Sodium Iodide I 123 for thyroid studies
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.

<table>
<thead>
<tr>
<th>Maximal Thyroid Uptake %</th>
<th>Rads/100μCi MPI-Iodine-123</th>
<th>Rads/100μCi I 131</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1.05</td>
<td>26.0</td>
</tr>
<tr>
<td>15</td>
<td>3.19</td>
<td>80.0</td>
</tr>
<tr>
<td>25</td>
<td>5.36</td>
<td>130.0</td>
</tr>
</tbody>
</table>

**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

---

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

**SODIUM IODIDE I 123 CAPSULES AND SOLUTION FOR ORAL ADMINISTRATION DIAGONOSTIC**

**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 specificity 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 radiocladonic 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 no 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.

**DOSE 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 radioactive 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® L.E.M.
Low Energy Mobile Scintillation Camera

Designed for a new environment

MOBILITY AND FLEXIBILITY
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 unequaled 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.


Searle Radiographics, Inc.
A Subsidiary of G. D. Searle & Co.

IMAGING: The Living Art
Contents: 12 calibrated tubes each with 3.5 ml thybon® (I-125)-solution. Total activity: 1.5 μCi I-125.
Preservative: 0.02% sodium azide. 12 adsorption inserts, 1 ml standard serum of defined TBG capacity.
These reagents are only for in-vitro application.
Code No.: 1 5113, 1 package = 12 tests.
Storage: store protected from light in the refrigerator at +4° to +6°C.
Stability: 8 weeks properly stored. The expiry date is indicated on the label.

The time-saving test for your lab: pipette once, incubate for one hour, automatic phase separation, measure.
Think NEN first when it comes to nuclear medicine.

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

1. Comprehensive, first-pass dynamics of cardiac wall motion

NORMAL PATIENT. Anterior View. Ejection Fraction 63%. (A) Image at End Systole shows volume displacement flow is maximum in the aorta and volume is minimum in the ventricle. (B) Image shows that volume displacement flow is minimum in the aorta and volume is maximum in the ventricle at End Diastole. (C) ES, with perimeter at ED superimposed, shows normal volume displacements and symmetric wall motion band due to motion of the septal and lateral walls. (D) Subtraction of stroke volume from ES, with ED perimeter superimposed, shows that all volume displacements in the stroke volume exceed volume components in residual distribution at ES.

ABNORMAL PATIENT. Anterior View. Ejection Fraction 34%. (A) ES, showing spatial distribution of volume components. Abnormally high residual volume at ES in the ventricle compared to volume flow components in the aorta. (B) ED, showing distribution of left heart volume components. Comparison with ES suggests relative lack of ventricular volume displacement during systole. (C) Lack of wall motion is indicated by very narrow wall motion band between ED perimeter and the ES distribution along the septal wall to the apex. Wall motion of the lateral wall is closer to normal. (D) Volume component in ES distribution exceeds stroke volume displacement because of reduced anterior or posterior wall motion proximal to the septal wall.

Shown here are stop-action data extracted from the representative cycle of first-pass images showing hemodynamics of the left heart, including volume distribution of end systole, end diastole, end systole with the end diastolic perimeter superimposed, stroke volume subtracted from end systole with end diastolic perimeter superimposed. These images provide the basis for the clinical diagnosis of ventricular wall motion, in addition to providing data for a closer examination of specific areas for evidence of hypokinesia, akinesia, or dyskinesia.

Because of the high count rate of System Seventy Seven's multicrystal matrix detector, no ECG gating was required. These studies are therefore unique in nuclear medicine and, because of the computer built into the system, remarkably fast and easy to perform. There is simply no other gamma camera that can do all that you see here.

International Sales and Service:
BAIRD-ATOMIC (Europe) B.V. Veerkade 26-27-28a, The Hague, Holland
Telephone (070) 603807 Telex: 32324 Cable: BAIRD/HAGUE
BAIRD-ATOMIC LIMITED, East Street, Braintree, Essex, England
Telephone Braintree 628 Telex: 987685 Cable: BAIRD/ATOMIC
BAIRD-ATOMIC, Ind. E Com. Ltda., Av. Paulista, 2073-134 c1412, 01311 Sao Paulo, SP Brazil
Telephone (011) 269-1948 Telex: 01122401 Cable: BAIRDATOMIC/SPaulo

Home Office: Baird-Atomic, Inc.
125 Middlesex Turnpike, Bedford, Mass. 01730
Tel. (617) 276-6000 Telex: 923491 Cable: BAIRD/COBFRD

B A I R D - A T O M I C
You Told Us
You Needed

High quality images, consistently reproducible, to further increase diagnostic accuracy;

High speed data acquisition with minimal loss;

Simple setup for increased throughput and optimized performance; and

Protection against obsolescence.

We Have Responded With
The Sigma Series With MPC
Micro Processor Control

We Listened To You.

Ohio-Nuclear, Inc.
A subsidiary of Technicare Corporation

U.S. — 6000 Clinton Road • Solon, Ohio 44139
U.K. — Ohio Nuclear Ltd. • Radley House • Central Trading Estate • Stanmore • Middlesex England
Worldwide — Systems A.O. Medical Division • D8530 E-angen • Henkenstrasse 127 • West Germany

Telephone (216) 248-8500
TWX 810 227-2696
Telephone Paris 51444
Telephone 08131-84-1
TWX 841 629-847
Our "Customer Service Division" is our entire company

At Diagnostic Isotopes, we never ask you to contact our "Customer Service Division" or some other branch of our company. Our entire company exists only to provide you with radiopharmaceuticals that help you get definitive images.

We are not a subsidiary or sub-division of some giant corporation that also sells drug store items or machinery. Our only reason-for-being is to produce quality diagnostic kits and prepared radiopharmaceuticals.

To be effective, we focus all of our energy and resources on serving those engaged in nuclear medicine. We must assure you of a quality product, dependable delivery and competitive pricing. At Diagnostic Isotopes we have to be this good; we have no other businesses to fall back on.

Diagnostic Isotopes Incorporated
123 Pleasant Avenue, Upper Saddle River, New Jersey 07458
Telex 134408 • Phone: (201) 825-2310
(Call Toll Free — 800-631-7020)
"OUR QUALITY HELPS YOUR IMAGE"
Digital's Gamma-11. It's the most powerful nuclear medicine system you can buy.

Digital's Gamma-11 gives you more performance than any other system on the market.

The proof? Gamma-11 lets you acquire and analyze information from single or multiple gamma cameras. Simultaneously Gamma-11 also lets you choose from more than 150 different data acquisition and analysis functions. What's more, you can display that data in either black-and-white or color. And replay high speed dynamic studies up to 16 frames/second with no flicker.

Gamma-11 even gives you built-in protection for patient data and programs. And positive patient identification and count information on every frame.

Yet even though the system is sophisticated, it's simple to use. You can run everything using a series of logical two-letter commands.

Gamma-11 gives you power and flexibility. Backed by Digital medical software and support specialists. No wonder 100 hospitals are using Gamma-11 today. Shouldn't yours?

Gamma-11 clinical software includes:
- Cardiac analysis
- Brain analysis
- Lung analysis
- Renal analysis
- Rib removal
- Functional imaging
- Radio-immunoassay
- Liver/pancreas analysis
- C.T. scan analysis


Digital Equipment of Canada, Ltd.
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.

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.

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.

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.

Searle Radiographics, Inc.
Subsidiary of G. D. Searle & Co.
Clinical Assays
GammaCoat™
T4 RIA

SOLID PHASE SEPARATION-
ANTIBODY COATED TUBES

T4 Radioimmunoassay is as elegant as it looks:
• 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:

Clinical Assays, Inc.
237 BINNEY STREET
CAMBRIDGE, MASS. 02142
(617) 492-2526
Since our first idea was born on February 18, 1972 to make a manual positioned, framed film cassette holder for multi-images on X-ray film, we have been able to improve our original design. The total size is now reduced to about the size of the cassette itself.

FEATURES:
- Available in all sizes (11 x 14 not shown)
- Model No. 45 — Excellent for triple lens cameras
- Model No. 57 — For enlarged, single whole body studies or 2 normal size views (4 to 6 when minified)
- Model No. 810 — For 4 or 6 images (8 to 10 when minified)
- Model No. 1114 — For your "special" requirements (3 "/" positions)
- Double-sided Cassette can be inserted from either side (left or right)
- No modification necessary, fits directly into existing Polaroid filmback holder (specify!)
- Will never need any service
- Works with triple or single lens cameras
- Economical, reduces film cost up to 60%

*Patent Applied For

Further information available upon request.
Please write or call

N.I.S.E., INC.
20018 STATE ROAD, CERRITOS, CALIFORNIA 90701
TEL. (213) 860-6708

*As shown at the 22nd Annual Meeting of the S.N.M. in Philadelphia, PA.
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.
Gamma labelled partners for adrenal/pituitary testing

Cortipac*  
Cortisol CPB Kit  
ACTH RIA Kit

* Assay range 2.5–45 μg/100 ml  
* Unique $^{75}$Se gamma label for counting convenience  
* Predisppended test vials for simplicity and reliability  
* 30 minute incubation, 2 hour assay  
* Small sample size (100 µl serum)  
* Excellent correlation with Mattingley methods  

* Assay range 10–4000 pg/ml  
* $^{125}$I gamma label  
* Plasma extraction with adsorbent glass minimizes non-specific interference  
* Antiserum directed at biologically active (N-terminal α1-24) part of ACTH molecule  
* 24 hour assay

Full information available on request

The sign of quality in Radioassays

The Radiochemical Centre  
Amersham

The Radiochemical Centre Ltd., Amersham, England. Telephone: 024-4444  
In the Americas: Amersham/Searle Corp., Illinois 60005. Telephone: 312-593-4300  
In W. Germany: Amersham Bucher GmbH & Co. KG, Braunschweig. Telephone: 05307-4693-97  

"trademark"
State of the art in cardiac and respiratory synchronization.

Cardiac Gate

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

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

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

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

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

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

Opti-Imager

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

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

#MATRIX INSTRUMENTS

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

Mail coupon to receive sample clinical studies.
For dependable imaging...
Dependable imaging of skeletal lesions—that's what bone scanning is all about. And that's what the unique, dry-mix formulation and stable PCP bond of Osteoscan assure. Osteoscan's diphosphonate formulation, when labeled with $^{99m}$Tc, provides:

- dependably high tagging efficiency
- rapid blood and soft tissue clearance to assure high target-to-nontarget ratio
- excellent in vivo stability
- low tin level—to minimize the potential for liver uptake and interference with subsequent brain scans

For further information about Osteoscan, please contact: Arnold Austin, Technical Manager, Professional Services Division, Procter & Gamble (513) 977-8547.

In Europe, contact: Philips-Duphar B.V., Cyclotron and Isotope Laboratories, Petten, Holland.
See following page for a brief summary of package insert.
POWERTROL was designed to protect electronic equipment from power line fluctuations. Intermittent loss of power, brown-outs, emergency power change over, and normal power company line transients can seriously damage electronic equipment.

POWERTROL will render immunity to your equipment. Simply plug POWERTROL into any AC outlet and forget about potential power related failures.

For more information Write or Call Collect

Medi-Ray, Inc.

150 Marbledale Road, Tuckahoe, New York 10707 • (914) 961-8484
Dependable imaging of skeletal lesions— that's what bone scanning is all about. And that's what the unique, dry-mix formulation and stable PCP bond of Osteoscan assure. Osteoscan's diphosphonate formulation, when labeled with 99mTc, provides:

- dependably high tagging efficiency
- rapid blood and soft tissue clearance to assure high target-to-nontarget ratio
- excellent in vivo stability
- low tin level—to minimize the potential for liver uptake and interference with subsequent brain scans

For further information about Osteoscan, please contact: Arnold Austin, Technical Manager, Professional Services Division, Procter & Gamble (513) 977-8547.

In Europe, contact: Philips-Duphar B.V., Cyclotron and Isotope Laboratories, Petten, Holland.
See following page for a brief summary of package insert.
PROCTER & GAMBLE
OSTEOSCAN®
(69MG DISODIUM ETIDRONATE, 0.16MG STANNOUS CHLORIDE)
SKELETAL IMAGING AGENT

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 99mTc-perlabeled, these ingredients combine with 99mTc to form a stable soluble complex.

ACTIONS (CLINICAL PHARMACOLOGY)
When injected intravenously, 99mTc-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 99mTc-labeled OSTEOSCAN.

Three hours after intravenous injection of 1 ml 99mTc-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 99mTc-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 99mTc-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 99mTc-labeled OSTEOSCAN administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the 99mTc-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 99mTc-labeled OSTEOSCAN is 1 ml with a total activity range of 10-15 mCi. 99mTc-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.
Required Reading
For
The Discriminating Nuclear Medicine Specialist

You won't want to miss receiving the latest CIS Radiopharmaceuticals, Inc. Imaging Kit Brochure. The brochure contains information on the highly reliable and original kits available, and also shows typical scans.

In addition, CIS Radiopharmaceuticals has comprehensive data sheets on radiodiagnostic, instant technetium, $^{131}$I capsules and oral therapeutics.

For instant information call our toll free number.

Please send:
☐ Imaging Kit Brochure
☐ Sulfur Colloid (Tc 99m)
☐ Capsules $^{131}$I
☐ Sodium Iodide $^{131}$I
☐ Sodium Pertechnetate (Tc 99m)

Name: ________________________________
Dept: ________________________________ Tel: ________________________________
Organization: __________________________
Address: ______________________________
City: __________________ State: ________ Zip: __________

Volume 17, Number 8
scanticamera

the 200 cm × 60 cm linear field gamma camera,
world’s best and fastest large area imager

FEATURING

* 50 TO 550 keV ENERGY RANGE
* "ISOPROG" PLUG-IN MODULE ISOTOPE SELECTION
* INSTANT COLLIMATOR EXCHANGE
* TILTABLE DETECTOR
* EXAMINATION BED INDEPENDENCE
* THE DEPTH OF FIELD OF A SCINTILLATION CAMERA
* PERMANENT MONITORING OF THE RADIOACTIVE PROFILE
* DIGITAL IMAGE ENHANCEMENT
* A LARGE RANGE OF IMAGE RECORDING MEANS (X-ray film, paper, Polaroid)

a gifted device by CGR médicine nucléaire
Based upon new principles, the SCANICAMERA is a novel approach to clinical isotope imaging. A scintillation camera-type bar-shaped detector scans in a single transverse motion the total area subject to examination. The detector and collimator designs eliminate the drawbacks of point focusing as it is found in single or multiple head scanners. Better image contrast and increased diagnostic reliability result from that feature.

The large energy range of the detector and the wide choice of instantly exchanged collimators encourage the use of various useful protocols which involve isotopes other than 99mTc. Furthermore, by selecting the best suited collimator, the time to image-quality compromise may be adapted, case to case, to the users requirements.

The majority of hospital beds and stretchers can be used for the scans thus avoiding patient transfers. As the single, compact and easily hand-positionned detector operates at all angles, uncomfortable positions can be spared to the bedridden.

Further to the usual "raw" images where information is recorded as it arrives from the detector, simple picture quality enhancement is available through the use of contrast control, hot point normalization and background suppression.

For information on the SCANICAMERA, contact:
C.G.R. Médecine Nucléaire - 99, rue Leblanc - 75015 PARIS - FRANCE - Tél. : 532.76.90
Telex: SCINTIX 204733.
POWERTROL
Instrument Power Protection!

POWERTROL was designed to protect electronic equipment from power line fluctuations. Intermittent loss of power, brown-outs, emergency power change over, and normal power company line transients can seriously damage electronic equipment.

POWERTROL will render immunity to your equipment. Simply plug POWERTROL into any AC outlet and forget about potential power related failures.

For more information Write or Call Collect

Medi-Ray, Inc.

150 Marbledale Road, Tuckahoe, New York 10707 • (914) 961-8484
New Amersham/Searle Estriol RIA Kit

There is only one thing wrong with measuring estriol in urine, and that's the urine. Amersham/Searle's new Estriol RIA Kit avoids the time consuming and inconvenient 24-hour urine collection.

- Simple, highly specific RIA method—no solvent extraction or chromatography.
- Only 50μl serum or plasma sample.
- Rapid and reproducible results. 5-8% C.V. in an individual hospital.
- Easy gamma counting with I-125 labeled Estriol.

**Benefit to the obstetrician:**
- no 24-hour wait, high reliability

**Benefit to the laboratory:**
- no urine handling or purifying, easy gamma counting with I-125 labeled Estriol, single or serial estimations easily performed

**Benefit to the patient:**
- no inconvenient urine collection, storage, handling and delivery

Complements the clinically-proven HPL RIA Kit from Amersham/Searle

Amersham/Searle

2636 S. Clearbrook Drive
Arlington Heights, IL 60005
(312) 593-6300
Toll-free (800-323-9750)

In Canada
400 Iroquois Shore Road
Oakville, ONT
(416) 844-8122
Toll-free (1-800-261-5061)
Think Magna Scanner 1000, the dynamite rectilinear scanner especially suited for static imaging with any clinical or research isotope. With $^{99m}$Tc, $^{67}$Ga, $^{75}$Se and $^{131}$I applications, Magna Scanner 1000 delivers high quality results quickly over the entire range of studies from whole body surveys to small area imaging.

The enhancement capabilities of the Magna Scanner 1000 make it ideal for brain studies. Dual isotope subtraction images make for efficient liver/pancreas work. Magna Scanner's tomographic capabilities are especially well-suited for static liver imaging. And since Magna Scanner offers miniification ratios of 1:1 through 1:10 and scanning speeds up to 1000 cm/min, one scanner can do both preliminary survey work as well as surgical quality studies.

Magna Scanner offers a 24 x 75" field, automated push-button control of scan parameters, push-button calibration for constant film density patient-to-patient, week-to-week. Magna Scanner's versatility adds a new dimension to the traditional "special purpose" role assigned to dual probe whole body rectilinear scanners. Picker's synergy helps make it that way — the complete interfacing of systems and services for improved diagnostic visualization.

Contact your Picker representative for more information on the Magna Scanner 1000. Or write Picker Corporation, 12 Clintonville Road, Northford, CT 06472.
NEW IMPROVED SIMPLIFIED

[\textsuperscript{57}Co] VITAMIN B\textsubscript{12}  [\textsuperscript{125}I] FOLATE

RADIO ASSAY KITS

FEATURING:
- SUPERSENSITIVITY
- LINEAR RANGE
- TOTAL INCUBATION TIME
- PRECISION (within-run) C.V.
- PRECISION (run-to-run) C.V.

\[
\begin{array}{l|l|l}
& \text{\textsuperscript{57}Co Vitamin B\textsubscript{12}} & \text{\textsuperscript{125}I Folate} \\
\hline
\text{SUPERSENSITIVITY} & 33 \text{ pg} & 0.1 \text{ ng} \\
\text{LINEAR RANGE} & 100 - 2,400 \text{ pg/ml} & 1 - 32 \text{ ng/ml} \\
\text{TOTAL INCUBATION TIME} & 45 \text{ minutes} & 45 \text{ minutes} \\
\text{PRECISION (within-run) C.V.} & 3.5\% & 3\% \\
\text{PRECISION (run-to-run) C.V.} & 6\% & 7\% \\
\end{array}
\]

- LINEAR PLOT (log-logit paper provided)
- SEPARATION BY CHARCOAL-DEXTRAN TABLET
- PRE-MEASURED INDIVIDUAL CALIBRATORS
- LYOPHILIZED REAGENTS
- BUFFER INCLUDED (requires only H\textsubscript{2}O)
- RELIABILITY AND ECONOMY
- EXCELLENT RECOVERY
- ONLY ONE PIPETTING AND TWO DISPENSATION STEPS REQUIRED PER TUBE.

Kits Also Available:

- T-3 RIA
- T-4 RIA
- \textsuperscript{3}H Folic Acid
- \textsuperscript{3}H Aldosterone
  \textsuperscript{(no Chromatography)}
- \textsuperscript{3}H Cortisol RIA
- \textsuperscript{3}H Cyclic AMP
- \textsuperscript{3}H Cyclic GMP
- \textsuperscript{3}H Gentamicin RIA
- \textsuperscript{125}I Cortisol RIA

Diagnostic Products Corporation
12306 Exposition Boulevard • Los Angeles, Calif. 90064
TWX 910-342-7577    In Calif. call collect (213) 826-0831
Call toll free 800-421-7235
What's an 1150? That's what you get when you combine our 750-04 Electronic Programmer and 400 Oscilloscope Camera. So why not call it an 1150-04? Well, we didn't want that big a number.

But seriously, our big number gives you an incredible combination of versatility and for very little money produces some of the sharpest dots available in Nuclear Medicine. Your choice of formats (1, 4, 9, 12, 16, 19, 21, 34, 64, etc.) with the 1150 is practically unlimited. Not to mention all the benefits derived from the 8x10 x-ray film format such as availability, gray-scale, group viewing, familiarity, and economy. And not to forget our 750-01 users out there, you can upgrade to 1150 capabilities simply with additional electronics and our 400 Oscilloscope Camera.

So, if you want to know more about our 1150 combination, mail this coupon. Or give a call. We'll be glad to do our big number for you.

MODEL 1150 MULTI-FORMAT CAMERA SYSTEM
DUNN INSTRUMENTS, INC.
52 Colin P. Kelly Jr. Street, P.O. Box 77172,
San Francisco, California 94107, Telephone (415) 957-1600

NAME
ADDRESS
CITY

TITLE
PHONE
STATE
ZIP

Volume 17, Number 8 33A
In less time, Elscint Gamma Cameras give you high resolution images like these...

Where quality counts... count on Elscint

Photo above: normal brain scan multi-image display with CE-1-7 camera. Data shown courtesy Albert Einstein College of Medicine Hospital, Bronx, NY; Atlantic City Medical Center, Mainland Div., Pomona, NJ; Temple University Hospital, Philadelphia, PA.
One look at the actual data presented here will show you the excellent resolution Elscint Cameras offer you. Short dead time and high count rate capacity facilitate their use with very small isotope dosages and short-life radionuclides. Yet their operation is so simple that it can be mastered within hours. Their compact design saves up to 50% in floor space requirements. And, you'll find our prices most reasonable for today's tighter budgets.

Combine an Elscint Camera with an Elscint Image/Data Processing System and you'll have maximum diagnostic capability at your command. Call or write today for complete specifications and prices.

A, B. Anger phantom studies carried out at Albert Einstein College of Medicine Hospital.
C, D. ½" bar phantoms with CCL-4 high-resolution collimator.
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 $^{99mTc}$ pyp; 5 hours post injection.
I, J. Anterior and posterior liver scans: CCL-4 Ultrafine — resolution collimator; 400,000 counts; 3 mCi $^{99mTc}$ 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 $^{99mTc}$; 2 hours post injection. 172 sec. for posterior; 169 sec. for right lateral. History: head trauma 2 months prior to brain scan.

elscint inc. • Where quality counts . . . count on Elscint

P.O. Box 5258. Haifa, Israel for the office in your country.
Now the complete, flexible ultrasound system:

**The RT-400.**

For dynamic, two-dimensional, real-time, high-resolution imaging.

(Today and tomorrow.)

For more information, write or call:
Grumman Health Systems
400 Crossways Park Drive
Woodbury, New York 11797
(516/575-3513)
Phenytoin?

What's a Phenytoin?*

*Clinical Assays
GAMMACOAT $^{125I}$
Phenytoin RIA Kit
for the measurement
of DILANTIN®

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

Clinical Assays, Inc.

237 Binney Street • Cambridge, Massachusetts 02142

© Dilantin is a trademark of Parke, Davis & Company
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 unycled 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/cm² aluminum window. Optional — 1 inch x 1 inch NaI (TL) detector with thin window at extra cost.

J&S
JASINS & SAYLES ASSOCIATES, INC.
908 CONCORD STREET, FRAMINGHAM, MASSACHUSETTS 01701
(617) 879-3775

JOURNAL OF NUCLEAR MEDICINE
Edited by Alexander Gottschalk, MD and E. James Potchen, MD

Begin with two editors who are well known and highly respected authorities in the field of nuclear medicine, add the expertise and varied experiences of 38 contributors each writing in the area of his special interest within that field, and place the entire project within the realm of special excellence which is Golden’s Diagnostic Radiology Series; the result is a definition of diagnostic nuclear medicine unsurpassed in its comprehensiveness.

Beginning with a brief historical review of nuclear medicine, the text sections include extensive discussions on methodology for tracer kinetics, isotope dilution, blood pool imaging, nuclear hematology, nuclear endocrinology, neuronuclear medicine, pulmonary nuclear medicine, nuclear nephrology, gastrointestinal nuclear medicine, tumor scanning, osseous nuclear medicine, trauma, and a summarizing section of future prospects for clinical applications.

To achieve the most complete coverage of this very exact and complicated specialty, the diagnostic emphasis of the contents is complemented by the inclusion of major sections on instrumentation and radiopharmaceuticals. To ensure the most up-to-date text possible, revisions were incorporated even as the book was in press.

Drs. Gottschalk and Potchen, with their unique blend of editorial ability and clinical experience, have shepherded the knowledge and practices of diagnostic nuclear medicine into an extraordinarily panoramic view.

1976/610 pages/312 illustrations/$40.00
The Complete System
for Lung Ventilation Studies

Now you can dispense, administer and dispose of $^{133}$Xe safely and economically under controlled conditions with a complete system from Radx. The system is designed to protect the user as well as the environment.
Patient comfort, safety and ease of breathing are primary concerns.
The START
Xenon-Kow II

$^{133}$Xe is most economically obtained in curie quantity glass ampules. The Xenon-Kow II was designed to safely and conveniently crush the ampule and dispense $^{133}$Xe in smaller doses. The dynamic volume storage chamber provides for constant concentrations (decay excepted), and transfer efficiencies exceed 98%. The economies realized will pay for the entire system, usually in the first year. Let us analyze and compare your current cost with our system cost.

The HEART of the System
Ventil-Con

The Ventil-Con controlled gas delivery system is used for patient administration of $^{133}$Xe. You may administer the $^{133}$Xe as a bolus or homogenous mixture with air and oxygen to perform the single breath, equilibrium and washout phases of lung ventilation studies.

Major features are:
- GM detector for $^{133}$Xe concentration determinations
- Automatic O$_2$ replenishment
- Manual O$_2$ replenishment
- Emergency O$_2$ assist
- Swivel adapter for multiple views available
- In line, autoclavable, bacteriological filter
- Wide variety of face mask and mouthpieces available
- 10 liter dry spirometer
- Volume meter
- Dual channel strip chart recorder (optional)
- Breathing resistance less than 0.05-0.1 inches of water
- Arm adjustable for 0-60 inches
- Large CO$_2$ adsorber

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

the proven
clinical counting system

NEW
Thrombus Detectors
write for details

eye

needle

catheter

implantable

straight

Solid State Probes

- Operating room design
- In vivo use
- Single, dual and multiple or matrix detectors
- Intracavitary, intraorgan, or surface
- Real time information
- Chart, printer, and computer compatible

TECHNICAL ASSOCIATES
7051 ETON AVE., CANOGA PARK, CA. 91303
(213) 883-7043
NOW SEE AND

HEAR ISO TOPE SPILL S

...with this remarkably sensitive Alpha, Beta and Gamma Survey Meter

The Searle 2650 Series Portable Survey Meter is a wide range instrument that delivers both visual and aural radiation indications. An easy-to-read 3½" meter gives you seven overlapping, color-coded scales from 0.1 to 100 mR/hr and 15, 1500, 15,000 and 150,000 counts per minute. Additionally, a magnetic earphone for aural monitoring lets you find contamination on difficult-to-reach lab surfaces quickly and accurately. Long-lived Halogen-quenched Geiger detector tubes, along with five-transistor monitoring and power circuits, provide ultra sensitive gamma and X-ray measurements. Selectable time constants on the most sensitive ranges allow the fastest response times consistent with accuracy.

Interchangeable probes provide a wide range of activity measurement. The side window probe for hard beta and gamma measurements features a revolving beta shield which permits the detector tube to cover a 180° angle. When closed the shield effectively stops beta radiation.

The end window probe for alpha, soft beta and gamma measurements has a cap that shields out beta radiation and permits gamma surveying only. When the cap is removed, the thin mica window of the Geiger tube is exposed, allowing measurement of alpha and beta radiation with energies as low as 40 keV. A low activity source for checking operation is included.

The sturdy, lightweight meter features solid state circuitry for excellent operating stability and durability. Printed wiring and plug-in circuit boards simplify repairs. Four "D" size flashlight batteries provide a power source that can be replaced in minutes.

This Portable Survey Meter is available for immediate delivery... at a surprisingly modest cost. Call toll-free or write for complete specifications today.

SEARLE

Searle Analytic Inc.
Subsidiary of G.D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60018
Attn: Health Physics Instrumentation Manager
800-323-6015 toll-free
(In Illinois 312-298-6600 collect)

IN CANADA:

Searle Instrumentation
Division of G.D. Searle & Co. of Canada, Ltd.
400 Inverness Shore Road
Oakville, Ontario L6H 1M5
Meditronic Inhalation Cerebrograph

The XENON-133 INHALATION METHOD for measurement of regional cerebral blood flow (rCBF) offers the advantage of a quick, simple, atraumatic and safe procedure, which eliminates the carotid artery puncture of the Xenon injection method. The inhalation method allows simultaneous bilateral measurements, thus enabling an unaffected hemisphere to serve as reference to an affected one. The atraumatic nature of this investigation makes it possible to perform frequent measurements over prolonged periods on a broad patient spectrum as well as on normal volunteers.

MEDITRONIC has been manufacturing multidetector rCBF-equipment for over 10 years, with numerous installations all over the world. This extensive experience along with the recent development and clinical verification of appropriate computer programs has made possible the development of the MEDITRONIC INHALATION CEREBROGRAPH.

This is a complete system, including the Xenon administration system, a digital data collection system with 8, 16, 24 or 32 brain detectors, an air curve scintillation detector with associated electronics and a computer interface with punched paper tape or cassette tape output. The modular design allows easy system expansion in the field. Off-line calculation and presentation of rCBF-values can be performed on any computer able to process the Fortran programs developed by OBRIST et al (1975) and RISBERG et al (1975). The digital output of the MEDITRONIC INHALATION CEREBROGRAPH can also be interfaced to other peripheral devices or on-line connected to a computer.

Exclusive distributor in the U.S.A. and Canada: Victoreen Instrument Division, Sheller-Globe Corporation, 10101 Woodland Avenue, Cleveland, Ohio 44104.

Manufactured by Meditronic

International Export Management

VICTOREEN

VICTOREEN Instrument Division, Sheller-Globe Corporation, 10101 Woodland Avenue, Cleveland, Ohio 44104 216-795-8200

DK 9560 HADSUND-DENMARK

@SHELLER.GLOBE CORPORATION

Exclusive distributor in the U.S.A. and Canada: Victoreen Instrument Division, Sheller-Globe Corporation, 10101 Woodland Avenue, Cleveland, Ohio 44104 216-795-8200

Manufactured by Meditronic

International Export Management

S 113 03 TABY 3 - SWEDEN
PHONE: STOCKHOLM 08-750 01 55
TELEX: 11268 CABLE: ISOTRONIC
...with this remarkably sensitive Alpha, Beta and Gamma Survey Meter

The Searle 2650 Series Portable Survey Meter is a wide range instrument that delivers both visual and aural radiation indications. An easy-to-read 3½" meter gives you seven overlapping, color-coded scales from 0.1 to 100 mR/hr and 15, 1500, 15,000 and 150,000 counts per minute. Additionally, a magnetic earphone for aural monitoring lets you find contamination or difficult-to-reach lab surfaces quickly and accurately. Long-lived Halogen-quenched Geiger detector tubes, along with five-transistor monitoring and power circuits, provide ultra sensitive gamma and x-ray measurements. Selectable time constants on the most sensitive ranges allow the fastest response times consistent with accuracy.

Interchangeable probes provide a wide range of activity measurement. The side window probe for hard beta and gamma measurements features a revolving beta shield which permits the detector tube to cover a 180° angle. When closed the shield effectively stops beta radiation.

The end window probe for alpha, soft beta and gamma measurements has a cap that shields out beta radia-

tion and permits gamma surveying only. When the cap is removed, the thin mica window of the Geiger tube is exposed, allowing measurement of alpha and beta radiation with energies as low as 40 keV. A low activity source for checking operation is included.

The sturdy, lightweight meter features solid state circuitry for excellent operating stability and durability. Printed wiring and plug-in circuit boards simplify repairs. Four "D" size flashlight batteries provide a power source that can be replaced in minutes.

This Portable Survey Meter is available for immediate delivery...at a surprisingly modest cost. Call toll-free or write for complete specifications today.

Searle Analytic Inc.
Subsidiary of G.D. Searle & Co.
2000 Nuclear Drive
Des Plaines, Illinois 60016
Attn: Health Physics Instrumentation Manager
800-323-6615 toll-free
(In Illinois 312-298-6600 collect)

IN CANADA:
Searle Instrumentation
Division of G.D. Searle & Co. of Canada, Ltd.
400 Innesous Shore Road
Oakville, Ontario L6H1M5
Raytheon widens your image horizons.

Introducing the 91-tube Cameray XL.

A new generation of wide field gamma camera. With wider-than-ever field of view. And the same sharp image resolution as smaller field cameras. That’s how Raytheon widens your image horizons with the new 91-tube Cameray XL.

You get a big 16½ inch effective field of view. A total camera field of 18 inches. And because the Cameray XL uses straight bore, rather than diverging collimators, you get no less than the highest image resolution.

Of course, you also get the same Total System Performance (TSP) that you get from our 37-tube Cameray II. That includes uniformity, linearity and resolution. Plus a full range of accessories.

So get more patient per scan. And resolution that’s rare in a wide field camera. Broaden your horizons with the Cameray XL-91. Contact Raytheon’s Medical Electronics Operation, Fourth Avenue, Burlington, Massachusetts 01803. (617) 272-7270.

RAYTHEON
The XENON-133 INHALATION METHOD for measurement of regional cerebral blood flow (rCBF) offers the advantage of a quick, simple, atraumatic and safe procedure, which eliminates the carotid artery puncture of the Xenon injection method. The inhalation method allows simultaneous bilateral measurements, thus enabling an unaffected hemisphere to serve as reference to an affected one. The atraumatic nature of this investigation makes it possible to perform frequent measurements over prolonged periods on a broad patient spectrum as well as on normal volunteers.

MEDITRONIC has been manufacturing multidetector rCBF-equipment for over 10 years, with numerous installations all over the world. This extensive experience along with the recent development and clinical verification of appropriate computer programs has made possible the development of the MEDITRONIC INHALATION CEREBROGRAPH.

This is a complete system, including the Xenon administration system, a digital data collection system with 8, 16, 24 or 32 brain detectors, an air curve scintillation detector with associated electronics and a computer interface with punched paper tape or cassette tape output. The modular design allows easy system expansion in the field. Off-line calculation and presentation of rCBF-values can be performed on any computer able to process the Fortran programs developed by OBRIST et al (1975) and RISBERG et al (1975). The digital output of the MEDITRONIC INHALATION CEREBROGRAPH can also be interfaced to other peripheral devices or on-line connected to a computer.

Exclusive distributor in the U.S.A. and Canada: Victoreen Instrument Division, Sheller-Globe Corporation, 10101 Woodland Avenue, Cleveland, Ohio 44104.

Manufactured by:

MEDITRONIC

International Export Management

DK 8560 HADSUND—DENMARK

PHONE: STOCKHOLM 08—7500155
TELEX: 11268 CABLE: ISOTRONIC
Just Published!—First comprehensive treatment of this vital subject...and its interrelationship with Nuclear Medicine

RADIOPHARMACY
EDITED BY MANUEL TUBIS AND WALTER WOLF

This book represents the first comprehensive treatment of all phases of radiopharmacy and its interrelationship with nuclear medicine and the pertinent basic sciences. This presentation was developed from courses presented over six years and has been constantly re-evaluated and updated to include the latest developments in materials and techniques. The authors are eminently qualified by many years of teaching and research experience to integrate the contributions of their carefully chosen expert collaborators, each a highly regarded specialist in his field, into this coordinated, practical volume. Critical evaluations of techniques are made and future avenues of research in radiopharmacy are indicated.

The book is organized into three broad sections. The first covers radiation physics, biology, and chemistry as they apply to the radiopharmaceutical sciences and to nuclear medicine. The second section covers radiopharmaceutics, including the preparation, dispensing, quality control, design of, and large-scale production of radiopharmaceuticals and the legal aspects of production and use. There is also a chapter on the reciprocal application of radionuclides and radiation to pharmacy. The final section relates to nuclear medicine and the ancillary sciences, describing the latest radiopharmaceuticals and newest techniques of these rapidly expanding disciplines. In addition, the in vitro tests and radioimmunoassay techniques are described. Applications to pharmacology and the reciprocal use of its techniques are described. The forward-looking applications to space biology and medicine and to biological telemetry evidence the timeliness of the subject matter.

CONTRIBUTORS:
Gould A. Andrews... Robert K. Cole
...Walter Wolf... L. Stephen Graham
...Lawrence Akers... Ralph Adams
...Carol S. Marcus... Simon Kinsman
...M. A. Greenfield... R. G. Lane
...Homer B. Hupf... John G. McAfee
...Manual Tubis... R. J. Bayly... E. Anthony Evans... J. S. Glover...
Joseph L. Rabinowitz... Yves Cohen
...R. S. Mani... N. G. S. Gopal...
C. H. Wang... Tom K. Kawada...
Gilbert S. Banker... Gopal Subramanian
...Lloyd J. Roth... Earl L. Meyers... Richard E. Cunningham...
W. Sadee... C. Finn... Jan K. Slemser
...Nancy Telfer... William D. Odell... H. S. Winchell... S. A. Landaw.

WILEY-INTERSCIENCE
a division of John Wiley & Sons, Inc.
605 Third Avenue
New York, N.Y. 10016
In Canada: 22 Worcester Road,
Rexdale, Ontario

Mail to: WILEY-INTERSCIENCE
P.O. Box 982
Somerset, N.J. 08873
Please send me:
☐ Tubis/Wolf, RADIOPHARMACY
(0 471 89227-0)
☐ Payment enclosed, plus sales tax.
Wiley pays postage/handling. We normally ship within 10 days. If shipment cannot be made within 90 days, payment will be refunded.
☐ Bill me.

NAME __________________________
AFFILIATION ____________________
ADDRESS ________________________
CITY ____________________________
STATE/ZIP ________________________

911 pages, $44.50

★ A summary of the fundamentals of nuclear physics, radiation biology, and chemistry.
★ A comprehensive presentation of radiopharmaceutics, the science and practice of preparation, dispensing, quality control and assay, radiopharmacology, and the legal aspects of the use of radiopharmaceuticals.
★ An introduction to nuclear medicine showing the application of some radiopharmaceuticals in diagnostic nuclear medicine, including in vitro assays and in therapy.
Now Everybody Can Breathe Easier

Everybody benefits from comprehensive technological advances like the widely used Omnimedical AVM-3 Automated Ventilation Module. With the AVM-3 radioxenon ventilation studies are automated, simplified, reproducible one man operations. Patient cooperation is not needed. Interfaced with the gamma camera, the operator selects a study sequence—Single Breath (tidal volume or vital capacity) or Rebreathe, singly or in combination—and pushes the start button. Scintiphotos are initiated automatically at precise predetermined intervals. The data is then collected. The entire system is enclosed in a streamlined case mounted on an overbed table for use on patients in either sitting or supine positions. The AVM-3 is easy to position, easy to use, easy on the patient, even easy to store. And it's easy to buy. $3,750. F.O.B. Los Angeles. Omnimedical guarantees 30 day delivery. Now, you can breathe easier, tool AVM-3 by Omnimedical, R.O. Box 1277, Paramount, Ca. 90723 (213) 633-6660.

Omnimedical
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.

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.

Multi-Imager 4

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

Mail coupon to receive sample clinical studies.
We've developed a dual function radioisotope calibrator... one that provides an added measure of confidence with two modes of operation:

- Radiation Exposure Monitoring
- Radioisotope Calibration

FOR THE NUCLEAR MEDICINE SPECIALIST: The assurance of knowing the measured radiation exposure-rate around the work station... hot lab... injected patient. This knowledge leads to more rapid and safer handling of radioactive material and the consequent lowering of radiation exposure for the operator.

- Exposure-Rate Measurements to 20R/hour
- 0.1 mR/hour Sensitivity
- Remote Detector Operation

FOR THE PATIENT: The assurance that the administered dose is calibrated to be exactly as prescribed.

- 90+ Isotope Calibrations
- Widest Range (to 20 Ci)
- Geometry Independence

CAPINTEC, INC.
136 Summit Avenue • Montvale, New Jersey • 07645 • (201) 391-3930

What have we done for you lately?
POSITIONS OPEN

NUCLEAR MEDICINE TECHNOLOGIST, 500-bed medical center is presently seeking a registered or registry eligible nuclear medicine technologist to work in a rapidly expanding nuclear medicine laboratory. Competitive salary and excellent hospital benefits. Reply may be directed to: Joe Wells, Employment Manager, Mt. Carmel Medical Center, 125 South Souder, Columbus, Ohio 43222 (614) 229-5288. An Equal Opportunity—Male/Female Employer.

NUCLEAR MEDICINE TECHNOLOGIST: Capable in in vitro and imaging procedures, wanted for 200-bed general hospital located in the Detroit metropolitan area. Contact: Nuclear Medicine Service, VA Hospital, Livernois, CA, 94600, Tel: (415) 447-2560, ext. 294.

TOTAL TIME NUCLEAR MEDICINE PHYSICIAN, preferably with radiology background, wanted for large Manhattan university teaching center, including two adjacent affiliated hospitals, ongoing training programs; send resume to: O. O. Box 205, Society of Nuclear Medicine, 475 Park Avenue South, New York, N.Y. 10016.

NUCLEAR MEDICINE TECHNICIAN—a vacancy at the University of Wisconsin Center for Health Sciences. Must be certified by the ARRT or ASCP, plus one year of experience including independent work in the utilization of radionuclides and imaging devices for the diagnosis of disease in humans. The position will be available in four to six months. Send resume to: Ms. Carol Miller, University of Wisconsin Personnel Office, 777 Highland Avenue, Madison, Wisconsin, 55706, (608) 262-9922. First reviewing date will be July 14, 1976. Application may be accepted after this date pending needs of the department. Send resume to: Personnel Office, Saint Mary's Hospital, Oakhill Avenue, Knoxville, Tennessee 37917 (615) 971-6674.

CHIEF—DEPARTMENT OF RADIOLOGY, Mount Sinai Medical Center in Miami Beach is recruiting a Chief for the Department of Radiology. Must have a well equipped, 525-bed hospital, in Miami Beach. Excellent opportunity for a Board Certified Radiologist. Interested persons should submit curriculum vitae to: Dr. Thomas J. Gill III, M.D., Chairman, Radiology Search Committee, University of Pittsburgh, School of Medicine, Department of Pathology, Pittsburgh, Pa. 15261.

NUCLEAR MEDICINE TECHNOLOGIST, Staff position which involves performing imaging and procedures is currently available in a modern 500-bed specialties referral hospital located in metropolitan Boston. Should be registered or registry eligible. We are looking for a well trained technologist offering excellent salaries and benefits. For further details contact: Employee Relations, Newton-Wellesley Hospital, 185 Pilgrim Road, Boston, MA 02131. An Equal Opportunity—Male/Female Employer.

REGISTERED NUCLEAR MEDICINE TECHNOLOGIST needed for 200-bed acute general hospital. Competitive salary, excellent fringe benefits. Personal interview requested. Send resume to: Mr. Albert K. Flynn, Dept. of Radiology, Billings Deaconess Hospital, P.O. Box 2547, Billings, Montana 59102, Phone (406) 259-5551.

ASSOCIATE OR ASSOCIATE PROFESSOR of nuclear medicine, State University of New York at Buffalo. To head nuclear medicine unit at Buffalo General Hospital and take part in the teaching and research program of the SUNY/Buffalo Department of Nuclear Medicine. Must have plus 3 years of experience necessary. Excellent opportunity to participate in the development of a new department. Send resume to: Personnel Office, State University of New York at Buffalo, SUNY/Buffalo, 3455 Main Street, Buffalo, NY 14214. An equal opportunity/affirmative action employer.

SUPERVISORY POSITION OPEN FOR Registered Nuclear Medicine Technologist with a minimum of two years experience. The position is available in the San Francisco Bay area. Contact Marilyn L. Scott, c/o Malcolm R. Powell, M.D., 350 Parnassus Avenue, San Francisco, California 94117.

STANFORD UNIVERSITY, NUCLEAR MEDICINE residency program. Position available beginning September 1, 1976. Please write (include 1-way V.F.) with further information: Dr. Joseph P. Kriss, Director, Nuclear Medicine, Stanford University Medical Center, Stanford, CA 94305.

NUCLEAR MEDICINE TECHNOLOGIST—Expanding Department in modern, well equipped, 525-bed hospital, in Knoxville, Tennessee. Home of the University of Tennessee, in the foothills of the Smoky Mountains. Excellent benefits. Send resume to: Personnel Office, Saint Mary's Hospital, Oakhill Avenue, Knoxville, Tennessee 37917 (615) 971-6674.

NUCLEAR MEDICINE TECHNOLOGIST NUCLEAR MEDICINE, University of Pittsburgh Medical Center, 240-bed hospital, modern equipment, new facilities. Excellent fringe benefits. Enjoy South Florida's beautiful Gulf of Mexico beaches and pleasant residential atmosphere. Equal opportunity employer. Write: Naples Community Hospital, Personnel Department, P.O. Box 2567, Naples, FL 33940, or telephone Area 813-262-3131, Extension 2223.

NUCLEAR MEDICINE TECHNOLOGIST. Staff, Certified or eligible. Immediate openings in ultra-modern, fully accredited 650-bed hospital located on Gulf of Mexico. Excellent working conditions. Wishes include paid retirement, vacation, holidays, sick pay and insurance. Please include salary requirements to Personnel Director, Memorial Hospital, 1901 Arlington Street, Sarasota, FL 33579.

POSITIONS WANTED

POST-GRADUATE DESIRES TO JOIN Nuclear Medicine Department or training center in USA. Willing to work as staff technologist or student. Willing to join as Doctoral student in development of radiopharmaceuticals, clinical imaging or radiomunossays. Experience in radionuclides, scanning and thyroid work; blood collection, intravenous injections and clinical biochemistry. (Papers published). Reply to: Box 801, Society of Nuclear Medicine, 475 Park Avenue, New York, N.Y. 10016.

WANTED

USED COLLIMATORS FOR A PICKER Mammascanner part number 2114B and/or 2127A low energy collimator(s). Above looking for a used spin-hole collimator with 19/32 hole in all purpose aperture for a Dynna Camera 2C. Please contact Mr. Craig R. Feadwell, R. T. at Magic Valley Memorial Hospital, 435 Addison Ave. West, Twin Falls, Idaho 83301. Telephone (208) 783-1511 Ext. 592.

NUCLEAR MEDICINE TECHNICIAN

Immediate opening for a Registered or Registry eligible Nuclear Medicine Technician in a progressive 500-bed Medical Center. Since the Nuclear Medicine Department is expanding, there is potential for advancement to Chief Nuclear Medicine Technician in the near future.

Salary commensurate with experience; attractive fringe benefits program. Contact Martha Gerlock, Hamot Medical Center, 4 E. 2nd St., Erie, Pa. Phone (814) 453-6711, ext. 326.

Topics in Nuclear Medicine. The Eighth Annual Seminar in Nuclear Medicine will be held at Colby College and the Mid-Maine Medical Center in Waterville, Maine, August 16–20, 1976. Thirty hours of mini-symposia along with lectures, workshops, and interesting cases will be presented by Drs. Henry N. Wagner, Leonard Rosenthal, Steven M. Larson, Thomas G. Mitchell, H. William Strauss, and Mr. James Langan. Accredited Category I, AMA's Physician Recognition Award.

For further information, contact Dr. Robert Kany, Director of Special Programs, Colby College, Waterville, Maine 04901.
THE MEDICAL RESEARCH FOUNDATION, INC.,

a nonprofit foundation, invites your inquiry for manufacture
of your experimental radiopharmaceuticals at the
Nuclear Research Center at Georgia Institute of Technology.

Licensed isotopists may wish to join in the study of these:
1. 90-yttrium resin spheres to treat cancer with its localized blood supply (metastatic or primary liver cancer) using our IND 11663.
2. 32-phosphorus colloid placed via catheters passed into the celiac and superior mesenteric arteries as postoperative adjuvant to treat resected colon cancer with positive nodes, using our IND 11667.
3. 90-yttrium gel in to cavities to treat severe arthritis or bladder cancer, IND number being applied for.

Additional radiopharmaceuticals are being developed for radioactive tagged cancer antibodies.

Your inquiry is invited to

MEDICAL RESEARCH FOUNDATION, INC.
Attention: Edgar D. Grady, M.D., Chairman
Suite 101, 2788 Bayard Street
Atlanta, Georgia 30344
Nuclear Medical Engineers

We have just introduced the nuclear medicine field's most advanced gamma camera—the 91-tube Cameray XL-91. As part of our on-going equipment development program, we now need two more electrical engineers or physicists.

The senior position requires a BS or MS with at least five years in analog circuit design. Some digital experience would be useful. Design experience in nuclear radiation detectors, IC operational amplifiers, pulse height analyzers, and PC layout is very desirable.

The second position requires a BS or MS with a minimum of two years in the above areas. Forward resume with salary requirements as soon as possible to:

Mr. Paul E. Cleary
Raytheon Company
190 Willow Street
Waltham, MA 02154

RAYTHEON
An Equal Opportunity Employer M/F

NUCLEAR MEDICINE TECHNOLOGIST

900 bed university affiliated teaching medical center has immediate opening for Nuclear Medicine Technologist.

Must be a graduate of an accredited program in Nuclear Technology and/or registered in Nuclear Technology by ARRT or ASCP.

Salary commensurate with experience. Excellent fringe benefits and modern facilities.

Send resume of education and experience to:

Charleston Area Medical Center
Employment Office
P.O. Box 1547
Charleston, West Virginia 25326

An Equal Opportunity/Affirmative Action Employer
Skeletal Scintigraphy

With the advent of the bone-seeking complexes of $^{99m}$Technetium has come a revolution in the early identification of innumerable osteoarticular conditions. Because the technique is nonspecific, the clinical history is of paramount importance. The following bone scans were obtained using intravenous $^{99m}$Technetium pyrophosphate ($^{99m}$Tc PyP).

Like $^{99m}$Technetium polyphosphate or diphosphonate, $^{99m}$Technetium pyrophosphate has an affinity for increased vascularity, altered exchange processes, and new bone or new collagen in the skeleton which can render bone scans positive days, weeks, even months before related roentgenograms demonstrate the same abnormality.

Healthy young adult (18 years) demonstrates the normal affinity of $^{99m}$Tc PyP for growth areas in the axial skeleton and ends of long bones.

Numerous fractures of ribs (a) and sternum (b) following aggressive treatment for cardiac arrest. Site of intravenous injection (c) and collection of radionuclide in the bladder (d) are obvious.
Metastatic Prostatic Carcinoma. This patient's routine skeletal roentgen study was normal. The arrows reveal metastatic foci demonstrated by $^{99m}$Tc PyP the day the patient was examined roentgenographically. Note the hydronephrotic kidney (a) and the plastic container of urine (b) draining the bladder.

Metastatic Breast Cancer. Metastatic disease in the axial skeleton had been demonstrated roentgenographically. It remained for the scintigraphic study the following day to demonstrate metastases (arrows) in the ribs and pelvis.

Paget's Disease. Routine roentgen studies demonstrated the involvement of the skull and axial skeleton. What was not appreciated, until the rectilinear whole body $^{99m}$Tc PyP scans were obtained, were the massive changes in the femur and pelvis (arrows). Despite the $^{99m}$Tc PyP evidence of Paget's disease in the feet (arrows), no changes were demonstrated roentgenographically.

Whether you're recording multiple, single, or dynamic nuclear images, Kodak offers a family of transparency films that is compatible with what your equipment can do now—or can be adapted to do. Kodak transparency films offer high image quality, longevity, and economy. They're fade-resistant, curl-resistant, and easy to store.

Because time is just as important, the Kodak RP X-Omat processor, model M7A, can provide ready-to-read images in 2 1/2 minutes. Your Kodak technical sales representative can bring you up to date on Kodak films for nuclear medicine, automatic processors, and chemicals. Or contact your dealer in Kodak medical products.

A commitment to quality.
It asks for your instructions, repeats them and gives you a chance to change them. Then, it even talks back if an instruction is wrong.

That's smart. But that's not all.

The SKI Gamma System has a microprocessor with a magnetic disc memory that calculates, controls the counter, spots errors, makes sound evaluations about data quality.

And the microprocessor is an integral part of the system—not just added on. In the unlikely event something goes wrong, you have only one number to call. Ours.

The SKI Gamma System is fully automatic—so there's no raw data to pat, prod, calculate or manipulate. You can put up to 200 tubes in the changer, key in your instructions and walk away. While you are doing something else, it counts your samples, alters assay routines if you're doing more than one type of test, plots standard curves, reduces data to medically useful answers and prints them on tape in easy-to-read form.

That's smart.

Because of all this, more and more laboratories are enjoying the speed, dependability and flexibility of The SKI Gamma System.

Call us for details—or a free demonstration—and learn how much simpler RIA and other radioassays can be.

The SKI Gamma System. A little smarter than the rest.
"...with whole-body scans taking over more of the nuclear imaging load, Cleon is the clear choice."
Lymphoma
Hodgkin's disease
Bronchogenic carcinoma

**Gallium Ga 67:**
Now available for routine use as a non-invasive adjunct in diagnosis.
Indications and Usage: Gallium Citrate Ga 67 may be useful to demonstrate the presence and extent of certain malignancies such as Hodgkin's disease, lymphomas, and bronchogenic carcinoma. Positive Ga 67 uptake in the absence of prior symptoms warrants follow-up as an indication of a potential disease state.

Contraindications: None known.

Warnings: Gallium Citrate Ga 67 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.

Precautions:

General
A thorough knowledge of the normal distribution of intravenously administered Gallium Citrate Ga 67 is essential in order to accurately interpret pathologic studies.

The finding of an abnormal gallium concentration usually implies the existence of underlying pathology, but further diagnostic studies should be done to distinguish benign from malignant lesions. Gallium Citrate Ga 67 is intended for use as an adjunct in the diagnosis of certain neoplasms. Certain pathologic conditions may yield up to 40% false negative gallium studies. Therefore a negative study cannot be definitively interpreted as ruling out the presence of disease.

Lymphocytic lymphoma frequently does not accumulate Gallium Ga 67 sufficiently for unequivocal imaging; and the use of gallium with this histologic type of lymphoma is not recommended at this time.

Gallium Citrate Ga 67, 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.

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. Gallium Citrate Ga 67 should be used in pregnant women only when clearly needed.

Nursing Mothers
Gallium Citrate Ga 67 has been found to accumulate in breast milk and should not be used in nursing mothers.

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

Adverse Reactions: Severe itching, erythema and rash were observed in one patient of 300 studied.

Dosage and Administration: The recommended adult (70kg) dose of Gallium Citrate Ga 67 is 2-5mCi. Gallium Citrate Ga 67 is intended for intravenous administration only.

Approximately 10% of the administered dose is excreted in the feces during the first week after injection. Daily laxatives and/or enemas are recommended from the day of injection until the final images are obtained in order to cleanse the bowel of radioactive material and minimize the possibility of false positive studies.

Studies indicate the optimal tumor to background concentration of ratios are often obtained about 48 hours post-injection. However, considerable biological variability may occur in individuals, and acceptable images may be obtained as early as 6 hours and as late as 120 hours after injection.

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

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 radionuclides.

How Supplied: Gallium Citrate Ga 67 is supplied sterile and non-pyrogenic for intravenous use. Each ml contains 2mCi of Gallium Ga 67 on the calibration date, as a complex formed from 9ng gallium chloride Ga 67, 2mg of sodium citrate, 6.8mg sodium chloride, and 0.9% benzyl alcohol w/v as preservative. The pH is adjusted to between 4.5-7.5 with hydrochloric acid and/or sodium hydroxide solution.

Vials are available from 3mCi to 18mCi in increments of 3mCi on calibration date.

The contents of the vials are radioactive and adequate shielding and handling precautions must be maintained.

CAUTION: Federal (U.S.A.) law prohibits dispensing without prescription.
Advances in Low-Cost, Life-Size Paper Hardcopies from varicam


Dynamic Brain Curve.

Lungs, showing Embolism in Lateral View.
Varian's STATOS® together with the sophisticated Varicam software, provides a capability to automatically produce multiple life-size (or other scaling) low-cost paper hardcopies.

Statos images enable the workload to be scheduled in the Nuclear Medicine Dept as it is in Radiology. The reporting physician need not attend the instrumentation, but may work each day at a single session in a convenient location.

The practice of the clinician examining data on the computer from a previous patient whilst the camera/computer is collecting data on a later patient, is thus often rendered unnecessary. Furthermore, the potentially hazardous habit of having one patient under the camera with another's data on the screen, with its concomitant danger of misidentification and breach of confidentiality, is avoided.

---

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

European Enquiries: Molesey Road, Walton-on-Thames, Surrey, England.
Telephone: (09322) 28971  Telex: 261351
Searle's large field of view scintillation camera, in its standard configuration, is the only instrument of its type which allows you to set window width and energy level on 3 independent analyzers for unique isotopes and special studies...the only one which lets you take full advantage of the diagnostic potential in multi-peak nuclides such as Gallium 67. This is a great advantage in soft tissue studies where high sensitivity and superior resolution are vital.

LARGE SELECTION OF COLLIMATORS
To sharpen your images even more, the Pho/Gamma LFOV offers a large assortment of converging and parallel hole collimators designed and developed by Searle Radiographics. There is a significant improvement in the resolution of deep-seated structures with converging collimation. In renal studies, for example, the images possess such clarity that it is possible to obtain even oblique views of diagnostic quality. Converging collimation also brings enhanced sensitivity to the imaging of small organs.

The large field of view with parallel hole collimation can simultaneously image both kidneys or both lungs. Thus, where a standard field of view camera requires 2 studies, the Pho/Gamma LFOV routinely does the job with only one.

EASE OF OPERATION
The Pho/Gamma LFOV has eleven factory pre-set isotope windows for operator convenience. Automatic peaking assures remarkable reproducibility from study to study and from day to day.

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

The introduction of the Pho/Gamma LFOV in 1975 was a milestone in nuclear imaging. Since then, this advanced instrument has earned a reputation as the finest, most versatile scintillation camera you can buy. Today, clinicians rely on the Pho/Gamma LFOV for improved diagnostic clarity, shortened study times and greater patient comfort in lung, brain, whole body bone, renal and abdominal (liver) blood flow 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.

For more information about the Pho/Gamma LFOV 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.
The RAD (emergency room air radiodecontaminator), Model XE-404 was specially developed to remove radioactive Xenon-133 from the air in the event of accidental spills from Xenon delivery systems or patients. It is ideal for the facility that is locked in and has no windows or emergency exhaust systems.

Specifications
Made from a tough and durable extra heavy gauge vinyl plastic mounted on four swivel ball bearing casters. Overall dimensions: 24" diameter by 28" overall height. Approximate Shipping Weight: 95 lbs.

Atomic Development Corp. has been designing and manufacturing a complete line of products for the nuclear, radiographic, and radiation specialist for over 17 years. We are constantly involved in the development of new products to meet the exacting demands of the hospital, university, and industrial environment.

ADC takes pride in its accomplishments in the development of personnel protection for the nuclear medical field.

The Xenon Bag Shield and the Emergency Room Air Radiodecontaminator are two further examples of our commitment to safety in nuclear medicine.

Why Not Be Safe!

For additional product information call or write to

ADC

RAD* Model XE-404
* Patent Pending

XENON BAG SHIELD
The Xenon Bag Shield Model XES-103 was designed to protect the technician from unnecessary radiation exposure from the Xenon collection bag. In addition, it could improve the gamma camera images by reducing the background in the immediate vicinity.

ADC's Xenon Bag Shield is fabricated of a heavy gauge sheet steel and is internally lined with 1/16 inch thick lead.

Specifications
Dimensions: 4" x 20 1/2" x 24 1/4"
Overall Height: 34-3/8". Finish: Durable baked paint. Shipping Weight: 75 lbs.

Atomic Development Corp.
Fairchild Court, Plainview, N.Y. 11803
516—433-8010  TWX 510-221-1837
Most clinical lab gamma counters are all hand-me-downs... they do the job but don't quite fit.
Picker's PACE-1 is the automatic gamma system designed specifically for today's clinical applications.

The PACE-1 gamma radioassay system is as different from other gamma counters as the clinical lab is from the research lab. PACE-1 is accurate, fast, functional and ready for the workaday rigors of the clinical lab.

Take size for example. PACE-1 is only 20" wide at the base because floor space is precious. PACE comes with a standard 200 position sample chain which can be easily upgraded to 400 positions — which we won't try to sell you unless you need it.

For on-line data reduction, Picker offers the PAC, Programmable Automatic Calculator, which uses an advanced curve fitting program (PALL). PAC can be used off-line, to analyze radioassay data or perform hundreds of other data analysis chores in the clinical lab.

But then other counters weren't designed specifically for today's clinical applications. PACE-1 is an example of Picker's synergy — the complete interfacing of systems and services for better diagnostic results.

Get the whole story on the PICKER PACE-1 from your Picker representative. Or write Picker Corporation, Clinical Laboratory Department, 12 Clintonville Road, Northford, CT 06472, or Picker International Operations Gmbh, 6201 Auringen b. Wiesbaden, Feldbergstrasse 6, West Germany.
Medi-Ray Puts It All Together

If you explore the ventilation and perfusion study field you will find that there are a number of pulmonary investigation units. Some of these systems are automated. Yet no system has ever contained a permanent gas trap.

Now there is One Unit which is fully automated, completely enclosed, and includes a permanent gas trap.

Medi-Ray put it together to insure your PROTECTION.

The Medi-Ray Unit Features

- Permanent Trap — Does not have to be replaced or refilled
- Complete Enclosure — Both the Xenon delivery and removal system are fully enclosed in one unit.
- Large Air Bag Capacity — Facilitates extended equilibrium and washout time. (100 litre bag)
- Compatible with Xenon 133 and Xenon 127.
- No Oxygen is Required
- Accommodates Any Loading System — Unit dose — Syringe — Tank.
- Camera Oriented for Simultaneous Operation — Xenon release button starts machine and camera simultaneously.
- Facilitates AP, PA, and Supine Studies
- Disposable Bacteria Filter
- Optional Spirometer — Provides measurement of vital capacity and minute ventilation.

For more information Write or Call Collect

Medi-Ray, Inc.
150 Marbledale Road, Tuckahoe, New York 10707 • (914) 961-8484

Xenon Gas System
The first automatic dose calibrator with a hard-copy data printer system for NRC (AEC) record keeping

Now you can assay, compute dose, and get an instrument-verified printout—in just 30 seconds.

**Melétron**—Programmed sequenced instruction eliminates operator errors. All you do to assay a radionuclide is insert the proper key—from the 33 isotope keys now available, with others to come as they are needed—your insurance against instrument obsolescence.

The melétron calculates the volume to administer (in 0.1 ml increments from 0.1 to 99.9) for all patient doses (in 10 uCi increments from 10 uCi to 99.99 mCi.) Accuracy is ±5%, traceable to a reference dose calibrator calibrated against 16 known standards at the National Bureau of Standards June 20, 1975.

Range capability is up to 10 curies. Lets you handle high-activity Mo 99/Tc 99m generators. Melétron's automatic ranging eliminates manual selection—and another chance for operator error. Background subtraction is also automatic, and design of the ionization chamber will allow a 3/16" lead shield. The large chamber accommodates all standard size vials and syringes, and even an entire generator eluate for checking Mo 99 breakthrough.

**Melécord** prints permanent copies of all functions—the vital part of your record keeping system. You get hard copy in triplicate. Saves time. Prevents errors. Makes NRC (AEC) accountability far easier.

Melécord also prints the exact time and date of each assay automatically, while it alternately displays them on a digital calendar/clock on the front panel, and Melécord can be factory programmed to generate three lines for printing institution identification on each data card.

To find out how easy it is to solve your dose-calibration and record-keeping problems, call RADX—the innovators in nuclear medicine.
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**

The Radiochemical Centre Limited, Amersham, England. Tel: 024-444.
In the Americas: Amersham/Erlele Corp., Illinois 60005. Tel: 312-593-6300.
In W. Germany: Amersham Buchler GmbH & Co., KG, Braunschweig. Tel: 05307-4693-97.
NUCLEAR MEDICINE BOARD REVIEW
Aug. 30-Sept. 3, 1976  Cleveland, Ohio

A review course, designed for physicians participating in the 1976 Nuclear Medicine Board examination, will be held August 30, 1976 through September 3, 1976 in Cleveland, Ohio. Course is being sponsored by the Nuclear Medicine Associates. Lectures and case studies will be presented by Drs. Thomas Verdon (Colorado Springs) and Robert O'Mara (Rochester). Basic principles of nuclear medicine physics, chemistry, etc. will be presented by the staff of NMA. Application has been made for AMA Category I for this course.

For information, contact:
Paul J. Early
Nuclear Medicine Associates
1430 SOM Center Road
Cleveland, Ohio 44124
(216) 461-5393
(AMA Category I applied for)

RESIDENCY IN NUCLEAR MEDICINE
Sacramento Medical Center, School of Medicine, University of California, Davis

Positions available for all levels of postgraduate Nuclear Medicine training, internship and resident beginning July 1977. Selection in October 1976. ABNM approved program integrating classroom, clinical and research experience.

Gerald L. DeNardo, M.D., Director
Nuclear Medicine Department, UCD-SMC
4301 X Street, Sacramento, CA 95817
Phone: 916-453-3787

chief NMT
Specialty-oriented 470-bed suburban Minneapolis hospital needs registered, experienced supervisor for staff of six. Apply to Mrs. J. Reddy in Personnel at 612/932-5061.

METHODOIST HOSPITAL
6500 Excelsior Blvd.
St. Louis Park, MN 55426
An Equal Opportunity Employer

INDEX TO ADVERTISERS

<table>
<thead>
<tr>
<th>Advertiser</th>
<th>Address</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amersham/Searle</td>
<td>Arlington Hts., Ill.</td>
<td>29A</td>
</tr>
<tr>
<td>Atomic Development</td>
<td>Plainview, N.Y.</td>
<td>62A</td>
</tr>
<tr>
<td>Baird Atomic</td>
<td>Bedford, Mass.</td>
<td>8A</td>
</tr>
<tr>
<td>Brattle Instruments</td>
<td>Cambridge, Mass.</td>
<td>18C</td>
</tr>
<tr>
<td>Capintec, Inc.</td>
<td>Montvale, N.J.</td>
<td>769</td>
</tr>
<tr>
<td>C.G.R. Medical</td>
<td>Paris, France</td>
<td>26A, 27A</td>
</tr>
<tr>
<td>C.I.S. Radiopharmaceuticals</td>
<td>Bedford, Mass.</td>
<td>25A</td>
</tr>
<tr>
<td>Clean Corp.</td>
<td>Needham, Mass.</td>
<td>55A</td>
</tr>
<tr>
<td>Clinical Assays</td>
<td>Cambridge, Mass.</td>
<td>16A</td>
</tr>
<tr>
<td>Diagnostic Isotopes</td>
<td>Upper Saddle River, N.J.</td>
<td>12A</td>
</tr>
<tr>
<td>Diagnostic Products</td>
<td>Los Angeles, Calif.</td>
<td>32A</td>
</tr>
<tr>
<td>Digital Equipment Corp.</td>
<td>Maynard, Mass.</td>
<td>13A</td>
</tr>
<tr>
<td>Dunn Instruments</td>
<td>San Francisco, Calif.</td>
<td>33A</td>
</tr>
<tr>
<td>Eastman Kodak Co.</td>
<td>Rochester, N.Y.</td>
<td>52A, 53A</td>
</tr>
<tr>
<td>Elscint, Inc.</td>
<td>Hackensack, N.J.</td>
<td>34A, 35A</td>
</tr>
<tr>
<td>G.E. Medical Systems</td>
<td>Milwaukee, Wis.</td>
<td>18A, 19A</td>
</tr>
<tr>
<td>Grumman Health Systems</td>
<td>Woodbury, N.Y.</td>
<td>36A</td>
</tr>
<tr>
<td>Hoechst</td>
<td>Frankfurt, Germany</td>
<td>5A</td>
</tr>
<tr>
<td>Jolin Sayles</td>
<td>Framingham, Mass.</td>
<td>28A</td>
</tr>
<tr>
<td>Medcor</td>
<td>Closter, N.J.</td>
<td>21A, 767</td>
</tr>
<tr>
<td>Medi-Physics, Inc.</td>
<td>Inglewood, Calif.</td>
<td>51A</td>
</tr>
<tr>
<td>Medi-Ray, Inc.</td>
<td>Emeryville, Calif.</td>
<td>1FC, 1A</td>
</tr>
<tr>
<td>New England Nuclear</td>
<td>Boston, Mass.</td>
<td>28A, 65A</td>
</tr>
<tr>
<td>Nuclear Medical Systems</td>
<td>Newport Beach, Calif.</td>
<td>50A</td>
</tr>
<tr>
<td>Ohio Nuclear, Inc.</td>
<td>Solon, Ohio</td>
<td>10A, 11A</td>
</tr>
<tr>
<td>Omnimedical Services</td>
<td>Paramount, Calif.</td>
<td>48A</td>
</tr>
<tr>
<td>Picker Corporation</td>
<td>Cleveland, Ohio</td>
<td>30A, 31A, 63A, 64A</td>
</tr>
<tr>
<td>Proctor &amp; Gamble</td>
<td>Cincinnati, Ohio</td>
<td>22A, 23A, 24A</td>
</tr>
<tr>
<td>Radiochemical Centre</td>
<td>Amersham, England</td>
<td>20A, 67A</td>
</tr>
<tr>
<td>Raytech Corp.</td>
<td>Houston, Texas</td>
<td>40A, 41A</td>
</tr>
<tr>
<td>Raytheon Co.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smith Kline Instruments</td>
<td>Sunnyvale, Calif.</td>
<td>54A</td>
</tr>
<tr>
<td>Technical Associates</td>
<td>Canoga Park, Calif.</td>
<td>42A</td>
</tr>
<tr>
<td>Telstar Electronics</td>
<td>Southold, N.Y.</td>
<td>24A</td>
</tr>
<tr>
<td>Varian Associates</td>
<td>Palo Alto, Calif.</td>
<td>58A, 59A</td>
</tr>
<tr>
<td>Victoreen Instrument</td>
<td>Cleveland, Ohio</td>
<td>46A</td>
</tr>
<tr>
<td>John Wiley &amp; Sons</td>
<td>Somerset, N.J.</td>
<td>47A</td>
</tr>
<tr>
<td>Williams &amp; Wilkins Co.</td>
<td>Baltimore, Md.</td>
<td>39A</td>
</tr>
</tbody>
</table>

68A JOURNAL OF NUCLEAR MEDICINE
Help your cardiologist study heart kinetics non-invasively with Brattle-gated scintiphotos.

The RAO view shows akinesis of the lower antero-lateral wall and apex; and contraction of the inferior wall and high up the antero-lateral wall. The LAO view shows good contraction posteriorly and akinesis of the septal aspect of the chamber. Patient was injected IV with 20mCi of 99mTc-labelled Human Serum Albumin. The agent was prepared using the New England Nuclear Electrolysis Kit for labelling HSA. Write or call for a portfolio of Brattle-gated lung, liver and heart studies.

No knobs, no meters, no errors
The spartan panel above tells the second-best part of our story. If you want to photograph peak systole, press the SYSTOLE button. If, say, you want systole only at full expiration, press the EXPIRATION button as well. If only breathing is relevant, don't press the heart button.

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

Brattles lock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

Some Brattles have been in clinical use for over three years—in community and major hospitals
More than half of our instruments are in community hospitals and the list is growing rapidly. Upon request, we'll supply names of happy users in your area.

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

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.

Brattles I slock onto patients—and stay locked on
It doesn't matter if the patient's heart rate and breathing depth change while he's under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it's all built in, your operator need not be a physiologist.

We don't cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath—it's easy. And we supply disposable, pre-filled electrodes.
You are entering a remarkable era of diagnostic advancement. Instead of being limited to a single imaging method, you will take advantage of many techniques, choosing them to meet your specific diagnostic criteria and the condition of your patient.

Searle is helping shape this era of advancement. Over the past decade, guided by your needs, we have developed sophisticated nuclear imaging instruments to a high degree of performance. Now, the knowledge gained during that time is being applied to the creation of instrumentation in the fields of ultrasound and CT scanning.

What Searle developed yesterday in nuclear imaging, the medical community relies on today. And today we are planning significant advances in ultrasonic, CT, and nuclear imaging. Tomorrow is in view.

Searle Radiographics Inc.
Subsidiary of G. D. Searle & Co.