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- "Double-Phase Tc-99m Sestamibi Parathyroid Scintigraphy," Raymond Taillefer, Hotel Dieu Hospital, Montreal, Quebec, Canada.
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Introducing

A New Way to Image Neuroendocrine Tumors
Introducing

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Kit for the Preparation of Indium In-111 Pentetreotide

Somatostatin
Receptor Imaging for
Neuroendocrine Tumors

Somatostatin is an endogenous neuropeptide that acts as a regulator of growth hormone secretion. Neuroendocrine tumors contain a high density of somatostatin receptors. OctreoScan®, a radiolabeled form of the somatostatin analog octreotide, shares the same binding site as naturally occurring somatostatin, which makes it a sensitive indicator for somatostatin receptor-bearing neuroendocrine tumors. Since the concentration of receptors on tumors may vary, the sensitivity of OctreoScan® may vary among tumor types.

Enhances Neuroendocrine Tumor Localization

Neuroendocrine tumors generally are small and slow-growing in nature, which can make localization difficult. Functional imaging with OctreoScan® frequently is sensitive enough to enable localization of small primary tumors or metastases. In a multicenter study, OctreoScan® results were consistent with the final diagnosis in 86.4% of patients (267/309).* OctreoScan imaging results produced a change in patient management in 31.1% of cases (64/206).*

*Source: Data on file, Mallinkrodt Medical, Inc.
Patient Management

Benefits

OctreoScan® whole-body imaging enables rapid localization of the primary neuroendocrine tumor and sites of metastatic spread. OctreoScan® imaging also provides tumor localization and characterization information that can help determine the extent of a patient’s disease accurately, which may obviate the need for additional invasive procedures such as biopsy or angiography.

OctreoScan® imaging may enable clinicians to modify a patient’s diagnostic work-up and initiate appropriate measures (resection, octreotide therapy) at an early stage of the disease process. OctreoScan® also can be used for patient follow-up to monitor the effects of surgery, radiotherapy, or chemotherapy.

Special Considerations

Adverse effects observed in clinical trials (at a frequency of <1%) included dizziness, fever, flush, headache, hypotension, changes in liver enzymes, joint pain, nausea, sweating and weakness. Pentetreotide is an analog of octreotide, which has been shown to produce severe hypoglycemia in insulinoma patients. In patients suspected of having an insulinoma, an IV solution containing glucose should be administered before and during OctreoScan® administration. Patients should be well hydrated prior to OctreoScan® administration to enhance renal clearance and reduce the radiation dose to the bladder and other target organs. Use in patients with impaired renal function should be carefully considered.

The sensitivity of OctreoScan® scintigraphy may be reduced in patients concurrently receiving therapeutic doses of octreotide acetate. Consideration should be given to suspending octreotide therapy before OctreoScan® administration and monitoring the patient for signs of withdrawal.

Please consult the following page for a brief summary of prescribing information.
INDICATIONS AND USAGE

Indium-111 pentetreotide is an agent for the scintigraphic localization of primary and metastatic neuroendocrine tumors bearing somatostatin receptors.

CONTRAINdications

None known.

WARNINGS

DO NOT ADMINISTER IN TOTAL PARENTERAL NUTRITION (TPN) ADIMIXTURES OR INJECT INTO TPN INTRAVENOUS ADMINISTRATION LINES, IN THESE SOLUTIONS, A COMPLEX GLYCOLOID, OCTREOTIDE CONJUGATE MAY FORM.

The sensitivity of scintigraphy with indium-111 pentetreotide may be reduced in patients concurrently receiving therapeutic doses of octreotide acetate. Consideration should be given to temporarily suspending octreotide acetate therapy before the administration of indium-111 pentetreotide and to monitoring the patient for any signs of withdrawal.

PRECAUTIONS

General

1. Therapy with octreotide acetate can produce severe hypoglycemia in patients with insulinomas. Since pentetreotide is an analog of octreotide, an intravenous line is recommended in any patient suspected of having an insulinoma. An intravenous solution containing glucose should be administered just before and during administration of indium-111 pentetreotide.

2. The contents of the two vials supplied with the kit are intended only for use in the preparation of indium-111 pentetreotide and are NOT to be administered separately to the patient.

3. Since indium-111 pentetreotide is eliminated primarily by renal excretion, use in patients with impaired renal function should be carefully considered.

4. To help reduce the radiation dose to the thyroid, kidneys, bladder, and other target organs, patients should be well hydrated before the administration of indium-111 pentetreotide. They should increase fluid intake and void frequently for one day after administration of the drug. In addition, it is recommended that patients be given a mild laxative (e.g., bisacodyl or lactulose) before and after administration of indium-111 pentetreotide (see Dosage and Administration section).

5. Indium-111 pentetreotide should be tested for labeling yield of radioactivity prior to administration. The product must be used within six hours of preparation.

6. Components of the kit are sterile and nonpyrogenic. To maintain sterility, it is essential that directions for administration are followed carefully. Aseptic technique must be used during the preparation and administration of indium-111 pentetreotide.

7. Octreotide acetate and the natural somatostatin hormone may be associated with cholelithiasis, presumably by altering fat absorption and possibly by decreasing mobility of the gallbladder. A single dose of indium-111 pentetreotide is not expected to cause cholelithiasis.

8. As with any other radioactive material, appropriate shielding should be used to avoid unnecessary radiation exposure to the patient, occupational workers, and other persons.

9. Radio-pharmaceutics should be used only by physicians who are qualified by specific training in the use and handling of radionuclides.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Studies have not been performed with indium-111 pentetreotide to evaluate carcinogenic potential or effects on fertility. Pentetreotide was evaluated for mutagenic potential in an in vitro mouse lymphoma mutation assay and an in vivo mouse micronucleus assay; evidence of mutagenicity was not found.

Pregnancy Category C

Animal reproduction studies have not been conducted with indium-111 pentetreotide. It is not known whether indium-111 pentetreotide can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Therefore, indium-111 pentetreotide should not be administered to a pregnant woman unless the potential benefit justifies the potential risk to the fetus.

Nursing Mothers

It is not known whether this drug is secreted in human milk. Because many drugs are secreted in human milk, caution should be exercised when indium-111 pentetreotide is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

The following adverse effects were observed in clinical trials at a frequency of less than 1% of 536 patients: dizziness, fever, flush, headache, hypotension, changes in liver enzymes, joint pain, nausea, sweating, and weakness. These adverse effects were transient. Also in clinical trials, there was one reported case of bradycardia and one case of decreased hematocrit (hemoglobin).

Pentetreotide is derived from octreotide which is used as a therapeutic agent to control symptoms from certain tumors. The usual dose for indium-111 pentetreotide is approximately 3 to 20 times less than for octreotide and is subtherapeutic. The following adverse reactions have been associated with octreotide in 1% to 10% of patients: injection site pain, diarrhea, abdominal pain/discomfort, loose stools, and vomiting. Hypertension and hyperglycemia have also been reported with the use of octreotide.

DOSEAGE AND ADMINISTRATION

Before administration, a patient should be well hydrated. After administration, the patient must be encouraged to drink fluids freely. Elimination of extra fluid intake will help reduce the radiation dose by flushing out unbound, labelled pentetreotide by glomerular filtration. It is also recommended that a mild laxative (e.g., bisacodyl or lactulose) be given to the patient starting the evening before the radioactive drug is administered, and continuing for 48 hours. Aim to reduce fluid intake during this period as a support to both renal elimination and the bowel-cleansing process. In a patient with an insulinoma, bowel-cleansing should be undertaken only after consultation with an endocrinologist.

The recommended intravenous dose for planar imaging is 111 MBq (3.0 mCi) of indium-111 pentetreotide prepared from an OctreoScan kit. The recommended intravenous dose for SPECT imaging is 222 MBq (6.0 mCi) of indium-111 pentetreotide.

The dose should be confirmed by a suitably calibrated radioactivity ionization chamber immediately before administration.

As with all intravenously administered products, OctreoScan should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. Preparations containing particulate matter or discoloration should not be administered. They should be disposed of in a safe manner, in compliance with applicable regulations.

Aseptic techniques and effective shielding should be employed in withdrawing doses for administration to patients. Waterproof gloves should be worn during the administration procedure.

Do not administer OctreoScan in TPN solutions or through the same intravenous line.

Radiation Dosimetry

The estimated radiation dose to the average adult (70 kg) from intravenous administration of 111 MBq (3 mCi) and 222 MBq (6 mCi) are presented below. These estimates were calculated by Oak Ridge Associated Universities using the data published by Kenning, et al. 1

Estimated Absorbed Radiation Doses after Intravenous Administration of Indium-111 Pentetreotide* to a 70 kg patient

<table>
<thead>
<tr>
<th>Section</th>
<th>PLANAR</th>
<th>SPECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidneys</td>
<td>54.16</td>
<td>5.42</td>
</tr>
<tr>
<td>Liver</td>
<td>12.15</td>
<td>1.22</td>
</tr>
<tr>
<td>Spleen</td>
<td>73.86</td>
<td>7.39</td>
</tr>
<tr>
<td>Uterus</td>
<td>6.34</td>
<td>0.63</td>
</tr>
<tr>
<td>Ovaries</td>
<td>4.89</td>
<td>0.49</td>
</tr>
<tr>
<td>Testes</td>
<td>2.90</td>
<td>0.29</td>
</tr>
<tr>
<td>Rectum</td>
<td>3.46</td>
<td>0.35</td>
</tr>
<tr>
<td>Bladder</td>
<td>30.24</td>
<td>3.02</td>
</tr>
<tr>
<td>Small Intestine</td>
<td>4.78</td>
<td>0.48</td>
</tr>
<tr>
<td>Upper Large Intestine</td>
<td>5.80</td>
<td>0.58</td>
</tr>
<tr>
<td>Lower Large Intestine</td>
<td>7.73</td>
<td>0.77</td>
</tr>
<tr>
<td>Adrenals</td>
<td>7.55</td>
<td>0.78</td>
</tr>
<tr>
<td>Thyroid</td>
<td>7.43</td>
<td>0.74</td>
</tr>
<tr>
<td>Total Effective Dose*</td>
<td>13.03</td>
<td>1.30</td>
</tr>
</tbody>
</table>

1. Values listed include a correction for a maximum of 0.1% indium-111 on mammalian bone at calibration.


3. Assumes 4.8 hour waiting interval and International Commission on Radiological Protection (ICRP) 30 model for the gastrointestinal tract calculations.

4. Estimated according to ICRP Publication 53.

HOW SUPPLIED

The OctreoScan kit, NDC 0019-9050, is supplied with the following components:

1. A 10-mL OctreoScan Reaction Vial which contains a lyophilized mixture of:
   (ii) 2.0 mg gentamicin (2.5-dihydroxypropionic acid).
   (iii) 4.5 mg thiodium citrate, anhydrous.
   (iv) 0.37 mg zinc acetate, anhydrous, and
   (v) 10.0 mg mycostat.

Before lyophilization, sodium hydroxide or hydrochloric acid may have been added for pH adjustment. The vial contents are sterile and nonpyrogenic. No bacteriostatic preservative is present.

2. A 10-mL vial of indium-111 Chloride Sterile Solution, which contains 1.1 mL of 111 MBq/mL (3.0 mCi/mL) indium-111 chloride in 0.02 N HCl at time of calibration. The vial also contains dextrose chloride at a concentration of 3.5 g/mL, (Boric ion, 1.5 g/mL). The vial contents are sterile and nonpyrogenic. No bacteriostatic preservative is present.

In addition, the kit also contains the following items: (1) a 25 g x 1/4" needle (B-D. Monocult) used to transfer Indium-111 Chloride Sterile Solution to the OctreoScan Reaction Vial, (2) a pressure sensitive label, and (3) a package insert.
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The shape of your patients may help you recognize the potential for soft-tissue attenuation, especially in fleshy figures.

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Cardiolite®
Kit for the preparation of Technetium Tc99m Sestamibi

To reduce soft-tissue attenuation
Cardiolite comes through

Stress testing should be performed only under the supervision of a qualified physician in a laboratory equipped with appropriate resuscitation and support apparatus. There have been infrequent reports of signs and symptoms consistent with seizure and severe hypersensitivity after administration of Tc99m Sestamibi.

Please see brief summary of prescribing information on adjacent page. © 1994, DuPont Pharma
Cardiolite

Kit for the preparation of Technetium Tc99m Sestamibi

For Diagnostic Use

DESCRIPTION: Each 5mL vial contains a sterile, non-pyrogenic, lyophilized mixture of: Technetium-99m (99mTc) pertechnetate, 1.2mg Sodium Citrate, Dihydrate - 2.6mg L-Cystine Hydrochloride Monohydrate - 1.0mg Mannitol - 20.0mg Stannous Chloride, Dihydrate, minimum (SnCl2.2H2O) - 0.025mg Stannous Chloride, Dihydrate, (SnCl2.2H2O) - 0.0175mg Tin (II) Stannous (and Stannic) Dihydrate, maximum (as SnCl2.2H2O) - 0.086mg

Prior to lyophilization the pH is 5.3-5.9. The contents of the vials are lyophilized and stored under nitrogen.

This drug is administered by intravenous injection for diagnostic use after reconstitution with sterile, non-pyrogenic, oxygen-free Sodium Pertechnetate Tc99m Injection. The pH of the reconstituted product is 5.5 (0.5-6.0). No bacteriostatic preservative is present.

The precise structure of the technetium complex is Tc99m(MIBI)2+, where MIBI is 2-methoxyisobutyl isonitrile.

INDICATIONS AND USAGE: CARDIOLITE, Kit for the preparation of Technetium Tc99m Sestamibi is a myocardial perfusion agent that is useful in the evaluation of ischemic heart disease. CARDIOLITE, Kit for the preparation of Technetium Tc99m Sestamibi is useful in distinguishing normal from abnormal myocardium and in the localization of the abnormality, in patients with suspected myocardial infarction, ischemic heart disease or coronary artery disease. Evaluation of ischemic heart disease or cardiac ischemia must be accomplished using rest and stress techniques.

CARDIOLITE, Kit for the preparation of Technetium Tc99m Sestamibi, is also useful in the evaluation of myocardial function using the first pass technique.

Rest-exercise imaging with Tc99m Sestamibi in conjunction with other diagnostic information can be used to evaluate ischemic heart disease and its localization.

In clinical trials, using a template consisting of the anterior wall, inferior-posterior wall and isolated septum, localization in the anterior or inferior-posterior wall in patients with suspected myocardial infarction or coronary artery disease was shown. Disease localization is isolated to the agent has not been established. Tc99m Sestamibi has not been studied or evaluated in other cardiac diseases.

It is usually not possible to differentiate recent from old myocardial infarction or to differentiate recent myocardial infarction from ischemia.

CONTRAINDICATIONS: None known.

WARNINGS: In studying patients in whom cardiac disease is known or suspected, care should be taken to assure continuous monitoring and treatment in accordance with safe, acceptable medical procedures. Infrequently, death has occurred 4 to 24 hours after technetium Tc99m Sestamibi use and is usually associated with exercise stress testing (See Precautions).

PRECAUTIONS:

GENERAL

The contents of the vial are intended only for use in the preparation of Technetium Tc99m Sestamibi and are not to be administered directly to the patient without first undergoing the proper reconstitution. Radiopharmaceuticals 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 patient consistent with proper patient management.

Contents of the kit before preparation are not radioactive. However, after the Sodium Pertechnetate Tc99m Injection is added, adequate shielding of the final preparation must be maintained.

The components of the kit are sterile and non-pyrogenic. It is essential to follow directions carefully and to adhere to strict aseptic procedures during preparation.

Technetium-99m labeling reactions involved depend on maintaining the stannous ion in the reduced state. Hence, Sodium Pertechnetate Tc99m Injection containing oxidants should not be used.

Technetium Tc99m Sestamibi should not be used more than six hours after preparation.

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

Stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate reconstitution and support apparatus.

The most frequent exercise stress test endpoints, which resulted in termination of the test during controlled Tc99m Sestamibi studies (two-thirds were cardiac patients) were:

For pregnant women:

Nursing Mothers

Technetium Tc99m Pertechnetate is excreted in human milk during lactation. It is not known whether Technetium Tc99m Sestamibi is excreted in human milk. Therefore, formula feedings should be substituted for breast feedings.

Pediatric Use

Safety and effectiveness in children below the age of 18 have not been established.

ADVERSE REACTIONS: During clinical trials, approximately 8% of patients experienced a transient metallic or bitter taste immediately after the injection of Technetium Tc99m Sestamibi. A few cases of transient headache, flushing and non-drenching sweat have also been attributed to administration of the agent. Cases of angina, chest pain, and death have occurred (see PRECAUTIONS) and ADVERSE DRUG REACTIONS).

The following adverse reactions have been reported: nausea, vomiting, and severe pain, nausea, vomiting, dysesthesia, and vomiting within two hours after a second injection of Technetium Tc99m Sestamibi.

DOSAGE AND ADMINISTRATION: The suggested dose range for IV administration in a single dose is to be employed in the average patient of 70-110lb (50-50kg) at a dose of 15-25mCi before and after reconstitution.

RADIATION DOSIMETRY: The radiation dose to organs and tissues of an average patient (70kg) per 110lb (50kg) of Technetium Tc99m Sestamibi injected intravenously are shown in Table 4.

Table 4. Radiation Absorbed Doses from Tc99m Sestamibi

<table>
<thead>
<tr>
<th>Organ</th>
<th>2.0 hour void</th>
<th>4.0 hour void</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rad/hr/mCi</td>
<td>rad/hr/mCi</td>
</tr>
<tr>
<td></td>
<td>30mCi</td>
<td>110mCi</td>
</tr>
<tr>
<td></td>
<td>20mCi</td>
<td>110mCi</td>
</tr>
<tr>
<td>Breasts</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Gallbladder Wall</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Spleen</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Spleen</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Small Intestine</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Upper Large Intestine</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Lower Large Intestine</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Stomach Wall</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Liver</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Kidneys</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Kidneys</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Ovaries</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Urinary Bladder Wall</td>
<td>2.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Body</td>
<td>2.0</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Precautions:

Radiopharmaceuticals for Internal Dosage Information Center, July 1990, Oak Ridge Associated Universities, F.O. Box 117, Oak Ridge, TN 37830, (615) 576-3465.

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Circle Reader Service No. 12
PR Stars Contest
for promoting our Nuclear Medicine Profession

This is the official entry form for the PR STARS contest sponsored by the Society of Nuclear Medicine Technologists' Section and Syncor Pharmacy Services. Please fill out the information requested on the reverse side of this form. Based on this information, a panel of judges will evaluate the entries and select the winners. All entrants must be staff members of a hospital or Nuclear Medicine facility. Entries must be postmarked no later than January 31, 1995. Mail or fax your entry to:

PR STARS CONTEST
Syncor Pharmacy Services
20001 Prairie Street
Chatsworth, CA 91311
Fax: (818) 885-6513
Attn: Karen Pomnean, Manager
Marketing Communications

Your Name_________________________________________________________
Hospital/Facility____________________________________________________
Address ___________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
Telephone/Fax _______________________________________________________

Prizes are as follows:

First Place: $1,000 for your institution; $350 for the entrant; up to $1,000 for airfare to the SNM Annual Meeting to accept your award.
Second Place: $500 for your institution; $250 for the entrant.
Third Place: $250 for your institution; $100 for the entrant.

Please turn the page ➔
Document your activities is encouraged and may be mailed with your entry. (All original materials will be returned after the judging has been completed.) You may also use additional pages as necessary.

1. Describe your Nuclear Medicine Week activities:
   a. When did you celebrate?
   b. What was your primary objective or message?
   c. Who was your target audience?

2. What available resources did you use? (budget, manpower, media, etc.)

3. Describe your success in achieving your primary objective, hitting your target audience, or successfully conveying your message. Include the most notable aspects and/or anecdotes.

4. Did your celebration have any positive outcome(s)?

5. Finally, can you offer the Nuclear Medicine Week Committee any suggestions for improving our materials or contest?

Thank you for your entry, and GOOD LUCK!

Nanci Burchell
Nuclear Medicine Week Chairperson

PR Stars Contest
for promoting our Nuclear Medicine Profession
Introducing the newest way to visualize pheochromocytoma and neuroblastoma.

I-131 MIBG
Iobenguane Sulfate I-131 Injection
Diagnostic - For Intravenous Use

Introducing I-131 MIBG, the first functional imaging agent for localization of pheochromocytoma and neuroblastoma. Now you can greatly enhance your capacity to detect these tumors of adrenergic tissues.

When you combine the advantages of whole body imaging with the unique functional specificity of I-131 MIBG, you can localize extra-adrenal and metastatic pheochromocytoma in the preliminary diagnostic work-up. What's more, you can use the high sensitivity and specificity of I-131 MIBG for better management of neuroblastoma patients.

I-131 MIBG gives you a degree of diagnostic confidence simply not possible with non-radionuclide imaging techniques.

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10 DeAngelo Drive, Bedford, MA 01730

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Syncor
The Service Difference

Please see brief summary of prescribing information on reverse page.

Circle Reader Service No. 25
I-131 MIBG (Iobenguane Sulfate I-131 Injection)

Diagnostic - For Intraoperative Use

The newest way to visualize pheochromocytoma and neuroblastoma.

Clinical trials worldwide have demonstrated I-131 MIBG safe and effective for the localization of pheochromocytoma and neuroblastoma. In a study of 400 cases, the US Food and Drug Administration (FDA) licensed I-131 MIBG scintigraphy to be the "study of choice to indicate the location of suspected pheochromocytoma, giving an overall sensitivity of 86% and an overall specificity of 99%." Neuroblastoma: Tumor Biology and Therapy, a CRC Press publication states that "in many instances, the I-131 MIBG scan reveals all the [neuroblastoma] tumor deposits delineated by use of the full combination of imaging procedures ordinarily used, and this technique often also reveals other [neuroblastoma] lesions not demonstrated by any other modality."

For more information: 1-800-221-7554

Manufactured in the USA by:

CIS-US, Inc.
10 DeAngelo Drive, Bedford, MA 01730

RADIATION DOSE

The estimated absorbed radiation dose to adults and children from an intravenous dose of Iobenguane Sulfate I-131 is shown in Table 4.

Table 4: Estimated Absorbed Radiation Dose: Iobenguane Sulfate I-131

<table>
<thead>
<tr>
<th>Organ</th>
<th>Adult</th>
<th>Child</th>
<th>1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyroid</td>
<td>mCi</td>
<td>mCi/m2</td>
<td>mCi/m2</td>
</tr>
<tr>
<td>Heart Wall</td>
<td>1.41</td>
<td>1.41</td>
<td>1.41</td>
</tr>
<tr>
<td>Blood Volume</td>
<td>0.28</td>
<td>0.28</td>
<td>0.28</td>
</tr>
<tr>
<td>Liver</td>
<td>2.92</td>
<td>2.92</td>
<td>2.92</td>
</tr>
<tr>
<td>Lung</td>
<td>21.8</td>
<td>21.8</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Reproduction

The following organs each receive less than 1 rad per procedure:

- breast,
- lung, small intestine, stomach,
- urinary tract, kidney,
- bone, teeth, skin, and thyroid.

If 0.5 mCi of Iobenguane Sulfate I-131 is used, the organ burden would be half of the doses listed above. The thyroid gland estimated burden is in the undetectable state. When the thyroid gland is blocked with Lugol's solution, uptake is minimal.

Peak scans were generally noted at 48 hours post-injection. However, serial scans at 24, 48, and 72 hours post-injection may be needed to optimally define the tumor.

NOTE:

Iobenguane Sulfate I-131 Injection is supplied in a 2 mL glass vial as a sterile, nonpyrogenic solution containing, at calibration, 85.1 ± 5.3 mCi/mL (2.1 μCi/mg) of Iobenguane Sulfate I-131 injection. Store the drug at freezer temperature (-20°C to -10°C).

Manufactured by:

CIS-US, Inc.
10 DeAngelo Drive, Bedford, MA 01730

References:


DOSAGE AND ADMINISTRATION

Dosage and administration of Iobenguane Sulfate I-131, the patient's thyroid gland should be blocked with Potassium Iodide Oral Solution (120 mg Ki/24 or 0.12 mL/Lugol's Solution (up to 40 mg I/24. On the day before administration, the patient should be allowed to eat breakfast and drink water. The time of the day before and daily for at least 7 days after the dose of Iobenguane Sulfate I-131.

Adults:

The recommended dose in adults is 0.5 mCi. In obese patients over 1.7 m2 (65 kg), the dose should be 0.3 mCi/m2 to a maximum of 1.0 mCi.

Children:

The recommended dose in children is 0.3 mCi/m2 to a maximum total dose of 0.5. The minimum recommended dose for appropriate imaging is 0.135 mCi.

Iobenguane Sulfate I-131 should be injected by slow intravenous infusion over 15-30 seconds (longer if necessary). Since the possibility of rebound hypertension exists, the patient's vital signs should be carefully monitored during and after injection.

In order to maintain sterility, it is essential that the user follow directions and adhere to strict aseptic procedure. As the use of any radioactive material, care should be taken to insure minimum radiation exposure to the patient and physician.

Waste disposal:

Iobenguane Sulfate I-131 Injection is supplied in a 2 mL glass vial as a sterile, nonpyrogenic solution containing, at calibration, 85.1 ± 5.3 mCi/mL of Iobenguane Sulfate I-131 injection. Store the drug at freezer temperature (-20°C to -10°C).

NOTE:

Two to three hours prior to use, thaw the solution inside the container at room temperature. Discard the unused portion of drug after 4-6 hours if kept at room temperature. In conformance with USP recommendations, iodine 131 preparations should not be used after the expiration date on the label.

NDC 04556070100

"This radiopharmaceutical is approved U.S. Nuclear Regulatory Commission for distribution to persons licensed to use radiopharmaceutical labeled in Section 2.28 of 10 CFR Part 36, effective December 1, 1987, or under exemption licensed by an Agreement State."
Computers have become an indispensable tool in nuclear medicine. This is the book for those who wish to acquire a basic understanding of how computers work and the processing techniques used to obtain diagnostic information from radionuclide images. The text gives a thorough description of the hardware components of a nuclear medicine computer system and explains the principles behind many common image processing techniques. The following topics are discussed in detail:

- Functions and components of a computer system
- Mass storage devices
- Input and output devices
- Computer software
- Nuclear Medicine image acquisition methods
- Methods of qualitative image analysis
- Quantitative image analysis
- Nuclear cardiology
- Quantitative data analysis
- Single-photon emission computed tomography
- Selecting a computer for nuclear medicine

The book is illustrated throughout to help the reader conceptualize the topics as they are discussed.

Price: $30 member $45 nonmember

To order, call toll-free, Bookmasters, Inc.,
1-800-247-6553
(Outside the U.S. 419-281-1802).
The Society of Nuclear Medicine Awards Committee announces that one fellowship for $30,000 is available for July 1, 1995.

The objective of this fellowship is to: (1) Encourage physicians to enter the field of Cardiovascular Nuclear Medicine, and (2) Support high quality nuclear cardiology clinical research.

Funds can be used to support the research and/or salary of the investigator. Preference will be given to young physicians, or those new to the field of Cardiovascular Nuclear Medicine. Awards will be announced at the Annual SNM Meeting, June, 1995.

Please send for more information and an application to:
The Society of Nuclear Medicine, SNM Awards Committee
1850 Samuel Morse Drive, Reston, VA 22090

Deadline: January 6, 1995
The 1995 Scientific Program Committee, Scientific Exhibits Subcommittee and the Scientific & Teaching Sessions Committee solicit the submission of abstracts from members and nonmembers of The Society of Nuclear Medicine for the 42nd Annual Meeting in Minneapolis, MN. Accepted Scientific Paper and Scientific Exhibit abstracts will be published in a special supplement to the May issue of the Journal of Nuclear Medicine and accepted Technologist Section abstracts will be published in the June issue of the Journal of Nuclear Medicine Technology. Original contributions on a variety of topics related to nuclear medicine will be considered, including:

- Instrumentation and Data Analysis
- Radioassay
- Radiopharmaceutical Chemistry
- Dosimetry/Radiobiology
- Nuclear Magnetic Resonance Chemistry
- Clinical Science Applications:
  - Bone/Joint
  - Cardiovascular (clinical, basic, and PET)
  - Endocrine
  - Gastroenterology
  - Neurosciences: Basic, Neurology and Psychiatry
  - Pediatrics
  - Pulmonary
  - Renal/Electrolyte/Hypertension
  - Hematology/Infectious Disease
  - Oncology Diagnosis (antibody)
  - Oncology Diagnosis (non-antibody)
  - Oncology/Therapy

Authors seeking publication for the full text of their papers are strongly encouraged to submit their work for immediate review to JNM, and for the technologist section, to JNMT.

There are two abstract forms for the annual meeting. The Scientific Paper abstract form can be obtained in the October 1994 JNM. The Scientific Exhibits abstract form is only available by calling or writing to:

The Society of Nuclear Medicine
At: Abstracts
1850 Samuel Drive
Reston, VA 22090
Tel: (703)708-9000 • FAX: (703)708-9015

Deadline for receipt of abstracts for scientific papers is Wednesday, January 4, 1995.

Deadline for receipt of abstracts for scientific exhibits is Wednesday, January 4, 1995.

---

**SPECT BRAIN IMAGING CLINICAL FELLOWSHIP**

**Department of Radiology**

**Section of Nuclear Medicine**

**BENEFIT**

This program is designed for nuclear medicine physicians, radiologists, technologists and referring physicians. It is intended to educate participants about the clinical utility of SPECT brain imaging with agents such as Ceretec® and Neurolite®.

Objectives include:

- Development of interpretation skills for brain images.
- Appreciation of clinical applications of SPECT brain imaging.
- Knowledge of image acquisition and reconstruction.
- Appreciation of factors that influence image quality.
- Knowledge of quality control techniques for SPECT.

**SPONSORSHIP:**

This program is sponsored by the Medical College of Wisconsin.

**TUITION:**

The tuition fee of $650 includes the course syllabus, handouts, breaks, breakfasts, lunches, and other amenities involved in making this a pleasant learning experience. Maximum enrollments have been established. Cancellations prior to the course will be refunded, less a $30 administrative fee.

**CREDIT:**

The Medical College of Wisconsin is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

Accordingly, the Medical College of Wisconsin designates this continuing medical education activity as meeting the criteria for 13.00 hours in Category I toward the Physician's Recognition Award of the American Medical Association.

Nuclear Medicine Technologists who attend the SPECT Brain imaging Clinical Fellowship are eligible for 1.0 VOICE credit.

Register me for the following dates:

☑ November 14-15, 1994

I will need reservations for Sunday and Monday night / ______ only on Monday night,

I will need a ______ single / ______ double room.

A check in the amount of $650 should accompany this registration form and be made payable to the Medical College of Wisconsin. Telephone registrations must be confirmed by check within 10 days.

Name__________________________

Address__________________________

City/State/Zip__________________________

Office Phone__________________________

☐ work address ☐ home address

Registrations and payment should be sent to:

Lisa Ann Trembath
SPECT Brain Imaging Fellowship Coordinator
Nuclear Medicine Division
Medical College of Wisconsin
8700 W. Wisconsin Avenue
Milwaukee, WI 53226 • (414) 777-3756
### SNM 42ND ANNUAL MEETING

**Critical Dates**

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<th>Item</th>
<th>Due Date</th>
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<td>1/4/95</td>
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<tr>
<td>REGISTRATION FORM</td>
<td>5/5/95</td>
</tr>
<tr>
<td>HOUSING FORM</td>
<td>5/12/95</td>
</tr>
</tbody>
</table>

**DON'T FORGET THE MID-WINTER MEETING IS IN SAN DIEGO, CALIFORNIA**

- **TITLE:** The Nuclear Medicine Information Super Highway
- **DATE:** February 7-8, 1995
- **LOCATION:** San Diego Mission Valley Hilton
- **SPONSOR:** The Computer and Instrumentation Council

---

### Celebrate the 25th Anniversary of The Society of Nuclear Medicine Technologist Section

**You're Invited:**

- **To:** A Year-Long Anniversary Celebration.
- **For:** The 25th Anniversary of the Technologist Section of The Society of Nuclear Medicine.
- **When:** Throughout 1995.
- **Where:** Your office, hospital, university, Chapter meeting, 1995 SNM Annual Meeting... We're celebrating wherever you are!
- **What:** The 25th Anniversary of the founding of the SNM Technologist Section will be celebrated throughout the year with special commemorative events, such as:
  - Lectures honoring technologist pioneers,
  - Chapter membership drives with achievement awards,
  - JNMT articles chronicling the history of the Technologist Section; and
  - An all out 25th Anniversary party at the 1995 SNM Annual Meeting in Minneapolis.

  Additionally, the Technologist Section will have special 25th Anniversary memorabilia for sale, including T-shirts, mugs, buttons, posters, and more.

- **Directions:** Please join in the Technologist Section's 25th Anniversary celebration by participating in its local and national commemorative events, and by purchasing special anniversary memorabilia.

- **RSVP:** Kristin Ludwig at The Society of Nuclear Medicine for additional information: 1850 Samuel Morse Drive, Reston, Virginia 22090-5316.
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M-180  Mannose Triflate, ultra-pure \\
K-107  Kryptofix®-Potassium Carbonate Reagent \\
K-108  Kryptofix®222, ultra-pure

\[ ^{18}\text{F}]6-\text{Fluoro-L-DOPA} \\
F-127  Tin Precursor \\
F-125  Mercury Precursor \\
S-152  Silica Gel, Thiol-Modified \\
F-126  6-Fluoro-DL-DOPA \\
H-154  6-Hydroxy-DL-DOPA \\
D-009  L-DOPA

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Ask for our new PET imaging brochure
New Products

Each description of the products below was condensed from information supplied by the manufacturer. The reviews are published as a service to the professionals working in the field of nuclear medicine and their inclusion herein does not in any way imply an endorsement by the Editorial Board of The Journal of Nuclear Medicine or by The Society of Nuclear Medicine.

Olympus Introduces Rotary Microtomes

Two advanced rotary microtomes were recently introduced by the Precision Instrument Division of Olympus America Inc. Among the innovative features of the Olympus CUT4055 and CUT4060 microtomes are the vertical stroke of 70 mm, maximum horizontal advance of 40 mm, and sectioning thickness capability extending down to 0.5µ. Each microtome also has a three-step automatic trim mode of 10, 20 or 30µ. This feature provides quick access to the specific area of investigation. The new Olympus Model CUT4060 rotary microtome has specimen retraction and a section counter. Both of these models are designed with particular attention to ergonomic considerations. The coarse-advanced handwheel is in a far-forward location for accessibility and has a convenient sliding clutch. An anti-blocking mechanism on this handwheel can override the sliding clutch if necessary. A collision-protected feature deactivates the advance mechanism when maximum excursion is reached. A safety lock on the fine-advance handwheel can be activated from either side of these microtomes, offering 36 click positions distributed over 360° on the wheel. Counterweights in the fine-advance handwheel and the housing ensure balanced rotation. This handwheel is mounted separate from the cover, making cover removal and accessibility to the internal mechanisms easier to service. Cross-roller guides of both these microtomes are especially strengthened to permit sectioning plastics. Other construction features include a sturdy dovetail guide for the anodized knife and blade holder, a base plate for easy cleaning and a stainless-steel cylinder for the fine advance mechanism. Olympus America Inc., Precision Instrument Division, 4 Nevada Dr., Lake Success, NY 11042-1179. (800) 446-5967, fax: (516) 222-7920.

Medical Equipment
Uninterruptible Power Supply

Alpha Technologies announces the AlphaMed Uninterruptible Power Supply (UPS) which provides clean and uninterrupted backup power to medical equipment in case of utility power failure and/or interruption. Designed for use in hospital, clinic and lab facilities to power ultrasound, monitoring, diagnostic, computer and communications equipment, the AlphaMed UPS exceeds the stringent safety requirements of health care industry equipment. Current models are available in 1500VA, 2000VA and 2500VA power ranges with varying input and output hospital grade connector configurations. The Alpha Med UPS systems meet the demanding safety and performance standards established for North American health providers, including UL544 and CSA 22.2#125. Low current leakage prevents the unit from interfering with other crucial equipment. Equipment lifetime can be affected by uneven power quality and generator backup is not sufficient to protect against data loss and service interruption. The UPS incorporates all the advantages of the new Alpha CF UPS technology, providing power conditioning, no-break power protection and exceptional reliability. It supplies computer-grade sine wave output, ensuring maximum equipment performance. As an on-line UPS, it provides continuous power even during a total power failure. Its backup times can be easily extended to more than eight hours with the addition of Alpha's plug-and-play external battery packs.

Camtronics Archium™
Digital Archive System Receives 510(k) Clearance

The industry's first all digital, real-time, network-based cardiac archive system has received 510 (k) clearance from the FDA and is being installed at its first clinical sites at Stanford University Medical Center and Northridge Hospital in Los Angeles. The Archium™ system is a unique approach to archiving digital cardiac images. Unlike competitive analog devices or other digital storage media, the Archium system is based on a storage media-independent strategy which protects the cath lab from undoubted changes and updates in storage media technology. At the core of this unique strategy is an on-line storage controller which performs like a high-speed file server. The Archium system transfers acquired digital data at high data transfer rates directly from the cath lab via a fiber optic line to the Working Storage Controller, which can store several weeks worth of images. The Archium transmits digital data to a cardiac workstation at the same high data transfer rates, providing real-time review while avoiding lossy compression. By preserving absolute fidelity of the image data, the Archium system allows postprocessing and quantitative analysis. The Archium system also provides multiple users concurrent access to a single patient study and enables individual users to access multiple patient studies. The high-speed file server combined with a fiber optic network provides an advantage over current archive systems where access is limited. For more information contact: Camtronics Medical Systems, (414) 367-0700.
Positions Available

**Fellowship**

RESEARCH FELLOWSHIP IN NUCLEAR MEDICINE at the University of Illinois and Michael Reese Hospital. One-year position starting 1/1/95 is offered to BE/BC applicants interested in advanced clinical nuclear medicine research. Send CV to M.J. Blend, Section of Nuclear Medicine (M/C 931) University of Illinois, 1740 W. Taylor, Chicago, IL 60612

**Physician**

PHYSICIAN - Full-time position in general nuclear medicine (includes all cardiac studies but no PET) in well-equipped and well-staffed medium size community hospital in mid-west. Excellent opportunities for clinical research inclined. Send CV to Box #1001, The Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090

NORTHERN CALIFORNIA - The Kaiser Permanente Medical Center in Santa Clara, CA is seeking a BC/BE Nuclear Medicine Physician for a career opportunity with the nation's leading HMO. All aspects of nuclear medicine services are provided to a 250,000 member prepaid patient population. Clinical and administrative experience required.

Internal medicine background preferred. Academic opportunities are available. Competitive salary, generous benefits and a comprehensive retirement program. For more information, send CV with cover letter to: Diane Butler, The Permanente Medical Group, Inc. Physicians Recruitment, Dept. 68, 1814 Franklin, 4th floor, Oakland, CA, 94612. EOE.

NUCLEAR MEDICINE POSITION BC/BE NM Physician on BC/BE in NM needed for expanded hospital-based and private OP facility on the Southeast. Practice is 50% internal medicine clinical duties with emphasis on thyroid diseases and osteoporosis. Routine NM with SPECT and Radionuclide therapy. Qualified candidates send CV to Box #1003, The Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090.

**Radiology**

NUCLEAR MEDICINE PHYSICIAN/RADIOLOGIST Short term locum required for intermittent coverage in well-established hospital practice in southwestern Ontario. Must be able to perform routine nuclear studies. Cardiac imaging beneficial. Reply to Box #1002, The Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090.

RADIOLOGIST/NUCLEAR MEDICINE - 5 person NY/NJ group seeking radiologist with special competency in Nuclear Medicine. Interest in mammography desired but not essential. Young, progressive group located in 400 bed hospital with nearby imaging center. Send CV to: James Heimann, M.D., 5 Franklin Ave, Belleville, NJ 07109; (201) 450-2038, (201) 751-2011

RADIOCHEMIST - Seeking position in a PET center or in a radiopharmaceutical manufacturing facility. PhD in Organic Chemistry. Four years experience in manufacturing of PET radionucleotides, development and optimization of synthetic methods, development, installation and service of radiochemical equipment. Reply to Box #1009, The Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090.

**Positions Wanted**

FULL TIME position wanted for M.D. AP/CP and ABNM certified. Experienced. Available spring 1995 or sooner. Reply to Box #1010, Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090.

---

**RADIOCHEMIST**

The University of Alabama at Birmingham is seeking a Co-Director for a well funded interdisciplinary project involving the development of novel tracers for the purpose of identifying and detecting early abnormal molecular change and evaluating therapeutic efficacy in autoimmune, inflammatory, and cerebrovascular disease. The candidate should have demonstrated excellence in research and be qualified to take on a leadership role in the area of molecular imaging and radioisotope labeling of antibodies. The candidate should have experience in molecular synthesis since the major goal of the project will be to engineer novel molecular structures that have high binding specificity. emphasis will be placed on developing the tracers using cell culture systems and basic animal models of disease leading to human application. Experience with FDA applications is desirable.

Labeling will include iodination and chelation methods for the preparation of antibodies, proteins, receptor ligands, and oligonucleotide probes. Development and testing of NMR tracers and contrast agents will be performed on radioligands with demonstrated efficacy. The candidate should have an excellent understanding of immuno-molecular biology and be highly motivated and capable of advancing the discipline of new tracer technology. The candidate should have a Ph.D. in chemistry or equivalent and additional experience in radiolabeling and molecular engineering. The starting position and salary will be at the level of instructor or assistant professor, depending on experience. For further information please send a letter of interest, curriculum vitae, and three letters of reference to:

James M. Moutz, M.D., Ph.D.
Associate professor of Radiology and Nuclear Medicine
Director of Neuro-Nuclear Medicine
Department of Radiology and Nuclear Medicine
619 South 19th Street
University of Alabama at Birmingham
Birmingham, AL 35233
Phone - (205) 934-2140, Fax - (205) 934-5589

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Celebrate

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October 2-8, 1994
Help fight asthma.

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Space contributed by the publisher as a public service

NUCLEAR PHARMACY PHYSICIST

The Department of Radiology, School of Medicine and Department of Pharmacy Practice, School of Pharmacy, University of Colorado Health Sciences Center, are pleased to announce an opening for a jointly appointed faculty position. Selected individual will provide radiopharmacy services to Division of Nuclear Medicine, Department of Radiology at University Hospital and participate in on-going research in Nuclear Medicine and University of Colorado Cancer Center. Opportunities also exist for initiation of self-directed research in radiopharmacy and in collaboration with faculty in the School of Pharmacy. Successful candidate will teach in the School of Pharmacy Pharm D. program, the Medical Physics graduate program in Radiology and will precept Pharm D. students on elective clerkship rotations.

Applicants must have an advanced degree in pharmacy, radiopharmacy, or radiochemistry. Board certification in Nuclear Pharmacy (BCNP) is desired. Starting dates, rank and salary determined by qualifications. Applicants accepted until the position is filled. For consideration send current curriculum vitae and the names and telephone numbers of three references to:

R. Edward Hendrick, Ph.D., Chief Division of Radiological Sciences University of Colorado Health Sciences Center 4200 East Ninth Avenue, Box C278 Denver, Colorado 80262-0277 T: (303) 270-8468, F: (303) 270-8993 AA/EOE

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Scanditronix Super PETT 3000 Time-of-Flight PET Scanner Fully Characterized and Operational Service Available Price Negotiable Contact: William Robeson North Shore University Hospital-Department of Research 300 Community Drive Manhasset, New York,11030 (516) 562-2543

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For further information, please contact Jessica McLane at (703) 708-9000.
TECHNOLOGIST SECTION
CONTINUING EDUCATION

TS202 Cardiac Imaging: Increasing the Specificity of Radionuclide Scintigraphic Considerations, J. Holder, M.D.

TS203 SPECT Imaging for Cardiac Disease, R. McDonald, M.D., D. Walsey, M.D.

TS204 Orthopedic Imaging I: Symptom Limited Evaluation of Bone Fractures, J. L. Plooster, M.D., J. R. E. Gilmour, B.SC.

TS205 SPECT II: Current Applications and Instrumentation / The Expanding Role of SPECT in the Community Hospital, A. Johnson, B.S.


TS207 SPECT IV: Technological Improvement and Economic Realities / Solving the Attenuation and Scatter Problems, J. Uchida, M.D., M.S., K. O. M. S. L. N. M. (Tape 4)

TS208 Total Quality Management I (Sunday) / JCAHO, S. Gilbert, CMNIT

TS209 Total Quality Management II (Sunday) / Team Building—Part I, P. McCaughlin

TS210 Total Quality Management III (Sunday) / Customer Service, J. Herbel

TS212 Oncology (Monday) / Bone Scintigraphy in Malignant Tumors, V. Grossman, M.D., D. B. D. K. L. D. (Tape 5)

TS213 Nuclear Cardiology I: Myocardial Perfusion Imaging / Modes of Stress Testing, G. H. M. R. D. F. N. (Tape 6)

TS214 Nuclear Cardiology II: Function and Prognosis / Functional Assessment with To-99m Tc-Sestamibi: First Pass, B. N. D. N. (Tape 7)

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TS227 Nuclear Medicine III: Renal Imaging / Current Status, G. D. M. (Tape 13)

TS228 Radiation Emergency Response Planning, K. Coleman


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Myocardial Perfusion Imaging Sources of Error and Artifacts, R. F. E. B. S. (Tape 19)

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Myocardial Perfusion Imaging Sources of Error and Artifacts, R. F. E. B. S. (Tape 19)
THE SOCIETY OF NUCLEAR MEDICINE, INC.
41st Annual Meeting
June 5-8, 1994 • Orlando, Florida

VIDEO CASSETTES AVAILABLE

- Cardiovascular Nuclear Medicine 1994 - Dr.'s V. Dilsizian, J. Udelson, J. Maddahi, S. Port, D. Miller, K. Brown, L. Johnson, M. Verani (2 tapes) (A=52:00 B=1:48:00)
- Tumor Imaging in Clinical Practice - Dr.'s A. Jacobson, E. Krenning, S. Larson, R. Coleman, I. Khalid, H. Abdel-Daim, J. M. Montgomery, J. Freitas (3 tapes) (A=1:11:00 B=1:37:00 C=1:27:00)
- Functional Brain Imaging: A Perspective for the 1990's - Dr.'s H. Cossett, L. Brass, W. Jagust, J. Masdeu, G. Morris, H. Mayberg (3 tapes) (A=46:00 B=2:05:00 C=1:35:00)
- Renal I: Methodology for Renal Function and Studies - Dr.'s A. Taylor, D. Blaufuss (50:00)
- Oligonucleotides as Pharmaceuticals - Dr.'s C. Cantor, P. Varenow (1:25:00)
- Brain Imaging: An Introduction to Imaging Instrumentation - Dr.'s J. Juni, R. Heilman, T. Hill (1:24:00)
- Practical Orthopedic Bone Scanning - Dr.'s M. Brown, B. Collier (1:32:00)
- GI I: Quantitative Hepatobiliary Imaging - Dr.'s G. Krehnakum, W. Drake (1:09:00)
- SPECT I: Current Applications and Instrumentation - Dr.'s C. Collier, J. Galt (1:41:00)
- SPECT II: Tips to Improve Clinical Studies - Dr.'s D. Basso, D. Faulkner (2 tapes) (A=47:00 B=55:00)
- SPECT II: Technical Improvement and Economic Realities - Dr.'s J. Collum, B. McLaughlin (1:10:00)
- GI II: Gastric Emptying Blood Pool and Leukocyte Imaging - Dr.'s T. Chaudhuri, A. Maurer, S. Kipper (1:41:00)
- Molecular Antigens: Molecular Nuclear Biology - Dr.'s D. Buchbaum, M. Dewanjee (1:24:00)
- Bone Densitometry - Dr.'s S. Jackson, I. Fogelman, L. Rosenhantl (1:24:00)
- Therapy: Some of the Pain of Osteoblastic Metastases with Unsealed Sources - Dr.'s E. Silberstein, S. Goldsmith, R. Robinson (1:31:00)
- Cardiovascular: Debate on Nuclear Cardiology and Correlative Imaging - Dr.'s S. Port, H. Schelbert, W. Stanford, W. Zoghi, J. Ziffer (1:32:00)
- Cardiovascular: Practical Issues in Cardiovascular SPECT Imaging - Dr.'s E. Garcia, J. Lintz, P. Rigo, G. DePuey (1:46:00)
- Cardiovascular: Modes of Stress Testing in Conjunction with Radionuclide Myocardial Perfusion Imaging - Dr.'s F. Thwaits, P. Handel, M. Verani, A. Rozanski, D. Berman (1:32:00)
- Nuclear Cardiology I: Myocardial Perfusion Imaging - Dr.'s G. Heller, J. Udelson (1:28:00)
- Nuclear Cardiology II: Myocardial Perfusion Imaging, continued - Dr.'s J. McManus, R. Folkas (1:11:00)
- Nuclear Cardiology II: Function and Prognosis - Dr.'s N. Datala, D. Masini (54:00)
- Nuclear Cardiology III: Function and Prognosis, continued - Dr.'s R. Hendel, B. Villegas (1:22:00)
- Overview of Bone SPECT Imaging - Dr.'s D. Collier, R. McDonald (1:38:00)
- Bone Imaging in Orthopedics and Sports Medicine - Dr. L. Holder (1:18:00)
- Cardiovascular: Update on New Cardiovascular Radiotracers - Dr.'s M. Gerson, R. Taillier, A. Sinussa, N. Tamaki, D. Miller (1:07:00)
- Renal I: Interventional Studies in Renal Nuclear Medicine - Dr.'s P. O'Reilly, J. Nally (1:38:00)
- RADIOPHARM: Use of Radiolabeled Peptides for Diagnostic Imaging - Dr.'s R. Dean, E. Deutsch, A. Fishman (1:37:00)
- Radionuclide Monitoring of Organ Transplants - Dr.'s H. Royal, C. Kuni, R. Boudreau (1:27:00)
- New Developments in Pediatric Imaging - Dr.'s G. Stakianakis, L. O'Tuama (1:34:00)
- Cardiovascular: Myocardial Viability Assessment and Prognosis Stratification with Radionuclide Imaging - Dr.'s K. Brown, R. Bonow, M. Schwarzf, H Soroc, R. Burns (1:35:00)
- Renal II: Clearance and Imaging Techniques - Dr. E. Fine (43:00)
- Annual Meeting Highlights (1:22:00)
- Monoclonal Antibodies II: The Next Generation of Imaging & Therapeutic Agents for Non-Hodgkin's Lymphoma - Dr.'s G. Daniero, D. Goldenberg, W. Hulp (1:28:00)
- SPECT Analysis: Basic Principles - Dr.'s M. King, I. Zubal (1:34:00)
- Quality Control Procedures in the Nuclear Medicine Department - Dr.'s C. Harris, P. Parks, J. Lazewatsky, M. Dell, D. Koller, J. Parks, R. Nuccio, H. Hines, A. Van Neufeld, J. O'Toole (3 tapes) (A=1:34:00 B=1:21:00 C=41:00)

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SCIENTIFIC PAPER SUBMISSION FORM
1995 ANNUAL MEETING

GENERAL POLICIES:

The 1995 Scientific Program Committee and the Scientific and Teaching Sessions Committee welcomes the submission of abstracts of original contributions in nuclear medicine from members and nonmembers of The Society of Nuclear Medicine for the 42nd Annual Meeting in Minneapolis, MN, June 12-15, 1995. Deadline for receipt of abstract is January 4, 1995. To help you prepare your abstract, several policies have been formulated, as follows:

Instructions for Abstract Submission:
Please read this and the following pages thoroughly before preparing your abstract. Because of stringent time constraints, abstracts that do not comply with these instructions must be rejected.

1. Previously published or presented materials
Materials that have been accepted or published as full articles in any journal prior to the SNM Annual Meeting should not be submitted as an abstract of a scientific paper. Abstracts appearing elsewhere in identical form will be rejected.

2. Publication of accepted abstracts
Abstracts accepted for presentation will be published in a special supplement to the May 1995 issue of The Journal of Nuclear Medicine and the accepted Technologist Section abstracts in the June 1995 issue of the Journal of Nuclear Medicine Technology.

3. Changes after submission
Abstracts are to be submitted in final format. No changes can be made at any time after receipt at the Central Office.

4. Editing
On all accepted abstracts, the Scientific Program Committee reserves the right to edit those not submitted in the proper format for publication in the Journal and to recategorize submitted abstracts where appropriate.

5. Multiple contributions on a similar topic
Whenever possible, multiple contributions on the same or a similar subject from the same institution should be merged into a single abstract.

6. Publication of full text
Authors seeking publication for the full text of their papers are strongly encouraged to submit their work to The Journal of Nuclear Medicine for immediate review.

7. Day and time assignments for oral presentations cannot be changed.

8. Please refer to the “Meeting Memo” in the October 1994 issue of The Journal of Nuclear Medicine for further information on the Scientific Program Committee policies and objectives.

9. Awards Criteria

<table>
<thead>
<tr>
<th>Society Program</th>
<th>Young Investigator Awards</th>
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1. Cardiovascular Young Investigator Award
A) All applicants must be currently enrolled or within 5 years of completing a certified training program (there is no age limit).
B) Only one (1) abstract per applicant may be submitted.
C) All former first prize winners are ineligible.

D) An identical abstract can be submitted to the regular Cardiovascular Clinical or Basic section for an independent review. An abstract submitted for the Young Investigator Award has an equal opportunity to be on the cardiovascular program as any other abstract.

E) You cannot check the “Posterboard Only” box on the form.

2. Computer and Instrumentation
Young Investigator Award
A) Only medical students, residents, fellows, graduate students, post-doctoral fellows and those with less than two (2) years experience as faculty members may apply.
B) You cannot check the “Posterboard Only” box on the form.

3. Benson-Yalow Award
All research making use of the indicator-dilution method will be considered for this award. Abstracts which summarize research on receptor-based radiopharmaceuticals, for example, will be judged for the Benson-Yalow award. Therefore, multiple categories (such as neurosciences, oncology, and radiopharmaceuticals) in addition to the radioassay sessions for abstracts will be eligible for this award.

| PLEASE CHECK THE APPROPRIATE BOX | ON THE ABSTRACT FORM IF YOU WISH TO BE CONSIDERED FOR ANY OF THESE AWARDS. |

SPECIFIC INSTRUCTIONS FOR PREPARATION OF ABSTRACT:

1. Abstract forms
Abstracts must be typed inside the blue rectangle as shown on the third page of this form. One page of optional supporting data is encouraged. Forms are available from The Society of Nuclear Medicine, 1850 Samuel Morse Drive, Reston, VA 22090. (703) 708-9000. Photocopies of the abstract form cannot be accepted as originals.

2. Printing instructions
When typing your abstract on a computer, use a letter quality printer. Do not use type that simulates script. Use a carbon ribbon or a slightly used black silk ribbon (brand new ribbons smudge; old ones print too faintly). PRACTICE typing the abstract in a rectangle 4 ½ X 5 ½ inches before using this form. Place left margin to left border width (inches)

DO NOT ERASE. Abstracts will be reduced photographically and will be reproduced exactly as submitted. Abstracts with smudges, errors, mis-spellings, poor hyphenation, skipping lines, typed-in margins, incorrect abbreviations, too-faint typing, etc. (or not conforming to prescribed rules) require retyping by the publisher at the author’s expense.

3. Format for title and body
USE ALL CAPS for TITLE, following the example given below. Use initials rather than full spelling for authors’ first and middle names. Underline the name of the presenting author. Single space all typing, but leave a space between the title block and the body of the text. Indent each paragraph three spaces. Do not indent title. Draw special symbols in black India ink.

Make title brief, clearly indicating the nature of the investigation. Then state authors’ names and institutional affiliations. Omit degrees, titles, institutional appointments, street addresses, and zip codes.
4. Organization of body of abstract
Organize the body of the abstract as follows:

- "other data will be presented."
- Do not use subtitles, e.g., Methods, Results, etc.
- Use standard abbreviations, such as MDP, DTPA, etc., are acceptable. Abstracts in which radiochem.

Mail the Items Listed Below to:

THE SOCIETY OF NUCLEAR MEDICINE
Attn: Abstracts
1850 Samuel Morse Drive
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PLEASE NOTE: Be sure you have:
- Enclosed the original abstract plus nine (9) photocopies of the official abstract form (page 1 only) plus one page of your supporting data.
- Enclosed one self-addressed, stamped postcard with title and authors if receipt is to be acknowledged (optional). Note: Overseas or non-U.S. abstracts do not require return postage.

DO NOT FOLD abstract form; please mail in a large envelope using a cardboard backing. Abstracts received after the deadline will not be reviewed.

DEADLINE:
WEDNESDAY,
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FOR RECEIPT OF ABSTRACTS.
No abstracts will be accepted after the deadline. No exceptions!

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I CERTIFY
That this identical abstract has not been submitted to any other national or international meeting or to more than one category of this SNM Meeting.
The material has not been accepted as a full paper prior to its submission to the SNM Annual Meeting.
That all of the listed authors have reviewed this abstract and agree to its submission.

Signature of Principal Author
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   Make title brief, clearly indicating the nature of the investigation. Then state authors' names and institutional affiliations. Omit degrees, titles, institutional appointments, street addresses, and zip codes.
4. Organization of body of abstract
Organize the body of the abstract as follows:
- A statement of the purpose of the study (preferably one sentence).
- A statement of the methods used.
- A summary of the results presented in sufficient detail to support the conclusions.
- A statement of the conclusions reached. It is not satisfactory to state “the results will be discussed” or “other data will be presented.”

5. Abbreviations
Use only standard abbreviations. Abbreviations used in The Journal of Nuclear Medicine are preferred.
No abstract will be accepted unless the chemical identity of the radiopharmaceutical involved in the study is specified as accurately and completely as possible (for well-established radiopharmaceuticals, standard abbreviations, such as MDP, DTPA, etc., are acceptable). Abstracts in which radiopharmaceuticals are identified only by code numbers will be automatically rejected.

6. Superscripts and subscripts
The mass number of an element should follow the elemental abbreviation on the same line and be separated by a hyphen (Tc-99m). DO NOT USE SUPERSCRIPTS OR SUBSCRIPTS to identify isotopes.

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- Designated an awards category, if appropriate, (Box 3 on front of Abstract Form)
- Enclosed one self-addressed, stamped postcard with title and authors, for acknowledgment of receipt of abstract at SNM central office (optional).

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**EXEMPLARY**

**TECHNETIUM-99m POLYPHOSPHATE BONE IMAGING IN LEG-PERTHES DISEASE. J.A. Danigelis, R.L. Fisher, and M.B. Ozonoff. Newington Children's Hospital, Newington, CT.**

This investigation was undertaken to compare the diagnostic usefulness of radionuclide bone imaging techniques to standard radiographic...

---

**IMPORTANT**

**There are separate forms for Scientific Papers and Scientific Exhibits. Be sure you have the correct form.**

All abstracts accepted for the program of The Society of Nuclear Medicine Annual Meeting will be printed directly from the typed copy of the abstract form. To ensure printing quality, the instructions must be followed completely for all abstracts. Please be sure to underline the name of the presenting author.

**All Meeting Rooms will be set with dual screens and 35mm projectors. Requests for additional AV equipment must be made in writing by Friday, May 5, 1995.**

**Late or on-site requests will be charged to presenter.**

**Mail requests to:**
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Having an interest or affiliation with any corporate organization does not prevent authors from making a presentation, but the relationship must be made known in advance to the audience in accordance with the Standards of the Accreditation Council for Continuing Medical Education.

A reasonable test to guide decisions about what to disclose is whether any particular affiliation could cause embarrassment to the individual or institutions involved, or lead to questions about the authors' motives, if such affiliation(s) were made known to the general public.

Failure to disclose or false disclosure will require the SNM to remove your abstract from consideration/presentation.

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**ALL AUTHORS MUST SIGN THIS FORM EVEN IF THERE ARE NO AFFILIATION(S)/INTEREST(S) TO REPORT. YOUR ABSTRACT WILL NOT BE REVIEWED WITHOUT THESE SIGNATURES.**

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| For Scientific Papers: Abstracts must be received (not postmarked) by Wednesday, January 4, 1995. |
| Please note: Acceptance or Rejection letters will be mailed no later than the week of March 12, 1995. |

*See General Policies, #9, on the instruction page of the abstract form, for criteria of these awards. Technologist Section Awards are selected separately. Please see the December 1994 JNMT for description of these awards.*
Mail the Items Listed Below to: 

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PLEASE NOTE: Be sure you have:
■ Enclosed the original abstract plus nine (9) photocopies of the official abstract form (page 1 only) plus one page of your supporting data.
■ Enclosed one self-addressed, stamped postcard with title and authors if receipt is to be acknowledged (optional). Note: Overseas or non-U.S. abstracts do not require return postage.

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WEDNESDAY,
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That this identical abstract has not been submitted to any other national or inter-national meeting or to more than one category of this SNM Meeting.
The material has not been accepted as a full paper prior to its submission to the SNM Annual Meeting.
That all of the listed authors have reviewed this abstract and agree to its submission.

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