TECHNETIUM 99m

GENERATORS

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

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.

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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

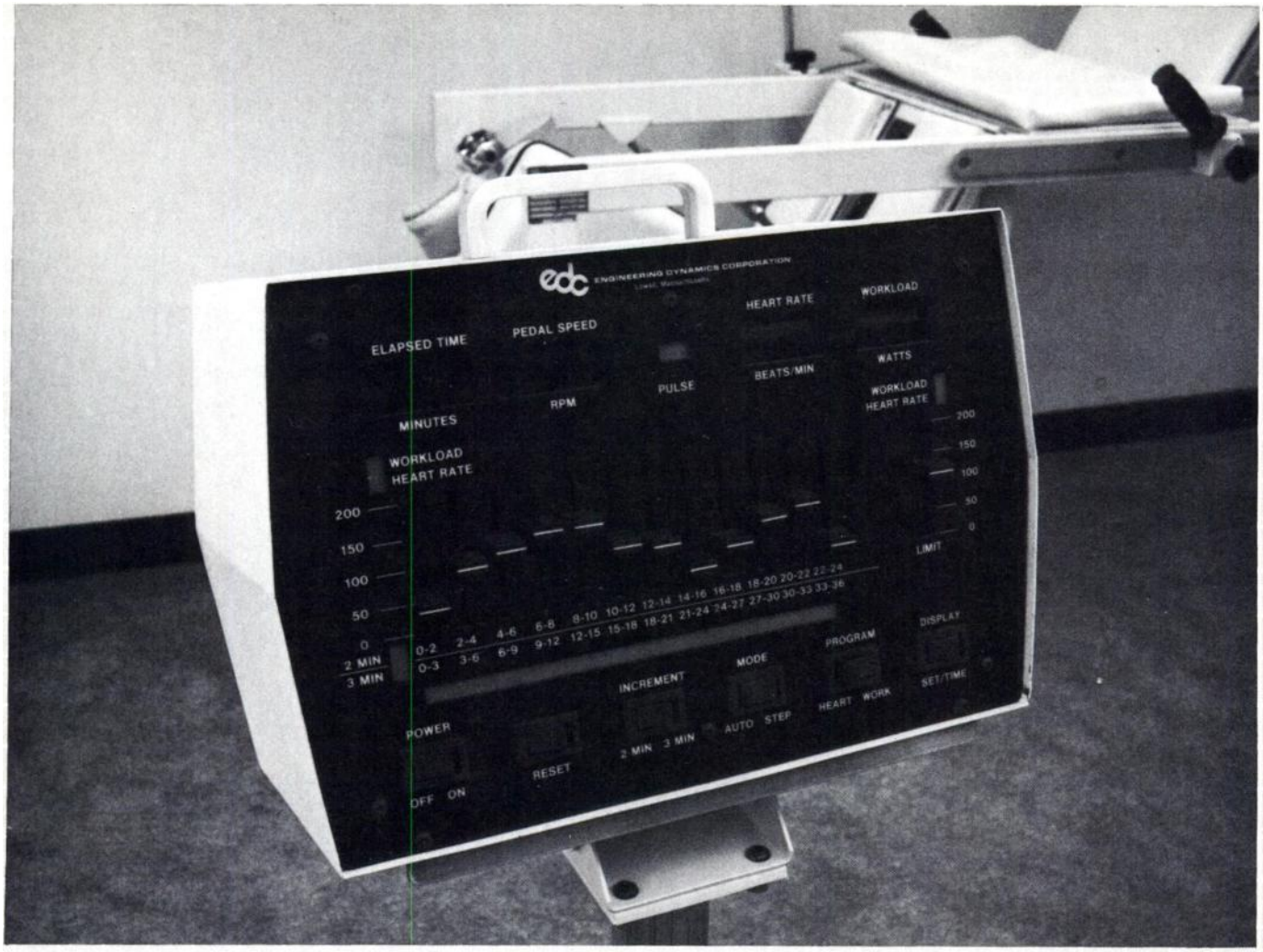
The TECHNETIUM Tc 99m GENERATOR should not be used after sixteen (16) days from the date and time of calibration.

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

and

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

Circle Reader Service No. 1



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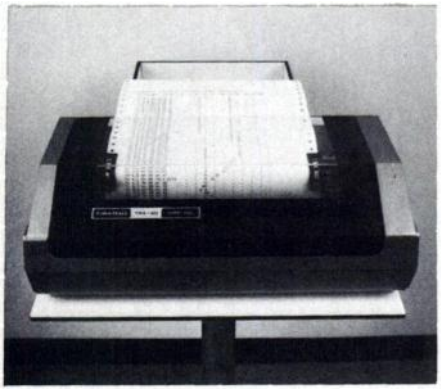

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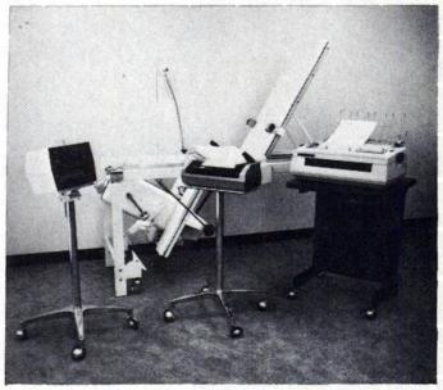

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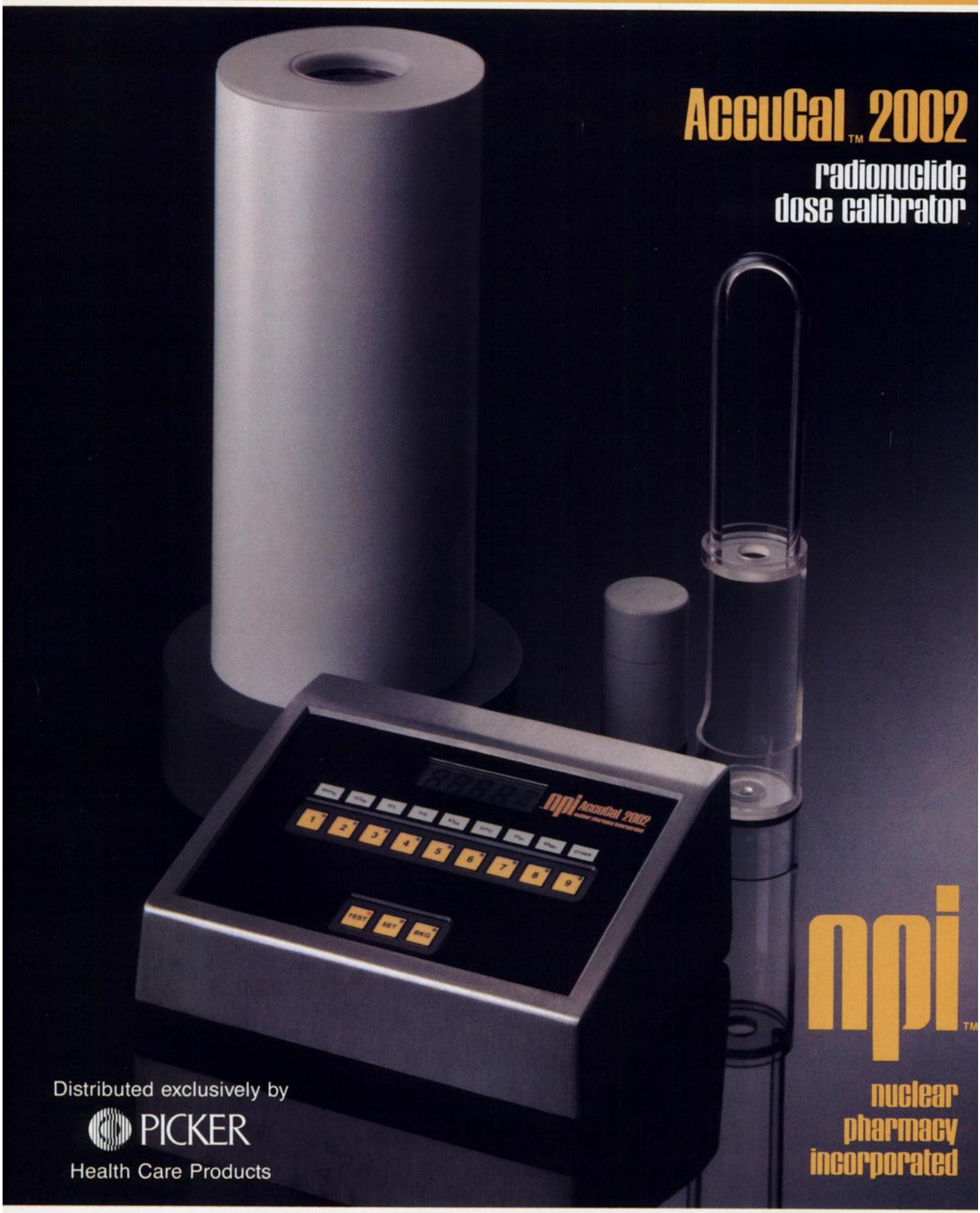

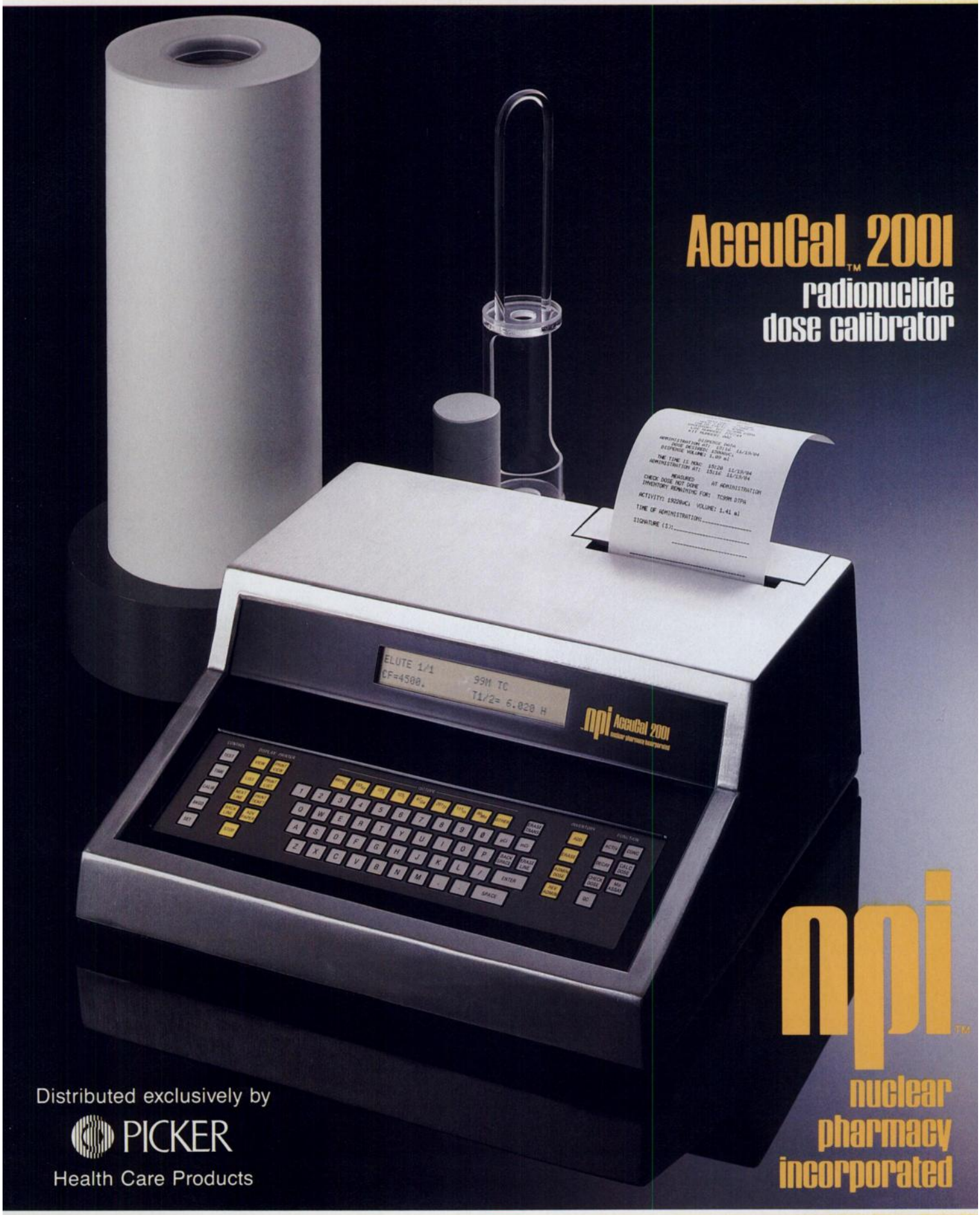
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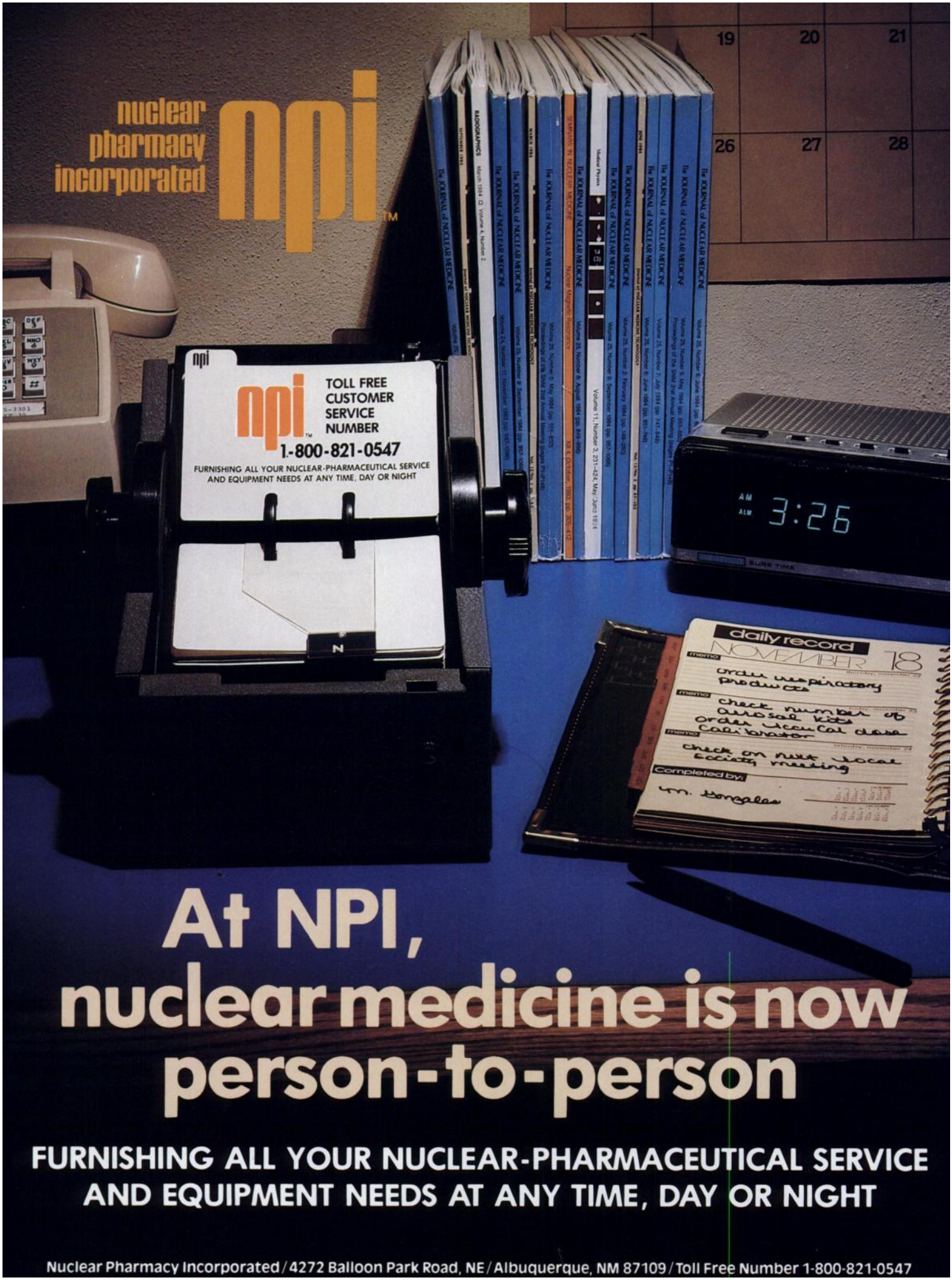

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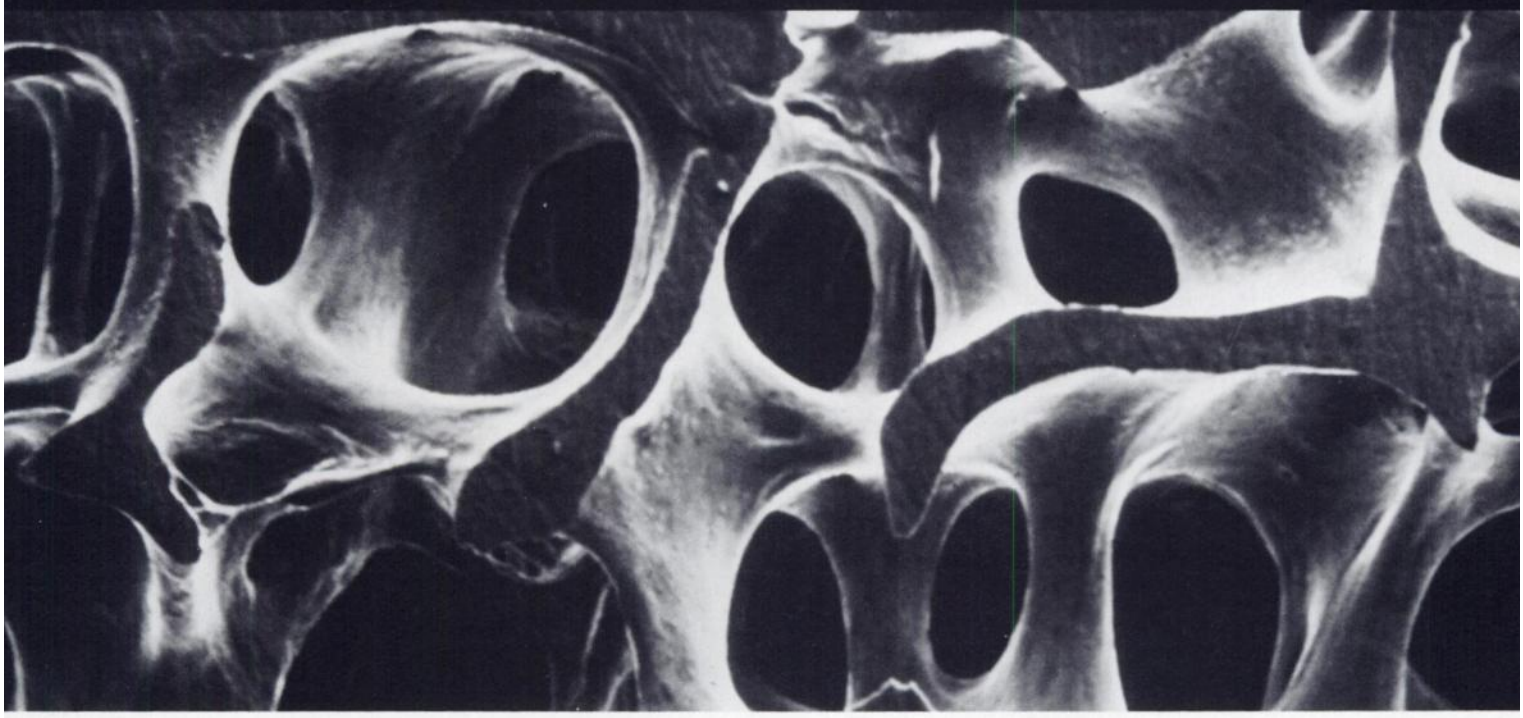

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MACROTEC™

Technetium Tc 99m Albumin Aggregated Kit

Diagnostic — For Intravenous Use

DESCRIPTION

Macrotec is a sterile, nonpyrogenic, lyophilized preparation of albumin aggregated. Each 5 mL vial of Macrotec contains 1.5 mg of Albumin Aggregated, 10.0 mg Albumin Human, 0.06 mg (minimum) stannous chloride (maximum stannic and stannous chloride 0.16 mg), 1.8 mg of sodium chloride with trace amounts of sodium acetate, acetic acid and hydrochloric acid. Macrotec contains no preservatives. The pH of the reconstituted product is between 3.8 and 8.0.

The aggregated particles are formed by denaturation of Albumin Human in a heating and precipitation process. Each vial contains 1-8 million particles, 90% of which are between 10 and 90 microns in size. The average size is 20 to 40 microns; no particles are greater than 150 microns.

Reconstitution of Macrotec with sterile sodium pertechnetate Tc 99m forms an aqueous suspension of Technetium Tc 99m Albumin Aggregated for diagnostic use by intravenous injection. No less than 90% of the pertechnetate Tc 99m added to the reaction vial is bound to the aggregates at preparation time and remains bound throughout the 6-hour lifetime of the suspension.

INDICATIONS AND USAGE

Lung Imaging

Macrotec (Technetium Tc 99m Albumin Aggregated Injection) is a lung imaging agent which may be used as an adjunct in the evaluation of pulmonary perfusion in adults and children. It is useful in the early detection of pulmonary emboli and in the evaluation of the status of the pulmonary circulation in such conditions as pulmonary neoplasm, pulmonary tuberculosis and emphysema.

Isotopic Venography

Macrotec is also indicated for use in isotopic venography as an adjunct in the screening, diagnosis and management of deep vein thrombosis in the lower extremities.

Combined isotopic venography of the lower extremities and the pulmonary vasculature may be performed.

CONTRAINDICATIONS

Technetium Tc 99m Albumin Aggregated Injection should not be administered to patients with severe pulmonary hypertension.

The use of Technetium Tc 99m Albumin Aggregated Injection is contraindicated in persons with a history of hypersensitivity reactions to products containing human serum albumin.

WARNINGS

The literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported.

PRECAUTIONS

General

In patients with right to left heart shunts, additional risk may exist due to the rapid entry of Albumin Aggregated into the systemic circulation. The safety of this agent in such patients has not been established.

Hypersensitivity reactions are possible whenever protein-containing materials such as pertechnetate labeled Albumin Aggregated are used in man. Epinephrine, antihistamines and corticosteroids should be kept available for immediate use.

The intravenous administration of any particulate material such as Albumin Aggregated imposes a temporary, small mechanical impediment to blood flow. While this effect is probably physiologically insignificant in most patients, the administration of Albumin Aggregated is possibly hazardous in acute cor pulmonale and other states of severely impaired pulmonary blood flow.

The components of the Macrotec (Technetium Tc 99m Albumin Aggregated Kit) are sterile and non-pyrogenic. It is essential to follow directions carefully and adhere to strict aseptic procedures during preparation.

Contents of the vial are intended only for use in the preparation of Technetium Tc 99m Albumin Aggregated Injection and are **NOT** to be administered directly to the patient.

The contents of the kit before preparation are not radioactive. However, after the sodium pertechnetate Tc 99m is added, adequate shielding of the final preparation must be maintained.

The technetium Tc 99m labeling reactions involved depend on maintaining the stannous ion in the reduced state. Hence, sodium pertechnetate Tc 99m containing oxidants should not be employed.

The preparation contains no bacteriostatic preservative. Technetium Tc 99m Albumin Aggregated Injection should be stored at 2-8°C and discarded 6 hours after formulation.

Technetium Tc 99m Albumin Aggregated Injection is a physically unstable suspension and consequently the particles settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactive particles.

If blood is drawn into the syringe, unnecessary delay prior to injection may result in clot formation.

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.

As in the use of any other radioactive material, care should be taken to minimize radiation exposure to patients consistent with proper patient management, and to minimize radiation exposure to clinical personnel.

Carcinogenesis, Mutagenesis, Impairment of Fertility

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

Pregnancy Category C

Animal reproduction and teratogenicity studies have not been conducted with Technetium Tc 99m Albumin Aggregated Injection. It is also not known whether Technetium Tc 99m Albumin Aggregated Injection can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. There have been no studies in pregnant women. Technetium Tc 99m Albumin Aggregated Injection 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 feedings.

Pediatric Use

The lowest possible number of particles should be used in the right-to-left shunting, in neonates and in severe pulmonary disease.

ADVERSE REACTIONS

Although adverse reactions specifically attributable to the Technetium Tc 99m Albumin Aggregated Injection have not been noted, the literature contains reports of deaths occurring after the administration of Albumin Aggregated to patients with pre-existing severe pulmonary hypertension. Instances of hemodynamic or idiosyncratic reactions to preparations of Technetium Tc 99m Albumin Aggregated have been reported.

HOW SUPPLIED

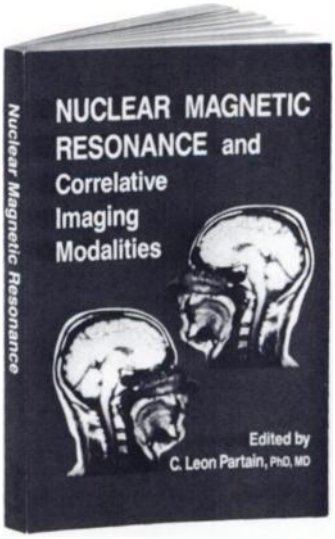
Macrotec (Technetium Tc 99m Albumin Aggregated) is supplied as a kit containing 10 reaction vials (5 mL size).

SQUIBB™ Diagnostics
New Brunswick, NJ 08903

 604-502 Sept 1984

NUCLEAR MAGNETIC RESONANCE and Correlative Imaging Modalities

Edited by C. Leon Partain, PhD, MD



6 × 9″ softcover; 312 pages
$35.00 SNM members;
$47.00 non-members
Publication Date: January 1984

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.

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

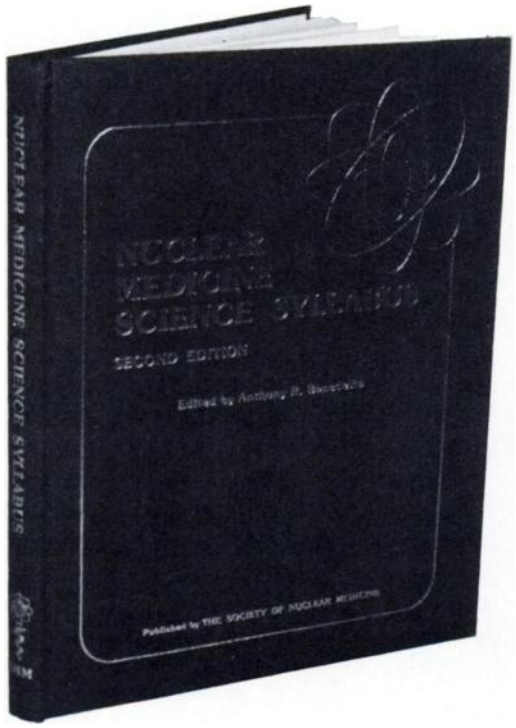
Ordering Information:

Add $2.50 postage and handling for each book ordered. Prepayment required in U.S. funds drawn on U.S. banks only. For payments made in U.S. dollars, but drawn on a foreign bank, add a bank processing fee of $4.50 for Canadian bank drafts or $40.00 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 in U.S. dollars and are subject to change without notice.*

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

NUCLEAR MEDICINE SCIENCE SYLLABUS

Second Edition



8½ × 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*

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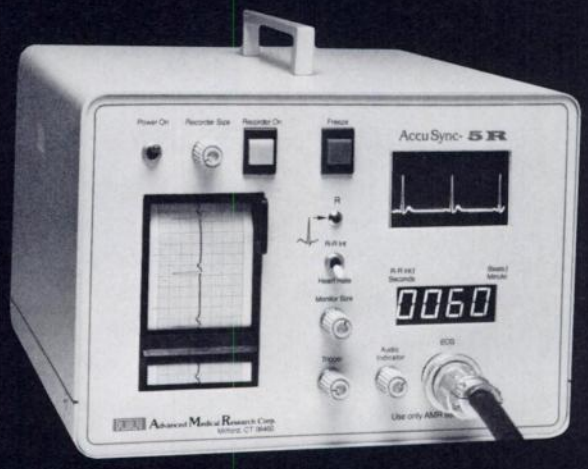

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Vital Information for all Nuclear Medicine Specialists

Vital information in nuclear medicine is at your fingertips at this year's 32nd Annual Meeting in Houston. Through peer review of scientific papers and invitations to scientists recognized for their outstanding work, the SNM continues to offer a full range of nuclear medicine subjects and nuclear medicine specialists continue to attend in ever-increasing numbers. Last year's record-breaking attendance figures were: 1,370 physicians, 782 basic scientists, 926 technologists, for a total of 3,078 professionals.

Scientific Papers

Over 600 scientific presentations will make this the largest and most varied collection of scientific papers, posters, and exhibits to be presented in 1985. You can select from over 30 subjects of importance to your daily work presented in a concise manner by one of the original authors with ample time for discussion and interaction.

Continuing Education Courses (Refresher and State-of-the-Art)

Experts in nuclear medicine will offer you their first-hand knowledge in chemistry, physics, quality assurance, cardiovascular nuclear medicine, PET, SPECT, and NMR. These 90-minute presentations will demonstrate practical approaches to current procedures and techniques fully applicable in your own clinical setting.

Technologist Program

Seventy hours of clinical updates will provide chief and staff technologists with basic, intermediate, and advanced instruction covering the full spectrum of technologist responsibilities, including special courses for administrators and clinical coordinators.

Exposition

You can meet face-to-face every major manufacturer of nuclear medicine products and services, in a convenient professional environment. Cameras, computers, radiopharmaceuticals, and accessories will be displayed by 1,500 commercial representatives who can give you the most recent updates on their products.

Throughout the Meeting, the Society will offer services from membership to job referrals. Books, journals, and audiovisuals will be displayed. Tours of NASA's Johnson Space Center will be available.

Registration: $100 SNM members; $185 nonmembers

Hotels: $70 average rate/night

For more information on the 32nd Annual Meeting consult the Calendar in this issue or write: Registrar, Society of Nuclear Medicine, 475 Park Avenue South, New York, NY 10016.

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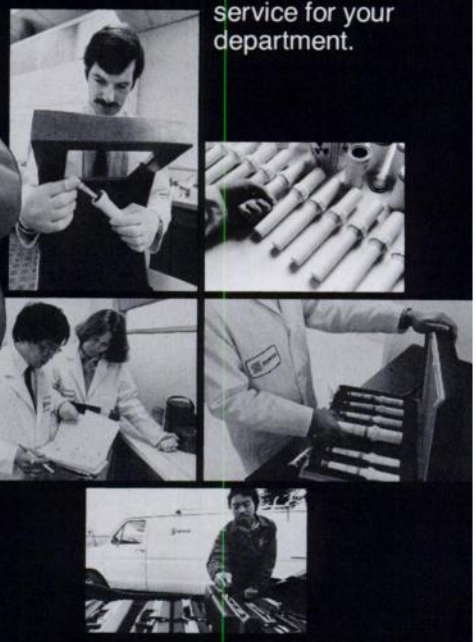

10th Anniversary

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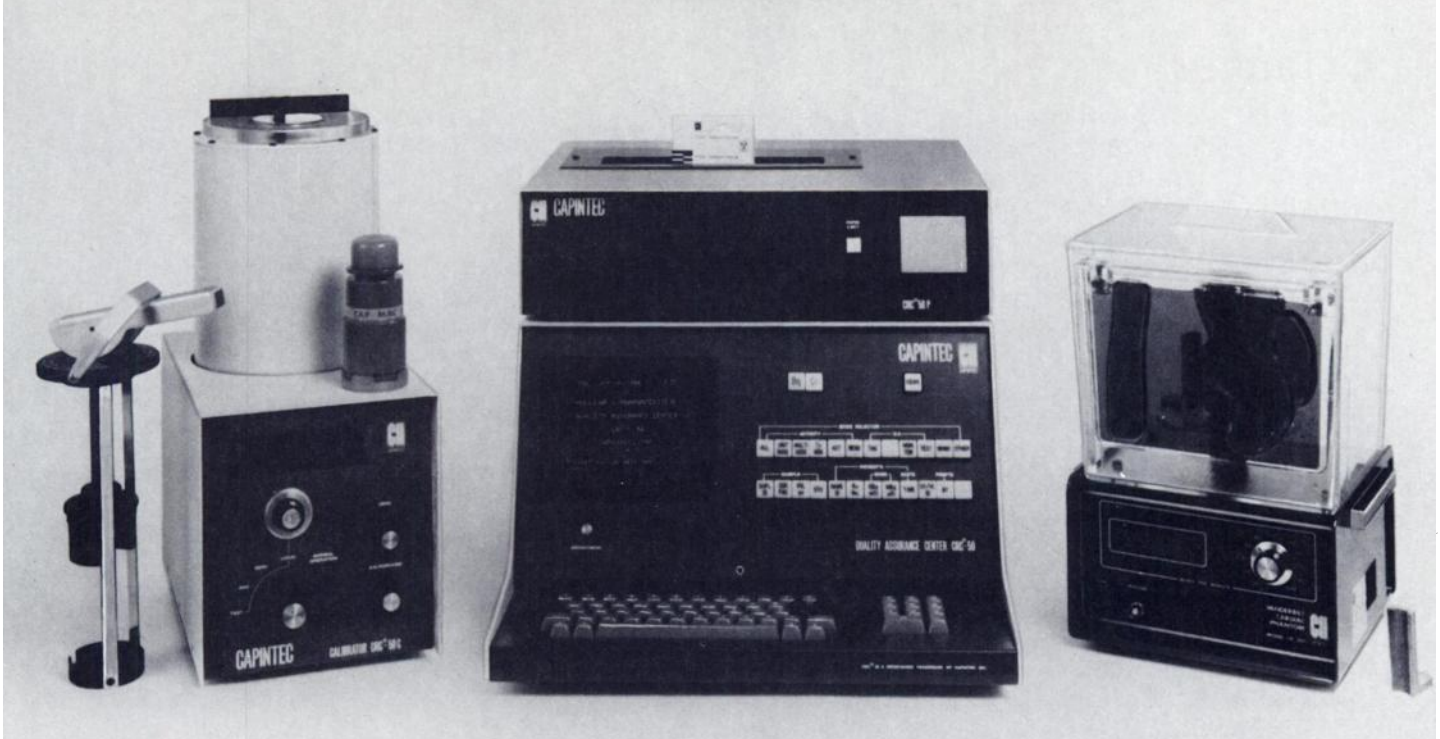

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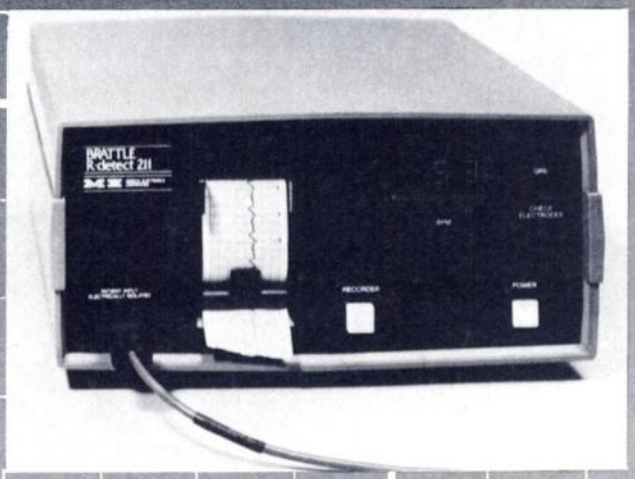

MODEL 211

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
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- Stripchart with EKG and R-DETECT event marker (model 211 only)

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Circle Reader Service No. 17

Policy—*The Journal of Nuclear Medicine* accepts classified advertisements from medical institutions, groups, suppliers, and qualified specialists in nuclear medicine. Acceptance is limited to Positions Open, Positions Wanted, and Equipment Available. We reserve the right to decline, withdraw, or modify advertisements that are not relevant to our readership.

Rates for Classified Listings—$10.00 per line or fraction of line (approx. 50 characters per line, including spaces). Please allow 28 characters for the first line which will appear in capital letters. Special rates for *SNM members* on Positions Wanted: $9.50 per line. *Note: Box numbers are available for the cost of the 2 lines required.*

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Positions Open

Physician

NUCLEAR MEDICINE PHYSICIAN wanted. Well trained and experienced Board Certified Nuclear Medicine Physician with Board Certification or Board Eligible in internal medicine who has been in solo practice of nuclear medicine (non-subsidized) for 5-10 years who would be interested in becoming a partner in a successful privately owned outpatient Nuclear Medicine Clinic and lab, fully equipped for in vivo and in vitro studies. Includes private office with Technical and Administrative Staff. Must be willing and capable of assuming administrative and technical responsibility. Medical school affiliation possible if desired. Please send resume to: Box 201, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016.

NUCLEAR MEDICINE STAFF PHYSICIAN. Nuclear Medicine Dept. in large private Southern California hospital desires boarded or eligible associate. Applicant should be well-versed in current techniques including cardiovascular nuclear medicine. Computer aptitude and experience desirable. Opportunity for clinical research if desired. Please send typed resume and brief handwritten statement of career goals to: Box 202, Society of Nuclear Medicine, 475 Park Ave. So., New York, NY 10016. All inquiries will be kept confidential.

EXCELLENT PHYSICIAN OPPORTUNITY to join nuclear medicine/diagnostic ultrasound group in South Florida. Special emphasis on cardiovascular nuclear medicine and echocardiography. Send CV to: Drs. Gottlieb and Block, 1150 N.W. 14th St., Suite #1, Miami, FL 33136; (305)324-0424.

RADIOLOGIST TO JOIN 7-MAN DYNAMIC, specialist private practice group in a 571-bed hospital in suburban New Orleans. Applicant needs Board certification in radiology and either certification or special competence in nuclear medicine. Nuclear Medicine Section is well-equipped with emphasis on nuclear cardiology. Please send resume to: G.S. Harell, MD, Dept. of Radiology, East Jefferson General Hospital, 4200 Houma Blvd., Metairie, LA 70011.

STAFF POSITION, ASSISTANT/ASSOCIATE Professor. Dual appointment—nuclear medicine/cardiology. Must have nuclear medicine and cardiology boards. Teaching and research experience necessary. Active clinical nuclear medicine and cardiology services with state-of-the-art equipment. Reply to: Michael E. Siegel, MD/Shahbudin Rahimtoola, MD, LAC/USC Medical Center, Box 693, 1200 North State St., Los Angeles, CA 90033.

Scientist

PHYSICIST/COMPUTER SCIENTIST. Medical College of Virginia-Virginia Commonwealth University has an immediate opening for a Physicist/Computer Scientist in nuclear medicine. Responsibilities include participation in current clinical and basic research programs and development of software algorithm and image processing techniques. Available equipment includes SPECT camera, DEC PDP 11/34 and VAX 780 computers. Send resume to: Dr. Melvin J. Fratkin, Medical College of Virginia, MCV Station Box 481, Richmond, VA 23298. MCV/VCU is an Equal Opportunity Employer.

CLINICAL NUCLEAR MEDICINE IMAGING Physicist. The Department of Diagnostic Radiology has an opening for a Medical Physicist. This clinically funded position includes an appointment in diagnostic radiology with a primary commitment to nuclear medicine (both general nuclear medicine and nuclear cardiology) and an opportunity to participate in academic programs. Candidates should have a PhD or similar degree in the physical sciences with previous clinical nuclear experience and be Board certified or eligible. Although experience in nuclear cardiology is preferred, a desire to participate in nuclear cardiology is essential. Responsibilities include physics support of clinical procedures; development in testing of phantoms for optimization of patient studies; and education including lectures and the development of appropriate laboratories. Qualified applicants should forward a curriculum vitae and cover letter highlighting their qualifications and career goals to: Dr. Joel E. Gray, Mayo Clinic, Rochester, MN 55905. The Mayo Clinic is an Equal Opportunity and Affirmative Action Institution.

Technologist

NUCLEAR MEDICINE TECHNOLOGIST and/or Ultrasound Technologist (registered) needed for 99-bed hospital in Rocky Mountain University town of 24,000. Skiing, fishing, hunting close. Metro Denver within 2½ hours. Good working conditions/benefits. Salary negotiable. Send resume to: Personnel, Ivinson Memorial Hospital, 255 North 30th, Laramie, WY 82070.

FACULTY—NUCLEAR MEDICINE TECHNOLOGIST. Tenure track faculty position with responsibilities for teaching in the university setting and supervision/liaison of the training program at affiliated clinical sites. Minimum qualifications include an MS in clinical sciences or a doctorate in a closely related field, certification or licensure in nuclear medicine technology, experience as a licensed or certified laboratorian, and teaching part- or full-time in a clinical or academic setting. Preference will be given to applicants also holding certification as Medical Technologists. Submit letter of application with resume to: Dr. James L. Welch, School of Science, Mathematics, and Technology, California State University, Dominguez Hills, 1000 E. Victoria St., Carson, CA 90747; (213)516-3740. Application deadline: 4/30/85.

NUCLEAR MEDICINE TECHNOLOGIST. Large university teaching hospital has immediate opening for a registered or registry eligible Nuclear Medicine Technologist. Excellent benefits. Send resume to: Personnel Department, University of Rochester, Box 636L, 260 Crittenden Boulevard, Rochester, NY 14642. Equal Opportunity Employer M/F.

NUCLEAR MEDICINE TECHNOLOGIST. Registered Nuclear Med. Technologists needed for private expanding nuclear medicine/diagnostic ultrasound lab in South Florida. Special emphasis on cardiovascular procedures and computer processing techniques. Send resume to: Drs. Gottlieb and Block, 1150 N.W. 14 St., Suite 1, Miami, FL 33136; (305)324-0424.

Positions Wanted

Technologist

NUCLEAR MEDICINE TECHNOLOGIST. 1 year work experience, BS degree, ARRT registered. Interested in Philadelphia area. Please call: John, (215)277-5993.

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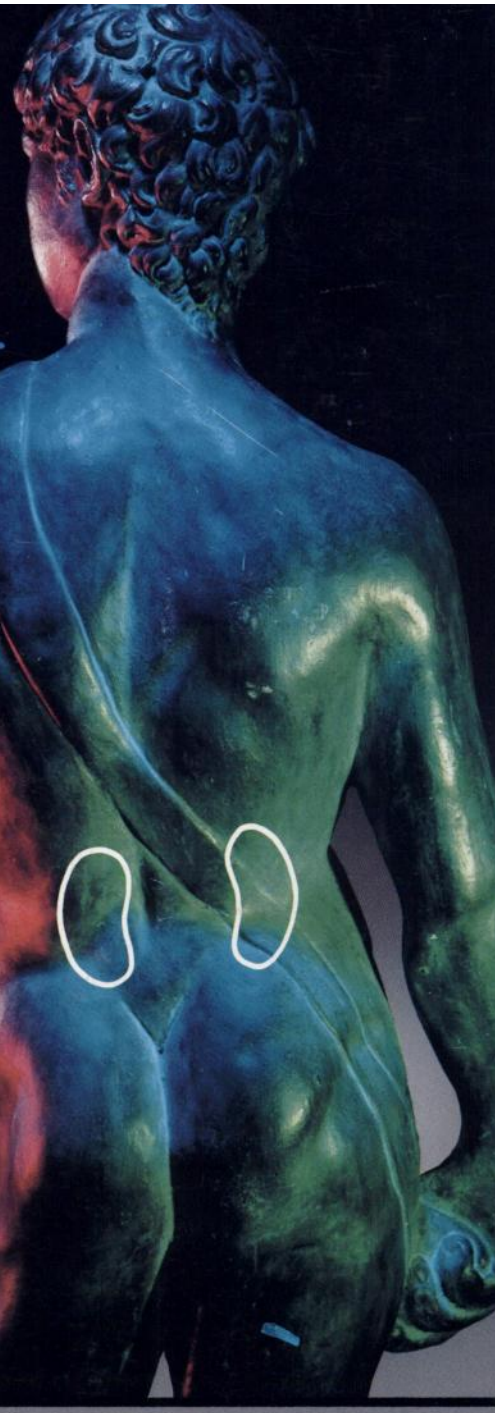
MPI DMSA KIDNEY REAGENT

(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]



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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. Blaufox 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% 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 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) Three 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) Three sterile and pyrogen-free mixing vials (10 ml).
(3) Three mixing vial labels.
(4) Six courtesy record labels.
(5) One package insert.

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