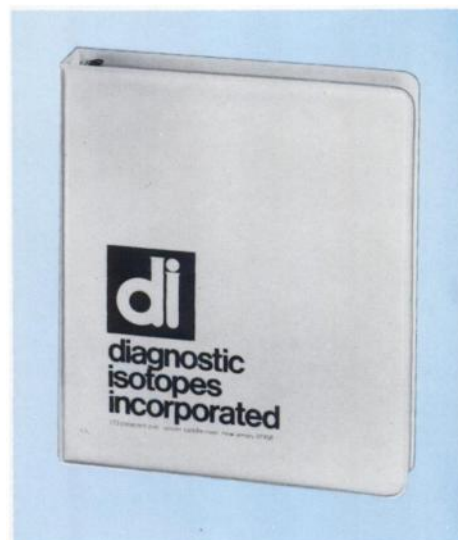
You can pay more for radiopharmaceuticals. But don't expect more.

We're not modest about our reputation in the field of nuclear medicine. But we are modest when it comes to price.

Radiopharmaceuticals is our only business. We were pioneers. We are innovators. And we will always be perfectionists.

And yet many of our kits and ready-to-use radiopharmaceuticals cost less than products of comparable purity, stability and consistency. That means you can count on reliable results patient after patient, and at the same time lower your cost of supplies.

If you're interested in good, consistent images, at a good price . . . write to us. We'll send you our comprehensive new catalogue which will prove it to you. If you have any specific questions, dial (201) 825-2310 and speak directly with our Vice President or Marketing Manager.



KITS:

- **99m Tc 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
- **99m Tc Phytate—Tin**
10 mg Sodium Phytate and 1.0 mg Stannous Chloride

Ready-to-use:

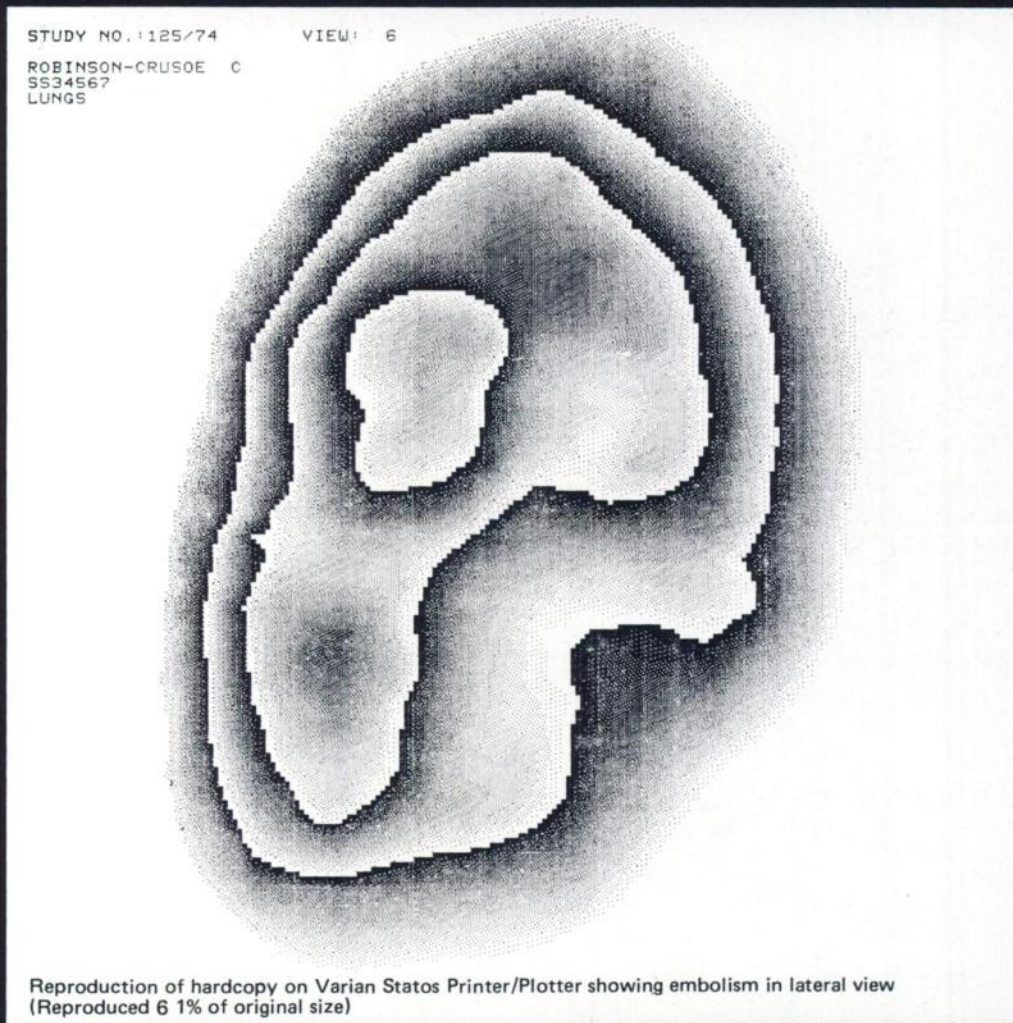
- **Gallium-67 Citrate**
3 mCi/Vial
- **Xenon-133 in Gas Phase**
10 or 20 mCi/Vial
- **Xenon-133 in Saline**
10 or 20 mCi/Vial



diagnostic isotopes incorporated

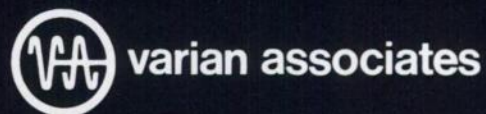
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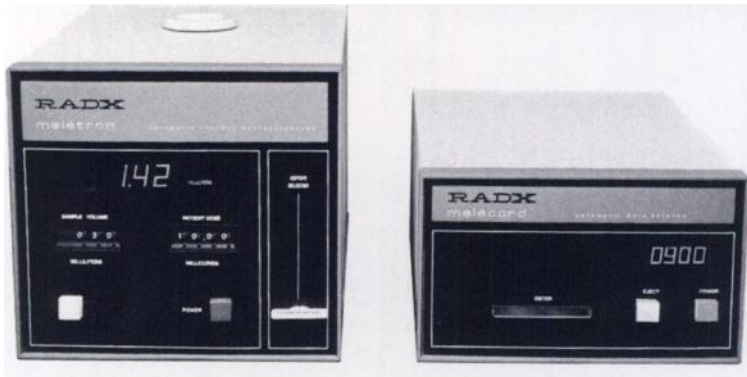
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SERIAL NO.	8117
NAME	Smith, Mary
DATE	6/4/75
PHYSICIAN	Marcus Welby
INSTITUTION	Tc 99m
DOSE	10 mCi
INSTITUTION IDENTIFICATION	ST. LUKE'S HOSPITAL 200 MAIN ST. ELY, MINN.
DATE	6 4 75
TIME	0900
RADIONUCLIDE	TECHNETIUM 99M
ACTIVITY	212 MILLICURIES
VOLUME	80.0 MILLILITERS
DOSE	10 MILLICURIES
VOLUME	142 MILLILITERS
SYRINGE SIZE	10.1 mCi
OPERATOR	<i>Janice Welch</i>

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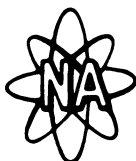
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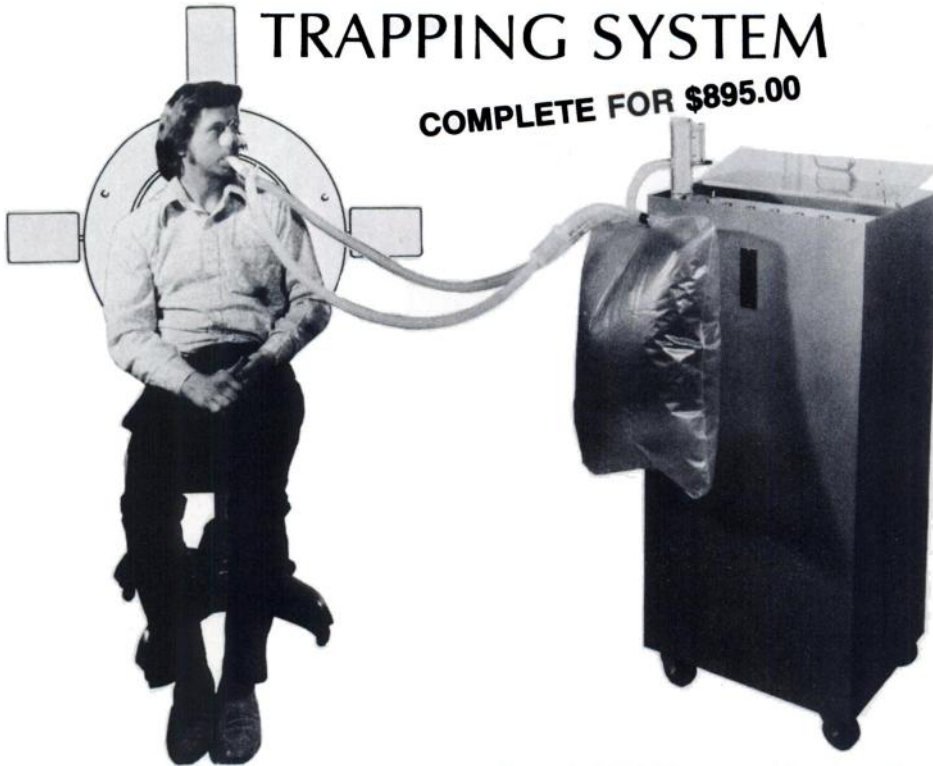
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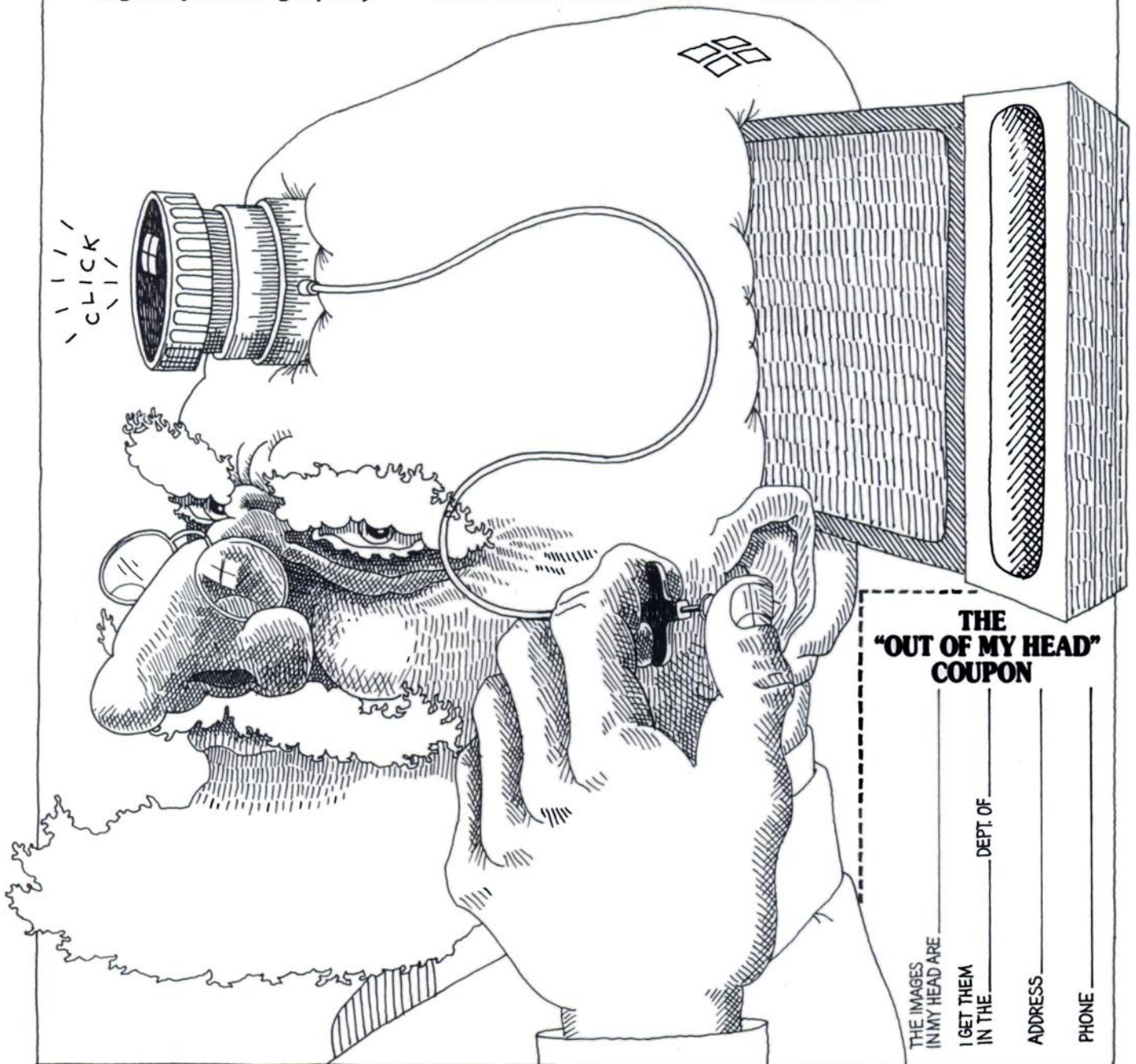
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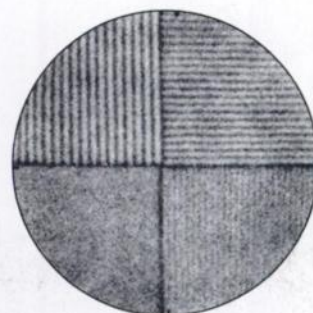
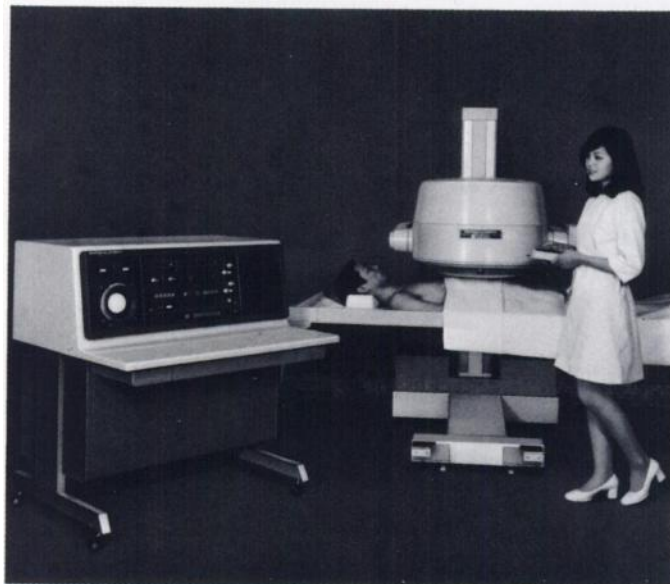
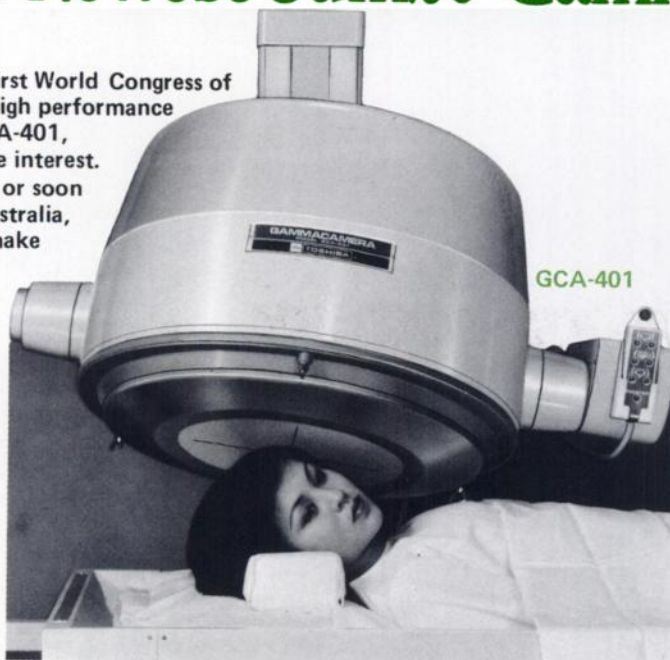
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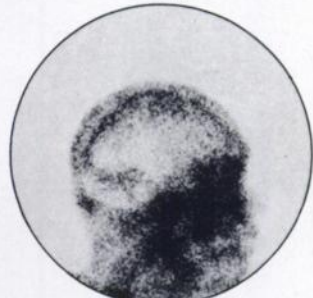
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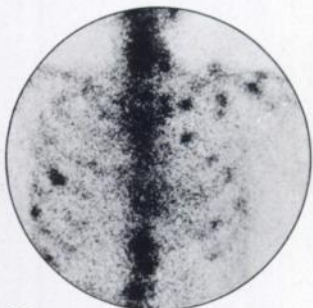
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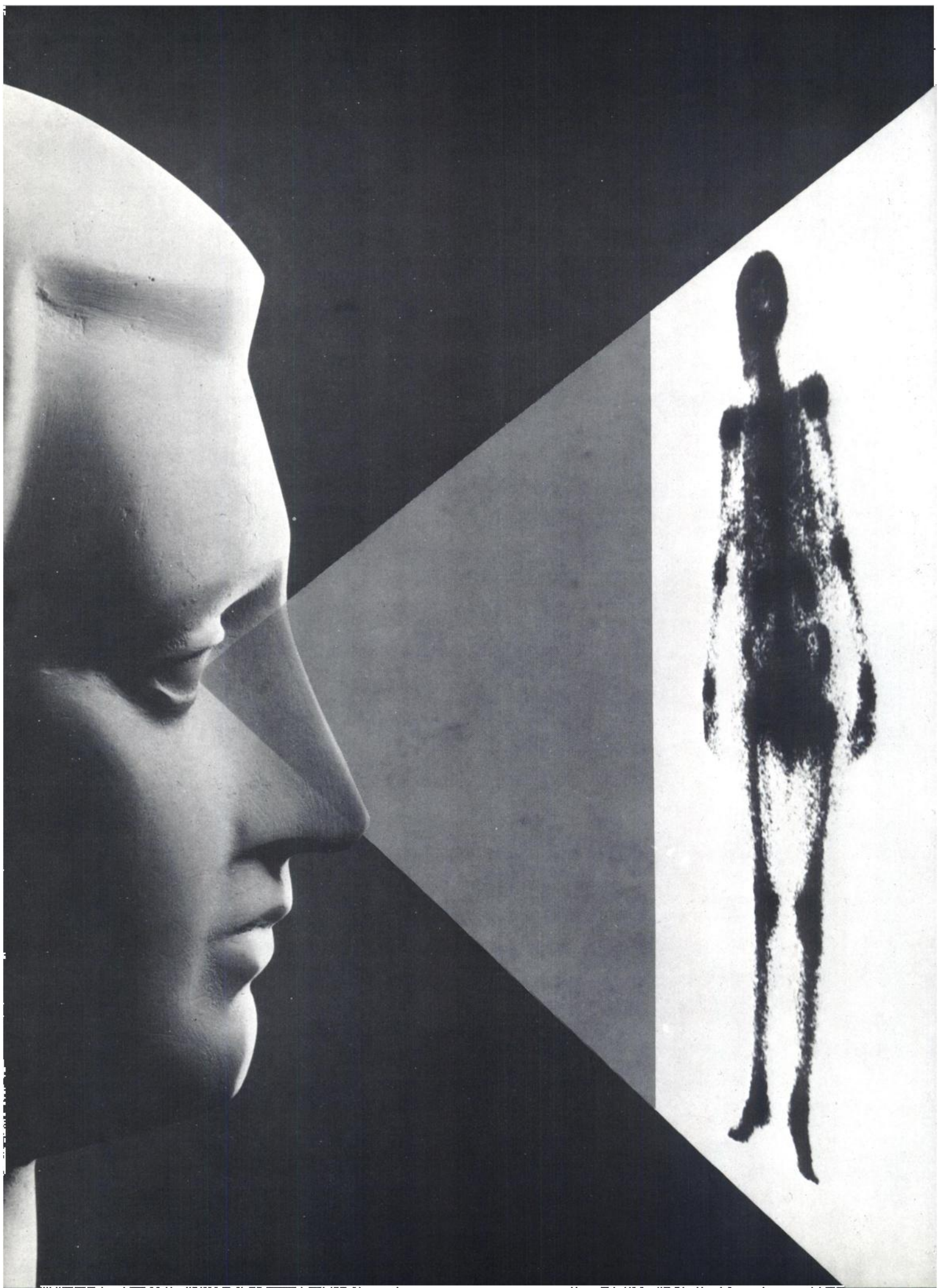
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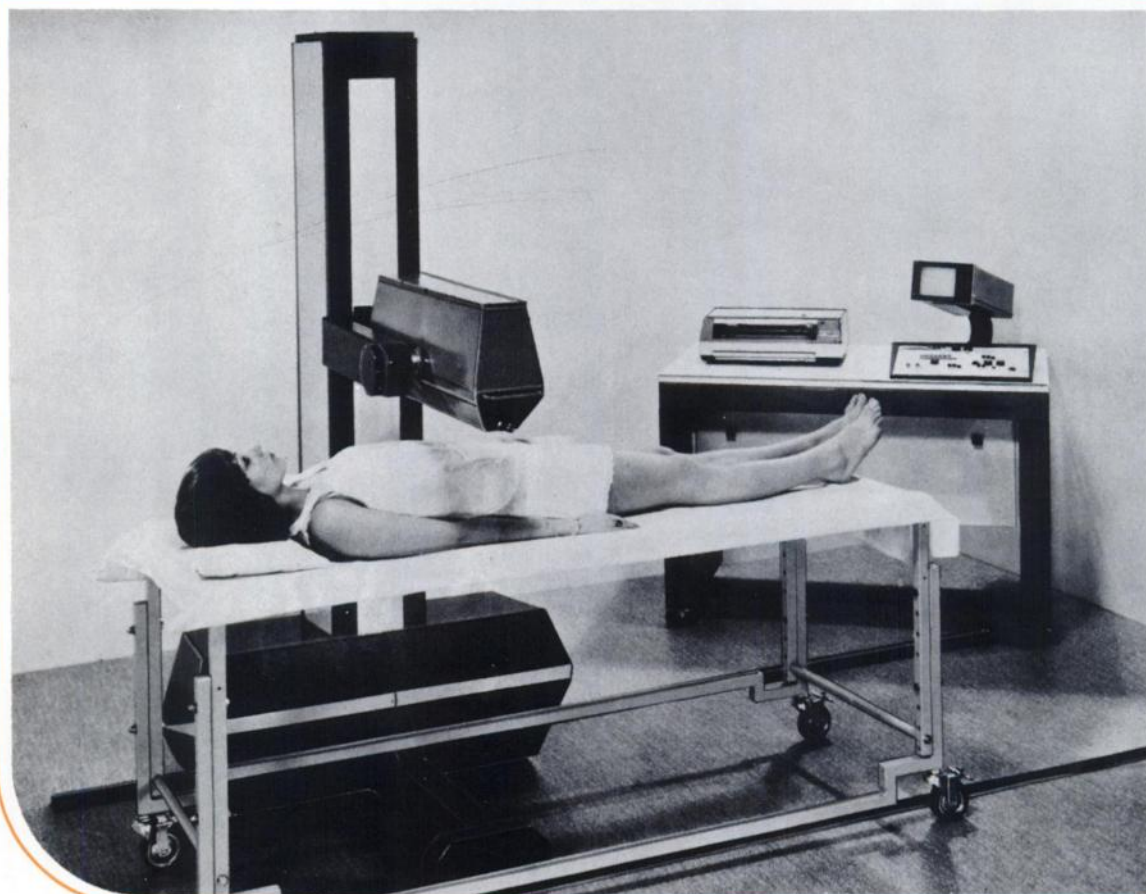
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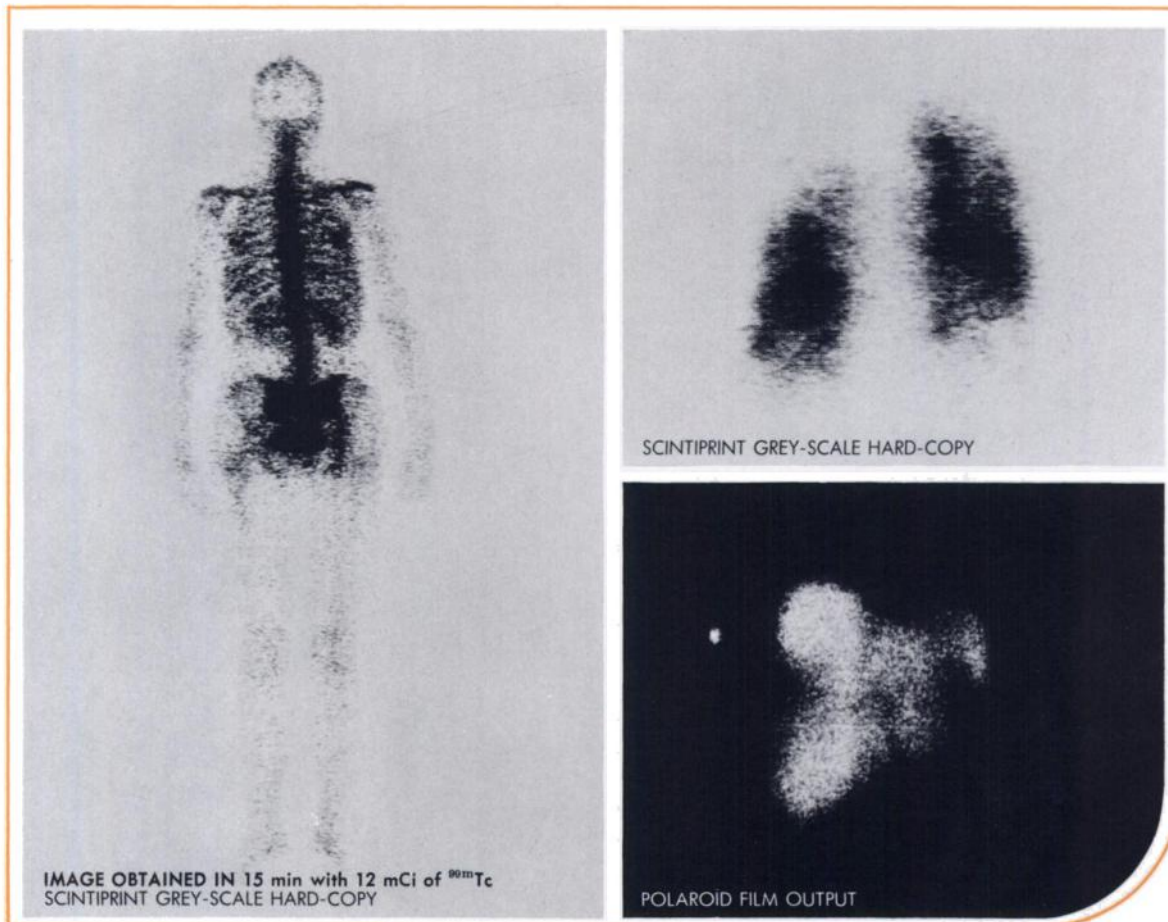
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New England Nuclear Radiopharmaceuticals

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

CONTRAINDICATIONS. None.

WARNINGS. Technetium 99m DTPA chelate should not be administered to patients who are pregnant, or during lactation unless the benefits to be gained outweigh the potential hazards.

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

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

PRECAUTIONS. To minimize radiation dose to the bladder, the patient should be encouraged to void when the examination is completed and as often thereafter as possible for the next 4-6 hours.

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

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ADVERSE REACTIONS. None.

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



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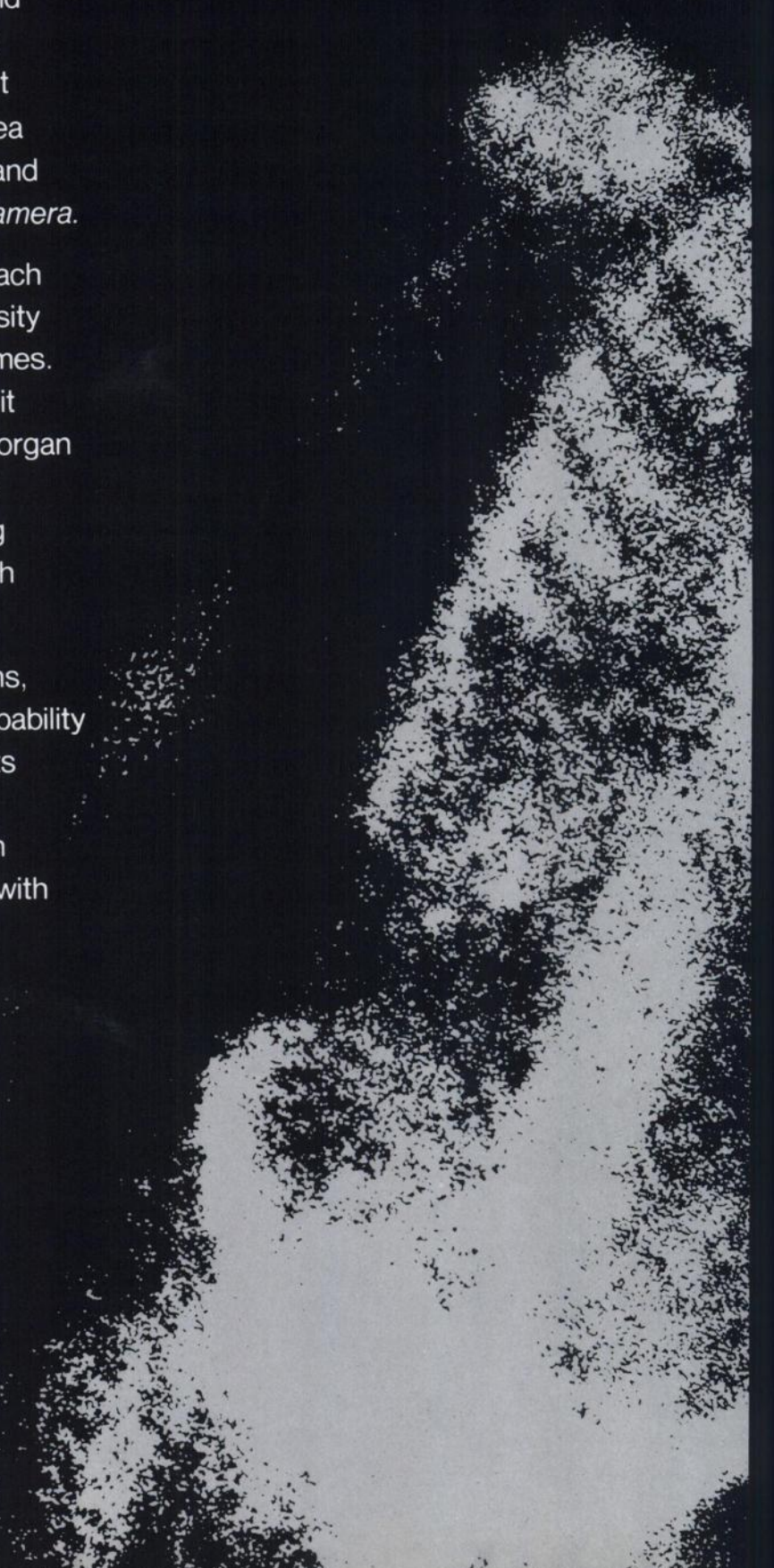
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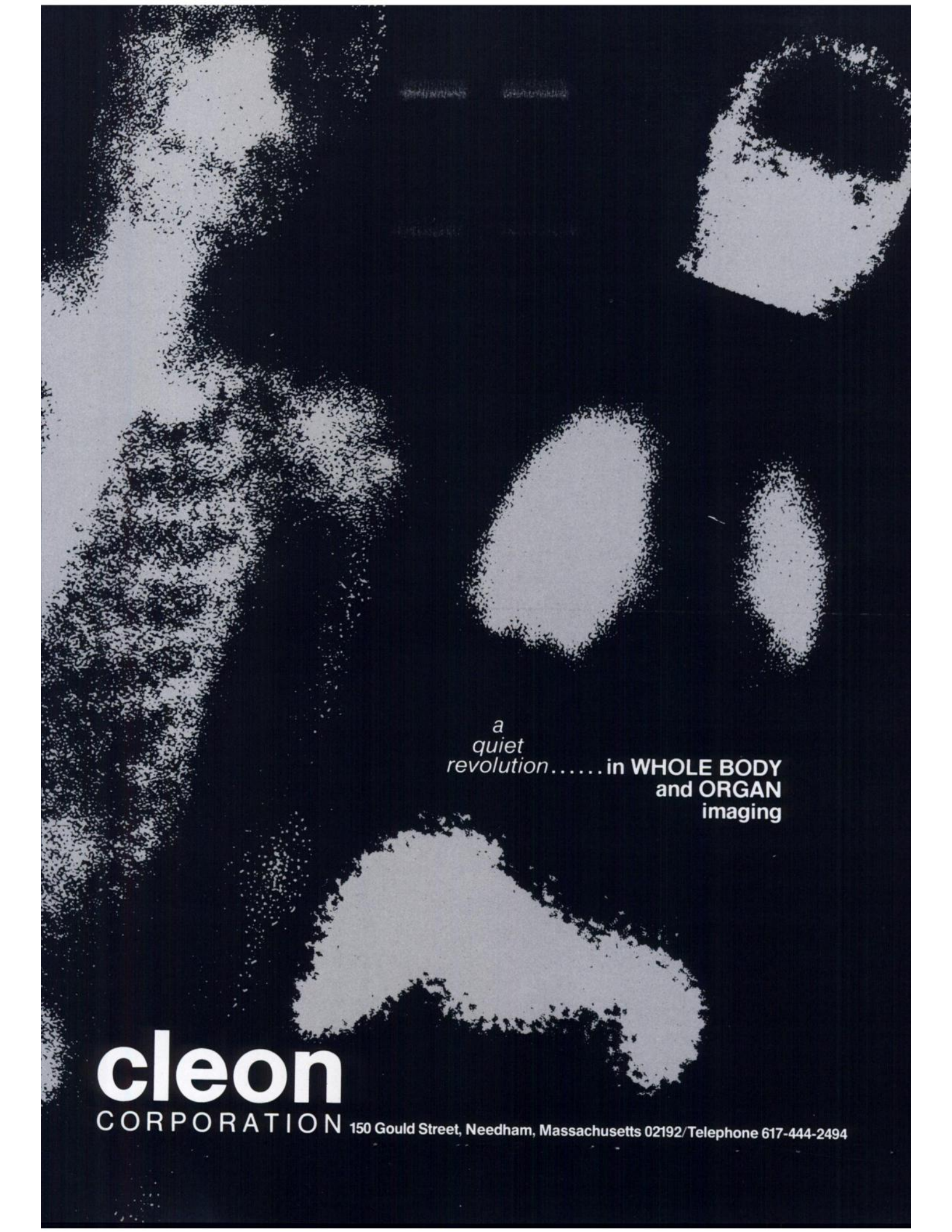
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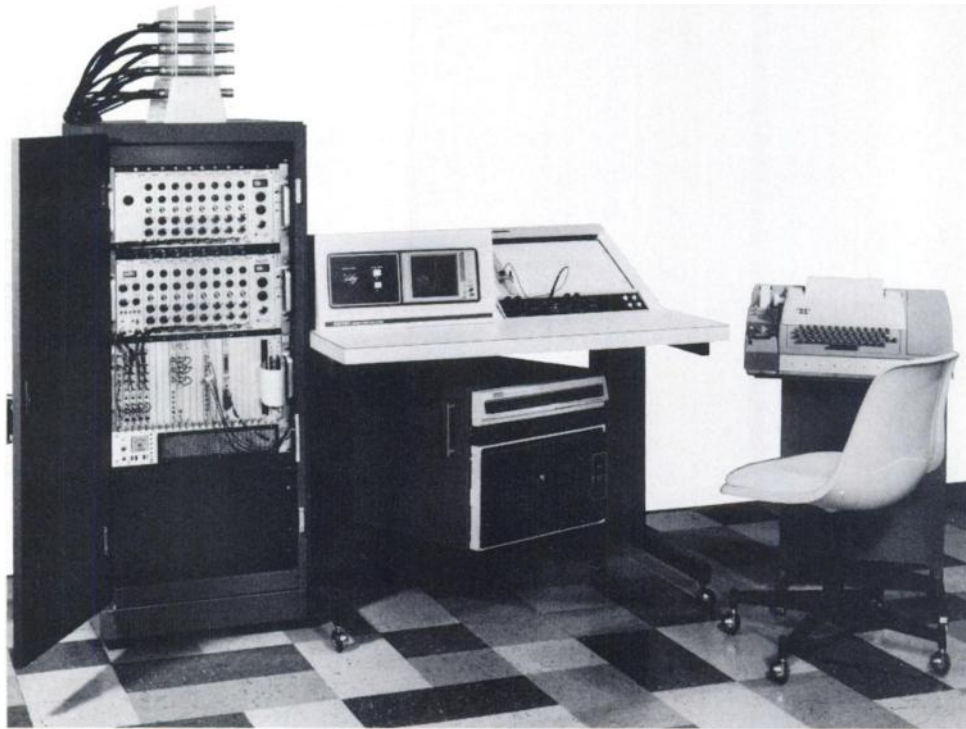


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MINI

GAMMA CAMERA CALIBRATION KIT

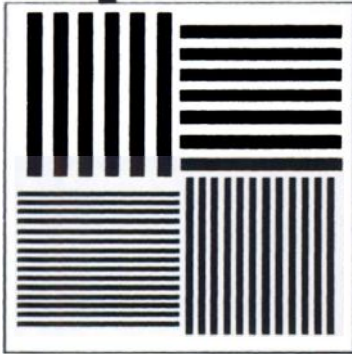
The radioactive sources and phantom of the AECL Gamma Camera Calibration Kit provide an effective means of routinely checking the vital characteristics of your camera system.

Sources are safe, light and easy to carry in the attractive carrying case provided.

Sources are approved for licensing in U.S.A. and Canada.

FLOOD FIELD SOURCE

A rapid and convenient way of making the daily check of your camera response. It is a flat plastic disc 12 inches in diameter containing 3 mCi of Gadolinium-153 (100 KeV photopeak, 242 day half life) dispersed uniformly to give an output better than $\pm 5\%$ over the whole surface.

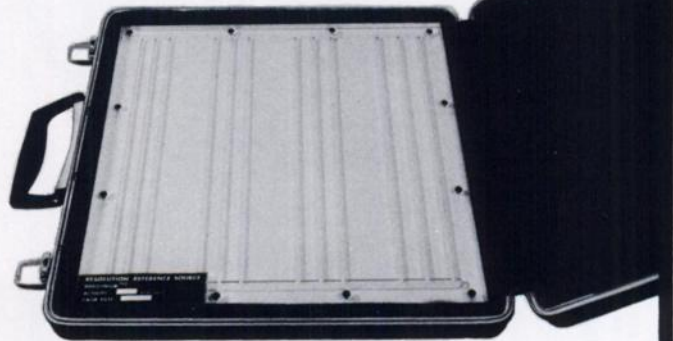


BAR PHANTOM Used with a Flood Field Source to provide an efficient check of the inherent and system resolution of your camera system. It can also be used to check image size and linearity.

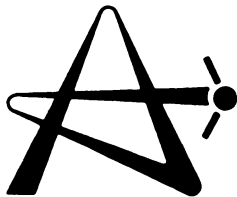
The Bar Phantom consists of four groups of lead bars embedded in a plastic holder 13.5 inches square and 0.37 inches thick. The bars are 0.125 inches thick and 0.500, 0.375, 0.250 and 0.187 inches wide respectively. The spacing between the bars is equal to the width of the bars for each group.

RESOLUTION REFERENCE SOURCE

A convenient way of checking the resolution of your gamma camera and scanner. The source contains a grid of radioactive lines which vary in spacing. Most cameras should be able to resolve the finest part of the grid. By adjusting the distance of the source from the collimator, the depth resolution of your camera can also be measured. Total activity of the source is 3 mCi of Gadolinium-153.



74-1



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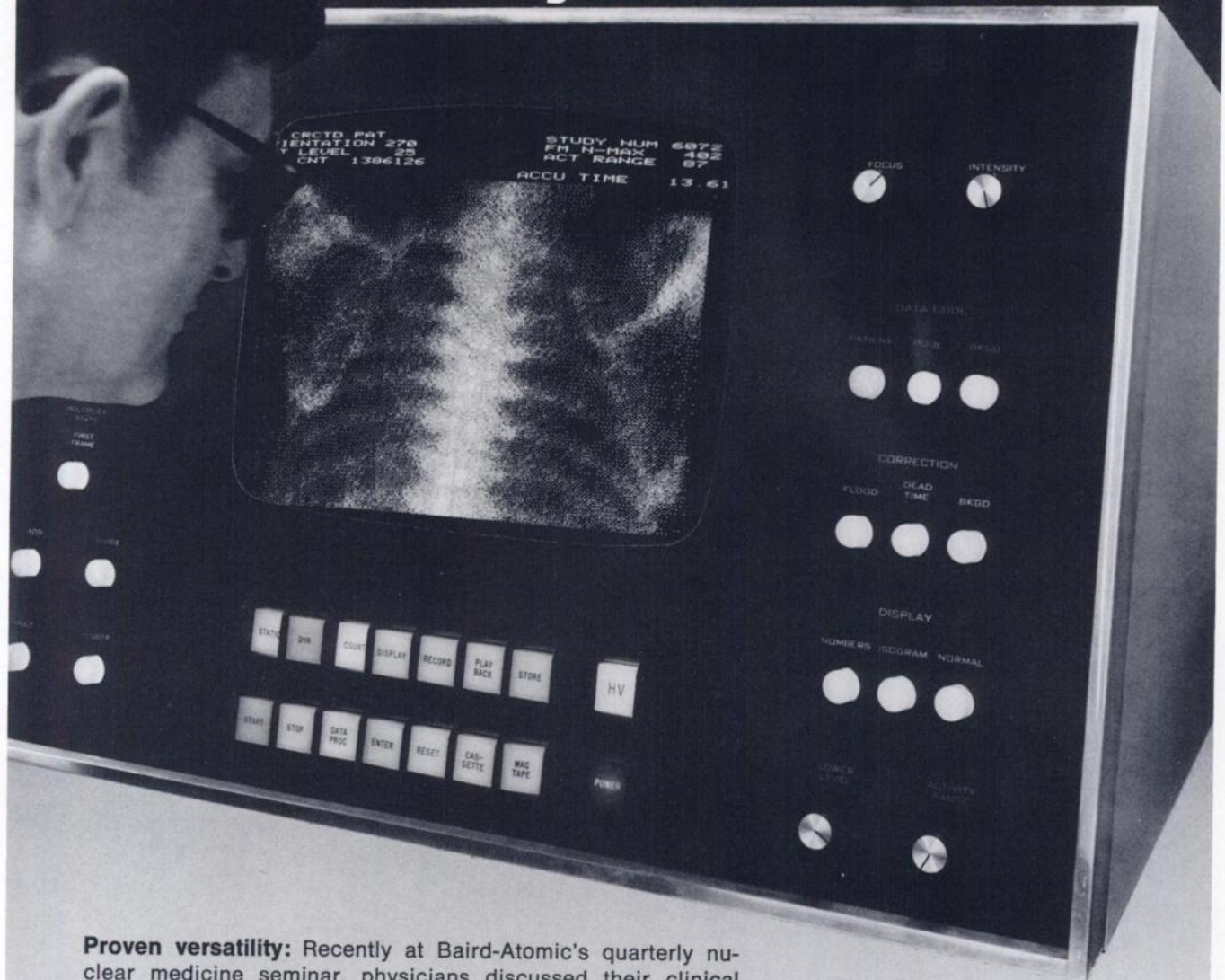
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SYSTEM SEVENTY: Our share in your commitment



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

Imaging and quantification: System Seventy enables you to produce clinical data beyond basic static and dynamic images. Now, fast and extensive quantitative diagnosis is a reality.

Continuing development: In two years, Baird-Atomic has produced three major generations of diagnostic software programs for System Seventy, added a field clinical applications staff, and expanded its service force.

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

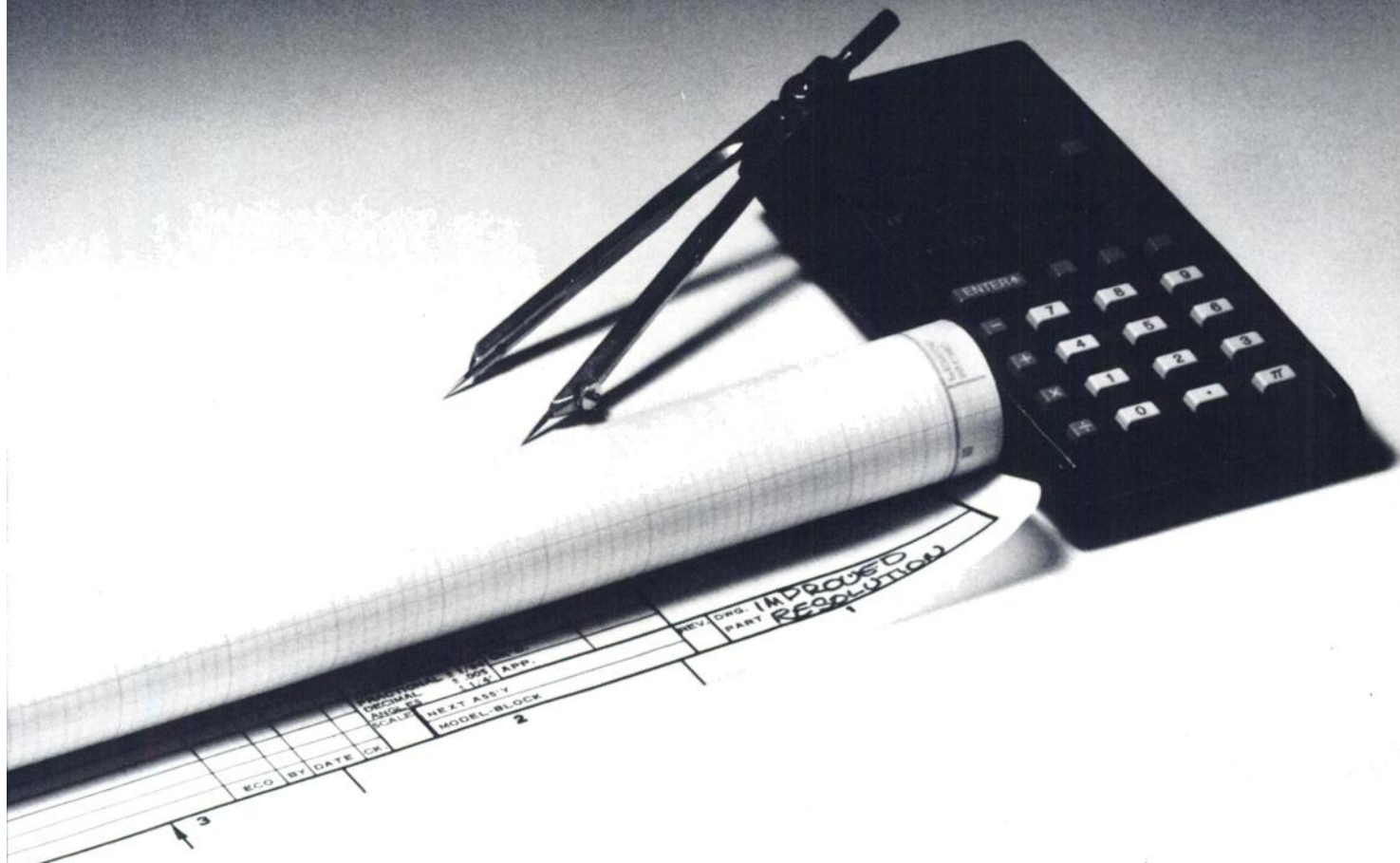


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Pho/Gamma[®] IV evolution...



to



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

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

recording systems, and much more. Pho/Gamma IV is adaptable to new radioisotopes and procedures as you need them.

This evolutionary process is backed by extensive clinical verification. For example, the Pho/Gamma IV was tested for more than twelve system-months, in two major hospitals, before it was released to the profession. When we release improvements, you can be sure they're *clinically significant*.

Naturally, our continuing improvement of instruments is augmented by continuing improvement of service. As a Searle Instrument custodian, you have the world's largest nuclear

service force at your beck and call. Trained, knowledgeable service is just minutes away.

So if you're considering a scintillation camera today, next month or next year, consider the Pho/Gamma IV system. It's continually refined, engineered, tested and manufactured with *your* clinical needs in mind. Your Searle Representative will give you the latest details.

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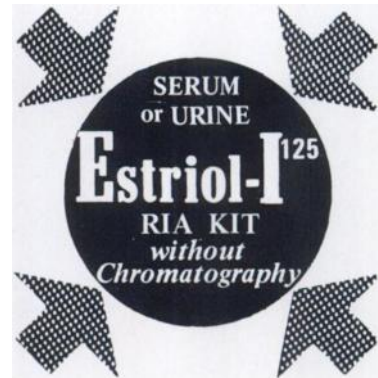
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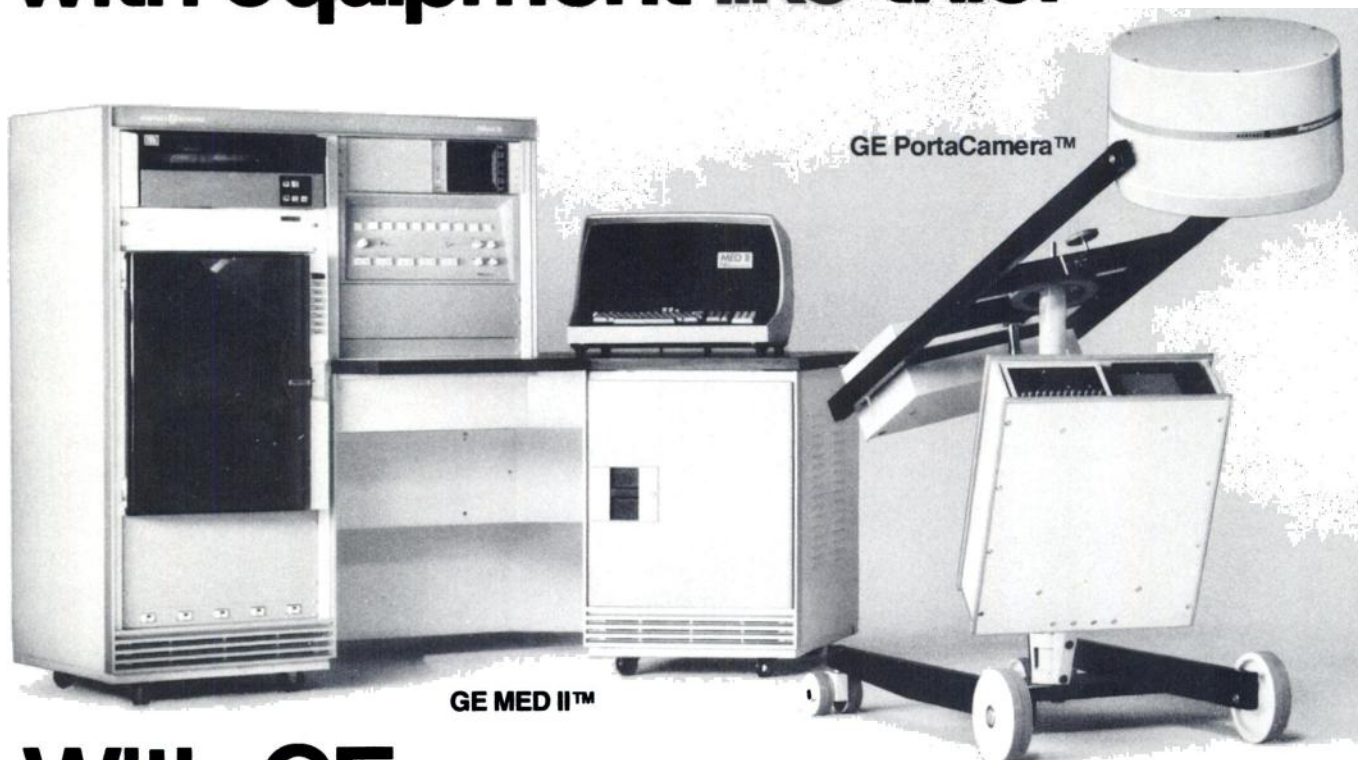
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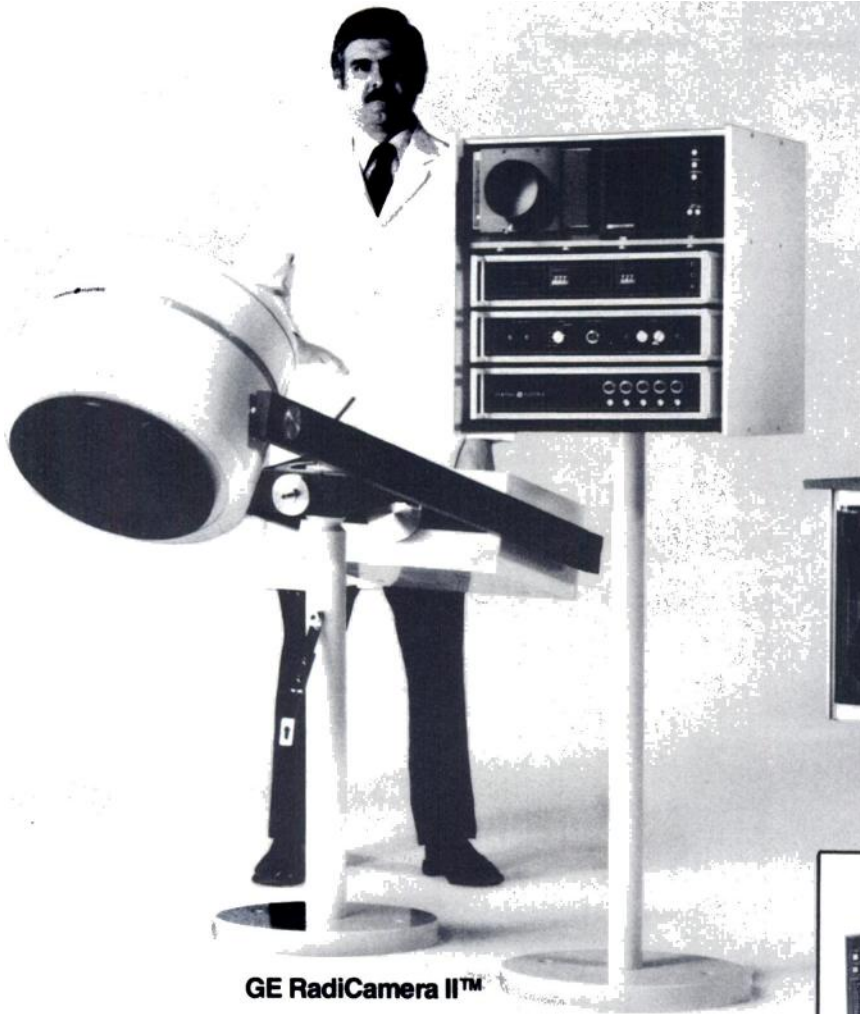
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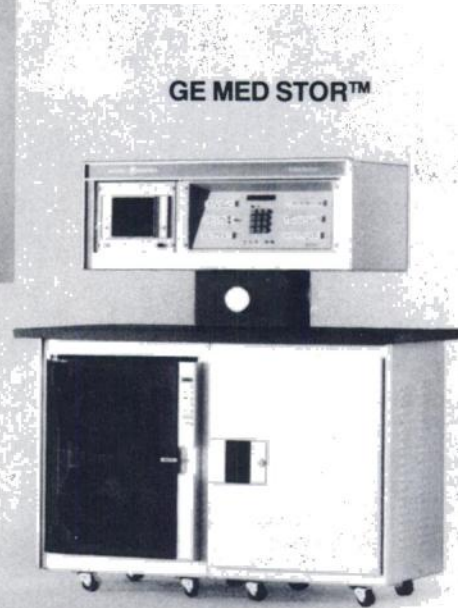
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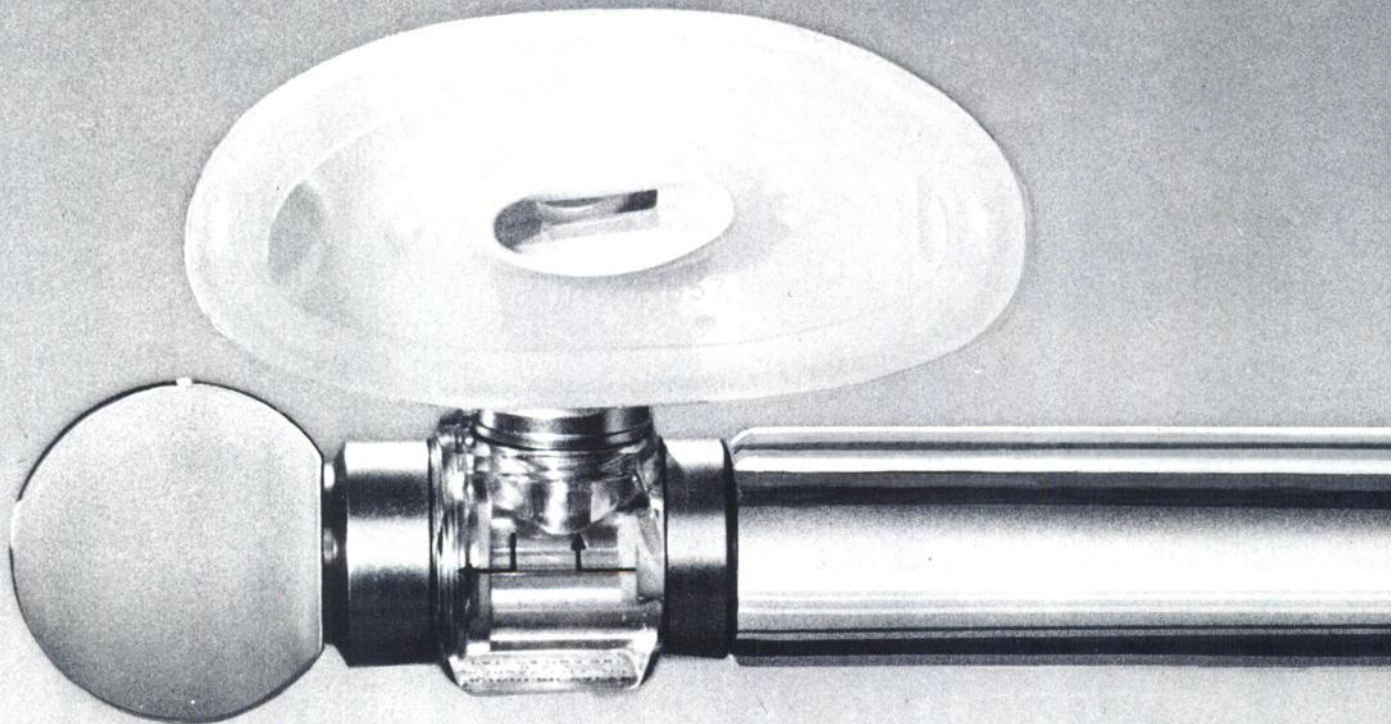
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button. Scintiphotos are initiated automatically at precise pre-determined intervals. The data is then collected. The entire

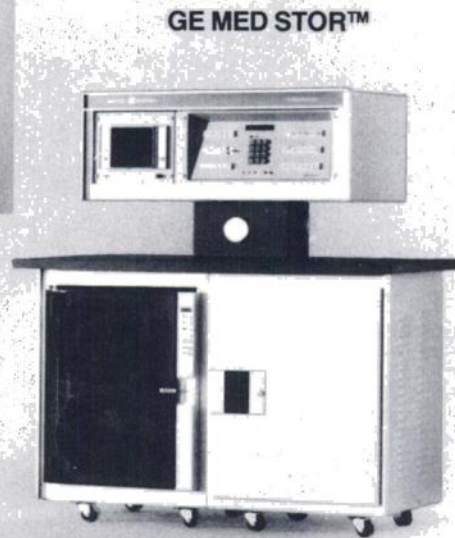


system is enclosed in a streamlined case mounted on an overbed table for use on patients in either sitting or supine positions. The AVM-3 is easy to position, easy to use, easy on the patient, even easy to store. And it's easy to buy. \$3,750. F.O.B. Los Angeles. Omnimedical guarantees 30 day delivery. Now, you can breathe easier, too! AVM-3 by Omnimedical, P.O. Box 1277, Paramount, Ca. 90723 (213) 633-6660.

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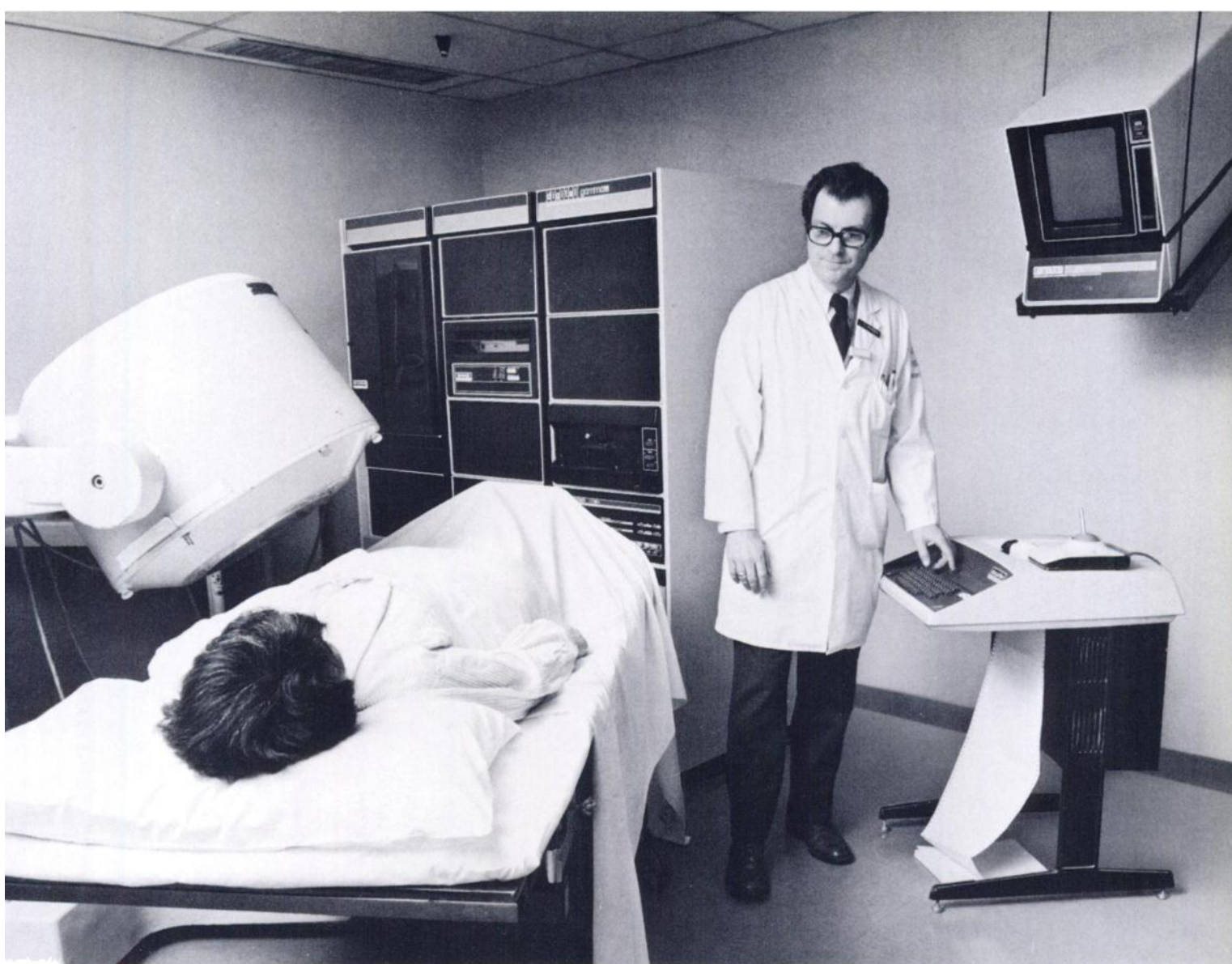
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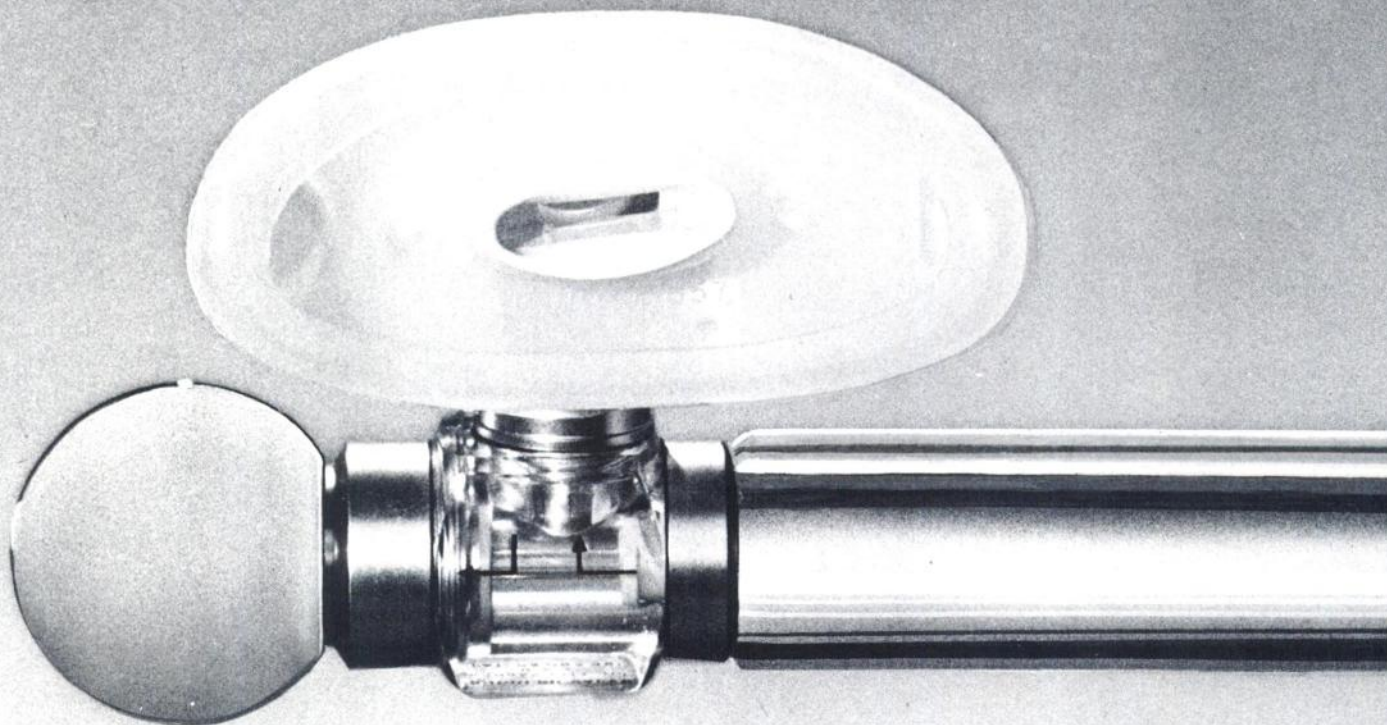
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This section in the Journal of Nuclear Medicine contains "Positions Open", "Positions Wanted", and "For Sale" listings. Nondisplay "Positions Wanted" ads by members of the Society are billed at 30¢ per word for each insertion with no minimum rate. Nondisplay "Positions Wanted" ads by nonmembers and all nondisplay "Positions Open" and "For Sale" ads by members and nonmembers are charged at 65¢ per word, with a minimum of \$15. Display advertisements are accepted at \$50 for 1/8 page, \$90 for 1/4 page, \$165 for 1/2 page, and \$295 for a full page. Closing date for each issue is the 15th of the second month preceding publication. Agency commissions and cash discounts are allowed on display ads only. Box numbers are available for those who wish them. All ads must be prepaid.

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In relating Nuclear Medicine to the clinical needs in this area alternative techniques such as ultrasound and computerized axial tomography will be discussed.

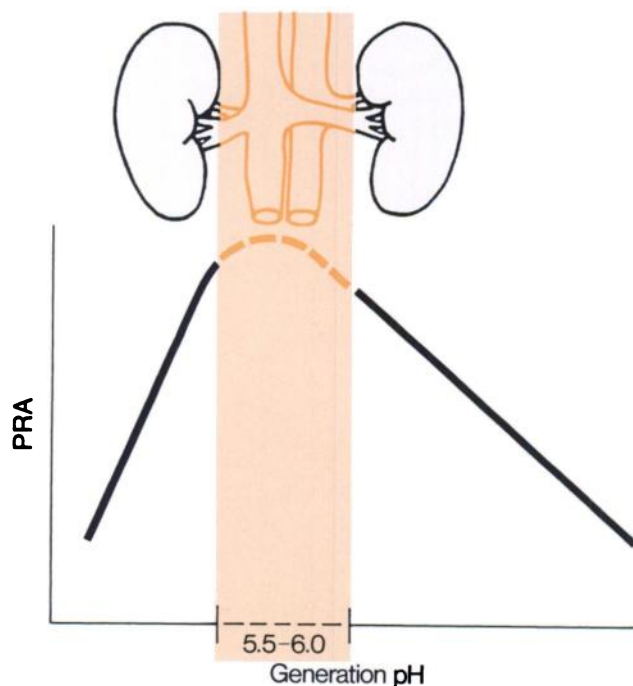
For program details or other information contact:

Bryan R. Westerman, Ph.D.
Department of Nuclear Medicine
Northwestern Memorial Hospital
Superior St. and Fairbanks Ct.
Chicago, Illinois 60611
(312) 649-2514

At the same time, the Central Chapter technologist section will present a program on continuing education. For information contact:

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OR

Rex B. Shafer, M.D.
Chief, Nuclear Medicine Service (172)
Veterans Administration Hospital
54th Street & 48th Avenue South
Minneapolis, Minn. 55417

**NUCLEAR MEDICINE MANAGEMENT
SEMINAR**

A three-day seminar on "FINANCIAL OPERATION AND MANAGEMENT CONCEPTS IN NUCLEAR MEDICINE" will be held on October 9-11, 1975 at The Waldorf-Astoria Hotel, New York City, N.Y. The program will review and discuss budgeting, how to establish and evaluate the price of nuclear medicine studies, determination and financing of equipment needs, contracts between physicians and their hospitals, as well as partnership vs. incorporation theories. Special time will be devoted to updates on the malpractice situation, liability and the impact of legislation on the practice of nuclear medicine. Considerations of F.D.A. regulations and other radiopharmaceutical developments will also be discussed.

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.

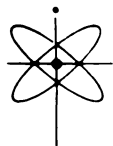
Co-sponsors of the meeting include The American College of Nuclear Physicians and The American Society of Clinical Pathologists.

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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- H.C.S. (Human Chorionic Somatomammotropin)
- Estrogens, total
- Estradiol
- Estriol
- Estrone
- Progesterone

- Testosterone
- Cortisol
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- IgE
- Carcinoembryonic Antigen
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**JOHN THOMAS, Ph.D., DIRECTOR or
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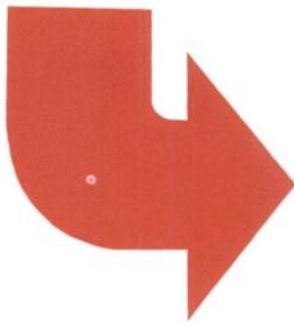
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Radiopharmacist/radiochemist with M.S. or Ph.D. in radiopharmaceutical chemistry or related field and substantial work experience in preparation of ^{99m}Tc-labeled radiopharmaceuticals, quality control and administrative procedures and development of new radiopharmaceuticals, required for University Nuclear Medicine laboratory with a caseload of approximately 5,000 in vivo procedures per year. Radioimmunoassay is not involved. Rank and salary are open. Send curriculum vitae, work history, list of publications and names of three referees to Peter M. Ronai, Department of Radiology, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver, Colorado 80220.

The University of Colorado is an Equal Opportunity Employer. Women and minority groups are encouraged to apply for the above-described position.

First we planted an idea:

Design one simple
uniform procedure for all our RIA tests.



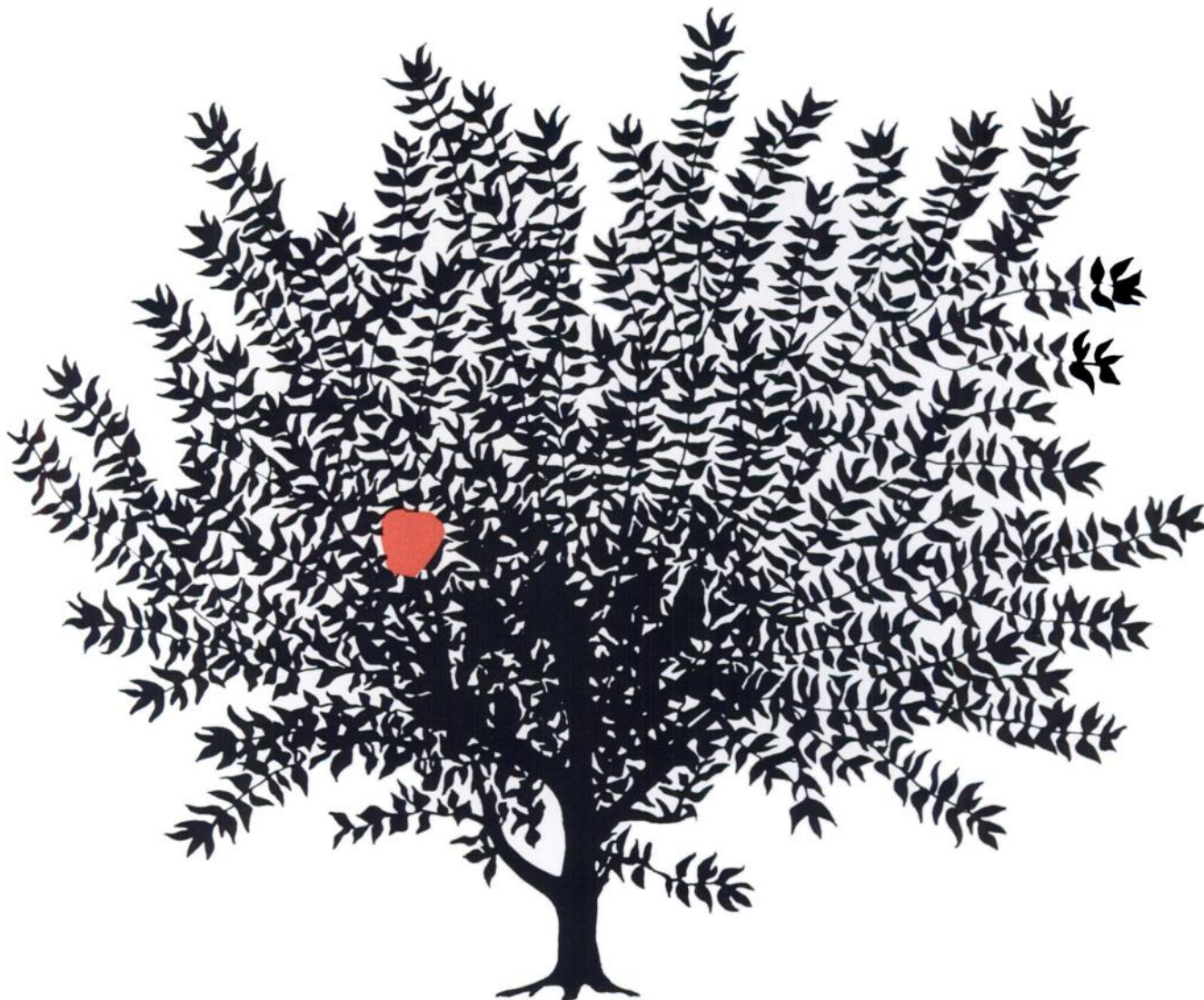
1. Incubate sample with enzyme denaturant.*
2. Boil and cool.
3. Add ^{125}I reagent and antibody complex, and incubate.
4. Add buffer, and centrifuge.
5. Decant and count.

*Patent Pending



Now the idea is bearing fruit.

Introducing the new
Cortisol ¹²⁵I RIA Kit.



The beauty of this test is that it combines accuracy with a simple, uniform procedure—just five steps from start to finish. Our Cortisol test is the first. Soon it will be joined by others in this series of RIA tests, all using the same simple, standard five-step procedure.

This means simplified RIA analyses plus savings in technologists' time, fewer procedural errors, and greater lab efficiency.

Exceptional standards of precision and accuracy have been built into this Cortisol Reagent Kit to give you a sensitive, reliable diagnostic tool. For example, its high antibody specificity makes chromatography of the specimen unnecessary.

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75-1426

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.



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

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

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



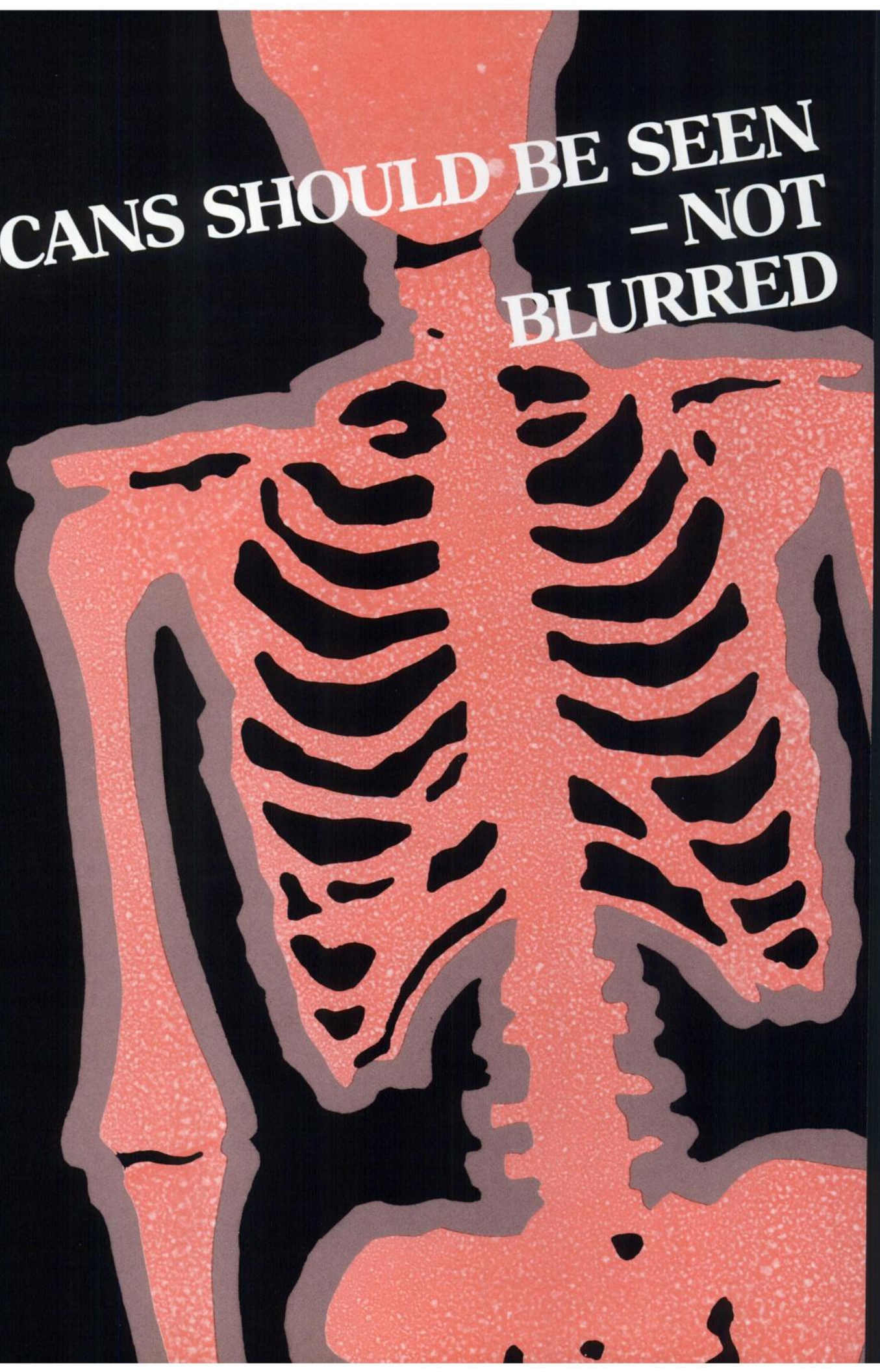
New England Nuclear Radiopharmaceutical Division

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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**SCANS SHOULD BE SEEN
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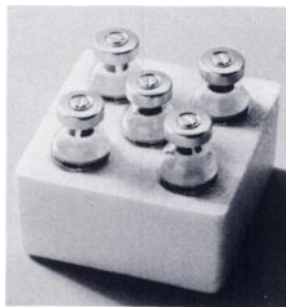


MALLINCKRODT'S NEW

TechneScan® PYP™ KIT (STANNOUS PYROPHOSPHATE)

**A MOST SUITABLE PHOSPHATE
FOR SUPERIOR BONE IMAGE QUALITY**

**A superior
bone
imaging
agent
because:**



- It is a consistent product
- It clears the bloodstream fast
- It gives high bone-to-tissue ratios
- It very seldom produces liver visualization
- It provides for a variable dose-to-scan time
- It gives high initial tagging efficiencies
- It is stable both in-vitro and in-vivo

Excerpts from recent literature on stannous pyrophosphate:

"With the rectilinear scanner, ^{18}F appeared to be the best bone scanning agent. Technetium- $^{99\text{m}}$ -phosphate compounds were favorable for clinical use because of availability and usefulness in studies with the gamma camera. Quality of scan with polyphosphate was most variable.

Sometimes phosphate compounds and $^{87\text{m}}\text{Sr}$ showed considerable interference with bone scan due to soft-tissue

radioactivity. Diphosphonate might be regarded as the agent of choice because of its low concentration in the soft tissue. *Pyrophosphate appeared to be most favorable agent considering ease of preparation, reproducibility, and quality of scan.*" (1) (Italics added.)

"While the physical properties of ^{18}F are poor, the biological properties are still superior for bone imaging. The biological properties of polyphosphate made from this kit are significantly worse than the pyrophosphate or EHDP prepared from kits. The latter two are more similar to ^{18}F in blood clearance and soft-tissue uptake." (2)

In summary, ^{18}F seems to be the best radiopharmaceutical for bone scanning. Technetium-labeled pyrophosphate gives better results than polyphosphate of higher molecular weight, and the availability of these two compounds makes bone scanning easier." (3)

1. Hosain F, Hosain P, Wagner HN, Dunson GL, Stevenson JS: Comparison of ^{18}F , $^{87\text{m}}\text{Sr}$, and $^{99\text{m}}\text{Tc}$ -Labeled Polyphosphate, Diphosphonate, and Pyrophosphate for Bone Scanning. *J Nucl Med* 14: 410, 1973 *Abst.*
2. Ackerhalt RE, Blau M, Bakshi S, Sondel JA: A Comparative Study of Three $^{99\text{m}}\text{Tc}$ -Labeled Phosphorous Compounds and ^{18}F -Fluoride for Skeletal Imaging. *J Nucl Med* 14: 375, 1973 *Abst.*
3. Bok B, Perez R, Panneciery C, DiPaola R: Bone Scanning Radiopharmaceuticals: A Comparison of Three Products. *J Nucl Med* 14: 380, 1973 *Abst.*

TechneScan®
PYP™ KIT
(STANNOUS PYROPHOSPHATE)

Mallinckrodt

NUCLEAR



SEE FOLLOWING PAGE FOR PRESCRIBING INFORMATION

BEFORE USING, PLEASE CONSULT COMPLETE PRODUCT INFORMATION, A SUMMARY OF WHICH FOLLOWS:

DESCRIPTION

The **TechneScan PYP** reaction vial contains all of the non-radioactive reagents required to prepare a sterile, non-pyrogenic solution of Technetium Tc 99m Stannous Pyrophosphate (**TechneScan PYP Tc 99m**) for intravenous injection.

Each 10-milliliter reaction vial contains a total of 15.4 milligrams of stannous pyrophosphate in the lyophilized state in a nitrogen gas atmosphere. The pH of the solution is adjusted with hydrochloric acid prior to lyophilization.

ACTION

When injected intravenously, **TechneScan PYP Tc 99m** has a specific affinity for areas of altered osteogenesis.

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

INDICATIONS

TechneScan PYP Tc 99m 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 **TechneScan PYP Kit** must be maintained at refrigerator temperature until use.

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

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

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

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

PRECAUTIONS

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

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 **TechneScan PYP Tc 99m** is 5 to 15 millicuries (1 to 14 milligrams of stannous pyrophosphate).

TechneScan PYP Tc 99m is injected intravenously over a 10- to 20-second period. For optimal results, bone imaging should be done 1 to 6 hours following administration.

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

DIRECTIONS FOR PREPARATION

Procedural Precautions

All transfer and vial stopper entries must be done using aseptic techniques.

Procedure:

1. A reaction vial is removed from the refrigerator and approximately five (5) minutes are allowed for the contents to come to room temperature.
2. Affix "Caution—Radioactive Material" label to boxed area of reaction vial label.
3. Sodium pertechnetate Tc-99m solution (1 to 10 milliliters) is added to the **TechneScan PYP** reaction vial. In choosing the amount of technetium-99m radioactivity to be used in the preparation of the **TechneScan PYP Tc 99m** (Technetium Tc 99m Stannous Pyrophosphate), the labeling efficiency, number of patients, administered radioactive dose, and radioactive decay must be taken into account. The recommended maximum amount of technetium-99m to be added to the **TechneScan PYP** reaction vial is 100 millicuries.
4. Shake the reaction vial sufficiently to bring the lyophilized material into solution. Allow to stand for five (5) minutes at room temperature.
5. Using proper shielding, the reaction vial should be visually inspected. The resulting solution should be clear and free of particulate matter. If not, the reaction vial should not be used.
6. Calculate the radioactivity concentration of the **TechneScan PYP Tc 99m** and fill in the appropriate information on the string tag.

HOW SUPPLIED

Catalog Number—094 **TechneScan PYP Kit**

Kit Contains:

- 5—Stannous Pyrophosphate Reaction Vials (Lyophilized) for the preparation of Technetium Tc 99m Stannous Pyrophosphate.
- 5—Pressure-sensitive "Caution—Radioactive Material" labels.
- 5—Radioassay Information String Tags.

Reaction Vial Contains:

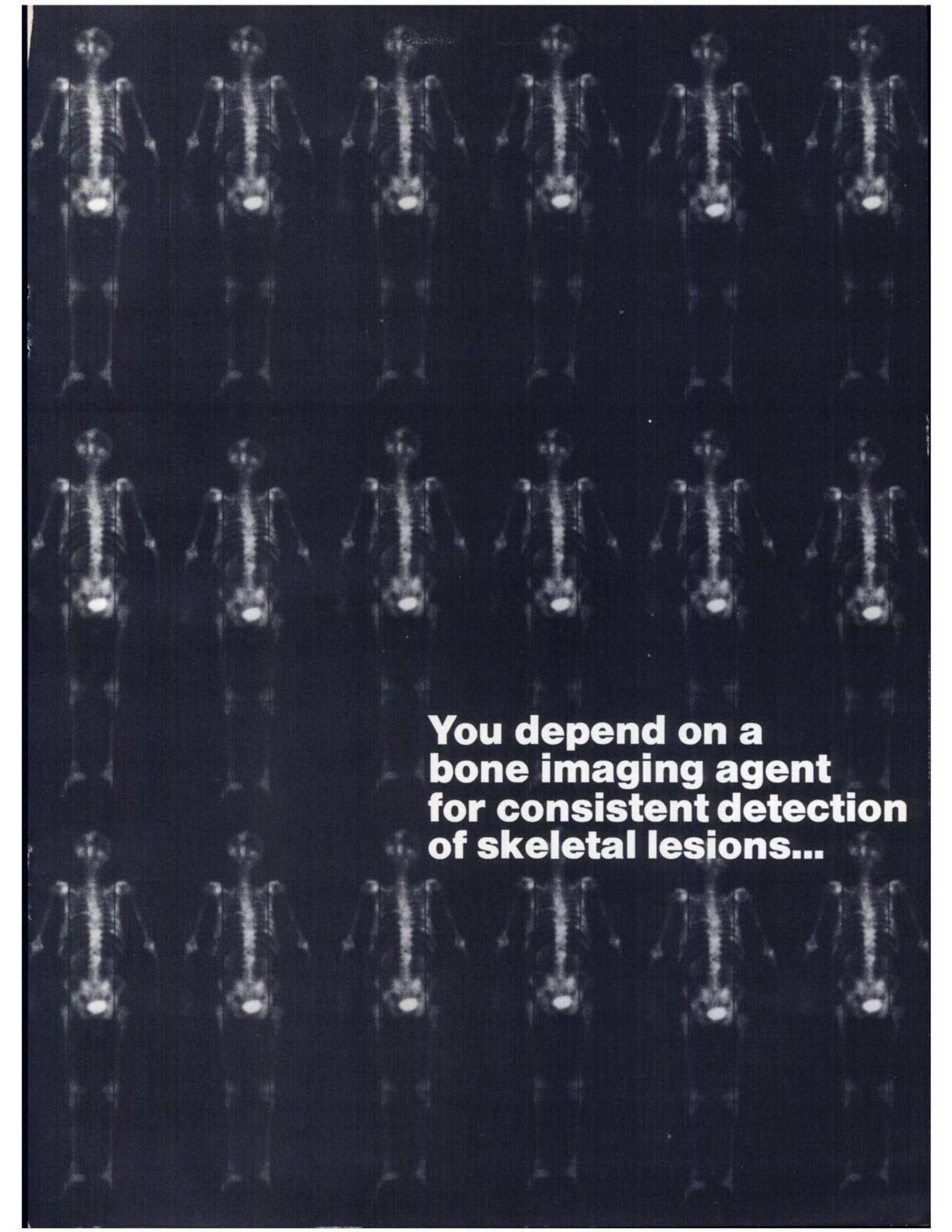
- 15.4 mg Sterile Stannous Pyrophosphate (Lyophilized). Hydrochloric acid is added for pH adjustment prior to lyophilization.

TechneScan®
PYP™ KIT

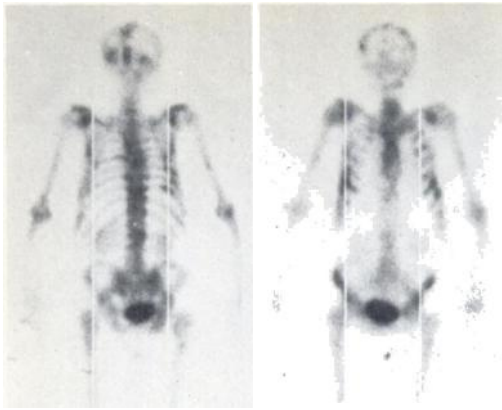
(STANNOUS PYROPHOSPHATE)



Mallinckrodt, Inc.
675 Brown Road
Hazelwood, Missouri 63042

The image features a dark background with a grid of 18 human skeletal scans, arranged in 3 rows and 6 columns. Each scan shows a full-body view of a human skeleton, with a bright, glowing area in the lower abdominal region, likely representing a skeletal lesion. The scans are consistent in appearance, suggesting a reliable detection method.

**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
^{99m}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



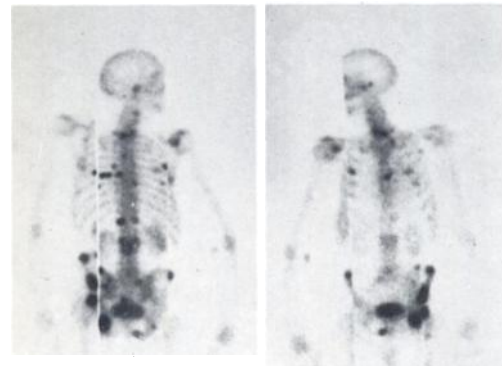
L POSTERIOR R R ANTERIOR L

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

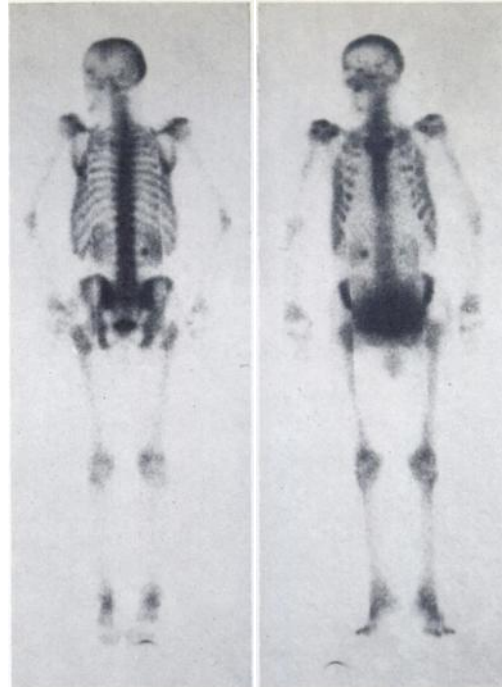
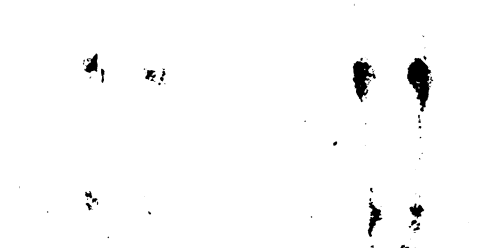
- P-C-P molecular bonding assures excellent in vivo stability—to minimize soft tissue uptake.
- Dry mix diphosphonate formulation reduces potential for hydrolysis.
- Formulated to produce consistently high tagging efficiency.

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
^{99m}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



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

Imaging Agent:
15 mCi
^{99m}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.

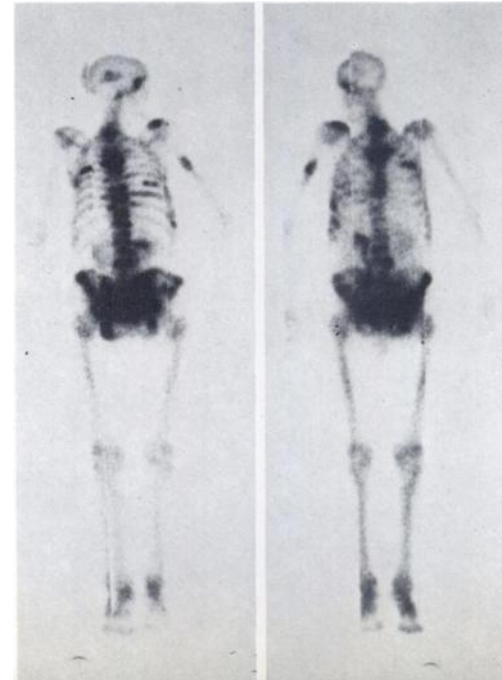
PROCTER & GAMBLE

OSTEOSCAN®

(5.9 mg disodium etidronate
0.16 mg stannous chloride)

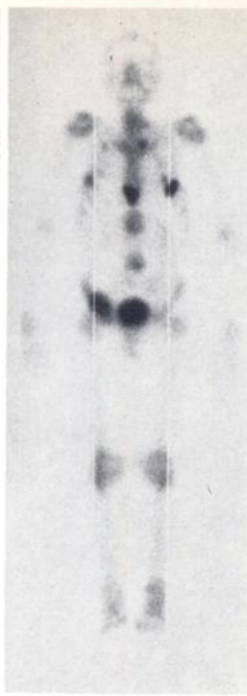
SKELETAL IMAGING AGENT

L POSTERIOR R R ANTERIOR L



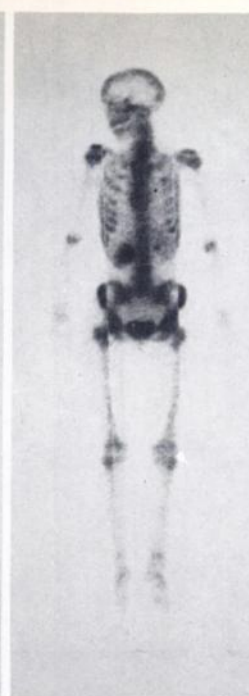
A 79-year-old male with known prostatic carcinoma metastatic to bone. Multiple lesions are seen throughout skeletal system.

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



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

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



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

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

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

L POSTERIOR R

R ANTERIOR L



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

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

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

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

DESCRIPTION

Each vial of OSTEOSCAN contains 5.9 mg disodium etidronate and 0.16 mg stannous chloride as active ingredients. Upon addition of ADDITIVE-FREE ^{99m}Tc -pertechnetate, these ingredients combine with ^{99m}Tc to form a stable soluble complex.

ACTIONS (CLINICAL PHARMACOLOGY)

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

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

INDICATIONS

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

CONTRAINDICATIONS

None.

WARNINGS

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

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

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

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

PRECAUTIONS

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

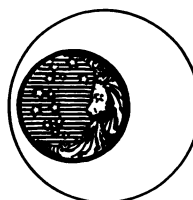
As in the use of any other radioactive material, care should be taken to insure minimum radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to occupational workers.

ADVERSE REACTIONS

None.

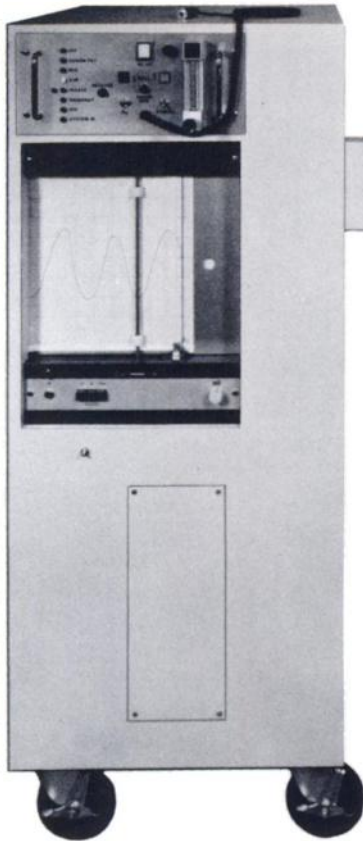
DOSAGE AND ADMINISTRATION

The recommended adult dose of ^{99m}Tc -labeled OSTEOSCAN is 1 ml with a total activity range of 10-15 mCi. ^{99m}Tc -labeled OSTEOSCAN should be given intravenously by slow injection over a period of 30 seconds within three (3) hours after its preparation. Optimum scanning time is 3-4 hours postinjection. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.



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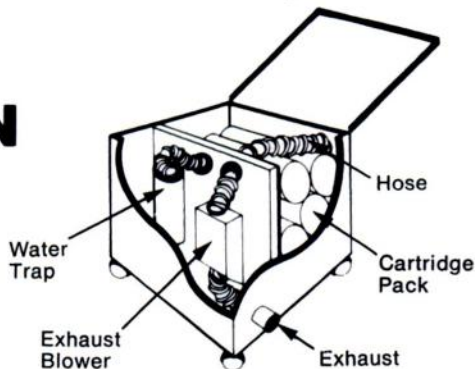
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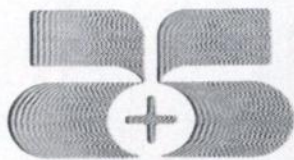
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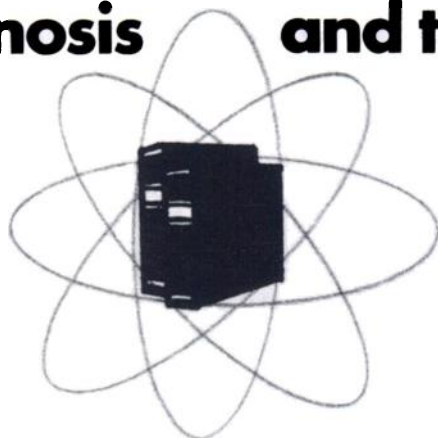
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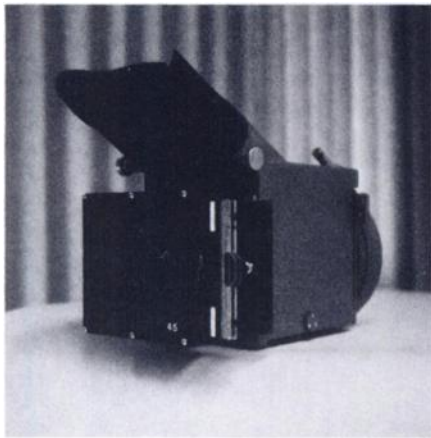
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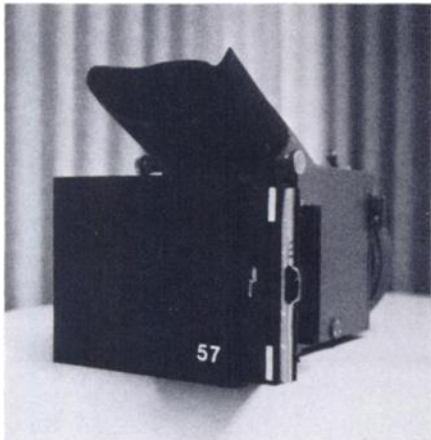
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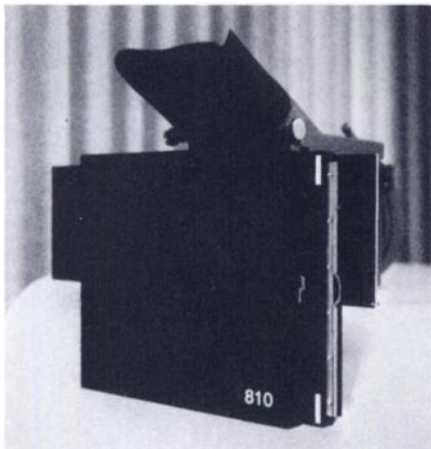
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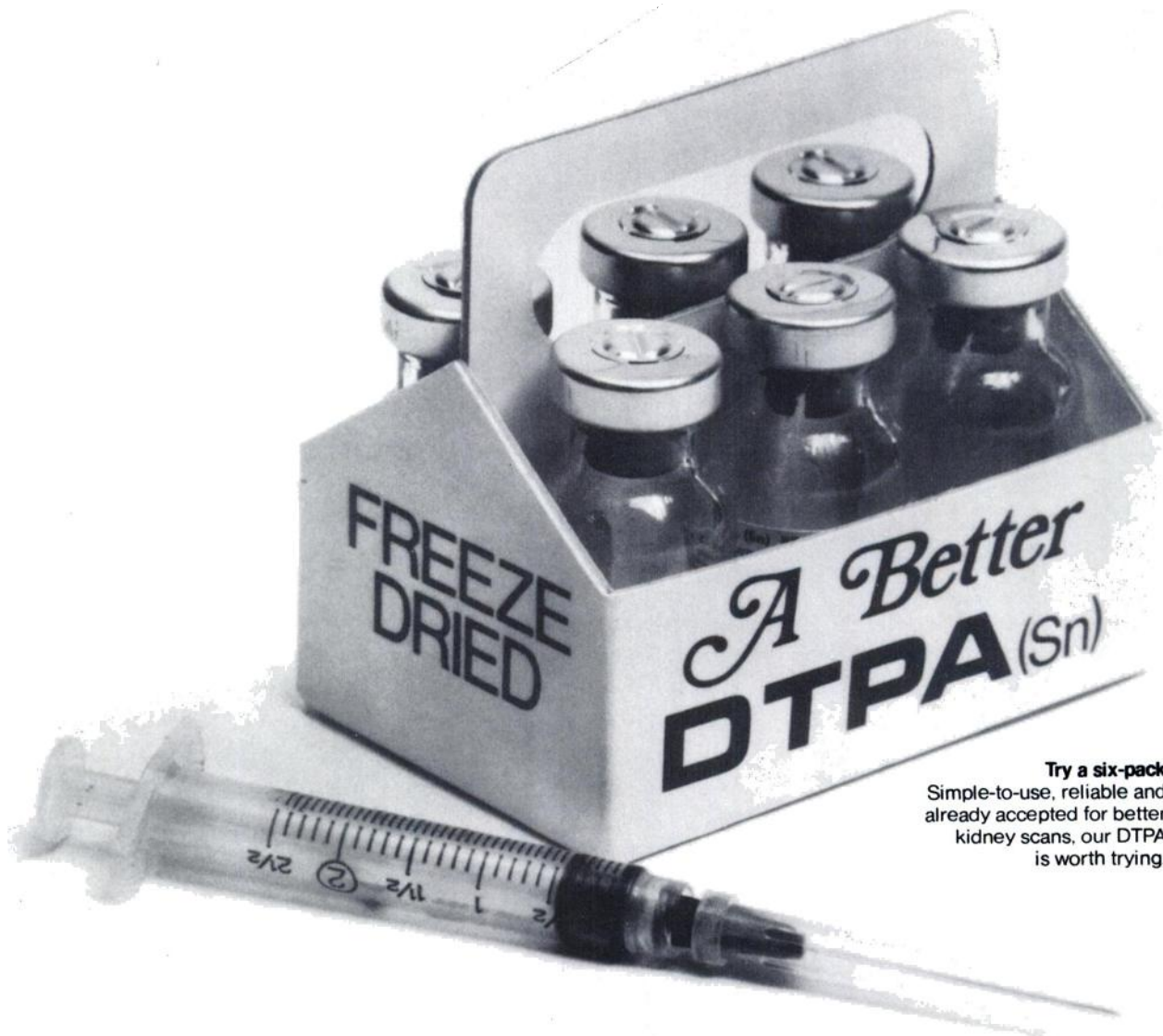
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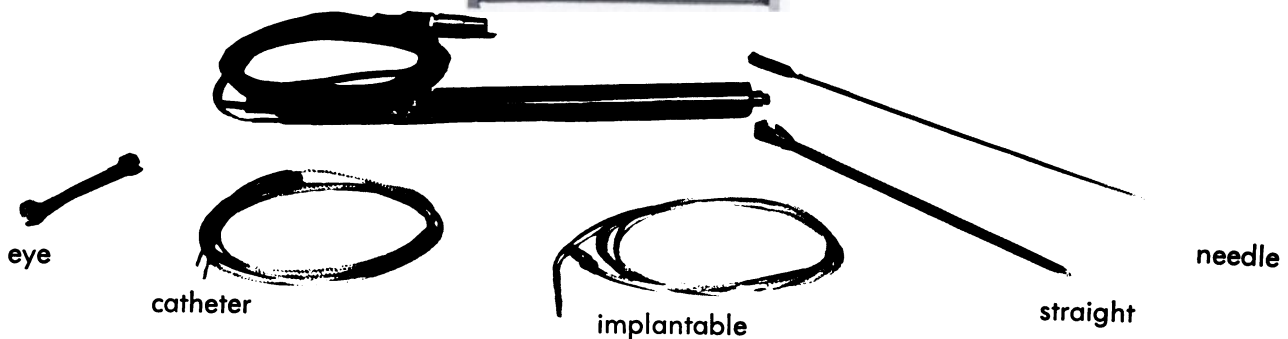
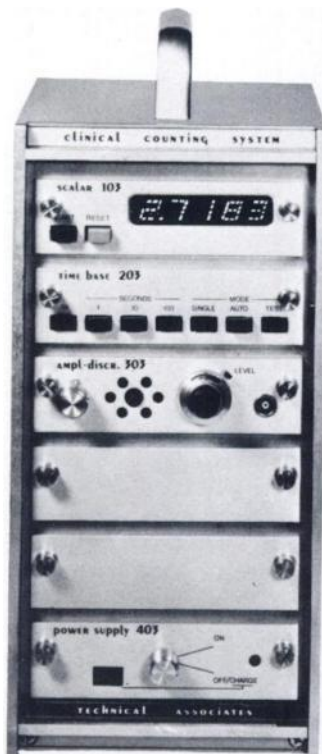


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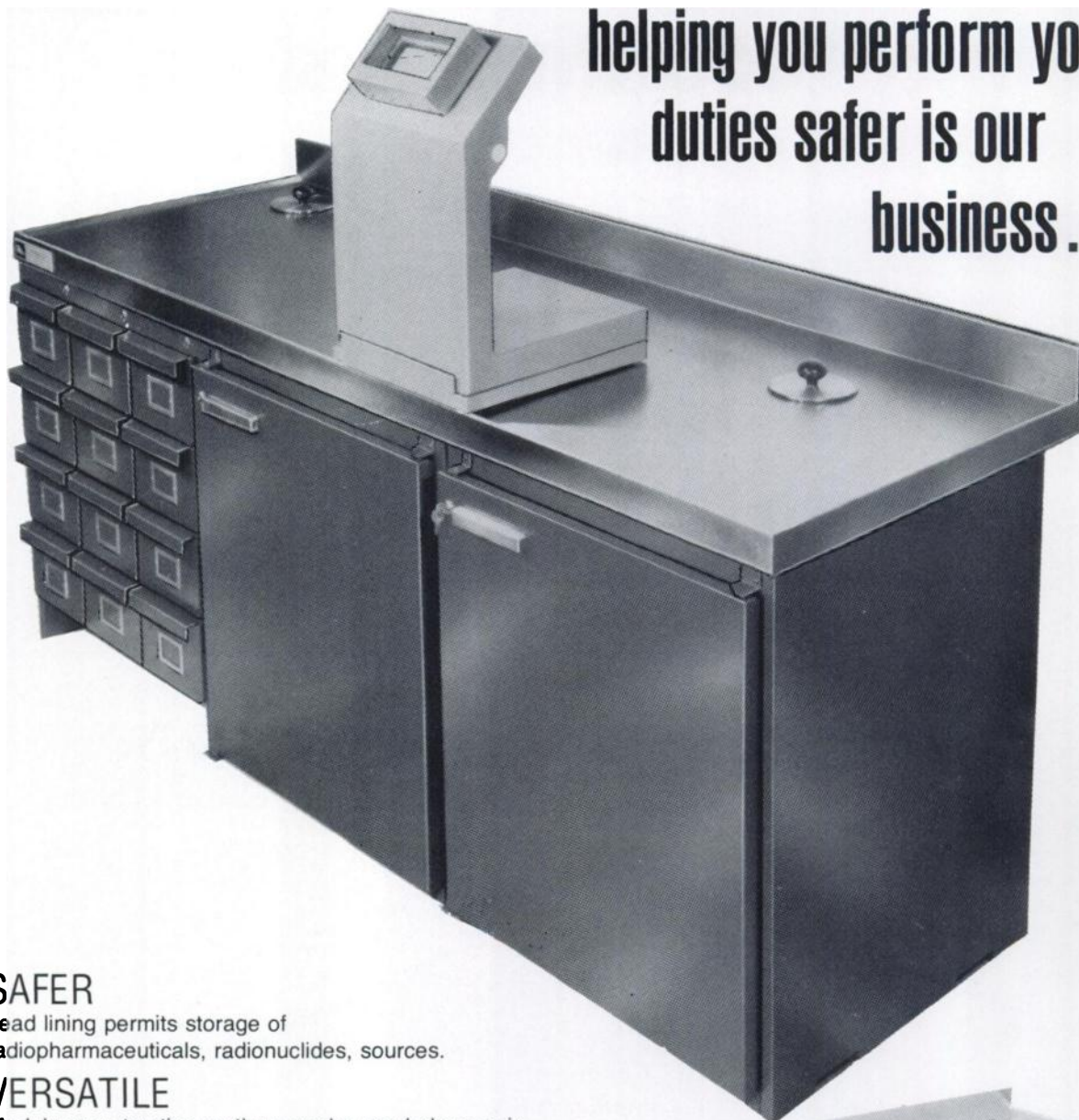


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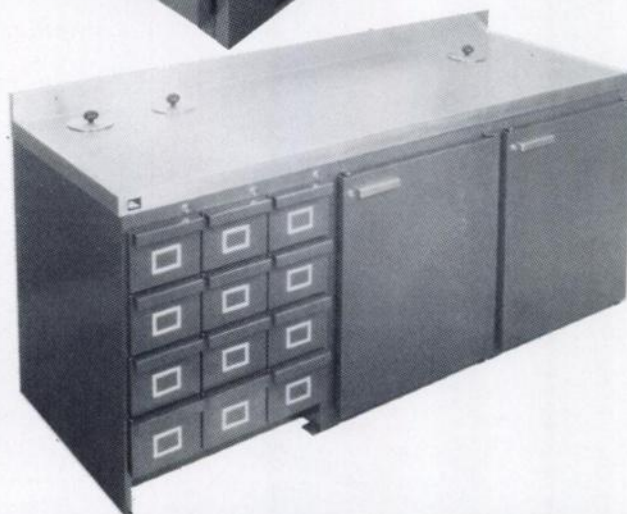
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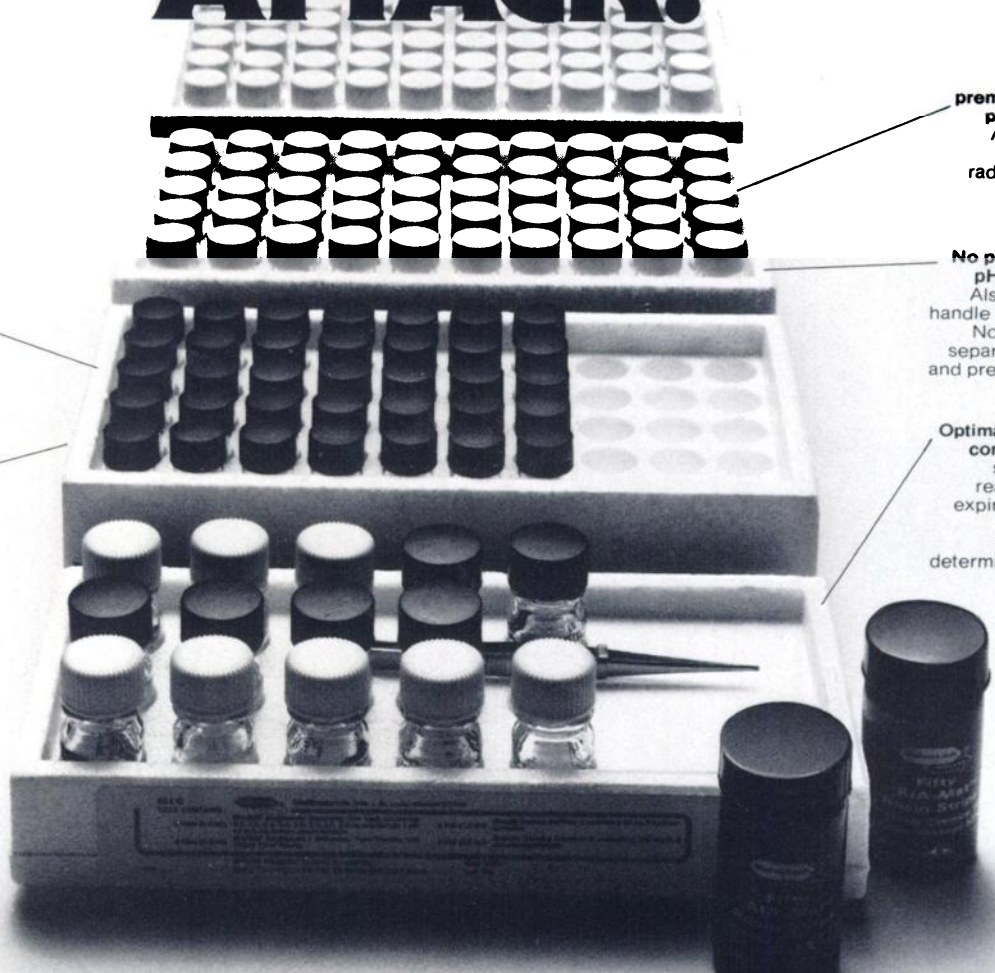
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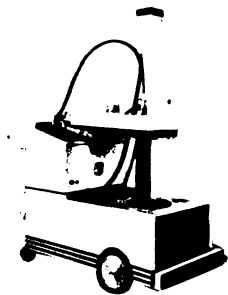
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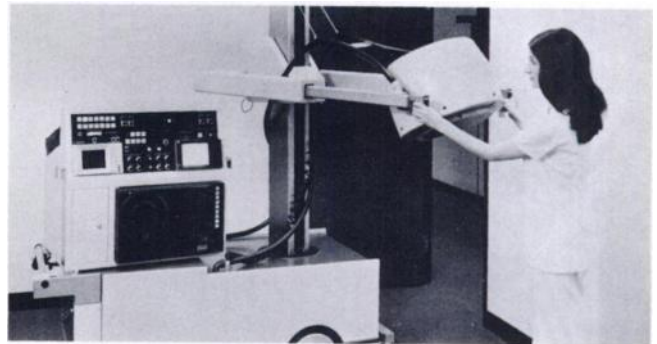
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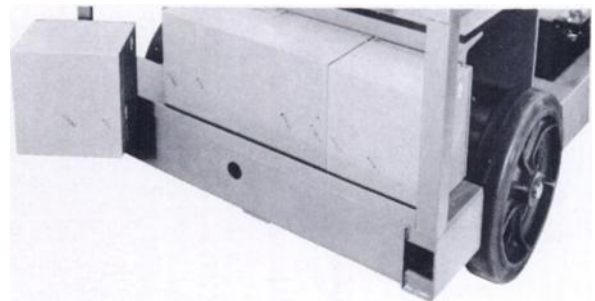
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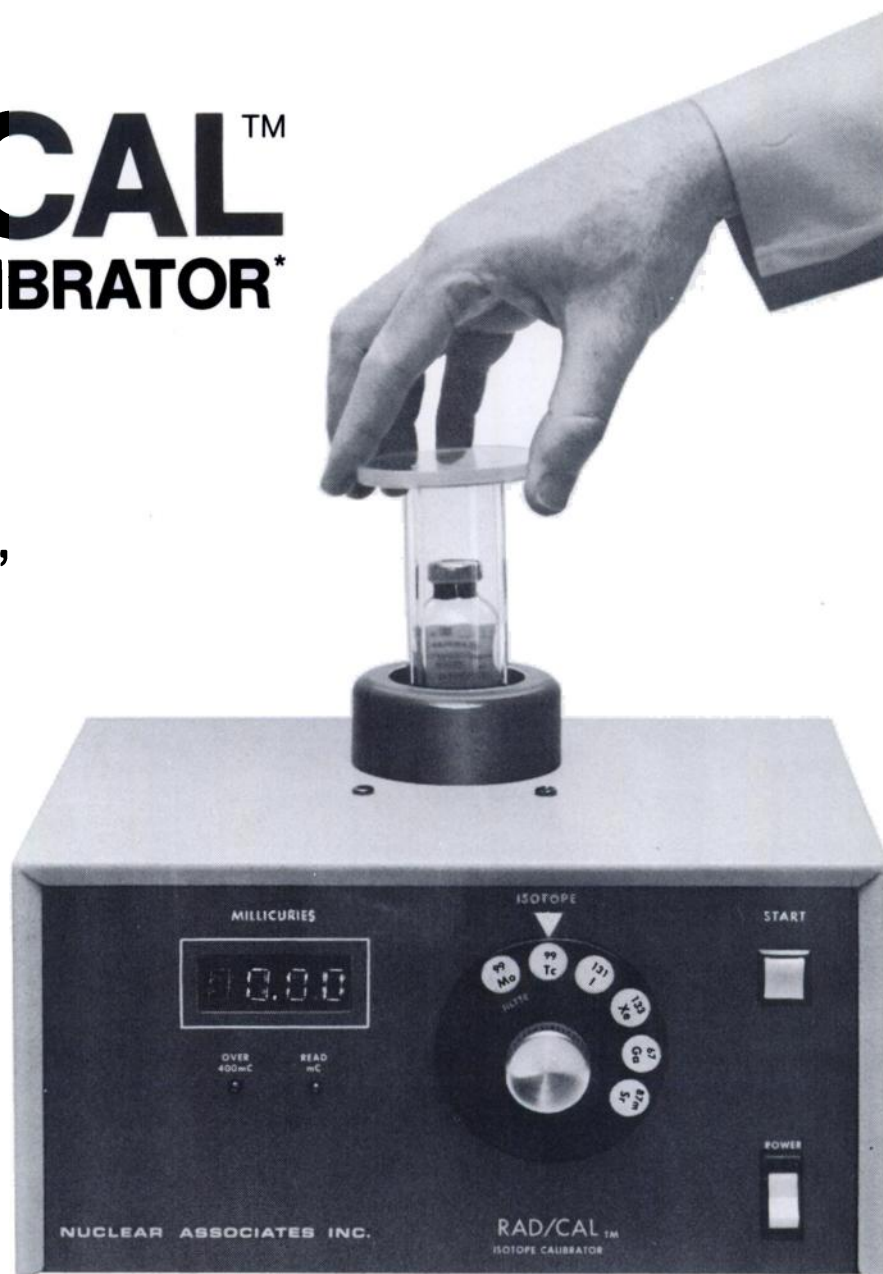
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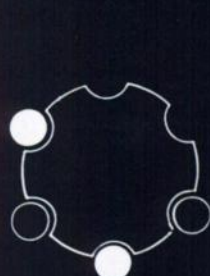
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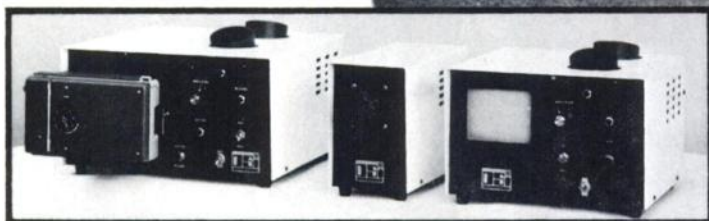
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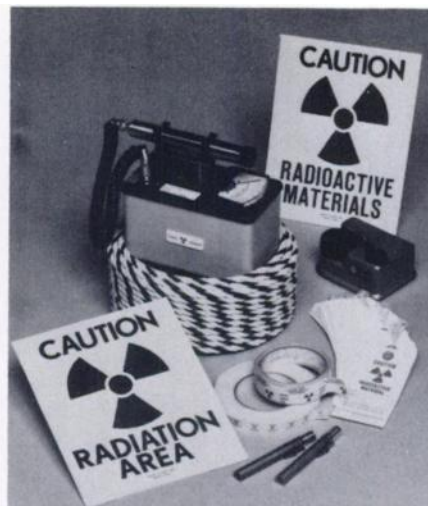
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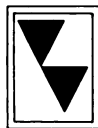
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(Complete list of procedures and prices available on request.)

* These assays are run daily. All others are run three times a week, except progesterone and testosterone, which are run weekly.



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A fully licensed reference laboratory specializing in radioimmunoassay and other radioisotope procedures.

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



RAO, DIASTOLE



RAO, SYSTOLE



LAO, DIASTOLE

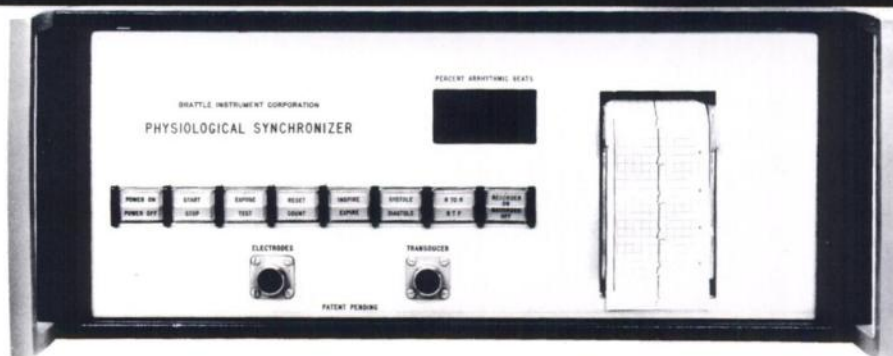


LAO, SYSTOLE

The RAO view shows akinesis of the lower antero-lateral wall and apex; and contraction of the inferior wall and high up the antero-lateral wall. The LAO view shows good contrac-

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

England Nuclear Electrolysis Kit for labelling HSA. Write or call for a portfolio of Brattle-gated lung, liver and heart studies.



No knobs, no meters, no errors

The spartan panel above tells the second-best part of our story. If you want to photograph peak systole, press the SYSTOLE button. If, say, you want systole only at full expiration, press the EXPIRATION button as well. If only breathing is relevant, don't press the heart button.

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

Brattles lock onto patients — and stay locked on

It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator be-

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.

A single pair of axillary electrodes captures both heart and breath

It's easy. And we supply disposable, pre-filled electrodes.

Some Brattles have been in clinical use for over three years — in community and major hospitals

More than half of our instruments are in community hospitals and the list is growing rapidly. Upon request, we'll supply names of happy users in your area.

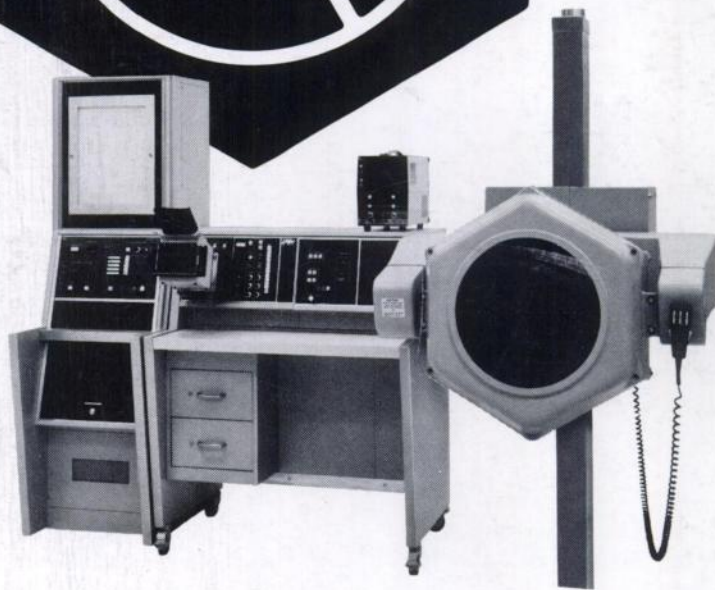
What's the next step? Get in touch

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

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