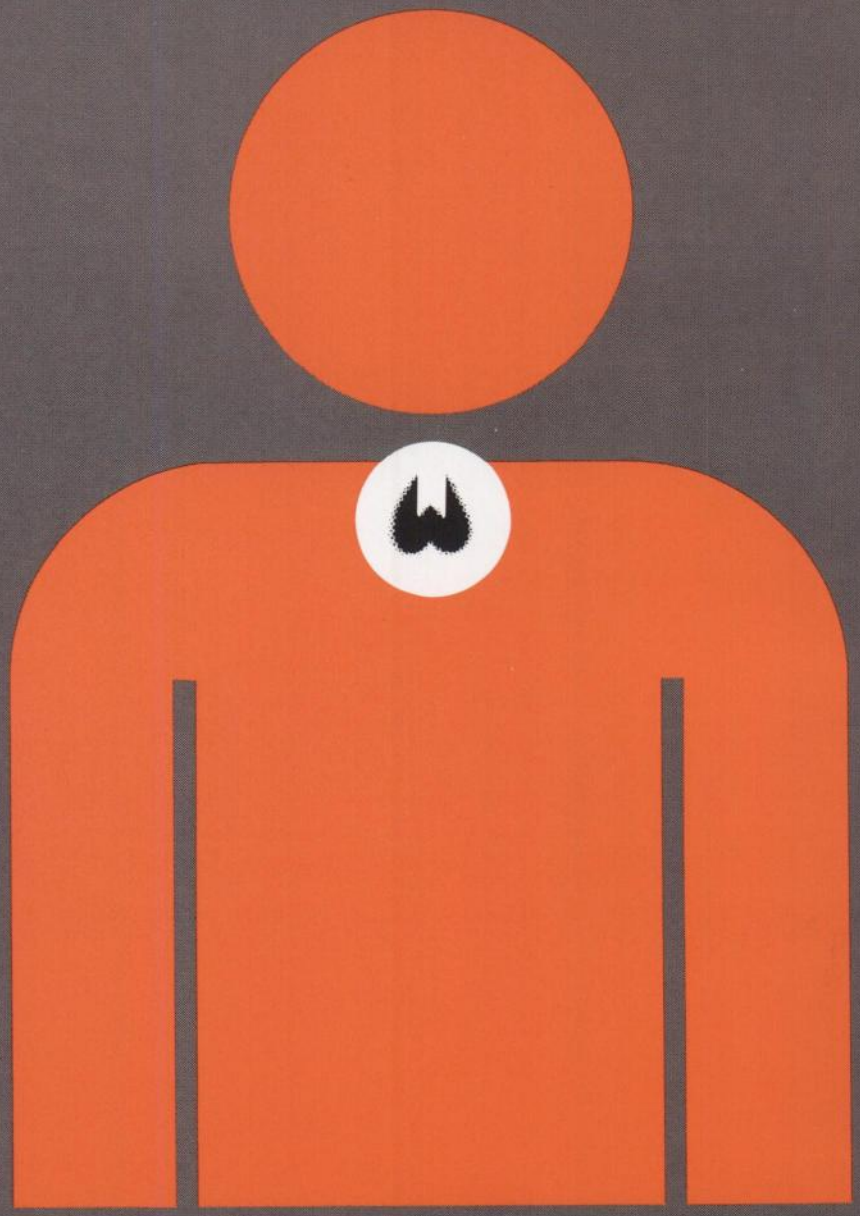
Sodium Iodide I 123

for thyroid studies



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One of the safest decisions you'll ever have to make...and as easy as 1,2,3.

Consider the benefits of MPI-Iodine-123 and your course of action becomes clear. Don't you and your patients deserve these important benefits?

Greater patient safety because of reduced radiation absorbed dose. Substitution of I 131 with MPI-Iodine-123 reduces the absorbed radiation dose more than 24 times to the thyroid gland.

Compare:

Maximal Thyroid Uptake %	Rads/100μCi MPI-Iodine-123	Rads/100μCi I 131
5	1.05	26.0
15	3.19	80.0
25	5.36	130.0

High counting statistics. MPI-Iodine-123 159 keV gamma rays are detected more than 3 times as efficiently on Anger-type cameras as the 364 keV gamma rays emitted by I 131. You get a higher count rate with MPI-Iodine-123 than with equivalent amounts of I 131 on gamma cameras. Therefore, scintiphotos can be obtained more rapidly.

Images that demonstrate true thyroid function. MPI-Iodine-123 is organified by the thyroid so images obtained will depict total thyroid function—not the trapping mechanism alone.

You save money when MPI-Iodine-123 is delivered with other Medi-Physics products. Your Medi-Physics representative will be glad to show you how you can receive MPI-Iodine-123 without delivery charges in certain areas. Call for full information about MPI-Iodine-123, our reliable shipping procedures and other products you can receive along with MPI-Iodine-123.

Use the appropriate toll-free number:
Outside California 800-227-0483
Inside California 800-772-2446

medi+physics™

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

SODIUM IODIDE I 123
CAPSULES AND SOLUTION FOR ORAL ADMINISTRATION
DIAGNOSTIC

DESCRIPTION: Sodium iodide I 123 for diagnostic use is supplied as capsules and in vials as an aqueous solution for oral administration. At calibration time each capsule has an activity of 100 microcuries and each vial contains solution with a total specific concentration of 2 millicuries per ml at calibration time.

INDICATIONS: Sodium iodide I 123 is indicated for use in the diagnosis of thyroid function and imaging.

CONTRAINDICATIONS: None known.

WARNINGS: This radiopharmaceutical should not be administered to children or to patients who are pregnant or to nursing mothers unless the information to be gained outweighs the potential hazards. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, in women of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses. However, when studies of thyroid function are clinically indicated for members of these special population groups, use of I 123 would be preferable to the use of I 131 in order to minimize radiation dosage.

PRECAUTIONS: Sodium iodide I 123 as well as other radioactive drugs must be handled with care, and appropriate safety measures should be taken to minimize radiation exposure to the patient consistent with proper patient management. The prescribed I 123 dose should be administered as soon as practicable in order to minimize the fraction of radiation exposure due to relative increase of radionuclidic contaminants with time. The uptake of I 123 may be decreased by recent administration of iodinated contrast materials, by intake of stable iodine in any form, or by thyroid, anti-thyroid and certain other drugs. Accordingly, the patient should be questioned carefully regarding diet, previous medication, and procedures involving radiographic contrast media.

ADVERSE REACTIONS: There were nine adverse reactions reported in a series of 1,393 administrations. None of these were attributed to I 123. Five adverse reactions, consisting of gastric upset and vomiting, were attributed to a filler in the capsule. Two cases of headache and a case of nausea and weakness were attributed to the fasting state. One case of garlic odor in the breath was presumed to be attributable to the presence of tellurium.

DOSAGE AND ADMINISTRATION: The recommended oral dose range for diagnostic studies of thyroid function in the average adult patient (70 kg) is from 100 to 400 microcuries. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration. Concentration of I 123 in the thyroid gland should be measured in accordance with standardized procedures.

SPECIAL CONSIDERATION: Radiopharmaceuticals should be used only by physicians who are qualified by training and experience in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

HOW SUPPLIED: Sodium iodide I 123 for oral administration is supplied in glass vials and in capsules.

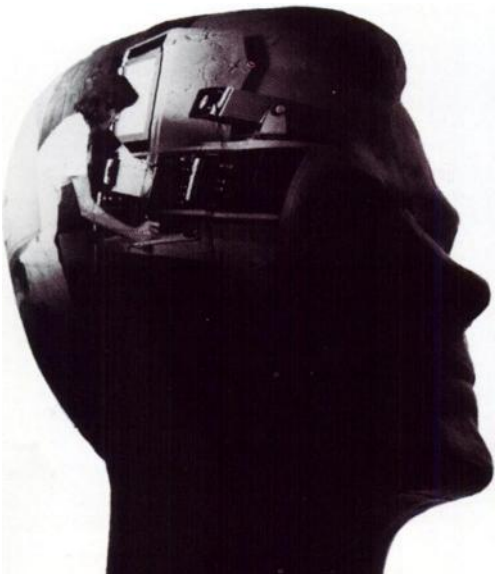
Pho/Gamma® V

Hewed out of solid tradition

Searle's new Pho/Gamma V is a worthy addition to the proven Pho/Gamma scintillation camera series. Designed for the clinic or laboratory looking for cost-effective instrumentation, the Pho/Gamma V features the advanced, high-speed electronics of the Pho/Gamma LFOV in a standard field of view camera. It also offers a large assortment of parallel-hole, pin-hole, diverging-converging and spot-converging collimators.

EASE OF OPERATION

Like the Pho/Gamma LFOV, the Pho/Gamma V has eleven factory pre-set isotope windows for operator convenience. Automatic peaking assures remarkable reproducibility from study to study and from day to day.



TRIPLE PEAK CAPABILITY

Window width and energy level can also be set independently on 3 analyzers for unique isotopes and special studies. Thus, your facility can take full advantage of the diagnostic potential in multi-peak nuclides such as Gallium 67. This is especially important in soft-tissue studies where high sensitivity and superior resolution are vital.

IMPROVED ELECTRONICS

New ratio correction circuitry allows wider window widths, shortens study times and increases patient throughput. Other electronic innovations include pulse-pair pile-up rejection and event buffering circuitry. As a result, the Pho/Gamma V is capable of count rates up to 200,000 cps, which is sufficient for even highly specialized techniques such as dynamic cardiac studies.

INSTRUMENTATION BACKED BY SUPERIOR SERVICE

Searle Service is one of the largest, highly trained Service Organizations in the nation. This trained and knowledgeable group is dedicated to maintaining highest quality instrument performance in your laboratory.

IMAGING:
The Living Art

The Pho/Gamma V is the most advanced standard field of view scintillation camera available today. Like other instruments in the famous Pho/Gamma line, it consistently delivers high quality images to give the physician maximum diagnostic support.

For more information on the Pho/Gamma V system, including the unique Micro Dot™ Imager and Scintiscan™ Whole Body Table, call your Searle representative or write: Searle Radiographics, Inc., 2000 Nuclear Drive, Des Plaines, IL 60018. Telephone: (312) 298-6600.

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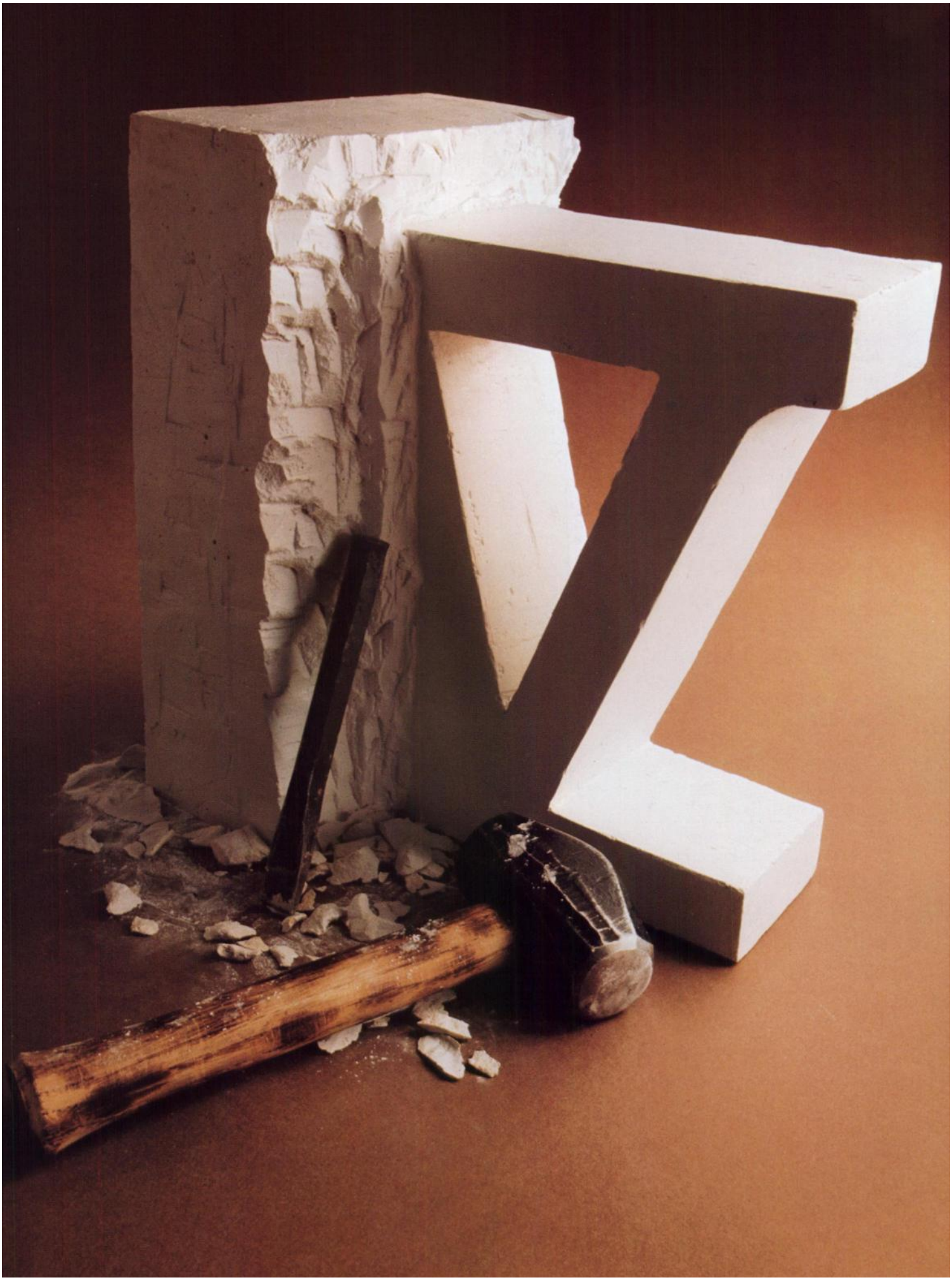
SR 544



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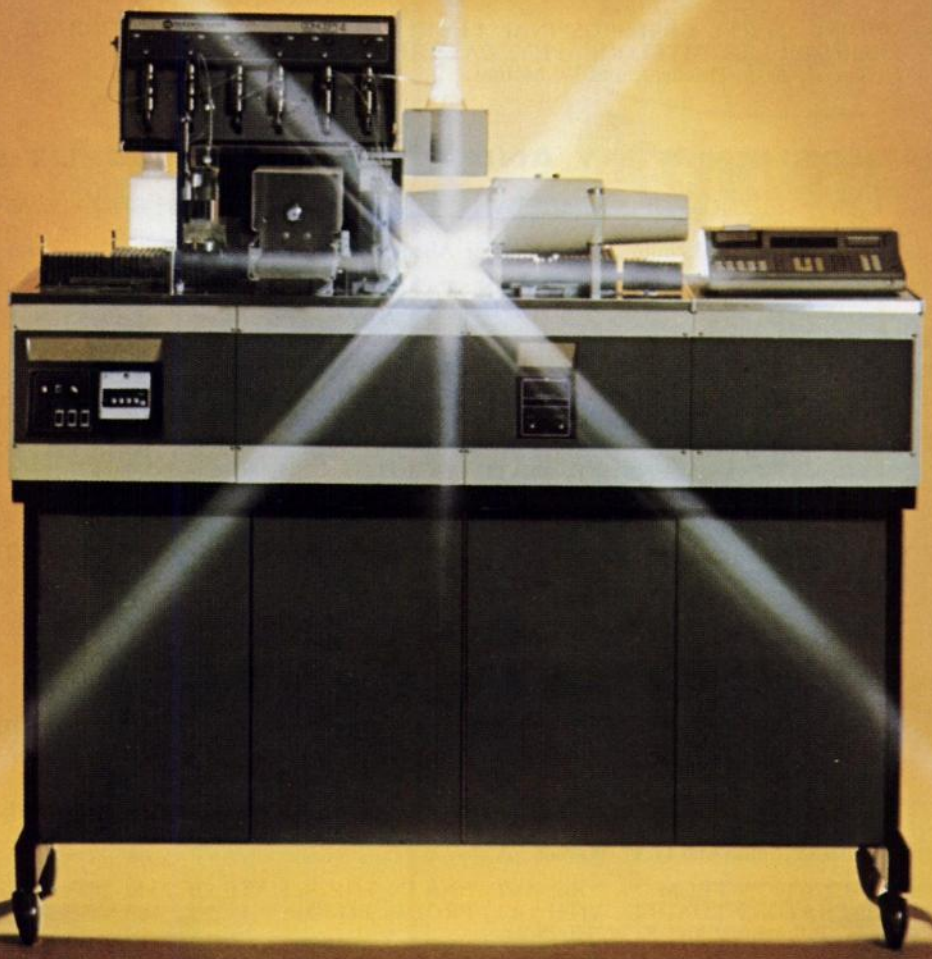
CONCEPT 4 begins a whole new way of thinking about radioassay. It brings completely automatic sample-to-answer instrumentation within reach of the clinical laboratory. By adding a premeasured reagent system to the instrumentation it assures you of consistently accurate results, free of human error. In essence, it's an answer system for the five high-volume tests available now—T_4, T_3 RIA, T_3 Uptake, Digoxin and Cortisol. And six more are coming soon. CONCEPT 4 can make your heaviest radioassay workload effortless. For complete information about CONCEPT 4 please write us at the address below:



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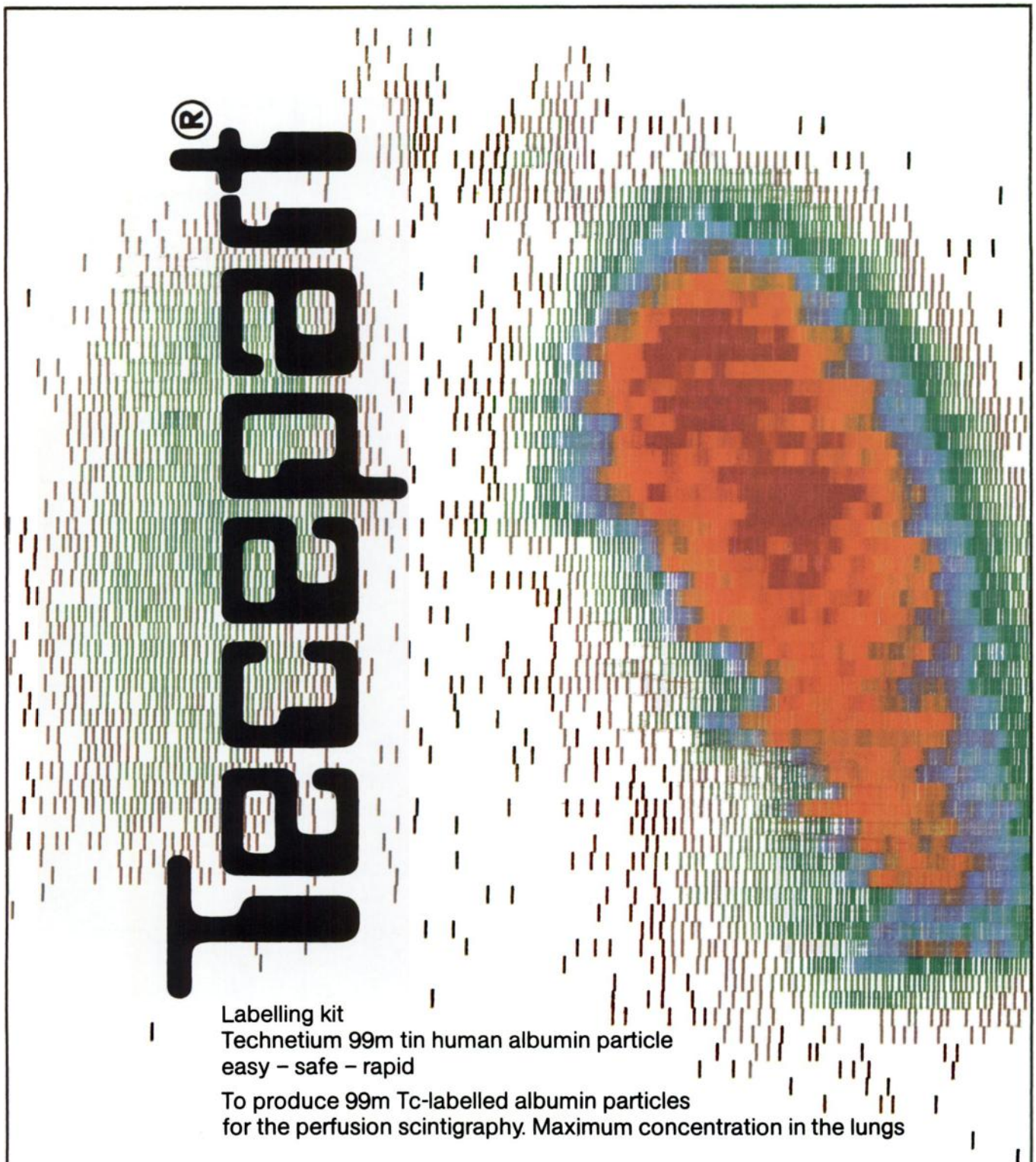

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Technetium 99m tin human albumin particle
easy – safe – rapid

To produce 99m Tc-labelled albumin particles
for the perfusion scintigraphy. Maximum concentration in the lungs

Storage:
at room temperature up to 25°C

Labelling kit:
12 ml vial with tin-II-human albumin particles, lyophilized

Specifications of the injection solution:

Volume: 1–10 ml
Human albumin: 0.25–2.5 mg/ml
Sn^{2+}: 0.0045–0.045 mg/ml
NaCl: 9.2–10.8 mg/ml
Technetium-99m: approx. 10^{-6} mg/ml
pH: 5–6
Stability: approx. 8 hours
Content of 99m TcO_4^- : < 1% of total activity.

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Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 26, Postfach 1240. Tel: (06103) 85034.

Advances in Plain Language Control of Data Systems from varicam

```
;


NEXT PROGRAM NAME ? DEF;
(VIEW,)ROI NUMBER ? 5,1;
QUADRANT? 2;

BUG READY....
    NUMERIC TO MOVE BUG
    SHIFT TO GO FAST
    SPACE TO FIX POINT
    CR TO CLOSE ROI


ROI INSIDE OR OUTSIDE LINE? 1;
ROI INSIDE OR OUTSIDE LINE? 1;
REPEAT? N;


NEXT PROGRAM NAME ? _
```

Interactive R.O.I. selection dialogue.

```
;


NEXT PROGRAM NAME ? DROI;
ERASE ? N;
QUADRANT? 2;
(VIEW,)ROI NUMBER ? 5,1;
ROI NUMBER? ;
REPEAT? ;


NEXT PROGRAM NAME ? DISP;
VIEW NUMBER(,FIRST,LAST)? 1;
BACKGROUND SUBTRACT ? ;
SATURATION LEVEL? ;
CYCLES OF GRAY? ;
ERASE ? ;
QUADRANT? ;
REPEAT? ;


NEXT PROGRAM NAME ? _
```

Display program dialogue.

```
NEXT PROTOCOL NAME? LIVER;

CURRENT PATIENT IS: ROBINSON-CRUSOE  D              SS56789
THIS PROTOCOL COLLECTS THREE STATIC VIEWS, THE FIRST
IS THE ANTERIOR, THE NEXT THE RIGHT LATERAL AND THE
LAST THE POSTERIOR.
NORMALISATION IS DONE WITH THE 'DIV' CORR. MTX.


    STUDY NUMBER (12)? 127/74;
             NAME (30)? JONES D;
  NUMBER (SS ETC) (14)? SS345;

CURRENT PATIENT IS: JONES D                         SS345

ADD, DELETE, LIST OR SELECT ? ;

NOW POSITION THE PATIENT SUPINE WITH THE LIVER AND
SPLEEN VISIBLE ON THE PERSISTENCE 'SCOPE.

TYPE CR TO GO ? ;
HIT SPACE BAR TO STOP EARLY
AGAIN, RESTART, KILL OR STOP? S;
VIEW NUMBER =   1; NUMBER OF MATRICES =   1

NOW POSITION THE PATIENT LYING ON THE LEFT SIDE.

TYPE CR TO GO ? _
```

Typical protocol control dialogue (customer prepared).

```
G  = GENERATE PROTOCOL
R  = RUN PROTOCOL
T  = TAPE STORAGE OF DATA
S  = SEARCH FOR DATA ON TAPE
N  = NAME NEXT PROGRAM
U  = USER PROGRAM DEVELOPMENT
L  = LEAVE SYSTEM
H  = HELP


ACTION? ;


NEXT PROGRAM NAME ? MXOP;
+ - * OR /? -;
FIRST VIEW
VIEW NUMBER(,FIRST,LAST)? 1;
PERCENTAGE OF FIRST ? 56;
SECOND VIEW
VIEW NUMBER(,FIRST,LAST)? 2;
PERCENTAGE OF SECOND? 67;
VIEW NUMBER =   7; NUMBER OF MATRICES =   1


NEXT PROGRAM NAME ? _
```

Matrix mathematical operations program dialogue.

VARICAM's operator dialogue is designed to require the minimum of operator initiative and expertise, whilst preserving flexibility.

In the manual mode of operation modules are specified in reply to the question "next program name?" These are named obviously such as "MXOP" for matrix operations or "ERASE" for erase. Subsequent parameters of operation are requested by VARICAM as required in plain language.

In the protocol mode, modules are chained together and fixed (or variable) parameters are specified. Protocols are used to automate routine workloads; the comment facility enabling the principle user to ensure that consistent procedures are used by all operators.

Ease of use is an extremely important factor often overlooked—at its least it can allow an expert user to work at optimum speed, at its best it can make the difference between a 'computer-lay' technician's enthusiasm or complete inability to drive the system at all.

varian

varian radiation division
611 Hansen Way, Palo Alto, California 94303, USA.
Telephone (415) 493-4000

European Enquiries: Molesey Road, Walton-on-Thames, Surrey, England
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High quality images, consistently reproducible, to further increase diagnostic accuracy;

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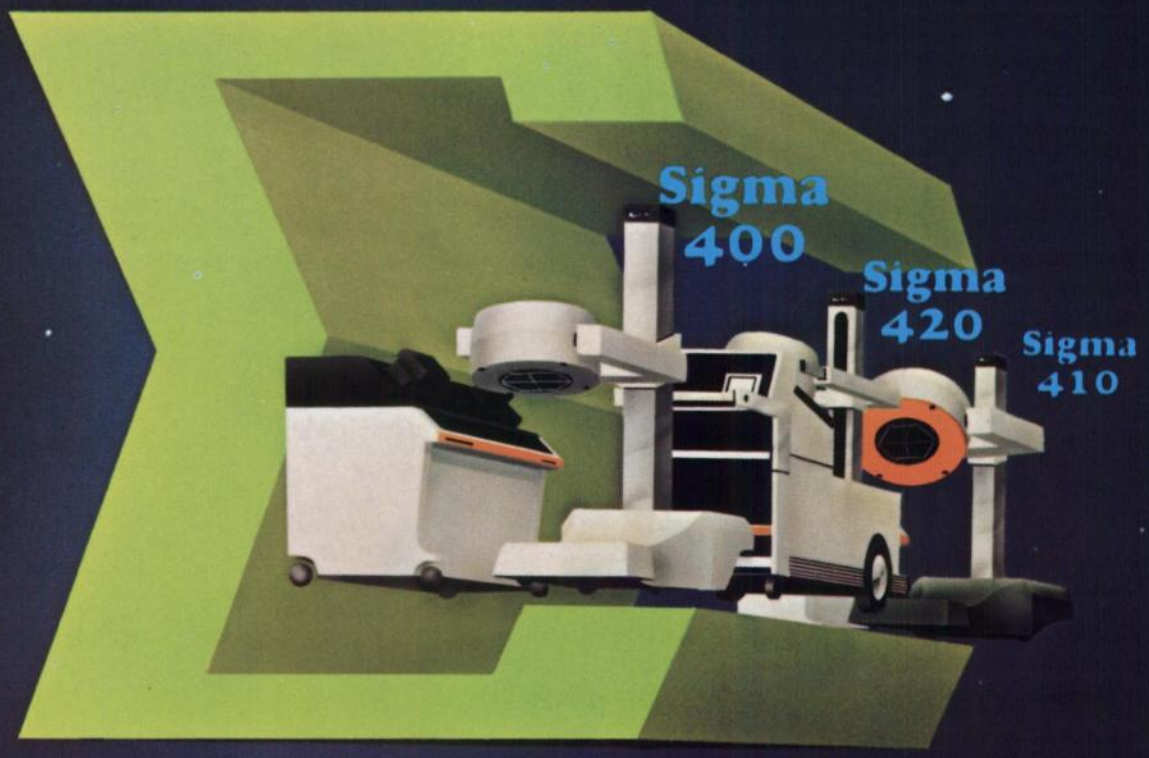

We Listened To You.

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When movement of a critically ill patient is risky... but the diagnostic support of nuclear imaging is indicated, consider Searle's new Pho/Gamma L.E.M. Compact and maneuverable, the L.E.M. can easily be moved to the patient's environment in the emergency room, ICU or CCU where heart, lung, brain and renal studies can be done without compromising patient comfort and safety.

PROVEN ELECTRONICS
The L.E.M. has the same high-speed electronics as Searle's proven Pho/Gamma LFOV. It has six factory pre-set isotope windows for operator convenience. Automatic peaking assures remarkable reproducibility from study to study and from day to day. Window width and energy level can be set independently on 2 analyzers for dual-peak isotopes and special studies.

INCREASED PATIENT THROUGHPUT
New ratio correction circuitry allows wider window widths, shortens study times and increases patient throughput. Other electronic innovations include pulse-pair pile-up rejection and event buffering circuitry. As a result, the L.E.M. is capable of count rates up to 200,000 cps.

CHOICE OF COLLIMATORS
The L.E.M. offers a wide selection of lightweight collimators for optimum resolution under any conditions. With its converging collimation capabilities, it offers significant improvement in resolution of deep-seated structures. Renal studies, for example, yield images of such clarity that it is possible to obtain even oblique views of diagnostic quality.

TAILORED FOR SPECIAL APPLICATIONS
In heart imaging, the L.E.M. can be "gated" for systolic or diastolic studies, and the high count rate capability makes it suitable for advanced techniques such as dynamic cardiac imaging. The L.E.M. reveals midline brain lesions with unequalled clarity in static studies with the converging collimator. Parallel-hole and diverging collimation is used for large-area studies, such as lung imaging for pulmonary emboli.

INSTRUMENTATION BACKED BY SUPERIOR SERVICE
Searle Service is one of the largest highly trained Service Organizations in the nation. This trained and knowledgeable group is dedicated to maintaining highest quality instrument performance in your laboratory.

For more information about the Pho Gamma L.E.M., including sample studies, call your Searle representative or write: Searle Radiographics, Inc. 2000 Nuclear Drive, Des Plaines, Il 60018. Telephone: (312) 298-6600.

IMAGING:
The Living Art

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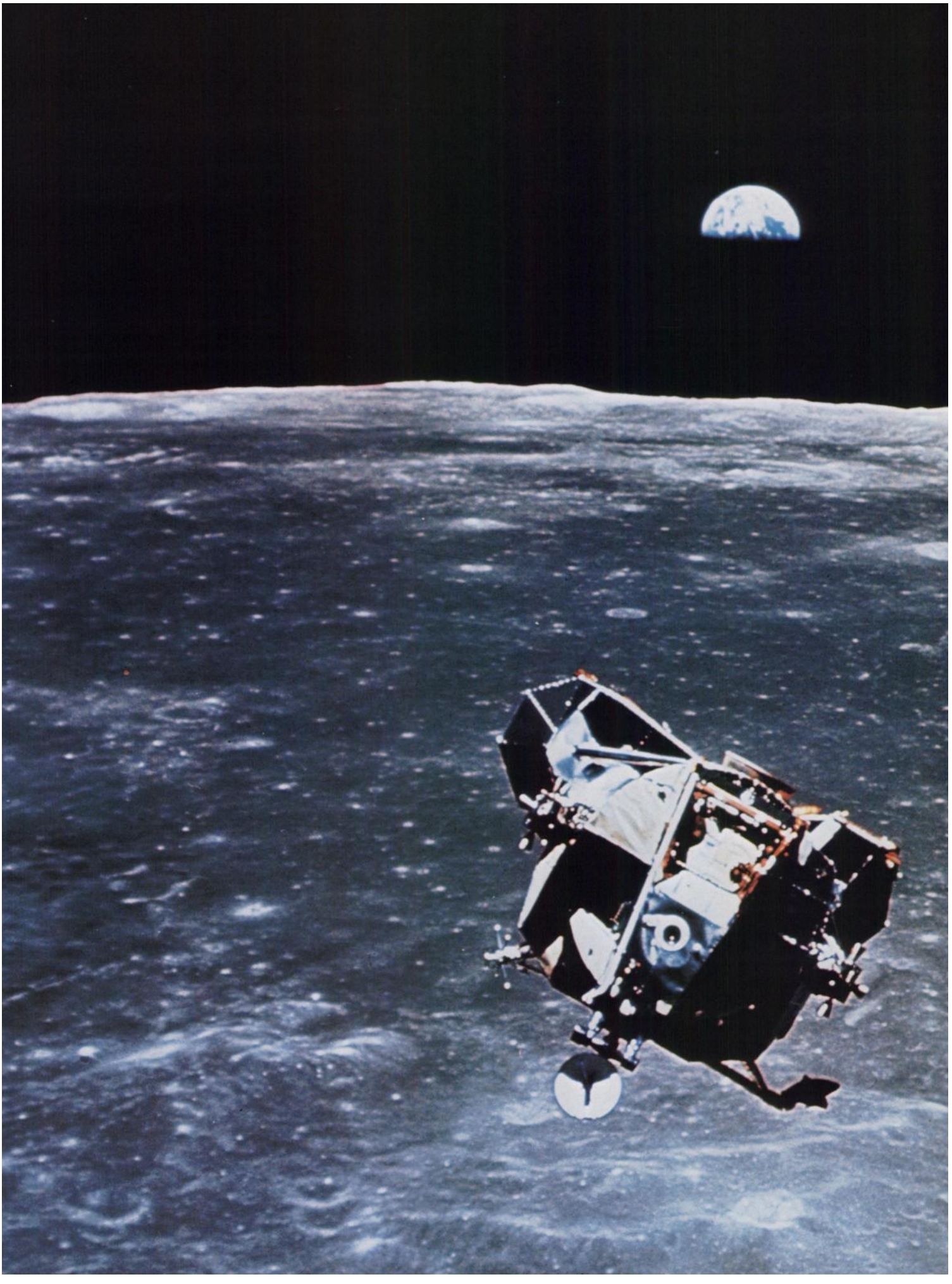
SR-53



Nuclear Medicine Needs A Useful Data System

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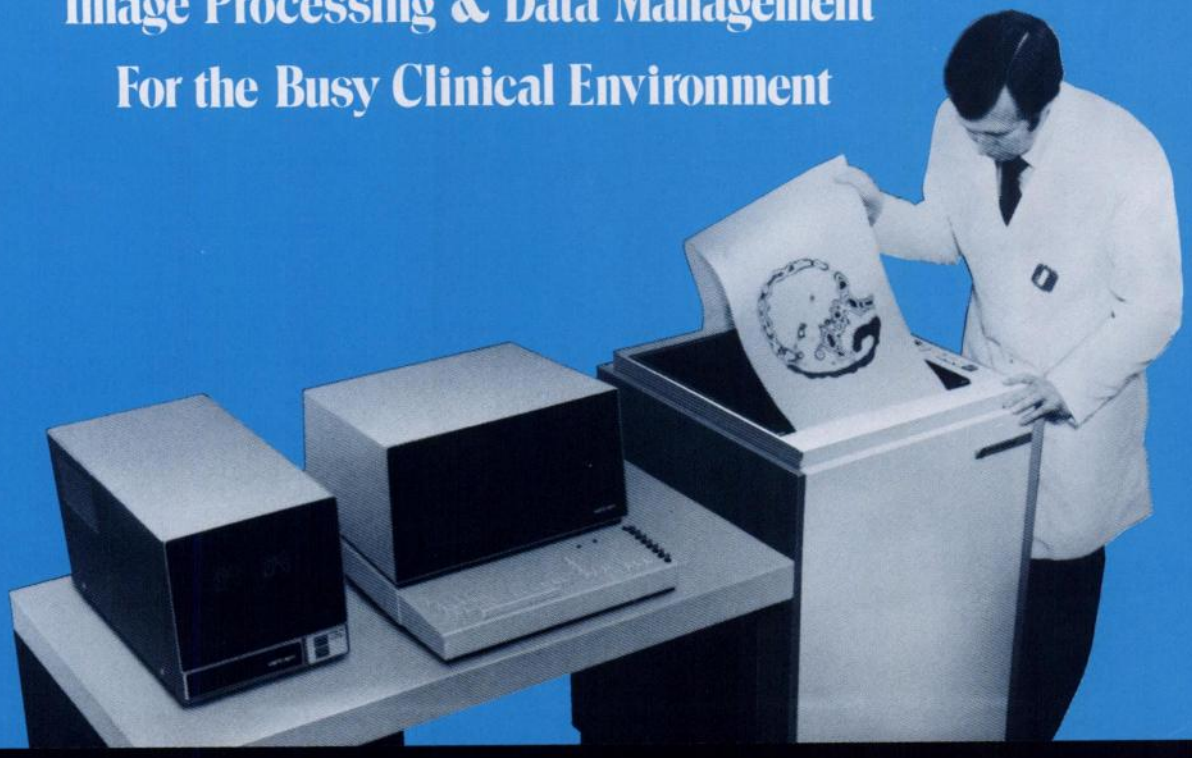
Image Processing & Data Management For the Busy Clinical Environment



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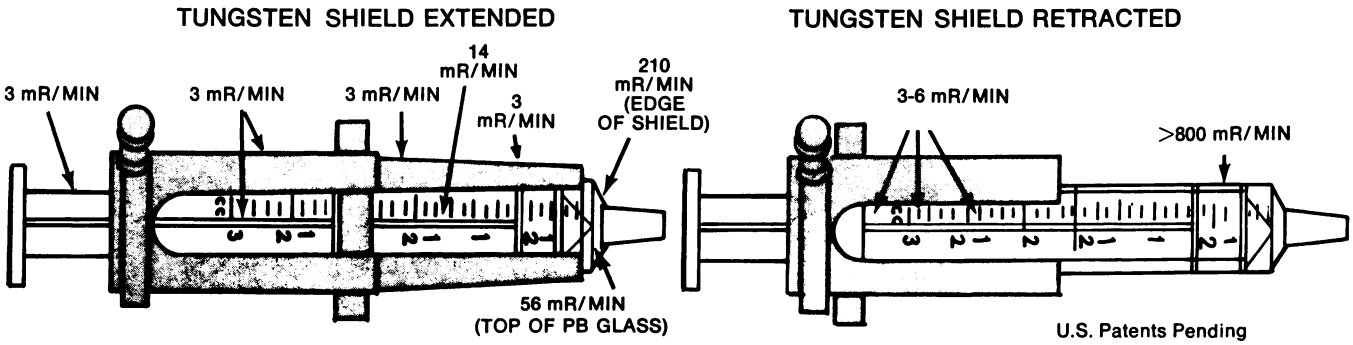
FILM EXPOSURE AT THE SURFACE 29.2 mCi for ^{99m}Tc in 1cc of a 3cc PLASTIC SYRINGE



U.S. Patents Pending

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*CONCEIVED and DESIGNED BY: J. Howley, H. Tipton, A. Jones, M. Dickinson, M. Green, and G. Johnston. National Institutes of Health, Bethesda, Md.

SHIELDING PERFORMANCE CHART COMPLIMENTS OF: J. Howley, Radiation Safety Services, National Institutes of Health, Bethesda, Md.

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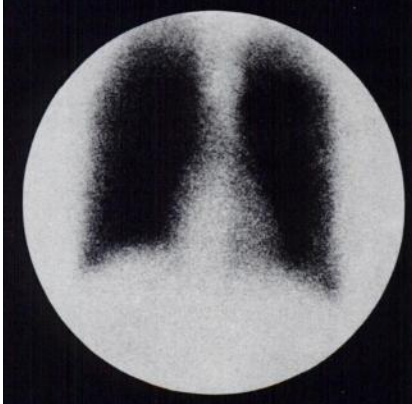
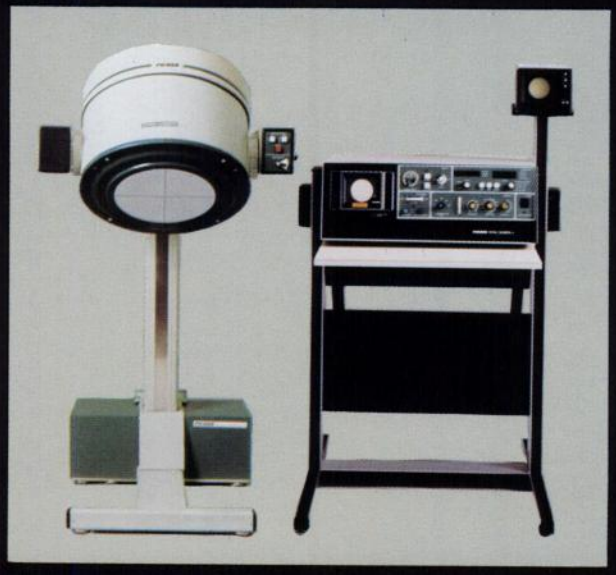
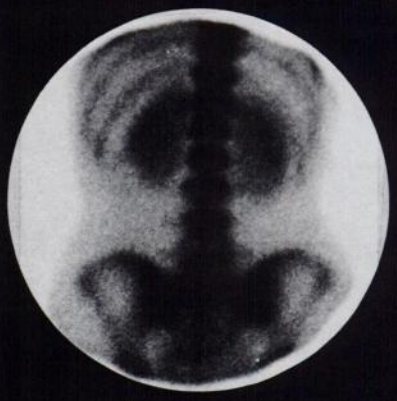
Think bigger.



Lung View, Anterior





Bone View, Posterior

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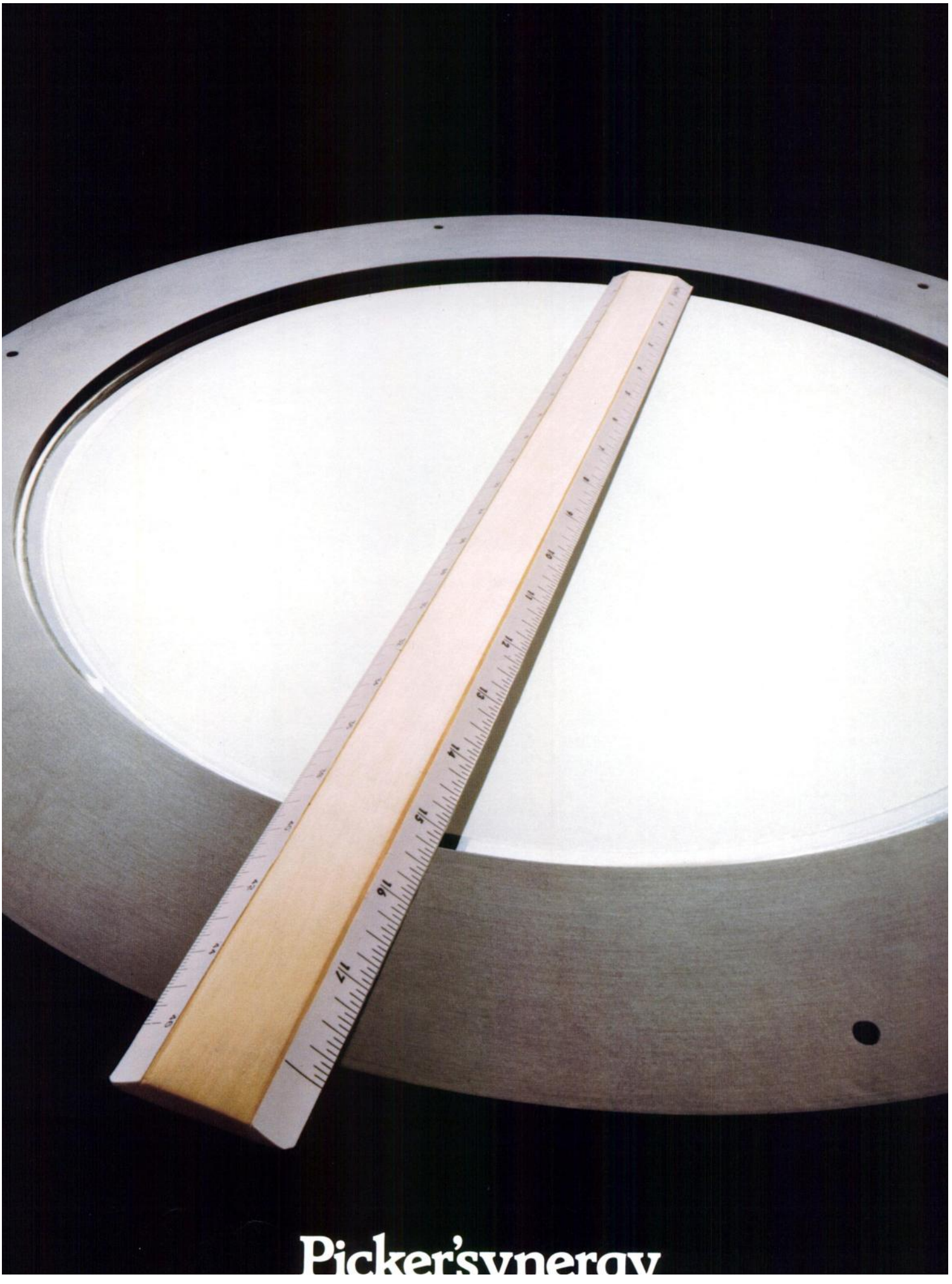
ONE OF THE C.I.T. COMPANIES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Just place the vial on the elution needle.

The sterile, pyrogen-free Indium 113m is automatically drawn from the generator.

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Quality assured—pretested for sterility, pyrogenicity, Tin Sn 113 breakthrough, zirconium ion and flow characteristics.

Each generator contains a 0.22 micron final filter.

Indications: Ionic Indium Chloride In 113m eluted from the NEN Indium In 113m Generator may be used directly as a blood pool imaging agent or as the radioactive label in the synthesis of other Indium In 113m radiopharmaceuticals.

Contraindications: Radiopharmaceuticals containing Indium In 113m should not be used in patients with a history of allergy to such agents.

Warnings: Indium Chloride In 113m should not be administered to children or to patients who are pregnant or to nursing mothers unless the information to be gained outweighs the potential hazards. Ideally, examinations using radiopharmaceutical drug products, especially those elective in nature of a woman of childbearing capability should be performed during the first few (approximately ten) days following the onset of menses.

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

Precautions: In order to assure the sterility and non-pyrogenicity of the eluate, the Generator must be eluted according to the operating instructions. It is essential that the user adhere to strict aseptic procedure. The eluate should be crystal clear and any eluate appearing hazy or containing particulate material should not be used. Testing of the eluate for tin breakthrough and zirconium breakthrough should be performed after each elution. Periodic recertification of the sterility of the eluate is recommended beginning two (2) weeks after the calibration date.

Indium Chloride In 113m is eluted in acid solution. Therefore, slow intravenous injection over at least 30 seconds of no more than 1.0cc is advised. Indium In 113m remains in solution at a pH below 3.0; raising the pH above that level results in the formation of a colloidal hydroxide.

Each patient dose should be determined by a suitable radioactivity calibration system immediately prior to administration.

Adverse Reactions: To date, no adverse reactions based on the use of this agent have been reported. However, several reports have been published documenting the occurrence of transient hypotensive episodes after prolonged patient recumbency for placental imaging. This is probably due to physiologic compression of the inferior vena cava by pelvic contents and has been completely reversible spontaneously without the necessity for pharmacologic intervention.

Dosage and Administration: Ionic Indium Chloride In 113m is administered intravenously for blood pool imaging. The suggested dose for the average 70 kg patient is 0.5-4.0mCi and imaging can be performed within minutes after injection.

Indium Chloride In 113m can also be incorporated into radiopharmaceuticals according to procedures determined and approved by each user institution to assure sterility and non-pyrogenicity of the final product.

How Supplied: The NEN Indium In 113m Generator is available with column loadings of 5mCi to 100mCi of Tin Sn 113 on the day of calibration, yielding sterile, non-pyrogenic In 113m as the chloride upon elution. Expiration date is 6 months after calibration.

NEN **New England Nuclear**
Radiopharmaceutical Division
Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531
Los Angeles: 213-321-3311 Miami: 305-592-0702

Canada: NEN Canada Ltd., Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
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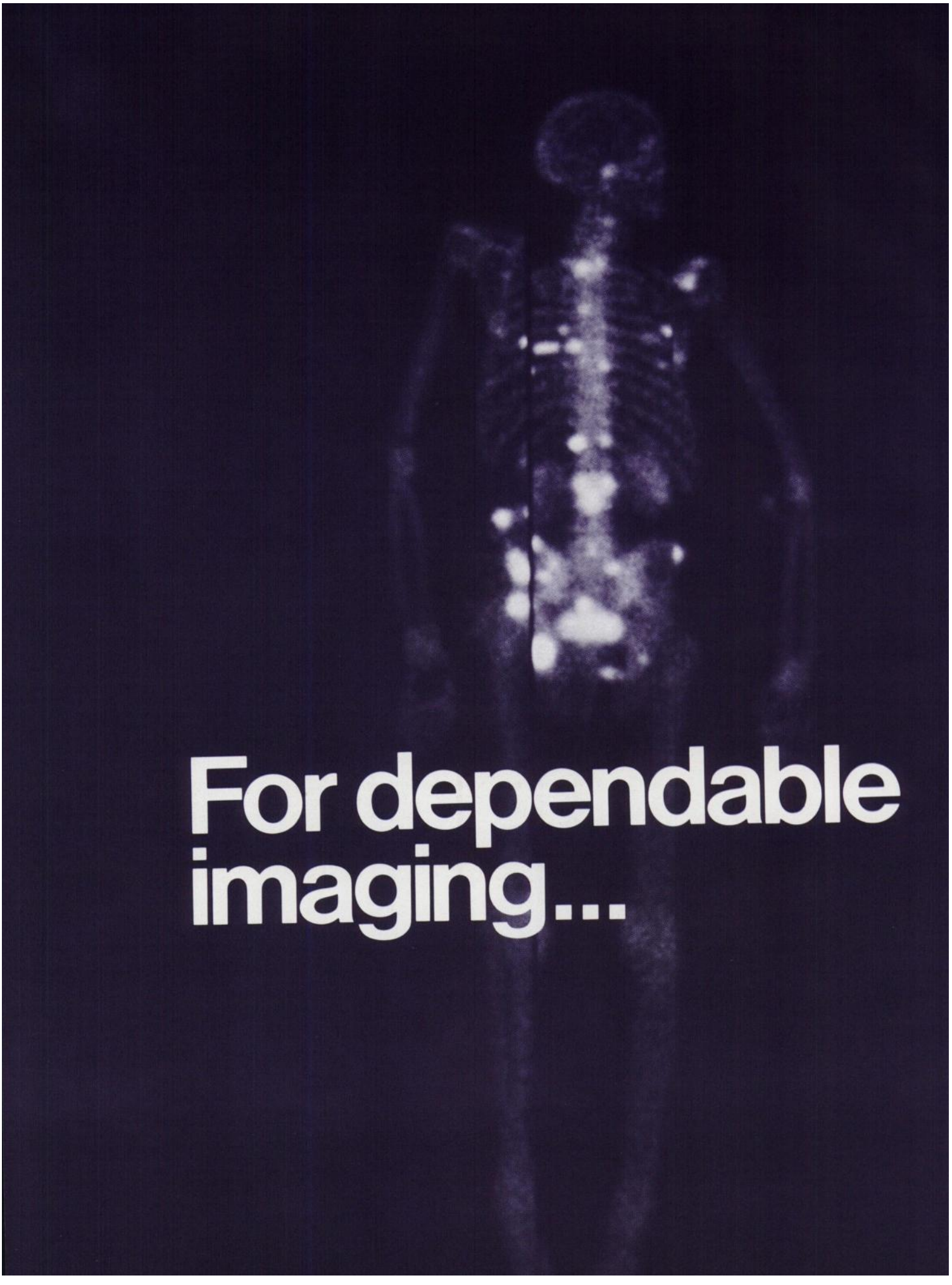
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PROCTER & GAMBLE

OSTEOSCAN®

(5.9 MG DISODIUM ETIDRONATE, 0.16 MG STANNOUS CHLORIDE)

SKELETAL IMAGING AGENT

In Europe, contact: Philips-Duphar B.V., Cyclotron and Isotope Laboratories, Petten, Holland.

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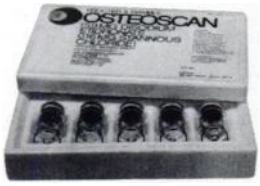


PRODUCT INFORMATION

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

DESCRIPTION

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

ACTIONS (CLINICAL PHARMACOLOGY)

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

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

INDICATIONS

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

CONTRAINDICATIONS

None.

WARNINGS

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

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

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

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

PRECAUTIONS

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

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

ADVERSE REACTIONS

None.

DOSAGE AND ADMINISTRATION

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

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

SETHOTOPE®

Selenomethionine Se 75 Injection

Sethotope (Selenomethionine Se 75 Injection) is a sterile, nonpyrogenic, aqueous solution of L-selenomethionine providing a specific activity of not less than 25 microcuries per mcg. of selenium at the time of manufacture. The product also contains not more than 3 mg. L-methionine as a carrier, not more than 12 mg. 2-aminoethanethiol as an antioxidant, sodium chloride for isotonicity, and 0.9% (w/v) benzyl alcohol as a preservative.

CONTRAINDICATIONS: At present, there are no known contraindications to the use of Selenomethionine Se 75 Injection.

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

The transplacental transport and long biologic half-time of this agent may result in significant radiation exposure to the fetus. Since selenomethionine ^{75}Se is excreted in milk during lactation, formula-feedings should be substituted for breast-feedings.

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 safe handling of radionuclides, produced by nuclear reactor or cyclotron, and whose experience and training have been approved by the appropriate federal or state agency authorized to license the use of radionuclides.

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.

Fasting prior to administration may enhance the hepatic uptake of the agent which may result in degradation of pancreatic image quality.

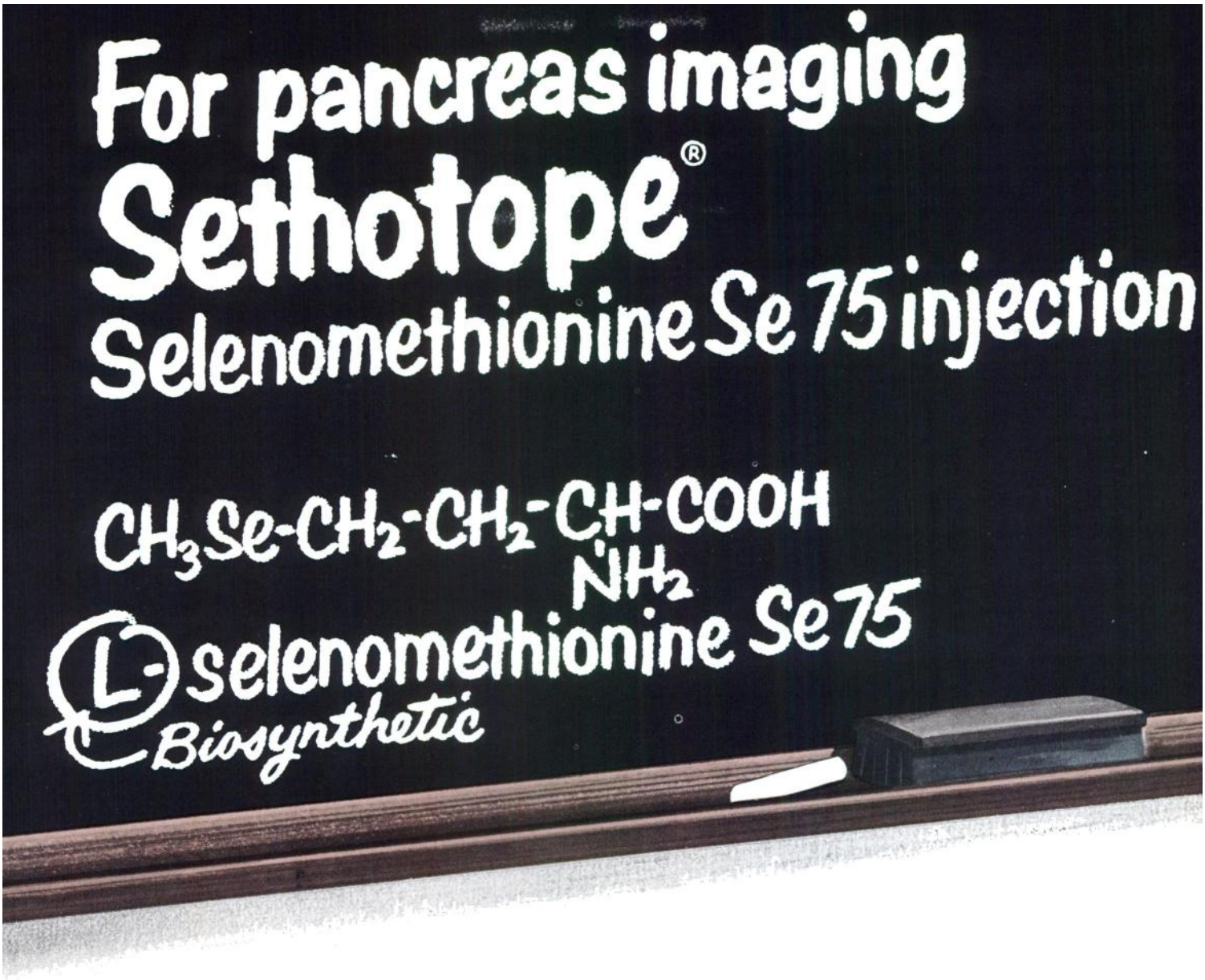
ADVERSE REACTIONS: At present, adverse reactions have not been reported following administration of Selenomethionine Se 75 Injection.

For full prescribing information, consult package insert.

HOW SUPPLIED: Sethotope (Selenomethionine Se 75 Injection) is available in multiple dose vials in potencies of 0.25 millicurie, 0.5 millicurie, and 1 millicurie. Complete assay data for each vial are provided on the container.

Medotopes®

SQUIBB HOSPITAL Division
E. R. Squibb & Sons, Inc.
P.O. Box 4000
Princeton, N.J. 08540



High pancreas specificity

Selenomethionine is a structural analog of the amino acid, methionine, in which the selenium has been substituted for the sulfur atom. Chemically and biologically, they behave alike, including a relatively high degree of uptake in the pancreas during protein synthesis.

Levorotatory compound

Radioactive selenomethionine can be produced in racemic form by chemical synthesis from ^{75}Se. At Squibb, however, selenomethionine is prepared *biosynthetically* by extracting it from the protein product of yeast grown on a low sulfur medium containing ^{75}Se of high specific activity. This compound is levorotatory.

Specific activity

Squibb L-selenomethionine ^{75}Se provides a specific activity of not less than 25 microcuries per microgram of selenium at the time of manufacture.

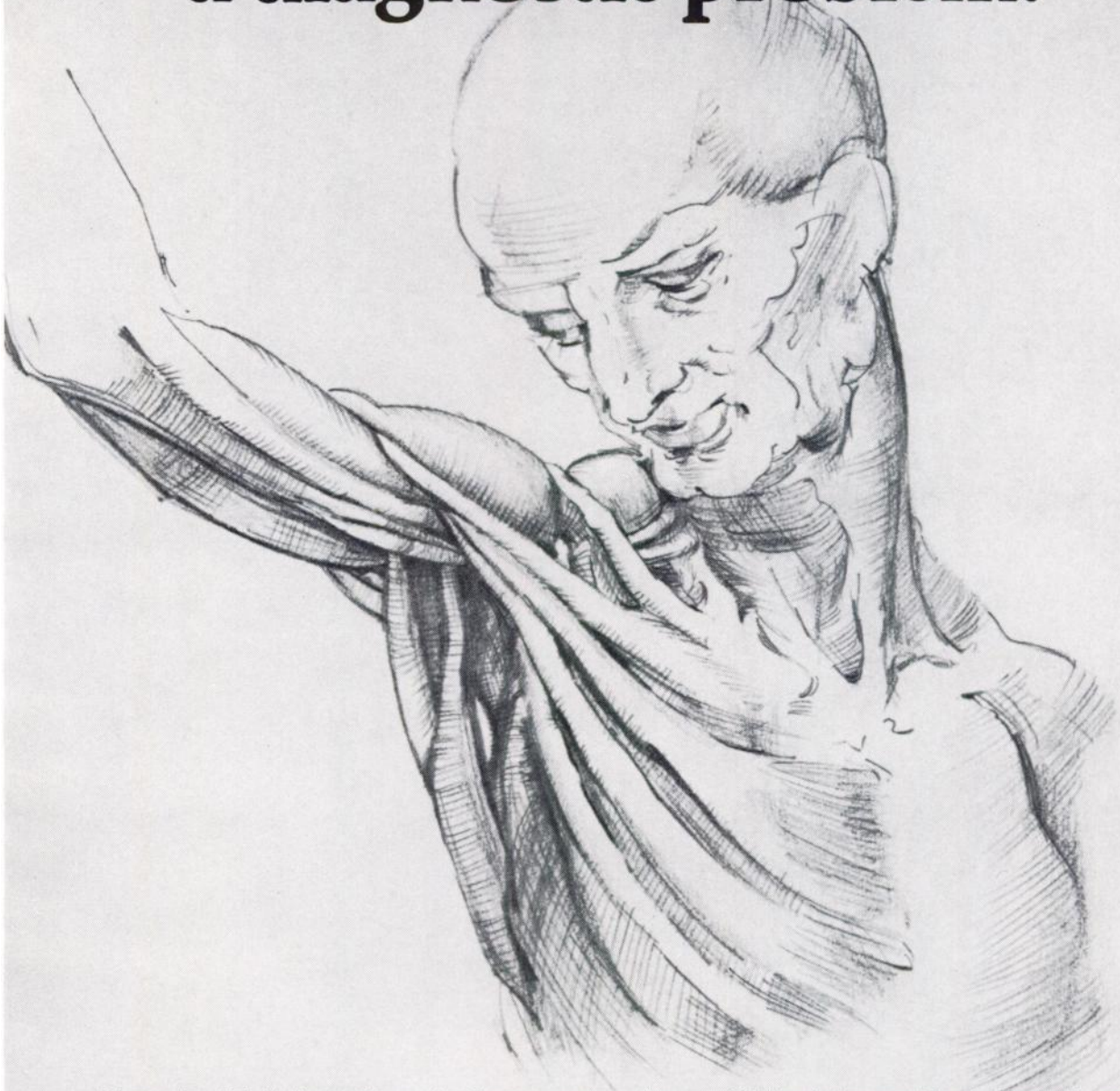
Sethotope®
Selenomethionine Se 75 Injection

See opposite page for brief summary.

Medotopes®

SQUIBB HOSPITAL Division
E. R. Squibb & Sons, Inc.
P.O. Box 4000
Princeton, N.J. 08540

Rheumatic diseases: a diagnostic problem?



Diagnosis of individual rheumatic diseases can present problems. Our simple test, the anti-DNA Kit, can give vital information to aid that diagnosis.

The kit provides the first standardized assay to consistently and reliably measure anti-DNA antibodies. High circulating levels of these antibodies are closely linked with systemic lupus erythematosus (SLE). In doubtful cases, the kit offers excellent discrimination between SLE and rheumatoid arthritis and is particularly valuable as a follow-up to ANF tests. Results show that the kit is also useful as a means of monitoring disease activity, providing the physician with guidance on drug therapy.

The kit is a simple radioassay – a matter of routine for any clinical laboratory with a gamma counter. Please write or 'phone for further information.

Anti-DNA kit

Amersham/Searle

AMERSHAM / SEARLE CORPORATION:
An Activity of G. D. Searle & Co. and the Radiochemical Centre

Product described in '76 CLR page 213.

2636 S. Clearbrook Drive/Arlington Heights, Illinois 60005
Telephone: Toll free: 800-323-9750 – Telex: 28-2452
In Illinois, Alaska, Puerto Rico, & Hawaii: 312-593-6300
400 Iroquois Shore Road/Oakville, Ontario
Telex: 069-82286 – Telephone: 416-844-8122
C 767107

The GE commitment to nuclear medicine: complete equipment, software and service.

GE: new ideas solve nuclear needs.

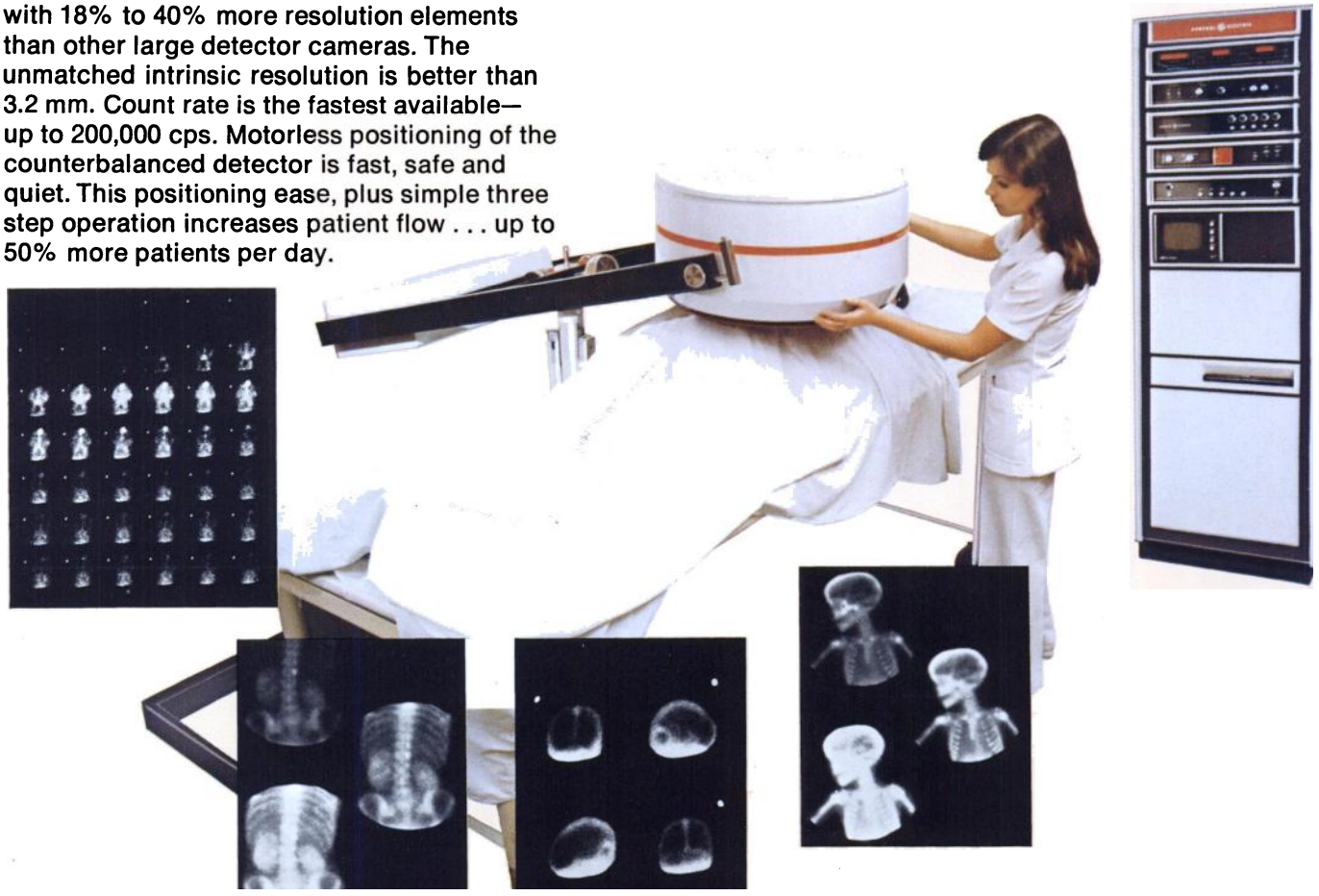
Innovative systems are needed to meet the many needs of today's nuclear departments. That's why GE has combined new product ideas with proven concepts to provide the latest in nuclear capability.

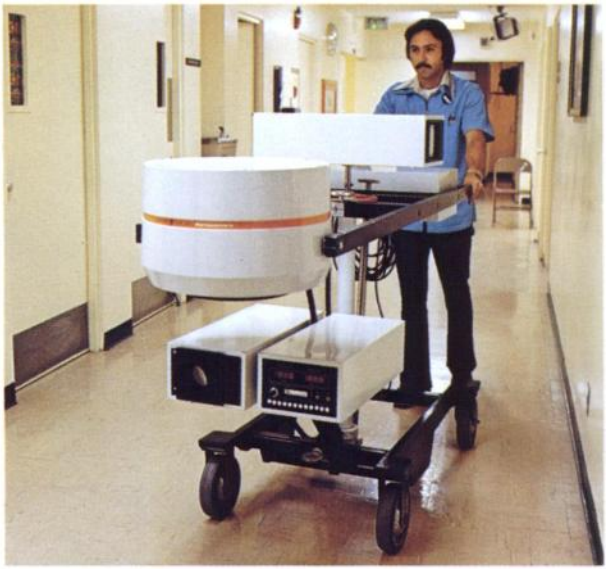
MaxiCamera system: largest field of view delivers unprecedented image quality.

MaxiCamera™ system's 400 mm field of view—the largest of any scintillation unit—offers nuclear departments important new advantages. The big field allows imaging of both lungs at the same time—reducing lung study time by more than 30%. Large livers can also be imaged rapidly and easily. MaxiCamera system handles whole body scanning, yet the unit requires only a 6 x 12 foot area. Image quality is outstanding, with 18% to 40% more resolution elements than other large detector cameras. The unmatched intrinsic resolution is better than 3.2 mm. Count rate is the fastest available—up to 200,000 cps. Motorless positioning of the counterbalanced detector is fast, safe and quiet. This positioning ease, plus simple three step operation increases patient flow . . . up to 50% more patients per day.

GE Formatter system: records much faster with no data loss.

During dynamic studies, valuable diagnostic information may be lost if the formatter cannot keep pace with the camera. Now General Electric offers a formatter that records data as fast as the camera detects it, with no data loss. GE Formatter system records up to 10 frames per second . . . many times faster than any other unit. This makes the GE Formatter the system of choice for dynamic studies. You can record up to 42 dynamic images on one 8 x 10 film, using economical, standard photographic cassettes. Standard multiple formats are available: 35, 70 and 105 mm. Valuable floor space is conserved because all formatter and camera controls are combined in one compact cabinet, occupying just 4½ square feet.





PortaCamera system: nuclear department on wheels.

This compact, mobile scintillation unit is easily wheeled throughout the hospital to facilitate studies on immobile patients. The PortaCamera™ system weighs less than 1,000 lbs., about half the weight of most other portable cameras. The counterbalanced detector allows fast, precise positioning at a touch. A conveniently located, integral console includes all controls and oscilloscope. Easy two-step operation increases patient throughput potential. PortaCamera system also serves as an excellent, low-cost backup unit for ICU, CCU, surgery and emergency rooms.

GE computer capability improves diagnostic data.

Med II™ is a complete image processing and data analysis system. It allows the physician to use the latest GE computer capability to maximize diagnostic information. The Med II system is a second-generation, push-button operated unit with a comprehensive library of nuclear medicine programs: left ventricular ejection fraction, left to right shunt, cardiac output, renal function, gated blood pool studies, ventricular volume, and many more. Combined, the Med II, MaxiCamera and GE Formatter units provide the most powerful nuclear diagnostic system available today.

MedStor™ is a moderately priced image storage and processing system which can be used with any scintillation camera, including the PortaCamera. The MedStor system provides computer-controlled playback of static and dynamic data, allows selection of up to four regions of interest, and simultaneously generates up to 4 time/activity histograms. The system is pre-programmed, with easy-to-operate push-button control. Image information can be accessed as rapidly as 6 images per second.

Nuclear parts and service in 8 hours or less.

When your nuclear equipment needs service, GE will provide parts and professionals . . . fast. Our highly trained nuclear service specialists are strategically located throughout the country. One is located near you, for fast response. And General Electric has developed a new computerized parts inventory system. This new service links over 30 GE parts depots nationwide, and keeps them fully stocked at all times. You receive parts from the nearest depot, usually within 8 hours. Transportation costs are minimized, and your nuclear equipment is back serving patients sooner.

Unmatched equipment; the latest diagnostic software; and prompt, reliable service: that's the GE commitment to nuclear medicine. Find out how that commitment can benefit your department. Talk to your GE representative about the systems shown here and our full line of nuclear equipment.

General Electric Medical Systems,
Milwaukee, Toronto, Madrid.

GE: for the newest in nuclear.

GENERAL ELECTRIC

NEW IMPROVED SIMPLIFIED [^{57}Co] VITAMIN B_{12} [^{125}I] FOLATE RADIO ASSAY KITS

	^{57}Co Vitamin B_{12}	^{125}I Folate
FEATURING:		
• SUPERSENSITIVITY	33 pg	0.1 ng
• LINEAR RANGE	100 - 2,400 pg/ml	1 - 32 ng/ml
• TOTAL INCUBATION TIME	45 minutes	45 minutes
• PRECISION (within-run) C.V.	3.5%	3%
• PRECISION (run-to-run) C.V.	6%	7%

- LINEAR PLOT (log-logit paper provided)
- SEPARATION BY CHARCOAL-DEXTRAN *TABLET*
- PRE-MEASURED INDIVIDUAL CALIBRATORS
- LYOPHILIZED REAGENTS
- BUFFER INCLUDED (requires only H_2O)
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- ONLY ONE PIPETTING AND TWO DISPENSATION STEPS REQUIRED PER TUBE.

Kits Also Available:

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[^{3}H] Cortisol RIA
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[^{125}I] Gentamicin RIA
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Diagnostic Products CORPORATION

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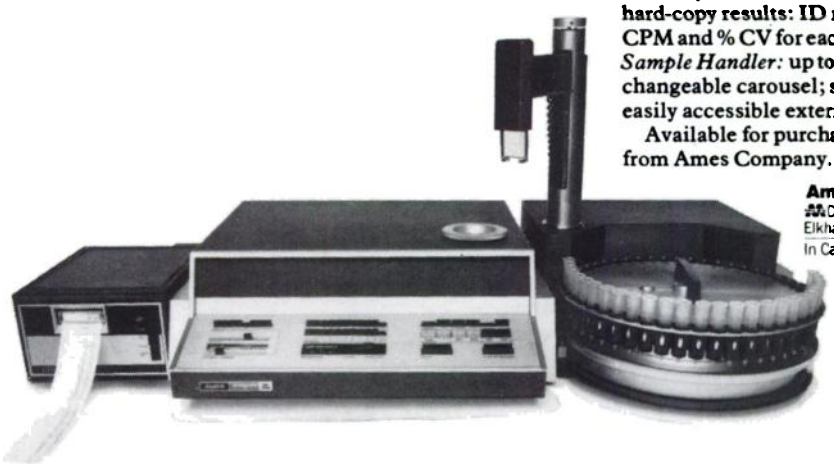
Count on it.

Gammacord® II

Gammacord II System: Multi-isotope gamma counter with optional automated printer and sample handler. *Central Processing Unit:* 6 preset windows for commonly used gamma emitters, variable window to read any isotope in 15 to 2,000 KEV range; sequenced "memory" for up to 50 samples; direct readout in CPM and % retention; automatic background subtraction; counts for preset time or accuracy level. *Automatic Printer:* gives hard-copy results: ID number, % retention, CPM and % CV for each sample. *Automatic Sample Handler:* up to 50 samples per interchangeable carousel; self-contained drainage; easily accessible external mechanism.

Available for purchase or rental directly from Ames Company.



Ames Company
Division Miles Laboratories, Inc.
Elkhart Indiana 46514
In Canada: 77 Belfield Rd., Rexdale, Ontario

Need a lot of gamma counting? Need a little? Expanding your capacity? This is the only modular system you can tailor to handle *your* work load.

The Ames Gammacord II does everything the more expensive counters can do ... and less. So, you're never locked into *more* automation than you need.

Versatile. Sophisticated. Compact. Easy to operate. Gammacord II can "grow" with the small and medium-size lab. Offers rapid throughput sufficient for high-volume needs. Flexible enough for more specialized RIA procedures, plus backup, stats and weekend duty.

We've got a trial instrument waiting for you. With or without the "add-on" sample handler or the hard-copy printer. Gammacord II ... you can do a lot with it. Best of all, you can count on it.

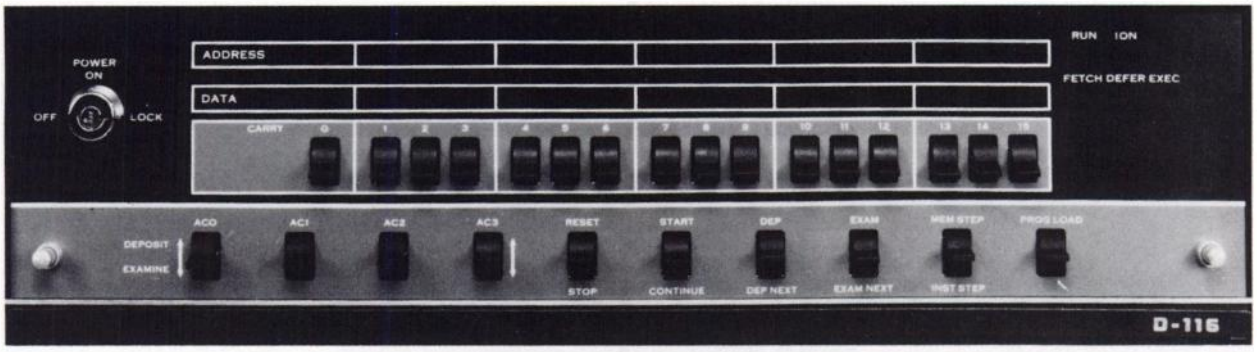
ames

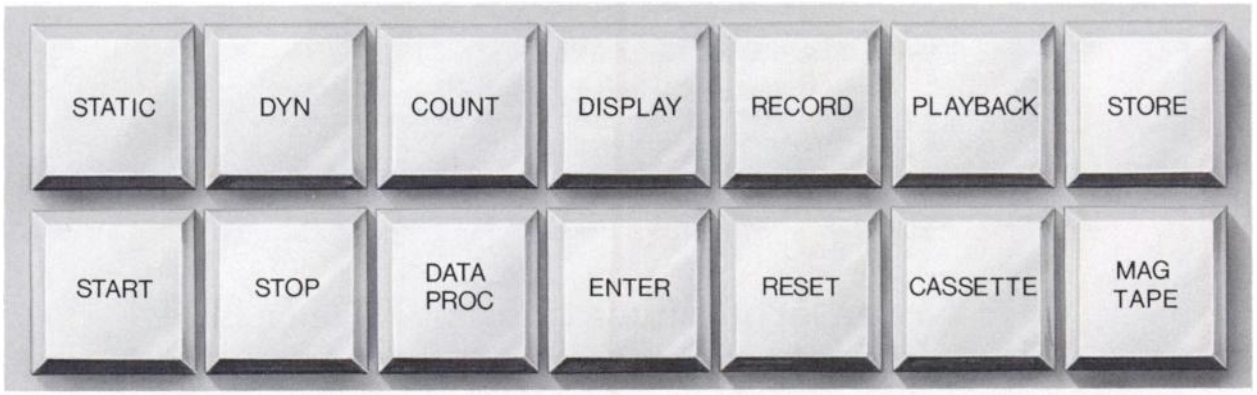
HEALTH INFORMATION THROUGH INNOVATION

7403/2372726

SEVENTY SEVEN REASONS:

2. A gamma camera system with a simple-to-use, integral computer incorporating the most comprehensive software programs in nuclear medicine.





Consider:

- System Seventy Seven is the result of ten years of development in perfecting a computerized gamma camera.
- It is still the lowest priced of all computerized gamma cameras.
- There are more System Seventy Seven installations than any other computerized gamma camera system.
- The clinical software library for System Seventy Seven is the most extensive available.
- It is the only system that can realistically convert so wide a range of raw clinical data to diagnostic results.
- It is designed to be operated by your own nuclear medicine technologist. *No programmers or computer specialists are required.*
- Clinical data in the images produced by System Seventy Seven have established new standards in nuclear cardiography.

SYSTEM SEVENTY SEVEN provides the user with the speed, power and versatility of a computer with the pushbutton ease of operation of a pocket calculator; in fact, it improves on the pocket calculator by back-lighting only those buttons which are subsequent legitimate operations. Its software program library implements complex computer operations, relieving the operator of plaguing, time-consuming routines. Time is left for medicine. The back-lighted pushbuttons activate the respective computer software; thus providing rapid, easy computerized manipulation of clinical data without sacrificing the user's decision-making flexibility and integrity.

Send for nuclear cardiography applications brochure.

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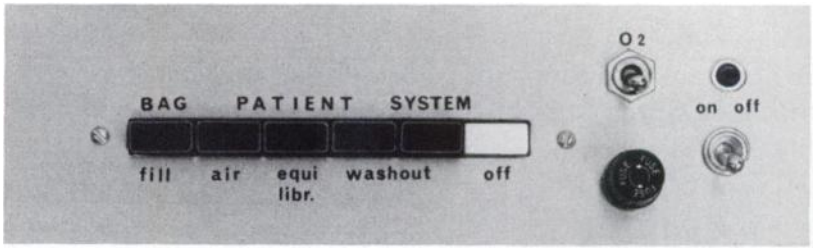
NEW... automatic XDS (Xenon Delivery System)

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

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

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

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



Control Panel

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

For full details, write for Bulletin 217-B

NUCLEAR ASSOCIATES, INC.
Subsidiary of
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State of the art in gamma camera hard copy recording.

Multi-Imager 1

Multi-Imager 1 employs the CRT of the gamma camera to record static, dynamic, and whole body imaging procedures on transparency format. The highly versatile Multi-Imager 1 offers film size formats of 5x7 and 8x10, yielding superior quality transparency scintiphotos recorded on a wide range of x-ray film processor compatible films. Up to 30 images can be recorded on a single sheet of film in ten different formats. In addition to the usual 1, 4, and 16 image formats, Multi-Imager 1 offers seven further choices to yield the exact diagnostic format required. For example, Multi-Imager 1 offers a 6 image format to allow recording of static studies that require a fifth and sixth view, and a 30 image format for dynamic studies that require more than sixteen frames. For whole body imaging, the 2 image format records side by side AP and PA views on the same sheet of film. Static, dynamic, and different size images can be mixed on the same sheet of film.

Multi-Imager 4

Multi-Imager 4 yields unmatched performance in gamma camera hard copy recording. A built in high resolution CRT, state of the art microprocessor technology, and electronically synchronized multiple lens optics provide a very small dot size on 8x10 format without increasing the pulse pair resolution dead time of the gamma camera system. The fast lens system of Multi-Imager 4 is compatible with both conventional x-ray film and the slower single emulsion radiographic films that provide the best image quality. Up to 64 images can be recorded in ten different formats. The dual intensity recording mode allows simultaneous acquisition of whole body or static views at two different intensity levels. Positive patient indentification is achieved through a nine digit keyboard LED system.

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

#MATRIX INSTRUMENTS

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Closter, N.J. 07624
(201) 767-1750

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Matrix Instruments, Inc., 1 Ruckman Rd., Closter, N.J. 07624
Please send Multi-Imager System literature and sample studies.

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MODEL 145 LOCALIZATION MONITOR

Detection of Deep Vein Thrombosis

and other in vivo applications

- CPS & PERCENTAGE READOUT
- COMPACT & PORTABLE
- BATTERY OPERATED (3 D cells)
- FULLY TRANSISTORISED
- LINEAR SCALE & WIDE RANGE
- RECORDER OUTPUT
- VARIABLE DEPTH COLLIMATOR
- UNLIMITED CHANNEL SELECTION
- MANUFACTURED & SERVICED IN THE U. S. A.
- CLINICALLY PROVEN FOR OVER ONE YEAR

CONTROLS

High voltage
Threshold
Window
Battery test
Response (fast & slow)
CPS or percent switch
Reset

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

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

SPECIFICATIONS

RANGE: 30, 100, 300, 1000, 3000 cps and 0 - 120%

TIME CONSTANT: Fast 2 sec., slow 14 sec.

SIZE: 4½ x 5½ x 8 inches (HxWxL exclusive of handle).

WEIGHT: 6.5 lbs total

DETECTOR: 1mm x 1 inch NaI (TL) mounted on PMT and 7 mg/cm^2 aluminum window. Optional – 1 inch x 1 inch NaI (TL) detector with thin window at extra cost.

j&s **JASINS & SAYLES ASSOCIATES, INC.**
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(617) 879-3775

NEW non-invasive diagnostic methods

Featuring Kevex X-ray fluorescence systems

I. In Vitro:
The Kevex-Ray® Stable Tracer Analyzer.

X-ray fluorescence analysis in-vitro affords tracer studies in new and conventional areas *without* the use of radioactive tracers, i.e., replacing them with *stable tracers.*

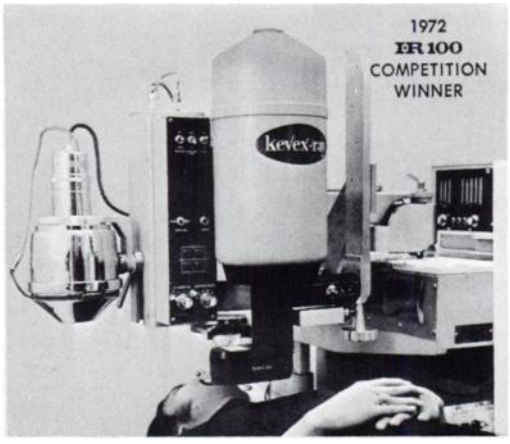
- established applications in:

  KINETICS OF X-RAY CONTRAST AGENTS
  GLOMERULAR FILTRATION RATE (GFR)
  RED CELL VOLUMES (RCV)
  EXTRACELLULAR FLUID VOLUME
  PLASMA VOLUME (ECFV)

- high specificity and sensitivity, wide (10^5) dynamic range (from ppm to %)
- no radiation exposure to patient or personnel, with increased capabilities for serial studies and studies of normals
- no storage, handling, or disposal of short half-life radioactive materials
- simple, accurate, cost effective

References

1. Kaufman L., Price, D. C. (Eds): *Semiconductor Detectors in Medicine*, CONF-730321, Washington, D. C., U. S. Atomic Energy Commission, 1973.
2. Kaufman L., Wilson C. J.: Determination of extracellular fluid volume by fluorescence excitation analysis of bromine., *Journal of Nuclear Medicine* 14:812, 1973.
3. Price, D. C., Swann S. J., Hung S., et al: The measurement of circulating red cell volume using nonradioactive cesium and fluorescent excitation analysis., *Journal of Laboratory and Clinical Medicine* (in press).
4. Guesry P., Kaufman L., Orloff S., et al: Measurement of glomerular filtration rate by fluorescent excitation of nonradioactive meglumine iothalmate., *Clin Nephrol* 3:134, 1975.



II. In Vivo:
The Kevex-Scan III B X-ray Fluorescence Thyroid Analyzer.

- High resolution thyroid imaging *without* radioactive tracer
- Quantitative total iodine information with calibration
- Very low local radiation dose-zero whole body dose
- Complementary and unique information of thyroid disease state via the endogenous iodine distribution
- Adaptable to most conventional rectilinear scanner systems (Picker, Ohio Nuclear, Nuclear Chicago, Baird-Atomic, etc.)
- Adaptable for dedicated operation, or in parallel with Na(I) uptake detector

For information write or call:
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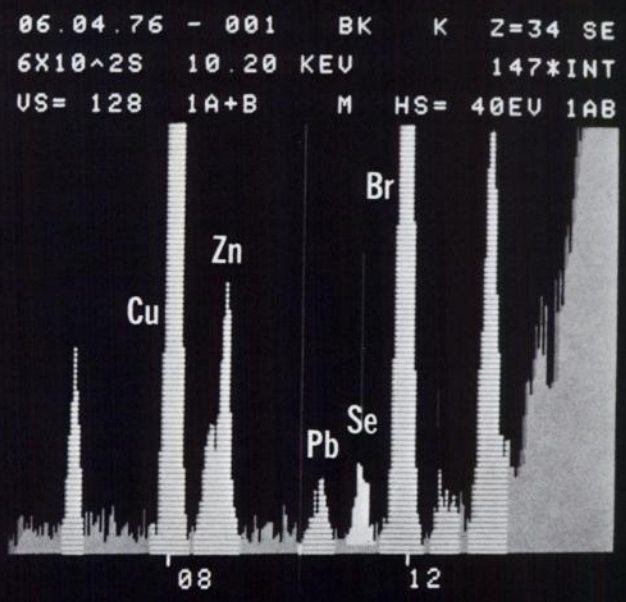
C&EN May 3, 1976

Heart disease, cancer linked to trace metals

The possibility that variations in dietary and environmental levels of selenium, copper, zinc, and perhaps other metals



Spectrum for copper, zinc and selenium obtained from two microliters of human breast fluid.

The ability to analyze many trace elements simultaneously and nondestructively is what x-ray energy spectrometry is all about. Now, new developments by Kevex provide medical researchers, the pharmaceutical industry and process control engineers with high-speed analytical capabilities that offer far more potential than traditional techniques such as AA.

In this instance, the Kevex x-ray energy spectrometer measured the zinc-to-copper ratio and selenium concentration in two microliters of human breast fluid. A recent study shows a positive correlation between coronary mortality in 47 U.S. cities and the ratio of zinc-to-copper in cow milk of those areas. The connection between low cancer rate and high selenium diet was also reported for both cancer of the colon and breast cancer. (C & E News May 3, 1976).

The new Kevex ULTRA-TRACE™ x-ray energy spectrometer can analyze a fraction of a billionth of a gram of selenium in human breast fluid—total analysis time per determination—5 minutes! ULTRA-TRACE™ is an innovation that combines many seemingly disconnected analytical parameters, each marginally effective, into an integrated system of great usefulness. Are you interested in nondestructive multi-element trace analysis? For more information contact Kevex at:

kevex

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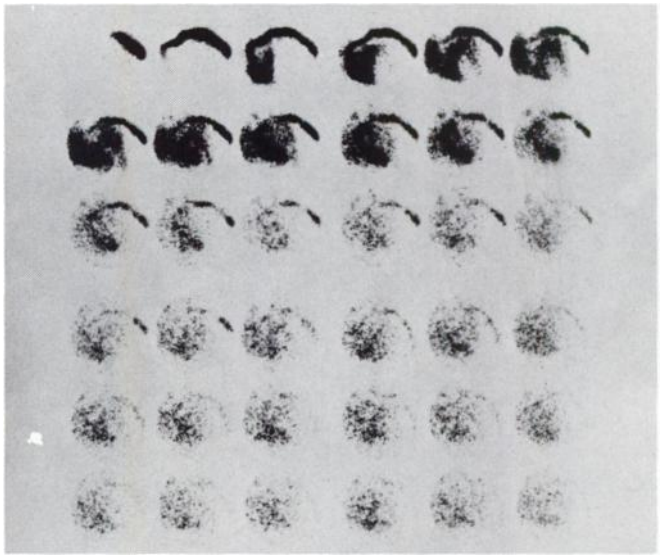
Burlingame, California 94010
Phone (415) 697-6901

Elscint's new MOBILE 1 gamma camera offers you the quality and performance of a stationary camera with the fluid mobility of a cat. It moves rapidly yet safely wherever needed. The detector head raises smoothly into position with fully automated two speed controls. Over *or under* the patient. Swings to either side or in front. The new MOBILE 1 camera is quiet and efficient to give you high quality results with maximum flexibility.

Mobile 1: Exceptional performance in a mobile camera

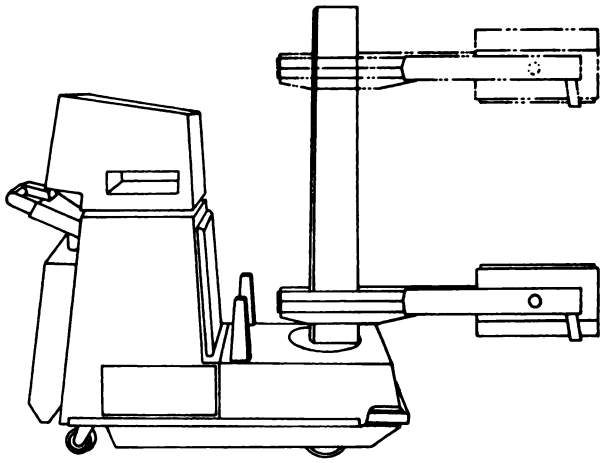
Results, of course, must be the ultimate measure of any diagnostic system. Here, Elscint is second to none. The MOBILE 1 provides a full 12″ FOV with bar resolution better than 3.2 mm. It images at rates



to 200,000 cps. (less than 1.5 μs deadtime) and its usable energy range extends beyond 200 KeV for use with 81^m Kr (190 KeV), 99^m TC (140 KeV) or 201 Tl (70 KeV), or other usable radionuclides within this range. It thus performs as a regular stationary camera for both static and dynamic studies as well as a mobile patient bedside unit. An optional data storage/replay system acquires and records at up to 150,000 cps for later replay or processing, adding time marks for reframing as fast as 100 frames/sec.

Mobile 1: Maximum maneuverability

Extreme ease and convenience of movement are major features of the MOBILE 1. Its under-30″ width and compact overall size enable passage through any doorway or narrow hall. Its low profile facilitates excellent forward visibility while in motion and its low center of gravity produces high stability even with full detector extension. Three speed forward and reverse drive and short-turning-radius power steering permit rapid long distance travel as well as precise



Designed for over *and under* patient imaging

positioning at bedside with safety interlocks provided to prevent accidental bumping into objects or people. The MOBILE 1 can pass over a 20 mm obstacle and climb a 10% slope rapidly yet will not run away on downslopes. Positive-locking brakes assure firm positioning and are automatically applied upon release of the control handle.

Mobile 1: Convenient controls for easy operation

All of the operating features employed in our latest stationary cameras are provided in the Mobile 1 with the added convenience of a swivel-mounted operating console. Pushbuttons ease input of patient information, data recording, display control, scaler operation, and isotope selection. Patient rotation selection and region of interest are conveniently controlled as well. The camera's persistence scope faces the detector and moves with it for easy patient setup. Dual isotope operation is available as is a selection of up to 3 single-channel analyzers.

When it's safer, faster and easier to move the camera to the patient, you'll get maximum performance with the Elscint MOBILE 1 Gamma Camera.

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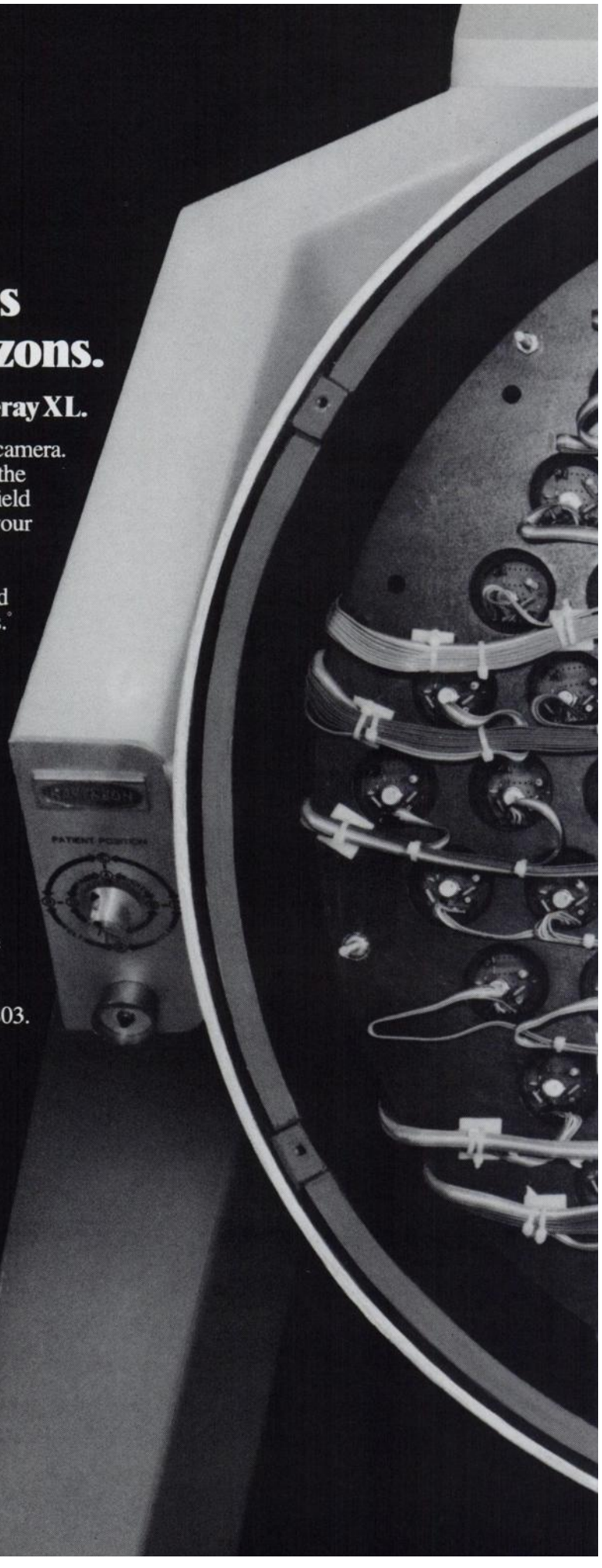

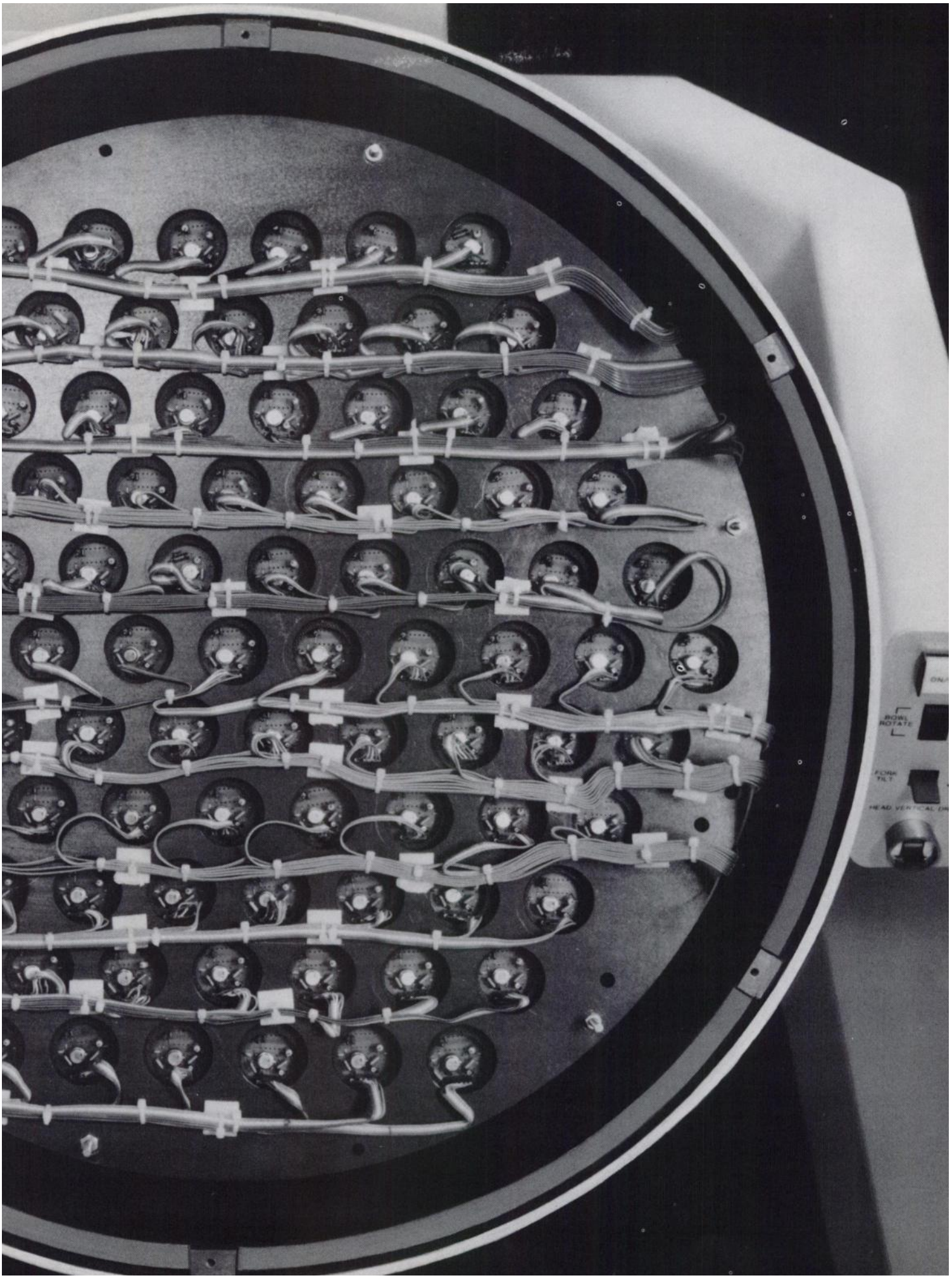
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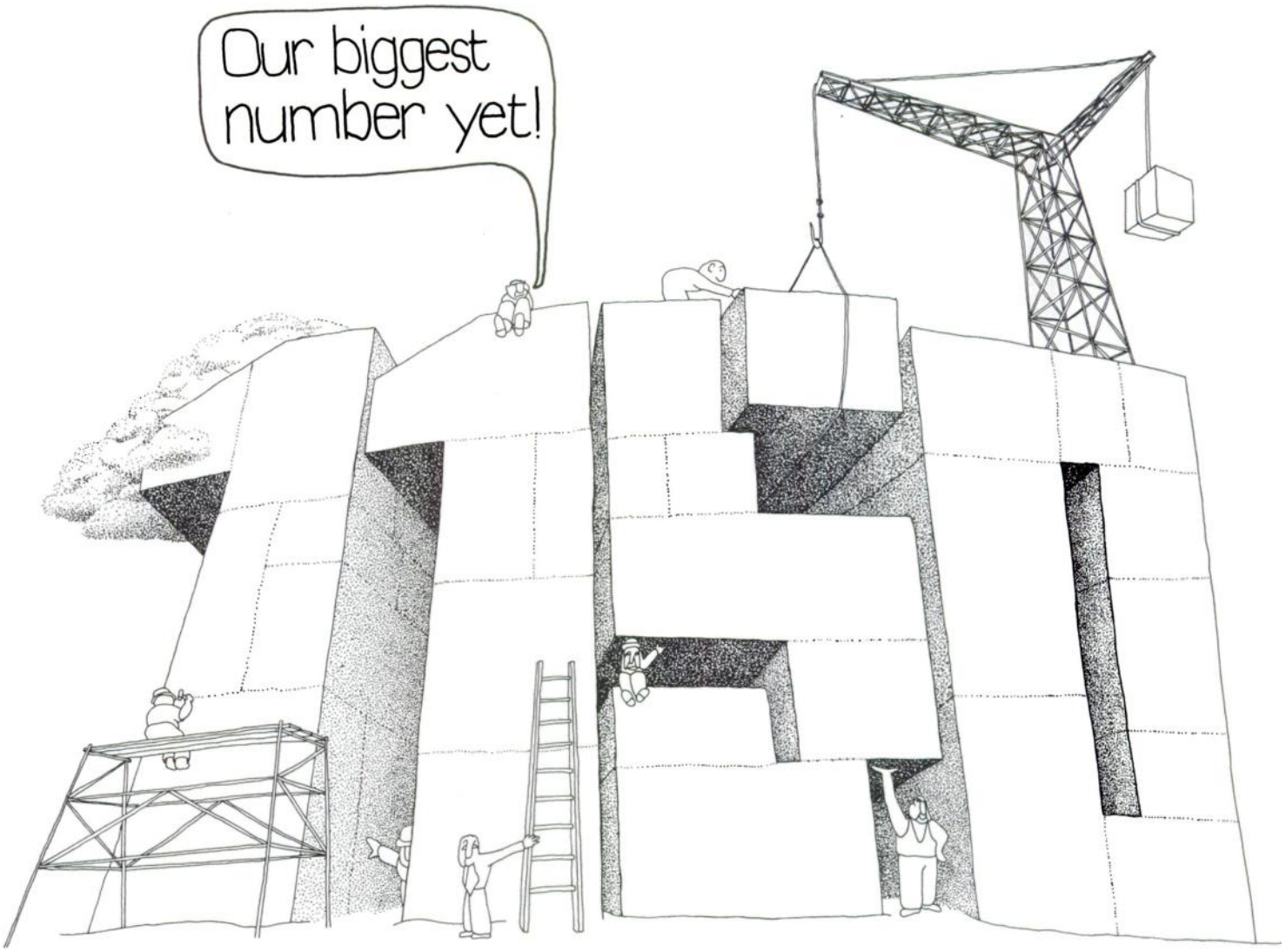

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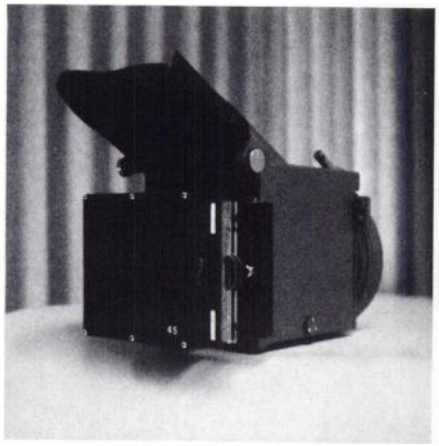
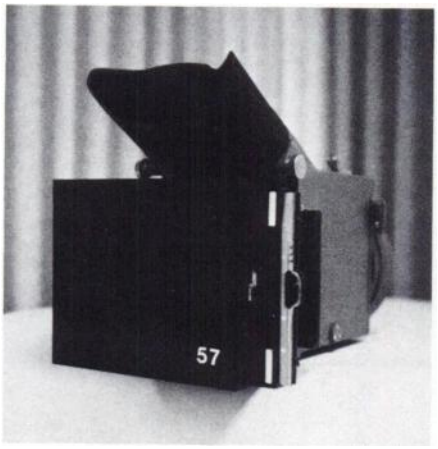
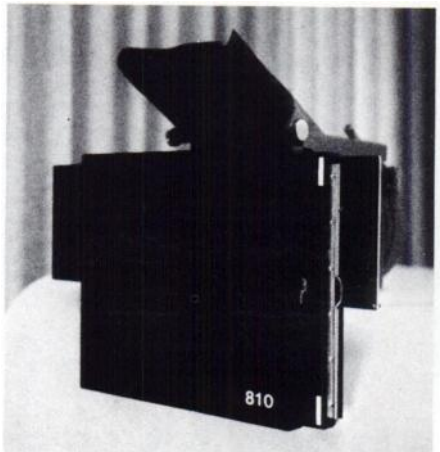


MODEL "45" (4 x 5)



MODEL "57" (5 x 7)



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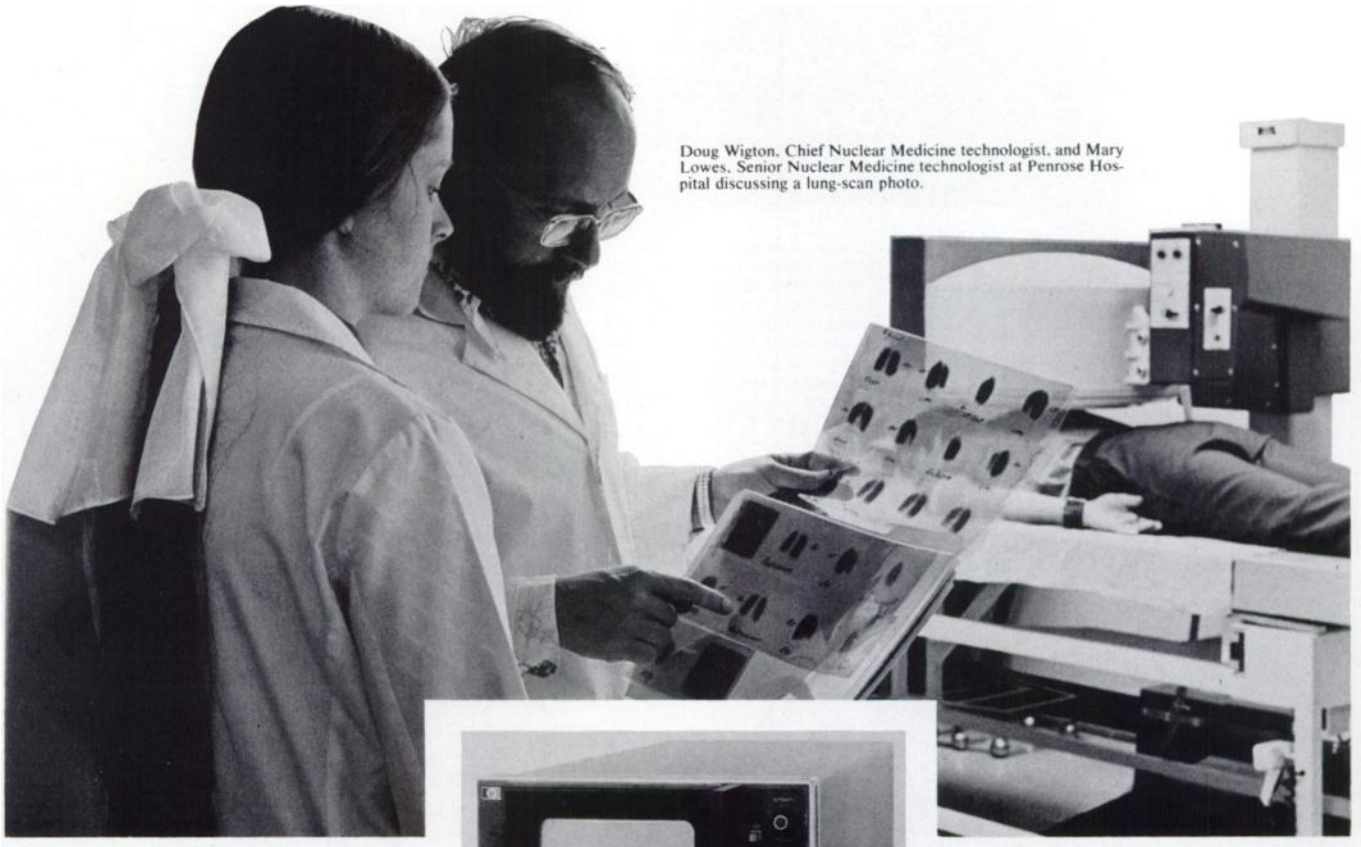
*As shown at the 22nd Annual Meeting of the S.N.M. in Philadelphia, PA.

For diagnostic imaging, picture quality is crucial.



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

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

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

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

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

These displays offer a variety of operating features that can speed and simplify your work. And they're designed to integrate easily into a variety of racks, cabinets or systems. If you need bright, high-resolution displays for your medical and instrumentation systems, ask your local HP field engineer for details on the 1332A and 1335A. Ask him about the new 1333A too. Its extremely small spot size 0.20 mm (0.008 in.) provides new levels of picture quality for photographic applications.

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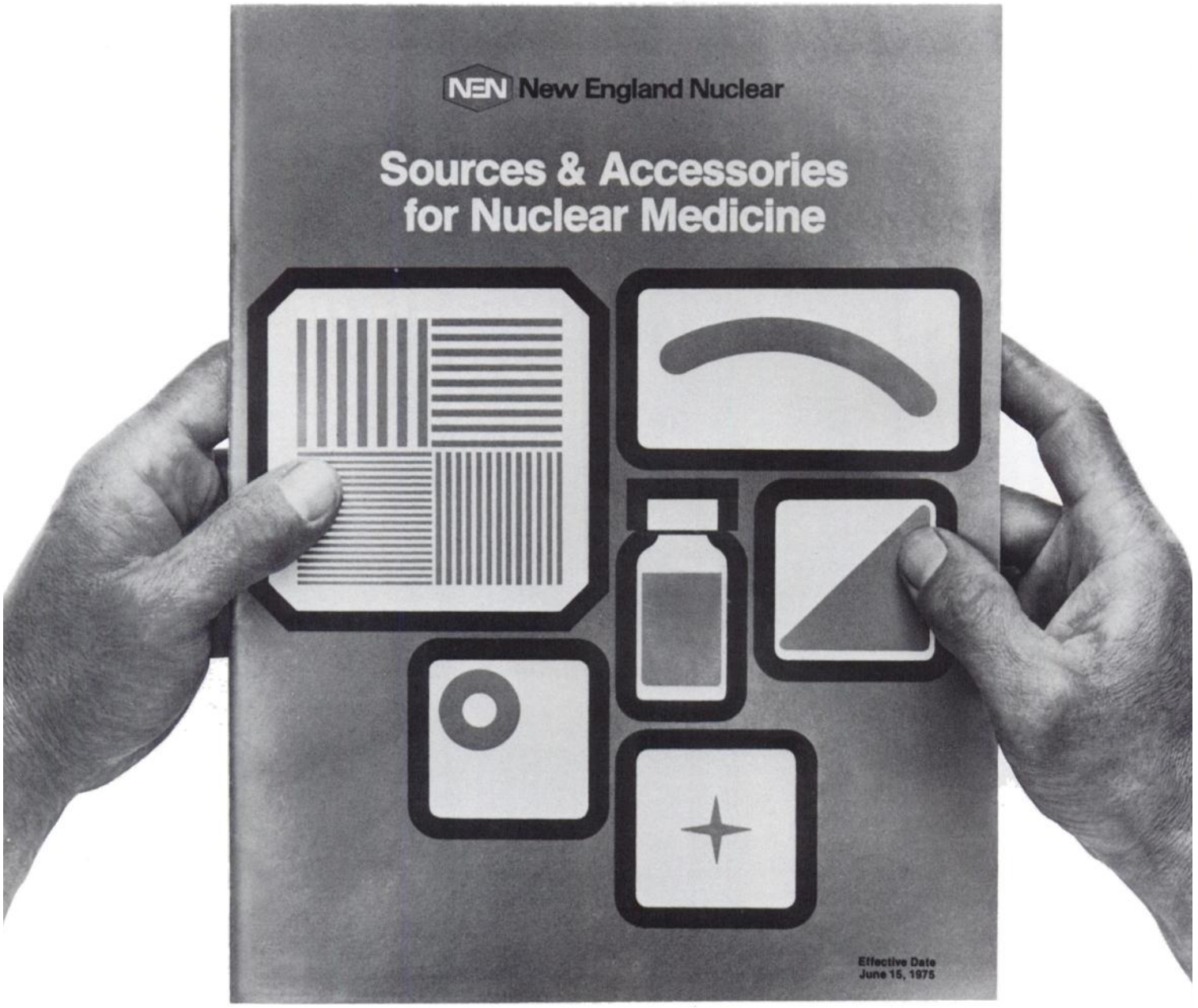

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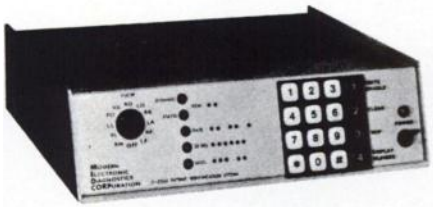
- ☐ display study parameters to enhance diagnostic value

The initial frame lists pertinent patient data and is easily viewed without magnification. Each static study is permanently labelled with the proper view; each dynamic exposure with a sequential number. Data is entered via keyboard and is displayed on the "B" scope for photography. Cables are included for direct connection to Gamma Camera CRT x,y,z input.



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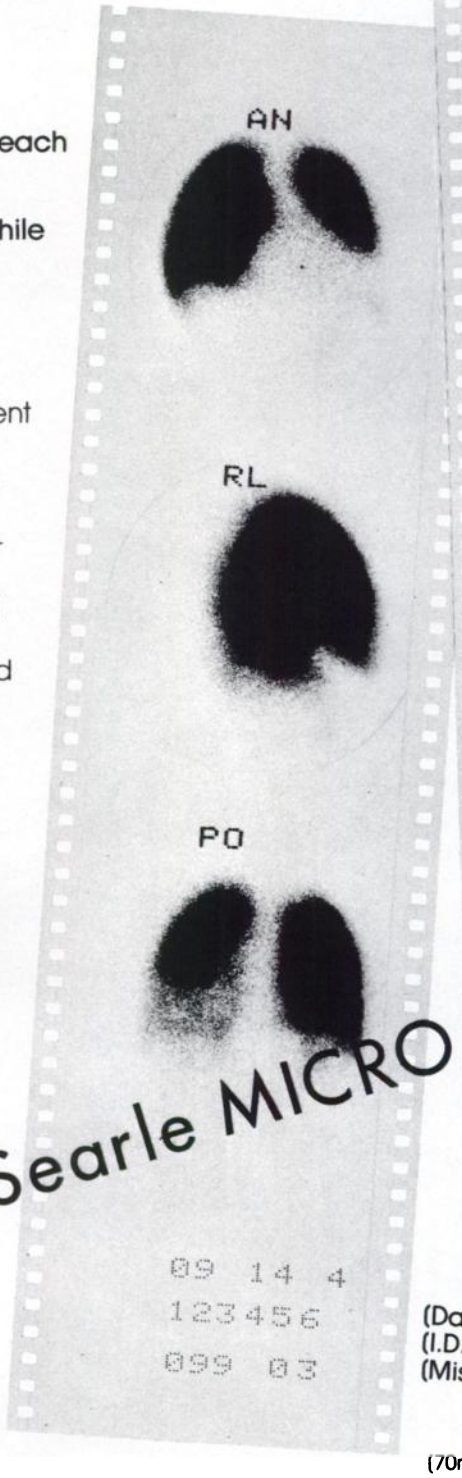

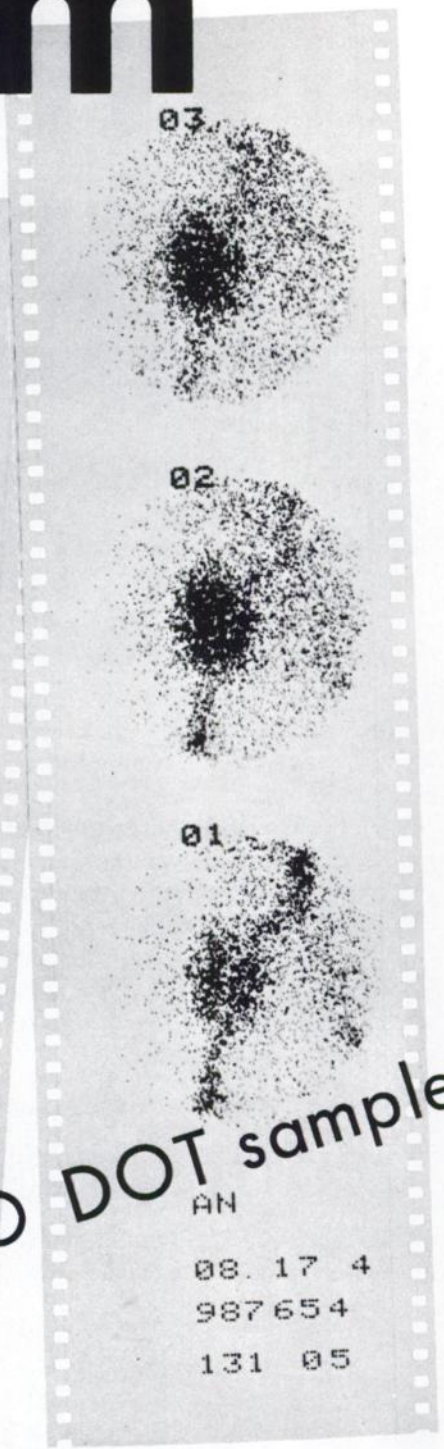

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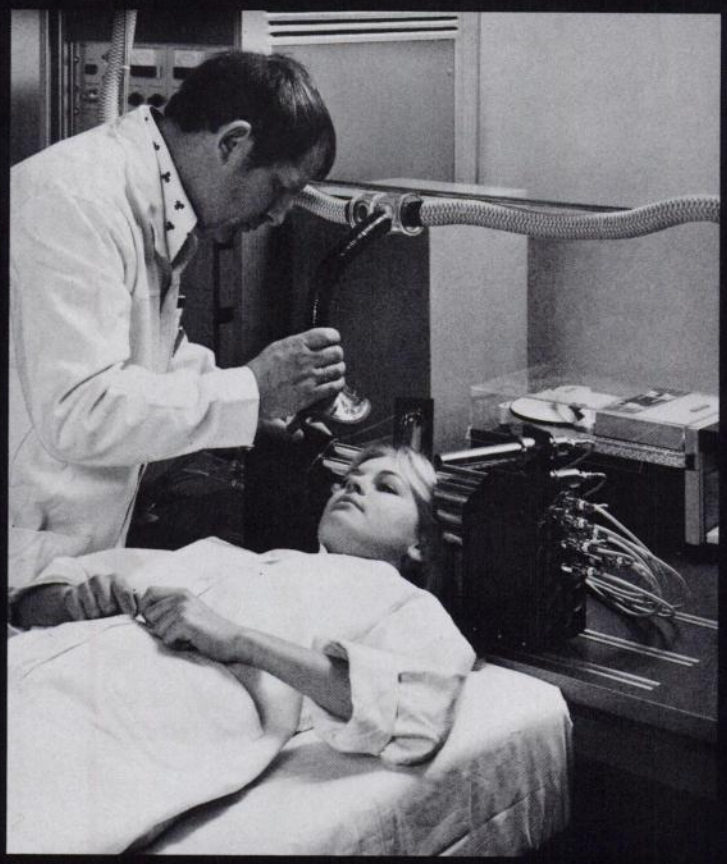

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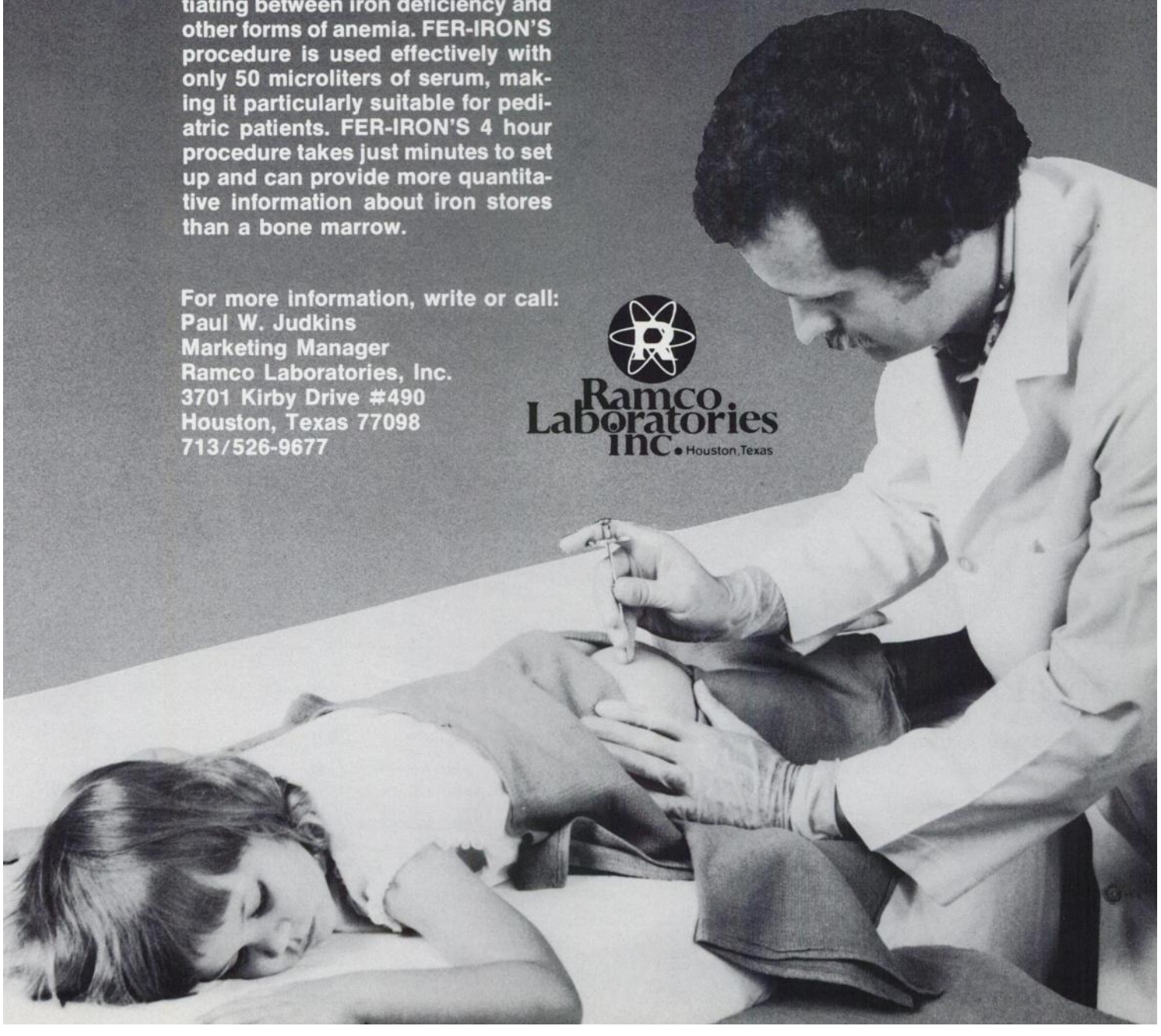

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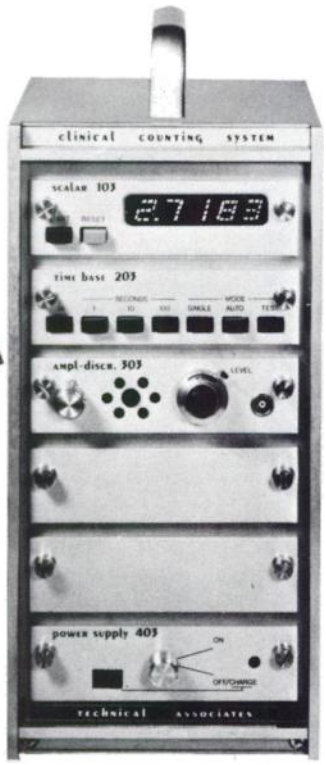

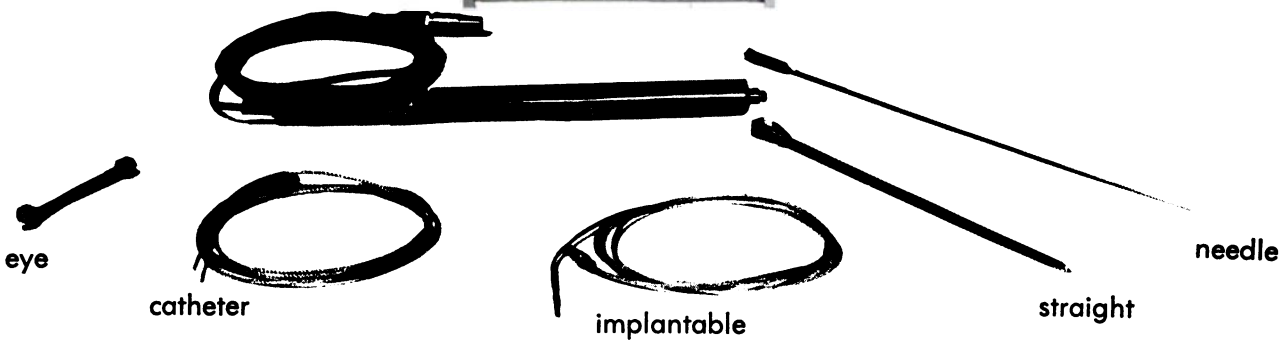

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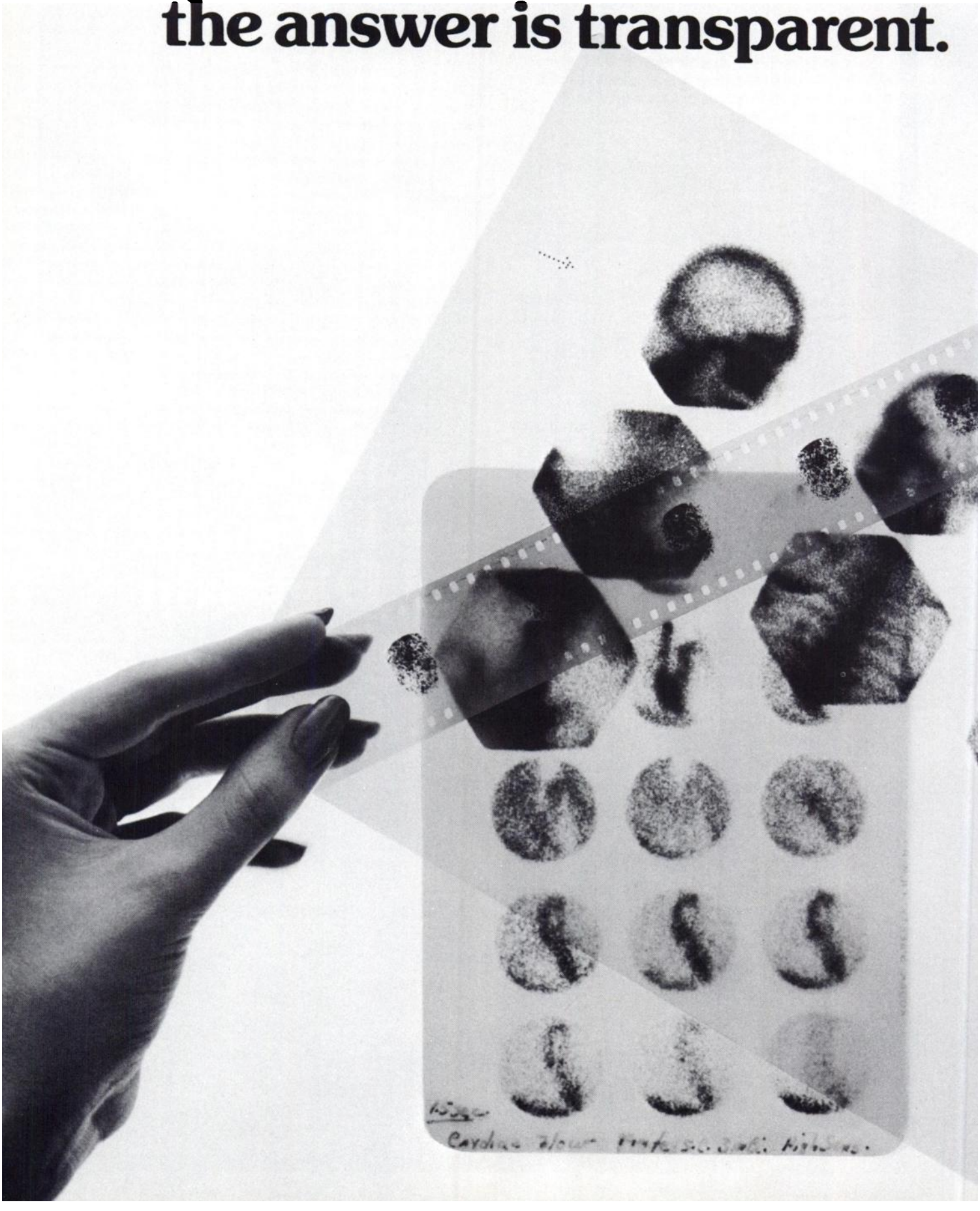
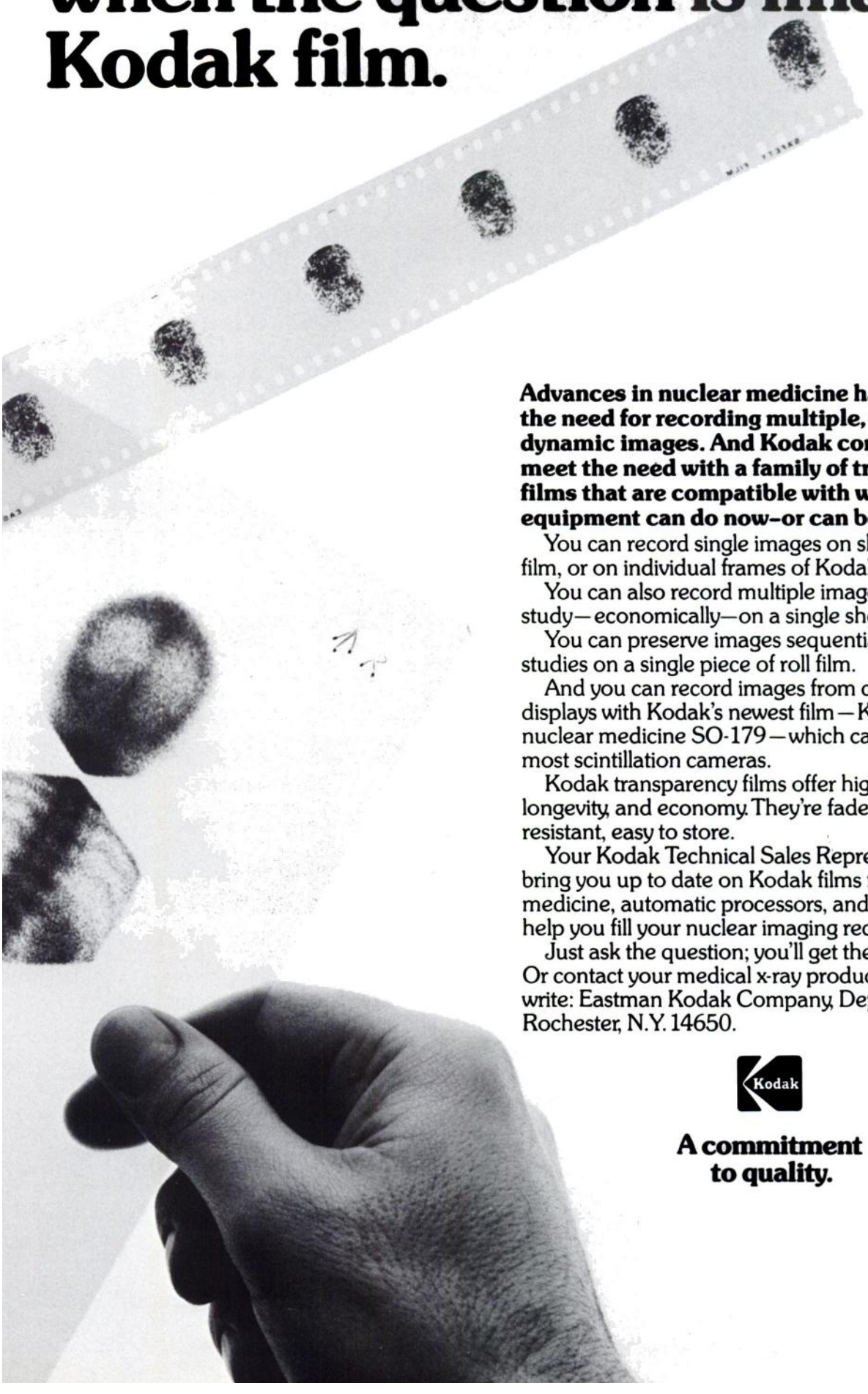


when the question is imaging, Kodak film.



Advances in nuclear medicine have increased the need for recording multiple, single, or dynamic images. And Kodak continues to help meet the need with a family of transparency films that are compatible with what your equipment can do now–or can be adapted to do.

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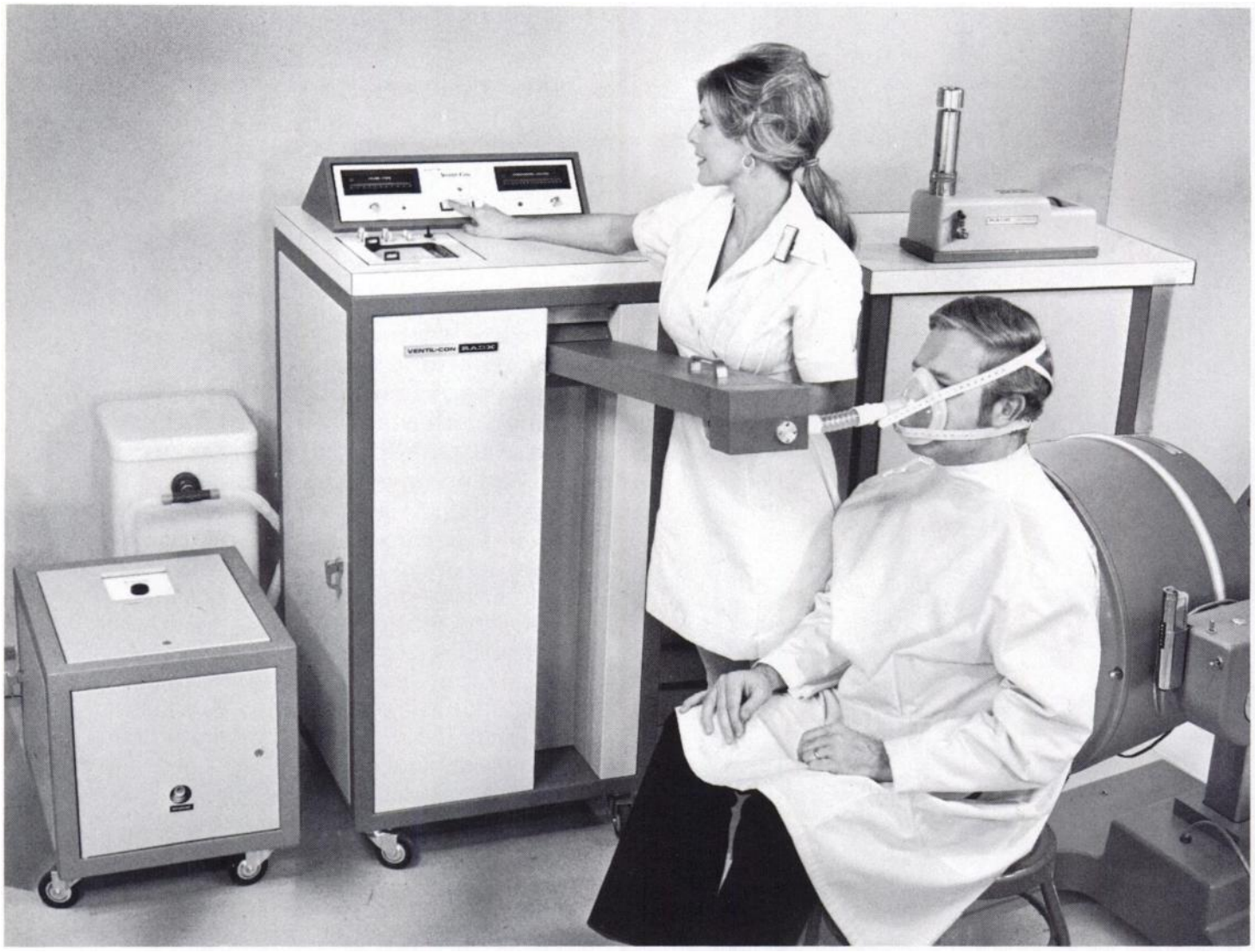

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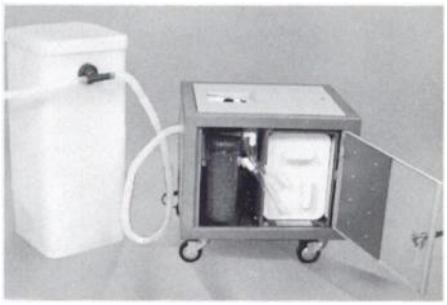
We also make special Ventil-Cons for ^{127}Xe and cerebral perfusion studies by the Obrist technique[1].



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Actually, the Xenon Trap is not the finish because with every piece of Radx equipment goes our one-year warranty, and our commitment to the future needs of nuclear medicine.

1. Obrist, W. D. et al, "Determination of Regional Cerebral Blood Flow by Inhalation of Xenon-133", Circulation Research, XX,124-134, January 1967.

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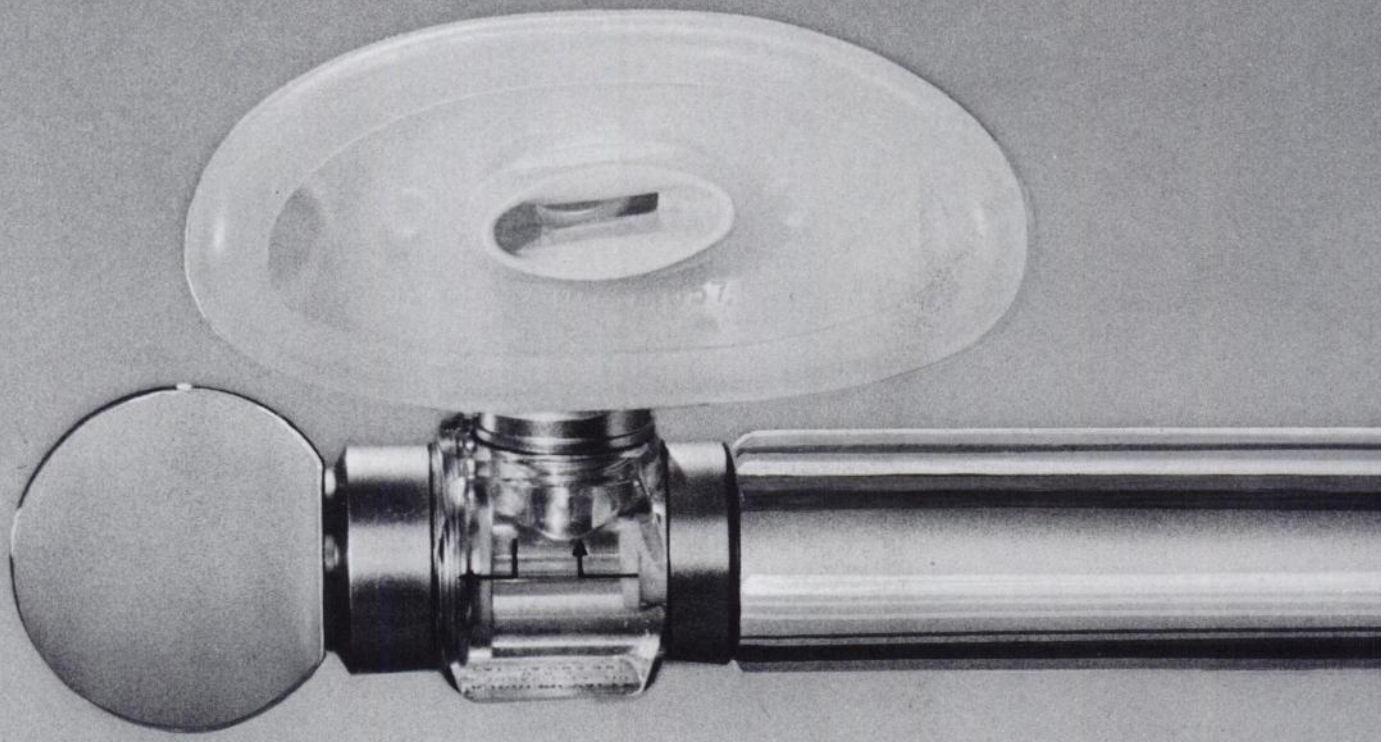

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CHAIRMAN—DEPARTMENT OF RADiology. The University of Pittsburgh is recruiting a Chairman for the Department of Radiology. This individual will also serve as Radiologist-in-Chief of the University Health Center of Pittsburgh. The candidate must have expertise and demonstrated leadership in the field of radiology and the required certification for assuming the clinical responsibilities of Radiologist-in-Chief. Candidates should submit curricula vitae to: Thomas J. Gill III, M.D., Chairman, Radiology Search Committee, University of Pittsburgh, School of Medicine, Department of Pathology, Pittsbugh, Pa. 15261.

ASSOCIATE CHAIRMAN. The Washington Hospital Center invites qualified candidates to apply for the position of Associate Chairman of the Department of Nuclear Medicine. Requirements include ABNM certification, a strong patient orientation, and expertise in all phases of clinical nuclear medicine including imaging, radioassay, and internal radionuclide therapy. The successful applicant will be expected to participate in all departmental activities, including teaching and research. Apply to: Nicholas G. Nolan, Chairman, Department of Nuclear Medicine, Washington Hospital Center, 110 Irving Street, N.W., Washington, D.C. 20010. An equal opportunity, affirmative action employer, m/f.

RESIDENT IN NUCLEAR MEDICINE. The Department of Nuclear Medicine at Washington Hospital Center (950 beds) offers a two year AMA approved residency program. The experience offered includes the fields of imaging, radioassay, and internal radionuclide therapy. The newly built department covers approximately 5,000 square feet and is staffed by two full-time board certified nuclear medicine physicians, two nuclear medicine residents, and ten technologists. Training emphasis is primarily clinical, but the department has a strong investigational interest with extensive research facilities includng animal laboratories. Apply to: Nicholas G. Nolan, M.D. Chairman, Department of Nuclear Medicine, Washington Hospital Center, 110 Irving Street, N.W., Washington, D.C. 20010. An equal opportunity, affirmative action employer, m/f.

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NUCLEAR MEDICINE, UNIVERSITY of Washington, Seattle, Washington. Now considering candidates to enter two-year residency in July 1977 and 1978. Fully approved, leading to NM Board eligibility. Comprehensive basic science and clinical experience. In Vitro, Metabolic, Imaging, Therapy. Opportunities in CAT and ultrasound. Large patient referral, excellent facilities and equipment. Research opportunities. For full details contact: Wil B. Nelp, M.D., Director, Division of Nuclear Medicine, University Hospital, RC-70, Seattle, Wa. 98195; Phone: (206) 543-3538.

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NUCLEAR AND DIAGNOSTIC RADIologist; 35, ABR and ABNM certified. University training and experience in all phases of nuclear medicine. Wish to relocate. Reply: M. Yunus, 237 Royal Palm Drive, Belle Glade, Florida 33430.

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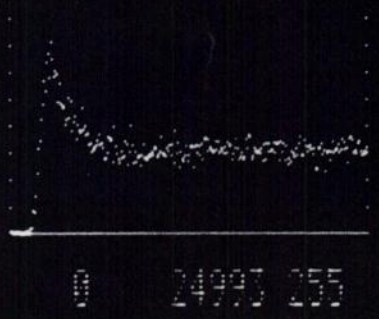
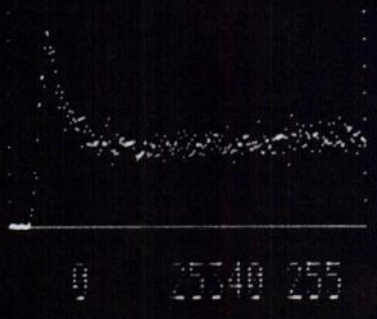


Cerebral Flow Curve, right hemisphere

Anterior Cerebral View showing position of regions of interest in right and left hemispheres



Cerebral Flow Curve, left hemisphere

Think Clinical Analyzer, the data processing and tape storage and replay system designed specifically for nuclear medicine static and dynamic function imaging applications.

Applications include (1) cerebral and carotid uptake, (2) cardiac flow for measuring transit time, left ventricular ejection fraction, and cardiac output, (3) renal function, (4) lung ventilation and perfusion. In short, any clinical imaging study requiring quantification of image data in specific organ areas.

Clinical Analyzer offers three independent and adjustable size and shape regions of interest for dynamic function analysis of organ areas.

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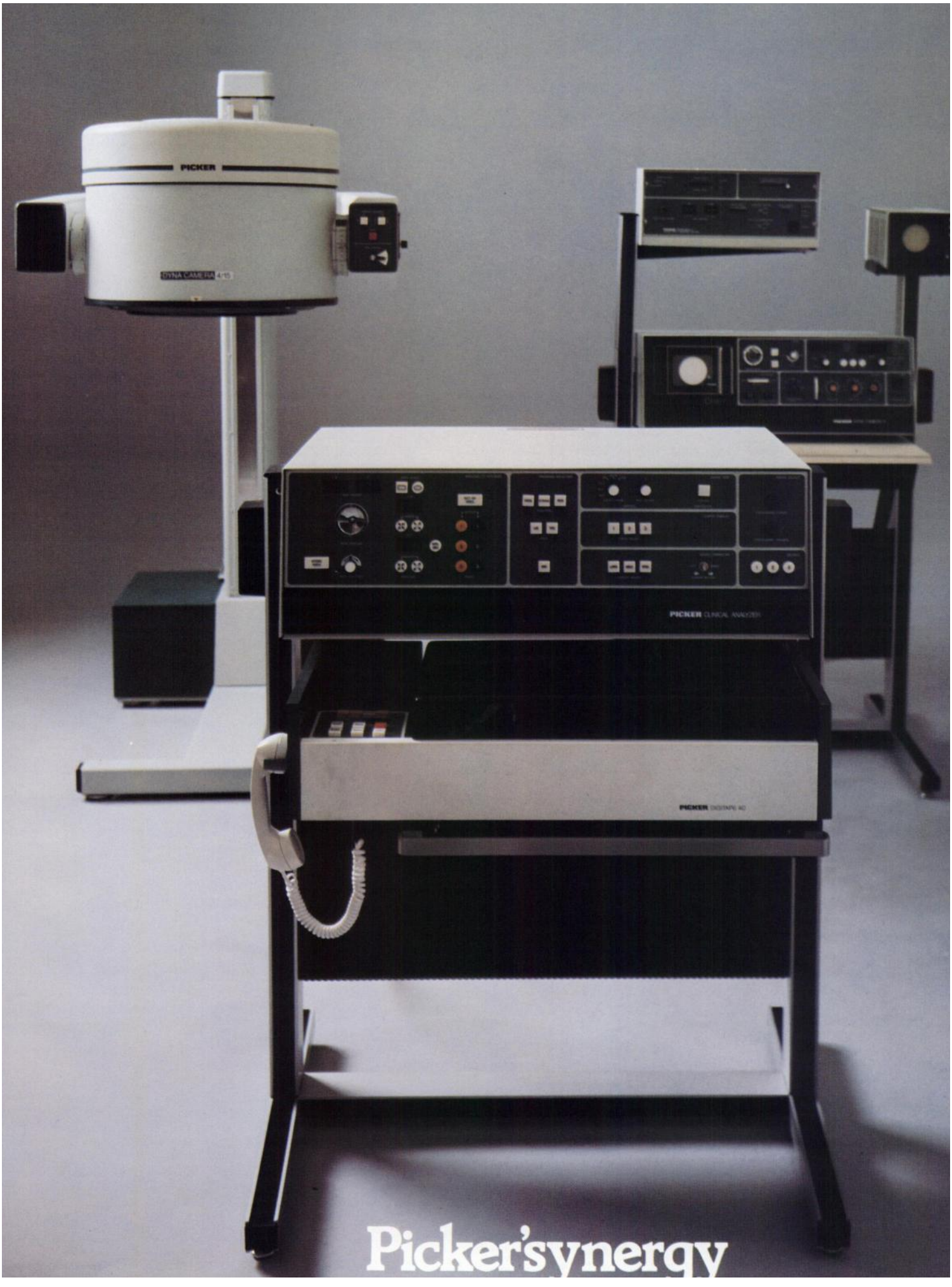
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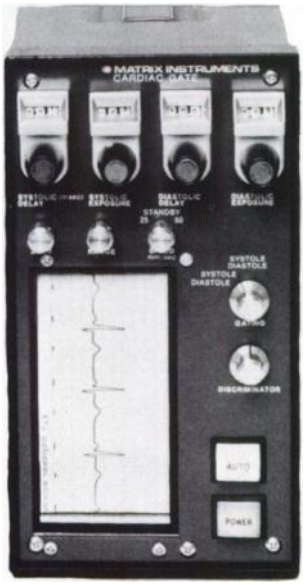
Cardiac Gate



Cardiac Gate is designed to synchronize the cardiac image exposure with predetermined phases of the cardiac cycle.

The Cardiac Gate has two modes of operation: manual and automatic. In the manual mode, delay and exposure time parameters are set manually, using the R wave of the electrocardiogram as a reference. In the automatic mode, microprocessor circuitry automatically tracks the cardiac cycle and computes the position of end-systole and end-diastole. In the automatic mode, end-systole and end-diastole exposures are made without any calibration settings.

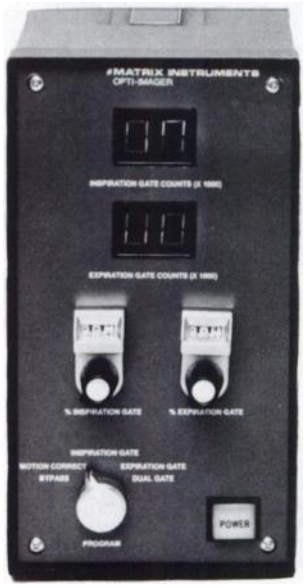
The dual gating operation mode allows recording of both end-systole and end-diastole simultaneously in a split screen two image format.

The cardiac cycle can even be divided into nine equal time segments and the image corresponding to each displayed simultaneously in a nine image format.

The Cardiac Gate includes a complete electrocardiograph module. The built in heated stylus strip chart recorder records both the ECG trace and the gating intervals.

The Cardiac Gate provides both ECG and gating outputs for computer interface.

Opti Imager



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

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

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DESCRIPTION: Each Dicopac® Kit consists of five single-test cylinders, a vial of Cobalt 57 (Co 57) standard, and a vial of Cobalt 58 (Co 58) standard. Each test cylinder contains a capsule of cyanocobalamin Co 58 (vitamin B_{12} Co 58), a capsule of cyanocobalamin Co 57 (vitamin B_{12} Co 57) bound to human gastric juice, and an ampule of unlabelled cyanocobalamin for injection.

ACTIONS: Oral vitamin B_{12} is normally coupled with intrinsic factor (IF) contained in the gastric juice secreted by the stomach and the vitamin B_{12} combined with intrinsic factor is absorbed in the terminal ileum. Only intrinsic factor bound vitamin B_{12} is absorbed by this route. Following parenteral administration or gastrointestinal absorption, cyanocobalamin is bound to plasma proteins and distributed to the liver and blood forming organs.

INDICATIONS: Dicopac Kit consisting of cyanocobalamin Co 58 and cyanocobalamin Co 57 combined with human intrinsic factor is used to assess vitamin B_{12} absorption in the diagnosis of malabsorption due to the lack of intrinsic factor, e.g. Addisonian (pernicious) anemia, and as a diagnostic adjunct in other defects of intestinal absorption.

CONTRAINDICATIONS
None

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

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, on a woman of childbearing capability should be performed during the first few (approximately 10) days following 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 minimum radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to occupational workers.

The test should not be started within 24 hours of a therapeutic dose (1000 μg) of vitamin B_{12} or within 24 hours of a loading dose of vitamin B_{12} given for the Schilling test.

If bone marrow examinations are to be done, they should precede the administration of this test, as the flushing parenteral dose of vitamin B_{12} may alter the bone marrow picture.

ADVERSE REACTIONS
None

DOSAGE AND ADMINISTRATION: One purple/white capsule containing 0.25 μg cyanocobalamin Co 57 (nominal activity 0.5 μCi at activity date) bound to human gastric juice for oral administration.

One red/ivory capsule containing 0.25 μg cyanocobalamin Co 58 (nominal activity 0.8 μCi at activity date) for oral administration.

One ampule of unlabelled cyanocobalamin (1 mg) for intramuscular injection.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration. Care must be taken when measuring the activity in the Co 57 and Co 58 capsules because of the small amount of radioactivity present.

ADMINISTRATION AND TEST PROCEDURE*: The Dicopac test is performed in a manner similar to the Schilling test, however, with this test both Co 58 cyanocobalamin and Co 57 cyanocobalamin bound to intrinsic factor are administered simultaneously. Thus, both vitamin B_{12} absorption and response to intrinsic factor are measured with the Dicopac test.

Both Dicopac capsules are orally administered to a fasting patient, who is instructed to collect all urine for the next 24 hours. An intramuscular injection of non-radioactive vitamin B_{12} is administered to the patient up to two hours after the radioactive capsules are administered.

After the total volume of urine is measured, aliquots are taken for counting. The urine samples and the Co 57 and Co 58 standards provided with the Dicopac Kit are counted using dual isotope counting procedures. This data is used to calculate the percent excretion of each radionuclide and the ratio of the percent excretion of Co 57 to the percent excretion of Co 58.

*Refer to "The Technical Information for the Performance of the Dicopac Test" brochure provided with the Dicopac Kit for further information on procedural techniques.

INTERPRETATION OF RESULTS: The usual percent excretion values and the ratios obtained with Dicopac are presented in Table I.

Table I. Results of 24-hour urine excretions and $\frac{\text{Co 57}}{\text{Co 58}}$ ratios with Dicopac:

Diagnosis	Mean values % (usual range)		$\frac{\text{Co 57}}{\text{Co 58}}$ ratio
	Co 57 + I.F.	Co 58	
Normals	18 (10-42)	18 (10-40)	0.7-1.3
Pernicious anemia and certain gastric lesions	9 (6-12)	3 (0-7)	>1.7
Malabsorption syndromes not caused by lack of I.F.	<6	<6	0.7-1.3

A small number of patients have been found to excrete a "normal" (i.e., >10%) amount of Co 58, but these individuals exhibit elevated ratios (>1.4). The clinical significance of these findings is presently unclear.

PHYSICAL CHARACTERISTICS: Cobalt-57 decays by electron capture with a physical half life of 270 days. The primary gamma energy of Co 57 is about 122 KeV. Cobalt-58 decays by electron capture and positron and gamma emissions with a physical half life of 71 days. The primary gamma energy of Co 58 is 811 KeV. Photons that are useful for counting are listed in Table I.[1,2]

Table I. Principal Radiation Emission Data

	Radiation	Mean %/disintegration	Mean Energy (KeV)
Co 57	Gamma -2	87.1	121.9
	Gamma -3	9.6	136.3
Co 58	Beta -1	15.0	203.7
	Gamma -1	99.4	810.5
Annihilation Radiation		30.0	511.0

[1]Dillman, 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. 27, 1969.

[2]Dillman, L.T., Radionuclide Decay Schemes and Nuclear Parameters for Use in Radiation-Dose Estimation, part 2, Supplement No. 4, MIRD pamphlet No. 6, *J. Nucl. Med.*, p. 16, 1970.

The specific gamma ray constant for Co 57 is 1.0 R/mCi-hr at 1 cm. For Co 58 it is 5.5 R/mCi-hr at 1 cm. The half value layer for Co 57 is 0.2mm of Pb. For Co 58 it is 9mm of Pb.

To correct for physical decay of these radionuclides, the fractions that remain at selected time intervals before and after the day of calibration are shown in Table II.

This table is not needed for routine calculation, as all counting is relative to the standards which have been prepared from the same batch of each of the radionuclides as the corresponding cyanocobalamin capsules.

Table II. Physical Decay Chart: Co 57, half life 270 days; Co 58, half life 71 days

Weeks Before Activity Date	Co 57 μCi	Co 58 μCi	Weeks After Activity Date	Co 57 μCi	Co 58 μCi
10	0.60	1.48			
9	0.59	1.38	1	0.49	0.75
8	0.58	1.38	2	0.48	0.70
7	0.57	1.29	3	0.47	0.65
6	0.56	1.21	4	0.47	0.61
5	0.55	1.13	5	0.46	0.57
4	0.54	1.05	6	0.45	0.53
3	0.53	0.98	7	0.44	0.50
2	0.52	0.92	8	0.43	0.48
1	0.51	0.86	9	0.43	0.43
0*	0.50	0.80	10	0.42	0.40

*Activity date

RADIATION DOSIMETRY: The estimated absorbed radiation doses[1] to an average patient (70 kg) following the oral administration of one Dicopac capsule of Co 57 and one of Co 58 at calibrated nominal activities of 0.5 μCi and 0.8 μCi, respectively, are shown in Table I.

Table I. Radiation Doses

Tissue	Absorbed Radiation Dose (rads/0.5 μCi Co 57 + Intrinsic Factor) Normal and Pernicious Anemia	(rads/0.8 μCi Co 58) Normal	Pernicious Anemia
Liver*	0.065	0.14	0.03
Stomach	0.000041	0.00027	0.00042
Small Intestine	0.00007	0.00043	0.0013
Upper Large Intestine	0.00013	0.00070	0.0021
Lower Large Intestine	0.00030	0.0018	0.0053
Testes*	0.0026	0.0074	0.00037
Ovaries*	0.0033	0.010	0.0021
Whole-body*	0.0050	0.012	0.0022

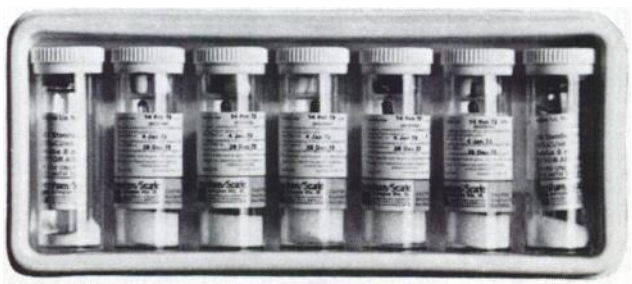
*The administration of a flushing dose of non-radioactive B_{12} will decrease the dose to the liver, gonads, and whole-body from Co 57 and Co 58 by about 30%.

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

HOW SUPPLIED: Each Dicopac Kit consists of five single-test cylinders and two 8 ml vials containing the standard solutions. The vial containing the blue solution is the Co 57 standard and the vial containing the yellow solution is the Co 58 standard. Each standard solution is prepared so that 1 ml of solution is equivalent to 2% of the total activity of each of the corresponding capsules.

Each cylinder contains two capsules and an ampule of unlabelled cyanocobalamin (1 mg). The red/ivory capsule contains 0.25 μg Co 58 cyanocobalamin (nominal activity 0.8 μCi at activity date). The purple/white capsule contains 0.25 μg Co 57 cyanocobalamin (nominal activity 0.5 μCi at activity date) bound to human gastric juice.

Dicopac Kits should be stored at 4°C and not used after the expiry date stated on the label.



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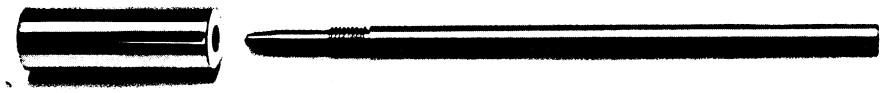
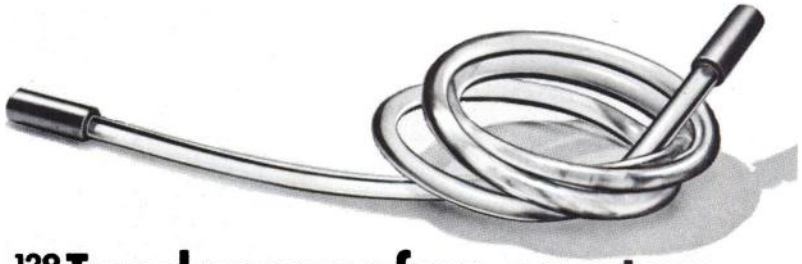
Spot sources are available as a 1mm bead of ^{57}Co or ^{133}Ba (10 and 100μCi). Features include a welded plastic capsule, point source geometry with a visible active bead, and colour coding for quick identification of nuclide and activity. They are packed in sets of three in shielded boxes; replacements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

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



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



^{129}I rod sources for γ counters

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

The Radiochemical Centre Amersham

Please write for further details.
The Radiochemical Centre Limited, Amersham, England. Telephone: 024-04-4444
In the Americas: Amersham/Searle Corp., Illinois 60005. Telephone: 312-593-6300
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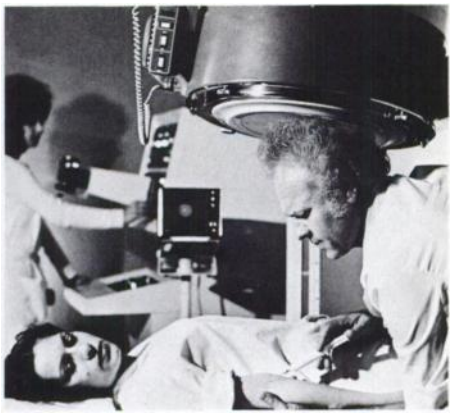

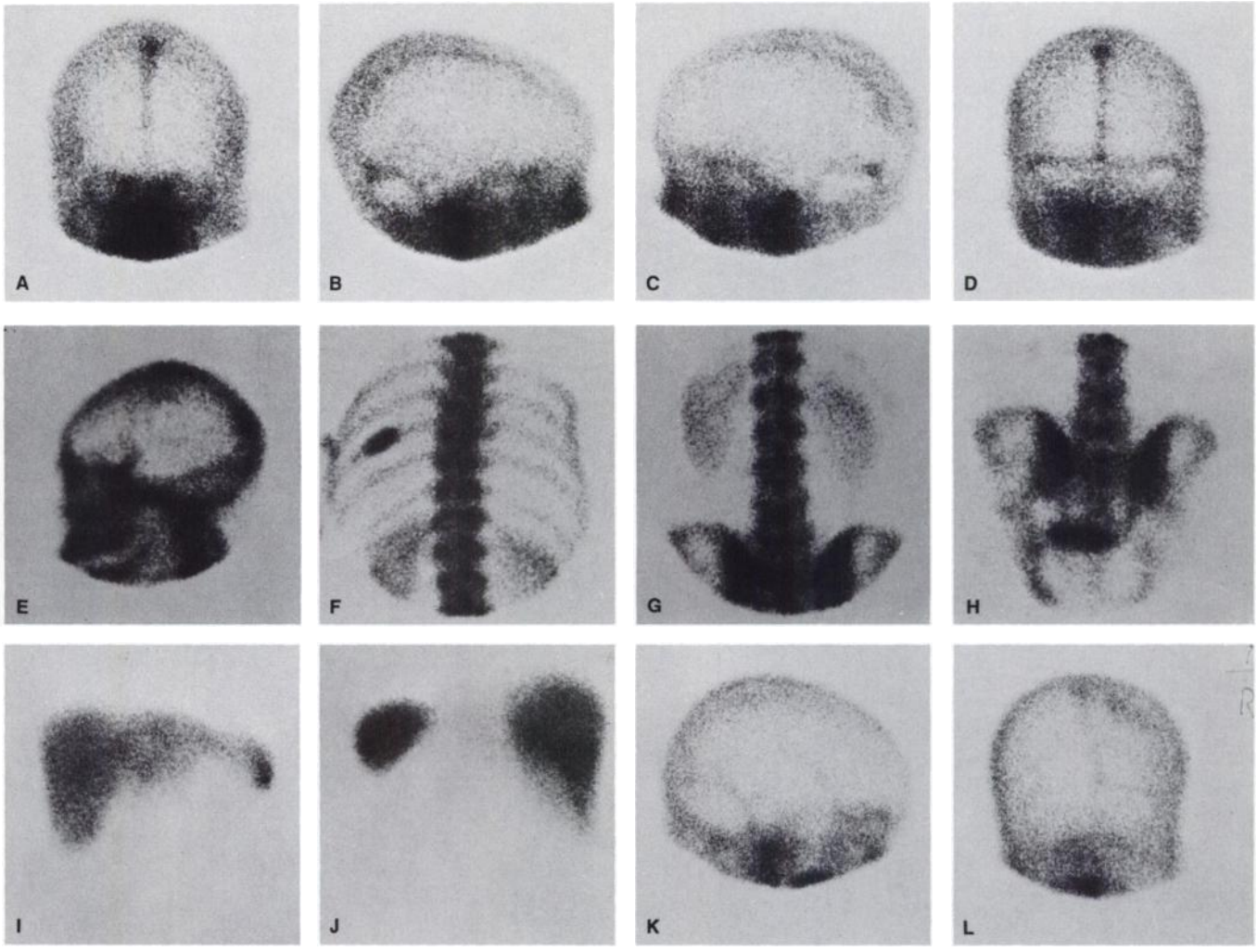

A, B, C, D. Normal brain scan multi-image display with CE-1-7 (37 p.m.t.) camera.

E, F, G, H. Positive bone scan patient: CCL-4 Ultrafine — resolution collimator; 400,000 counts accumulated in 90-220 seconds per view; 15 mCi ^{99m}Tc pyp; 5 hours post injection.

I, J. Anterior and posterior liver scans: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 3 mCi ^{99m}Tc sulfur colloid; ½ hour post injection. 56 sec. for anterior; 66 sec. for posterior.

K, L. Right lateral and posterior brain scans with Elscint CE-1-7 (37 p.m.t.) camera: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 15 mCi ^{99m}Tc; 2 hours post injection. 172 sec. for posterior; 169 sec. for right lateral. History: head trauma 2 months prior to brain scan.

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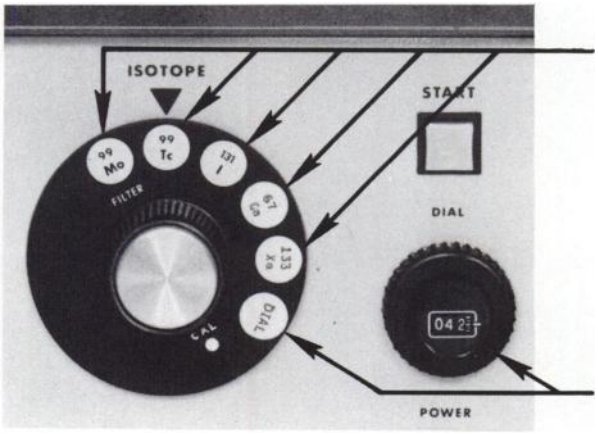

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TECHNETIUM-99M DTPA(TIN)

Brief summary of package insert. Before using, please consult the full package insert included in every kit.

DESCRIPTION

The kit contains 10 vials, each vial containing 5 mg sterile, pyrogen-free Sodium salt of Diethylenetriamine-pentaacetic Acid (DTPA) and 0.25 mg Stannous Chloride.

Administration is by intravenous injection for diagnostic use. The product as supplied is sterile and pyrogen-free.

When sterile, pyrogen-free Sodium Pertechnetate Tc 99m is added to the vial, a chelate, Technetium Tc 99m DTPA is formed.

HOW SUPPLIED

Diagnostic Isotopes' Technetium Tc 99m DTPA Kit (Chelate) is supplied as a sterile, pyrogen-free kit containing 10 vials. Each vial contains 5 mg of Sodium salt of DTPA and 0.25 mg of $SnCl_2$. The pH is adjusted with HCl or NaOH prior to lyophilization. Following lyophilization the vials are sealed under a nitrogen atmosphere.

CLINICAL PHARMACOLOGY

Following its intravenous administration, Technetium Tc 99m DTPA rapidly distributes itself throughout the extracellular fluid space from where it is (promptly) cleared from the body by glomerular filtration. There should be little or no binding of the chelate by the renal parenchyma. A variable percentage of the Technetium Tc 99m DTPA binds to serum proteins; this ranges from 3.7% following the single injection to approximately 10% if the material is continuously infused. Although the chelate gives useful information on the glomerular filtration rate, the variable percent which is protein bound leads to a measured glomerular filtration rate which is lower than the glomerular filtration rate as determined by inulin clearances.

Technetium Tc 99m DTPA tends to accumulate in intracranial lesions with excessive neovascularity or an altered blood-brain barrier. The chelate does not accumulate in the choroid plexus.

Since Technetium Tc 99m DTPA is excreted by glomerular filtration, the images of the kidneys obtained in the first few minutes after injection represent the vascular pool within the kidney. Subsequent images of the kidneys represent radioactivity which is in the urine of both the collecting system and the renal pelvis.

INDICATIONS AND USAGE

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

CONTRAINDICATIONS

None known.

WARNINGS

Technetium Tc 99m DTPA should not be administered to children or to patients who are pregnant, or to nursing mothers unless the benefits to be gained outweigh the potential hazards.

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

PRECAUTIONS

Technetium Tc 99m DTPA as well as other radioactive drugs must be handled with care and appropriate safety measures should be used to minimize external radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to patients consistent with proper patient management.

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.

Pregnancy Category C: Adequate reproductive studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Technetium Tc 99m DTPA should be used in pregnant women only when clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. As a general rule nursing should not be undertaken while a patient is on the drug since many drugs are excreted in human milk.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

No adverse reactions specifically attributable to the use of Technetium Tc 99m DTPA have been reported.

DOSAGE AND ADMINISTRATION

The suggested dose range for I.V. administration to be employed in the average patient (70 kg) is:

Kidney imaging and glomerular filtration rate estimation: 3 to 5 mCi.

Brain imaging or renal perfusion: 10 to 20 mCi.

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By the time some people can say:

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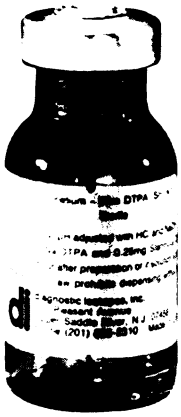
You've got it mixed and ready to use!



Unless you're in the business, this tongue-twister may tie you up for some time. However, it only takes one minute of mixing time to prepare Diagnostic Isotopes' one-step Technetium-99m DTPA agent for injection.

DTPA becomes Technetium-99m DTPA (Tin) after adding sodium pertechnetate Tc-99m. Technetium-99m DTPA may be used to perform kidney imaging, brain imaging, to assess renal perfusion and to estimate glomerular filtration rate.

Each DTPA kit contains 10 vials. The product is sterile, pyrogen-free, has a labeling efficiency of over 95% and a shelf life of one year . . . all good reasons for ordering now.

See opposite page for a brief summary of the package insert.

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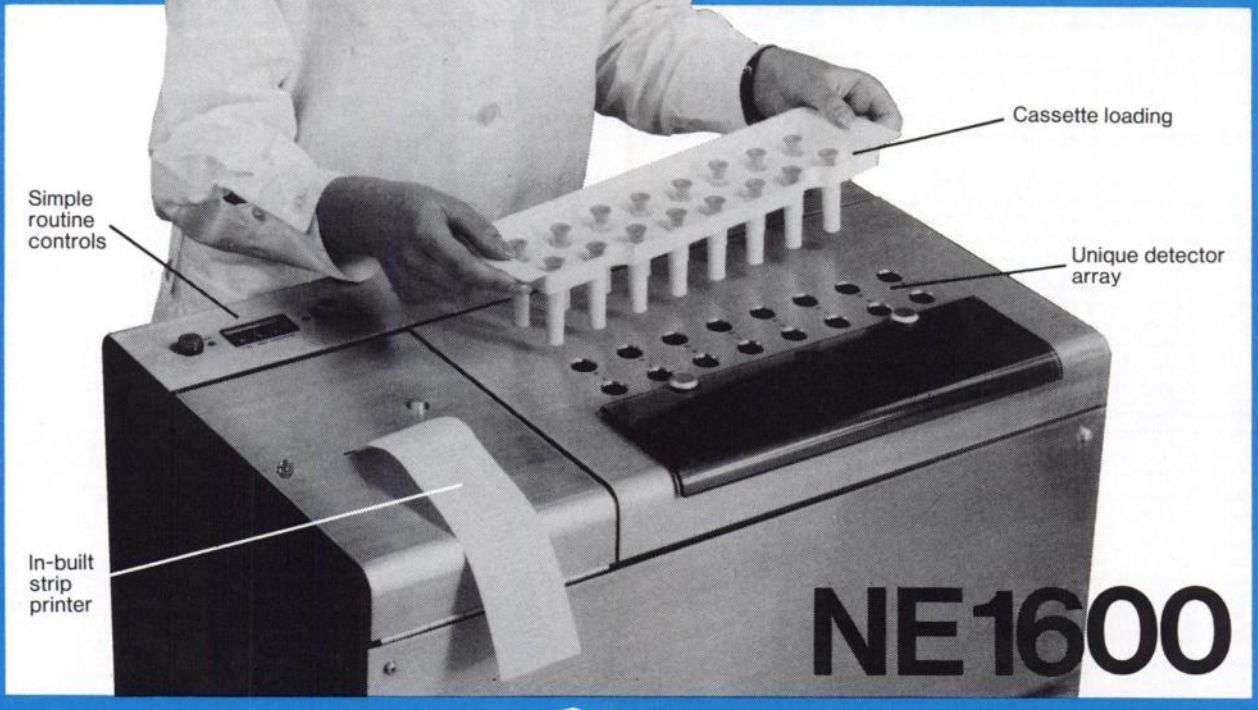
Call us for full details of this unrivalled new counter.



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By the time some people can say:

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You've got it mixed and ready to use!

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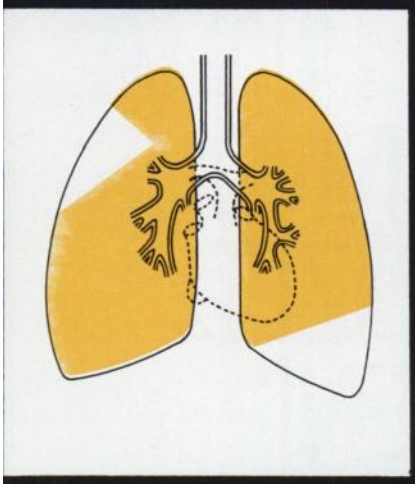
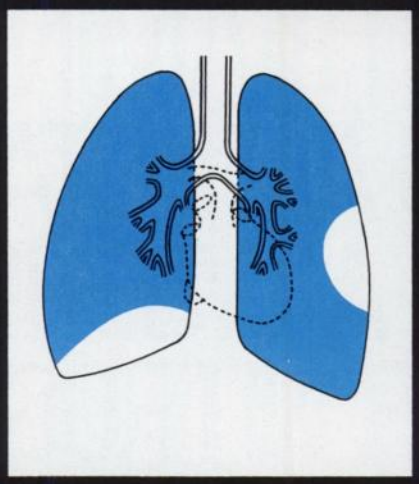
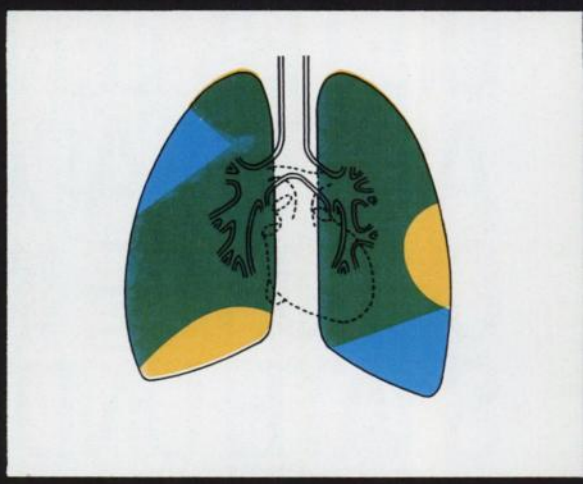
Prepared Radiopharmaceuticals Available: *Selenium-75, Xenon-133 (solution or gas)*







Perfusion + Ventilation: The two together are diagnostically better.

The ventilation-perfusion ratio $\left(\frac{V}{Q}\right)$ is the crucial factor determining the regional oxygen partial pressure. This can be evaluated by assessing the gas exchange occurring in any part of the lung. The single most *sensitive* non-invasive test for diagnosing Pulmonary Embolus is the perfusion lung image.[1] However, pulmonary diseases, such as chronic obstructive lung disease, infectious diseases, and neoplasms are all characterized by altered arterial blood flow. Therefore the most reliable way to increase the *specificity* of perfusion lung imaging is to add a Xenon 133 ventilation study.[2]

[1]Urokinase Pulmonary Embolism Trial. A National Cooperative Study. Circulation (Suppl 11) 47:11-61. 1973 (April)

[2]Wagner, Henry N. Jr., Strauss, H. William. *Radioactive Tracers In The Differential Diagnosis of Pulmonary Embolism.* Progress in Cardiovascular Diseases, Vol. XVII, No. 4 (January/February), 1975.

PULMOLITE™ – Aggregated Albumin (Human) Agent.

FOR DIAGNOSTIC USE

Indications and Usage: Tc 99m Aggregated Albumin (Human) is indicated as a lung imaging agent to be used as an adjunct in the evaluation of pulmonary perfusion.

Specifically, the distribution of the agent reflects regional pulmonary perfusion and may be helpful in the evaluation of such clinical conditions as pulmonary embolus, chronic obstructive lung disease, congenital anatomic abnormalities, and pulmonary abscess. It can also be used in conjunction with a suitable liver imaging agent for the performance of lung-liver scans to detect subphrenic abscesses.

Contraindications: The safety of Aggregated Albumin in patients with right-to-left cardiac shunts has not been demonstrated, and its use in such patients is contraindicated. The use of Tc 99m Aggregated Albumin is contraindicated in persons with a history of hypersensitivity reactions to products containing human serum albumin.

Warnings: Although not reported to date, the possibility of allergic reactions should be considered in patients who receive multiple doses. This radiopharmaceutical preparation should not be administered to pregnant or lactating women, or persons under 18 years of age 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 the menses.

Theoretically, the intravenous administration of any aggregated material such as Aggregated Albumin imposes a temporary small mechanical impediment to blood flow. While this effect is probably physiologically insignificant in most patients, the administration of Aggregated Albumin is possibly hazardous in acute cor pulmonale and other states of severely impaired pulmonary blood flow. Although not reported with NEN's Tc 99m Aggregated Albumin (Human) the literature contains four reports of deaths occurring after the administration of Aggregated Albumin to patients with pre-existing severe pulmonary hypertension.

Precautions:

GENERAL

Tc 99m Aggregated Albumin (Human) as well as any radioactive agent, must be handled with care. Once Pertechnetate Sodium Tc 99m is added to the vial, appropriate safety measures should be used to minimize external radiation exposure to clinical personnel. Care should also be taken to minimize radiation exposure to patients in a manner consistent with proper patient management.

The Tc 99m labeling reaction involved in preparing Tc 99m Aggregated Albumin (Human) depends on the maintenance of tin in the divalent state. Any oxidant present in the Pertechnetate Sodium Tc 99m employed may adversely affect the quality of the prepared agent. Thus, Pertechnetate Sodium Tc 99m containing oxidants should not be used without first demonstrating that it is without adverse effect on the properties of the resulting agent.

The use of Bacteriostatic Sodium Chloride Injection as a diluent for Pertechnetate Sodium Tc 99m may adversely affect the biologic distribution of the prepared agent, and its use is not recommended.

CARCINOGENESIS

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

PREGNANCY CATEGORY C

Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. PULMOLITE Aggregated Albumin (Human) Agent should be used in pregnant women only when clearly needed.

NURSING MOTHERS

It is not known whether this drug is excreted in human milk. As a general rule nursing should not be undertaken when a patient is administered radioactive material.

PEDIATRIC USE

Safety and effectiveness in children have not been established.

Adverse Reactions: Although no adverse reactions have been reported using NEN Technetium Tc 99m Aggregated Albumin (Human), rare instances of hemodynamic or idiosyncratic reactions to other preparations of Aggregated Albumin have been recorded.

Dosage and Administration: The recommended intravenous dose range for the average patient (70kg) is 2 to 4 millicuries.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to patient administration. Re-suspend particles in syringe immediately prior to injection by repeated inversion of the the syringe. (If blood is drawn into syringe, any unnecessary delay prior to injection may lead to clot formation in situ.) Slow injection is recommended, and for optimum results, imaging should begin as soon as possible after injection.

PULMOLITE should be used within eight hours after aseptic reconstitution with Pertechnetate Sodium Tc 99m. For optimum results the time should be minimized. After reconstitution, the vial should be stored at 2°C to 8°C.

The vial contains no bacteriostat.

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

How Supplied: PULMOLITE Aggregated Albumin (Human) Agent, is supplied in kits of five (5) or thirty (30) vials, sterile and non-pyrogenic, each vial containing in lyophilized form:

Aggregated Albumin (Human) - 1.5mg
Normal Human Serum Albumin - 10mg
Sodium Chloride - 10mg
Stannous Chloride - 0.012-0.070mg

PULMOLITE contains no preservative; after reconstitution the shielded vial should be stored at 2°C to 8°C.

Included in each five (5) vial kit is one (1) package insert and six (6) radiation labels. Included in each thirty (30) vial kit is one (1) package insert and thirty-six (36) radiation labels.

Xenon Xe 133 Gas (CALIDOSE™) Dispensing System.

Indications: Inhalation of Xenon Xe 133 gas has proved valuable for the evaluation of pulmonary function and for imaging the lungs. It may also be applied to assessment of cerebral flow.

Contraindications: To date, no known contraindications to the use of Xenon Xe 133 gas have been reported.

Warnings: This radiopharmaceutical should not be administered to pregnant or lactating women 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 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. Expired Xenon Xe 133 gas should be controlled in a manner that is in compliance with the appropriate governmental regulations. Xenon Xe 133 adheres to some plastics and rubber and should not be allowed to stand in tubing or respirator containers. Such unrecognized loss of radioactivity from the dose for administration may render the study non-diagnostic. Xenon Xe 133 gas delivery systems, i.e., respirators or spirometers, and associated tubing assemblies must be leakproof to avoid loss of radioactivity to the laboratory environs not specifically protected by exhaust systems.

Adverse Reactions: To date, no adverse reactions based on the use of Xenon Xe 133 gas have been reported.

Dosage and Administration: Xenon Xe 133 gas is administered by inhalation from closed respirator systems or spirometers. The suggested activity range employed for inhalation by the average adult patient (70 kg) is:

Pulmonary function including imaging: 2-30 mCi in 3 liters of air.
Cerebral blood flow: 10-30 mCi in 3 liters of air.

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

How Supplied: The Xenon Xe 133 gas is supplied as part of the CALIDOSE™ system, consisting of 2 ml unit dose vials and the CALIDOSE dispenser* for shielded dispensing.
Normally vials containing either 10 or 20 mCi/vial, packed up to 5 vials per shield tube, are supplied. Vial sets containing up to 100 mCi/vial are available.

*Patent Pending

New England Nuclear
Radiopharmaceutical Division
Atomlight Place, North Billerica, Mass. 01862
Telephone 617-667-9531
Los Angeles: 213-321-3311 Miami: 305-592-0702

Canada: NEN Canada Ltd., 2453 46th Avenue, Lachine, Quebec, H7T 3C9, Tel: 514-636-4971, Telex: 05-821808
Europe: NEN Chemicals GmbH, D-6072 Dreieichenhain, W. Germany, Daimlerstrasse 23, Postfach 1240. Tel: (06103) 85034.

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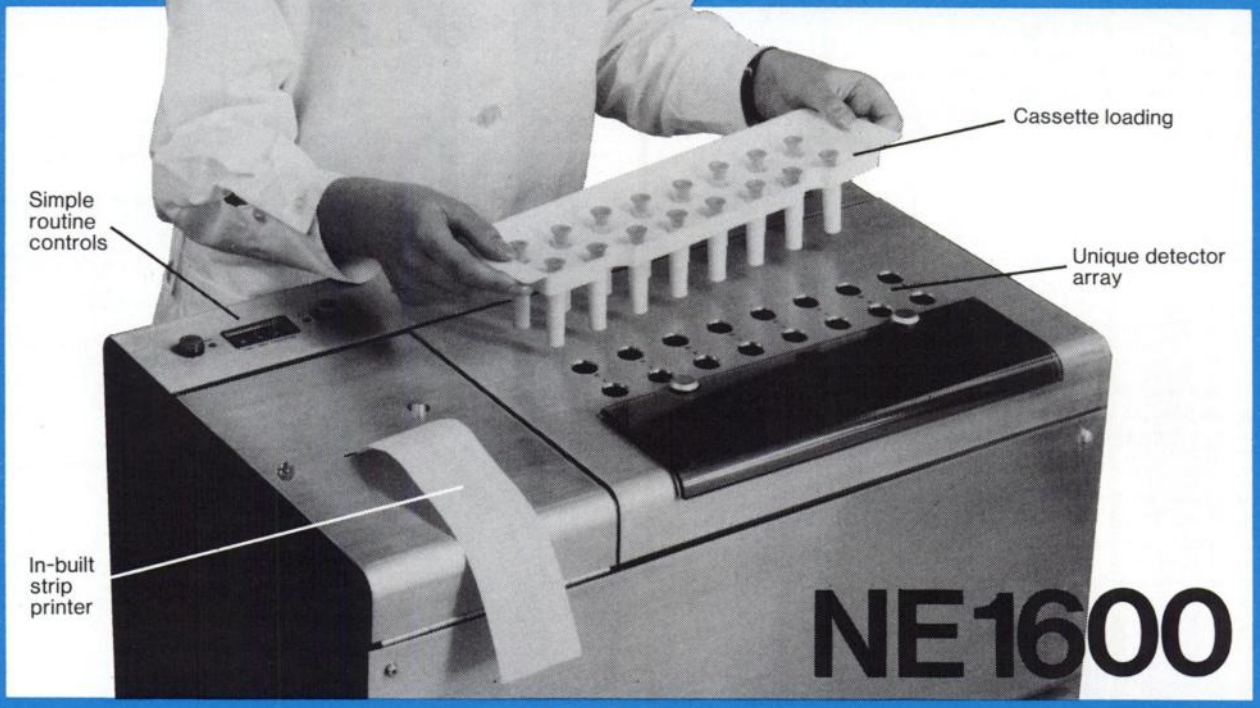
The Nuclear Enterprises NE 1600 introduces a completely new concept in ^{125}I sample counting achieving a throughout-put almost twenty times greater than orthodox instruments. A batch of 96 typical samples takes only 6 minutes counting time and sufficient data to derive a standard curve is available within two minutes. Queueing becomes a thing of the past!

Simplicity of operation is just one major feature of the NE 1600 with only two controls being used in routine assays. Exceptional reproducibility and reliability, excellent counting performance, fast loading and versatile recording facilities are a few of the others!

Call us for full details of this unrivalled new counter.



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Telephone: 031-443 4060
Cables: Nuclear, Edinburgh Telex: 72333

Associate Companies
Nuclear Enterprises GmbH, Schwanthalerstrasse 74, 8 München 2, Germany. Tel: 53-62-23. Telex: 529938.

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*The MS-2F has been designed to meet Abbott Radiopharmaceutical specifications for use for detection of ^{125}I tagged Fibrinogen for deep vein thrombosis.

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- RATEMETER
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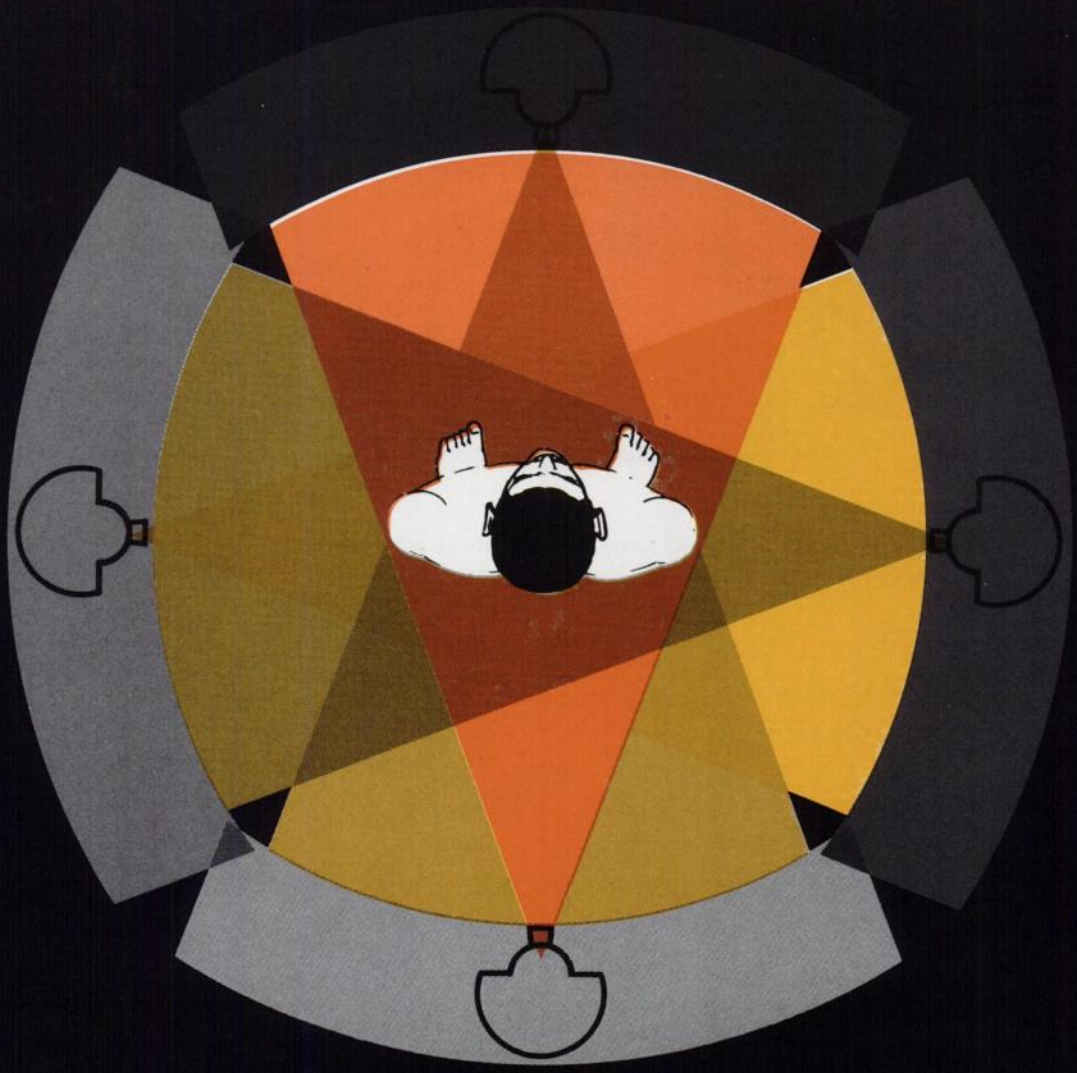
Varian Introduces the 6-Second Whole-Body CT Scanner



A New Era in Computed Tomography...

Let Varian Introduce You to 6-Second Computed Tomography

A Full 360° Whole-Body Scan in 6 Seconds

The two most important parameters in CT scanning, quality of image and short data-acquisition time, have now been achieved by Varian.

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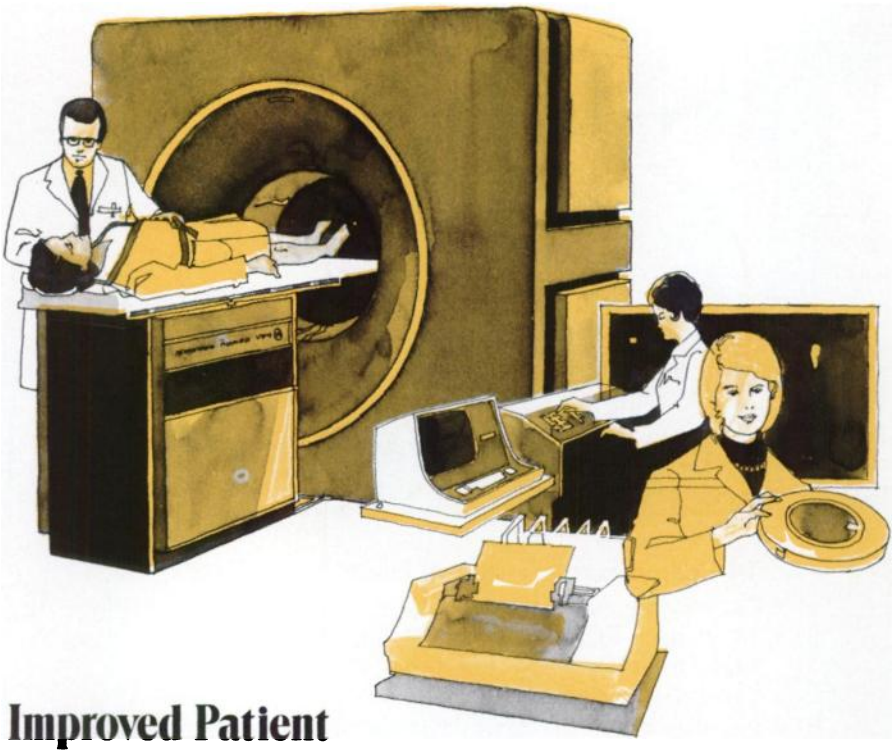
Superior Design

Varian's CT Scanner utilizes fan beam geometry. X-rays are collimated into a fan-shaped beam and collected by approximately 300 high-efficiency Xenon-Krypton detectors. X-ray tube and detectors rotate as a unit, scanning the full patient cross-section throughout the entire 360 degrees.

The Varian-developed slip-ring construction eliminates cable flexing, and provides a base for faster than 6-second data acquisition in the future.

Compatible with the Future

The design concepts of the Varian system assure compatibility with inevitable developments in the rapidly advancing CT technology. Equally important, Varian's total corporate involvement and close control over the major components in the CT Scanner System —Rotating Gantry, Xenon-Krypton Detector, Computer, and X-ray source—facilitate prompt incorporation of new technological advances.



Improved Patient Handling

The new Scanner is a carefully engineered patient and user-oriented system. For example, the 90 cm-diameter aperture will accommodate your largest patients. Patient positioning within the rotating gantry is facilitated by a low-power laser alignment system and computer driven patient couch.

Talk to Varian

Before you make any decision, get the facts on the 6-second era from Varian. Call or write today. Varian Radiation Division, 611 Hansen Way, Palo Alto, CA 94303. Tel: 415/493-4000. Worldwide sales and service.

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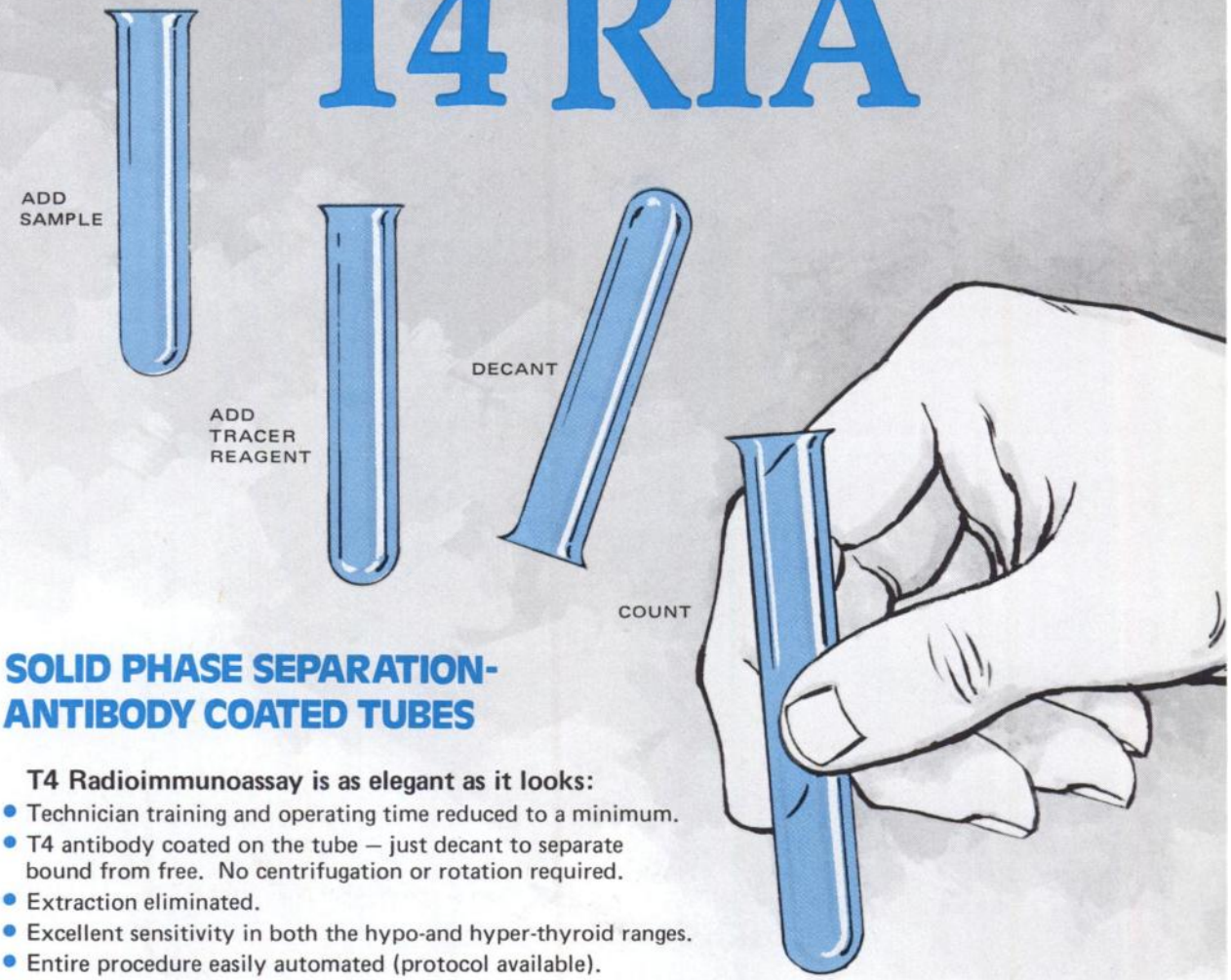
Clinical Assays GammaCoat™ T4 RIA



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- Technician training and operating time reduced to a minimum.
- T4 antibody coated on the tube – just decant to separate bound from free. No centrifugation or rotation required.
- Extraction eliminated.
- Excellent sensitivity in both the hypo-and hyper-thyroid ranges.
- Entire procedure easily automated (protocol available).

Protocol:

- Add sample directly into GammaCoat tube.
- **Add Tracer-Buffer Reagent.**
- **Incubate – for 45 minutes at room temperature.**
- **Decant or Aspirate.**
- **Count – the tube is counted for as little as 30 seconds.**

For further information call toll free at 1-800-225-1241 (in Massachusetts call collect 617-492-2526) or TWX (710-320-6460) or write:

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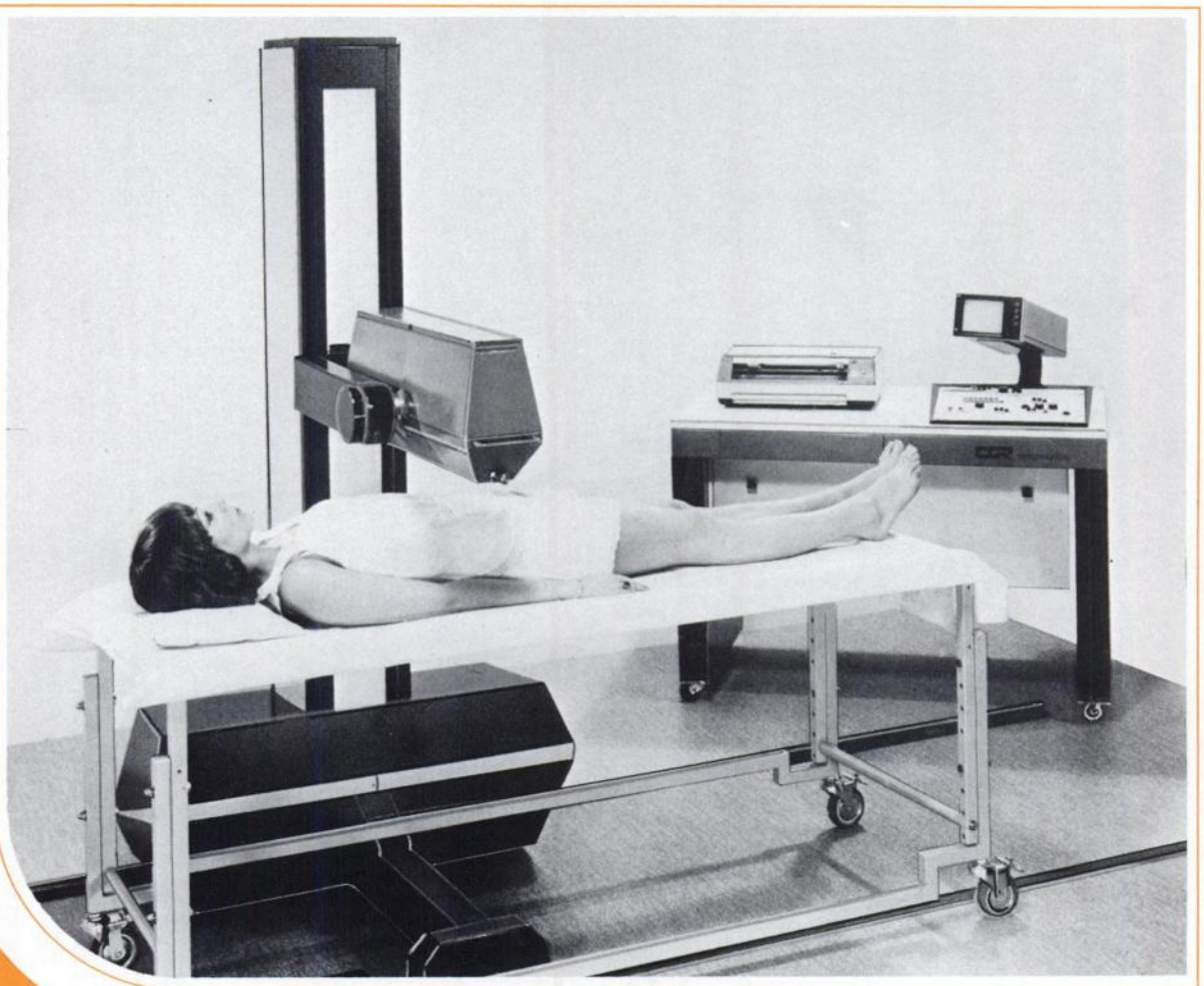

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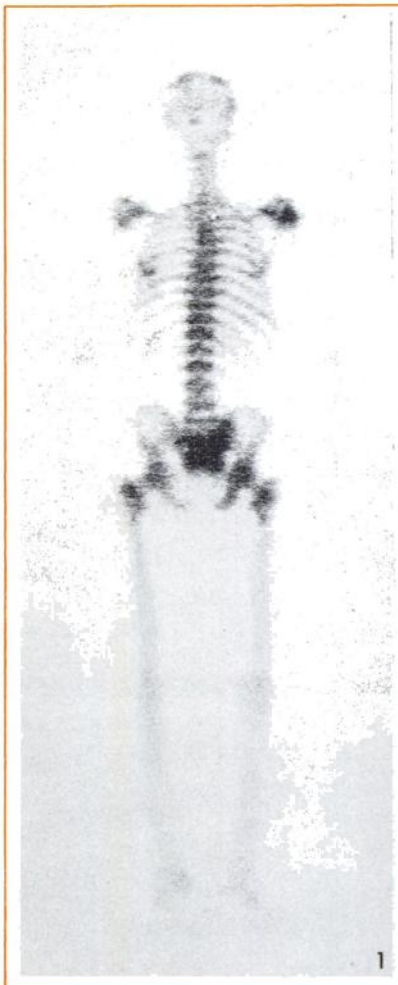
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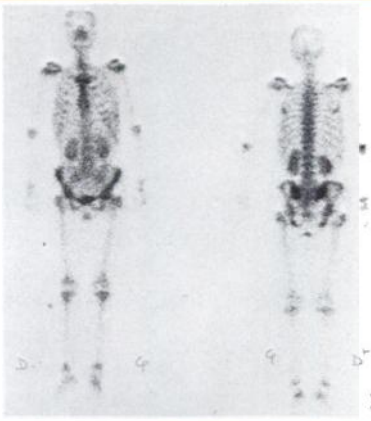
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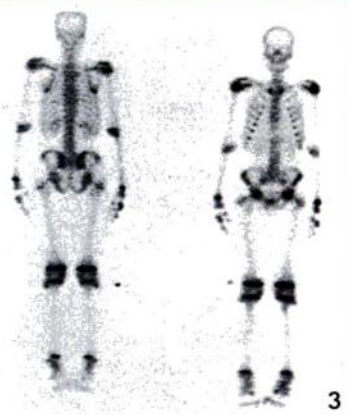
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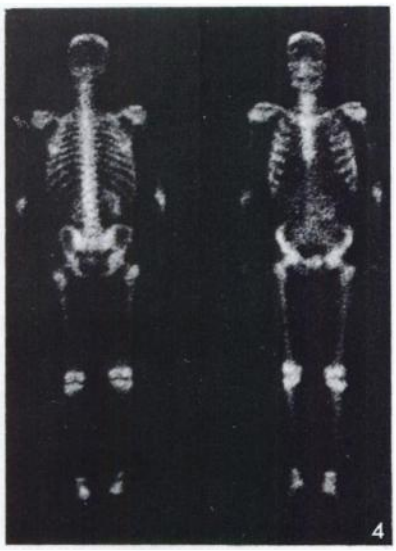
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IMAGE OBTAINED at 10 cm/mn.

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4 - POLAROÏD FILM OUTPUT
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For information on the SCANICAMERA, contact:
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