SIEMENS

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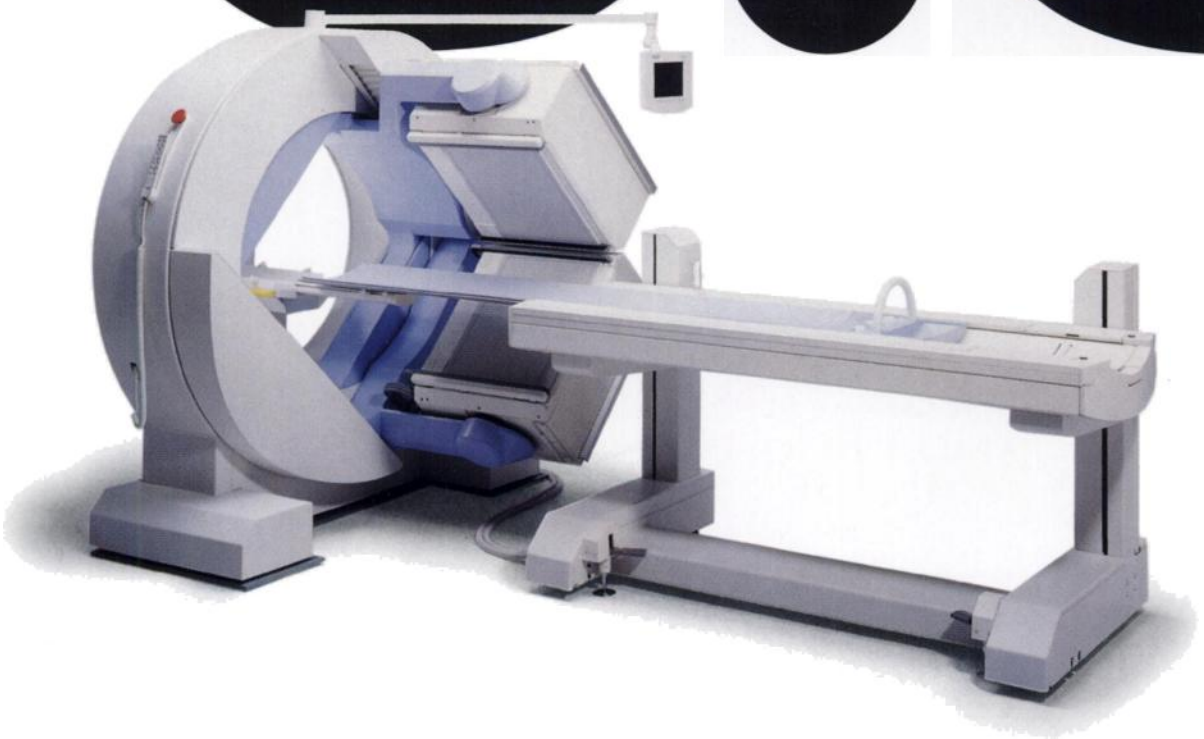

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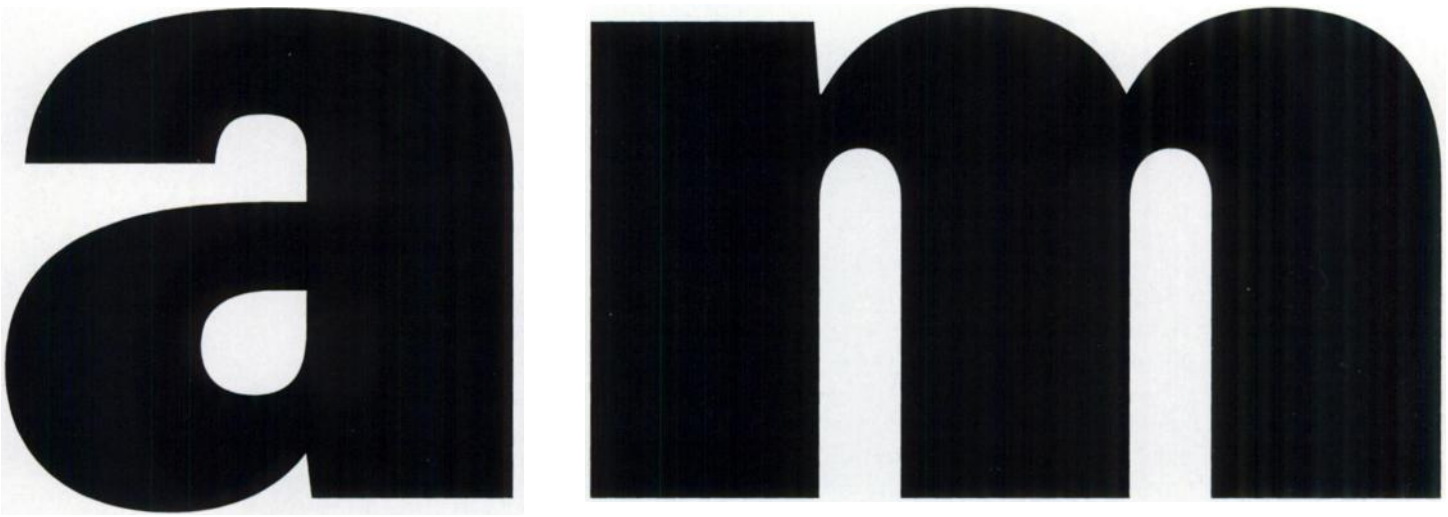

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If Clinically Indicated

Among my pet (not a pun) peeves is the almost routine use by nuclear clinicians of the phrase "if clinically indicated" at the end of a report interpreting a nuclear medicine procedure. "A CT scan may be helpful, if clinically indicated..." What does this mean? A CT scan, or any other thoughtlessly recommended procedure, **may** be helpful even if it is **not** clinically indicated. The issue is rather: are findings observed on the nuclear medicine procedure to suggest that an additional procedure is indicated? If so, the note should clearly indicate that, or even better, the referring physician should be called, informed of the results and of which additional procedures might be indicated.

I recently learned that "*if clinically indicated...*" is appended so as not to create medical-legal pressure to perform a study which is deemed unnecessary at the time in view of all of the clinical information. All the more reason why communication directly with the referring indication is preferable. Why recommend something that is not clinically indicated? And what if the procedure had already been done? In that instance, the nuclear medicine physician (hopefully) can then comment on the significance of that finding on the nuclear medicine procedure. After all, he or she was about to recommend that procedure "*if clinically indicated.*"

When a nuclear medicine physician recommends an additional procedure, he or she should have a clear concept about how the results of that additional procedure will influence the diagnostic or management process. Sometimes the nuclear procedure has, in fact, been requested because of a finding on another previously performed procedure. This information may or may not have been communicated on the nuclear medicine request. If it was, it may have been overlooked. We do not look like very astute observers if, after the administration of radioactivity and imaging various body parts for up to an hour or perhaps over several days, the best we can do is to recommend a procedure that had already been performed and was the basis for the nuclear medicine study in the first place. Are we saying that the nuclear medicine study is unnecessary?

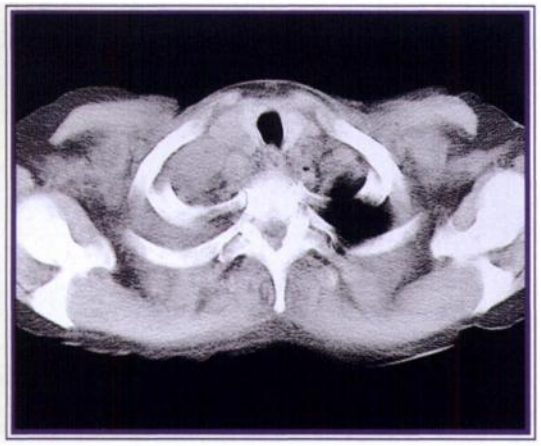
Nuclear medicine is more than scan interpretation. It requires assessment of the patient's status prior to the scan, assurance that the procedure is properly performed, correct interpretation of the scan, and a consideration of the significance of the findings for the particular patient, as well as assessing if additional procedures in view of these findings will clarify the diagnosis or influence the management course. Nuclear medicine is not benefited by the thoughtless appending of an imprecise interpretation with the soporific phrase "if clinically indicated." We might do better to recommend "*an apple a day...*"

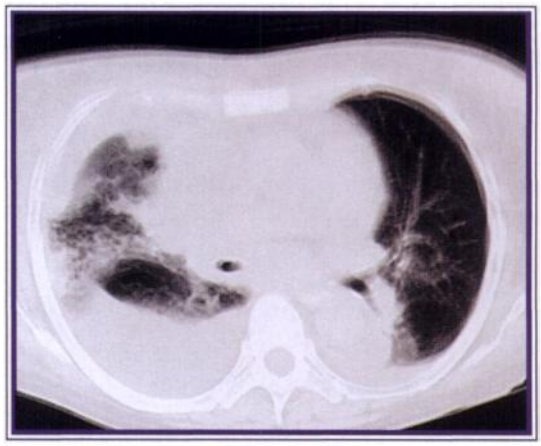
Stanley J. Goldsmith, MD
Editor-in-Chief, The Journal of Nuclear Medicine
August 1996

Neuroendocrine Tumor Case Review

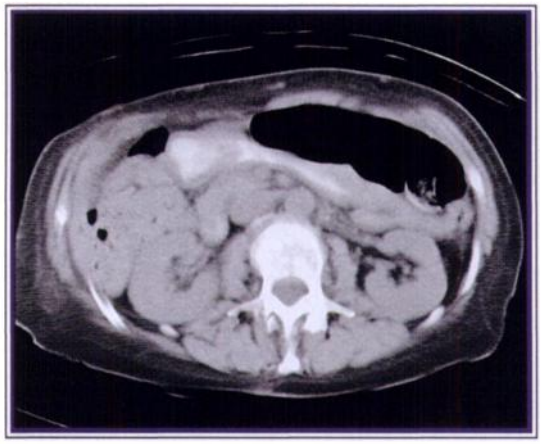
Small Cell Lung Carcinoma

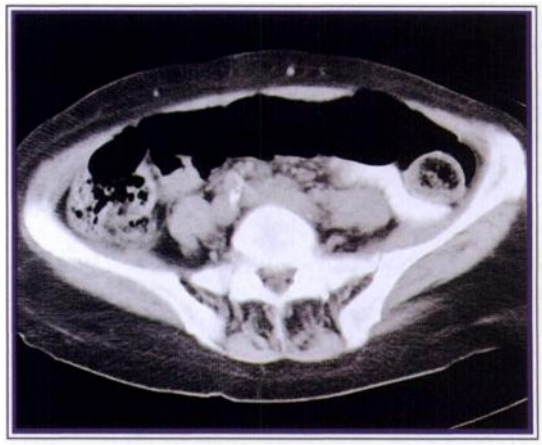
CT showed evidence of chest involvement, but no definite distant metastases...





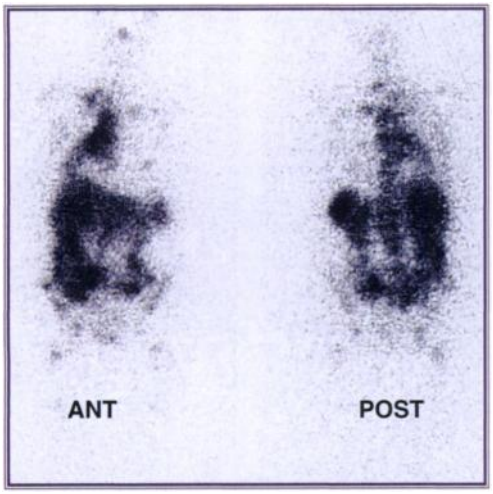
Chest CT scans showing evidence of right retroclavicular mass, right hilar and mediastinal lymphadenopathy associated with right middle and right lower lobe consolidation, as well as possible superimposed mass and bilateral pleural effusion.



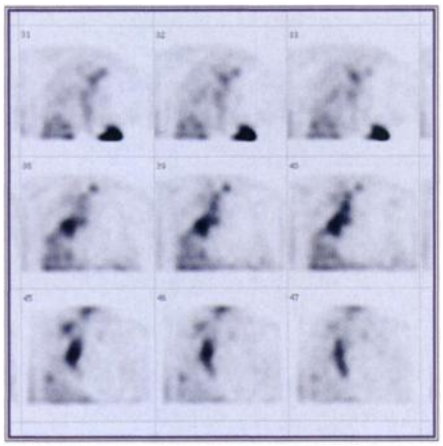


Abdominal CT scan showing no definitive evidence of metastatic disease.

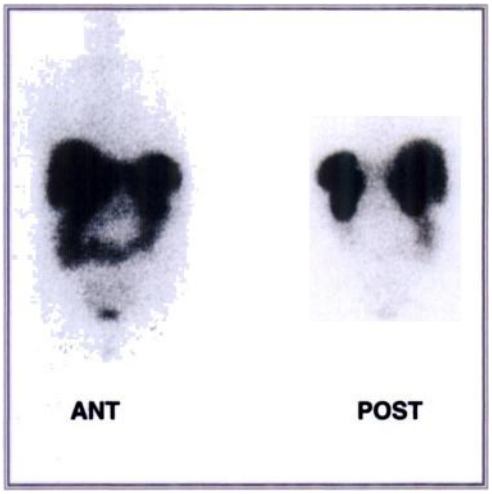
OctreoScan imaging identified extensive metastases, localizing chest and thoracic spine lesions



Initial OctreoScan whole body images identifying widespread disease involvement.



Initial OctreoScan coronal SPECT images localizing chest lesions.



OctreoScan follow-up whole body images showing marked overall improvement. (Uptake in the liver, spleen, kidneys and GI are normal.)

Patient History

A middle-aged female, with a history of heavy smoking, presented with increasing dyspnea, abdominal pain and changes in her mental status. Chest CT revealed extensive disease. A biopsy of a right retroclavicular mass was positive for small cell lung carcinoma. Abdominal CT showed no definite evidence of metastases.

Clinical Course

After receiving a course of chemotherapy of cytoxan, adriamycin and vincristine, the patient's mental status improved and her shortness of breath and abdominal pain resolved. Follow-up OctreoScan studies showed marked overall improvement.

OctreoScan Scintigraphy

OctreoScan whole body imaging identified extensive activity in the head, chest, abdomen, pelvis, and spine. OctreoScan SPECT imaging localized chest lesions to the right retroclavicular, right hilar and mediastinal regions, as well as the thoracic spine, confirming the findings seen on chest CT.

Decisive Clinical Information

This case illustrates the benefits of OctreoScan imaging in the detection of small cell lung carcinoma, the whole body evaluation for distant metastases which may sometimes not be obvious on CT scanning, as well as for the follow-up of therapeutic response to treatment.

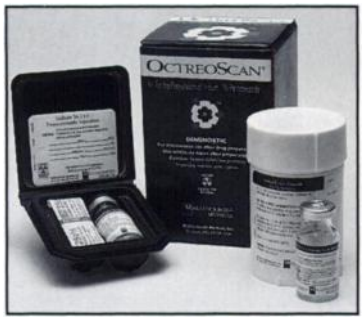
OCTREOSCAN®
Kit for the Preparation of Indium In-111 Pentetreotide

Please see adjacent page for brief summary of prescribing information.

OCTREOSCAN®

Kit for the Preparation of Indium In-111 Pentetreotide

BRIEF SUMMARY OF PRESCRIBING INFORMATION



DESCRIPTION

OctreoScan® is a kit for the preparation of indium In-111 pentetreotide, a diagnostic radiopharmaceutical. It is a kit consisting of two components:

1) A 10-mL OctreoScan Reaction Vial which contains a lyophilized mixture of 10 µg pentetreotide.

2) A 10-mL vial of Indium In-111 Chloride Sterile Solution.

Indium In-111 pentetreotide is prepared by combining the two kit components.

INDICATIONS AND USAGE

Indium In-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) ADMIXTURES OR INJECT INTO TPN INTRAVENOUS ADMINISTRATION LINES; IN THESE SOLUTIONS, A COMPLEX GLYCOSYL OCTREOTIDE CONJUGATE MAY FORM.

The sensitivity of scintigraphy with indium In-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 In-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 In-111 pentetreotide.

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

3. Since indium In-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 In-111 pentetreotide. They should increase fluid intake and void frequently for one day after administration of this drug. In addition, it is recommended that patients be given a mild laxative (e.g., bisacodyl or lactulose) before and after administration of indium In-111 pentetreotide (see Dosage and Administration section).

5. Indium In-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 are followed carefully. Aseptic technique must be used during the preparation and administration of indium In-111 pentetreotide.

7. Octreotide acetate and the natural somatostatin hormone may be associated with cholelithiasis, presumably by altering fat absorption and possibly by decreasing motility of the gallbladder. A single dose of indium In-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. Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and handling of radionuclides.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Studies have not been performed with indium In-111 pentetreotide to evaluate carcinogenic potential or effects on fertility. Pentetreotide was evaluated for mutagenic potential in an in vitro mouse lymphoma forward 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 In-111 pentetreotide. It is not known whether indium In-111 pentetreotide can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Therefore, indium In-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 excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when indium In-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 538 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 and hemoglobin.

Pentetreotide is derived from octreotide which is used as a therapeutic agent to control symptoms from certain tumors. The usual dose for indium In-111 pentetreotide is approximately 5 to 20 times less than for octreotide and is subtherapeutic. The following adverse reactions have been associated with octreotide in 3% to 10% of patients: nausea, injection site pain, diarrhea, abdominal pain/discomfort, loose stools, and vomiting. Hypertension and hyper- and hypoglycemia have also been reported with the use of octreotide.

DOSAGE AND ADMINISTRATION

Before administration, a patient should be well hydrated. After administration, the patient must be encouraged to drink fluids liberally. 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. Ample fluid uptake is necessary during this period as a support both to 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 In-111 pentetreotide prepared from an OctreoScan kit. The recommended intravenous dose for SPECT imaging is 222 MBq (6.0 mCi) of indium In-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 doses[1] 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 Krenning, et al.[2]

Estimated Absorbed Radiation Doses after Intravenous Administration of Indium In-111 Pentetreotide[3] to a 70 kg patient

	PLANAR		SPECT	
Kidneys	54.16	5.42	108.32	10.83
Liver	12.15	1.22	24.31	2.43
Spleen	73.86	7.39	147.73	14.77
Uterus	6.34	0.63	12.67	1.27
Ovaries	4.89	0.49	9.79	0.98
Testes	2.90	0.29	5.80	0.58
Red Marrow	3.46	0.35	6.91	0.69
Urinary Bladder Wall	30.42	3.04	60.48	6.05
GI Tract				
Stomach Wall	5.67	0.57	11.34	1.13
Small Intestine	4.78	0.48	9.56	0.96
Upper Large Intestine	5.80	0.58	11.59	1.16
Lower Large Intestine	7.73	0.77	15.46	1.55
Adrenals	7.55	0.76	15.11	1.51
Thyroid	7.43	0.74	14.86	1.49
Effective Dose[4] Equivalent	13.03	1.30	26.06	2.61

1. Values listed include a correction for a maximum of 0.1% indium In-114m radiocontaminant at calibration.

2. E.P. Krenning, W.H. Bakker, P.P.M. Kooij, W.A.P. Breeman, H.Y.Oei, M. de Jong, J.C. Reubi, T.J. Visser, C. Bruns, D.J. Kwekkeboom, A.E.M. Reijs, P.M. van Hagen, J.W. Koper, and S.W.J. Lamberts, "Somatostatin Receptor Scintigraphy with Indium-111-DTPA-D-Phe-1-Octreotide in Man: Metabolism, Dosimetry and Comparison with Iodine-123-Tyr-3-Octreotide," The Journal of Nuclear Medicine, Vol. 33, No. 5, May 1992, pp. 652-658.

3. Assumes 4.8 hour voiding 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 0019-9050-40, is supplied with the following components:

1. A 10-mL OctreoScan Reaction Vial which contains a lyophilized mixture of:
   (i) 10 µg pentetreotide [N-(diethylenetriamine-N,N,N',N"-tetraacetic acid-N"-acetyl)-D-phenylalanyl-L-hemicystyl-L-phenylalanyl-D-tryptophyl-L-lysyl-L-threonyl-L-hemicystyl-L-threoninol cyclic (2→7) disulfide], (also known as octreotide DTPA),
   (ii) 2.0 mg gentisic acid [2,5-dihydroxybenzoic acid],
   (iii) 4.9 mg trisodium citrate, anhydrous,
   (iv) 0.37 mg citric acid, anhydrous, and
   (v) 10.0 mg inositol.

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 In-111 Chloride Sterile Solution, which contains 1.1 mL of 111 MBq/mL (3.0 mCi/mL) indium In-111 chloride in 0.02 N HCl at time of calibration. The vial also contains ferric chloride at a concentration of 3.5 µg/mL (ferric ion, 1.2 µg/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 5/8" needle (B-D, Monoject) used to transfer Indium In-111 Chloride Sterile Solution to the OctreoScan Reaction Vial, (2) a pressure sensitive label, and (3) a package insert.

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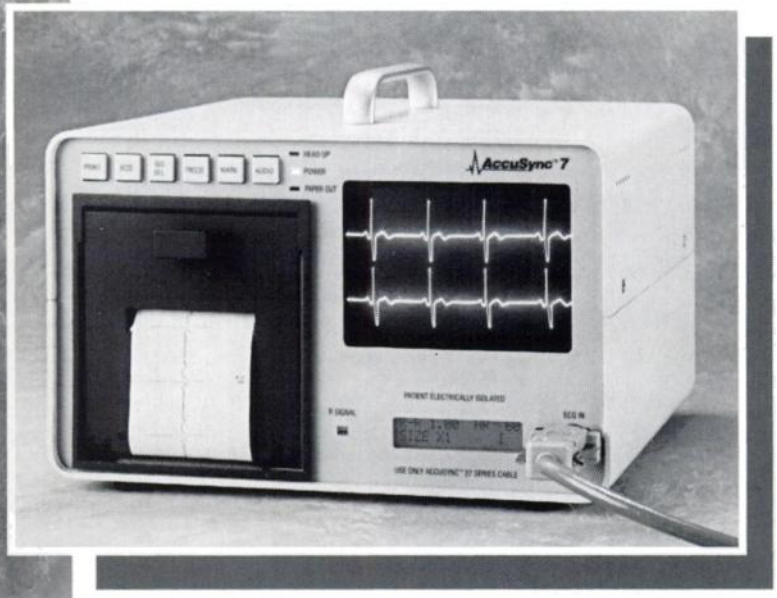

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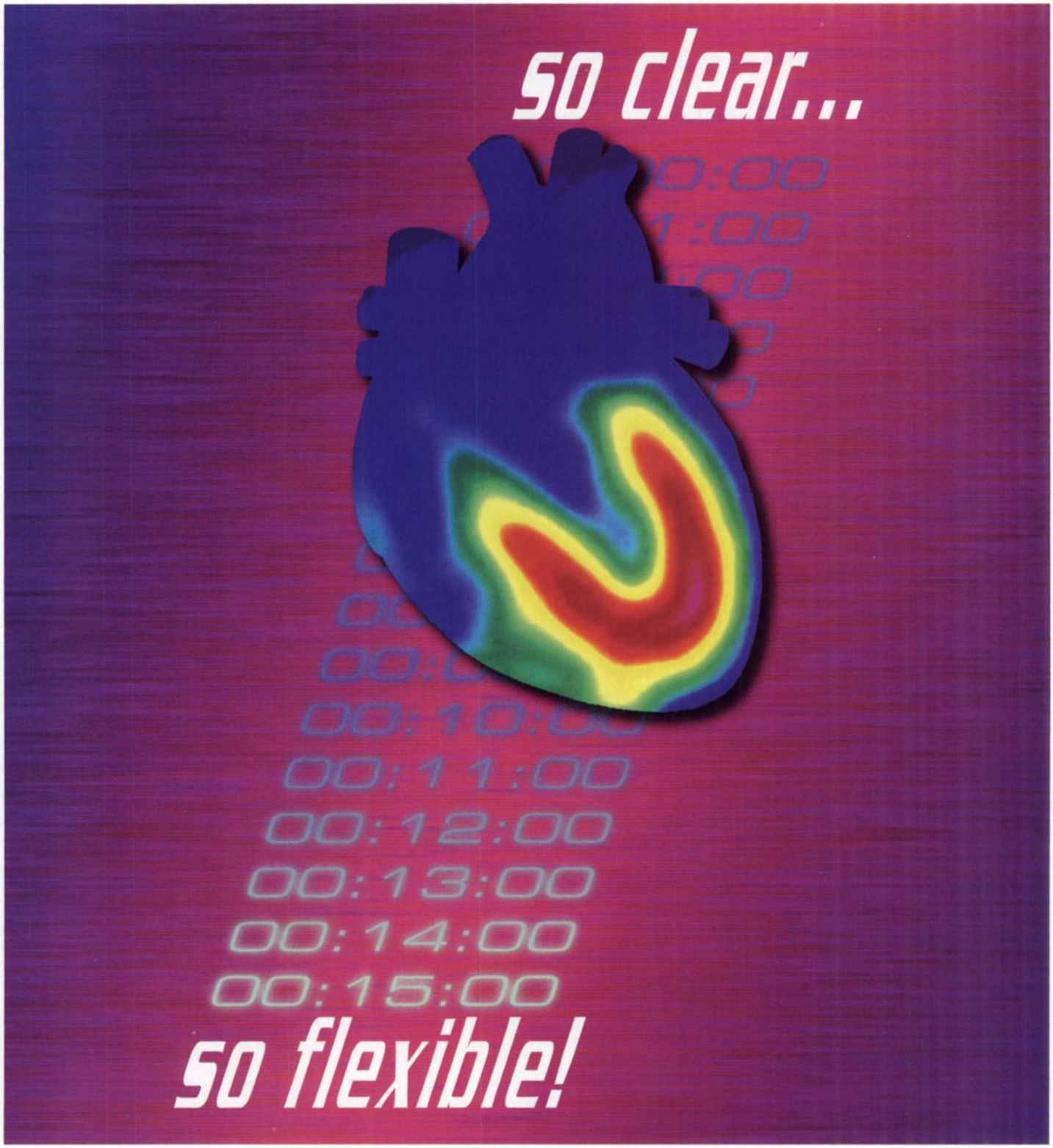
MYOVIEW™

Technetium Tc99m Tetrofosmin For Injection



See brief summary of prescribing information on the following page.

Amersham HEALTHCARE

Brief Summary

MYOVIEW™

Kit for the Preparation of Technetium Tc99m Tetrofosmin for injection

Diagnostic radiopharmaceutical For intravenous use only
Code N166A

DESCRIPTION

The Medi-Physics Myoview™ kit is supplied as a pack of five vials for use in the preparation of a technetium Tc99m tetrofosmin intravenous injection to be used for the scintigraphic delineation of regions of reversible myocardial ischemia in the presence or absence of infarcted myocardium. Each vial contains a pre-dispensed, sterile, non-pyrogenic, lyophilized mixture of 0.23 mg tetrofosmin [6,9-bis(2-ethoxyethyl)-3,12-dioxa-6,9-diphospha-tetradecane], 30 µg stannous chloride dihydrate (minimum stannous tin 5.0 µg; maximum total stannous and stannic tin 15.8 µg), 0.32 mg disodium sulphosalicylate and 1.0 mg sodium D-gluconate, and 1.8 mg sodium hydrogen carbonate. The lyophilized powder is sealed under a nitrogen atmosphere with a rubber closure. The product contains no antimicrobial preservative.

Caution: Federal (USA) law prohibits dispensing without a prescription

CLINICAL PHARMACOLOGY

General
When technetium Tc99m pertechnetate is added to tetrofosmin in the presence of stannous reductant, a lipophilic, cationic technetium Tc99m complex is formed, Tc99m tetrofosmin. This complex is the active ingredient in the reconstituted drug product, on whose biodistribution and pharmacokinetic properties the indications for use depend.

Clinical Trials
A total of 252 patients with ischemic heart disease or atypical chest pain who had a reason for exercise stress imaging were studied in two open-label, multi center, clinical trials of Tc99m tetrofosmin (study a and study b). Of these 252 patients there were 212 (83%) males and 40 (17%) females with a mean age of 60.5 years (range 33.7 to 82.4 years). At peak exercise, maximum heart rate achieved and peak systolic blood pressure were comparable after Myoview and thallium-201 exercise studies.

All patients had exercise and rest planar imaging with Myoview and thallium-201; 191 (76%) patients also had SPECT imaging. The Myoview and thallium-201 images were separated by a mean of 5.1 days (1-14 days before or 2-14 days after Myoview). For Myoview imaging, each patient received 185-296 MBq (5-8 mCi) Tc99m tetrofosmin at peak exercise and 555-888 MBq (15-24 mCi) Tc99m tetrofosmin at rest approximately 4 hours later. For thallium-201 imaging, patients received thallium-201 55.5-74 MBq (1.5-2.0 mCi) at peak exercise.

The images were evaluated for the quality of the image (excellent, good or poor) and the diagnosis (with scores of 0 = normal, 1 = ischemia, 2 = infarct, 3 = mixed infarct and ischemia). The primary outcome variable was the percentage of correct diagnoses in comparison to the final clinical diagnosis. All planar images were blindly read; SPECT images were evaluated by the unblinded investigator. A subset of 181/252 (71%) patients had coronary angiography comparisons to the planar images of Myoview or thallium-201.

INDICATIONS AND USAGE

Myoview is indicated for scintigraphic imaging of the myocardium following separate administrations under exercise and resting conditions. It is useful in the delineation of regions of reversible myocardial ischemia in the presence or absence of infarcted myocardium.

CONTRAINDICATIONS

None known.

WARNINGS

In studying patients with known or suspected coronary artery disease, care should be taken to ensure continuous cardiac monitoring and the availability of emergency cardiac treatment.

PRECAUTIONS

General
To minimize radiation dose to the bladder, the patient should be encouraged to void when the examination is completed and as often thereafter as possible. Adequate hydration should be encouraged to permit frequent voiding.

The contents of the Myoview vial are intended only for use in the preparation of technetium

Tc99m tetrofosmin injection and are NOT to be administered directly to the patient.

As with all injectable drug products, allergic reactions and anaphylaxis may occur.

Sometimes Tc99m labeled myocardial imaging agents may produce planar and SPECT images with different imaging information.

Technetium Tc99m tetrofosmin injection, like other radioactive drugs must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Care should also be taken to minimize radiation exposure to the patient consistent with proper patient management.

Radiopharmaceuticals should be used by or under the control of physicians who are qualified by specific training and experience in the safe use and handling of radionuclides, and whose experience and training have been approved by the appropriate governmental agency authorized to license the use of radionuclides.

Drug Interactions: Drug interactions were not noted and were not studied in clinical studies in which Myoview was administered to patients receiving concomitant medication. Drugs such as beta blockers, calcium blockers and nitrates may influence myocardial function and blood flow. The effects of such drugs on imaging results are not known.

Carcinogenesis, Mutagenesis, Impairment of Fertility
Studies have not been conducted to evaluate carcinogenic potential or effects on fertility. Tetrofosmin sulphosalicylate was not mutagenic *in vitro* in the Ames test, mouse lymphoma, or human lymphocyte tests, nor was it clastogenic *in vivo* in the mouse micronucleus test.

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

Nursing Mothers
Technetium Tc99m Pertechnetate can be excreted in human milk. Therefore, formula should be substituted for breast milk until the technetium has cleared from the body of the nursing woman.

Pediatric Use
Safety and effectiveness in pediatric patients have not been established.

ADVERSE REACTIONS

Adverse events were evaluated in clinical trials of 764 adults (511 men and 253 women) with a mean age of 58.7 years (range 26-94 years). The subjects received a mean dose of 7.67 mCi on the first injection and 22.4 mCi on the second injection of Myoview.

Deaths did not occur during the clinical study period of 2 days. Six cardiac deaths occurred 3 days to 6 months after injection and were thought to be related to the underlying disease or cardiac surgery. After Myoview injection, serious episodes of angina occurred in 3 patients. Overall cardiac adverse events occurred in 5/764 (less than 1 %) of patients after Myoview injection.

The following events were noted in less than 1 % of patients:
Cardiovascular: angina, hypertension, Torsades de Pointes
Gastrointestinal: vomiting, abdominal discomfort
Hypersensitivity: cutaneous allergy, hypotension, dyspnea
Special Senses: metallic taste, burning of the mouth, smelling something

There was a low incidence (less than 4%) of a transient and clinically insignificant rise in white blood cell counts following administration of the agent.

DOSAGE AND ADMINISTRATION

For exercise and rest imaging, Myoview is administered in two doses:

- The first dose of 5-8 mCi (185-296 MBq) is given at peak exercise.
- The second dose of 15-24 mCi (555-888 MBq) is given approximately 4 hours later, at rest.

Imaging may begin 15 minutes following administration of the agent.

Dose adjustment has not been established in renally or liver impaired, pediatric or geriatric patients.

RADIATION DOSIMETRY

Based on human data, the absorbed radiation doses to an average human adult (70 kg) from intravenous injections of the agent under exercise and resting conditions are listed in Table 1. The values are listed in descending order as rad/mCi and µGy/MBq and assume urinary bladder emptying at 3.5 hours.

Table 1
Estimated Absorted Radiation Dose (Technetium Tc99m Tetrofosmin Injection)

	Absorbed radiation dose			
	Exercise		Rest	
Target Organ	rad/mCi	µGy/MBq	rad/mCi	µGy/MBq
Gall bladder wall	0.123	33.2	0.180	48.6
Upper large intestine	0.075	20.1	0.113	30.4
Bladder wall	0.058	15.6	0.071	19.3
Lower large intestine	0.057	15.3	0.082	22.2
Small intestine	0.045	12.1	0.063	17.0
Kidney	0.039	10.4	0.046	12.5
Salivary glands	0.030	8.04	0.043	11.6
Ovaries	0.029	7.88	0.035	9.55
Uterus	0.027	7.34	0.031	8.36
Bone surface	0.023	6.23	0.021	5.58
Pancreas	0.019	5.00	0.018	4.98
Stomach	0.017	4.60	0.017	4.63
Thyroid	0.016	4.34	0.022	5.83
Adrenals	0.016	4.32	0.015	4.11
Heart wall	0.015	4.14	0.015	3.93
Red marrow	0.015	4.14	0.015	3.97
Spleen	0.015	4.12	0.014	3.82
Muscle	0.013	3.52	0.012	3.32
Testes	0.013	3.41	0.011	3.05
Liver	0.012	3.22	0.015	4.15
Thymus	0.012	3.11	0.009	2.54
Brain	0.010	2.72	0.008	2.15
Lungs	0.008	2.27	0.008	2.08
Skin	0.008	2.22	0.007	1.91
Breasts	0.008	2.22	0.007	1.83

Dose calculations were performed using the standard MIRD method (MIRD Pamphlet No.1 (rev). Society of Nuclear Medicine, 1976. Effective dose equivalents (EDE) were calculated in accordance with ICRP 53 (Ann. ICRP 18 (1-4), 1988) and gave values of 8.61 x 10^{-3} mSv/MBq and 1.12 x 10^{-2} mSv/MBq after exercise and rest respectively.

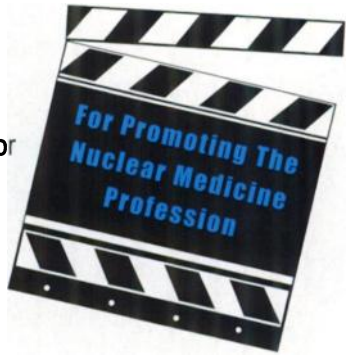
Manufactured by Amersham International plc – Amersham, United Kingdom
Patent No. 5,045,302 (r)

Distributed by: Medi-Physics, Inc., Amersham Healthcare
2636 S. Clearbrook Dr., Arlington Heights, IL 60005
1-800- 633-4123 (Toll Free)
February, 1996

Amersham HEALTHCARE

One of the goals of the Society Of Nuclear Medicine Technologist Section (SNM-TS) has been to take an active role in educating the public and the medical community about nuclear medicine procedures and the benefits of this functional imaging modality.

This is the official entry form for the 1996 PR Stars contest sponsored by the SNM-TS and Technology Imaging 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 winner. All entrants must be staff members of a hospital or Nuclear Medicine facility. Entries must be postmarked no later than December 16, 1996.



Prizes:

First Place:	$1,000 for your institution; $350 for the entrant; up to $1,000 for airfare to the SNM 1997 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.

Entry Form:

Your Name _____

Hospital/Facility _____

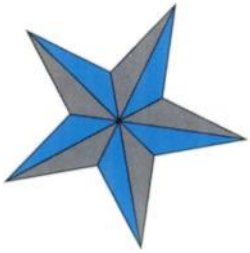
Address _____

City _____ Zip Code _____

Telephone/ Fax _____

Mail or Fax by December 16, 1996 To:

Technology Imaging Services
P.O. Box 3589
Youngstown, Ohio 44513
Fax: (330) 758-1617 Tel: (800) 409-2688
Attn: Jenny O'Kane, Vice President



Complete Reverse Side ➡

Documentation of your activities is encouraged and may be mailed with your entry. (All original materials will be returned after judging has been completed.) You may also use additional pages as necessary.

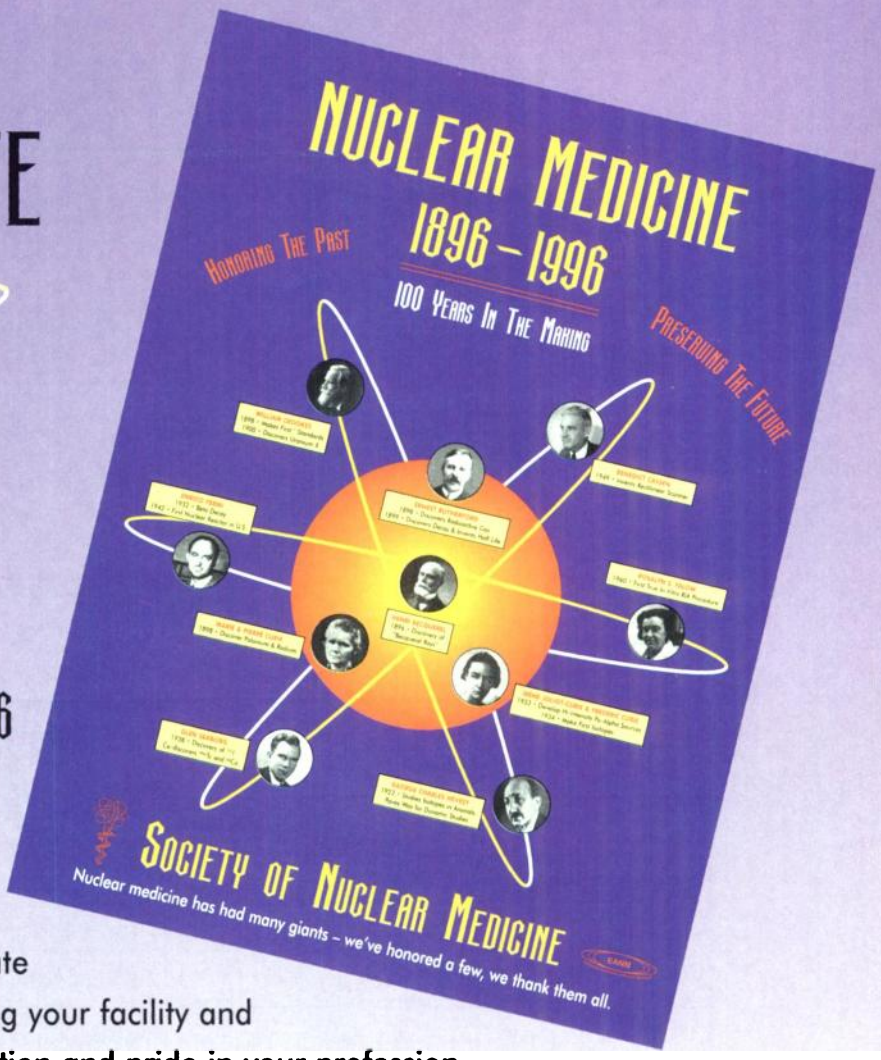
1. Describe your Nuclear Medicine Week activities:
   a. When did you celebrate? _____
   _____
   b. What was your primary objective or message? _____
   _____
   _____
   c. Who was your target audience? _____
   _____
2. What available resources did you use? (budget, manpower, media, etc.) _____
   _____
   _____
   _____
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!

Patti Corrigan, C.N.M.T.
Nuclear Medicine Week Chairperson

CELEBRATE NUCLEAR MEDICINE WEEK

October 6–12, 1996



Nuclear Medicine Week – October 6 through 12, 1996. Celebrate Nuclear Medicine Week by spotlighting your facility and **demonstrating your enthusiasm, devotion and pride in your profession.**

Nuclear Medicine Week also gives you the opportunity to educate potential patients, referring physicians and your community about the history, value and safety of nuclear medicine.

This year, the Nuclear Medicine Week posters, buttons and stickers celebrate 1996 as the 100th year since the discovery of radioactivity. Designed by the Technologist Section, the commemorative items help enhance the visibility of nuclear medicine and will add to your festivities.

Don't forget the annual PR Star Contest sponsored for the first time by Technology Imaging Services! Be a Public Relations star and win prizes for yourself and your institution. Look for details and entry forms in JNM and JNMT.

NUCLEAR MEDICINE WEEK IS SPONSORED BY
THE SOCIETY OF NUCLEAR MEDICINE AND THE TECHNOLOGIST SECTION.

CELEBRATE NUCLEAR MEDICINE WEEK

THE FOLLOWING MATERIALS ARE AVAILABLE FOR PROMOTING NUCLEAR MEDICINE WEEK.

POSTERS	BUTTONS	STICKERS	BALLOONS
$5.00 each	$1.00 each	$.25 each	4 for $1.00

Payment must be enclosed with your order. Payment must be made in U.S. dollars and drawn on U.S. banks. No foreign funds will be accepted.

Please make checks payable to the **Society of Nuclear Medicine**.

ITEM	QUANTITY	UNIT PRICE	TOTAL PRICE dollars cents
Posters		$5.00 each	
Buttons		$1.00 each	
Stickers		$.25 each	
Balloons		4 for $1.00	
* Virginia (4.5%) and Missouri (6.475%) residents please add applicable sales tax. †Orders will be sent out via first-class mail or UPS. For express delivery, please add $15.00 to the total amount of your order. Orders received after Sept. 1, 1996 will be assessed a 15% surcharge, payable before shipment, to ensure timely delivery.		Merchandise Total	
		Tax*	
		Shipping†	
		TOTAL	

☐ I would like to order a FREE set of *"Guidelines for Promoting Nuclear Medicine."*

Name (please print): _____

Institution: _____

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City: _____ **State:** _____ **Zip:** _____

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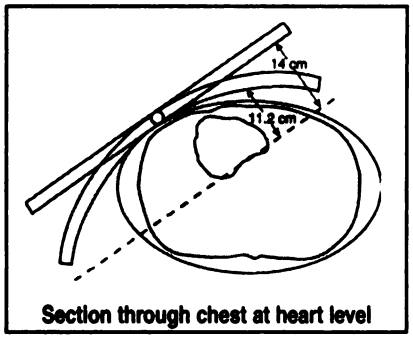
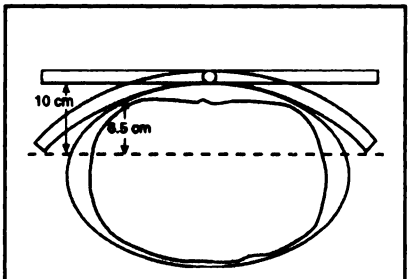
For higher quality images — GET CLOSE

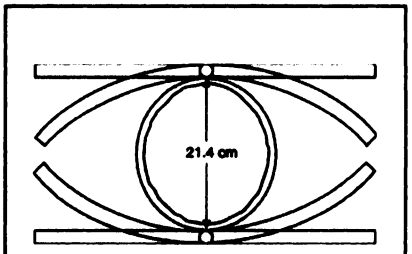
The new CurvePlate™ detector for gamma cameras gets you closer than the flat detectors you're now using.



Section through chest at heart level



Section through hip



Section through head

In gamma cameras, image quality depends upon spatial resolution. With flat detectors, spatial resolution is best along that part of the detector closest to the structure being imaged. Spatial resolution degrades as the distance to from the detector to the body increases.

The new CurvePlate™ resolves this limitation by putting more detector surface in greater proximity to the body. The resulting spatial resolution improvement means a higher quality image for you.

CurvePlate™ advantages

- Ideal for bone scans and oncological studies
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- Enhances SPECT performance with single-head gamma cameras

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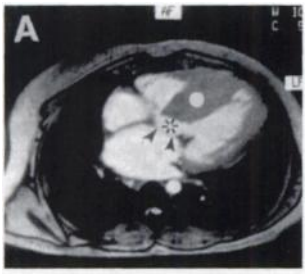
Fax 33-1-64 45 01 01

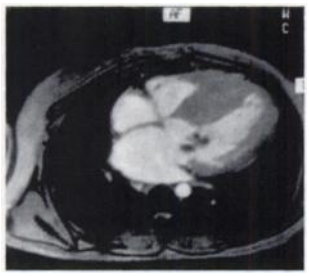
Note to Practitioners:
This product was introduced at the SNM-Denver Meeting and is **now available** for nuclear medicine imaging.
Ask your gamma camera supplier to build your next camera with CurvePlate™ detectors.

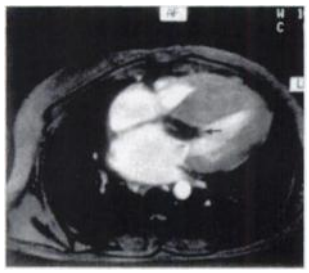
Circle Reader Service No. 11

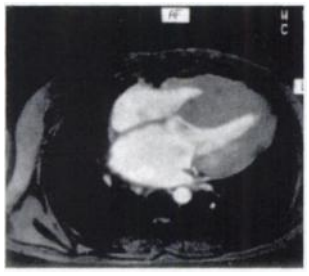
American Journal of Cardiac Imaging

Editor-in-Chief: James V. Talano, MD









In a field that changes as rapidly as cardiac imaging, it can be difficult to stay informed of new developments. That's why you'll value the current information in every issue of the *American Journal of Cardiac Imaging.*

Four times a year, *AJCI* delivers the newest applications and the latest research findings in cardiac imaging — long before these innovations appear in medical books! Each issue is packed with state-of-the-art information on...

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ISSN 0887-7971

1997 Abstract Deadline

Annual Meeting
SOCIETY OF NUCLEAR MEDICINE
San Antonio, Texas
JUNE 1-5, 1997

The 1997 Abstract deadline is Thursday, January 9, 1997. The form to submit an Abstract will be published in the October issue of *JNM.*

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.

Image Management Options for PACS Networks

Olicon Imaging Systems Inc., has expanded their product line by offering new options for acquiring, managing and storing radiologic images in picture archiving and communications (PACS) networks. One new option is the Olicon DICOM Acquisition Server, a network device for receiving and modifying ACR-NEMA images from modalities that are DICOM 3.0 compatible. Several DICOM versions set default window and level values, but if the image data do not lie within these values, images appear blank on the workstation and users must spend time attempting to locate them. This problem is eliminated by using the DICOM Acquisition Server. The system preconfigures images for display on Olicon workstations enabling clinicians to select compression options and route images to one or more viewing stations. Another option enables users to set the device to "pre-zoom" images so MR studies, for example, are displayed at a resolution of 512 × 512 instead of a standard 256 × 256 mode.

Another option is designed for applications in which viewing images during acquisition is not essential, called the Olicon Blind Capture Workstations. The Blind Capture Workstations allows users to enter patient demographic information and route images to appropriate workstations. Two interfaces are available: The direct digital interface for frame-grabbing images from modality display consoles when DICOM 3.0 images are not available or required and the digitizer blind capture interface for acquiring film-digitized images.

Olicon's Digital Tape Library Archive System is designed to supplement optical disk storage systems with a cost-effective option for long-term storage of radiological images. And finally, the Olicon S/O™, a Microsoft® Windows®-based software product was created to meet the demand for an inexpensive system for on-call viewing of CT and MRI studies on home computers. **Olicon Imaging Systems Inc., 1011 Calle Amanecer, San Clemente, CA 92673. Phone: (713) 361-4070.**

Lead-Lined Aluminum Frames Offers Extra Radiation Protection

Nuclear Associates has added lead-lined aluminum window frames to their radiation protection product line. The window frames are for clear-Pb lead-plastic radiation shielding. This product is designed to be installed in lead-lined walls between operator and patient areas. The window frames allow for patient viewing and voice transmission during radiographic procedures. The frame can be used horizontally or vertically and is lined with 1.5 mm lead. The frame also features removable stops so they can be unassembled if the need arises. The frames can adjust for wall thicknesses varying from 5" to 6 ¼". The design of the window allows for a greater range of vision and an extra level of safety. Two-piece telescopic construction allows for easy and fast installation. Frames are available in 34 standard stock sizes to meet a wide variety of design specifications. Special sizes can also be custom-ordered. **Nuclear Associates, 100 Voice Rd., P.O. Box 349, Carle Place, NY 11514-0349. Phone: (516) 741-6360.**

CIS BIO International Acquires Rights to Pain Relief Agent for Bone Cancer

Cis BIO International, the biomedical subsidiary of the ORIS group, is marketing the radiopharmaceutical, ^{153}Sm-EDTMP. This radiopharmaceutical will be used for pain palliation in the treatment of metastasic bone cancer. Samarium was developed by The Dow Company in the United States and CIS is marketing the product in western and eastern Europe and northern Africa. The therapy is currently in advanced Phase III human trials in the United States and Europe. CIS manufactures and supplies a wide range of products covering in-vitro diagnostic, nuclear imaging and medical isotopes for therapeutic utilization. Last year, the company announced the acquisition of exclusive European marketing rights for ^{153}Sm-EDTMP.

Each year, an estimated 250,000 cancer patients in Europe develop metastasic bone cancer, and more than half of them experience severe pain. Current treatments for eliminating bone pain are often ineffective and frequently involve the use of narcotics. Narcotics can be addictive and may also cause incapacitation of the cancer patients. Samarium-153-EDTMP is a short-lived radioisotope complex administered through intravenous injection. CIS hopes this bone cancer agent will replace narcotics used on bone cancer patients experiencing severe pain. The product is designed to improve pain relief efficacy and will allow patients to enjoy a more active lifestyle during their treatment regimens. CIS expects commercialization of samarium EDTMP to be effective early 1997. **ORIS Group, B.P. 6-91192 Gif-sur-Yvette, Cédex-R.C., Paris, France. Phone: 33-1-69-85-70-13. Fax: 33-1-69-71-09.**

Toshiba Expands Digital Systems Capabilities

The Toshiba America Medical Systems Inc., EPS-30 product family of digital photospot systems has been enhanced by the introduction of its successful interface to a 1024 × 1024 charge coupled device (CCD). The EPS-30 product family was created specifically for the radiographic and fluoroscopic x-ray market and is used particularly for gastrointestinal studies. The CCD camera, which was initially introduced for use in Toshiba's vascular and cardiac products now offers its imaging capabilities for radiographic and fluoroscopic applications. The CCD TV camera imaging chain ensures high-resolution and one million pixel camera output. The camera system minimizes blooming and burnout, ensuring superb image quality. **Toshiba America Medical Systems Inc., 2441 Michelle Dr., Tustin, CA 92681-2068. Phone: (714) 730-5000.**

Rotary Microtomes

Olympus America Inc., introduces two rotary microtomes: the Olympus CUT4055 and CUT4060. Each microtome has a three-step automatic trim mode of 10, 20 or 30 μm. This feature provides quick access to the specific area of investigation. The Olympus model CUT4060 rotary microtome has specimen retraction and a new section counter. Both of these microtome models are designed with particular attention to ergonomic considerations. The coarse-advance handwheel is in a far-forward location for accessibility and has a convenient sliding clutch.

An additional feature includes: a safety lock on the fine-advance handwheel that can be activated from either of these microtomes, offering 36 click positions distributed over 360 degrees on the wheel. **Olympus America Inc., Precision Instrument Division, 4 Nevada Dr., Lake Success, NY 11042-1179. Phone: (800) 446-5967. Fax: (516) 222-7920.**

Position Available

BC/BE Internal Medicine and Nuclear Medicine
Full-time employment in hospital-based and private practice facility for general nuclear medicine and internal medicine with emphasis on thyroid disease. Qualified candidates, send CV to: Professional Management, P.O. Box 14966, Greensboro, NC 27415.

Division Chief of Nuclear Medicine
Peoria Radiology Associates seeks a board certified radiologist with specialty board certification in nuclear medicine. Responsibilities will include Division Chief of the Nuclear Medicine section and occasional coverage of CT, MRI, Sono and General Radiology. The successful candidate will be joining a group of 20 radiologists with a thriving practice in a large tertiary care hospital and surrounded by community hospitals. Resident and medical student teaching will be expected. Send CV and date of availability to: Dr. G.T. Campbell, c/o Laura Lee, Peoria Radiology Associates, 530 N.E. Glen Oak Ave., Peoria, IL 61637

Nuclear Medicine Technologist
Private cardiology office seeks experienced nuclear medicine technologist for F/T employment. Exp. with Cardiolite helpful. Excellent salary and benefits. Good hours, no call. Send resume to: Office Manager, 401 N. 4th , Suite 2A, Springfield, IL 62702.

Prepare, measure and administer radiopharmaceuticals in diagnostic and therapeutic studies utilizing a variety of equipment and following prescribed procedures; prepare stock solutions of radiopharmaceutical materials, calculate doses and administer doses. Calibrate equipment. Perform diagnostic studies on patients using scanners or scintillation cameras to detect radiation emitted and to produce an image of an organ on photographic film. Measure radioactivity using Geiger counters, scalers and scintillation detectors. Administer therapeutic doses of radiopharmaceuticals under direction of physician. Salary, $13.56 per hr. 40 hrs., M-F, 12 noon to 8:00 p.m. Bachelor's degree in biology and nuclear medicine required. Forward resume to: Job Service of Florida, 1320 Executive Center Drive, Atkins, Bldg., Room 244, Tallahassee, FL 32399-0667. Refer to Job Order No. FL-1380064.

Physician
Part-Time/Locums: 100% NM hospital practice. Exc. Dept. Contact: Dr. Cheng, 3118 Colyar Drive, Chattanooga, TN 37404. Phone: (423) 495-8736

Position Wanted

Experienced, ABNM certified physician seeks FT job. Dr. Garcia: 914-778-2601.

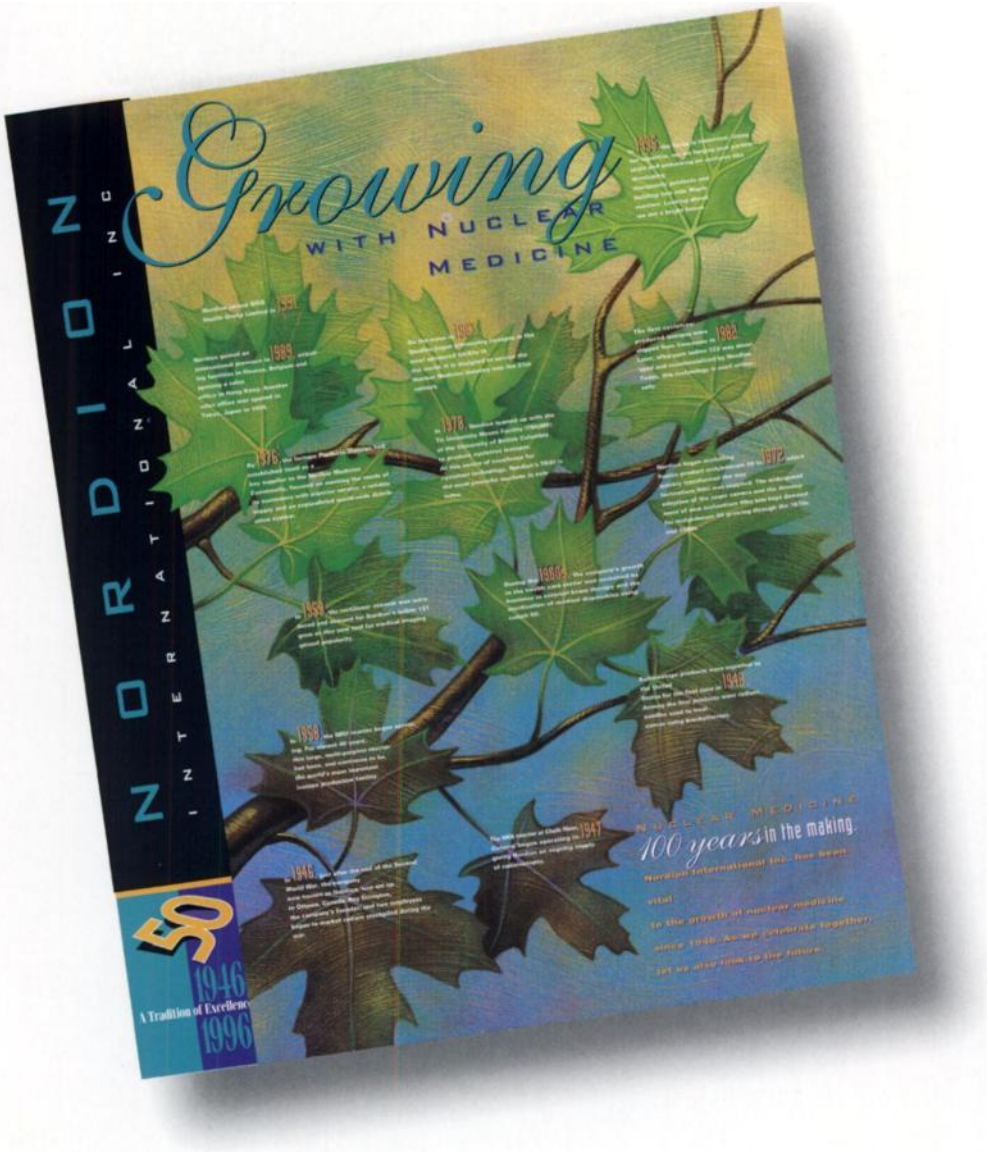
Nuclear medicine physician, taking ABNM Sept. 1996, strong IM background, experienced in all aspects of diagnostic, therapeutic (^{131}I, ^{99m}S) NM including cardiac SPECT and oncology. Please respond to: Society of Nuclear Medicine, Box #801, 1850 Samuel Morse Drive, Reston, VA 20190.

Radiochemist - PhD in Organic Chemistry, 5 years experience in production of various PET radiotracers labeled with ^{11}C, ^{18}F, ^{13}N and ^{15}O for research, clinical and commercial use, as well as cyclotron operation and start up of a new PET center. Ready to work in research or clinical radiopharmacy. Please respond: the Society of Nuclear Medicine, Box #803, 1850 Samuel Morse Drive, Reston, VA 20190.

1896 - 1996

NUCLEAR MEDICINE: 100 *Years in the Making*

*Congratulations to Nordion International Inc., **First Place** winner of the SNM's Centennial Corporate Poster Contest.*



Special thanks to the following SNM Centennial Corporate Poster Contest participants:

- Bicron: 2nd Place Winner
- Nuclear Associates: 3rd Place Winner
- Capintec
- CIS-US
- Digital Scintigraphics, Inc.
- IBA

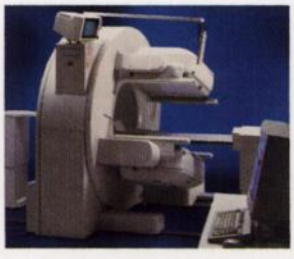
1996 marks the centennial of the discovery of radioactivity. In recognition of the series of discoveries over the past 100 years which have contributed to the evolution of nuclear medicine as we know it today, the SNM held several celebratory events during its Annual Meeting in Denver, Colorado.

One of these events was a Centennial Corporate Poster Contest for exhibitors. The posters were based on each company's history, but judged on creative presentation of the selected content. Pictured above is the winning poster submitted by Nordion International Inc.

Thanks again to all of the participating companies who helped make the centennial a memorable celebration.

OptiCEL self-tuning digital detectors keep your nuclear systems out of the shop.

NEW OPTICEL™ DIGITAL DETECTORS. Sports cars aren't the only high-performance machines that need constant tuning. To get optimal image quality consistently, your digital gammacamera will need ongoing adjustment as well. The question is, "Will you have to sacrifice uptime to get it?" Not with OptiCEL digital detectors from Toshiba. OptiCEL digital detectors feature Optotune™, an exclusive self-tuning technology that automatically adjusts the digital detector. That means that your Toshiba gammacamera will stay up and running, not up on the rack.



Available on Toshiba's nuclear gammacamera systems, Optotune tunes the digital detector up to 512 times per second. That equates to super-crisp image quality every time, but of equal importance, it translates to exceptional reliability and maximum uptime. Digital detectors without Optotune may require service every two months to get similar tuning. And service time is downtime.

New OptiCEL digital detectors: powerful, self-tuned nuclear diagnostics designed to stay in service... and out of the shop. For more information call: 1-800-421-1968

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