MPI Indium DTPA In 111
(Pentetate Indium Disodium In 111)
In Cisternography

Cisternography presents the dynamics of CSF flow

When you need to know function—
cisternography is useful in the evaluation of:

- Patients who may need ventricular shunts
- Shunt patency and/or site of blockage
- Patients with symptoms of “normal pressure”
  hydrocephalus
- Patients with symptoms of “communicating”
  hydrocephalus
- CSF rhinorrhea patients
CLINICAL CRITERIA

"An ideal radiopharmaceutical for cisternography would satisfy the following criteria: (I) physiologically governed by CSF flow, (II) adequate half-life for desirable period of study, (III) photons suitable for scanning, (IV) low radiation dose, (V) least probable chemical toxicity, and (VI) controlled pharmaceutical quality. Chelated \(^{111}\)In satisfies all these conditions." \(^{11}\)

**COMPARISON OF TWO RADIOPHARMACEUTICALS USED IN EVALUATION OF CEREBROSPINAL FLUID PATHWAYS**

<table>
<thead>
<tr>
<th></th>
<th>(^{153})Yb DTPA</th>
<th>(^{111})In DTPA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Half-Life</strong></td>
<td>32 days</td>
<td>2.8 days</td>
</tr>
<tr>
<td><strong>Biological Half-Life</strong></td>
<td>12 hours</td>
<td>10 hours</td>
</tr>
<tr>
<td><strong>Useful Photons (energy MeV)</strong></td>
<td>0.177, 0.198</td>
<td>0.173, 0.247</td>
</tr>
<tr>
<td><strong>Useful Photons (% disintegration)</strong></td>
<td>0.57</td>
<td>1.85</td>
</tr>
<tr>
<td><strong>Whole Body Dose (rads)</strong></td>
<td>0.069/500 (\mu)Ci</td>
<td>0.039/500 (\mu)Ci</td>
</tr>
<tr>
<td><strong>Spinal Cord Surface Dose (rads)</strong></td>
<td>8.0/500 (\mu)Ci*</td>
<td>1.9/500 (\mu)Ci*</td>
</tr>
</tbody>
</table>

*Dose to spinal cord and brain surface

2 Preparation, Physiology and Dosimetry of \(^{111}\)In Labeled Radiopharmaceuticals for Cisternography, David Goodwin, M.D., Chung Hun Song, B.S., Roland Fiston, Ph.D. and Philip Main, M.D., Radiology, 109:91-98, July 1973.

FOR COMPLETE PRESCRIBING INFORMATION PLEASE CONSULT PACKAGE INSERT, A SUMMARY OF WHICH Follows:

**MPI Indium DTPA In 111**
(Pentetate Indium Disodium In 111)

DESCRIPTION: MPI Indium DTPA In 111 is a diagnostic drug for intrathecal use. It is available as a sterile, pyrogenic, isotonic, aqueous solution, buffered to pH 7 to 8. At calibration time each milliliter contains 1 millicurie of Pentetate Indium Disodium In 111 (no-carrier-added), 20 to 50 micrograms of pentetic acid, and sodium bicarbonate for pH adjustment. The drug is to be discarded after single use. Radioisotopic purity at calibration time is at least 99.9% with less than 0.1% Indium In 114m and 0.1% Zinc Zn 65. The concentration of each radioisotopic contaminant changes with time.

INDICATIONS AND USAGE: Pentetate Indium Disodium In 111 is recommended for use in radionuclide cisternography.

CONTRAINdications: None known.

WARNINGS: The contents of the vial are radioactive. Adequate shielding of the preparation must be maintained at all times.

Since the drug is excreted by the kidneys, caution should be exercised in patients with severely impaired renal function.

PRECAUTIONS: Pentetate Indium Disodium In 111, 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, and to minimize radiation exposure to the patients consistent with proper patient management.

Do not use after the expiration time and date (7 days after calibration time) stated on the label.

Discard vial after a single use. Do not use if contents are turbid.

Carcinogenesis, Mutagenesis, Impairment of Fertility

No long-term animal studies have been performed to evaluate carcinogenic potential, or whether Pentetate Indium Disodium In 111 affects fertility in males or females.

Pregnancy Category C

Animal reproductive studies have not been conducted with MPI Indium DTPA In 111. It is also not known whether Pentetate Indium Disodium In 111 can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. Pentetate Indium Disodium In 111 should be given to a pregnant woman only if clearly needed.

PRECAUTIONS: 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

It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Pentetate Indium Disodium In 111 is administered to a nursing mother.

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.

ADVERSE REACTIONS: Aseptic meningitis and pyrogenic reactions have been rarely (less than 0.4%) observed following cisternography with Pentetate Indium Disodium In 111.

HOW SUPPLIED: Pentetate Indium Disodium In 111 (no-carrier-added) is supplied in single dose glass vials, each containing 1.5 ml of solution with a concentration of 1 millicurie per ml and a total activity of 1.5 millicurie per vial at calibration time.
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 highlighted energy calibration.
- Well counter for Q.A. swipe tests, shillings test and other applications.

<table>
<thead>
<tr>
<th>PATIENT NAME</th>
<th>BILL O'NEILL</th>
<th>PHYSICIAN</th>
<th>JERRY MACK: M.D., PH.D. PAUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PATIENT I.D.</td>
<td>312-44-5905</td>
<td>TECHNICIAN</td>
<td>PAUL</td>
</tr>
<tr>
<td>ISOPOE DOSE (UCI)</td>
<td>400</td>
<td>1-123 OR 1-131</td>
<td></td>
</tr>
<tr>
<td>ACQUISITION TIME (HH:MM:SS)</td>
<td>01:00:10</td>
<td>5-JAN-84</td>
<td></td>
</tr>
<tr>
<td>PROBE DISTANCE (CM)</td>
<td>1-123</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| BACKGROUND CPM | 606.000 | 10:01:104 | 5-JAN-84 |
| CAPSULE CPM | 69912.000 | 10:01:104 | 5-JAN-84 |
| BACKGROUND CPM | 606.000 | 10:01:104 | 5-JAN-84 |
| CAPSULE CPM (D) | 69884.461 | 10:01:104 | 5-JAN-84 |
| PATIENT CPM | 14100.000 | 10:01:104 | 5-JAN-84 |
| THYROID UPTAKE 1 | 19.478% | 10:01:104 | 5-JAN-84 |
| BACKGROUND CPM | 606.000 | 10:01:104 | 5-JAN-84 |
| CAPSULE CPM (D) | 19766.197 | 10:01:104 | 5-JAN-84 |
| PATIENT CPM | 4444.000 | 10:01:104 | 5-JAN-84 |
| THYROID UPTAKE 2 | 20.135% | 10:01:104 | 5-JAN-84 |
| BACKGROUND CPM | 606.000 | 10:01:104 | 5-JAN-84 |
| CAPSULE CPM (D) | 19807.508 | 10:01:104 | 5-JAN-84 |
| PATIENT CPM | 5760.000 | 10:01:104 | 5-JAN-84 |
| THYROID UPTAKE 3 | 26.842% | 10:01:104 | 5-JAN-84 |

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.
NOW, A TSH WITH AN ED$_{50}$ AT 6,
FOR IMPROVED LOW-END
SENSITIVITY.

**Clinical Assays**
ED$_{50}$ AT 6

**Other Kits**

**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 ED$_{50}$ 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.
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.
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.
NMR has emerged as one of the most exciting and promising new medical imaging modalities of the eighties. To provide updated information on its role in medical imaging and its impact on modern medicine, The Society of Nuclear Medicine has prepared *Nuclear Magnetic Resonance and Correlative Imaging Modalities*. This 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
International Medical Industries introduces micro-infusion sets which minimize loss of meds both on the way to the patient and when sets are changed to comply with infection control protocols.

The 48-00 series Micro-Infusion sets allow drug injection sites to be two feet away from the patient and still restrict the total volume to .28 ml.

And, because the sets are made of super flexible Dow Corning Silastic ® there are no plasticizers to leach into your meds.

Employment of these sets under actual hospital conditions have shown them to be practical, safe and dependable in I.V. pump and syringe pump drug delivery systems.

The 48-00 series Micro-Infusion Sets are available exclusively from

INTERNATIONAL MEDICAL INDUSTRIES
570 Pleasant St.
Watertown, MA 02172
1-800-624-6242

HEPATOLITE™
Technetium Tc 99m Disofenin Kit

INDICATIONS AND USAGE: Technetium Tc 99m Disofenin is indicated as a hepatobiliary imaging agent.

CONTRAINDICATIONS: None known.

WARNINGS: The theoretical possibility of allergic reactions should be considered in patients who receive multiple doses.

PRECAUTIONS: Contents of the vial are intended only for use in the preparation of Technetium Tc 99m Disofenin and are NOT to be administered directly to the patient. Technetium Tc 99m Disofenin as well as other radioactive drugs must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Also care should be taken to minimize radiation exposure to the patients consistent with proper patient management.

Technetium Tc 99m Disofenin should be formulated within six (6) hours prior to clinical use.

Carcinogenesis, Mutagenesis, Impairment of Fertility

No longer term animal studies have been performed to evaluate carcinogenic potential or whether Technetium Tc 99m Disofenin affects fertility in males or females.

Pregnancy Category C

Animal reproductive studies have not been conducted with Technetium Tc 99m Disofenin. It is also not known whether Technetium Tc 99m Disofenin can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Technetium Tc 99m should be given 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 feeding.

Pediatric Use

Safety and effectiveness in children below the age of 18 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.

ADVERSE REACTIONS: No adverse reactions specifically attributable to the use of Technetium Tc 99m Disofenin have been reported.

DOSAGE AND ADMINISTRATION: The suggested dose range for I.V. administration, after reconstitution with oxidant-free sodium pertechnetate Tc 99m injection, to be employed in the average patient (70kg) is:

Non-Lactating Patient

Patients with serum bilirubin level greater than 5mg/dl: 1-5mCi

3-8mCi

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to patient administration. (If blood is drawn into the syringe, any unnecessary delay prior to injection may lead to clot formation in situ). Do not backflush the syringe. Slow injection is recommended. Radiochemical purity should be checked prior to patient administration.

The patient should be in a fasting state. 4 hours is preferable. False positives (non-visualization) may result if the gallbladder has been emptied by ingestion of food.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit.

HOW SUPPLIED: NEN's HEPATOLITE ™ Technetium Tc 99m Disofenin Kit is supplied in kits of five (5) or thirty (30) vials, sterile and pyrogen-free, each vial containing in lyophilized form:

Disofenin 20mCi

Sodium Chloride (NaCl) - 2H2O (Minimum) 0.24g

Total Tm. Maximum (as sodium chloride, NaCl) - 2H2O 0.6g

The pH is adjusted to between 5.5-6.5 with hydrochloric acid and/or sodium hydroxide solution prior to lyophilization. The contents of the vial were lyophilized and stored under nitrogen.

Shake at room temperature (15°-30° C) before and after reconstitution. Protect from light. The lyophilized drug product is light sensitive. Technetium Tc 99m Disofenin contains no preservatives. Included in each five (5) vial kit is one (1) package insert and twelve (12) radiation labels. Included in each thirty vial kit is one (1) package insert and seventy-two (72) radiation labels.

The components of the Technetium Tc 99m Disofenin Kit are supplied sterile and non-pyrogenic. Aseptic procedures normally employed in making additions and withdrawals from sterile, non-pyrogenic containers should be used during addition of pertechnetate solution and the withdrawal of doses for patient administration.

Technetium Tc 99m Disofenin is prepared by adding no more than 100 millicuries of additive-free sterile, non-pyrogenic sodium pertechnetate Tc 99m injection in 2-3ml (>20mCi/ml) to the vial and swirling for about one minute. Shielding should be utilized when preparing the Technetium Tc 99m Disofenin.

Catalog Number NRP-475 (5 vial kit)

Catalog Number NRP-475C (30 vial kit)

January 1984

511546

NEN New England Nuclear®
da Du Pont company

Marketed by New England Nuclear
331 Treble Cove Road, North Billerica, MA 01862
Tel. Toll Free: 800-225-1572
(For Mass. and International, call 617-482-9595)
“DISIDA [Hepatolite] has been extremely effective in distinguishing medical from surgical jaundice...with the bilirubin ranging from 1.1 to 24.5 mg%.”
Weissmann et al

“Visually and computationally, DISIDA [Hepatolite] was superior [to other IDA agents] in terms of relative uptake in the liver and liver washout.”
Hernandez and Rosenthal

“During the first hour after injection (the critical time for imaging), diisopropyl-IDA [Hepatolite] had the highest rate of biliary excretion (76.2%), which should result in the best visualization of the biliary system...”
Wistow et al

“We were able to clearly identify the intrahepatic ducts in 46 of the 54 patients imaged with PRIDA [Hepatolite] whereas we were not able to identify them clearly in any of the 21 patients imaged with BIDA.”
Read et al

“Tc-99m DISIDA [Hepatolite] appears to incorporate the best properties of all the currently available IDA analogs... it is the only IDA derivative that a “hot lab” would need to stock.”
Weissmann et al

References

See preceding page for brief prescribing information.

Contact your local NEN Technical Sales Representative to schedule a Nuclear Hepatobiliary Imaging Symposium.
The "best universal agent" for hepatobiliary imaging

Bilirubin: 24.5 mg/dl. This normal Hepatolite study demonstrates biliary tract patency—suggesting that the patient's hyperbilirubinemia is due to parenchymal disease. Note the shielding of intestinal activity on the 90-minute study. (Reproduced with permission from reference 6.)

Bilirubin: 23.0 mg/dl. In this patient who presented with painless jaundice, cholescintigraphy with Tc-HIDA was nondiagnostic. Note the absence of significant liver uptake throughout the study—only persistent renal excretion and blood background. CT revealed a mass in the head of the pancreas. (Reproduced with permission from reference 6.)
Bull's-eye
GE brings you the ECT software that puts your nuclear diagnoses on target

You need a way to view multiple short axis slices of the heart to get a complete, accurate picture of cardiac perfusion. General Electric, together with clinical research sites throughout the country, has developed a program to put detection of myocardial perfusion defects on target: the Bull's-eye plot. Now you can view multiple slices of the entire myocardium in a single image...so you can target areas of decreased perfusion quickly and accurately.

**Head-on cardiac imaging...**
When it comes to three-dimensional imaging, our emission computed tomography software provides unmatched visualization of the ventricular walls...and with GE's oblique angle "off-axis" reconstruction technique, you view the myocardium head-on, in relation to the heart's axis.

**ECT: the necessary dimension...**
GE's Star™ system software adds a new perspective to all your imaging needs. ECT eliminates over- and underlying activity to give you a clear, accurate representation of any organ of interest.

A substantial improvement in both resolution and contrast of ECT images is possible with GE's new Nowak reconstruction algorithm. This optimized software, combined with a wide selection of clinically proven filters, enhances even the subtlest differences in isotope concentration.

**Flexible, rapid reconstruction...**
The ECT software enables you to reconstruct images in planar, transaxial, sagittal, coronal and oblique planes in slice thicknesses of your choice. And the views can be displayed on your CRT singly, in pairs, or multiple planes simultaneously.

Images are reconstructed rapidly. The Star™ system data processor reconstructs data in just 15 seconds (the optional GE array processor cuts that to under 2 seconds).

**ECT...the whole nuclear picture...**
At General Electric, we're committed to providing you with clinically tested software that meets your needs from the moment it's installed. Call your GE Sales Representative to get the whole picture on ECT.

---

**WE BRING GOOD THINGS TO LIFE**

**GENERAL ELECTRIC**
**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.**
7007 Brittmoore #15
Houston, Texas 77041
713-466-9728
SOLID INVESTMENT

for you, your department, your patients

the Cardiac Stress Table
Designed for Exercise Imaging

Engineered to facilitate your workload, priced to provide the most features for your budget dollars, designed for patient comfort...

This top-of-the-line Cardiac Stress Table offers years of dependable trouble-free service. It's part of the family of variably-priced stress tables and ergometers available at Atomic Products Corporation.

Call or write today for complete information about our selection of Cardiac Stress Systems.

Atomic Products Corporation
ATOMLAB DIVISION • ESTABLISHED 1949
P.O. BOX 1157, CENTER MORICHES, NEW YORK 11934 USA
(516) 878-1074
TWX #510-228-0449
I ❤️ CIS
THALLIUM 201

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

*Available in USA.
Elscint 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.

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

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

THE JOURNAL OF NUCLEAR MEDICINE
**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™ multifORMAT 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.
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
Now. An on-board computer and high resolution images. Anywhere.

New Data Mo™ Computerized Mobile Camera System from Picker International.

Micro Z and ACE™ Imaging.
Automatically calibrates the detector to allow Asymmetric Contrast Enhancement.

Positioning.

13-inch Color Monitor.
High resolution image and ECG display.

Integrated 16 bit computer.
High capacity Winchester disc technology. Plus floppy disc drive for patient data.

Image Data Programmer.
Analog and digital image multi-formatting.

Picker International's new Data Mo is a completely integrated mobile camera and computer. Its mobility brings all the benefits of high resolution imaging and quantitative analysis right to the patient. Fully supported software is available for your clinical setting. Use the Data Mo in intensive care, cardiac care unit or emergency room. Even right in the Nuclear Medicine Department to take the strain off peak workload periods.

Call your local Picker International representative to get all the information about the computer power of Data Mo with its high resolution images. Or write: Picker International, Nuclear and Ultrasound, 12 Clintonville Road, P.O. Box 99, Northford, CT 06472, (203) 484-2711.
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 99Mo 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 99mTc 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.
Announcing the Second Edition of
NUCLEAR MEDICINE
SCIENCE SYLLABUS

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
COMMITTED TO THE FUTURE OF NUCLEAR MEDICINE

More Than Just The Leaders In Dose Calibrators... Capintec, Your Answer For Quality Assurance.

- **The CRC®-50 Quality Assurance Center**
  All the radionuclide dose calibration data you need is at your fingertips with the CRC-50. The compact modular system provides future dose planning, inventory control, and record keeping capabilities. You'll have push-button access to ten program modes, CRT display, both ticket and page-size reports plus a minicassette record — all together in an easy-to-operate, easy-to-own system.

- **The CAP-MAC™ Moly Assay Canister**
  A fully shielded method for molybdenum breakthrough assays. The CAP-MAC encloses the vial during “milking” of your technetium generator; during transport to the ionization chamber; during Mo99 and Tc99m activity measurement; and, finally, for safe removal from the chamber. It’s safe — and simple.

- **The Vanderbilt Cardiac Phantom (CP-201)**
  The CP-201 provides unparalleled simulation of left ventricle and atrium geometry. It produces a variable heart-beat rate and assesses ejection fraction. It rotates to allow for exact determinations of wall motion. The Vanderbilt Cardiac Phantom is the new standard in total imaging system evaluation, including gated studies.

Contact the leader: A Capintec sales representative is ready to demonstrate the latest developments in nuclear medicine quality assurance technology.
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.

EDC

The Ultimate Cardiac Stress System. Designed to put more muscle into your Cardiac Testing.
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.

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

6 x 9" softcover; 320 pp; 1983
ISBN 0-932004-16-4;
$20.00 members, $27.00 non-members
# RESIDENCY PROGRAMS IN NUCLEAR MEDICINE

This list includes all AMA-approved residency programs in nuclear medicine. An "X" in the column to the right of the program indicates an opening in the 1984 program. All open programs begin in July. Please contact programs directly for further information. This listing has been prepared under the auspices of the Academic Council.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>State</th>
<th>City</th>
<th>Zip Code</th>
<th>Program Director</th>
<th>Institution</th>
<th>Address</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eva V. Dubowsky, MD, PhD, Univ. of Alabama Med. Ctr., Div. of Nuclear Medicine</td>
<td>AL</td>
<td>Birmingham</td>
<td>3523</td>
<td>James Paul</td>
<td>619 19th St. S., Univ. of Alabama</td>
<td>3523 ALABAMA</td>
<td>205-352-3434</td>
</tr>
<tr>
<td>Name</td>
<td>Address</td>
<td>Phone</td>
<td>E-Mail</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------------------------------------------</td>
<td>-------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph A. Prezio, MD, School of Med., Dept. of Nuclear Medicine, 3495 Bailey Ave., Bldg. 5, Buffalo, NY 14215</td>
<td>X</td>
<td>F. Deaver Thomas, MD, Div. of Nuclear Medicine, Dept. of Radiology, SUNY Upstate Med. Ctr., 750 E. Adams St., Syracuse, NY 13210</td>
<td>X</td>
<td>Frieda Silva De Roldan, MD, Univ. of Puerto Rico, Med. Sci. Campus, G.P.O. Box 5067, San Juan, PR 00936</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philip O. Alderson, MD, Div. of Nuclear Medicine, Columbia-Presbyterian Med. Ctr., 622 W. 168th St., New York, NY 10032</td>
<td></td>
<td>R. Edward Coleman, MD, Duke Univ. Med. Ctr., Section of Nuclear Medicine, Dept. of Radiology, P.O. Box 3949, Durham, NC 27710</td>
<td></td>
<td>Thomas A. Powers, MD, Vanderbilt Univ., Dept. of Nuclear Medicine, Nashville, TN 37232</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard N. Pierson, Jr., MD, Div. of Nuclear Medicine, St. Luke's Hosp. Ctr., Amsterdam Ave. and 114th St., New York, NY 10025</td>
<td>X</td>
<td>Robert J. Cowan, MD, North Carolina Baptist Hosp., Dept. of Nuclear Medicine, Winston-Salem, NC 27103</td>
<td></td>
<td>Samuel E. Lewis, MD, Univ. of Texas Southwestern Med. School, 5323 Harry Hines Ave., Dallas, TX 75235</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard S. Benas, MD, Sloan-Kettering Cancer Ctr., 1275 York Ave., New York, NY 10021</td>
<td></td>
<td>Edward B. Silberstein, MD, Univ. of Cincinnati, Mail Location #577, Cincinnati, OH 45267</td>
<td></td>
<td>Ltc. Tommy J. Brown, MD, William Beaumont Army Med. Ctr., P.O. Box 70147, El Paso, TX 79920</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stanley J. Goldsmith, MD, Mount Sinai Med. Ctr., 1 Gustave Levy Plaza, New York, NY 10029</td>
<td>X</td>
<td>John O. Olsen, MD, Ohio State Univ. Hosp., 410 W. 10th Ave., Columbus, OH 43210</td>
<td></td>
<td>Martin L. Nusynowitz, MD, Univ. of Texas Medical Branch Hosp., Dept. of Nuclear Medicine, Galveston, TX 77550</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salil D. Sarkar, MD, New York Hosp., 525 E. 58th St., New York, NY 10021</td>
<td></td>
<td>E. William Allen, MD, and Carl W. Smith, MD, Dept. of Radiological Sciences, Section of Nuclear Medicine, Oklahoma Memorial Hosp., P.O. Box 26901, Oklahoma City, OK 73190</td>
<td></td>
<td>John A. Burdine, MD, Dept. of Radiology, Baylor College of Med., 1200 Morningside, Houston, TX 77030</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Donald Blaufox, MD, Albert Einstein College of Med., Montefiore Med. Ctr., 1300 Morris Park Ave., Bronx, NY 10461</td>
<td></td>
<td>Robert M. Basarab, MD, Div. of Nuclear Medicine, Milton S. Hershey Med. Ctr., 500 Univ. Dr., Hershey, PA 17033</td>
<td></td>
<td>R. Blumberg, MD, Univ. of Texas Health Sci. Ctr. at San Antonio, 7703 Floyd Curl Dr., San Antonio, TX 77550</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph J. Castronovo, MD, Div. of Nuclear Medicine, Long Island College Hosp., 340 Henry St., Brooklyn, NY 11201</td>
<td>X</td>
<td>Millard N. Croll, MD, Hahnemann Univ. Hosp., Dept. of Nuclear Medicine, Broad and Vine St., Philadelphia, PA 19102</td>
<td></td>
<td>Alton R. Sharpe, Jr., MD, Med. College of Virginia Hosp., VA Commonwealth Univ., 1200 E. Broad St., Box 1 MCV Station, Richmond, VA 23298</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morely L. Maayan, MD, PhD, VA Med. Ctr., 800 Poly Pl., Brooklyn, NY 11209</td>
<td>X</td>
<td>Chan H. Park, MD, Div. of Nuclear Medicine, Thomas Jefferson Univ. Hosp., 11th and Walnut St., Philadelphia, PA 19107</td>
<td></td>
<td>Michael A. Wilson, MD, Univ. Hosp. and Clinics, Dept. of Nuclear Medicine, 600 Highland Ave., Madison, WI 53792</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Unexpected Openings May Become Available in Programs Listed As Filled**
The Society of Nuclear Medicine is pleased to announce the CEL series of audiovisual programs. Each presentation was recorded at the Society's Annual Meeting in June, 1983, and contains the most up-to-date information available, presented by some of our discipline's most prominent researchers and clinicians. Each program features 35mm slides and the author's lecture on cassette tape, for use in any manual or automatic projector/tape player.

As an organization accredited by the AMA, the Society of Nuclear Medicine certifies that the medical education programs listed here meet the criteria for credit hours in Category I, provided they are used and completed as designed.

| CEL 1 | EXERCISE RADIOANGIOGRAPHY IN CORONARY ARTERY DISEASE | $55.00 M | $75.00 N |
| CEL 2 | THALLIUM-201 PERFUSION IMAGING | $55.00 M | $75.00 N |
| CEL 3 | MEASUREMENT OF LEFT VENTRICULAR EJECTION FRACTION | $55.00 M | $75.00 N |
| CEL 4 | LEFT VENTRICULAR EJECTION FRACTION STUDIES WITH 195m Au | $55.00 M | $75.00 N |
| CEL 5 | CARDIAC SPECT: INSTRUMENTATION AND TECHNIQUES | $55.00 M | $75.00 N |
| CEL 6 | HALOGENATED RADIOPHARMACEUTICALS FOR CARDIAC STUDIES | $55.00 M | $75.00 N |
| CEL 7 | RADIOPHARMACEUTICALS FOR CARDIAC STUDIES | $55.00 M | $75.00 N |
| CEL 8 | DATA ACQUISITION AND QUALITY CONTROL IN SPECT | $55.00 M | $75.00 N |
| CEL 9 | BASIC TECHNIQUES OF SPECT RECONSTRUCTION | $55.00 M | $75.00 N |
| CEL 10 | FILTERS IN SPECT IMAGING | $55.00 M | $75.00 N |
| CEL 11 | PHYSIOLOGIC AND PHARMACOLOGIC INTERVENTIONS IN NUCLEAR DIAGNOSIS | $85.00 M | $105.00 N |
| CEL 12 | RADIONUCLIDE ANTIBODIES FOR TUMOR IMAGING | $85.00 M | $105.00 N |
| CEL 13 | EVALUATION OF THE GASTROINTESTINAL TRACT | $85.00 M | $105.00 N |
| CEL 14 | CLINICAL APPLICATION OF Labeled Leukocytes | $85.00 M | $105.00 N |
| CEL 15 | Ventilation-Perfusion Lung Imaging | $85.00 M | $105.00 N |
| CEL 16 | GLOBAL LEFT VENTRICULAR FUNCTION: AUTOMATED QUANTITATIVE TECHNIQUE | $55.00 M | $75.00 N |
| CEL 17 | CLINICAL APPLICATION OF RADIOACTIVE PLATELETS | $55.00 M | $75.00 N |
| CEL 18 | ARTIFACTS IN SPECT IMAGING | $55.00 M | $75.00 N |
| CEL 19 | CLINICAL APPLICATIONS OF 111In Platelets | $55.00 M | $75.00 N |
| CEL 20 | VENTILATION-PERFUSION LUNG IMAGING | $55.00 M | $75.00 N |
| CEL 21 | OTHER PROGRAMS OF INTEREST | $55.00 M | $75.00 N |

TO ORDER:

Put a check next to desired program number, fill in the information to the left, and send this page to:

Society of Nuclear Medicine
P.O. Box 11307
Chicago, Illinois 60611

NOTE: First price listed is for members only; second price is for non-members. Please add $5.00 per order for shipping and handling. For foreign orders, please add $10.00 per program for shipping and handling. Please make check payable in U.S. dollars on U.S. banks only, otherwise add $1.50 to Canadian bank drafts or $20.00 to all other foreign bank drafts.

☐ Volume Discount

If you have purchased 10 or more programs, you are entitled to a 10% discount. Please check Volume Discount box and deduct appropriate amount from your total.

For more information, call (312) 943-0450.

Foto-Comm Corp. of Chicago is the distributor for SNM audiovisicals.
**DON'T EXPOSE YOURSELF!**

Any Oral Radioisotope solution can be safely administered directly to patients through the PARAMEDICAL™ Oral Radioisotope Delivery System. Solutions can be aspirated orally by the patient from vials, avoiding spills and creating a minimum exposure to technicians. The unit has a mouth piece which also accepts a syringe so that technicians may add rinsing solutions when desired. The needle reaches the bottom of most vials and the air inlet can be moved to accommodate different size vials up to 50 ml.

The Oral Radioisotope Delivery System is available from:

**INTERNATIONAL MEDICAL INDUSTRIES**
570 Pleasant St.
Watertown, MA 02172
1-800-624-6242

---

**NUCLEAR MEDICINE REVIEW SYLLABUS**

Peter T. Kirchner, M.D., Editor

*Now Into Its Third Printing!*

**softcover; 6x9; 630 pp.**

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.

**ORDER NOW!**

$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 counterbalanced thyroid probe features multichannel analyzer!

Cardiac stress systems at almost one-half price of others!

Video film formatters at almost one-half price of others!

We offer the most complete line of nuclear cardiac stress equipment in the industry. Complete literature on request.

ND Medical Products

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

Cable NUDATA—Telex 28-2416
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 interlaboratory 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.

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
With this
Dosecalibrator
you will always
be up-to-date.

The RADX Assayer I isotope dosecalibrator is the heart of the RADX system. It is the only dosecalibrator with an atmospheric ionization chamber for high activity linearity. It also incorporates an optical scanner for isotope selection — no moving parts, no contacts to corrode. Other standard features include a remote chamber, automatic monitoring of background with subtraction, automatic ranging and much more. Unchallenged for reliability, accuracy and linearity.

The RADX Isotron is the only control unit which qualifies as a nuclear medicine inventory control computer. It keeps track of up to 20 radio pharmaceuticals in different chemical forms — simultaneously and independently, and provides constant inventory information on each radio pharmaceutical. It also performs dose volume calculations in real and totally variable future time. Computer programming skills not required.

The RADX Isocord produces a hard copy print out in triplicate for all of your record keeping needs, by patient name, and selected isotope. Addition of the Isocord completes the most advanced dosecalibration system available from anyone. RADX is the first to offer anything like it at anywhere near its price.

The RADX dosecalibration system meets all radiopharmaceutical inventory control and NRC or State accountability requirements.

To get the complete story on staying completely up-to-date, call RADX. 713/468-9628.

RADX
P.O. Box 19164
Houston, Texas 77024
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 × 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 × 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
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

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 heart rate capability . . . ideal for stress testing
- Selectable PVC rejection
- Digital heart rate 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) 536-6300
DIGITAL IMAGING
Clinical Advances in Nuclear Medicine

Digital-imaging computer systems are now used clinically in nuclear medicine departments around the world. To keep the nuclear medicine community abreast of exciting new developments in this area, the Society of Nuclear Medicine has prepared Digital Imaging: Clinical Advances in Nuclear Medicine.

Compiled from the 1982 symposium of the Computer and Instrumentation Councils, this volume covers a broad range of topics related to digital imaging such as renal function, time-domain imaging, cardiac imaging, tomography, optical memories, and system architecture.

The book will appeal to a broad audience of practitioners in nuclear medicine and radiology. Clinicians and scientists, as well as those individuals involved in industry and academia, will benefit from this detailed examination of the current and future state-of-the-art in digital imaging.

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
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

MARA SPECIALTY CHEMICALS, INC., University City Science Center, 3401 MARKET ST., PHILA., PA 19104 • (215) 362-1209

---

**INDEX TO ADVERTISERS**

AMR CORPORATION
Milford, CT ........................................... 22A

ATOMIC PRODUCTS
Center Moriches, NY ............................... 17A

CADEMA MEDICAL PRODUCTS
Middletown, NY .................................... 6A

CAPINTEC, INC.
Ramsey, NJ ............................................. 25A

CLINICAL ASSAYS
Cambridge, MA ...................................... 4A

COMARK, INC.
Elmhurst, IL .......................................... 43A

DIVERSIFIED DIAGNOSTIC PRODUCTS
Houston, TX ........................................... 16A

EDC/MEDICAL IMAGING CORP.
Lowell, MA ............................................ 27A

ELSCINT, LTD.
Haifa, Israel ........................................... 19A, 20A, 21A

G.E. MEDICAL SYSTEMS
Milwaukee, WI ....................................... 14A, 15A

INTERNATIONAL CIS
Cedex, France ........................................ 18A

INTERNATIONAL MEDICAL INDUSTRIES
Watertown, MA ...................................... 11A, 32A

LUNAR RADIATION CORP.
Madison, WI .......................................... 40A

MARA SPECIALTY CHEMICALS
Philadelphia, PA .................................... 39A

MEDICAL ELECTRONICS, INC.
Boston, MA ............................................. 37A

MEDI-PHYSICS, INC.
Emeryville, CA ....................................... IFC, 1A, BC

NEW ENGLAND NUCLEAR
Boston, MA ............................................ 11A, 12A, 13A

NUCLEAR ASSOCIATES/VICTOREEN
Carle Place, NY ....................................... 24A

NUCLEAR DATA MEDICAL PRODUCTS
Ann Arbor, MI ........................................ 3A, 33A

NUCLEAR PHARMACY
Albuquerque, NM ..................................... 8A

PICKER INTERNATIONAL
Northford, CT ........................................ 23A

RADX CORPORATION
Houston, TX ........................................... 35A

SNM PLACEMENT
New York, NY ....................................... 41A, 42A

SYNACO, INC.
Palo Alto, CA .......................................... IBC

SYNCOR INTERNATIONAL
Sylmar, CA ............................................ 44A
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

In Scandinavia: Alnor Instrument AB, Nykoping, Sweden 46-155-68050
PLACEMENT

POSITIONS OPEN

RADIOLOGIST wanted to join a seven-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 Hossu Blvd., Metairie, LA 70001.

NUCLEAR MEDICINE PHYSICIAN. Position now available for a certified or board eligible Nuclear Medicine Physician interested in academic nuclear medicine as an affiliated midwestern medical institution. Candidate will join two full-time experienced and certified physicians. Position includes teaching, patient services, and research. All facets of imaging, including ECT, and unique in vitro laboratory. Approved residencies and technology training program. Contact: Richard A. Holmes, MD, Harry S. Truman Memorial Veterans Hospital, 800 Stadium Rd., Columbia, MO 65201. (314)443-2511, ext. 6675. An Affirmative Action/Equal Opportunity Employer.

NUCLEAR MEDICINE PHYSICIAN. Unique opportunity to assume sole professional position in busy and rewarding private nuclear medicine practice in Honolulu. Deluxe and well-equipped office owned and managed by well-established nuclear physician who will be available for help. Applicant is expected to be personable, confident, willing to teach, and have demonstrable competence in all phases of nuclear medicine and by-pass surgery. No capital outlay or investment required. Send resume to: James J. Ball, MD, 139 Punalou St. 1900 Honolulu, HI 96826; (808)955-3355.

NUCLEAR MEDICINE TECHNOLOGISTS needed nationwide. Attractive locations, excellent salary and career opportunities. No cost to you. Contact Ruth Knight, Nationwide Recruiters, 370 Landmark Dr., Suite III, Columbia, SC 29204. (800)843-0992 or (803)738-1790.

NUCLEAR MEDICINE PHYSICIAN. ABNM certified or eligible physician needed in two metropolitan NY area teaching hospitals; half time at each hospital to amount to full time. Position is immediately available. Research interest and experience will be appreciated. Please respond with a CV. Box 202, Society of Nuclear Medicine, 475 Park Ave. South, New York, NY 10016.

NUCLEAR CARDIOLOGY TECHNOLOGIST. Private, 520-bed, teaching and university-affiliated medical center is currently seeking an individual for noninvasive section of its Heart Cath Lab. Position available due to departmental expansion. Must be a graduate of an AMA approved program in nuclear medicine with an ARRT and/or NMTB registration. Minimum of one year hospital/nuclear cardiology experience preferred. Salary commensurate with experience. We offer an attractive benefits package including educational assistance, group insurance, pension plan, credit union, progressive paid leave, and scheduled merit increases. Write or call collect: Patricia McKay, Personnel Dept., Crawford W. Long Memorial Hospital of Emory University, 35 Linden Ave., N.E., Atlanta, GA 30325; (404)982-4441, ext. 532. An Equal Opportunity Employer.

NUCLEAR MEDICINE PHYSICIAN. The nuclear medicine section of Mayo Clinic has an immediate opening in a full-time staff position. The section of nuclear medicine serves a large out-patient population as well as 2000 hospital beds at St. Marys Hospital and the Methodist Hospital. Annually there are 15,300 imaging and 4,900 nonimaging tests performed. Responsibilities include clinical image interpretation, teaching, and developmental research. Clinical experience in nuclear cardiology is mandatory. Academic rank will be determined by experience, training, and research record. Applicants must be board certified or eligible by the ABNM or ABR special competency in nuclear cardiology. Please address inquiries, curriculum vitae to: Manual Brown, MD, Nuclear Medicine Section, C-66 Hilton Building, Mayo Clinic, Rochester, MN 55905; (507)284-3055. An Equal Opportunity Employer.

NUCLEAR MEDICINE RESIDENCY. July 1984. 699-bed VA general hospital offers AMA approved comprehensive 2-year program. Located in the San Fernando Valley area of Los Angeles, 15 minutes from affiliated hospitals (UCLA and Wadsworth VA). Program covers isotopes and ultrasound imaging, in vivo and in vitro procedures, including RIA, isotope therapy and all recent SPECT, computer and cardiology procedures. Prerequisites: 2 (two) years postgraduate training in medicine, radiology, or pathology. Minimum stipend: $29,477. Contact: Marvin B. Cohen, MD Chief, Nuclear Medicine Service, VA Medical Center, 4111 Plummer Street, Sepulveda, CA 91343. (Non-discrimination in employment.)

NUCLEAR MEDICINE PHYSICIAN, ASSISTANT CHIEF position at VA Medical Center, Portland, OR. Full affiliation with Oregon Health Sciences University. Excellent clinical facilities and research opportunities with established laboratory and personnel in hepatobiliary function studies, single photon emission computed tomography, nuclear cardiology, and imaging with blood components. New hospital building scheduled for occupancy in 1985. This position also entails teaching responsibilities in our resident and technologist training programs. ABNM certification or eligibility and a demonstrated interest in clinical work, teaching, and research required. Contact: G.T. Krishnamurthy, MD, Nuclear Medicine Service, VA Medical Center, VAMC, Veterans Hospital Rd., Portland, OR 97201; (503) 222-9221, ext. 2520. Equal Opportunity Employer.

University of Iowa College of Medicine, Department of Radiology, FACULTY POSITION for PHYSICIAN to fill the Department of Radiology. Candidates shall have a PhD degree in physics or equivalent, and be board-certified or eligible for certification. Position includes involvement in independent and collaborative research, teaching to residents, fellows and technology students, and clinical service activities. Primary commitment will be to nuclear medicine but work in other imaging modalities including NMR will be encouraged. Clinical equipment includes modern scintillation cameras and computers, single photon emission CT, latest CT devices, digital angiography, and a superconducting NMR imaging system. Well equipped research laboratory facilities are available. Salary and academic rank will be commensurate with experience and qualifications.

Send resumes to: Peter T. Kirchner, MD, Director of Nuclear Medicine, Department of Radiology, University of Iowa Hospitals and Clinics, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.

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 medical residency training. Medical school association or affiliation possible if desired. Please send resume to: Box 201, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

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 radioimmunossay, imaging, computer, and nuclear cardiology in addition to supervisory, administrative, and teaching experience required. Please send resume to: Box 201, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

POSITIONS WANTED

NUCLEAR PHYSICIAN, unusually competent, desires relocation to coastal community. Send inquiries to: LMP Box 293, Palos Hts., IL 60463.

1984 and 1985 RESIDENCIES IN NUCLEAR MEDICINE

The Department of Radiology at Harvard Medical School invites applications to its two- and one-year residency programs in nuclear medicine and nuclear radiology for 1984 and 1985. Further requests should be directed to: S. James Adelstein, M.D., Ph.D., Director, The Joint Program in Nuclear Medicine, Department of Radiology, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115.

An Affirmative Action/Equal Opportunity Employer

RESIDENCY IN NUCLEAR MEDICINE

Two-year approved program offering broad clinical experience at tertiary care and community hospitals, oncology and pediatrics, ultrasound and CT, strong basic science teaching, radiation safety, clinical radiopharmacy and RIA opportunity for research, an integrated program at State University of New York at Buffalo School of Medicine, available July 1, 1984. An advanced one-year program with special emphasis in nuclear cardiology, oncology, or other aspects of nuclear imaging, is also available beginning July 1, 1984. Contact: J.A. Prezio, MD, Program Director and Acting Chairman, Dept. Nuclear Medicine, SUNY/Buffalo, 3495 Bailey Ave., Bldg. 5, Buffalo, NY 14215.
RESEARCH FELLOWSHIP IN NUCLEAR MEDICINE

EXCELLENT OPPORTUNITY for professional growth in a research-conducive university hospital. Valuable preparation for career in academic nuclear medicine or medical imaging. Flexible program (1- or 2-year appointments) beginning July 1, 1984, with ample clinical material (two 300-bed hospitals and regional cancer center). Many ongoing research projects; good faculty supervision in research techniques. Position is fully funded. Choice high desert community with unlimited year-round recreational opportunities.

For information call or write:
Dennis D. Patton, M.D.
Director, Division of Nuclear Medicine
University of Arizona Health Sciences Center
Tucson, AZ 85724
(602)626-7709

The University of Arizona is an Equal Opportunity
Affirmative Action Employer

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 patients 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
Paul H. Murphy, PhD, Training Coordinator
Nuclear Medicine Section, Department of Radiology
Baylor College of Medicine
Houston, TX 77030

Paving the way for the future of nuclear medicine

Send your tax-deductible donation to:
The Education & Research Foundation
c/o The Society of Nuclear Medicine
475 Park Ave. South New York, NY 10016

FREE HOSPITAL JOB GUIDE!
TEXAS
FLORIDA
NATIONAL
1-800-874-7777
Call Toll Free Anytime
(NURSING & HOSPITAL JOB GUIDES provide current, 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 information about various regions within each state, with focus on population, housing, cultural and recreational activities.

THE JOURNAL OF NUCLEAR MEDICINE
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.

<table>
<thead>
<tr>
<th></th>
<th>10-90</th>
<th>100-190</th>
<th>200+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$4.75/ea</td>
<td>$4.50/ea</td>
<td>$4.25/ea</td>
</tr>
</tbody>
</table>

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

Dysan is a registered trademark of Dysan Corporation. *Trademarks of respective manufacturers.
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 International Corporation
12847 Arroyo Street, Sylmar, CA 91342
(213) 365-8151. Outside California 800-423-5620
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.
MPI KIDNEY REAGENT

(Technetium Tc 99m Succinimer 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.\(^{4,5}\)

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

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

DESCRIPTION: Each reagent ampoule 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 peroxidate 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% D,L 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 ensure 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 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 menstruation.

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

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 DMPSA. 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 ampoules, 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. Freon 113 and pyrogen-free mixing vials (10 ml).
3. Five mixing vial labels.
4. Four courtesy record labels.
5. One package insert.