

ELUTEK™ TECHNETIUM Tc 99m GENERATOR

A New Addition to Abbott's Radio-Pharmaceutical Products Line

Performance

Built-in 500 ml. saline supply provides 15 to 16 milkings per week.

You have clear, clean eluate from first use. Highly concentrated serial elutions can be made daily.

Low aluminum levels. A special process reduces aluminum levels to make them all but undetectable by normal lab methods. Less trace impurities permit wide diagnostic usage.

Safety

At least **1½ inches of lead** lines generator column. Quick milking time lessens exposure.

See-Thru Elution Shield further reduces radiation exposure and simplifies milking. Volume can be measured without lifting vial from elution shield. (Shield is available with first generator.)

Transparent Needle Guard protects fingers.

Convenience

Compact, pre-assembled, and ready to use. Attach needle and you're ready to elute. Saline solution is an integral part of the generator.

Storage compartment on top contains six 30-ml. elution vials, needles, labels, and instructions.

Self-align milking port. Place elution shield in port, and both needle and evacuated vial are automatically aligned.

Pushbutton Elution. Press down to open valve, and a slight turn locks it for automatic elution.

Automatic Disposal Service. Used generators are no longer a problem. Abbott's Elutek service program helps you dispose of them quickly and easily.

Molybdenum and Technetium-99 Decay tables are on front label—can be seen at a glance.

Carrying Handles add to convenience—help you avoid mishaps.

303427

TM—Trademark

Abbott Laboratories
Radio-Pharmaceutical Products Division
North Chicago, IL60064



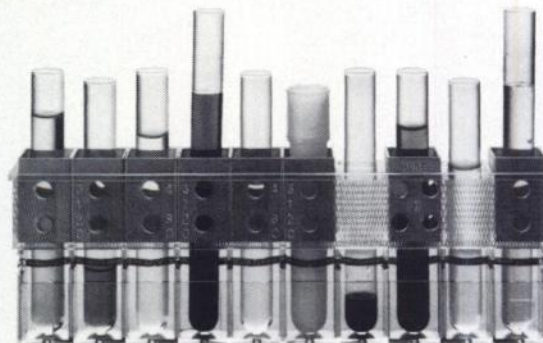
GammaSet 500

More than just a sample changer A programmable multi-user system



The Raytheon/ICN GammaSet 500 adds a major new dimension to automatic gamma counters: The unique Programmable Sample Cassette. Each 10-sample cassette can be easily programmed for automatic selection of counting parameters and user identification. The cassette can be coded for preset time, preset count, background subtract, and isotope selection on the 4-mode, dual scaler. The cassette concept also makes system loading and unloading considerably faster.

And there are other key reasons why the GammaSet 500 is more than just a sample changer: *Contamination-proof "Set and Forget" Operation.* Sample counting/changing operation — including shut-off — is completely automatic and under full protection of the transparent cover. The foldaway electronics drawer, when closed, keeps controls from being changed accidentally. Data is recorded by printing lister, teletypewriter or punched paper tape.



Multi-User Capability. Rapid loading, 500 sample capacity accommodates many different users with various test requirements. Cassettes can be loaded in random order and interrupted at any time for manual counting.

In virtually any gamma counting application the GammaSet 500 will give new operating convenience, versatility and economy. For full details, write Raytheon Company, Medical Electronics, 40 Second Avenue, Waltham, Mass. 02154. (617) 890-3240.

RAYTHEON

Electrolysis Kit for Labeling Human Serum Albumin with ^{99m}Tc



Contents:

- 1 sterile reaction vial
 - 1 sterile zirconium electrode assembly
 - 1 sterile syringe containing buffer solution
- Human serum albumin not supplied.
Power supply available from NEN.

NEN 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,
Telex: 05-821808
Europe: NEN Chemicals GmbH, D6072 Dreieichenhain,
Siemensstrasse 1, Germany. Tel: Langen (06103) 8353

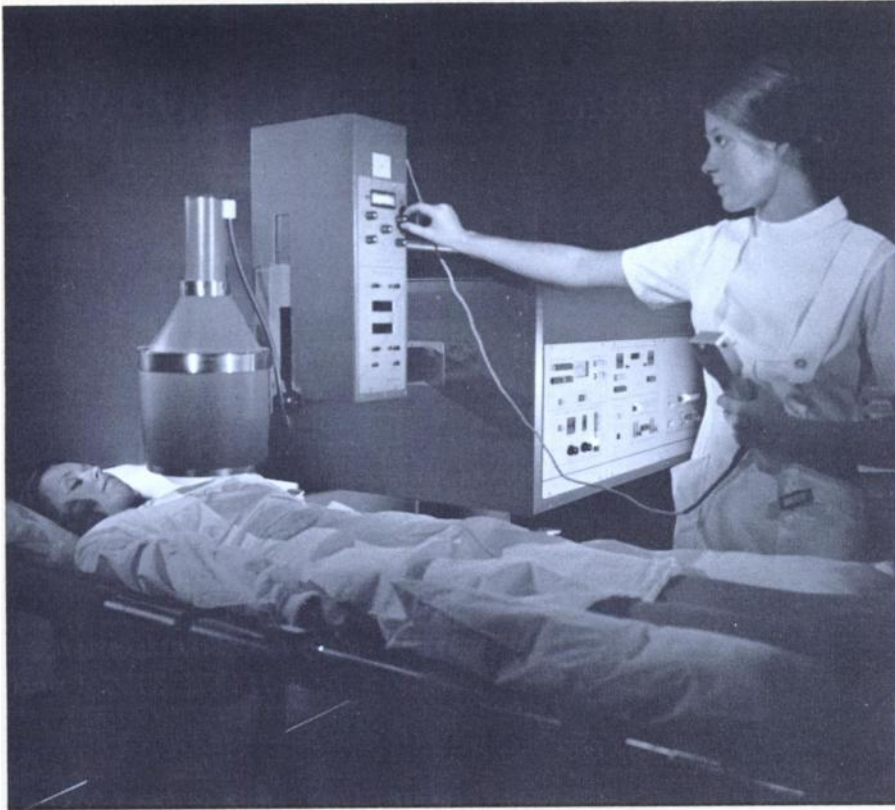
Further information requested.
Please send to the following address:

Name _____

Affiliation _____

Address _____

Zip _____



Single probe scanner automatically delivers diagnostic information

A combination of automatic features, preset with simple push button and thumbwheel controls, facilitates operation of General Electric's single probe digital scanner; thus provides less opportunity for technic errors.

Scanning speed is controlled and displayed automatically at the panel meter after desired line spacing and information density settings have been selected and the hot spot located. And, speed can be adjusted manually, if desired.

Other automatic features include: film exposure slit length changes

with line spacing to prevent scan gaps or overlaps; scalloping corrections to align the photoscan display; and, photorecording density settings between preset minimum/maximum values.

The GE single probe scanner also provides a built-in scaler; push button probe positioning; easy-to-read light-emitting diodes; and four collimators as standard equipment.

Scan information is available three ways: standard format includes mechanical dot and photorecording. GE's electronic color Videodisplay and Processing Unit is optional.



Videodisplay Processor extends the diagnostic value of any scanner or nuclear camera. Permits viewing and quantification of patient count information, in black and white or fully functional color. Images are displayed on a video monitor; can be manipulated long after the patient leaves the department to enhance desired details; aid interpretation and diagnosis. Information remains stored in the VDP's electronic memory, for further manipulations, until erased. Enhanced VDP data may be played back to the detector and recorded on 14 x 17 inch film. Scans can be recorded on cassette tape as well as on photographic film; count information from any scanner or camera can be transmitted to a VDP unit over regular telephone lines.



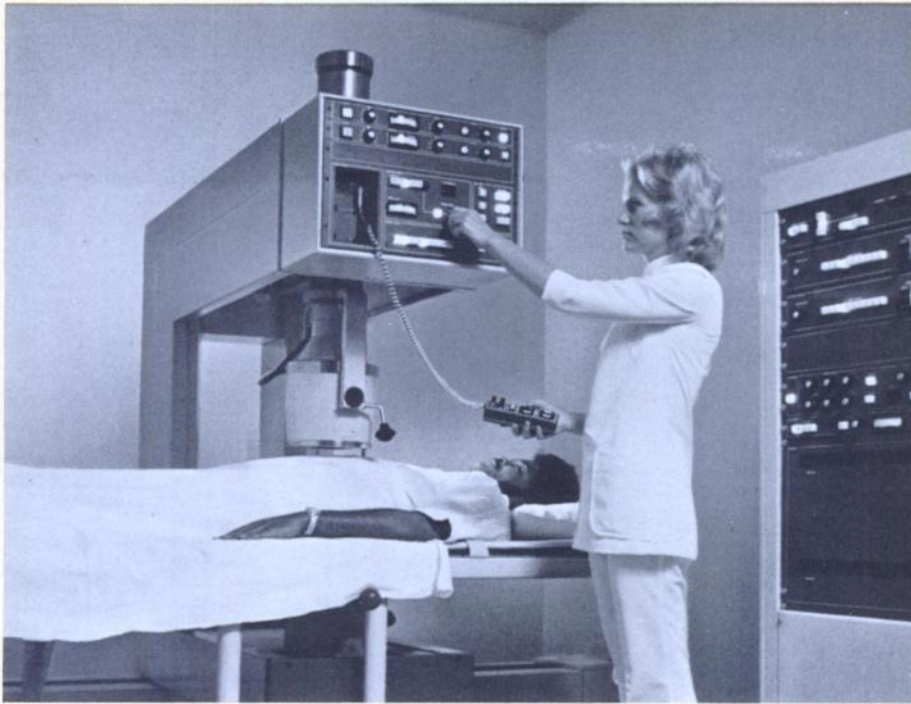
The complete nuclear laboratory. The Nuclear Medicine Accessories & Non-imaging Instrumentation catalog by General Electric offers a complete product listing for the nuclear laboratory.

The featured instrument systems are, for the most part, unique in their ability to provide versatile yet functional diagnostic tools.

In addition to a full line of diagnostic instrument systems, the catalog describes protective equipment, film processors and illuminators, phantoms, tables and other nuclear supplies.

This free catalog and specific product information is available by contacting your GE Medical Systems representative.

information compendium



Scan the whole body or a single organ with equal ease

The value is well established for viewing a full-size nuclear scan of a single organ on 14 x 17 inch film. Yet it's equally easy to scan any patient's entire body and minify the image to fit the same size film, using General Electric's Maxiscan Whole Body Digital Scanner.

The unit's two probes and three scanning directions provide maximum patient count information with minimum technic error and reduced set up time.

Skeletal surveys, for any size patient, can be conducted within a travel range of 2 feet wide by 6 feet 8 inches long. This permits the location and diagnosis of bone metastases beyond a specific organ, without a series of small area scans; such as, prior to radical mastectomy procedures.

In addition to whole body scans, Maxiscan performs local area studies too, all with minimum patient movement. The scanner's two probes and three scanning directions cover the entire lung, top and bottom, without turning the patient. The top probe angulates 270° and has a powered 12 inch vertical

travel. With optional vertical plane scanning, the patient can be seated upright; also, vertex views of the brain can be accomplished with the patient reclining normally.

Rotating switch settings permit selection of full size scans or mini-fications of 2:1, 3:1, 4:1 and 5:1. This versatility, plus push button quadrant placement controls, precisely segments four different scans on a single 14 x 17 inch film, with no image overlap.

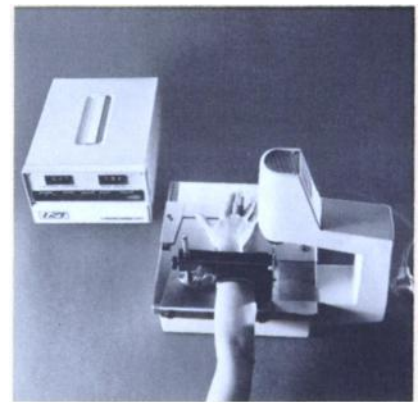
Maxiscan controls are sequentially arranged to minimize the operator's back and forth movement between the electronics console and the gantry. Also, a number of automatic features are controlled with push button and dial settings. For example: scanning speed. After desired line spacing and information density settings have been selected and the hot spot located, scanning speed for the procedure is automatically displayed; no charts, graphs or calculations.

To view and quantify scans in black and white or color, Maxiscan can be combined with GE's Videodisplay and Processing Unit.

Non-invasive technic for diagnosing bone diseases

Gradual decreases in the amount and strength of bone tissue, caused by osteoporosis and other metabolic bone diseases, can now be identified before serious complications set in.

This simple, non-invasive diagnostic unit, available from General Electric, measures changes and losses in bone mineral content and bone width. This permits quantitative assessment of skeletal integrity. Ideal for serial studies to determine therapeutic progress.



The Bone Mineral Analyzer includes a scanner, which automatically transports a closely collimated beam of mono-energetic gamma rays (^{125}I) across the limb in a programmed pattern. The generated data is transmitted to a mini-computer which calculates the mineral content and bone width; displays measurements in digital read-outs. This data can be related to normal and specific patient populations.

The system is compact, readily portable and easy to operate. The radioisotope used can be purchased from General Electric.

General Electric Medical Systems, Milwaukee and Toronto.
In Europe, Elscint GmbH, Wiesbaden;
Elscint France SARL, Buc.

ELUGENATOR®

Indium-113 m-Generator

easy — rapid — safe —
only 5 ml eluatvolume —
high activity concentrations
of 20-40 mCi/ml



For further information and service please contact the Farbwerke Hoechst AG subsidiary in your country

"Wow! Almost 300 T-4's ordered for this shift and I'm the only one available for T-4 assays."



USING A SLOW RADIOACTIVE T-4 TEST?

TETRA COUNT is a rapid T-4 by CPB test. A single Tetra-Count assay, including the standards, can be performed in 20 minutes, 65 assays in under two hours and 150 assays in less than four hours. One technologist can perform up to 300 Tetra-Count assays in a single shift by using the recommended automatic pipets and samplers. □ How is this speed accomplished? By limiting the number and complexity of the manipulations. Tetra-Count has only 3 steps. None involve critical timing, temperature control or alcohol extraction. Tetra-Count gets your assays out the

"Done! Tetra-Count really makes it easy to get the T-4 assays out the door."

door fast — and with accuracy and sensitivity. □ The Tetra-Count assay system is linear from 1.5 to 15 μg thyroxine/100 ml. This range is large enough to allow direct reporting, without calculation, of samples ranging from clear cut hypothyroidism to obvious hyperthyroidism. For precision, Tetra-Count in the hands of most technologists can be expected to yield a coefficient of variation of less than 4%. □ Running T-3 and T-4 together? The designs of Bio-Rad's Tetra-Count T-4 and Tri-Count® T-3 systems are admirably suited for concurrent assay. Time savings utilizing Tetra-Count or Tri-Count separately are impressive, but the savings are even greater when the systems are integrated. We'll be glad to prove this in your own laboratory with your own samples. Just call Bio-Rad at: (415) 234-4130. Ask for the Bio-Rad T-4 specialist.



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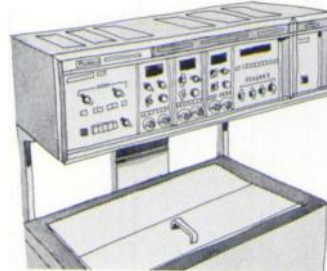
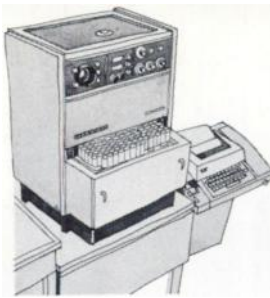
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of three...**

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To match the performance of TRI-GAMMA, it would take three competitive gamma counting systems side by side. TRI-GAMMA is three systems in one. Three independently programmable drawers of 200 samples, each for up to three isotopes, permitting complicated dual testing in the three separate drawers. Its MULTI-USER capability allows separate users to be changing samples or reprogramming any two of the three drawers while TRI-GAMMA is counting the other. To insure daily reliability, TRI-GAMMA has an automatic calibration mode where all spectrometer channels are automatically calibrated for their respective isotopes — in seconds.

Coupled with the speed of its dependable new changer and True Random Access feature,



TRI-GAMMA frees you from the restrictions of the conventional conveyor and its limited "waiting line" configuration. TRI-GAMMA offers you the utmost in sample isotope variety, test tube size, and data output — three of the things you need most. The fourth, reliability, is assured through the use of IC electronics and the elimination of microswitches.

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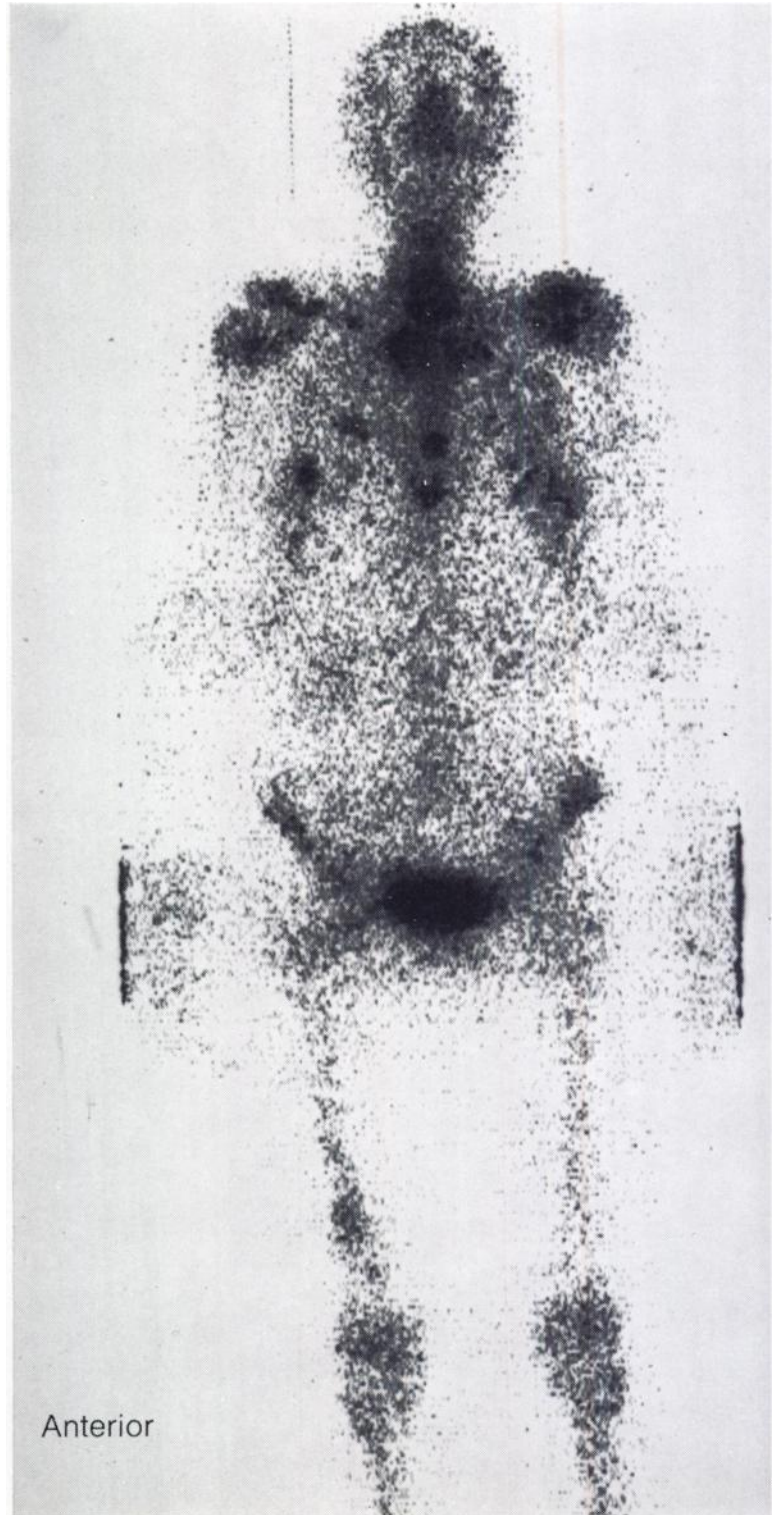
INTRODUCING...

A new diphosphonate bone scanning agent which, when labeled with technetium-99m, produces consistently high-quality bone scans.

OSTEOSCAN

SKELETAL IMAGING AGENT

**Excellent Scan
Quality...
Consistently**



Anterior

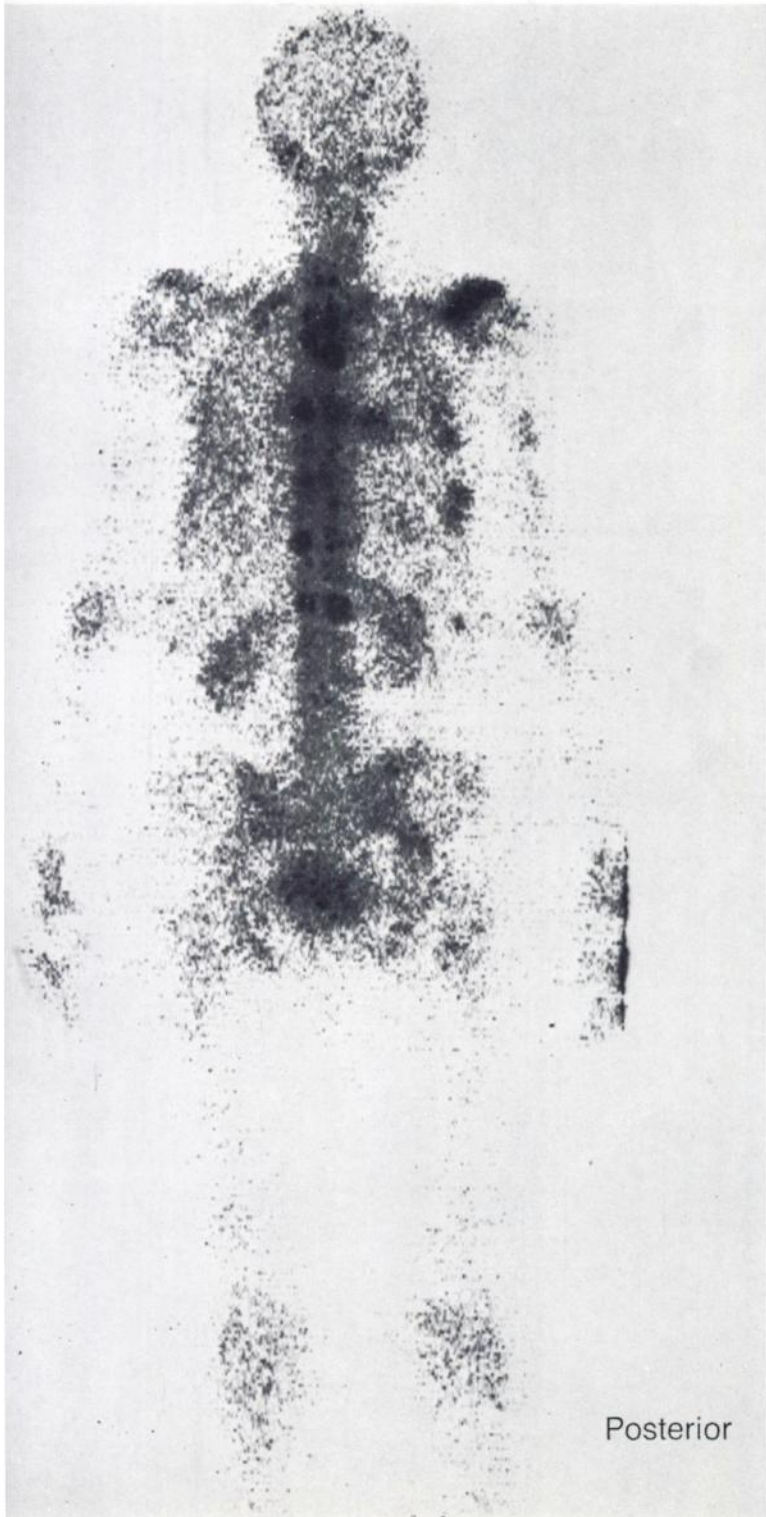


PROCTER & GAMBLE

OSTEOSCAN

(5.9 MG DISODIUM ETIDRONATE
0.16 MG STANNOUS CHLORIDE)

SKELETAL IMAGING AGENT



Posterior

HIGH TARGET TO NON-TARGET RATIO

- Rapid blood clearance
- High bone affinity
- Low soft tissue uptake
- High labeling efficiency
- Dry mix formula
- Stable *in vivo*

SAFETY

- Sterile and pyrogen-free
- Well-tolerated; no contraindications
- Minimal patient radiation exposure

EASE OF USE

- 6-month shelf life at room temperature; no refrigeration required
- Technetium-labeled
- Can be used with either scanner or camera

The use of Osteoscan, when labeled with technetium-99m, is now classified as a well-established diagnostic procedure. Osteoscan is available to properly licensed radiology and nuclear medicine departments.

For product and ordering information, please write:

Procter & Gamble
Professional Services Division
P.O. Box 171
Cincinnati, Ohio 45201

or call:

Mr. Arnold P. Austin
Technical Manager
(513) 977-8547

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.

PHYSICAL CHARACTERISTICS

Technetium-99m decays by isomeric transition with a physical half-life of 6 hours¹. Photons that are useful for imaging studies are listed in Table 1.



PROCTER & GAMBLE

OSTEOSCAN

(5.9 MG DISODIUM ETIDRONATE
0.16 MG STANNOUS CHLORIDE)
SKELETAL IMAGING AGENT

Table I. Principal Radiation Emission Data

Radiation	Mean % / Disintegration	Mean Energy (keV)
M int. con.		
electron, γ -1	98.6	1.7
Gamma-2	88.3	140.5
K int. con.		
electron, γ -2	8.8	119.5
L int. con.		
electron, γ -2	1.1	137.7
Gamma-3	0.03	142.7
K int. con.		
electron, γ -3	0.96	121.7
K α X-rays	6.5	18.4

¹Dillman, L.T., Radionuclide Decay Schemes and Nuclear Parameters for Use in Radiation-Dose Estimation, Supplement No. 2, MIRD pamphlet No. 4, *J. Nucl. Med.*, p.22, 1969. The specific gamma ray constant for ^{99m}Tc is 0.72 R/mCi-hr at 1 cm. The half-value layer is 4 mm of Pb.

To correct for physical decay of this radionuclide, the fractions that remain at selected intervals after the time of calibration are shown in Table II.

Table II. Physical Decay Chart;
 ^{99m}Tc , half-life 6 hours

Hours	Fraction Remaining	Hours	Fraction Remaining
-5	1.779	5	.562
-4	1.587	6	.500
-3	1.414	7	.446
-2	1.260	8	.397
-1	1.122	9	.354
0*	1.000	10	.315
1	.891	11	.281
2	.794	12	.250
3	.707	18	.125
4	.630	24	.063

*Calibration time

RADIATION DOSIMETRY

The estimated absorbed radiation doses¹ to an average patient (70 kg) from an intravenous injection of a maximum dose of 15 millicuries of ^{99m}Tc -labeled OSTEOSCAN are shown in Table III. For comparison, the estimated radiation doses from a maximum dose of 4 millicuries of ^{18}F used as a bone imaging agent are also included.

Table III. Radiation Doses

Tissues	Absorbed Radiation Dose	
	^{99m}Tc -OSTEOSCAN (rads/15 mCi)	^{18}F (rads/4 mCi)
Skeleton*	0.59	0.64
Testes	0.32	0.83
Ovaries	0.33	0.85
Total Body	0.13	0.18
Bladder		
4.8 hour void	8.4	
Bone Marrow	0.14	

*Local dose may be a factor of 10 or more greater.

¹Method of Calculation: A Scheme for Absorbed-Dose Calculations for Biologically Distributed Radionuclides, Supplement No. 1, MIRD pamphlet No. 1, *J. Nucl. Med.*, p.7, 1968.

HOW SUPPLIED

The OSTEOSCAN kit contains five (5) vials. Each vial contains 5.9 mg disodium etidronate and 0.16 mg stannous chloride as active ingredients. The contents of each vial are prepared by appropriate manufacturing procedures to be sterile and pyrogen-free.

PREPARATION FOR USE

The following aseptic procedure should be followed in the preparation of the ^{99m}Tc -labeled OSTEOSCAN skeletal imaging agent: STEP 1.

Remove central metal disc of the OSTEOSCAN vial and swab the top of the vial with alcohol to sterilize the surface of the closure.

STEP 2.

Place the OSTEOSCAN vial in a radiation shield. In a sterile syringe, collect 5 ml of sterile pyrogen-free ^{99m}Tc -pertechnetate from an additive-free ^{99m}Tc -pertechnetate source which has been checked for molybdenum breakthrough. Check the activity of the ^{99m}Tc -pertechnetate to avoid exceeding 50-75 mCi/5 ml. If the activity exceeds this level, dilute with ADDITIVE-FREE sterile saline only such that a 5 ml portion will contain the 50-75 mCi activity.

STEP 3.

Add the ^{99m}Tc -pertechnetate to the vial. After adding the ^{99m}Tc -pertechnetate to the vial, withdraw an equivalent amount of air to equalize the pressure inside the vial to prevent spray contamination. CAUTION: DO NOT USE ^{99m}Tc -PERTECHNETATE WHICH CONTAINS AN OXIDIZING AGENT. INTRODUCTION OF AN OXIDANT MAY RESULT IN A SOLUTION UNSUITABLE FOR SKELETAL IMAGING. Commercial sources of ^{99m}Tc -pertechnetate that have been used in clinical trials with OSTEOSCAN include the New England Nuclear Technetium-99m Generator, the Mallinckrodt Technetium-99m Generator, the Squibb Hi-Con Generator, Medi+Physics Instant Technetium, and Cambridge Nuclear Instant Technetium.

STEP 4.

Shake the vial well for three (3) minutes to assure complete dissolution of the contents. Minimal exposure can be obtained by use of either an ultrasonic agitator or mechanical shaker.

STEP 5.

Record the time and date of preparation and the activity of the ^{99m}Tc -labeled OSTEOSCAN on the radiation shield label contained in the kit and affix this label to the shield.

STEP 6.

Use within three (3) hours of preparation. Discard excess material.





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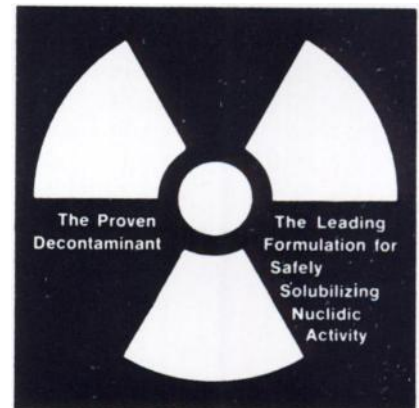
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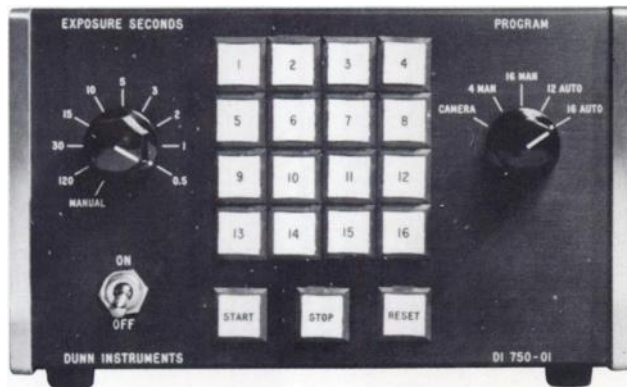
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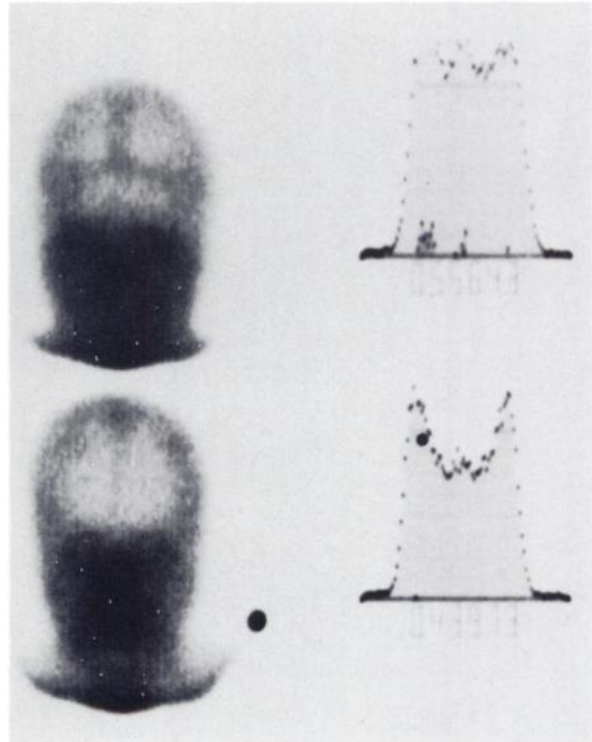
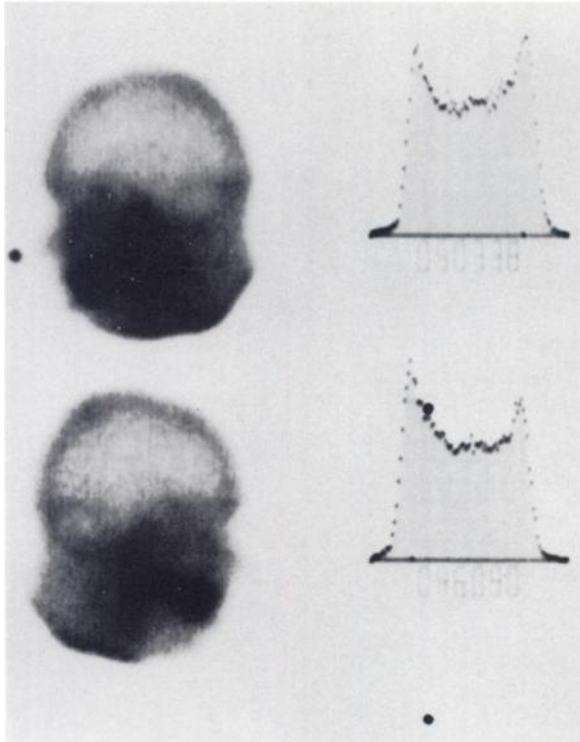
THIS IS THE OTHER HALF
OF THE 750 MULTI-FORMAT SYSTEM.
THE 750-02 X-RAY FILM CAMERA.



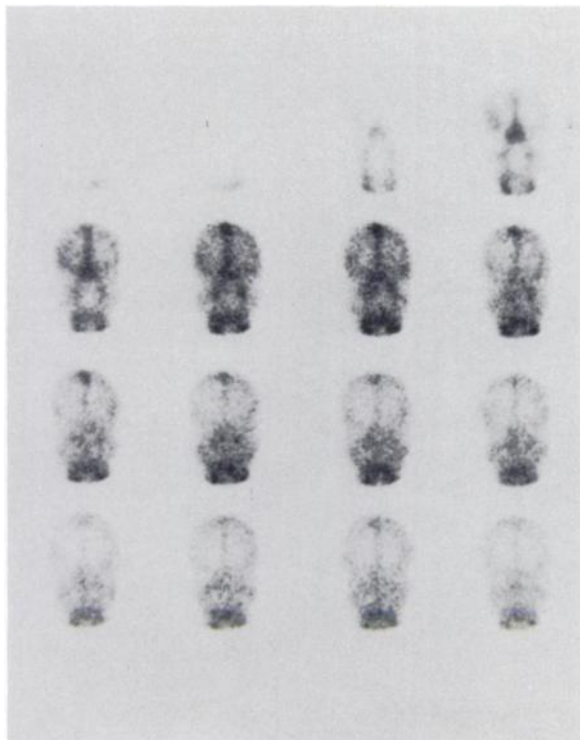
It optically enlarges the image onto 11" x 14" X-ray film. By combining the Programmer and the X-ray Camera, the 750 allows you multiple choice: the choice of image size and the choice of X-ray film. X-ray film has a proven acceptance for organ imaging. It's available in a wide range of contrasts and grey scale latitudes. The large film is easy to view, especially by large groups, and is inexpensive and easy to store. If you already have an X-ray film camera, such as the Nuclear Chicago Photoscope, all you need now is the Electronic Programmer. The two part 750 System will cost you less than \$3,000. And it will pay for itself in six months in film cost savings. Write or call collect for "Economic Justification" and complete details.

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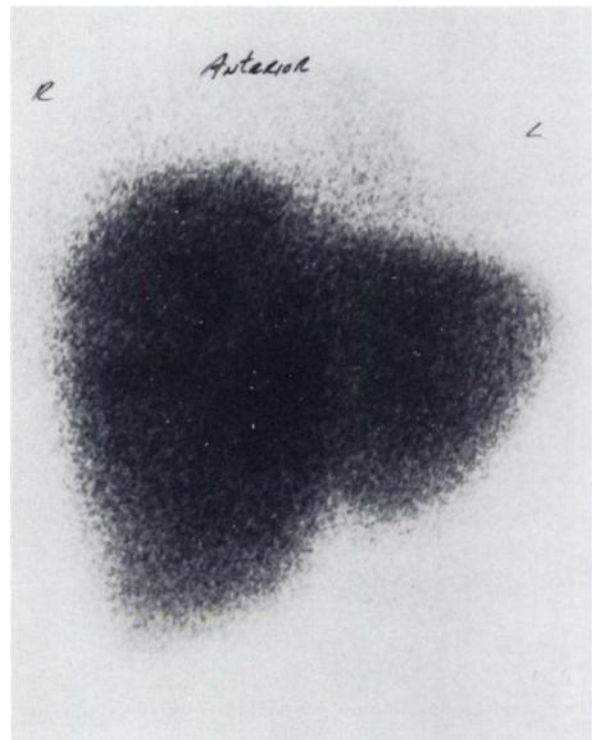
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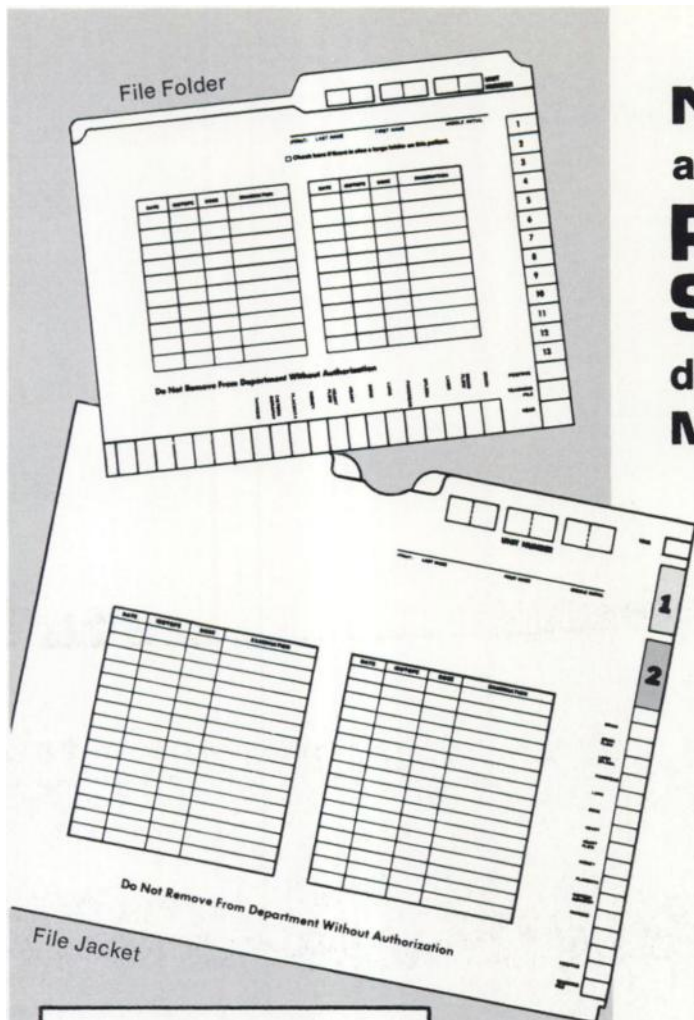
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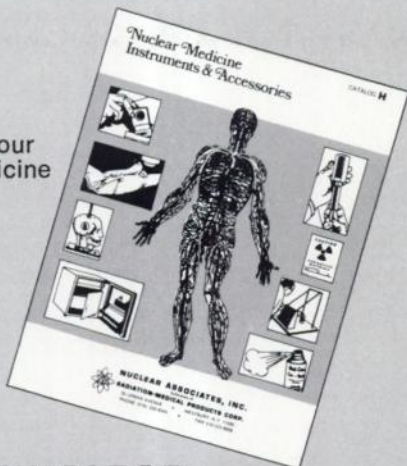
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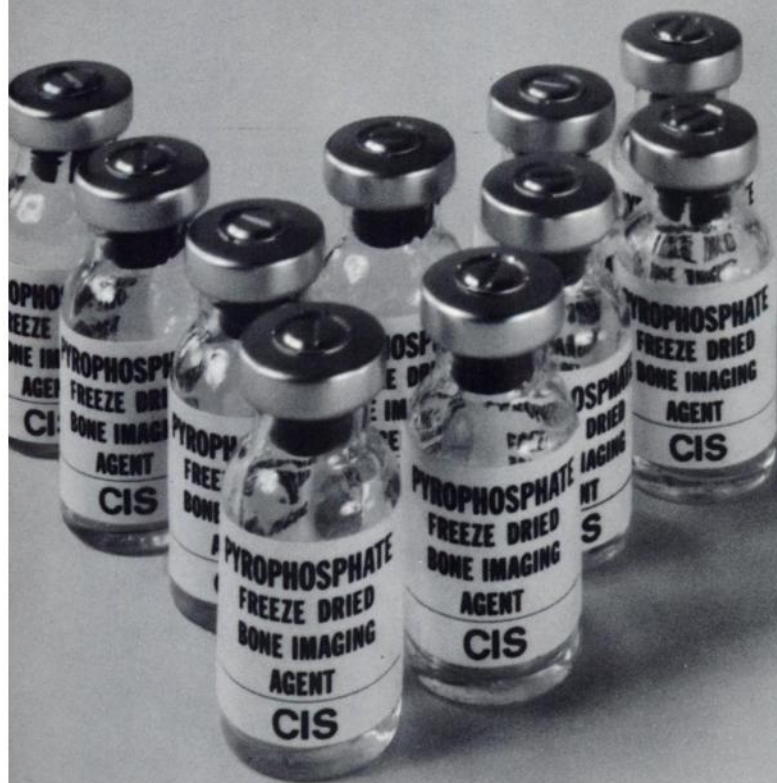


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B. Bock, R. Perez, C. Panneciery and R. DiPaola *J. Nuclear Med.* 14, 380 (1973); R. M. Hopkins, J. M. Creighton and D. R. VanDeripe *Ibid* 409; F. Hosain, P. Hosain, H. N. Wagner, G. L. Dunson and J. S. Stevenson *Ibid* 410; R. Marty and J. D. Denney *Ibid* 423; M. R. McKamey, E. J. Artis and D. D. Hansen *Ibid* 426.



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series 84 – the total scanning system



8416 MEMOSCAN—Tape Replay System

Records scan data on magnetic tape which can be played back to produce additional photorecordings. During playback, changes may (or may not) be made in background erase, intensity, and contrast enhancement to provide a readout different from the original. Regenerations can be made at half-size if desired. Brain phantoms above demonstrate variations from same original scan.



8415 PROBE MOUNTED RATEMETERS

To facilitate set-up and positioning, ratemeters can be mounted on the detector.



INTEGRAL PATIENT COUCH

Standard on all Series 84 Scanners.

NOISELESS CRT DISPLAY

3 x 10-cm storage monitor (which can also be used in non-store mode) displays scan progress without annoying noise.

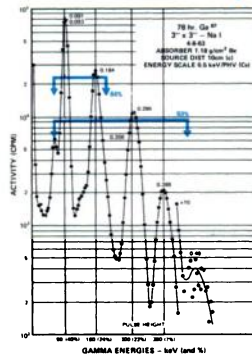
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8409 SCAN MINIFICATION

Whole-body scans on one 14 x 17-inch film. Scan livers, lungs, and brains at a fraction of the time required for 1:1 scanning, using 2:1 or 5:1 reductions with no loss in quality or detail.



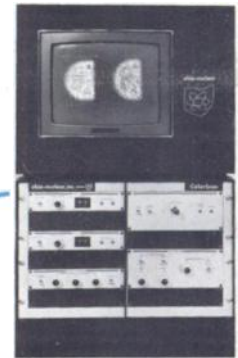
8418 100 keV-1 MeV WINDOW

Switch selectable 100 keV-1 MeV window maximum. Wider window is useful in capturing a higher percentage of the energy emissions from isotopes with multiple photopeaks, i.e. ⁶⁷Ga.

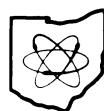
8417 COLORSCAN

—Interactive Video Display

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1. Data on file at the 3M Company and the Bureau of Biologics.

- **Eliminate Interference from "Free" Technetium**

"Free" isotope need no longer interfere with the scan. The unique filter construction of the Microsphere Labeling Vial allows the free isotope to be removed, leaving just labeled microspheres for suspension.



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Currently the expiration date of each kit is 6 months after the date of manufacture. You can stock the kit and have it available for immediate use. Even a department doing a moderate amount of lung imaging can take advantage of quantity discounts.

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Thoroughly tested by 3M, each lot is checked by the Bureau of Biologics, FDA, and approved for shipment. This provides a double-check of sterility, lack of pyrogens, and all the important performance parameters of the kit.

INDICATIONS Scintillation imaging of the lungs with ^{99m}Tc -Labeled Albumin Microspheres is indicated as an adjunct to other diagnostic procedures whenever information about pulmonary circulation is desired.

CONTRAINDICATIONS The safety of Albumin Microspheres in patients with a known right-to-left cardiac shunt has not been established and its use in such patients is contraindicated.

SIDE EFFECTS Although no anaphylactoid reactions have been reported in patients following the administration of Albumin Microspheres, the possibility should be considered that hypersensitivity reactions may occur rarely in patients who receive additional doses of the Microspheres.

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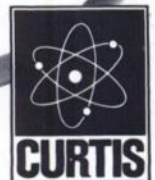
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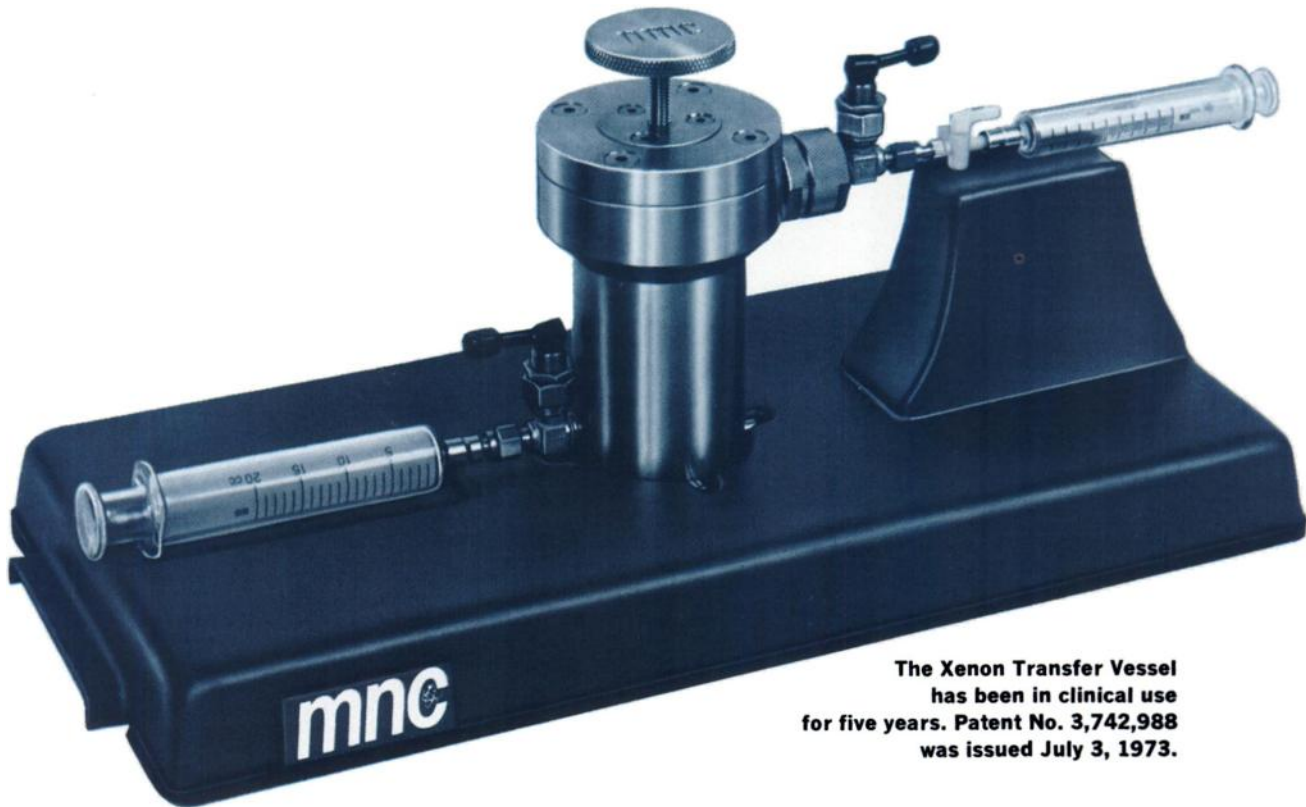
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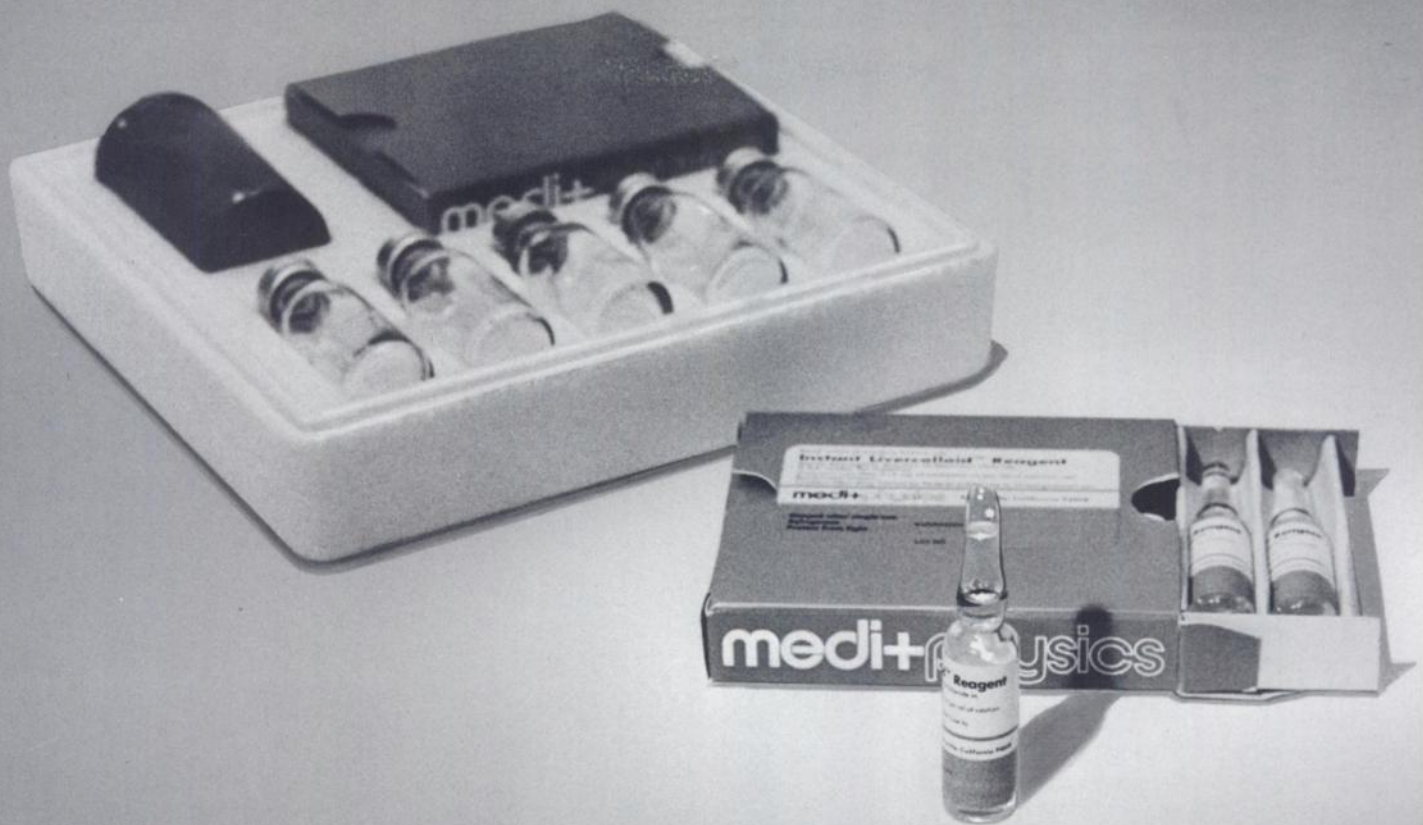
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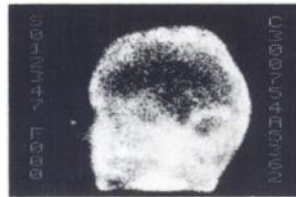
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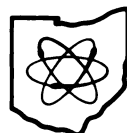


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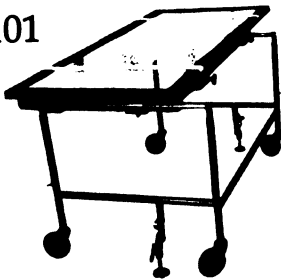
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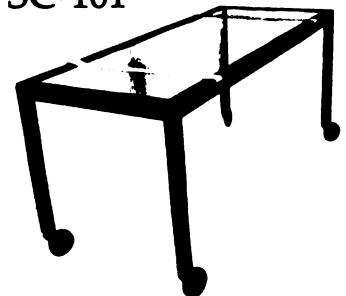
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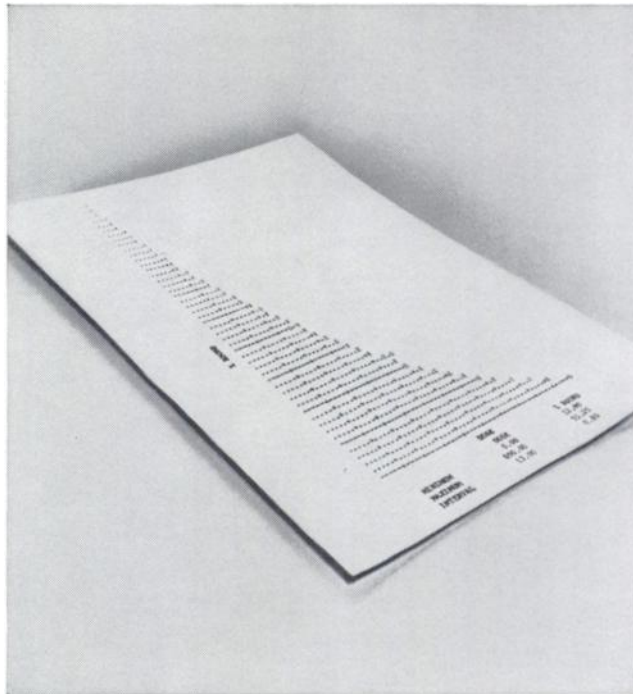
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Whole Libraries of Programs. The simple, versatile HP BASIC language makes curve analysis easier than ever. BASIC is extensively documented and widely used in computer time share systems. And, if you ever wish to go even farther with the built-in general purpose HP computer whole libraries of other languages, (Fortran, Assembly and Algol) are available from HP.

Remembers Your Protocols. With just several keystrokes it'll automatically execute your previously entered protocols.

It does everything you expect a system to do, too.

It displays contours, isometric views and slices. You can define areas of interest with joystick markers or an optional light pen, and store 16 areas for later recall and curve generation.

Just several keystrokes give you complete Time Function and Frame (Image) Arithmetic. You can smooth, add, subtract, divide, multiply, using either images or constants. Complex images

such as lung ventilation-perfusion ratios are yours with just several keystrokes. And it normalizes images for non-uniform camera responses.

You don't have to worry about service.

Hewlett-Packard, an international leader in measurement, analysis and computation, makes all major components of the Model 5407A system, including the computer, and tape and disc memories. The company has 172 offices throughout the world ready to give you service and technical assistance.

HP is well known in the medical field. It's other products include ECG's, VCG's, patient monitoring systems, electromyographs, diagnostic ultrasound, fetal monitoring, and computer-assisted cardiac catheter labs.

There's a book that tells you all about it.

The title is "*HP's Total System Approach to Nuclear Medicine*." In 22 pages, it covers all the advantages of the new HP 5407A Scintigraphic Data System. For your copy simply send in one of the attached postcards or call your nearest HP Office. Or write the Hewlett-Packard Company, 175 Wyman Street, Waltham, Massachusetts 02154; Europe: 1217 Meyrin-Geneva, Switzerland.

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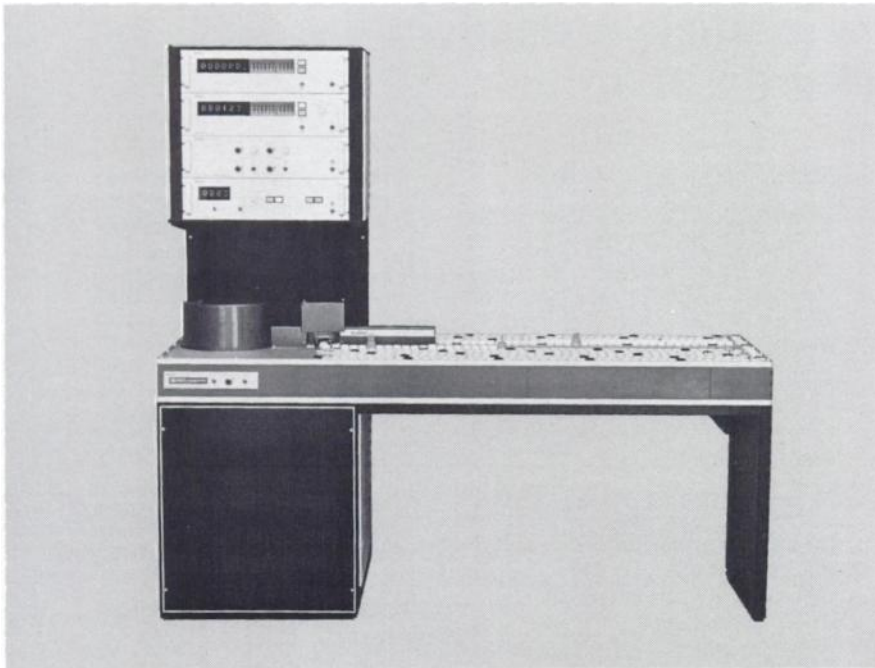
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other two.**

**(And if you think
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Now why in the world would anyone ask you to focus your attention on gross weight (of all things!) when considering a piece of sophisticated instrumentation like a scintillation camera?

Because, as we hope you'll soon come to agree, low weight tells you something. As a matter of fact, it really tells you a great deal because technologic progress almost always leads to a diminution of both size and weight (e.g., from vacuum tubes to transistors to integrated circuits). Thus, the functionally equivalent instrument that weighs substantially less than others, bespeaks a newer design. And so it is with the Nuclear Data Radicamera.™ This quite remarkable camera weighs about 1300 lbs. less than the other two fine competitive instruments. (Mind you, only 1300 lbs. as compared to 2600 lbs.—a 50% weight reduction!)

Ah, but what did we leave out? Functionally, nothing. We simply designed out the older technology, both electronic and mechanical, that tends to weigh more and bulk larger. And the newer technology, with its lesser weight and size, is often more reliable. And *that's* a nice bonus.

What else does Radicamera offer? A full capability camera with resolution as good as the best (really), and operating ease that defies comparison. You can actually position it with one finger and, with the appropriate accessory, move it easily to the patient that can't be moved easily. The innovative design yields a more

compact unit that occupies less of your ever-evaporating space. In toto, a superbly designed instrument that is easy to live with and yields diagnostic data second to none.

Finally, we should also mention the following: newer technology not only tends to diminish size and weight. It shrinks cost (and hence, price) too. Check it out.

So, if you're looking at cameras, consider this: we want you to speak to Radicamera users because you really ought to hear our story from someone else, too. Contact us for names and for Radicamera literature.

A word about Med II™

Very revealing fact: Med II is the world's best selling image processing system. And although we're happiest when it's coupled to our Radicamera, candor forces us to reveal that it also functions beautifully with those other cameras. This very flexible system does everything a computerized image processing system should do. Things like correcting for non-uniformities, curve smoothing and fitting for cardiac output studies, ejection fraction and xenon ventilation/perfusion computations, acquiring and storing dynamic data from 12 regions of interest to produce 12 curves simultaneously, and much more. And its ready-to-use, conversational and upgradeable software makes it ideal for both routine and investigative dynamic function work. Once again, we invite discussion with current Med II users.

Radicamera: the lightweight that really isn't.



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Our Digoxin kit gives accurate and reproducible results. It's the price and service that are hard to believe.

The Schwarz/Mann Digoxin ¹²⁵I RIA kit costs about \$112.00, is sufficient for 240 tubes, and ends up costing you about 46 cents a tube. (Less if you buy in greater quantity).

This compares quite favorably with our major competitor (\$1.60 per tube), and makes Digoxin testing economically feasible.

Beyond cost, our Digoxin kits are accurate and reproducible, have been proved in over two years of clinical lab use, and are easy-to-use, keeping both pipetting and centrif-

ugation within manageable technical bounds.

Equally important, they let you determine clinically significant Digoxin levels over the range of 0.4-10 ng/ml without sample dilution. This sensitivity is rare in Digoxin kits as a whole. Without Schwarz/Mann, it would probably be non-existent.

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which is standing by during working hours (8:30-5:00 EST) to answer your technical questions, solve problems, and generally give access to our long experience and expertise in RIA. (Call collect: 914-358-4555).

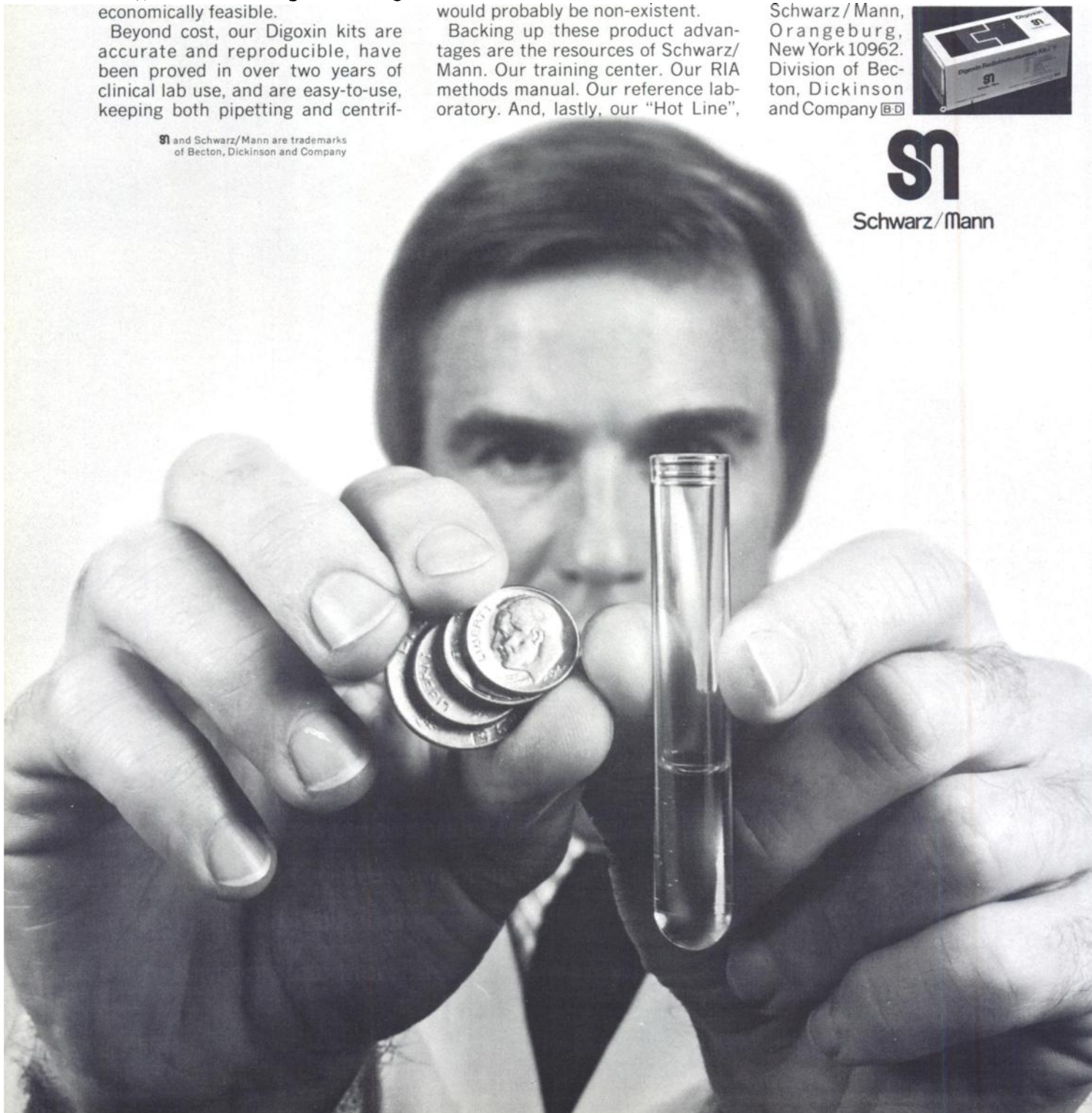
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Simplified Acquisition—Mounted on top of Pho/Gamma's console, the Acquisition Panel easily facilitates camera/Clincom control by the technician. All operating parameters including date, patient identification number, collimator used, framing rates, and patient orientation are

pushbutton selected. Furthermore, the acquisition of data begins when the Pho/Gamma's "Start" button is activated.

Image Processing—All processing controls are located on the Physician's Viewing Console. The Analysis Scope displays either current data being received from Pho/Gamma, or stored images developed from Clincom's wide-ranging diagnostic procedures. The Text Scope continuously logs (in everyday clinical language) all information on the desired study. Both the processed image and the text may be photographed with a synchronized camera for storage in patient records.

Permanent Storage—Data is stored on the master tape and later may be transferred to cartridge tape for inexpensive, long-term storage. Self-checking features are incorporated to prevent unintentional data erasure.

"Powerful" Software—Clincom will remember, with the help of the "Capture Procedure" pushbutton, an entire sequence of data operations. A program thus generated is simply recalled with fingertip control. In addition, Clincom offers a wide range of on-line and off-line programs for future research and clinical needs.

Remote Viewing—Clincom can be placed up to 200 feet from the Pho/Gamma Console. This allows the physician to process studies in any area removed from the patient's presence.

Clincom . . . the image processing system for Pho/Gamma. Find out how Clincom can specifically meet your clinical and diagnostic needs. Contact your Searle Radiographics (formerly Nuclear-Chicago) sales engineer, or write to us for your free brochure.

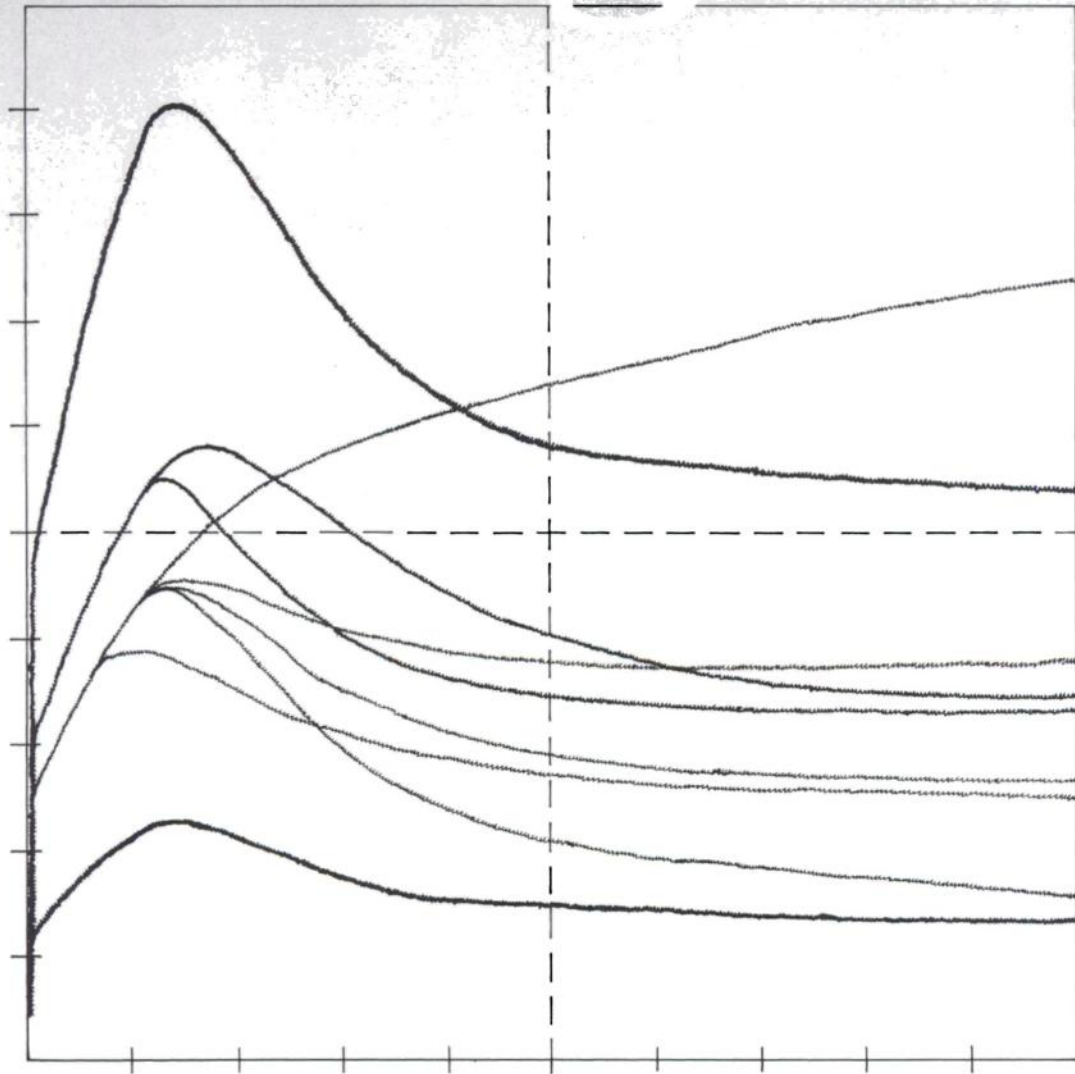
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CM-304

Renogram



Nine renograms, identical perfusion to each kidney.

<i>Parameter Breakdown</i>	{	Initial distribution of injected dose	3
		RENAL	6
		Radiation background	4
		Dynamics of red blood cell binding	2
		Cross-coupling of instrumentation	2
		Observation	12
		<hr/>	total

There are 29 parameters which affect the shape of a renogram; only six of them relate directly to kidney function.

Roulette.

Renograms are not always reliable. To demonstrate this fact we simulated, on a computer, nine renogram curves, each with identical perfusion to the kidney. Since only six of the twenty-nine parameters which shape the renogram relate to the kidneys, very wide variations occur in the shape of the renogram. Your gamma camera is looking at fractional portions of several organs simultaneously; changes in isotopic distribution in any of the non-renal areas affect the renogram shape. In addition, nuclide binding to RBC's, cross-coupling of instrumentation and even patient positioning alter the results.

One unaccounted input from any of the 23 non-renal parameters can distort your renogram and the information you need for an accurate, reliable diagnosis.

That's why we developed the RP/ED.

Renal Perfusion/Excretion Determination (RP/ED) is not a computerized renogram. The RP/ED replaces the renogram by calculating all 29 parameters and reporting on only those relating directly to renal function.

It is the first safe, convenient and non-invasive (split function) clinical test and requires no patient preparation. It can be performed in approximately one hour on an outpatient basis.

RP/ED provides specific and accurate physiological determinations of total and fractional blood supply to the kidneys, total and fractional urine output from the kidneys, plus several other values (i.e. OIH Urine Concentration Ratio) previously not measured.

RP/ED works. Over 1500 patient studies have been performed in Nuclear Medicine Departments throughout the country. When used in conjunction with sequential renal scintiphotos, RP/ED information has proven highly reliable in predicting many pathologic conditions that cause renal dysfunction. Verification of these findings with direct comparisons of the Stamey-Howard split function catheterization technique are yours upon request.

MEDNET

RENAL PERFUSION/EXCRETION DETERMINATION (ISOTOPE SPLIT FUNCTION TEST)

FOR: PACIFIC STATES HOSPITAL
REFERRING PHYSICIAN: J. SMITH
PRIORITY: ROUTINE
DATE: 18 APRIL 73

PATIENT: R.Y.
I.D.#: 38-52-98

AGE: 28
WEIGHT: 76 KG.
HCT: 38.2

SEX: MALE
HEIGHT: 175 CM.
URINE FLOW: 1.63 ML/MIN

RESULTS
..... NORMAL RANGE=() PRECISION=*** VALUE=X ABNORMAL=A

EFFECTIVE RENAL PLASMA FLOW(ML/MIN), NORMALIZED TO 1.73 SQ M.

TOTAL	0-----X-----	1000	721.0 ML/MIN
LEFT	0-----X-----	500	322.6 ML/MIN
RIGHT	0-----X-----	500	398.4 ML/MIN
RATIO	0-----X-----	1.0	0.82 (L/R)

URINE FLOW FRACTIONS

LEFT	0-----X-----	100	16.2 %	A
RIGHT	0-----X-----	100	83.8 %	A
RATIO	0-----X-----	1.0	0.19 (L/R)	A

OIH URINE CONCENTRATION RATIO

RATIO	0-----X-----	1.0	0.24 (R/L)	A
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SUMMARY COMMENTS

.....

THE PATTERN OF REDUCED URINE FLOW FROM THE LEFT KIDNEY, ASSOCIATED WITH BALANCED PERFUSION, IS TYPICAL OF PARTIAL BLOCKAGE OF THE LEFT URETER.

REFLUX ASSOCIATED WITH THE RIGHT KIDNEY OCCURRED AT APPROXIMATELY 18 MINUTES, POST INJECTION. RIGHT KIDNEY AND BLADDER DATA ARE BOTH CONSISTENT WITH SUCH REFLUX.

MEDNET

RP/ED is available only through Mednet, the medical communications and computational service that provides computer-aided analysis of clinical data. Mednet takes raw data from your scintillation camera, formats it, transmits it to Mednet computers for processing and returns the test results to your Nuclear Medicine Department in clinical report form in 24 hours or less.

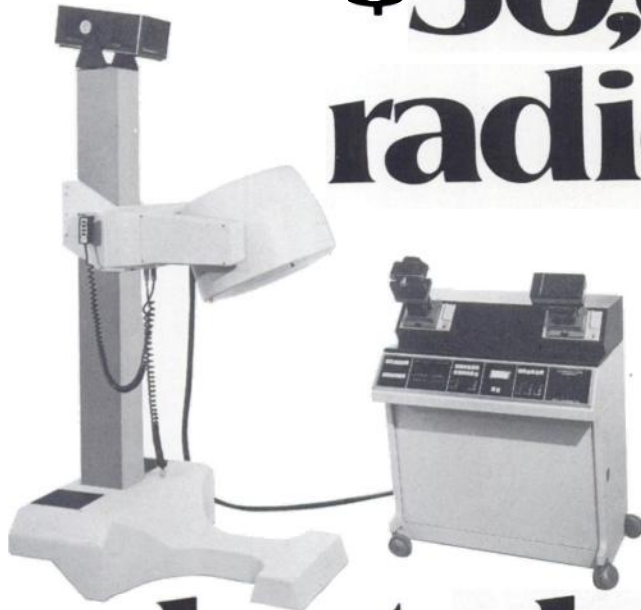
Mednet RP/ED service is available nationwide. All that's needed is a scintillation camera and a phone. Hospitals pay only a one time installation charge (typically \$200) and then a per test fee.

With RP/ED there's no gamble because of unreliable information. No chance of Renogram Roulette.

For information on RP/ED and Mednet, call or write ADAC (Analytical Development Associates Corporation), 10300 Bubb Road, Cupertino, CA 95014, (408) 255-6353.

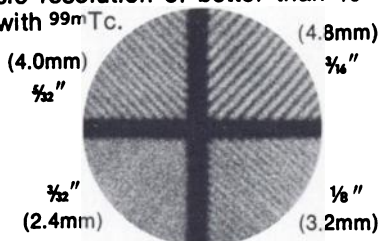
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When you spend \$50,000 for a radioisotope camera,



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Resolution. Ohio-Nuclear's Series 100 has an intrinsic resolution of better than $\frac{1}{8}$ " (3.2mm) with ^{99m}Tc .



Scintiphoto (above) taken using $\frac{1}{8}$ " (3.2mm) thick bar phantom. No collimator. 500,000 counts ^{99m}Tc .



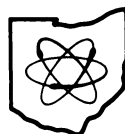
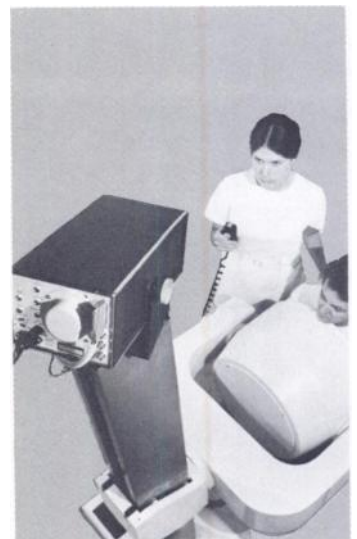
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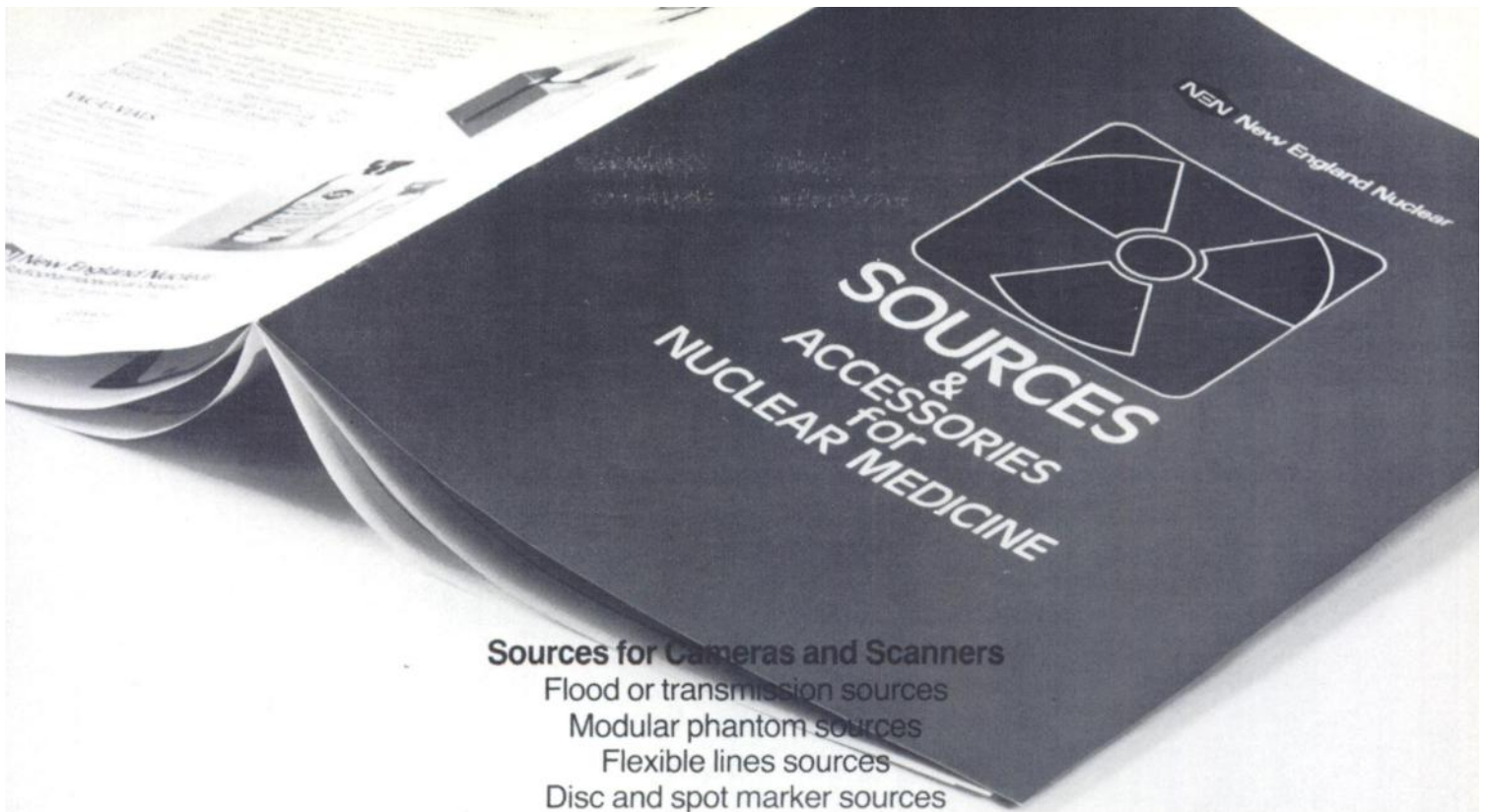
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NUCLEAR MEDICAL TECHNOLOGIST. We need an experienced, ARRT or ASCP registered Nuclear Medicine Technologist for progressive department performing wide range of clinical studies, both scanning and in vitro. We are located in the Maryland countryside, within 30 minutes of downtown Baltimore. Our employees enjoy competitive salaries, comprehensive fringe benefits and free parking. Contact: Personnel Office, Franklin Square Hospital, 9000 Franklin Square Drive, Baltimore, Maryland 21237.

CHEMIST. POSITION AVAILABLE for radio or immunochemist experienced with RIAs and other in vitro procedures. Duties include R&D, teaching and supervision of an in vitro laboratory in an academic setting. Advanced degree essential. Salary and academic level commensurate with experience.

surate with experience. Contact Dr. James Quinn, Northwestern Memorial Hospital, Fairbanks and Superior, Chicago, Ill. 60611.

SUPERVISORY TECHNOLOGIST. POSITION available 1974 for certified N.M. technologist experienced with in vitro procedures. Duties will include supervision of in vitro lab in 1100-bed Medical Center Hospital. Contact Dr. James Quinn, Northwestern Memorial Hospital, Superior and Fairbanks, Chicago, Ill. 60611.

CERTIFIED OR RECENTLY TRAINED Nuclear Medicine Technologist, preferably with Bachelors Degree, is needed to operate Nuclear Medicine Department in 340-bed general hospital in the Midwest. Attractive salary. Send resume Box 1201, Society of Nuclear Medicine, 305 East 45th Street, New York, N.Y. 10017.

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FIFTH ANNUAL NUCLEAR MEDICINE SEMINAR

"Thyroid and Endocrine System Investigations with Radionuclides". Given by the Division of Nuclear Medicine, University of Miami School of Medicine, Mount Sinai Medical Center. March 14-17, 1974, Playboy Plaza Hotel, Miami Beach, Florida. Contact: Susan R. Cohen, Seminar Coordinator, Division of Nuclear Medicine, Mount Sinai Medical Center, 4300 Alton Road, Miami Beach, Florida 33140. Tel. (305) 674-2421.

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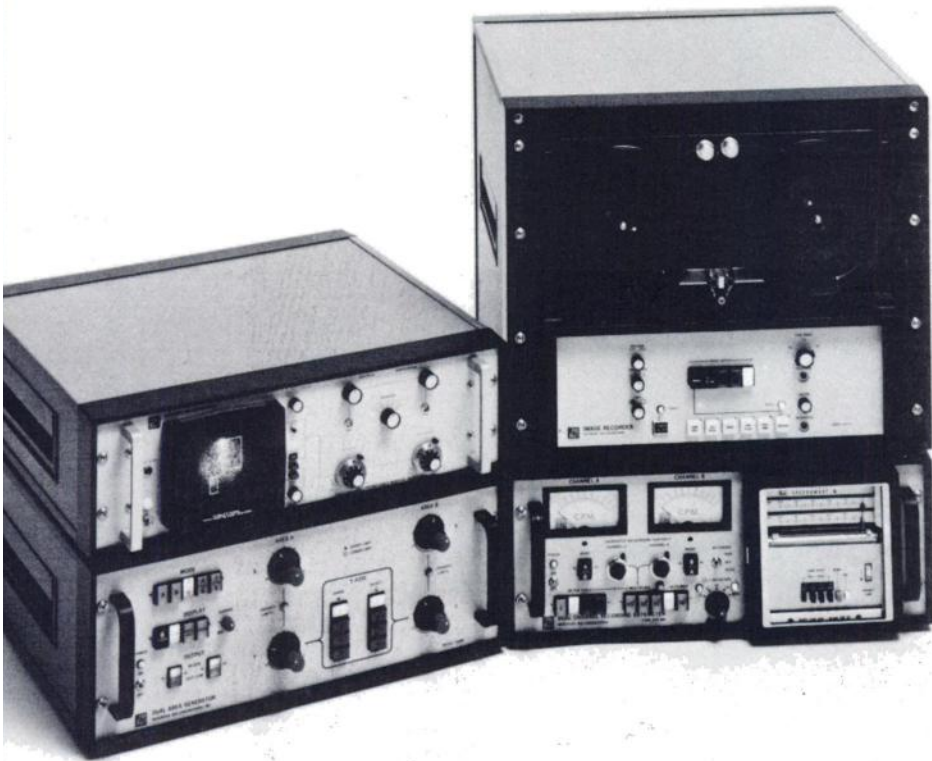
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ANNOUNCEMENT

A symposium entitled *Methods for Evaluating Radionuclide Imaging Procedures: A Critique*, sponsored by the Society of Nuclear Medicine, will be held at the Marriott Motor Hotel near O'Hare Airport, Chicago, Illinois, on Sunday, January 20, 1974.

This symposium will include presentations and open discussions concerning the use of physical measurements and criteria for the evaluation of imaging instruments, radionuclides and radiopharmaceuticals; the use of measurements of human observer performance as an approach to the ultimate evaluation of efficacy; and the activities of such national bodies as the NCRP, the FDA, the Bureau of Radiological Health, and the task groups of the ACR and SNM concerned with efficacy of diagnostic procedures.

Speakers include: S. J. Adelstein, M.D.; R. N. Beck; A. B. Brill, M.D., Ph.D.; D. M. Green, Ph.D.; P. V. Harper, M.D.; L. G. Knowles, M.S.; L. C. Kohlenstein, M.S.; L. B. Lusted, M.D.; C. E. Metz, Ph.D.; E. L. Saenger, M.D.; V. J. Sodd, Ph.D.; and R. F. Wagner, Ph.D.

Discussion leaders: M. Blau, Ph.D.; E. J. Potchen, M.D.; and H. N. Wagner, M.D.

For additional information regarding the scope and content of this symposium, contact any member of the Program Committee: R. N. Beck; C. E. Metz, Ph.D.; and P. V. Harper, M.D., FMI-Box 420, 950 East 59th Street, Chicago, Illinois 60637 or telephone (312) 947-5056.

For additional information regarding registration, availability of hotel accommodations at reduced rates, and publication of the proceedings of this symposium contact:

The Society of Nuclear Medicine
305 East 45th Street
New York, New York 10017
(212) 889-0717

Registration fee, payable to The Society of Nuclear Medicine:

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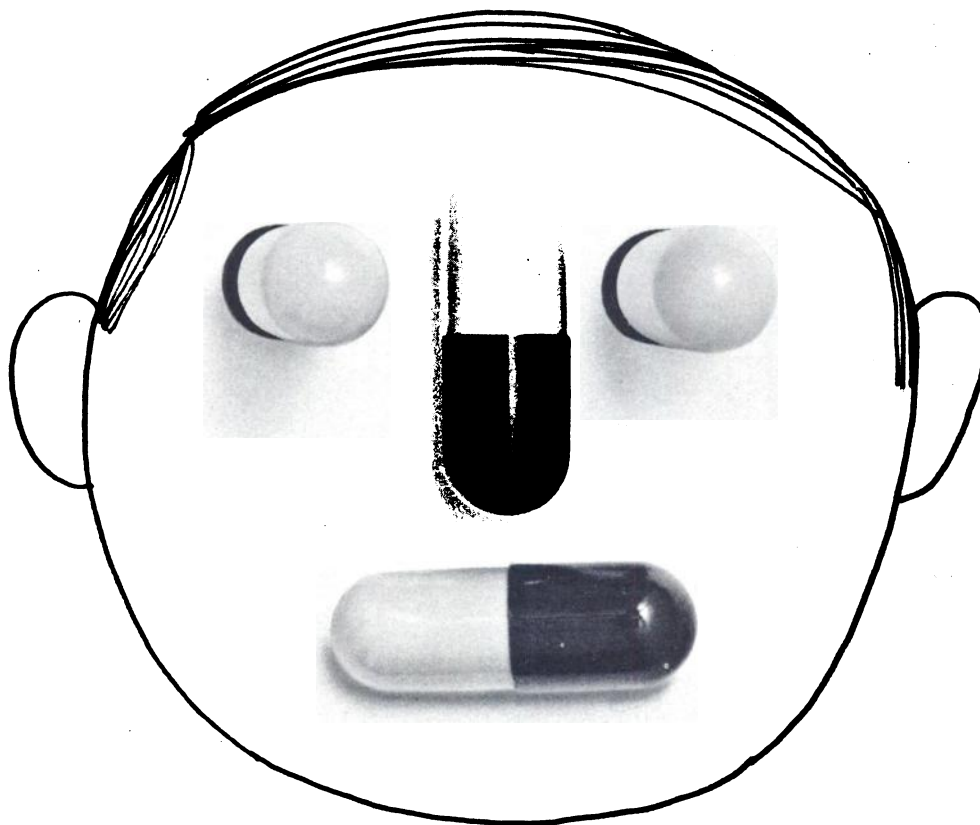
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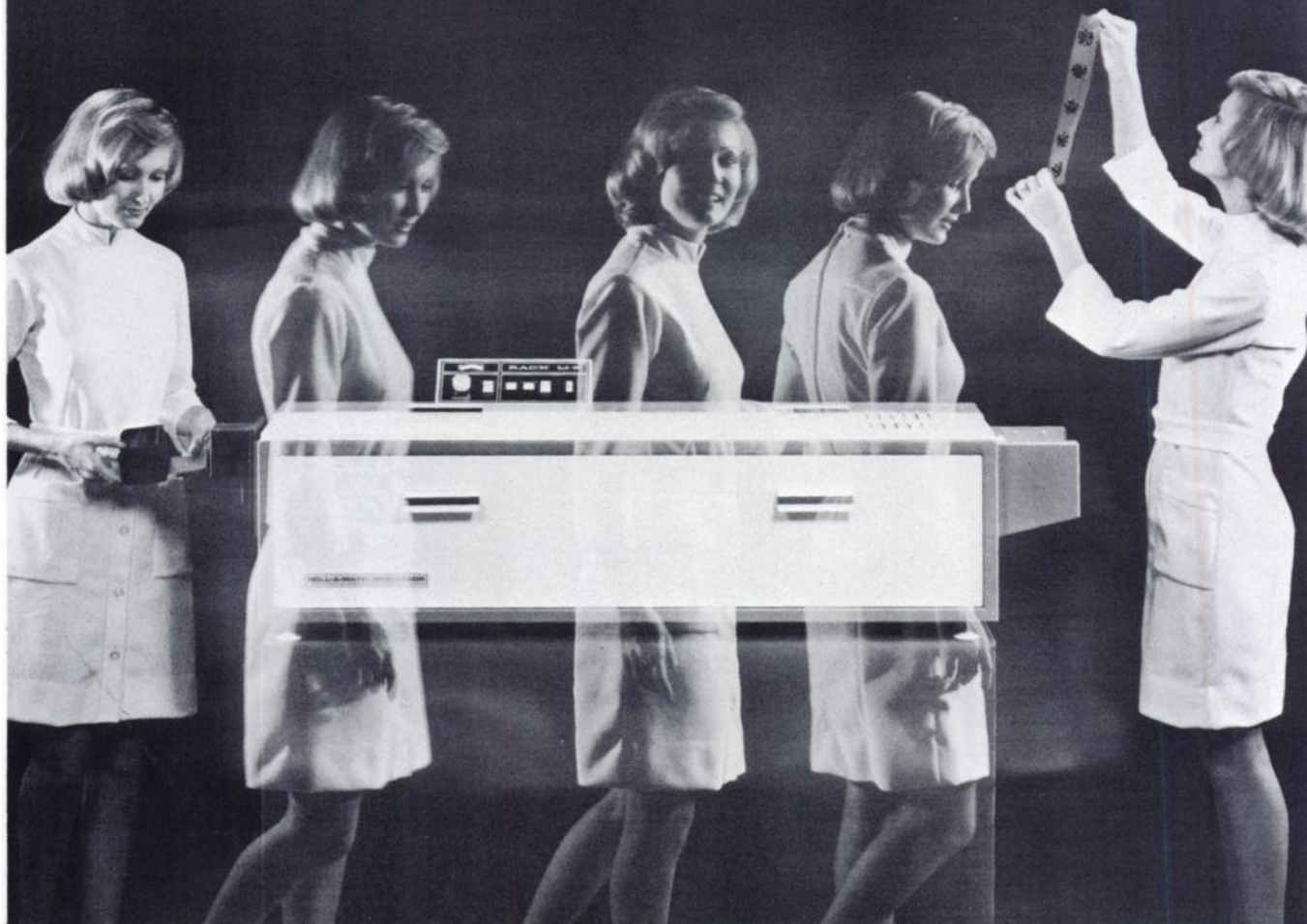
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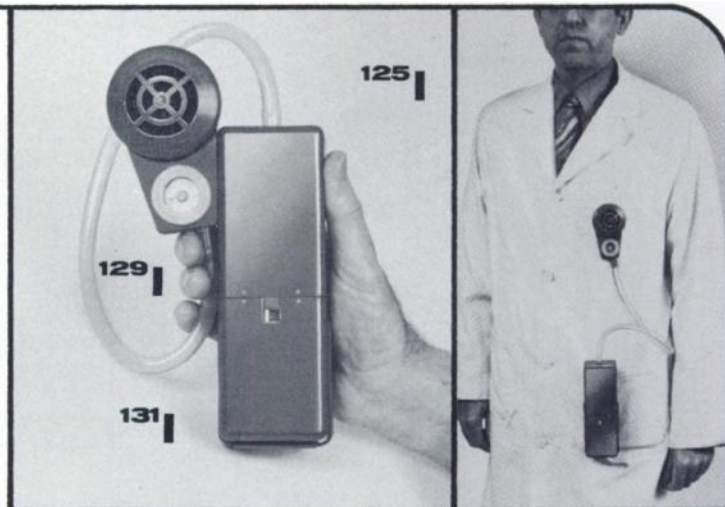
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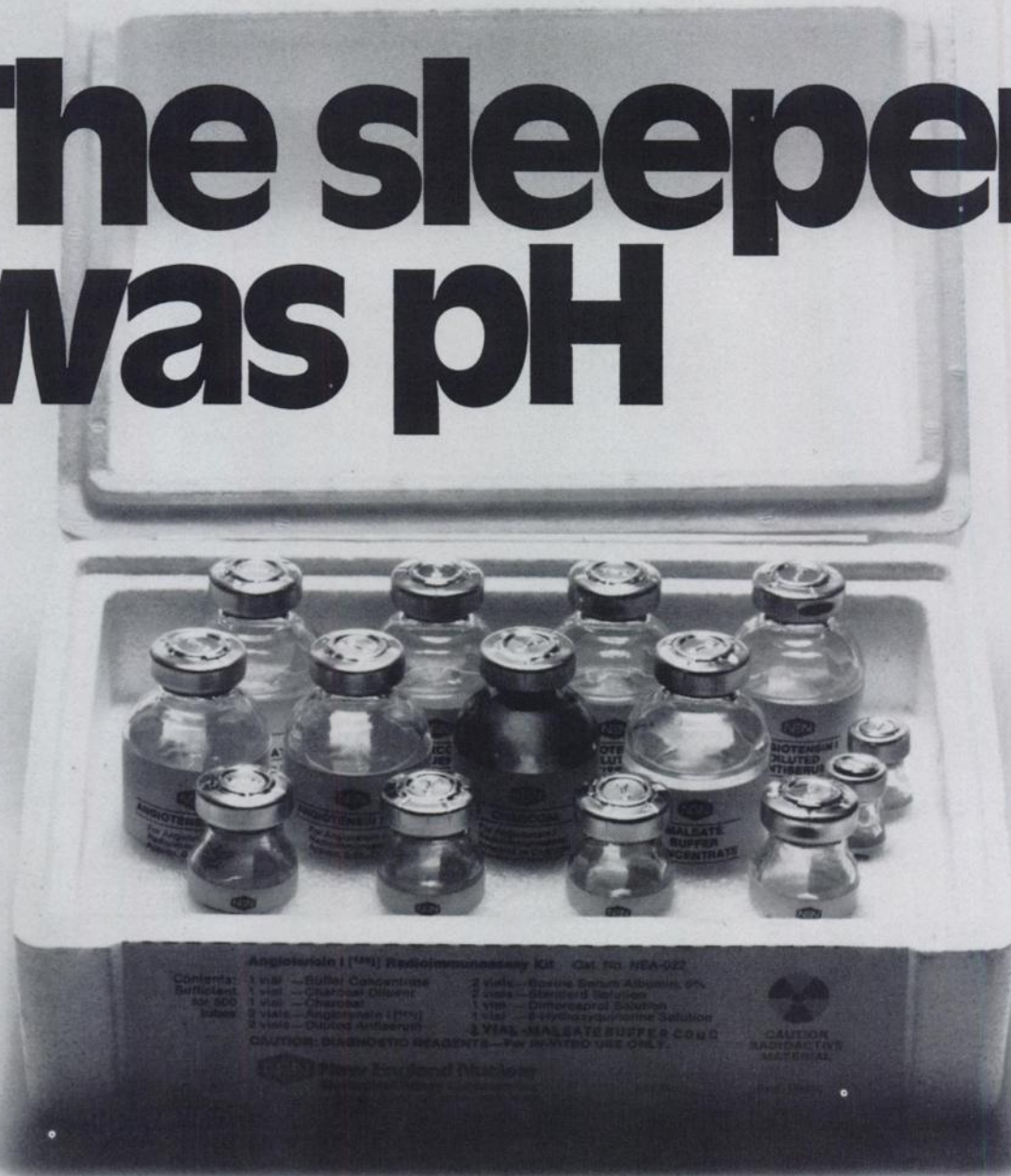
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¹Cf. Sealy, J.E., J. Gerten-Banes, and J.H. Laragh, *Kidney International*, 1, 240-253 (1972). ²McDonald, J.M. and G.A. Fischer, *Am. J. Clin. Path.*, 59, 6, 858 (1973). ³Bagni, B., *et al*, *Brit. Med. J.*, Sept. 9, 1972, page 676. ⁴Abe, K., *et al*, *Jap. Circ. J. (J. Summary)*, 36, 697 (1972).

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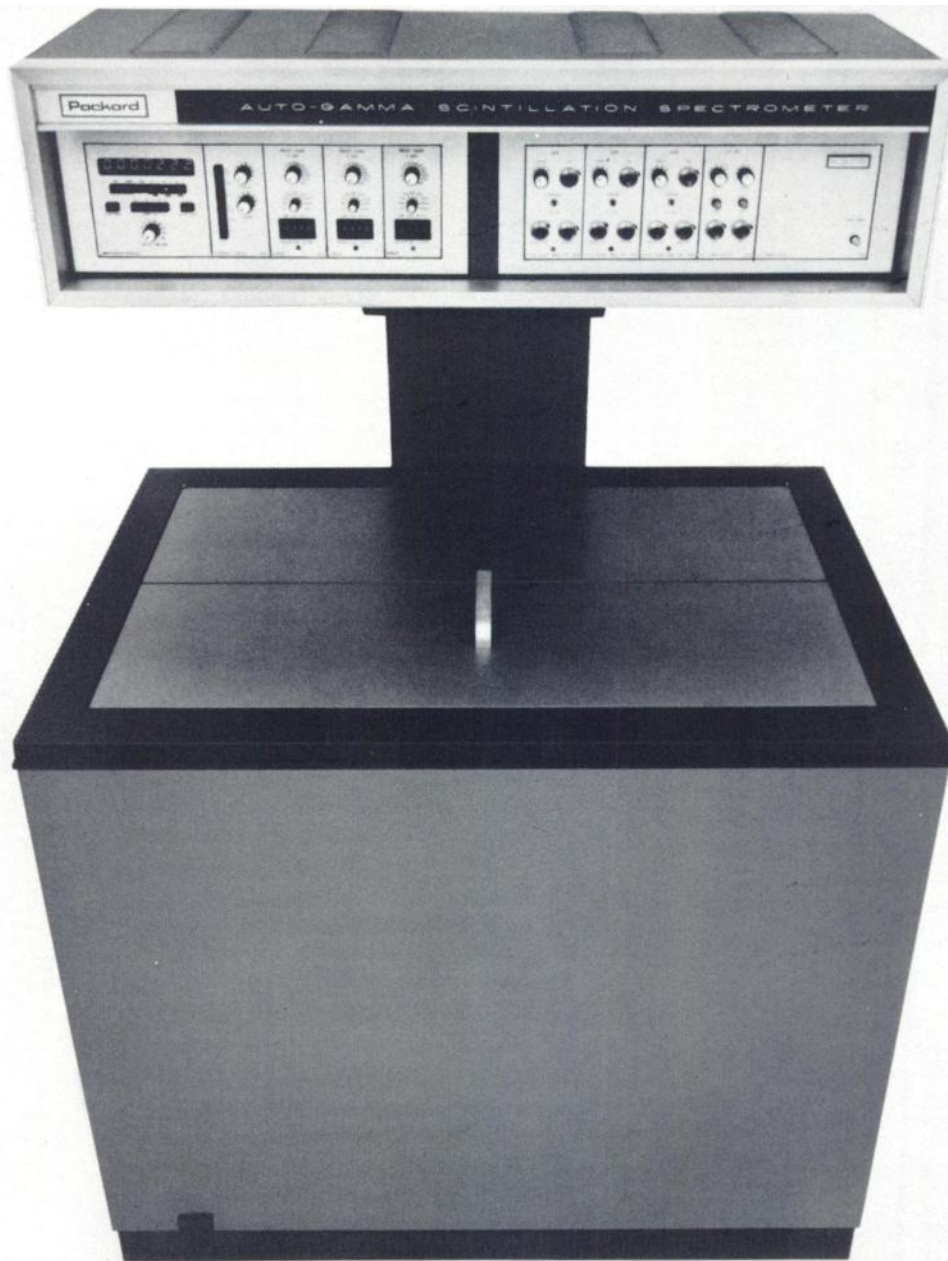
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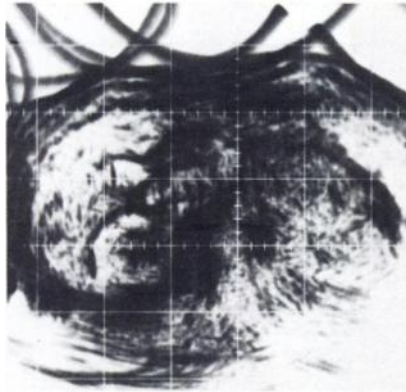
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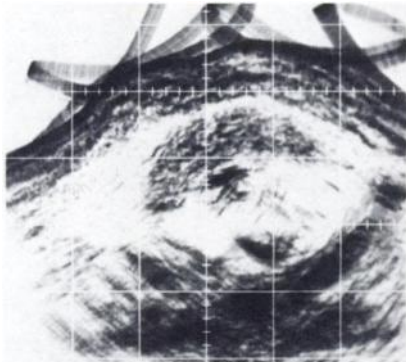
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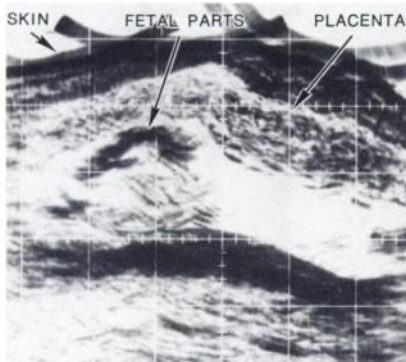
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E. Longitudinal scan 2 cm. to right of mid-ventral line showing anterior placenta and fetal parts.

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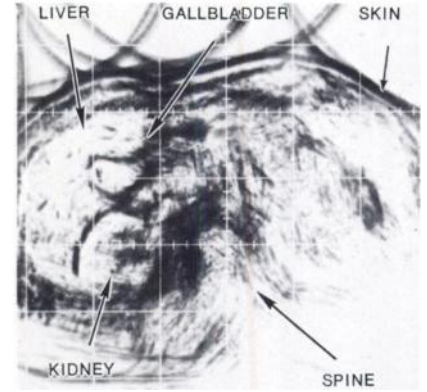
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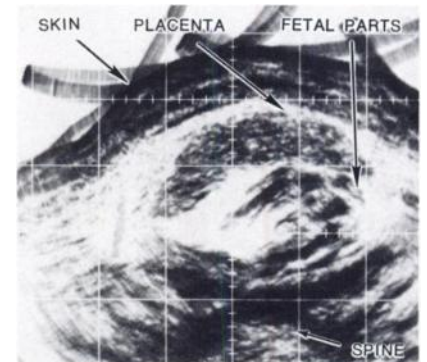
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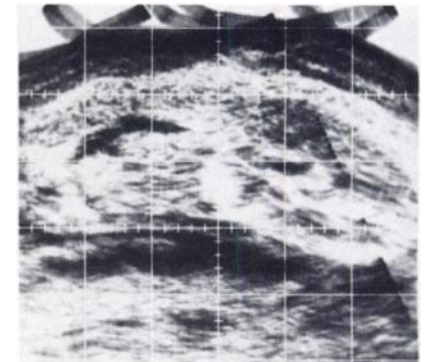
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B. Low sensitivity transverse scan (same level as "A") showing less internal organ structure.



D. Transverse scan of pregnant uterus 2 cm. above umbilicus from that in "C" showing anterior placenta and fetal parts.



F. Longitudinal scan at midventral line (same as in "E") showing anterior placenta and fetal body.

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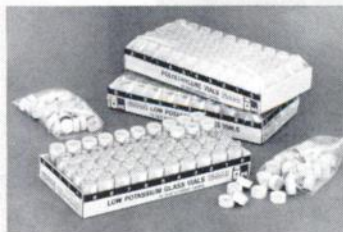
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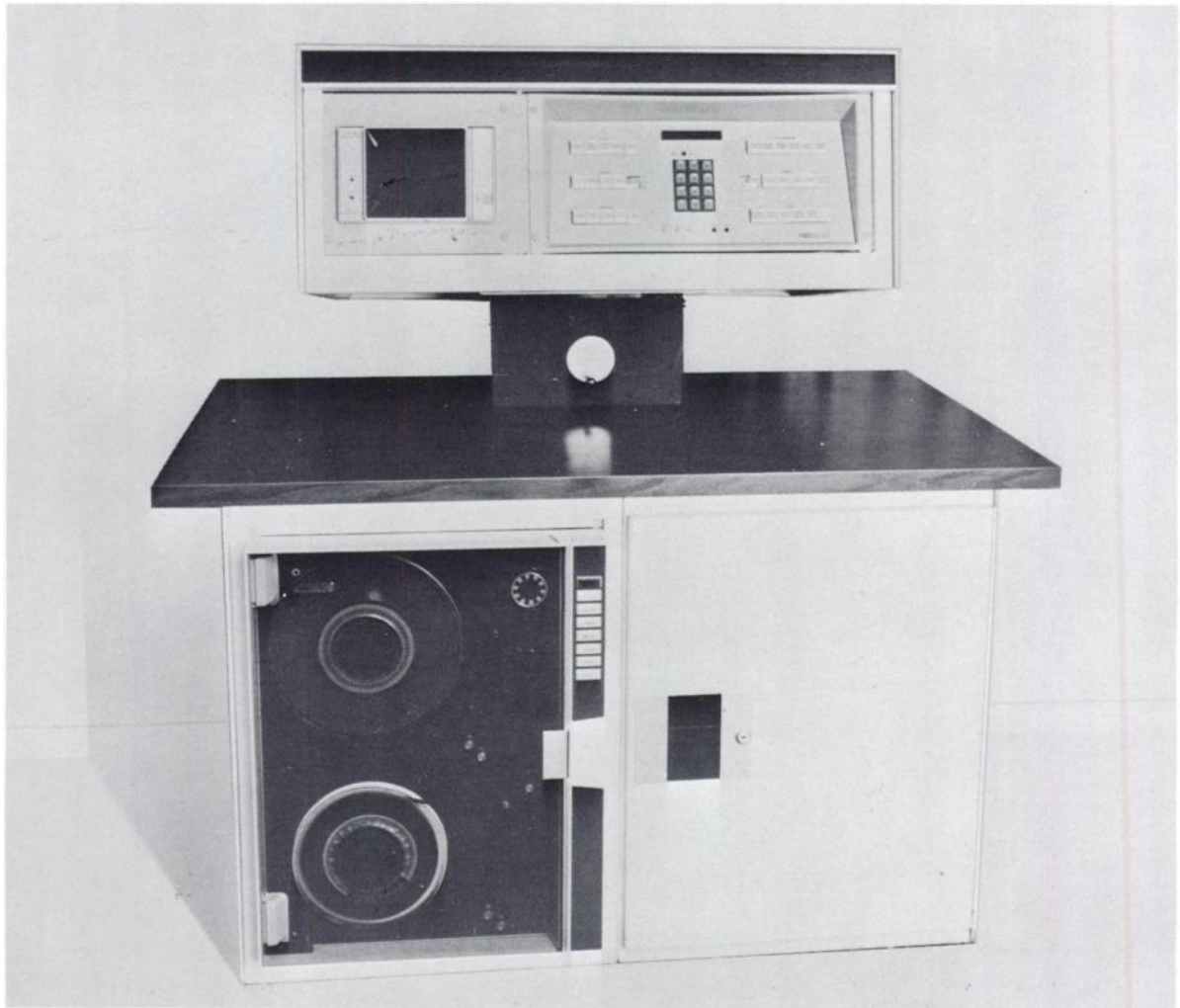


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(3) Which company has the most such systems in routine clinical use? **(Nuclear Data)**

(4) What one computerized image storage and processing system has done away with the typewriter keyboard and is operated totally by simple pushbuttons? **(Med Stor)**

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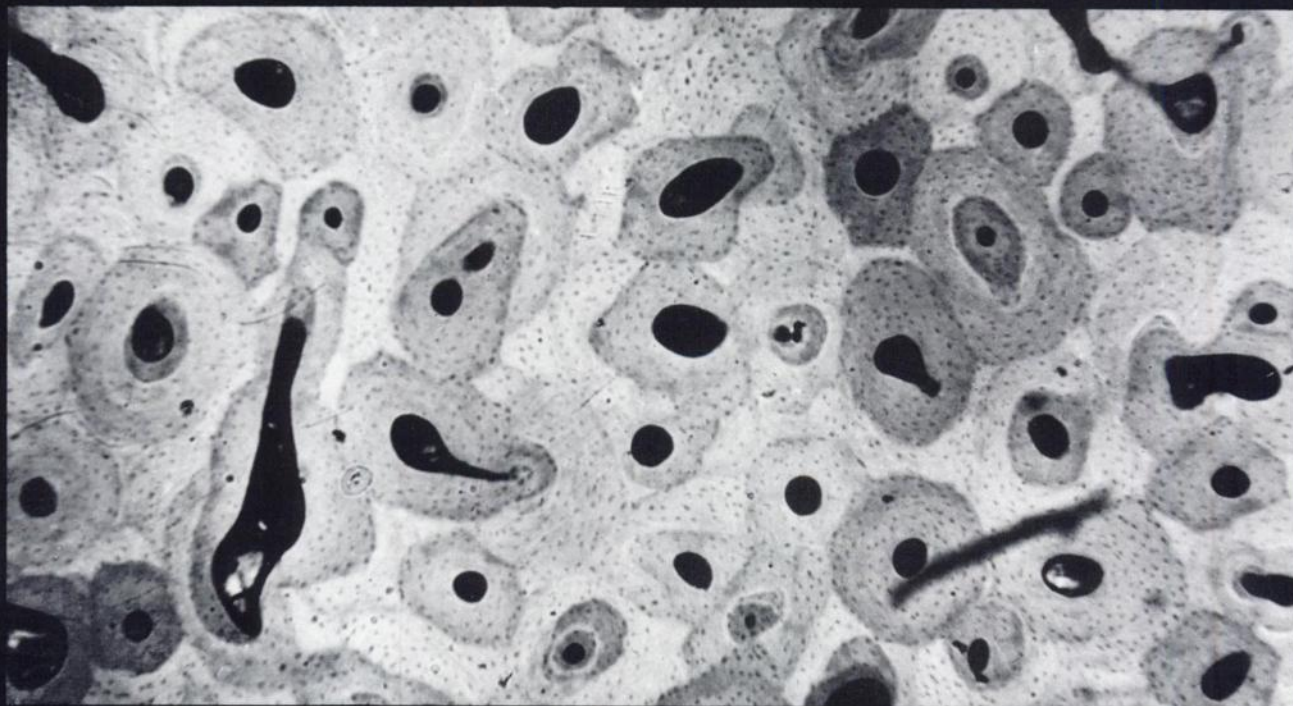
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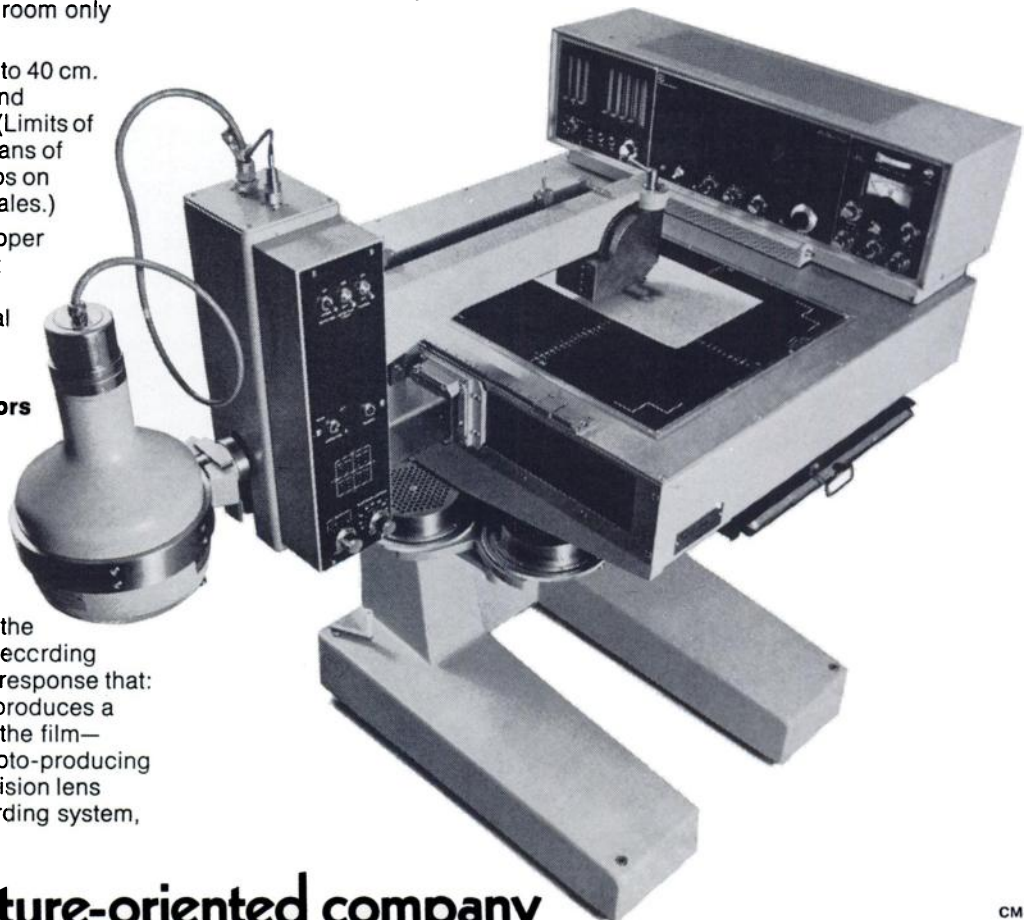
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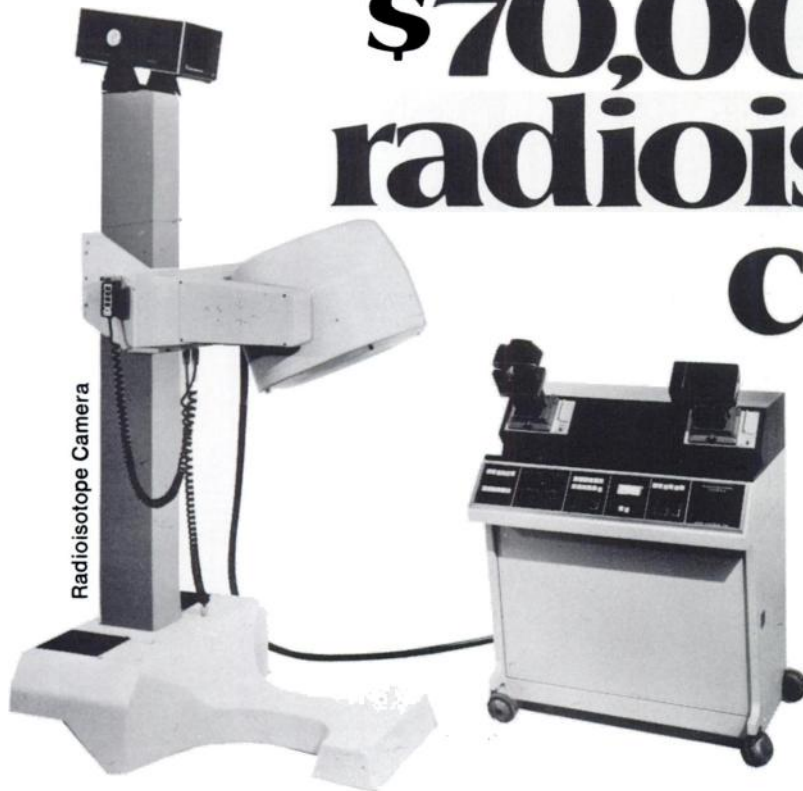
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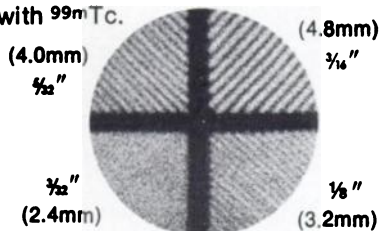


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Speed	Resolution
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1 frame/sec	128 x 120 (16K)

Available options provide:

39 frames/sec	32 x 30 (1K)
13 frames/sec	64 x 60 (4K)
3 frames/sec	128 x 120 (16K)

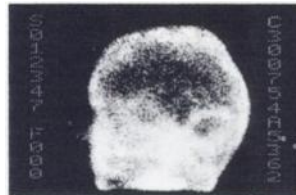
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Isometric Displays. View isometrics, profile histograms, and isotope uptake at camera console.

Contrast Enhancement/Background Erase

Regions of Interest. Two—rectangular. Operator selects size and position. Counts read out on display, along with area.

Display. Non-flickering interactive display continually refreshed from core memory.



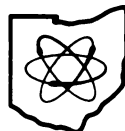
Alphanumeric Display. Patient study number always displayed on left of image. Six digit time of storage (in hundredths of a second) and dynamic study frame number displayed on right; or six digit count and four digit

area within an area of interest (or the total count of the area) can be displayed on the right.

Slices. Two slices along either the X or Y axis can be defined independently, & observed on the isometric view.

Options Available. Black and White video displays, 9" and 14" diagonal, with 64 shades of gray, flicker free; Isometric display, 14" and 5" diagonal, sixteen shades of green; Color display, 12" diagonal, 16 or 8 colors, switch selectable; Color and B&W simultaneous display; Field uniformity correction; Statistical Smoothing; Chart Recorder for plot of profiles set by slices, or plot of dynamic study count versus time; Fast Framing Tape; Added Memory; 16 Extended Rectangular Areas; Irregular Areas; Interfaces; B&W or Color Polaroid Capability.

Want More Information? Write for our DataSystem brochure and our Product Bulletin — Series 150 DataSystem Description. Visit an installation... we'll arrange it. And talk to us. We have something better. The complete DataSystem. From Ohio-Nuclear.



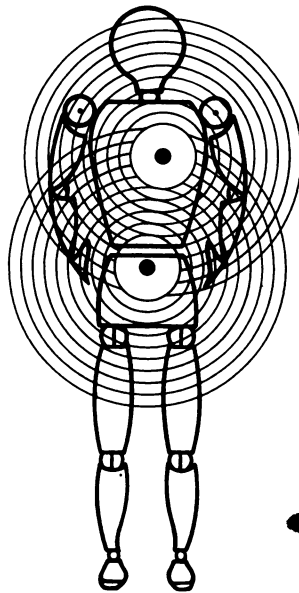
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PHONE (216) 248-8500 • TWX NO. 810-427-2696

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Biokit[®] Aldosterone

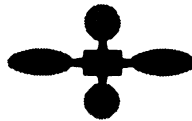
no more hydrolysis!
no more extraction!
no more chromatography!
incubation time: only 2 hours!



Biolab introduces a new fast way to determine the aldosterone hormone. Much faster than traditional methods. Easy, suppresses all difficult manipulations. As precise as can be. A new improvement in R.I.A. technique. By Biolab.

Biokit Aldosterone, a kit of Biolab Belgium.

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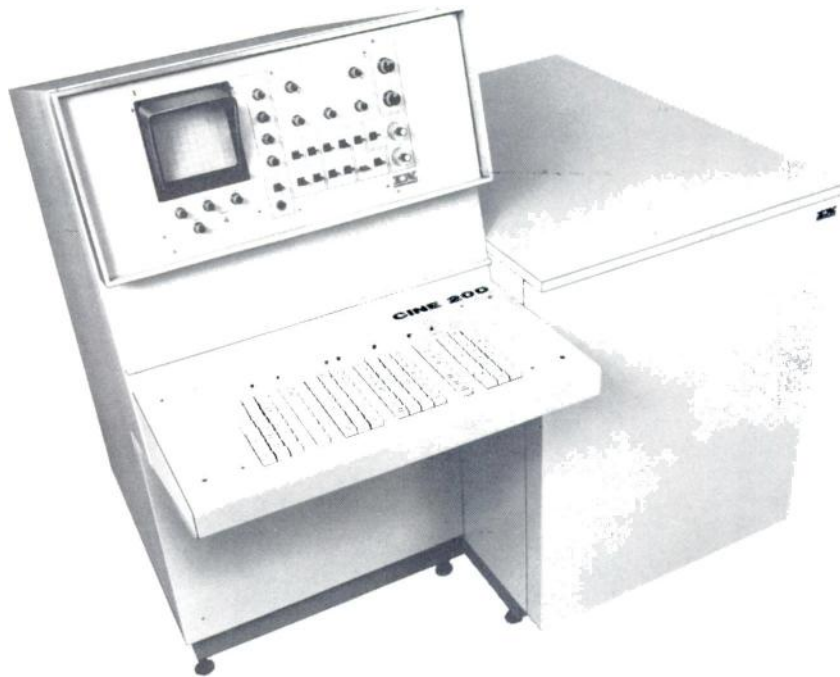
- | | | |
|--|--|---|
| <input type="checkbox"/> PROGESTERONE KIT | <input type="checkbox"/> H. C. G. KIT | <input type="checkbox"/> In preparation |
| <input type="checkbox"/> ESTRONE-ESTRADIOL (01-02) KIT | <input type="checkbox"/> 11 DESOXYCORTISOL KIT | <input type="checkbox"/> T3 T4 KIT |
| <input type="checkbox"/> ALDOSTERONE KIT | <input type="checkbox"/> DIGOXIN KIT | <input type="checkbox"/> 01 KIT, 02 KIT, 03 KIT |
| <input type="checkbox"/> HPL KIT | <input type="checkbox"/> DHEA KIT | <input type="checkbox"/> CALCITONINE KIT |
| <input type="checkbox"/> TESTOSTERONE KIT | <input type="checkbox"/> CORTISOL KIT | <input type="checkbox"/> FOLIC ACID KIT |
| | <input type="checkbox"/> LH KIT | <input type="checkbox"/> LH KIT (rapid) |

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Multi-imager system for

The complete
sequence imaging
system with built in
physiological
trigger functions.



study: Tc 99m pertechnetate renal flow
exposure: 0.8 seconds/frame
mode: 16 frame dynamic recorded on sheet
of 11" x 14" X-ray film

scintillation cameras.

- Up to 36 frames of dynamic flow study recorded on 11" x 14" X-ray film
- Physiological trigger options permitting imaging of predetermined multiple phases of the respiratory or cardiac cycles in separate frames.
- Electronic frame advance without any moving mechanical components.
- Electronic frame advance dead time of less than 1/1,000th of a second.
- Variable automatic exposure time per frame of 0.1 second to 10 minutes.
- Compatible with all scintillation cameras.

Introduction

The Multi-Imager System is designed for use with scintillation cameras to provide dynamic flow, static, and physiological function synchronized studies. The system operates by altering the CRT deflection signals, changing the size, location, and duration of the image on the display scope. Frame advance is achieved electronically, yielding sequential exposures with essentially no data loss.

Dynamic flow study applications

The Multi-Imager System allows selection of 4, 16, or 36 frame format dynamic flow studies. The three formats vary in the size of the image being recorded and the maximum number of available frames:

frame format	maximum number of frames	frame size 11" x 14" X-ray film
4	4	3.5" diameter
16	16	2.0" diameter
36	36	1.3" diameter

The exposure time per frame is adjustable from 0.1 second to 10 minutes. The frame advance dead time of the system is less than 1/1,000th of a second. A remote foot operated start switch is also available.

Static study applications

A one frame format allows recording of a life size 10" diameter image on 11" x 14" X-ray film. In addition, the dynamic flow study frame formats can be operated manually, advancing the frame after each view is recorded.

In the 4 frame format four static views can be recorded on a single sheet of 11" x 14" X-ray film, each view image having a diameter of 3.5". In the 16 frame format a sixteen view bone study can be recorded on a single sheet of 11" x 14" X-ray film, each view image in the correct anatomical orientation, with a diameter of 2.0".

Physiological trigger accessories

Unlike a motorized camera, the Multi-Imager System can not only advance frames, but also return to re-expose frames. Physiological trigger accessories are available that allow synchronization of recorded data with the patient's cardiac or respiratory cycle.

The cardiac function system records the systolic image data in one frame and the diastolic image data in a second frame, alternating exposures between the two frames synchronous with the patient's cardiac cycle. The respiratory function system is useful to minimize respiration motion artifacts in liver and lung studies. Through use of a chest expansion transducer, one frame records the inspiration plateau image data, the second frame records the expiration plateau image data, and the third frame records the image data between the two plateaus. The exposures are cycled through the three frames synchronous with the patient's respiratory cycle. With both physiological trigger accessories, all the available image data is recorded, separated into frames corresponding to phases of the cardiac or respiratory cycle.

Photographic recording options

An 11" x 14" format X-ray film camera and a 4" x 5" format scope camera are available for use with the Multi-Imager System.



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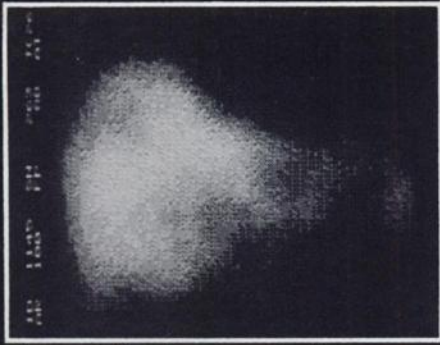
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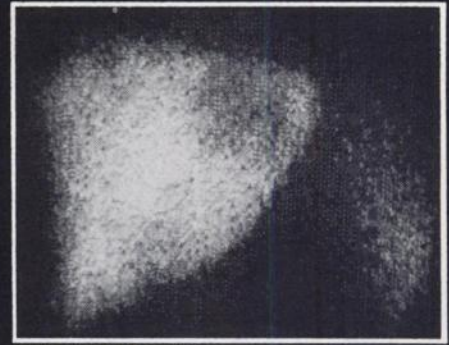
Statics



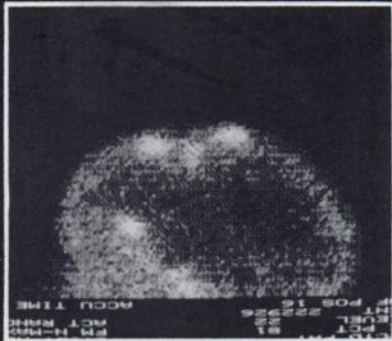
Abnormal Liver Scan — ant. view
(Metastatic Disease)
Study Time — 224 sec.
Isotope — 4mCi ^{99m}Tc Sulfur Colloid
Total Counts — 2,676,795



Abnormal Brain Scan — right lat. view
(CVA)
Study Time — 80 sec.
Isotope — 12mCi ^{99m}Tc
Total Counts — 806,899

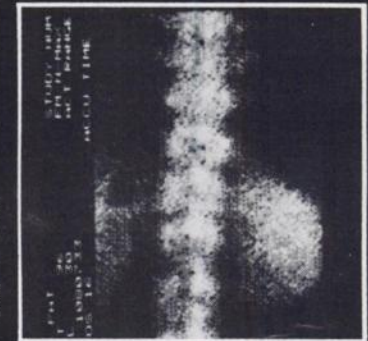


Abnormal Liver Scan — ant. view
Study Time — 320 sec.
Isotope — 2mCi ^{99m}Tc
Total Counts — 445,502

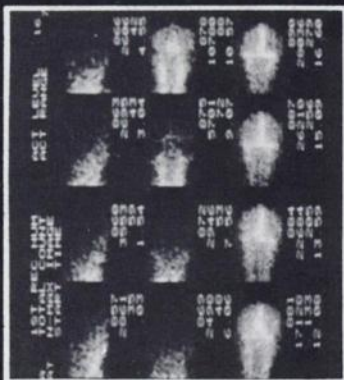


Brain-Bone Scan — left lat. view
(abnormal foci in the convexity and orbit)
Study Time — 240 sec.
Isotope — 6mCiTc Polyphosphate
Total Counts — 222,926

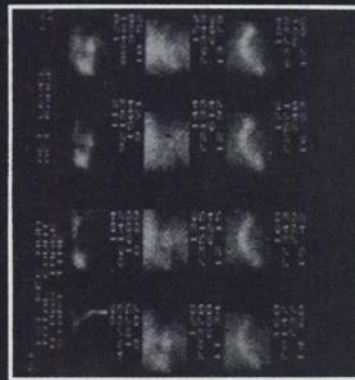
Normal Thoracic and Lumbar Spine Scan
— post. view
Study Time — 480 sec.
Isotope — 6mCiTc Polyphosphate
Total Counts — 1,000,733



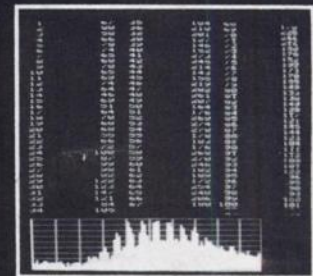
Dynamics



Normal Cerebral Blood Flow —
post. view
Accumulation Interval — 0.5 sec.
Display Interval — 1.5 sec.
Peak Counts per sec. — 26,210
Isotope — 15mCi $^{99m}\text{TcO}_4^-$



Normal Cardiac Blood Flow — ant. view
Accumulation Interval — 0.1 sec.
Display Interval — 1.0 sec.
Peak Counts per sec. — 78,147
Isotope — 15mCi $^{99m}\text{TcO}_4^-$



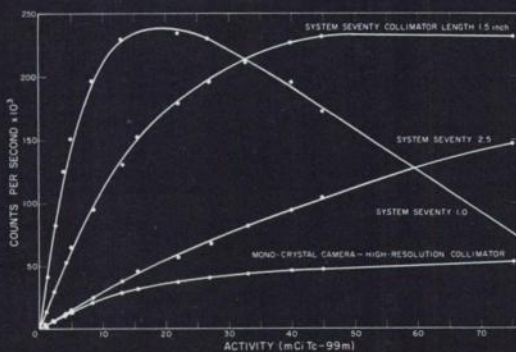
Normal Left Ventricular Quantitative
Histogram

Each double vertical line represents a
1.0 sec. time interval.

The entire histogram is 10.0 sec. long
and consists of 100, 0.1 sec. count
accumulations. This area-of-interest
histogram took less than 1.0 min. to
produce from end-of-study.

Note — definition of sinus rhythm of left
heart.

Performance



These curves provide a useful
calibration of System Seventy. The
observed count rate for 15 mCi of
 ^{99m}Tc for the 1.0, 1.5, and
2.5-inch thick collimators is
230,000, 150,000, and 45,000 cps
respectively.

The count-rate curve obtained
from a mono-crystal camera using
the high-resolution collimator
shows an efficiency about equal to
that of the 2.5-inch thick collimator

at low count rates and exhibited a
saturation rate of about 40,000
cps. The same saturation rate has
also been observed with the other
collimators available for this type
of system.

The efficiencies of the parallel-
hole collimators are such that the
saturation rate of 230,000 cps is
observed with 15, 45, and 180 mCi
of ^{99m}Tc with the 1.0, 1.5, and 2.5-
inch thick collimators respectively.

System Seventy

Or...

(how the unique combination of a programmed computer and a matrix detector allow you to practice the NOW and FUTURE art of nuclear medicine consistently, simply and reproducibly.)

Diagnostic Superiority

That's what you're really looking for. We routinely obtain 3-4mm. static resolution scans — regardless of energy. Dynamic studies can now be accomplished at high frame rates with count/unit time accumulations (at low dose rates) that are not achievable on any other gamma camera, and the results can be displayed or printed-out in histogram or numerical form within seconds of the end-of-study. That's diagnostic superiority!

Operation Simplicity

Our unique "back-lit" front panel reduces each operation to a logical-computer assisted-series of steps. Select the mode; i.e. Static/Dynamic, and only those buttons or controls necessary to complete the study will be illuminated. That's operation simplicity!

New Standard!

The New Standard in diagnostic nuclear medicine. The only words that can describe a camera that is easy to use, delivers the greatest patient throughput, and provides the most technically superior diagnostic data while doing it.

No ONE of these terms really describes SYSTEM SEVENTY.

SYSTEM SEVENTY offers the highest spatial resolution, and that's why our static images are the best. This means that you can choose to increase patient throughput by selecting the best clinical measurement which optimizes spatial resolution and efficiency.

The system's high count rate capability (>200,000 cps) enhances the time resolution of dynamic studies which is a

scientific necessity to achieve diagnostically meaningful evaluations of physiological time parameters. Stop thinking about the eventual possibility of more meaningful dynamic procedures and do them *now*, with SYSTEM SEVENTY.

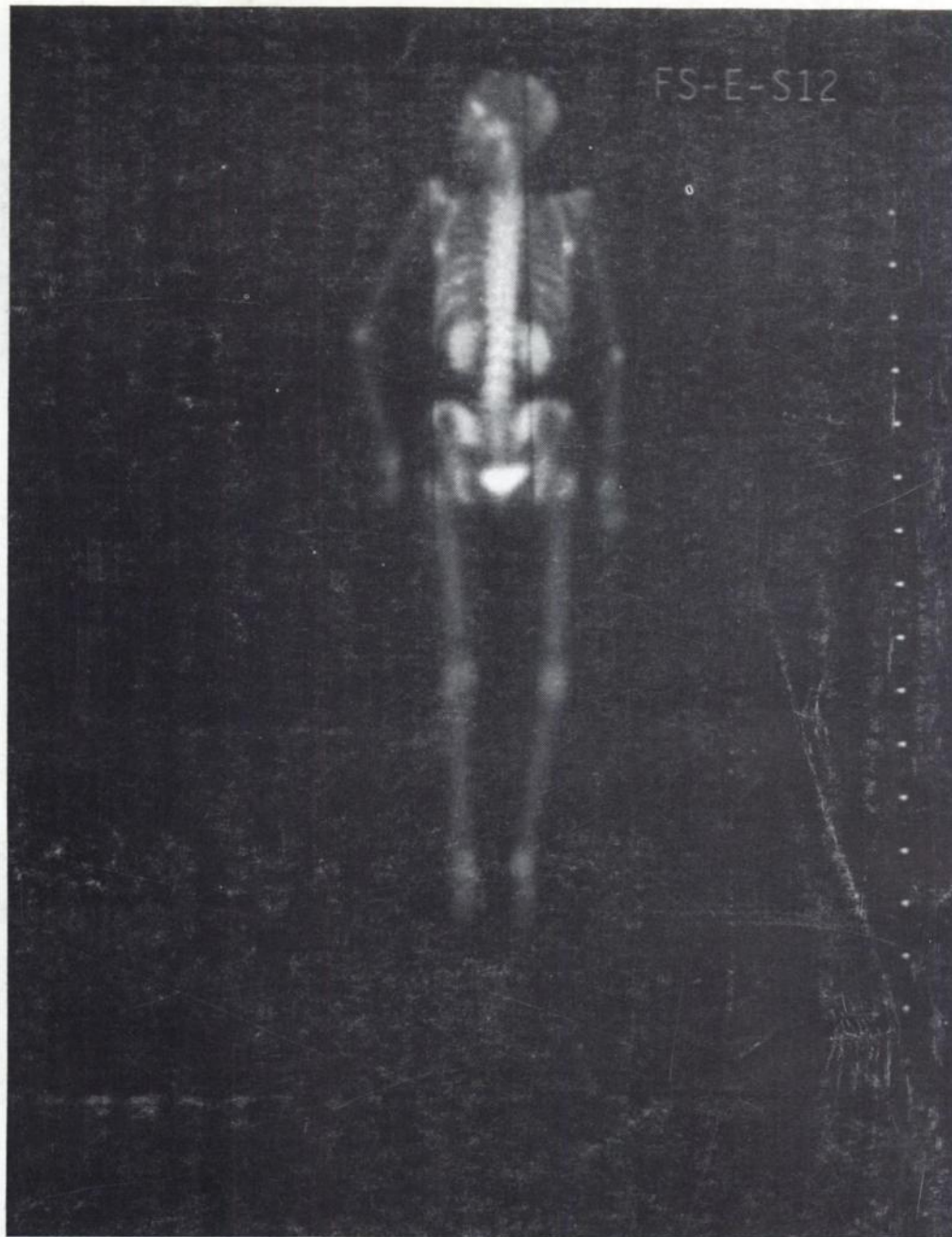
And, the operational functions we've wired into the system and the software support we provide leave very little for you or your technician/operators to learn in putting SYSTEM SEVENTY to

work and realizing the technically superior results.

So, looking back on them, certainly ALL of those terms apply, though no one of them really does SYSTEM SEVENTY justice.



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We changed our name from Nuclear-Chicago to Searle Radiographics. We have also strengthened our organization so that we can offer more comprehensive service devoted to the field of diagnostic imaging. Our primary concern, however, remains unchanged. We want you to have the best possible equipment for this very vital procedure, because the patient is our ultimate concern as well as yours.

Saying that we do more gamma imaging than anyone in the world may sound boastful, but it happens to be true. Pho/Gamma is the instrument of choice in well over 70% of the hospitals and laboratories utilizing this type of diagnostic

tool . . . and for very good reason: The importance of the procedure is only surpassed by the quality of the system. And the quality of our system is quite simply unsurpassed. Pho/Gamma and Searle Radiographics means gamma imaging. Need we say more?

SEARLE

Searle Radiographics Inc.

(Formerly Nuclear-Chicago)
Subsidiary of G. D. Searle & Co.
2000 Nuclear Drive
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