



medi+physics[®]

MEDI-PHYSICS, INC., EMERYVILLE, CALIF.
SUBSIDIARY OF HOFFMANN-LA ROCHE INC.

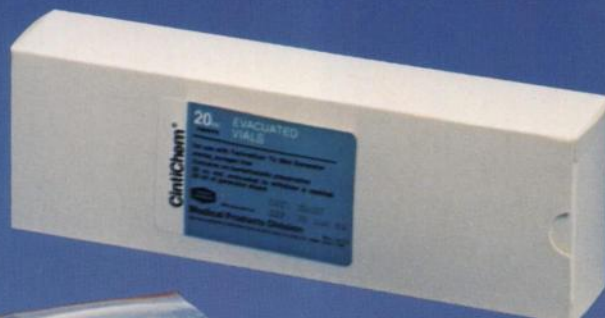


Technetium Tc 99m
Generator

Secondary shield
to further reduce
radiation



5cc and 10cc elution vials



20ml elution vials
available on request



Elution vial shield

Adaptors for various elution vials



Sterile needle pack and labels
furnished with each generator

TECHNETIUM 99m
GENERATORS

Technetium Tc 99m Generators for the Production
of Sodium Pertechnetate Tc 99m



... either from
top ... or ...



... from the side.



OPEN/CLOSED valve
for additional security.

Featuring:

- Indicated for use in adults and children for urinary bladder imaging (direct isotopic cystography).
- The only Generator with an "open/closed" valve to eliminate possible leakage, both during shipment and in your hot lab.
- Unique horizontal elution procedure increases ease of use and eliminates needle-vial alignment problems.
- A new sterile needle is utilized for each elution, reducing the chances of a septic or pyrogenic situation occurring in routine clinical usage. This method is superior to competitive dry column systems where the same needle assembly is used for the life of the product.
- Fission product molybdenum 99 is used in the Technetium 99m Generator to provide Sodium Pertechnetate Tc99m activity concentrations sufficient for bolus injections.
- Internal saline reservoir eliminates the need to stock saline vials.
- Evacuated elution vials are available in 5cc, 10cc, and 20cc volumes, allowing you to optimize the elution concentration to meet your needs.
- Optimum shielding design minimizes radiation to personnel in work areas, providing maximum protection.
- Generator is compact, providing for optimum maneuverability. Generator handle and shipping carton provide for ease in handling and lifting.



MEDI-PHYSICS, INC., EMERYVILLE, CALIF.
SUBSIDIARY OF HOFFMANN-LA ROCHE INC.

TECHNETIUM Tc 99m GENERATOR for the Production of Sodium Pertechnetate Tc 99m

DESCRIPTION: The Technetium Tc 99m Generator is prepared with fission produced Molybdenum Mo 99 absorbed on alumina in a lead-shielded column and provides a means for obtaining sterile pyrogen-free solutions of Sodium Pertechnetate Tc 99m in sodium chloride injection. The eluate should be crystal clear. With a pH of 4.5-7.5, hydrochloric acid and/or sodium hydroxide may have been used for pH adjustment. Over the life of the generator, an elution will contain a yield of 80% to 100% of the theoretical amount of Technetium Tc 99m available from the Molybdenum Mo 99 on the generator column.

Each eluate of the generator should not contain more than 0.15 microcurie of the Molybdenum Mo 99 per millicurie Technetium Tc 99m per administered dose at the time of administration, and not more than 10 micrograms of aluminum per milliliter of the generator eluate, both of which must be determined by the user before administration.

INDICATIONS AND USAGE: Sodium Pertechnetate Tc 99m is used IN ADULTS as an agent for: brain imaging including cerebral radionuclide angiography; thyroid imaging; salivary gland imaging; placenta localization; blood pool imaging including radionuclide angiography; and urinary bladder imaging (direct isotopic cystography) for detection of vesico-ureteral reflux.

Sodium Pertechnetate Tc 99m is used IN CHILDREN as an agent for: brain imaging including cerebral radionuclide angiography; thyroid imaging; blood pool imaging including radionuclide angiography; and urinary bladder imaging (direct isotopic cystography) for the detection of vesico-ureteral reflux.

CONTRAINDICATIONS: None known.

WARNINGS: Radiation risks associated with the use of Sodium Pertechnetate Tc 99m are greater in children than in adults. In general, the younger the child the greater the risk owing to greater absorbed radiation doses and longer life expectancy. These greater risks should be taken firmly into account in all benefit-risk assessments involving children.

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

Carcinogenesis, Mutagenesis, Impairment of Fertility

No long-term animal studies have been performed to evaluate carcinogenic potential or whether Technetium Tc 99m may affect fertility in males or females.

Pregnancy Category C

Animal reproductive studies have not been conducted with Technetium Tc 99m. It is also not known whether Technetium

Tc 99m can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m should be given to a pregnant woman only if the expected benefits to be gained clearly outweigh the potential hazards. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses.

Nursing Mothers

Technetium Tc 99m is excreted in human milk during lactation, and therefore formula feedings should be substituted for breast feedings.

Pediatric Use

See **Indications and Usage, dosage and administration**. See also description of additional risk under **warnings**. 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.

The generator should not be used after 16 days from the date and time of calibration.

At time of administration, the solution should be crystal clear.

ADVERSE REACTIONS: Allergic reactions including anaphylaxis have been reported infrequently following the administration of Sodium Pertechnetate Tc 99m.

HOW SUPPLIED: Sodium Pertechnetate Tc 99m is supplied as a Molybdenum Mo 99/Technetium Tc 99m generator in sizes from 830 millicuries up to 16,600 millicuries (in approximately 830 millicurie increments) of Molybdenum Mo 99 as of 10:00 P.M. Eastern Time of the day of calibration. The TECHNETIUM Tc 99m GENERATOR consists of:

- 1) sterile generator, 2) Sodium Chloride Injection source, 3) 10 cc sterile evacuated vials, 4) sterile needles, 5) elution vial shield* 6) finished drug labels. Elution vials in 5 cc and 20 cc sizes are available upon request.

*initial order only

The TECHNETIUM Tc 99m GENERATOR should not be used after sixteen (16) days from the date and time of calibration.

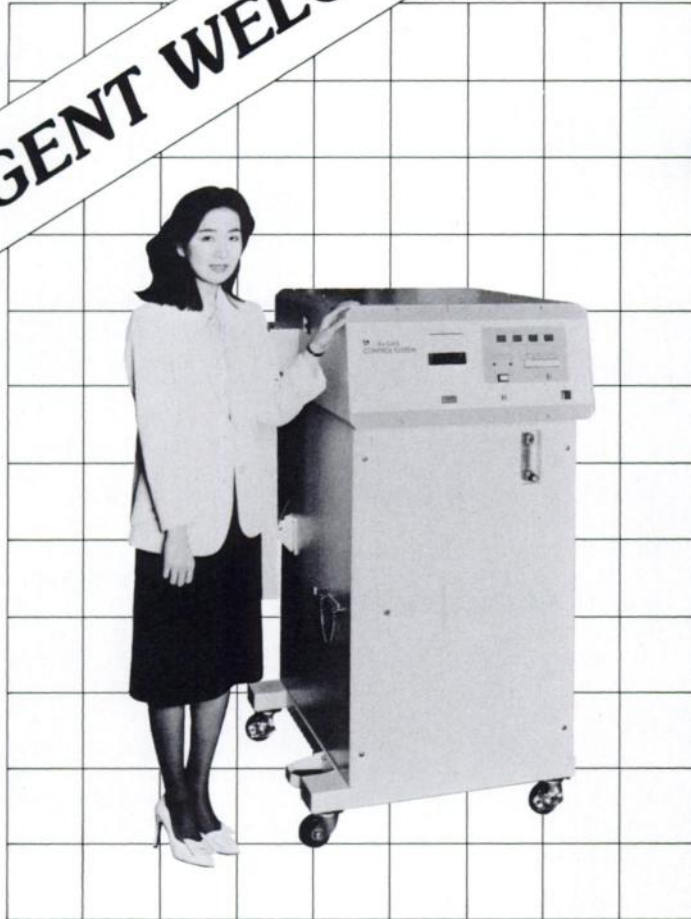
Jointly manufactured by:
CINTICHEM, INC.
Tuxedo, N.Y. 10987

and

June, 1983
UNION CARBIDE CORPORATION
Tuxedo, N.Y. 10987

HERE IS ANOTHER ONE!

AGENT WELCOME



¹³³Xe GAS CONTROL SYSTEM

AZ-701-NTS

Integrated control panel permits simple operation.

Waterless spirometer, a bellows system incorporating a soda lime vessel, inline bacteriological filter, and a specific blower assures sterility and resistance free breathing.

Rear panel slides out and expands the interface bag space to allow the study time to be prolonged.

Accepts any commercial type of ¹³³Xe. Oxygen is supplied by either a single emission or in a continuous quantitative manner.

Respiratory arm has an air cylinder drive which provides ease in maintaining a position.

High gas trap efficiency.

We are among the very first manufacturer of Nuclear Medicine Instruments and are supplying scientific treasures to the world.

- Cold-Xe Gas System
- Kr-81m Gas System
- Tc-99m Dispenser
- ECT Phantom
- Cardiac Dynamic Phantom
- Myocardia Phantom
- Cold-Xe Gas Phantom
- Other related items



ANZAI SOGYO CO., LTD.

MEDICAL DEPARTMENT

#711, 2-13, Ohsaki 4-chome, Shinagawa-ku, Tokyo 141, Japan

Tel: (03) 494-1478 Cable: "ANZAI SOGYO" Tokyo

Novo BMC-LAB 22a



Postmenopausal Osteoporosis - a cureable disease when treated in time

Early diagnosis of excessive bone mineral loss is possible by noninvasive determination of bone mineral content (BMC) in the axial skeleton.

Reliable Data from Relevant Areas

Loss of bone mineral, and fractures associated with the axial skeleton, are closely associated with metabolic bone disease. Trabecular bone, predominantly present in the axial skeleton, notably the lumbar vertebrae, is affected to a larger extent than cortical bone present in the peripheral skeleton. BMC measurements in potential fracture sites in the axial skeleton provide the most reliable indication of fracture risk.

The Novo BMC-LAB 22a measures BMC in the lumbar spine, the femoral neck and other parts of the skeleton.

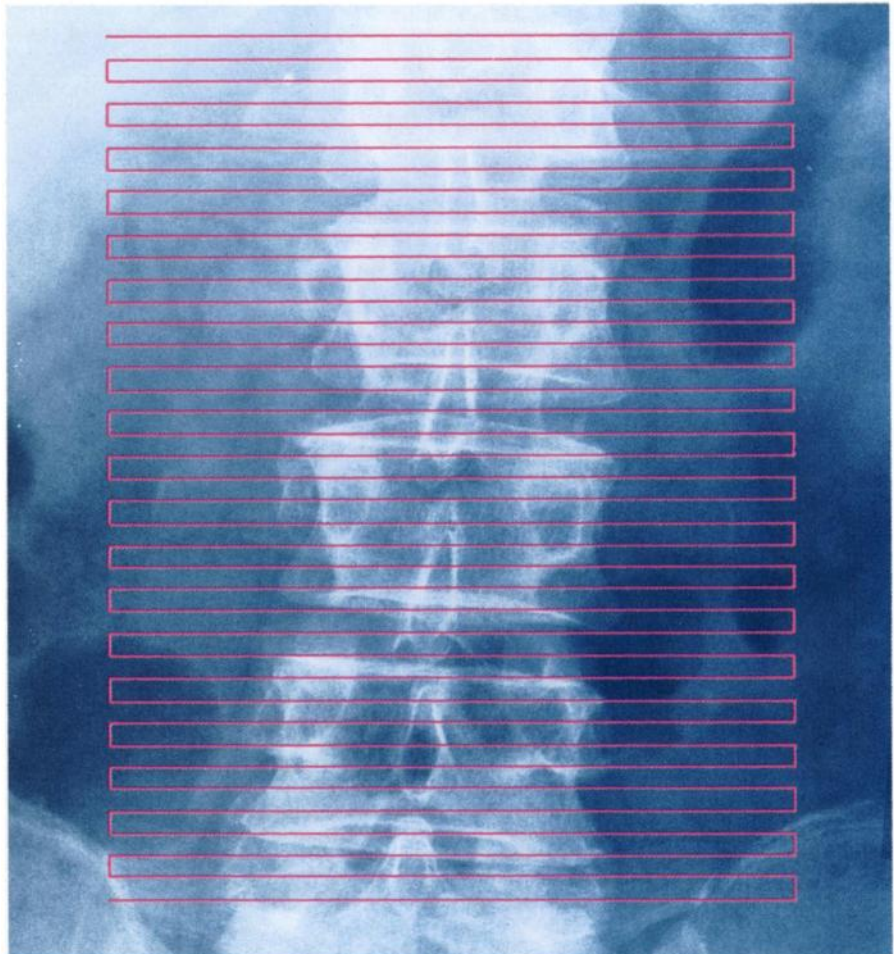
Improved Patient Management

A large number of drugs and regimens influence the calcium balance. BMC measurement is a cost-effective and direct means of monitoring patients in haemodialysis, during nutrient supplementation, exercise and drug administration programs.

Ease of operation and low radiation dose make the Novo BMC-LAB 22a ideal for routine monitoring and screening of patients.

Automatic Soft Tissue Compensation

The Novo BMC-LAB 22a is a dual-photon bone densitometer. The technique obviates the need for soft tissue equivalent materials, without sacrificing the excellent precision of the proven single-photon method.



Safety, Flexibility and Ease of Operation

Advanced software guides the user through the measurements and prompts the operator in case of error. Extensive interactive capabilities provide extremely flexible selection of regions of interest.



The Novo BMC-LAB 22a features three dedicated programs for COLUMNA, right and left COLLUM FEMORIS. A fourth OPTIONAL program is included to meet individual requirements.

For further information please contact:

NOVO

DIAGNOSTIC SYSTEMS

Novo Allé, 2880 Bagsvaerd, Denmark, 45-2-982333

Germany: Novo Industri GmbH, Mainz,
tph. 49-6131-3-1001/2/3

Belgium: Novo Industri S.A., Brussels,
tph. 32-2-465-2400

USA: Novo Diagnostic Systems, Wilton,
tph. 1-203-646-8420

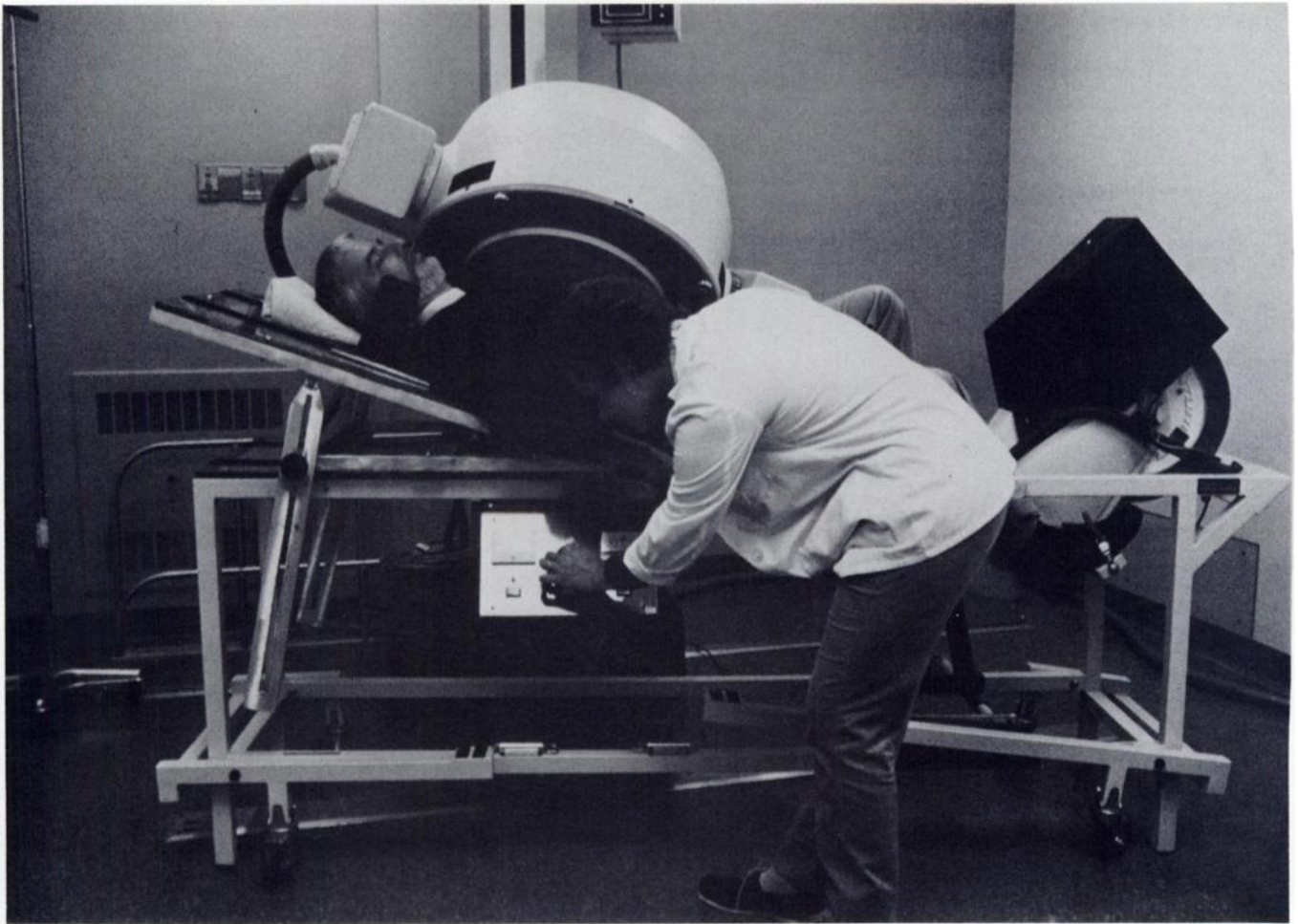
UK: Vertec Scientific, Slough,
tph. 44-6286-4808/4860

Holland: Nucletron Trading B.V., Leersum,
tph. 31-3434-5-4224

Japan: Nissei Sangyo Co. Ltd., Tokyo,
tph. 3-504-7111



NOVO



THE CARDIAC STRESS TEST SYSTEM THAT IS COMPATIBLE WITH ANY SCINTILLATION CAMERA.

ND Medical Products WK90E Stress System represents the most advanced cardiac stress test system available today.

- The smoothest pedaling ergometer
- Ergometer or exercise option
- Retractable casters
- External control operation
- Removable adjusting patient incline
- Optional computer control
- Dual RPM meters

Please call or write for hospital references, information and prices.

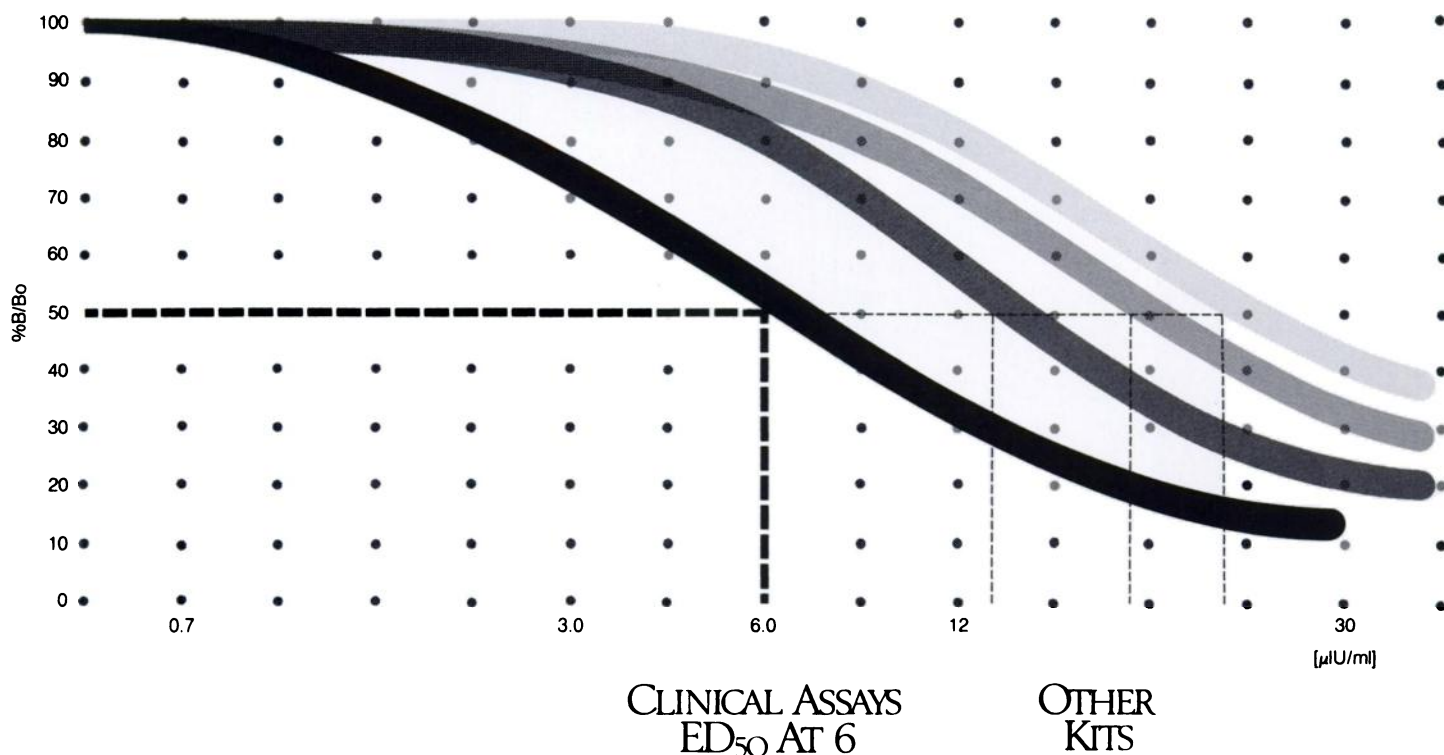
ND Medical Products

Cable NUDATA • Telex 28-2416

Nuclear Data Inc. • Golf and Meacham Roads • Schaumburg, Illinois 60196 • Telephone (312) 884-3636
ND Medical Products • 221 Felch Street • Ann Arbor, Michigan 48103 • Telephone (313) 665-9777

Amsterdam • Atlanta • Boston • Chicago • Denver • Frankfurt • London • Los Angeles • New York • San Francisco • Seattle • Stockholm • Washington, DC

NOW, A TSH WITH AN ED₅₀ AT 6, FOR IMPROVED LOW-END SENSITIVITY.



GAMMADAB HS[®] hTSH RIA KIT

Introducing a new dimension in TSH testing from Clinical Assays.

If the TSH kit you are using has a 50 percent inhibition point near 20, it probably lacks sensitivity in the low end. This can often yield high-normal values that are inconsistent with the clinical picture.

Now you have a choice. In addition to the convenient, three-hour GAMMADAB[®] hTSH RIA Kit, there is now the GAMMADAB[®] HS hTSH RIA Kit. It can provide precise, accurate, low-end readings you can rely on. Why? Because it features

human serum-based standards, a highly specific antibody, and an overnight incubation that optimizes kinetics. These combine to bring you an ED₅₀ of 6 — where you really need it.

A higher count rate, too.

This high sensitivity TSH also has a high count rate which can speed sample throughput and improve precision.

Call toll-free for clinical data:
800-225-1241.

For clinical data on the new

GAMMADAB[®] HS hTSH RIA Kit, technical information, or an evaluation kit, call toll-free, or collect within Massachusetts, 617-492-2526. Or write Clinical Assays, 620 Memorial Drive, Cambridge, MA 02139. TELEX: 921461 CLASS CAM.

GAMMADAB[®] HS hTSH RIA Kit



INNOVATING FOR LIFE™
CLINICAL ASSAYS
DIVISION OF TRAVENOL LABORATORIES, INC.

SIEMENS

Siemens ZLC with DIGITRAC detectors... the innovation continues.

DIGITRAC™—the newest breakthrough of Siemens proven ZLC camera systems—represents the innovative technique which monitors, maintains, and provides visual confirmation of your detector's performance.

DIGITRAC is a unique microprocessor which allows you to clearly see anytime quantitative data on the performance of your detector. You can initiate a self-test program by simply pressing a button. Changes in the system can easily and quickly be identified.

The camera will remain precisely tuned, regardless of environmental changes in temperature, imaging changes in source distribution or count rate, or aging changes in PMT gain levels.

ZLC with DIGITRAC... Siemens way of providing you with the highest quality and most consistent performance in nuclear imaging.

For further information, contact: Siemens Medical Systems, Inc., 186 Wood Avenue South, Iselin, NJ 08830. (201) 321-4500.

In Canada, contact Siemens Electric Ltd., Nuclear Medicine Division, 1180 Courtney Park Drive, Mississauga, Ont., L5T 1P2, (414) 673-1995.



**Siemens...
an investment in diagnostic confidence.**

1481!

That's a lot of hospitals and clinics and it's the number of customers we're serving today. It's a source of pride to us because it reflects confidence. Today we operate the largest chain of centralized nuclear pharmacies in the United States. And we want to meet your needs for radiopharmaceuticals and our exclusive services ranging from waste disposal to radiation safety consultation to instrument calibration as well as many new services continually being added. We have a *Pharmacy Service Center* near you. Call us.



We're No.1 and we earn
the right every day.

For Service...With Speed!

505/ 345-3551

P.O. Box 25141, Albuquerque, NM 87125

The company that made NUCLEAR PHARMACY a proper name!

ALA:Birmingham, Mobile* • **ARIZ:**Phoenix, Tucson • **ARK:**Little Rock • **CALIF:**Van Nuys, Anaheim, San Diego, Irwindale, Colton, Carson, Long Beach* • **COLO:**Denver, Colorado Springs • **FLA:**Miami, Ft. Lauderdale, Ft. Myers, St. Petersburg, Tampa, Orlando, Jacksonville, Palm Beach*, Daytona Beach* • **GA:**Atlanta • **IDAHO:**Boise* • **ILL:**Chicago • **IOWA:**Des Moines, Davenport* • **KAN:**Wichita* • **KY:**Louisville • **LA:**New Orleans, Baton Rouge • **MASS:**Boston • **MISS:**Jackson • **NEV:**Las Vegas • **NM:**Albuquerque • **NC:**Charlotte* • **PA:**Philadelphia, Harrisburg • **SC:**Columbia • **SD:**Sioux Falls* • **TENN:**Nashville, Knoxville, Memphis • **TEXAS:**El Paso, Lubbock, Ft. Worth, Dallas (2), Austin, San Antonio, Houston (3), Beaumont • **WASH:**Seattle • **WIS:**Milwaukee, Madison*, Green Bay* • **WYO:**Cheyenne* • *soon to open

DuPont's Video Imaging the image quality you



Specialists: Giving you what you want, time after time.

To help you cope with the imaging revolution, DuPont developed special films that faithfully reproduce CRT images. Just as important, we trained over 100 specialists in the CRT imaging expertise you need. No other company has anywhere near as many.

We schooled our specialists in delivering the hard copy quality you want—time after time, no matter what the modality.

Here's what our Video Imaging Specialists are well-prepared to do when you use DuPont film:

1. Defining the image you want.

DuPont MRF-31 and MRF-32 are high-contrast, single-emulsion films, providing optimum definition of CRT images.

After discussing the image characteristics you desire, Video Imaging Specialists will review variables that affect image quality and recommend adjustments to give you the image you require.

2. Adjusting your camera.



The next step is adjusting

your camera to generate maximum diagnostic information suited to your specific needs. Video Imaging Specialists ensure that the camera/MRF film combination works together to deliver maximum performance.

3. Optimizing your processing conditions.

DuPont's Video Imaging Specialists analyze processing and establish optimum conditions to assure ongoing consistent image quality.

They'll help you evaluate DuPont's new high-stability developer (HSD)—designed to give you consistently high-quality results over an extended



period, independent of your processing volume.

4. Analyzing your film handling procedures.

Many darkrooms are inconveniently located, putting film-handling procedures outside your control. Video Imaging Specialists are trained to streamline these procedures, minimizing the potential for film rejects.

The best solution could be a DuPont MRF Daylight Processing Module: a complete



film-handling and processing system which eliminates the need for a darkroom.

For more information, call (800) 441-3456*

Let DuPont show you what a Video Imaging Specialist can do for you. Call our toll-free number. *In Delaware, call (215) 358-3752 collect.



REG. U.S. PAT. & TM. OFF.

Ventilation scanning



Now it's convenient, accurate. Introducing SynteVent™ Aerosol Delivery System

New SynteVent is a unique aerosol system designed to deliver uniform submicronic (0.5 micron mass median diameter) droplets to the lung for ventilation scanning.

A complete, closed system, SynteVent is easily assembled, lightweight and portable. Normal tidal breathing for 3 to 5 minutes allows up to six views of the lung.

For more complete information, call 415-856-2422, or write Synaco, Inc. at the address below.



P.O. Box 10059
Palo Alto, CA 94303-0847
36 Steacie Drive
Kanata, Ontario
Canada K2K 2A9

Save Time & Money. Dysan Diskettes from Comark.

A quality diskette is essential for critical applications. Buying smart is essential, too.

Dysan's advanced production techniques assure that each Dysan diskette is certified 100% error free. You can count on Dysan for your ADAC*, MDS*, Elscint*, Technicare*, and many other medical systems.

Give Comark a call on our toll free number. We have a complete inventory of the finest quality diskettes, Dysan. BUY SMART!!



Pricing for Dysan 800803/800806 diskettes,
8" double sided/double density.

<u>10-90</u>	<u>100-190</u>	<u>200 +</u>
\$4.75/ea	\$4.50/ea	\$4.25/ea

Call for our special annual contract pricing.

COMARK, INC.

481 W. Fullerton Avenue, Elmhurst, Illinois 60126

Toll-Free Order Hotline

1-800-323-6135

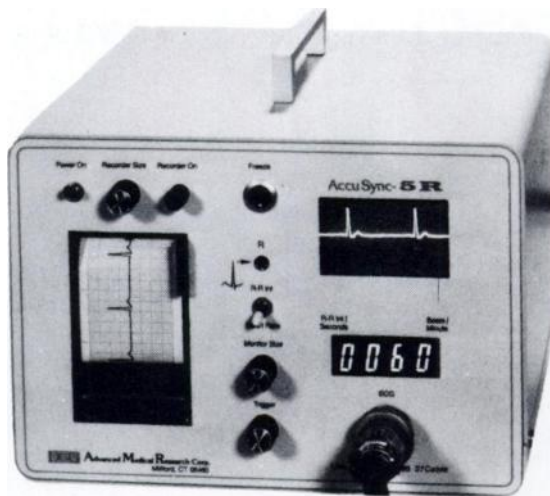
In Illinois, call collect (312) 834-5000

AMR presents
AccuSync

The finest R-wave Triggering device available for computerized gated cardiac studies.

AccuSync-5R Features

- Isolation Amplifier for Patient Safety.
- Digital CRT Monitor.
- ECG Strip Chart Recorder.
- Heart Rate/R-R int.
- Trigger Pulse LED.
- Trigger Control.
- R-Trigger Output, Compatible with all Computers.
- ECG Output.
- Playback Mode.
- Event Marker



MODEL

FEATURES

AccuSync-6

All **AccuSync-5R** features with the exception of the Strip Chart Recorder.

AccuSync-IR

All **AccuSync-5R** features with the exception of Digital CRT Monitor.

AccuSync-2

All **AccuSync-IR** features incorporated into a Module designed to fit into certain Mobile cameras.

AccuSync-3

All **AccuSync-IR** features with the exception of the Strip Chart Recorder and Playback Mode.

AccuSync-4

All **AccuSync-3** features with the exception of the Heart Rate/R-R int. display.



Advanced Medical Research Corp./301 Brewster Road/P.O. Box 3094
 Milford, CT 06460/Telephone: (203) 877-1610

Digital Dyna™ Camera...

The added speed and precision gained by digital electronics make the Digital Dyna Camera (DDC) virtually unlimited in handling your present and future requirements . . . whether it be conventional imaging, single or dual detector ECT, or new radiopharmaceutical developments.

- Variable Integration Circuitry (VIC) for high count rates
- Advanced computer bus structure architecture
- 4 pulse height analyzers
- Spectragraph for image labeling and system quality control
- Single console, dual detector input capability
- Self-testing diagnostic software

PICKER INTERNATIONAL, Inc.
12 Clintonville Road
P.O. Box 99
Northford, CT 06472
Tel: (203) 484-2711 Tlx: 963462





INTERNATIONAL CIS
Immeuble P3 "International"
2, rue Stephenson
78181 Saint-Quentin
Yvelines - Cedex -
France
Tel. (33) 3-043.00.09
Telex 698226

SUBSIDIARY OF:
COMMISSARIAT A L'ENERGIE
ATOMIQUE - OFFICE DES
RAYONNEMENTS IONISANTS
BP n° 21 - 91190 Gif-sur-Yvette
France - Tel. (33) 6-908.26.15
Telex 692431
SORIN BIOMEDICA - S.p.A.
DIVISIONE BIOCHIMICA
SETTORE DIAGNOSTICI
13040 Saluggia (Vercelli) - Italy
Tel. (0161) 48 71 - Telex 43200064

SUBSIDIARIES:
CIS (UK) Ltd - Rex house
354 Ballards Lane, North Finchley,
London, N 12 OEG, G.B.
Tel. (1) - 446-4405
Isotopen Diagnostik CIS GmbH
Einsteinstrasse 9-11 -
6072 Dreieich
bei Frankfurt-am-Main
Tel. 06103-34017 - Germany

A heart-shaped patch is sewn onto a blue denim background. The patch is red and contains the text "I ♥ CIS THALLIUM 201" in a bold, black, serif font. The heart symbol is a simple outline. The patch is surrounded by a double-line yellow stitching border.

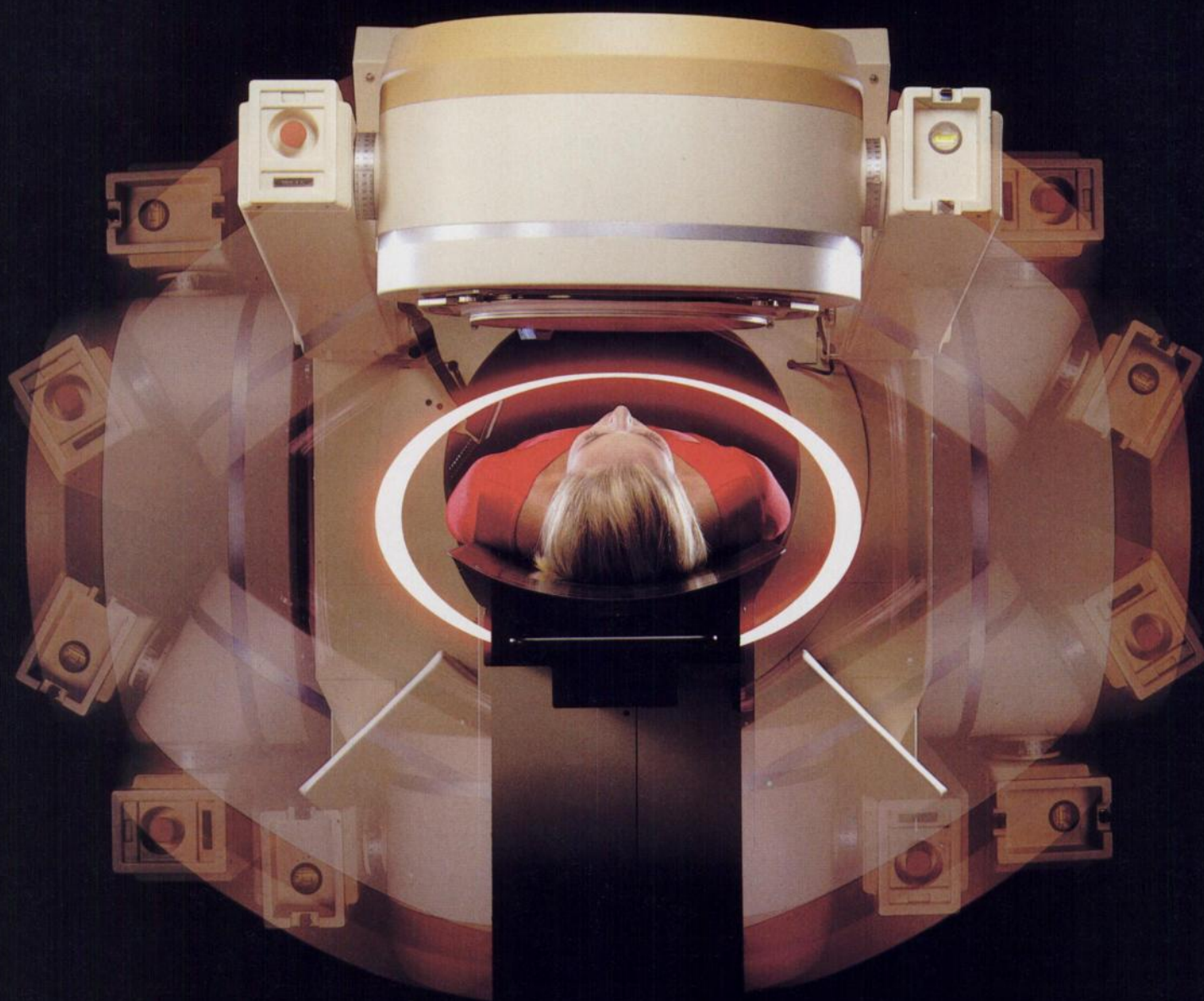
I ♥ CIS
THALLIUM
201

Thallous chloride, $Tl-201$ * is supplied in sterile nonpyrogenic solution for intravenous injection and used for myocardial scanning, coronary deficiency and nonischemic myocardial diseases.

*Not available in USA

apex SPECT systems

Homing in on Perfection



elscint

Elsclnt revolutionized the practice of Nuclear Medicine with the world's first digital gamma camera systems. Today, this forward-looking company is still in the lead - with the world's best system for Single Photon Emission Computerized Tomography: *Apex 415 ECT*. *Apex ECT* systems include all the advantages of the Apex family of digital integrated gamma cameras, plus some other remarkable features which keep them far ahead: total clinical capability, vast computer power, circular or elliptical orbit of rotation, full flexibility in clinical reporting, and operator-selectable Continuous or Step-and-shoot modes.



apex SPECT **Universal NM System**

Innovatively designed to include all Nuclear Medicine functions, Apex ECT is a high-quality, easily-positioned gamma camera system for conventional use, as well as a capable whole-body scanner for single- or dual-pass bone scans, above or below the table. It is also the most versatile rotational ECT scanner on the market, fully upgradeable to accommodate future developments.

apex SPECT **Integrated Digital SPECT System**

Apex ECT has its own high-powered integrated multiprocessor; unlike most competitive systems, it needs no accessory stand-alone computer. A built-in high speed array processor enables near-instantaneous reconstruction - only 3.5 seconds per slice. In addition, the Apex computer controls acquisition and display functions, and all detector movements. Sophisticated attenuation correction algorithms insure highest image verity, regardless of body contour:

apex SPECT **Getting Closer for Better Resolution**

In NM imaging, the distance between the radiating organ and the detector is a major factor in achieving high resolution. Apex ECT narrows the gap: its elliptical orbit of rotation approximates the body's cross-sectional profile, permitting the detector to get closer than the conventional circular orbit.

elsclnt

Elsclnt Inc.
930 Commonwealth Avenue,
Boston, MA 02215, U.S.A.
Tel: (617)739-6000
Toll Free: (800)343-9504

Elsclnt European Operations
40 rue Jean Jaurès,
93170 Bagnole, France.
Tel: (01)362.13.05

apex SPECT

Covering all the Angles

Apex ECT's sophisticated software enables reconstruction of slices at virtually any angle, along any clinically useful plane. Data for transaxial, sagittal and coronal planes are automatically output by the computer. Clinical reports can be prepared directly on-screen, complete with clinical images and all necessary alphanumeric information. Hard copy is produced on standard X-ray film by Elscint's FORMAX™ multifformat camera.

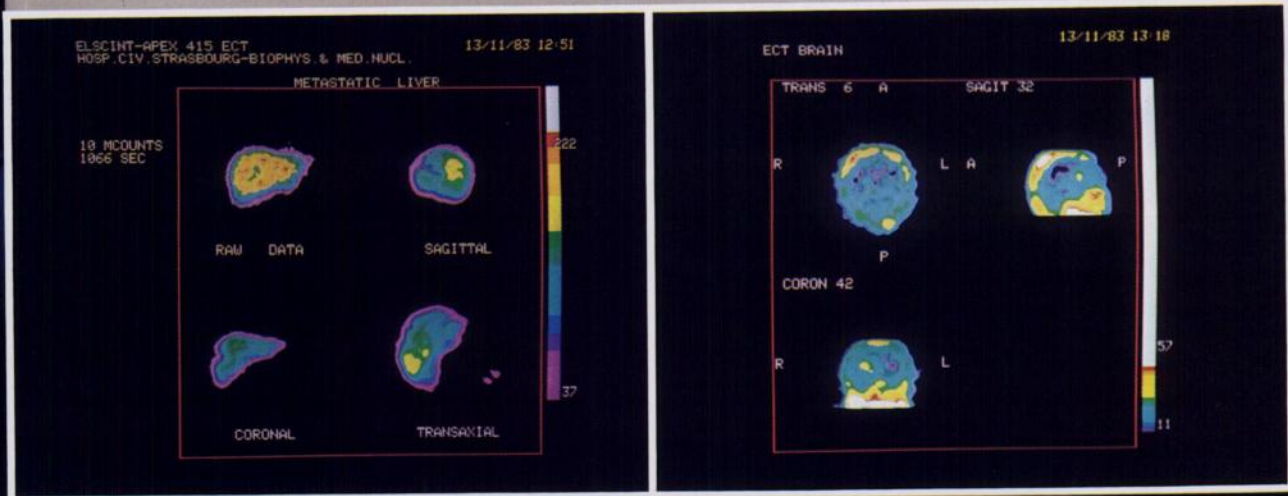
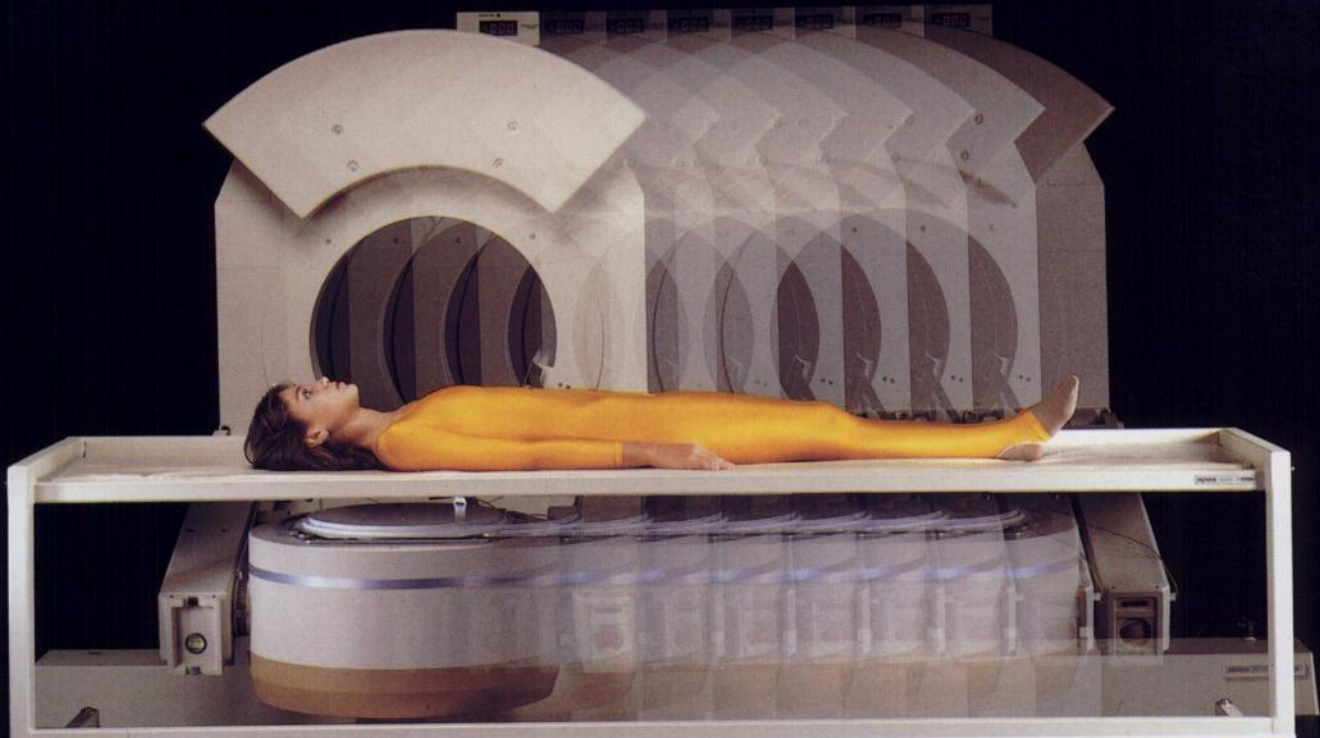
apex SPECT

Rotation Control for Specialized Needs

In Continuous mode, gantry rotation speed is continuously variable from 1/30 rpm to 1 rpm, enabling selection of optimum scan times. Arc of rotation, up to 540°, is also selectable, with full cable protection through electronic auto-stop.

In Step-and-shoot mode, particularly applicable to gated Thallium tomographic studies, the rotational steps are precision-controlled by the Apex ECT computer.

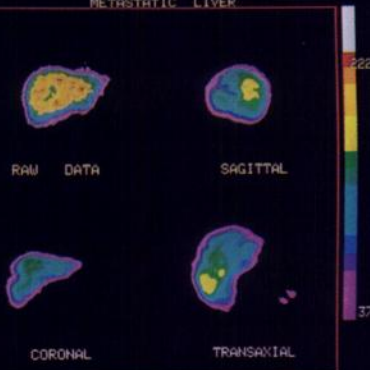
A 180° arc begins and ends at any operator-selected position.



ELSCINT-APEX 415 ECT
HOSP. CIV. STRASBOURG-BIOPHYS. & MED. NUCL. 13/11/83 12:51

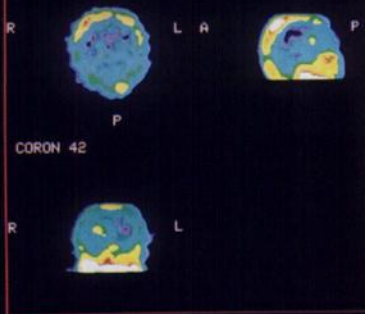
METASTATIC LIVER

19 MCOUNTS
1066 SEC



ECT BRAIN 13/11/83 13:18

TRANS 6 A SAGIT 32

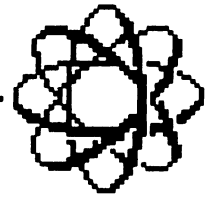


NUCLEAR MEDICINE

TECHNICARE'S OMEGA 500 CAMERA AND 560/AP COMPUTER.

**WHEN THEY TALK TO EACH OTHER,
IT MEANS FASTER, BETTER
ECT IMAGING FOR YOU.**





OUR Omega™ 500 Rectangular Field Gamma Camera has earned an outstanding reputation for conventional nuclear and high resolution whole body imaging. And our 560 Computer has earned a similar reputation in all areas of nuclear medicine processing.

Now, they can do even more together. Through custom designed software and a powerful Array Processor developed by Technicare, they have been coupled to give you, for the first time, the added capability of a fully integrated, second-generation system for faster, better ECT imaging.

Why faster and better? Because camera and computer actually talk to each other, exchanging information for more accurate data collection and storage. Our computer delivers the fastest image processing available for ECT — so fast, it permits “on-the-fly” reconstruction. And our camera’s precision movement and mechanical stability, combined with high

resolution 128 x 128 acquisition matrix, produces superior image quality and unparalleled clinical confidence.

You know what our 500 Camera and 560 Computer can do separately. Now see what they can do when we bring them together. For a demonstration, contact the Director of Marketing, Nuclear Medicine.

THE TECHNICARE COMMITMENT

As a world leader in diagnostic imaging and as part of the world’s largest health care organization, Technicare is committed to product innovation, superior clinical performance, and future upgradeability in Nuclear Medicine, Nuclear Magnetic Resonance, Computed Tomography, Digital Radiography, and Ultrasound. Our Omega 500 Camera and 560 Nuclear Medicine Computer, separately and together, represent that commitment.



TECHNICARE

a *Johnson & Johnson* company

Eliminate the inconvenience and cost of making your own! MARA CAN PROVIDE
HIGH PURITY, SPECIALIZED PRECURSORS

■ Mara's specialized precursors, synthesized and purified to the highest standards—effectively link nuclear medicine with the most sophisticated instrumentation. For the results you need—rely on Mara's synthetic organic chemists to deliver precursors that accelerate your radiopharmaceutical research.



WHICH OF THESE PRECURSORS DO YOU NEED?

**Glucose, Fatty Acids,
Steroids**

or any other compounds
you may require.

We undertake custom synthesis or contract R & D work.

*We are also developing cold compounds and contrast
imaging agents for NMR.*

★ All products fully guaranteed for purity and characterization ★ Mara products are intended exclusively for research ★ We will gladly evaluate your project and respond quickly

**For latest Price List and
other information, please contact**



MARA SPECIALTY CHEMICALS, INC., University City Science Center,
3401 MARKET ST., PHILA., PA 19104 • (215) 382-1209

NUCLEAR MEDICINE REVIEW SYLLABUS

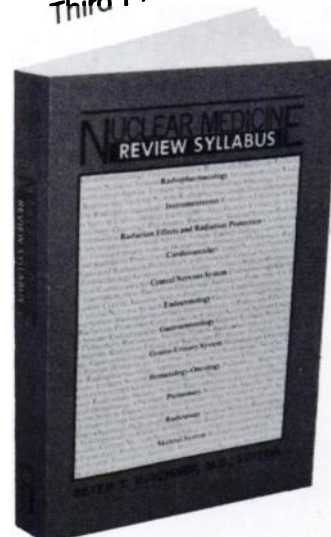
Peter T. Kirchner, M.D., Editor

The rapid growth of clinical nuclear medicine poses a formidable challenge to the physician seeking a high level of competence in all areas of nuclear medicine. To help meet this challenge, The Society of Nuclear Medicine prepared the *Nuclear Medicine Review Syllabus* . . . a comprehensive review of the major scientific and clinical advances that have occurred over the last decade.

The Syllabus offers in-depth reviews of 12 topical areas: Radiopharmacology; Instrumentation; Radiation Effects and Radiation Protection; Cardiovascular; Central Nervous System; Endocrinology; Gastroenterology; Genito-Urinary System; Hematology-Oncology; Pulmonary; Radioassay; Skeletal System.

Prepared by more than 50 recognized authorities in the field, this book will prove invaluable to practicing physicians and those preparing for certification.

*Now Into Its
Third Printing!*



NOTE: New in-training price (with proof of status):

\$20.00 per copy
\$30.00 per copy list price

effective September 1, 1983

ORDER NOW!

softcover; 6×9; 630 pp.

\$30.00 list price; \$20.00 for in-training (send letter or proof of status). Add \$2.50 postage and handling for each book ordered. Pre-payment required in US funds drawn on US banks only. Add \$1.50 bank processing fee for US dollars drawn on Canadian banks; \$20.00 on banks outside US and Canada. Make checks payable to: The Society of Nuclear Medicine. Order from: Book Order Department, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016. Prices are subject to change without notice.



New Thyroid Uptake System Gives You An Instant Patient Report Print-Out

featuring a wide range of clinical applications

- Counterbalanced arm for simple positioning
- Built-in multichannel analyzer
- Menu prompting for simplicity of operation
- Automated result computation, decay correction and peak high-lighted energy calibration.
- Well counter for Q.A. swipe tests, shillings test and other applications.

PATIENT NAME	BILL O NEILL	PHYSICIAN	JERRY MACK, M. D., PH. D.
PATIENT I. D.	312-44-5905	TECHNICIAN	PAUL
ISOTOPE DOSE (UCI)	400	I-123 OR I-131	I-123
ACQUISITION TIME (HH:MM:SS)	0:00:10	PROBE DISTANCE (CM)	25
BACKGROUND CPM	606.000	10:01:04	5-JAN-84
CAPSULE CPM	69912.000	10:01:23	5-JAN-84
BACKGROUND CPM	606.000	10:01:04	5-JAN-84
CAPSULE CPM (D)	69884.461	10:01:50	5-JAN-84
PATIENT CPM	14100.000	10:01:51	5-JAN-84
THYROID UPTAKE 1	19.478%		
BACKGROUND CPM	606.000	10:01:04	6-JAN-84*
CAPSULE CPM (D)	19766.197	10:03:28	6-JAN-84
PATIENT CPM	4464.000	10:04:52	6-JAN-84
THYROID UPTAKE 2	20.135%		
BACKGROUND CPM	606.000	10:01:04	6-JAN-84*
CAPSULE CPM (D)	19807.508	10:05:21	6-JAN-84
PATIENT CPM	5760.000	10:05:24	6-JAN-84
THYROID UPTAKE 3	26.842%		

INSTANTANEOUS PRINT-OUT OF PATIENT REPORT.

Shown above is a 58% reduction of an actual report as printed by the ND62T.

Write or phone for product brochure.

ND Medical Products

Cable NUDATA • Telex 28-2416

Nuclear Data Inc. • Golf and Meacham Roads • Schaumburg, Illinois 60196 • Telephone (312) 884-3636
 ND Medical Products • 221 Felch Street • Ann Arbor, Michigan 48103 • Telephone (313) 665-9777

Amsterdam • Atlanta • Boston • Chicago • Denver • Frankfurt • London • Los Angeles • New York • San Francisco • Seattle • Stockholm • Washington, DC

NEW!

NUCLEAR MAGNETIC RESONANCE and Correlative Imaging Modalities

Edited by C. Leon Partain, PhD, MD

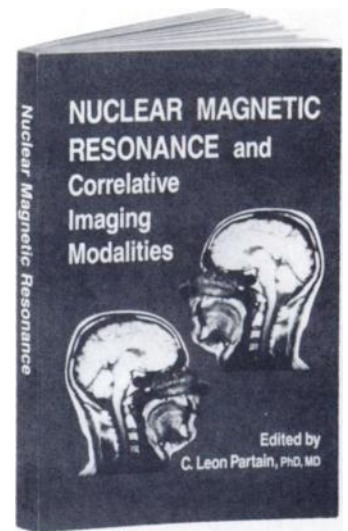
This multi-authored book contains state-of-the-art summaries on ultrasound, x-ray, computed tomography, and digital radiography in addition to NMR. The correlative aspects of each modality with nuclear medicine are investigated. Material devoted to NMR covers topics such as basic principles and instrumentation; considerations of site preparation; safety and quality control; pulse sequences and tissue contrast; and the current clinical results at certain hospital installations. Facts on the economic, legal, and political aspects of NMR are also included.

Anyone in nuclear medicine—from professional to student—interested in new technologies to ensure a quantitative, physical, and biochemical basis for accurate medical diagnosis will profit from reading this comprehensive publication.

Ordering Information:

Add \$2.50 postage and handling for each book ordered. Prepayment required in U.S. funds drawn on U.S. banks only. Check or purchase order must accompany all orders. Make checks payable to: The Society of Nuclear Medicine. *Prices are subject to change without notice.*

**The Society of Nuclear Medicine,
475 Park Avenue South, New York, NY 10016**



6 x 9" softcover; 312 pages

\$36.00 SNM members;

\$47.00 non-members

Publication Date: January 1984

HIGHLIGHTS FROM THE CONTENTS

NMR Spectroscopy

M.R. Willcott and Gary E. Martin

The Basis of Imaging and Chemical Analysis
by NMR

Paul A. Bottomley

Magnet Systems: Resistive, Superconducting
and Permanent

William Oldendorf

Pulse Sequences for NMR Imaging Using
Multidimensional Reconstruction Techniques

*Lawrence E. Crooks, John C. Hoenninger,
and Mitsuaki Arakawa*

Pulse Sequence and Image Contrast

John C. Gore

Nuclear Medicine—NMR Correlation

F. David Rollo

NMR and PET for Metabolic Studies

*R. Edward Coleman, Robert J. Herfkens,
Michael E. Phelps, and Burton P. Drayer*

New, Low-Cost "ICS™" Isotope Computer System



**Provides rapid,
reliable determination
of radioisotope activity
and concentration for
permanent record-keeping**



- **Calculates activity, activity/ml and syringe volume.**
- **Built-in printer provides permanent record of date, time, radioisotope, activity, concentration (activity/ml) and syringe volume.**
- **Performs ^{99m}Mo assay as required by regulatory agencies.**
- **Microcomputer compensates for decay according to half-life of selected radioisotope. Instrument is pre-programmed for 32 different isotopes.**

The low-cost "ICS" Isotope Computer System takes all the headaches out of doing complex calculations of radioisotope activity. And, it reduces the need to handle isotopes to an absolute minimum. A built-in microcomputer stores the measured activity together with the date, time, isotope identification and sample volume. When the activity/ml must be known at a later time, the system automatically calculates it in megabecquerels/ml or mCi/ml. It also determines the exact syringe volume needed to deliver a specified dose.

All you have to do is key in the corresponding isotope number. The ICS then does its calculation, automatically compensating for decay according to the half-life of that particular isotope. To insure maximum flexibility, the ICS is pre-programmed with the half-life of 32 different isotopes. It also can be programmed for 7 different ^{99m}Tc agents at the same time.

**Send for complete details.
Ask for Bulletin 340-B**

Other Low-Cost Radioisotope Calibrators Also Available



"Cal/Rad" Calibrator

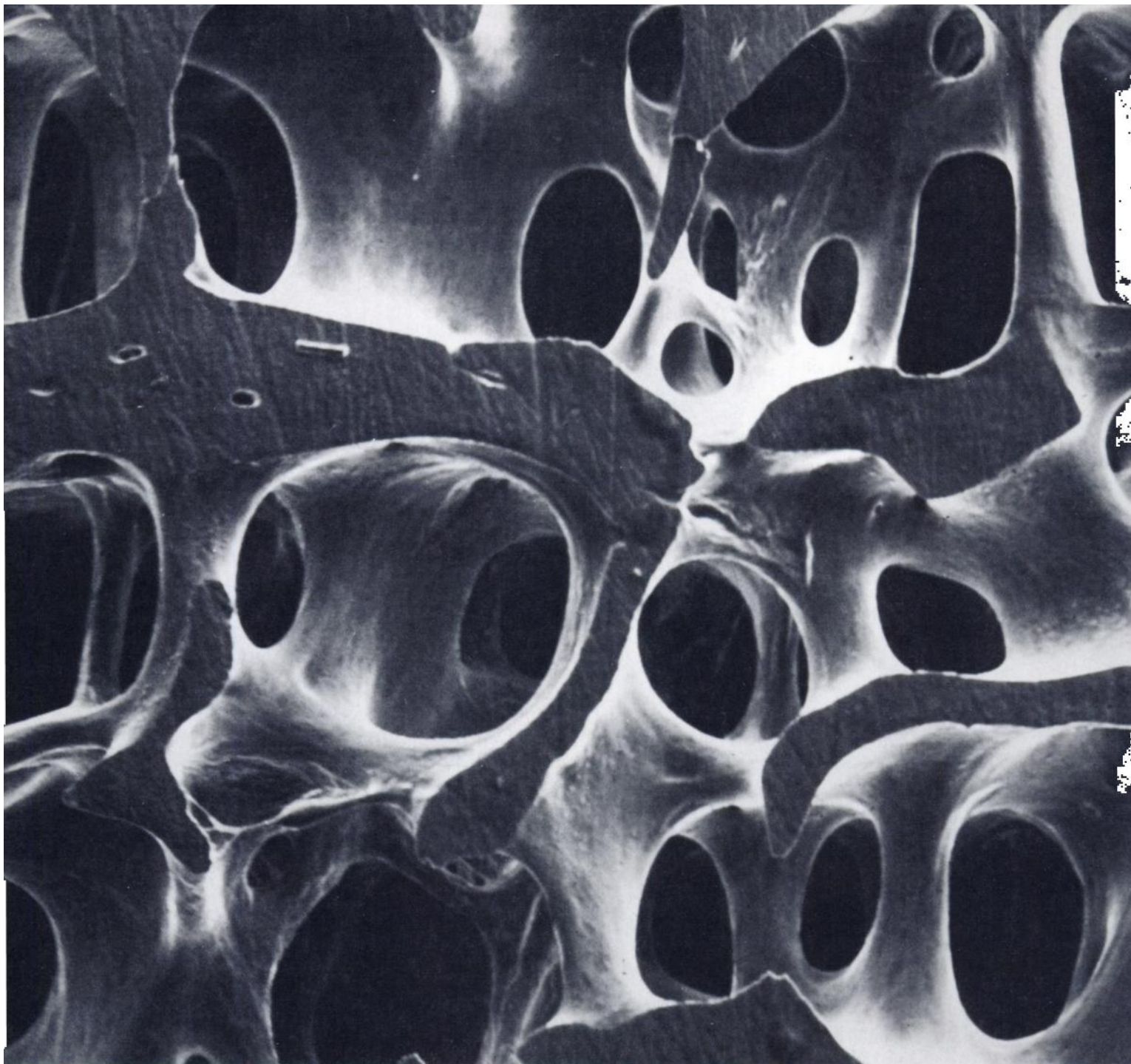
Deluxe Calibrator

VICTOREEN NUCLEAR ASSOCIATES



100 Voice Road
Carle Place, N.Y. 11514
(516) 741-6360

A Sheller-Globe Corporation Subsidiary  TM Victoreen, Inc.

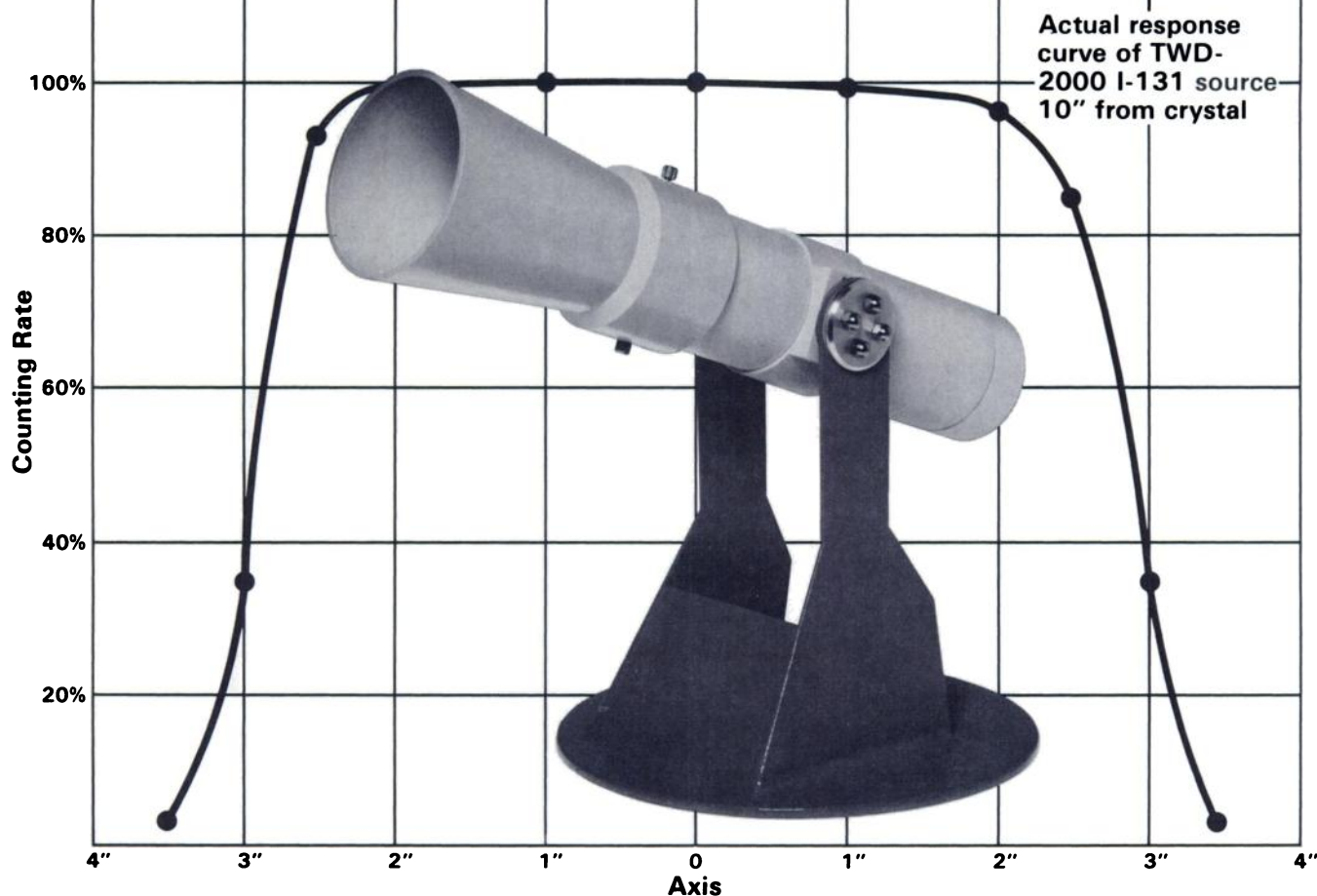


WHERE THE ACTION IS! DUAL-PHOTON ABSORPTIOMETRY OF TRABECULAR BONE

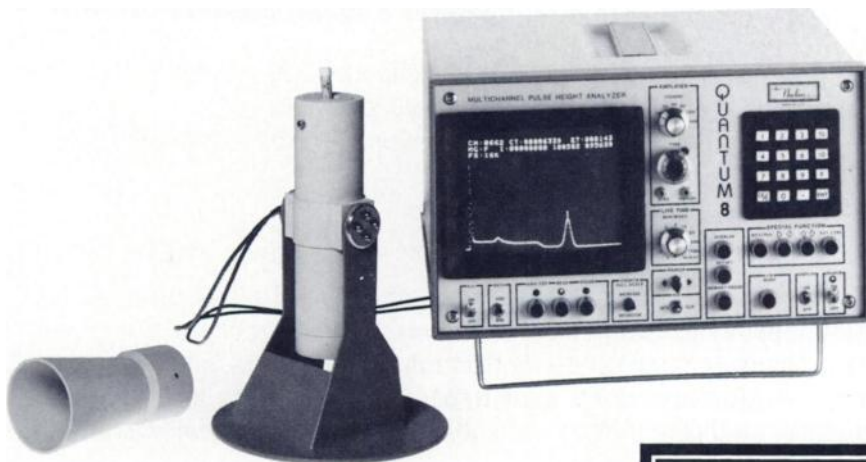
Metabolic bone diseases, such as osteoporosis and renal osteodystrophy, affect trabecular bone preferentially. The new cures for these conditions usually are evident only in trabecular bone. That's why outmoded forearm densitometers missed the boat. Try the automated DP3 SPINE SCANNER - "The Clinical Solution" - unparalleled for diagnostic accuracy and monitoring sensitivity plus super on-site training and service. A complete line of instrumentation you can be sure of from THE LEADER IN BONE MEASUREMENT.

LUNAR RADIATION CORP.
10 N. Charter St., Madison, WI 53715
(608) 258-8545

At Last! A Simple Solution to Thyroid Measurements



The TWD-2000 Universal Detector is more than just a thyroid probe. It converts to a well detector and planchet/swipe detector by simply rotating the crystal.



- Table top unit
- Fully shielded
- Meets IAEA specifications
- Available with single channel or multichannel analyzer spectrometers.



For more information write or call

761 EMORY VALLEY ROAD • OAK RIDGE, TN 37830-2561

TELEPHONE 615-482-4041 • TLX 557-482

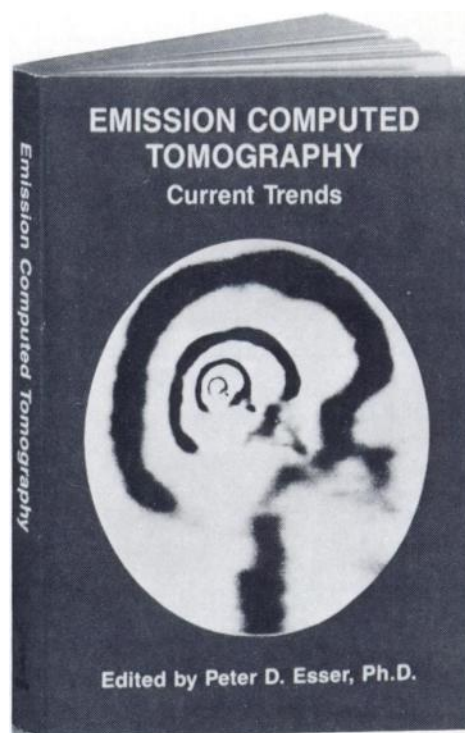
the latest techniques in . . .

EMISSION COMPUTED TOMOGRAPHY Current Trends

This new book summarizes the current state of the art in emission computed tomography, highlighting the recent shift in emphasis from multipinhole and rotating slant-hole collimators to rotating scintillation cameras.

Compiled from the 1983 symposium of the Computer and Instrumentation Councils, this volume contains original research papers and comprehensive review articles. Topics examined include the basic mathematics and physics of ECT, problems of system performance and quality assurance, practical issues associated with clinical applications of SPECT, and various aspects of data processing.

Provides essential, updated information for all professionals—physicians, scientists, technologists, and students—interested in broadening their knowledge about the latest techniques in the use of computers in nuclear medicine.



6 x 9" softcover; 320 pp; 1983
ISBN 0-932004-16-4;
\$20.00 members, \$27.00 non-members

Ordering Information:

Add \$2.50 postage and handling for each book ordered. Pre-payment required in U.S. funds drawn on U.S. banks only. No foreign funds accepted. For payments made in U.S. dollars, but drawn on a foreign bank, add a bank processing fee of \$1.50 for Canadian bank drafts or \$20.00 for all other foreign bank drafts. Check or purchase order must accompany all orders. Make checks payable to: The Society of Nuclear Medicine. *Prices are subject to change without notice.*

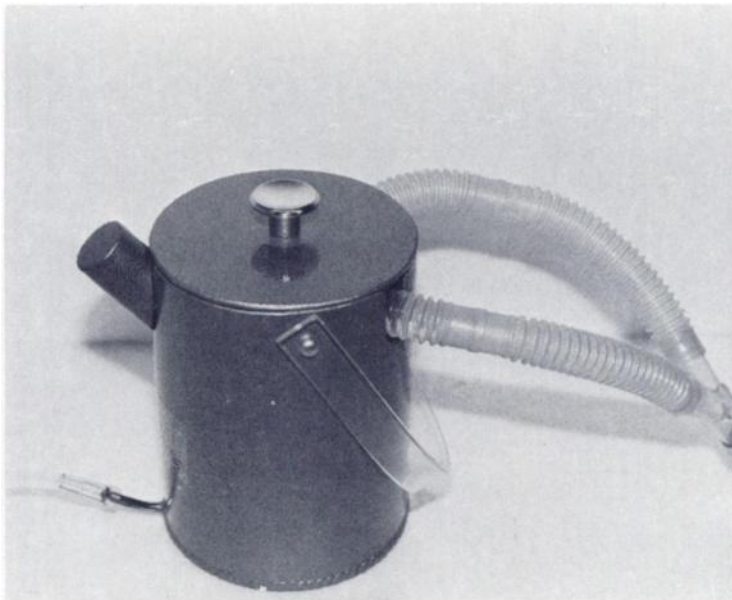
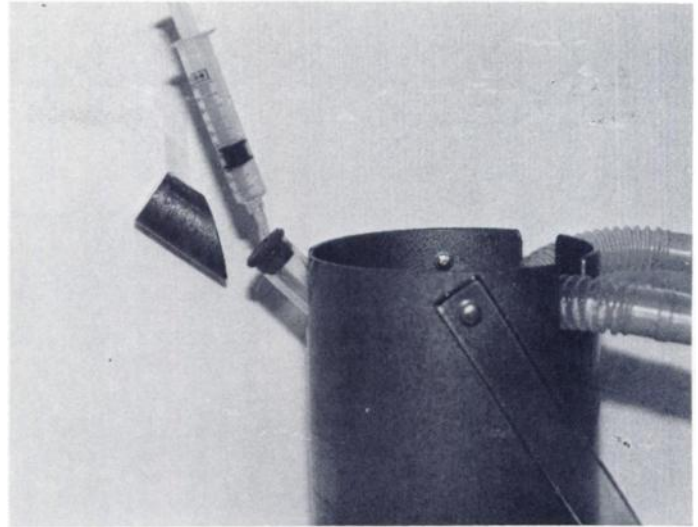
The Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016

ONLY
CADEMA

the

Aerosol Leader

Gives You a CHOICE and REDUCED COSTS!



-
- Unit Tubing Length
Either 12", 24" or 30"
 - Do Ventilation Study either Pre or Post Perfusion.
 - (Pre study use 20 mCi Tc-DTPA; tidal breathing for 2-4 minutes)
 - (Post study use 30mCi Tc-DTPA; tidal breathing for 6-8 minutes - 3 mCi Tc DTPA in lungs)
 - Ask for particle size study.
-

Cadema Medical Products, Inc.

P.O. Box 250, Middletown, New York 10940 • Phone 914-343-7474

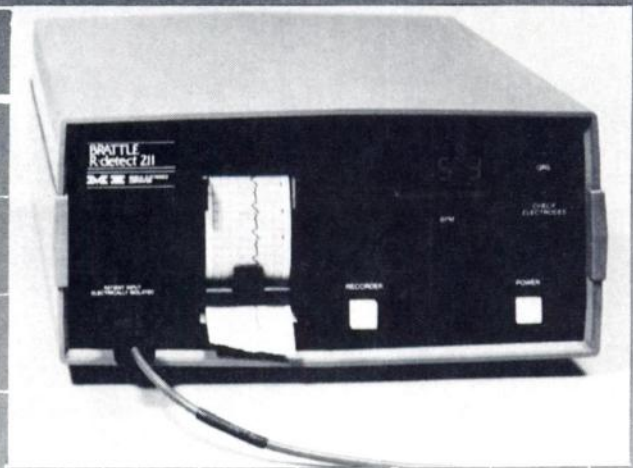
Common sense is really uncommon.

YOU DON'T HAVE TO KEEP YOUR FINGER ON THE TRIGGER!!

The BRATTLE R-DETECT automatically adjusts the threshold level . . . there is *no* manual setting needed.



MODEL 210



MODEL 211

The BRATTLE R-DETECT offers you fully automatic R-wave triggering and is compatible with all nuclear medicine computers. In addition, the model 211 has a strip chart with EKG and event marker indicating the exact location of the R-DETECT signal.

Special Features

- Fully automatic threshold
- Only two electrodes
- High heartrate capability . . . ideal for stress testing
- Selectable PVC rejection
- Digital heartrate readout
- Pacemaker pulse rejection
- Flashing LED indicates QRS
- LED indicates faulty electrode connections
- Analog ECG output
- Compatible with all nuclear medicine computers
- Stripchart with EKG and R-DETECT event marker (model 211 only)



Medical Electronics Corporation
Brattle Instrument Division
335 Newbury Street
Boston, Massachusetts 02115
(617) 536-8300

XENON 127 + XENAMATIC™ = THE SOLUTION

THE PROBLEM:

You would like to do the lung perfusion images first, look at the images and decide if a ventilation study is called for.

THE SOLUTION:

Xenon 127. Its higher energies allow effective elimination of Tc 99m gammas from subsequent ventilation images.

THE PROBLEM:

The short half-life of Xenon 133 makes availability a problem, increases shipping costs, and we lose much of it through decay.

THE SOLUTION:

Xenon 127. Its 36 day half-life eliminates the inherent problems of short lived Xenon 133.

THE PROBLEM:

Xenon delivery systems currently being offered are not sufficiently shielded for Xenon 127.

THE SOLUTION:

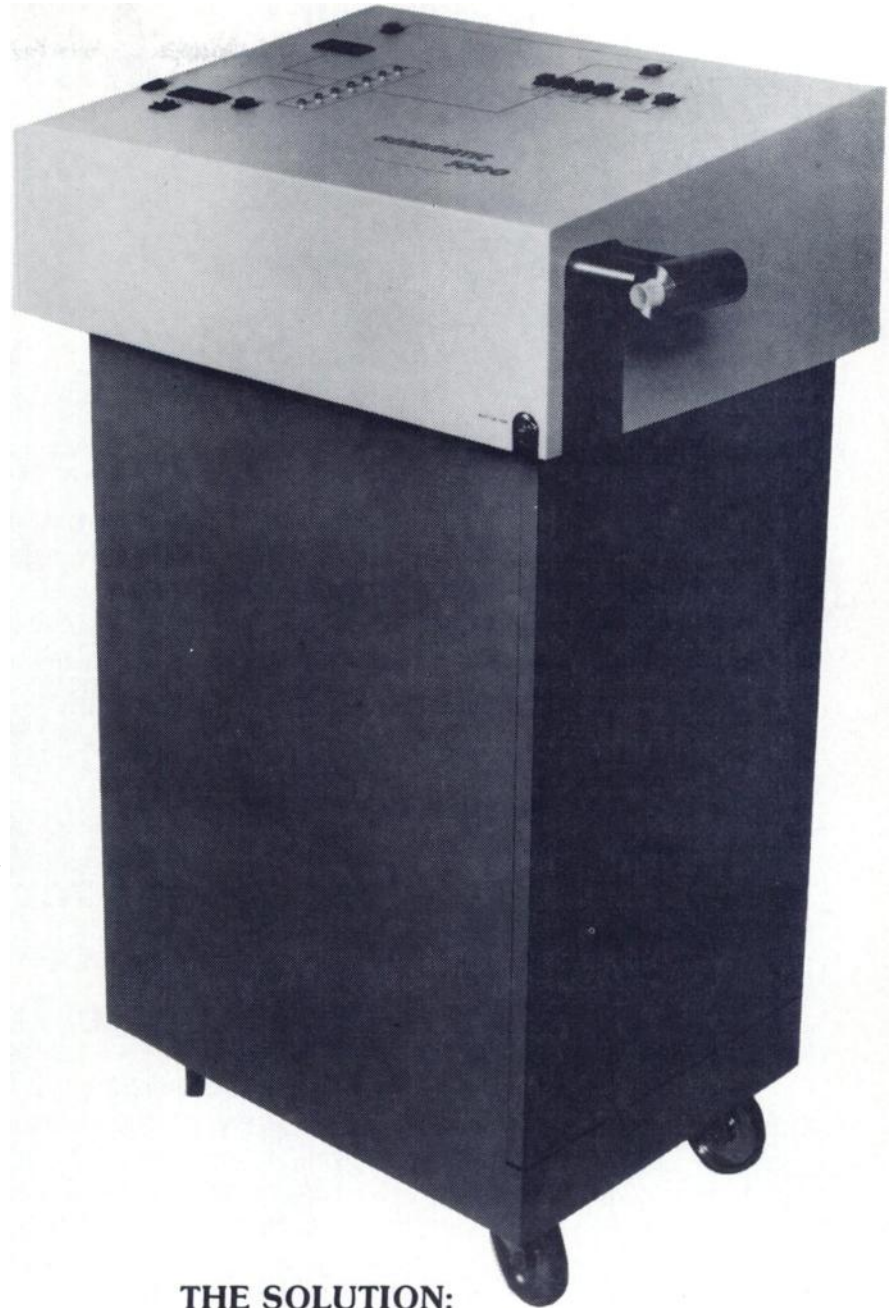
The XENAMATIC Xenon Gas Delivery system with the optional Xenon 127 lead shielding. Additional lead is provided throughout the unit. In strategic locations we provide up to 1/2 inch of lead. Our goal: to achieve a radiation level of less than 2 mr/hr at the surface under normal use conditions.

THE PROBLEM:

Xenon Traps are really delay systems. If it delays the Xenon long enough for it to decay, then it approaches a trap in function. With Xenon 127, activated charcoal traps either must be significantly larger than previously available traps or they must be refrigerated.

THE SOLUTION:

The XENAMATIC. Our Xenon Trap Cartridge Pack offers 20 feet of continuous activated charcoal pathway (3" in diameter) via nine individual tubes connected in series. Additionally, the individual tubes are specially constructed to inhibit the normal redistribution of "trapped" Xenon which occurs even when the trap is not being used.



THE XENAMATIC™ IS THE ONLY ANSWER!

For more information, call or write today:

DIVERSIFIED DIAGNOSTIC PRODUCTS, INC.

1007 Brittmoore #15

Houston, Texas 77041

713-466-9728

Educate your patients with . . .

2 New Patient Information Pamphlets

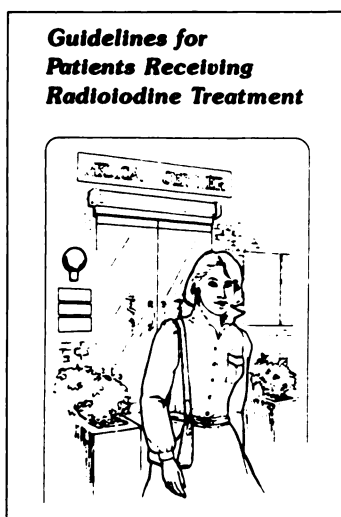
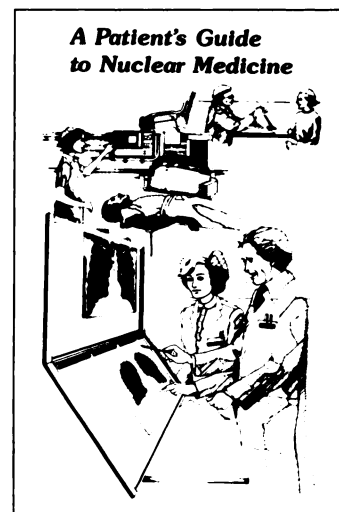
A Patient's Guide to Nuclear Medicine

Well illustrated, this 16-page pamphlet explains what nuclear medicine is, how the procedures are performed, and how they can help in the early detection of disease.

Divided into 3 sections, the guide opens with a general overview of nuclear medicine. A question-and-answer section follows, addressing such topics as safety, the benefits of nuclear medicine procedures, pre- and post-instructions, and testing of pregnant women and children. The third section explains some of the more commonly performed procedures such as bone, liver, lung, heart, and thyroid uptake scans.

16 pp; 5½ x 8½; in 2 colors;

20¢ per pamphlet; minimum order: 100 copies



Guidelines for Patients Receiving Radioiodine Treatment

Prepared in collaboration with the U.S. Nuclear Regulatory Commission, this 8-page pamphlet answers patients' questions about home care after receiving radioiodine treatment for thyroid conditions.

Easy-to-read language outlines important precautions patients can follow to help reduce radiation exposure to others. It also contains a checklist that physicians can review with their patients to determine which guidelines are appropriate for them and how they should be followed.

8 pp; 5½ x 8½; in 2 colors;

30¢ per pamphlet; minimum order: 25 copies

Healthcare professionals in private practice, hospitals, and clinics will find that these pamphlets provide a brief, attractive, and inexpensive way to educate patients and their families about the importance of proper health care.

ORDERING INFORMATION

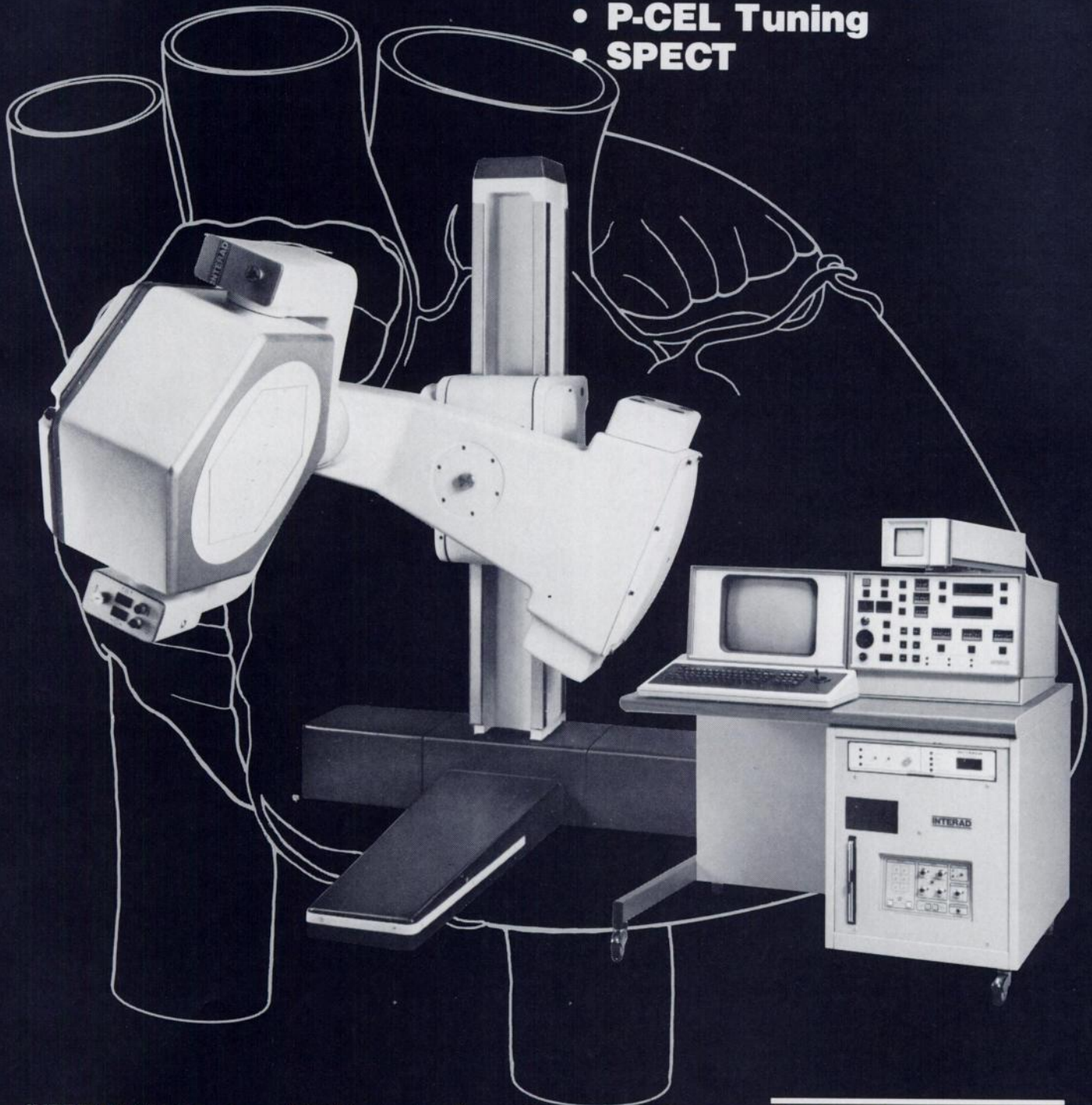
Single copies are available for review at \$1.50 each. All prices include postage and handling. Prepayment required in U.S. funds drawn on U.S. banks only. Make checks payable to: The Society of Nuclear Medicine. Prices are in U.S. dollars and subject to change without notice.

THE SOCIETY OF NUCLEAR MEDICINE
Book Order Department, 475 Park Avenue South, New York, NY 10016

HEART

The HEART of a Nuclear Medicine system is the detector. While others rest on the past, we have been investing in your future. Inquire about the INTERAD 520.

- **1mm. Resolution***
- **16.5" x 19" UFOV**
- **P-CEL Tuning**
- **SPECT**



INTERAD Systems Inc., 1100 Remington Road, Schaumburg, IL 60195
(312) 885-1100 • (800) 323-6835 • Telex 701459

INTERAD

*Ref: Anger, H.O. - Testing the Performance of Scintillation Cameras, LBL-2027, May 1973

The Latest From SNM...

Chromatography of Technetium-99m Radiopharmaceuticals

—A Practical Guide

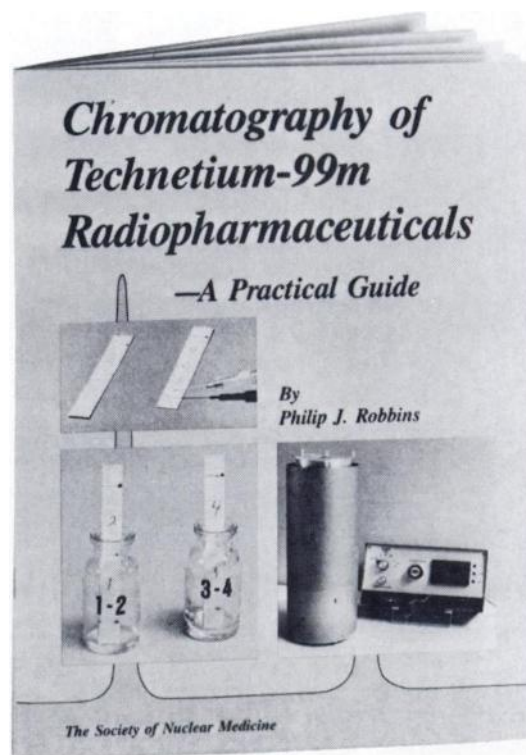
By Philip J. Robbins

To provide up-to-date information about the most accurate procedures for ensuring quality control of radiopharmaceuticals, The Society of Nuclear Medicine presents *Chromatography of Technetium-99m Radiopharmaceuticals—A Practical Guide*.

This new manual offers readers a collection of miniaturized chromatographic methods for the rapid and precise determination of the radiochemical purity of commonly used Tc-99m radiopharmaceuticals.

Topics covered include the nature and source of impurities, principles and classic techniques of chromatography, methods for counting miniature chromatographic strips, and pitfalls of miniature methods and how to avoid them. Also contained herein is a listing of each radiopharmaceutical with the USP criteria for radiochemical purity, typical scans of impure products, and standards and inter-laboratory comparisons for miniaturized systems.

Prepared to aid nuclear medicine personnel in implementing voluntary quality-assurance programs, the material may also be used as a training resource for individuals preparing for professional licensure and certification.



8½ × 11" softcover, 48 pages

\$12.00 SNM members;

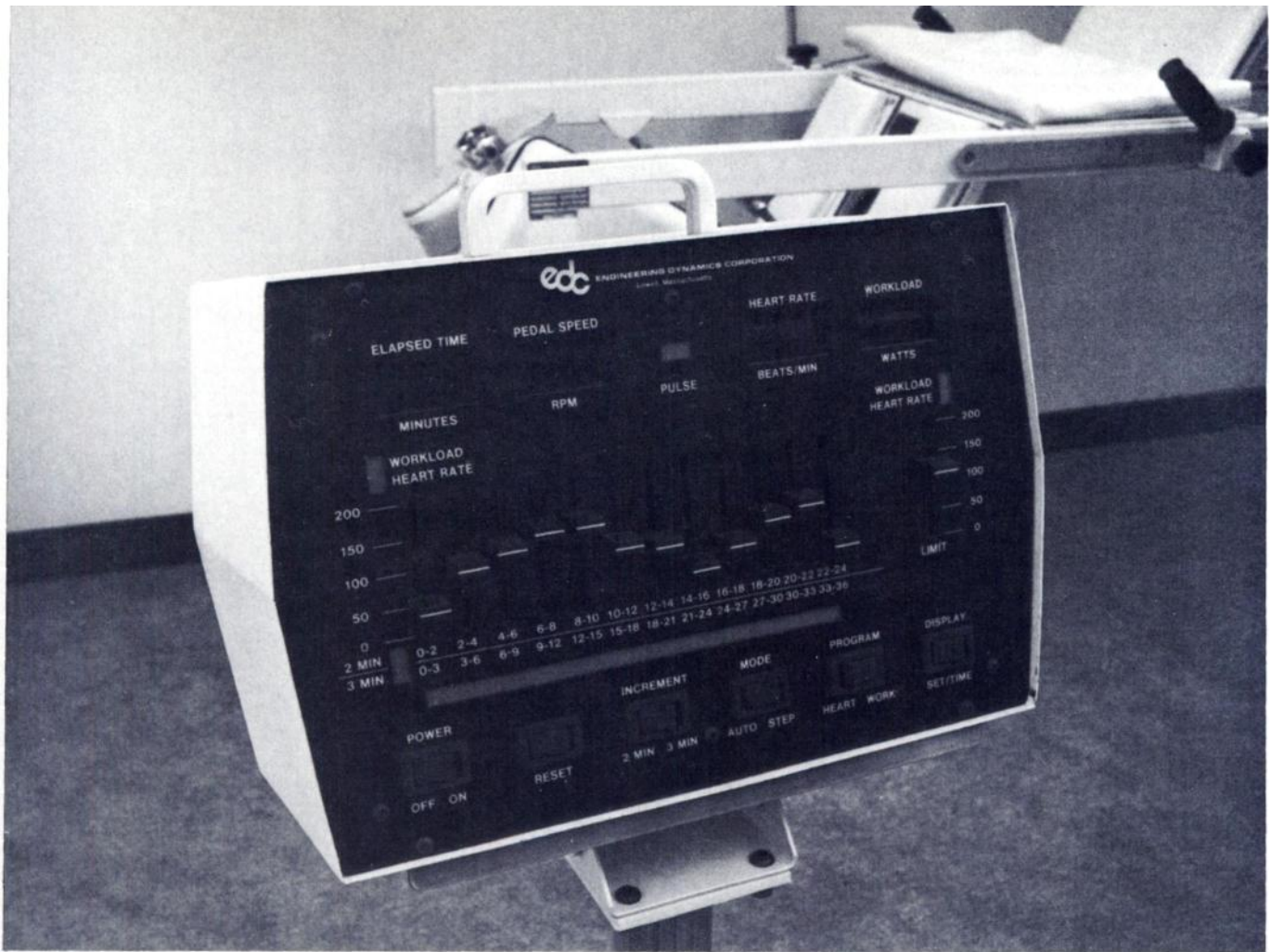
\$16.00 non-members

Publication Date: January 1984

Ordering Information:

Add \$2.50 postage and handling for each book ordered. Prepayment required in U.S. funds drawn on U.S. banks only. Check or purchase order must accompany all orders. Make checks payable to: The Society of Nuclear Medicine. *Prices are subject to change without notice.*

The Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016



The Ultimate Cardiac Stress System.

Designed to put more muscle into your Cardiac Testing.

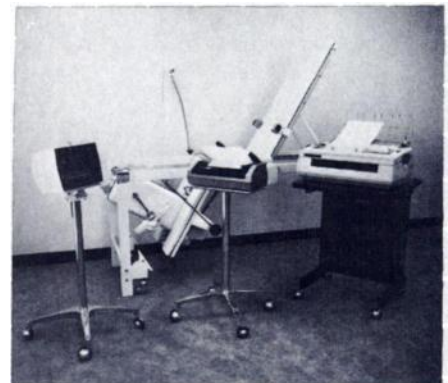
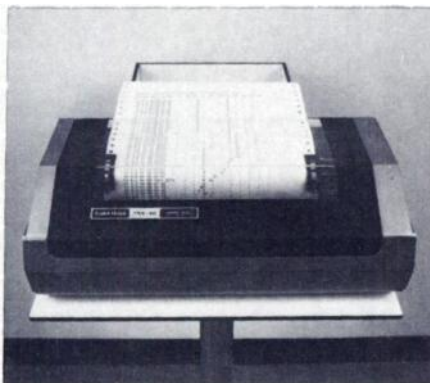
Introducing the most advanced cardiac stress system — the EDC Model 8450. Now you can program any protocol in seconds — either workload or heart rate — right at the front panel by a mere touch of the programmer.

Our powerful microprocessor insures the highest accuracy of any stress system — and as an option, you can have a permanent printed record of the entire stress test, with digital readings of elapsed time, workload, and heart rate every six seconds — and with the integrated workload (in KPM) at the end of each program segment.

These three new advances have been added to the already well accepted features of our classic model 8430, with its ability to be used either as a stress testing table or as a general imaging table — its fully adjustable table and ergometer — its clear, error-proof, digital readouts — its sturdy construction — and all the other excellent

features that nuclear cardiology has come to expect from EDC.

We think the EDC Model 8450 has everything you will ever want, or need, for Cardiac Stress Testing. Give us a call for further details.



The Simple Solution to Cardiac Simulation...

THE CAPINTEC[®] VANDERBILT CARDIAC PHANTOM PROVIDES A WIDE VARIETY OF CONTROLLED PATIENT CONDITIONS.

When patient conditions are needed, the Vanderbilt Cardiac Phantom is the simple solution to Cardiac Simulation.

The Cardiac Phantom has been designed to evaluate systems used for gated cardiac studies. The Phantom is mechanically simple and easy to use, yet provides an assessment of the three major parameters of gate acquisition: heart rate, ejection fraction, and wall motion. Thus it is ideally suited for quality assurance programs and comparative evaluations of gated acquisition systems.

The Cardiac Phantom design uses rotating ellipsoids to simulate the beating left atrium and ventricle at variable heart beats. A static background, representing the right heart, aorta and general background tissue is situated adjacent to the rotating ellipsoids. By varying the concentration of Tc99m in the ellipsoids, adjusting the rate of rotation (variable pulse rate) and attenuator thickness, a wide variety of controlled patient conditions may be simulated in terms of background level, heart rate (20 to 200 beats per minute), ejection fraction (25%, 50%, 75%) and wall motion (mm displacement from end diastole to end systole). An ECG pulse is generated for each simulated heart beat.



CI CAPINTEC, INC.

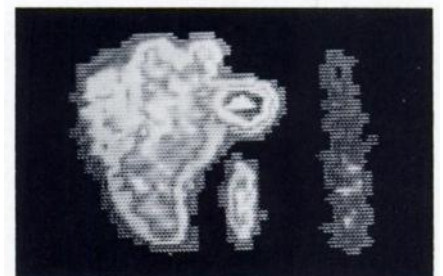
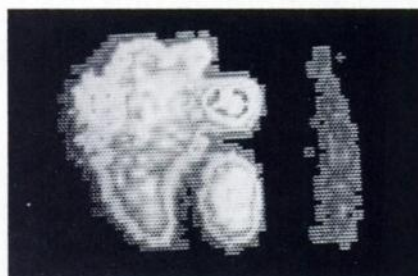
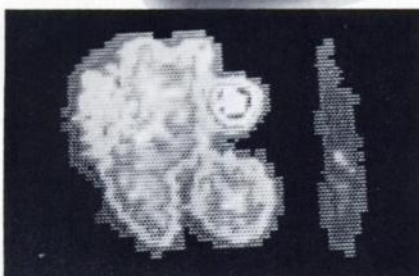
Corporate Headquarters: 6 Arrow Road, Ramsey, New Jersey, U.S.A. 07446

Sales and Service: 540 Alpha Drive, Pittsburgh, Pennsylvania, U.S.A. 15238

Toll Free (800) 227-6832 (CAP-NTEC) or (412) 963-1988,

Telex: 706454(CAPINTEC PGH UD).

Simulated cardiac cycle ejection fraction 0.50



← End systole

End diastole →

A unit dose of product. A full dose of service.

Unit dose radiopharmaceuticals *plus* complete nuclear pharmacy services. It's what professionals like you demand. And, with Syncor, that's exactly what you get.

Safer, Simpler Syncor (formerly Pharmatopes) handles everything—from preparation and measurement to radioactive waste disposal. Your staff's safety is increased because their radiation exposure can be significantly reduced. Your paperwork is reduced, too, because Syncor helps minimize the amount of documentation needed for NRC compliance.

Faster, Better With Syncor, the hours you used to spend in the hot lab can now be devoted to more productive activities. When you need radiopharmaceuticals, a unit dose is just a phone call away, 24 hours a day, with quality you can count on. Professional consultation is also readily available. A licensed nuclear pharmacist is on staff at each of our 32 locations to answer your questions on topics such as dosage, radiopharmaceuticals, quality control, drug interactions and health physics.

Call us today for more information and for the location of the Syncor Medical Services Group center nearest you. Find out how Syncor can mean a full dose of service for your department.



syncor

Syncor International Corporation
12847 Arroyo Street, Sylmar, CA 91342

(213) 365-8151. Outside California 800-423-5620

CURRENT ISSUES IN NUCLEAR MEDICINE

Building Your Practice On The Challenges Of Prospective Payment

Prospective Payment is changing the practice of nuclear medicine.

In many hospitals, the advent of diagnosis related groups (DRGs) is already reducing the number of referrals, changing the mix of studies performed and putting off the purchase of requested instrumentation.

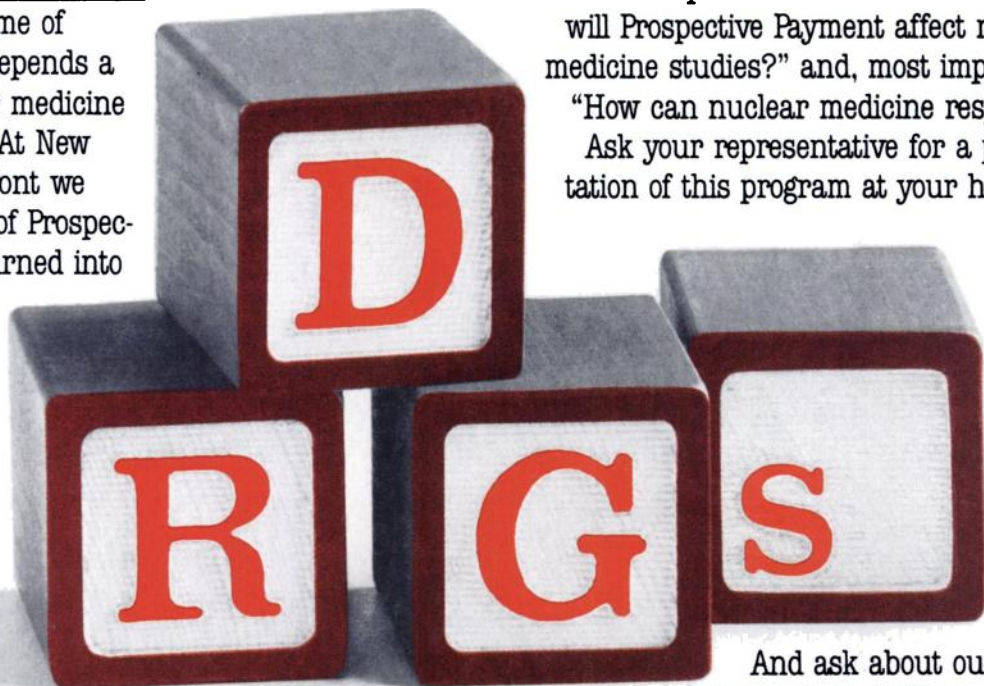
Helping our customers respond

What will be the outcome of these changes? That depends a lot on how the nuclear medicine department responds. At New England Nuclear/Du Pont we believe the challenges of Prospective Payment can be turned into opportunities for nuclear medicine. And we'd like to show you how.

As a service to our customers, NEN/Du Pont has developed a series of programs designed to help nuclear medicine departments, referring physicians and hospital administrators learn about the probable impact of the new reimbursement system—and the ways they can respond to ensure continued excellence in medical care consistent with cost-effective management.

DRG symposia at your hospital

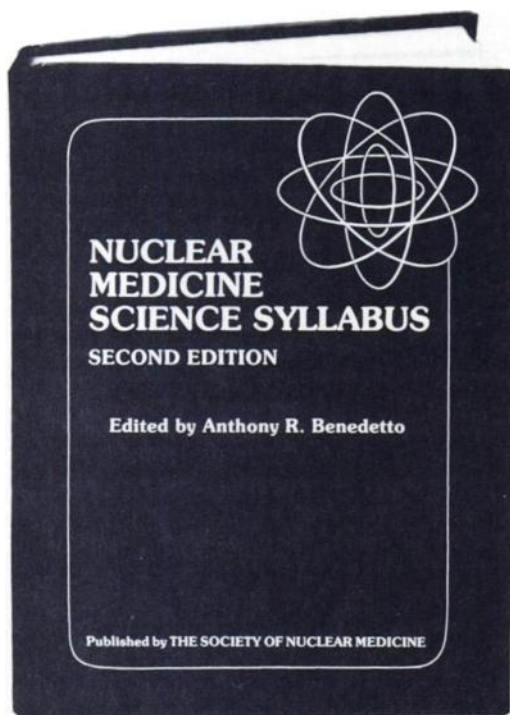
The first program, called "Prospective Payment and Nuclear Medicine: Concept, Impact and Action," will be presented in symposia throughout the country by NEN/Du Pont representatives trained in understanding the contributions nuclear medicine can make to cost-conscious medical practice. Each symposium covers a wide variety of topics—from "What are DRGs?" and "How can hospitals control costs?" to "How will Prospective Payment affect nuclear medicine studies?" and, most important, "How can nuclear medicine respond?" Ask your representative for a presentation of this program at your hospital.



And ask about our other services to help NEN customers build referrals, increase operating and financial efficiency and ensure the quality of their studies. Our goal is Imaging Excellence: enhancing the image of your department while improving the images in your department.

IMAGING + EXCELLENCE

Announcing the Second Edition of **NUCLEAR MEDICINE SCIENCE SYLLABUS**



**8½ x 11" hardcover; 280 pages
ISBN 0-932004-15-6; \$30.50**

This enlarged and updated edition presents a comprehensive, but carefully screened, bibliography of the current literature available in the field of nuclear medicine science.

Arranged in outline form, the book contains references chosen for clarity, depth, and availability. General references provide a

broad overview of each topic and additional references deal with subjects in greater depth or provide historical insight.

The new edition addresses exciting new areas in the field such as emission computed tomography and nuclear magnetic resonance. Expanded sections include chapters dealing with clinical imaging and nonimaging procedures.

This book provides a valuable reference source for radiopharmacists, radiochemists, physicists, health physicists, clinicians, electronic engineers, computer engineers, and laboratory specialists working or studying in the field.

Book Reviews of the First Edition

"The book is strongly recommended to all engaged in training personnel for work in nuclear medicine, whether the course concerned is aimed at medical, scientific, or radiography staff."—*The British Journal of Radiology*

"This book attempts to catalog and categorize in outline form the more pertinent journal articles and book chapters relating to the extensive field of nuclear medicine science. The result is surprisingly detailed, complete, well-organized, and clear."—*Medical Ultrasound*

"The Syllabus appears to be a sound investment for any nuclear medicine department actively involved in the teaching of students."—*American Journal of Roentgenology*

Ordering Information: \$30.50 plus \$2.50 postage and handling for each book ordered. Pre-payment required in U.S. funds drawn on U.S. banks only. No foreign funds accepted. For payments made in U.S. dollars, but drawn on a foreign bank, add a bank processing fee of \$1.50 for Canadian bank drafts or \$20.00 for all other foreign bank drafts. Check or purchase order must accompany all orders. Make checks payable to: The Society of Nuclear Medicine. *Prices are subject to change without notice.*

**Society of Nuclear Medicine
475 Park Avenue South, New York, NY 10016**

OUR CRC-30 RADIOISOTOPE CALIBRATOR. IT'S PART EINSTEIN, PART FREUD, AND PART GUTENBERG.



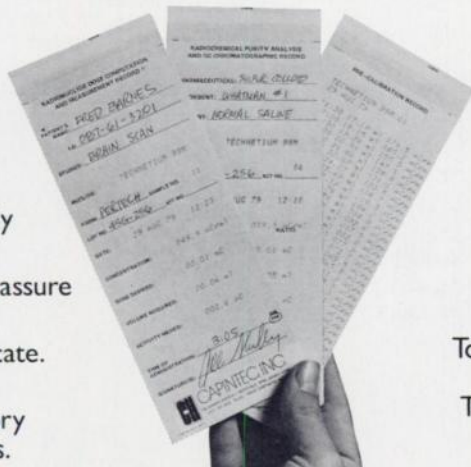
The CRC-30 calibrates and computes, analyzes radiochemical purity, and puts it all in print.

Computes radiopharmaceutical dose to assure that activity is exactly as prescribed.

Analyzes imaging preparations to assure radiochemical purity.

Prints permanent records in triplicate. Gives molybdenum assay printout.

Simplifies compliance with regulatory and hospital accreditation standards.



CAPINTEC, INC. 

Corporate Headquarters:
6 Arrow Road, Ramsey, New Jersey,
U.S.A. 07446

Sales and Service: 540 Alpha Drive,
Pittsburgh, Pennsylvania, U.S.A. 15238
Toll Free (800) 227-6832 (CAP-NTEC)
or (412) 963-1988,
Telex: 706454 (CAPINTEC PGH UD).

THE MEASURE OF EXCELLENCE

SIEMENS

ZLC DIGITRAC Counterbalanced Cameras...

For long-term value and investment protection.

Siemens versatile ZLC counterbalanced cameras represent the best long-term value for highest quality nuclear medicine studies. We've combined our state-of-the-art counterbalanced camera stand with new ZLC DIGITRAC™ detectors and expanded count rate to give your nuclear medicine department a compact, articulate, and efficient imaging system. Value is optimized from our Digital Operator's Terminal to our digital Scintiview standard system.

The versatile ZLC with DIGITRAC counterbalanced cameras accommodate planar imaging, whole body scanning, nuclear cardiology – and to maximize your investment – are easily upgradeable for SPECT. We also offer you a turnkey SPECT system integrating the camera, computer and console. All Siemens systems are supported by comprehensive service programs backed by one of the industry's largest technical service organizations.

For additional information, contact your local Siemens representative or: **Siemens Medical Systems, Inc.**, 186 Wood Avenue South, Iselin, N.J. 08830 (201) 321-4500.

In Canada, contact **Siemens Electric Ltd.**, Nuclear Medicine Division, 1180 Courtney Park Drive, Mississauga, Ont., L5T 1P2, (414) 673-1995.



Siemens... an investment in diagnostic confidence.

PLACEMENT

POSITIONS OPEN

ASSISTANT CHIEF NUCLEAR MEDICINE SERVICE. ABNM certified or eligible physician. Expertise in all imaging procedures desirable. Affiliation with Wright State University School of Medicine. Will afford teaching responsibility and academic appointment. Excellent salary and fringe benefits. Send inquiries including curriculum vitae to: Chief Personnel Service (05), VA Medical Center, 4100 West Third Street, Dayton, OH 45428; (513)268-6511, ext. 208. Equal opportunity employer.

NUCLEAR MEDICINE/PATHOLOGIST. Position available in private practice group located in 700-bed full service community hospital with responsibilities in both specialties. Board certification in both specialties is preferred, board eligibility is required. Candidates must have current skills in both specialties and area of special interest in nuclear medicine is desirable. Send CV to Menard Ihnen, MD, University Hospital, 1350 Walton Way (10), Augusta, GA 30910.

NUCLEAR MEDICINE PHYSICIAN. Experienced Nuclear Medicine Physician in expanding progressive private in vivo and in vitro NM outpatient laboratory. Applicant should be board certified by ABNM or board eligible in Nuclear Medicine with preferably two years internal medicine residency training. Medical school association or affiliation possible if desired. Please send resume to: Box 401, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE PHYSICIAN. Staff position available in the Division of Nuclear Medicine of the New York Hospital-Cornell Medical Center. The 1200-bed tertiary care hospital is the primary teaching facility of Cornell University Medical College. Thirty to 45 procedures a day of all types are performed. Staff includes four full-time physicians, two physicists, two nuclear medicine residents, in addition to rotating residents and support staff of 25. A new 25,000 sq. ft. facility is under construction and will be available within the next year. Opportunities for research and appropriate academic title are available. Competitive salary and benefits. Send resume to or call: Dr. David V. Becker, 525 East 58th St., New York, NY 10021; (212)472-5581. Equal Opportunity Employer.

NUCLEAR MEDICINE RESIDENT position in AMA accredited program available in July 1984. Clinical experience obtained in university complex with wide variety of imaging equipment and studies available (including RIA lab). Residency is part of Imaging Program including CT and Ultrasound, SPECT, nuclear cardiology, computer applications, and research emphasized. Apply to Charles M. Boyd, MD, Chief, Imaging Section, University of Arkansas for Medical Sciences, 4301 W. Markham, Little Rock, AR 72205.

NUCLEAR MEDICINE TECHNOLOGIST. Fairbanks Memorial Hospital, an expanding non-profit 150-bed primary care facility located in interior Alaska, is seeking a Nuclear Medicine Technologist with ultrasound experience. Excellent benefits and salary. Ideal for person interested in outdoor activities. Submit resume to: Hugh R. Leonardo, Department of Radiology, Fairbanks Memorial Hospital, Fairbanks,

AK 99701; or call (907)452-8181, ext. 436. Equal Opportunity Employer.

NUCLEAR MEDICINE TECHNOLOGIST. Position now available for an experienced Nuclear Medicine Technologist certified by SNM or registered technologist in a private progressive outpatient nuclear medicine laboratory in a large city in a large medical center in the Sun Belt. Knowledge of radioimmunoassay, imaging, computer, and nuclear cardiology in addition to supervisory, administrative, and teaching experience required. Please send resume to: Box 400, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE TECHNOLOGIST (Registered). Position in progressive, private outpatient clinic for experienced Technologist. Position will involve both outpatient clinic and mobile imaging. Excellent opportunity for experienced, self-motivated person. Excellent benefits and salary. Salary growth dependent upon productivity. Please send resume to: Box 403, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE TECHNOLOGIST. Staff technologist positions available. Registered or registry eligible required. Cardiology and computer experience helpful. No in vitro procedures. Excellent salary and benefits. Submit resume to: Personnel, Broward General Medical Center, 1600 S. Andrews Ave., Ft. Lauderdale, FL 33316. An Equal Opportunity Employer.

RADIOLOGIST wanted to join a 7-man private practice group in a 500-bed progressive hospital in suburban New Orleans. Prefer applicant board certified in radiology and certified or eligible in nuclear medicine. Nuclear Medicine Section is well-equipped with emphasis on nuclear cardiology. Please send resume to: A. R. Sandrock, MD, Dept. of Radiology, East Jefferson General Hospital, 4200 Houma Blvd., Metairie, LA 70011.

POSITION WANTED

NUCLEAR MEDICINE PHYSICIAN. ABR cert., ABNM eligible. 2 yr. nuc. med. completed and will finish research fellowship 1984. Desires position in Northeast for Sept. '84. Send inquiries to: Box 404, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

Board certified **NUCLEAR MEDICINE PHYSICIAN** with 18 years experience in nuclear medicine, nuclear cardiology and internal medicine seeking to relocate in Southeast or South. All possibilities considered. Looking to join hospital, group, or clinic for full-time practice of nuclear medicine and/or internal medicine. Reply Box 402, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR PHYSICIAN, ABNM certified, experienced in all areas of nuclear medicine, with extensive nuclear cardiology and computer experience, desires a clinical position, preferably in southern Calif. Contact: Kenneth D. Johnson, MD, 2201 Ohio Ave., Long Beach, CA 90806.

NUCLEAR MEDICINE TECHNOLOGIST. Will graduate with B.S. in May '84. Training includes nuclear cardiology and RIA. Willing to relocate. Send replies to: P.O. Box 3156, Palmer, PA 18043.

FOR SALE

RAYTHEON CAMERAY II GAMMA CAMERA SYSTEM. Includes autocomp and two (2) collimators: (1) high resolution-low energy; (2) diverging collimator. Head requires tuning. Please contact: Material Management Dept., LaGuardia Hospital, New York, NY; (212)830-4130.

RESIDENCY and FELLOWSHIP PROGRAM BAYLOR COLLEGE OF MEDICINE NUCLEAR MEDICINE SECTION

Baylor College of Medicine is now accepting applications for residency and fellowship positions starting July 1984 and July 1985. The residency program includes training in three large nuclear medicine laboratories: St. Luke's Episcopal Hospital-Texas Children's Hospital-Texas Heart Institute joint facilities, Ben Taub General Hospital, and Veterans Administration Medical Center.

Residency training encompasses the full spectrum of nuclear medicine procedures, both in vivo and in vitro, in pediatric and adult inpatients and outpatients. Instruction includes clinical nuclear medicine, radiopharmacy, radioimmunoassay, and basic sciences, as well as experience with computer applications and tomographic imaging.

Fellowships with emphasis on cardiac and pulmonary disease are available in association with the Texas Heart Institute. With mobile capabilities and a large population of critically ill patients (total hospital beds, 1260; intensive care beds, 190) there is ample potential for participation in research projects related to cardiovascular, pulmonary, and critical care medicine.

Requests for further information should be directed to:
John A. Burdine, MD, Chief or
Paul H. Murphy, PhD, Training Coordinator
Nuclear Medicine Section, Department of Radiology
Baylor College of Medicine
Houston, TX 77030

FREE HOSPITAL JOB GUIDE!



TEXAS
Operator #596

FLORIDA
Operator #37

NATIONWIDE
Operator #3

Call Toll Free Anytime
1-800-874-7777

NURSING & HOSPITAL JOB GUIDES provide comprehensive medical opportunity listings for administrative and staff positions in Florida and Texas. In addition to salary programs, benefit packages and detailed information about top medical institutions, the Guides give specifics about various regions within each state, with climate, population, housing, cultural and recreational activities.
(In Florida Call 1-904-373-2200)

Nuclear Medicine Review—1984
August 27th–30th, 1984
Mount Sinai Medical Center
New York, NY

This course will provide an intense review of nuclear medicine including the basic science of radiation physics, instrumentation, radiochemistry and pharmacy, in vitro and radiobioassay, scintigraphic imaging, radionuclide in vivo function tests, and radionuclide therapy. It is a supplement to residency training in nuclear medicine and nuclear radiology and is not designed to substitute for this type of training. The course may serve as a survey of nuclear medicine science for physicians or others seeking an overview of this subject.

The faculty consists of members of the Andre Meyer Department of Physics-Nuclear Medicine and invited guests.

Course Director:

Stanley J. Goldsmith, M.D.

For further information contact:

Ms. Mary Farrell-Batista
(212)650-7888

**Nuclear Medicine
Technologist**

Mary Hitchcock Memorial Hospital, a 411-bed component of the Dartmouth-Hitchcock Medical Center, combines a sophisticated academic referral facility with unusual social, cultural and recreational opportunities.

We are currently seeking a registered Nuclear Medicine Technologist in our progressive department, where the full range of nuclear-cardiology procedures are being performed.

The qualified candidate should have one year's experience and be registered under ARRT or NMTSB. We provide competitive salary and benefits.

**For prompt consideration, please send resume to the Personnel Department,
Mary Hitchcock Memorial Hospital,
2 Maynard Street, Hanover, NH 03756.
(603) 646-5777.**

An equal opportunity employer.



**ASSOCIATE CHIEF
NUCLEAR MEDICINE DEPARTMENT
CLINICAL CENTER
NATIONAL INSTITUTES OF HEALTH**

The Clinical Center of the National Institutes of Health currently has an opening for Associate Chief of its Nuclear Medicine Department.

The Clinical Center is a 541-bed biomedical research facility whose mission includes patient care, research, and education. The clinical departments support research activities of the component Institutes and engage in research and education as appropriate to the mission of the department. The Nuclear Medicine Department has responsibility for the full range of diagnostic and therapeutic procedures in nuclear medicine. Current research activities include positron emission tomography, the development of radiopharmaceuticals, data management in the field of nuclear medicine, and monoclonal antibody research. The department is divided into three sections: Clinical Studies, Imaging Physics, and Radiopharmaceutical Chemistry.

As Associate Chief, the incumbent will be responsible for directing the daily activities of the department to include participating in technical and administrative supervision of professional and nonprofessional staff, conducting investigations of promising new methods, and initiating new procedures and techniques as well as reviewing problem situations which may interfere with the accomplishment of desired objectives. The incumbent will be consulted concerning sophisticated special examinations performed in the department

which involve difficult patient management problems and definitive hazards. The incumbent will also represent the department in special conferences and national meetings, presenting material in the field of nuclear medicine. The incumbent will coordinate the educational programs of the department (i.e., nuclear medicine residency, international fellowships, and technology training).

Candidates for the position should be completely trained in the specialty of nuclear medicine and have an outstanding record in academic medicine and biomedical research. Prior experience in managing a large staff is essential. Prior experience in matters pertinent to the development and management of a cyclotron facility is desirable.

Appointment will be made either in the Federal Civil Service or the U.S. Public Health Service Commissioned Corps. Salary and benefits will be commensurate with qualifications and method of appointment.

Applications will be accepted until May 1, 1984. Please address inquiries to:

**Ms. Nancy Saltzman, Clinical Center Personnel Office
Bldg. 10, Room 7C306, National Institutes of Health
9000 Rockville Pike, Bethesda, MD 20205 (301) 496-6924**

U.S. Citizenship Required

NIH is an Equal Employment Opportunity Employer

a world class career

Saudi Arabia

The King Fahad Hospital, Saudi Arabian National Guard, in Riyadh, Saudi Arabia, will soon be operating at its full 500-bed capacity. It needs the skills, the time, the expertise of:

NUCLEAR MEDICINE TECHNOLOGISTS - requires completion of a formal radiology technology course with additional training in Nuclear Medicine. Minimum of 2 years' experience as a Nuclear Medical Technologist or a B.S. degree in Nuclear Medicine and 1 year post-graduate experience.

You must be eligible to travel on a U.S./Canadian passport and be willing to accept a two-year single-status contract. To find out more about a world class career with the very best in benefits and salary, send your resume or call the office nearest you:

Head Office, Sue Lambert, JONATHAN WALSH & ASSOCIATES, LTD., Dept. 1209, Two Robert Speck Parkway, Suite 1410, Mississauga, Ontario, L4Z 1H8, Canada. (416) 275-8336.

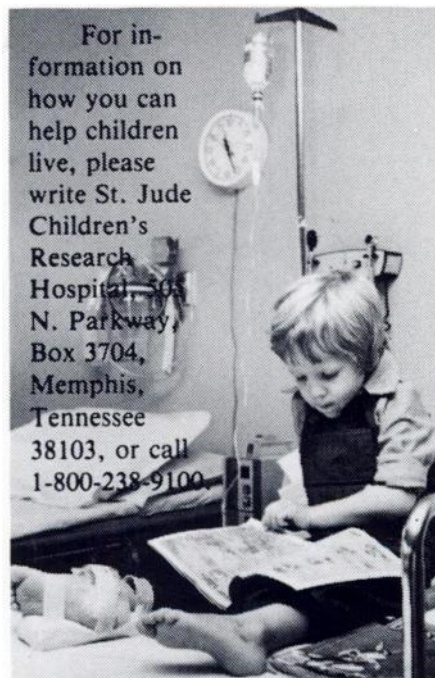
Western Region Office, Barbara Nixon, JONATHAN WALSH & ASSOCIATES, LTD., Dept. 1209, 1055 West Georgia Street, Suite 2002, Vancouver, British Columbia, V6E 3B3, Canada. (604) 684-2339.

An Equal Opportunity Employer

عمل المرشحين ذوي الكفاءة ممن يجيدون اللغتين العربية والانجليزية، التقدم للموظفة.



Cancer isn't just a grown-up disease.



For information on how you can help children live, please write St. Jude Children's Research Hospital, 500 N. Parkway, Box 3704, Memphis, Tennessee 38103, or call 1-800-238-9100.



Danny Thomas, Founder

ST. JUDE CHILDREN'S RESEARCH HOSPITAL

MIRD (Medical Internal Radiation Dose) PAMPHLETS AVAILABLE

1 (Revised) A revised schema for calculating the absorbed dose from biologically distributed radionuclides (\$5.25)

5 (Revised) Estimates of specific absorbed fractions for photon sources uniformly distributed in various organs of a heterogeneous phantom (\$7.75)

10 Radionuclide decay schemes and nuclear parameters for use in radiation-dose estimation (\$8.00)

11 'S' absorbed dose-per-unit cumulated activity for selected radionuclides and organs (\$11.00)

12 Kinetic models for absorbed dose calculations (\$5.25)

SUPPLEMENTS

3 Includes the *original* pamphlet #5: "Estimates of absorbed fractions for monoenergetic photon sources uniformly distributed in various organs of a heterogeneous phantom." (\$1.50)

6 Includes pamphlet #9: "Radiation dose to humans from ⁷⁵Se-L-Selenomethionine." (\$3.00)

SPECIAL OFFER

All available MIRD pamphlets and supplements for only \$25.00 plus \$4.00 shipping and handling.

Mail to: Book Order Dept., Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016. Make checks payable to: Society of Nuclear Medicine, Inc. U.S. funds only, please. Prices are subject to change without notice.

Pamphlets	Supplements	Special Offer	SHIPPING and HANDLING CHARGES	
___ 1 (\$5.25)	___ 3(\$1.50)	___ \$25.00 plus	1 item \$1.00	10-19 items \$6.00
___ 5 (\$7.75)	___ 6(\$3.00)	\$4.00 for shipping	2 items 2.00	20-29 items 8.00
___ 10 (\$8.00)		and handling. (Does	3 items 3.00	30-39 items 10.00
___ 11(\$11.00)		not include binder)	4-9 items 4.00	
___ 12 (\$5.25)				

Total \$ _____

Shipping and Handling Charges \$ _____

Total Enclosed \$ _____

Send to: Name _____

Address _____

Zip _____

All orders must be prepaid or accompanied by a purchase order.

Novo Cerebrograph Systems.



The well - acknowledged, versatile method for routine quantification of brain pathophysiology.

Measurements of Regional Cerebral Blood Flow (rCBF) by 2-D noninvasive ^{133}Xe clearance techniques provide a reliable method for the functional assessment of brain pathophysiology. The method is being increasingly used within the fields of neurology, neurosurgery, intensive care, psychiatry, anaesthesiology, pharmacology and neuropsychology.

Multidisciplinary Clinical Application

An evident advantage of the ^{133}Xe inhalation technique is the possibility of measuring noninvasively a physiological parameter of brain function before, during and after therapeutic intervention. The noninvasive tracer administration - combined with the low radiation dosage and easy procedure - makes this low cost technique ideal for serial follow-up CBF determinations.

Neurosurgery

- evaluation of surgically amenable functional pathology.
- assessment of haemodynamic status and recovery before, during and after endarterectomy or bypass surgery.
- monitoring time course and extent of vasospasm for optimization of timing of aneurysm surgery.

Neurology

- monitoring vasodilator responsiveness, autoregulation and cerebrovascular functional capacity in patients with CVD.

Intensive Care

- evaluate functional status in head - injured, comatose or anaesthetized patients and monitor effects of therapeutic regimens.

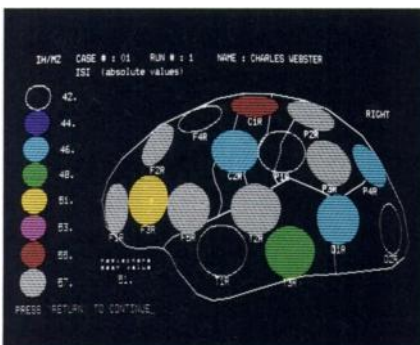
Psychiatry

- differential diagnosis of dementia and depression, optimization of patient management.



The Novo Cerebrograph® 32c

A sophisticated system for rCBF measurements with a choice of three ^{133}Xe administrative techniques: Inhalation, IV or IA injection.



The Novo Cerebrograph® 10a

A compact, fully mobile, 10 detector, bedside monitor, using the intravenous and intra-arterial ^{133}Xe injection technique.

For further information please contact:



NOVO
DIAGNOSTIC SYSTEMS
Novo Alle, 2880 Bagsvaerd, Denmark, 45-2-982333

Germany: Novo Industri GmbH, Mainz,
tph. 49-6131-3-1001/2/3

Belgium: Novo Industri S.A., Brussels,
tph. 32-2-465-2400

USA: Novo Diagnostic Systems, Wilton,
tph. 1-203-846-8420

UK: Vertec Scientific, Slough,
tph. 44-6286-4808/4860

Holland: Nucletron Trading B.V., Leersum,
tph. 31-3434-5-4224

Japan: Nissei Sangyo Co. Ltd., Tokyo,
tph. 3-504-7111

CLEARLY, THE BEST

Lead glass acrylic syringe shield



See through viewing. (360°)

Maximum hand protection

Color coded for ▶ Glucoscan
▶ Osteolite
▶ Pulmolite
▶ Pyrolite

4.2 density

Lightweight (3 ounces)

Accommodates most 3cc
disposable syringes

In addition, we have a complete
line of Syringe Shields, lead
lined Containers and Holders.

Please call or write for our
Free Catalog.

Atomic Products Corporation

ATOMLAB DIVISION • ESTABLISHED 1949
P.O. BOX 1157, CENTER MORICHES, NEW YORK 11934 USA
(516) 878-1074
TWX #510-228-0449

MPI DMSA KIDNEY REAGENT

(Technetium Tc 99m Succimer Kit)

- Localizes in the renal cortex
- Highest target to background ratio of Tc 99m agents^{1,2}
- Low excretion rate^{2,3}
- DMSA is the renal cortical imaging agent of choice. Even in patients with obstructed or dilated collecting systems, an accurate comparison of relative cortical uptake without interfering activity in the pelvocalyceal structures can be made.^{4,5}



medi+physics
MEDI-PHYSICS, INC., EMERYVILLE, CALIF.
SUBSIDIARY OF HOFFMANN-LA ROCHE INC.

5801 Christie Avenue, P.O. Box 8684, Emeryville, CA 94608
To Order (800) MEDI-123

1. Enlander D. et al: Renal Cortical Imaging in 35 Patients: Superior Quality With 99m Tc-DMSA. *J. Nuc. Med.* 15: 743-749, 1974.
2. Daly M.J. et al: Differential Renal Function Using Technetium-99m Dimercaptosuccinic Acid (DMSA): In Vitro Correlation. *J. Nuc. Med.* 20: 63-66, 1979.
3. Handmaker H. et al: Clinical Experience With 99m Tc-DMSA (Dimercaptosuccinic Acid), a New Renal-Imaging Agent. *J. Nuc. Med.* 16: 28-32, 1975.
4. Taylor A.: Delayed Scanning With DMSA: A Simple Index of Relative Renal Plasma Flow. *Radiology* 136: 449-453, 1980.
5. Handmaker H: Nuclear Renal Imaging in Acute Pyelonephritis. In Freeman L. Blafox MD (eds.): Update on Radionuclide Assessment of the Kidney (I). *Semin. Nuclear Medicine* 12: 246-253, 1982.

MPI DMSA Kidney Reagent (Technetium Tc 99m Succimer Kit)

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

DESCRIPTION: Each reagent ampul of the kit contains 2.2 ml of a sterile, pyrogen free aqueous solution containing 1.2 mg of succimer and 0.42 mg of anhydrous stannous chloride in aqueous solution under a nitrogen gas atmosphere. When sterile, oxidant-free, pyrogen-free sodium pertechnetate Tc 99m in isotonic saline is combined with the reagent, following the instructions provided with the kit, a complex is formed. Administration is by intravenous injection for diagnostic use.

The succimer component of MPI Kidney Reagent consists of more than 90% meso isomer and less than 10% dl isomer.

INDICATIONS AND USAGE: MPI DMSA Kidney Reagent is to be used as an aid in the scintigraphic evaluation of renal parenchymal disorders.

CONTRAINDICATIONS: None known.

WARNINGS: None.

PRECAUTIONS: General

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

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: No long-term animal studies have been performed to evaluate carcinogenesis potential or whether Technetium Tc 99m Succimer affects fertility in males or females.

PREGNANCY CATEGORY C: Animal reproduction studies have not been conducted with the MPI DMSA Kidney Reagent either with or without Tc 99m.

It is also not known whether Technetium Tc 99m alone or with Succimer can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Technetium Tc 99m should be administered to a pregnant woman only if clearly needed.

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.

NURSING MOTHERS: Technetium Tc 99m is excreted in human milk during lactation, therefore, formula feedings should be substituted for breast-feedings.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

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.

MPI DMSA Kidney Reagent should be formulated within 30 minutes prior to clinical use. The product must be used within 30 minutes after preparation. Any unused portion should be discarded after that time.

Some patients with advanced renal failure may exhibit poor renal intake of Tc 99m DMSA. It has been reported that satisfactory images may be obtained in some of these patients by delaying imaging for up to 24 hours.

ADVERSE REACTIONS: Rare instances of syncope, fever, nausea and maculopapular skin rash have been reported.

HOW SUPPLIED: Each kit package contains the following components:

- (1) Five sealed glass reagent ampuls, each containing 2.2 ml of a sterile, pyrogen-free aqueous solution of 1.2 mg succimer and 0.42 mg anhydrous stannous chloride. The solution is under a nitrogen gas atmosphere.
- (2) Five sterile and pyrogen-free mixing vials (10 ml).
- (3) Five mixing vial labels.
- (4) Five courtesy record labels.
- (5) One package insert.