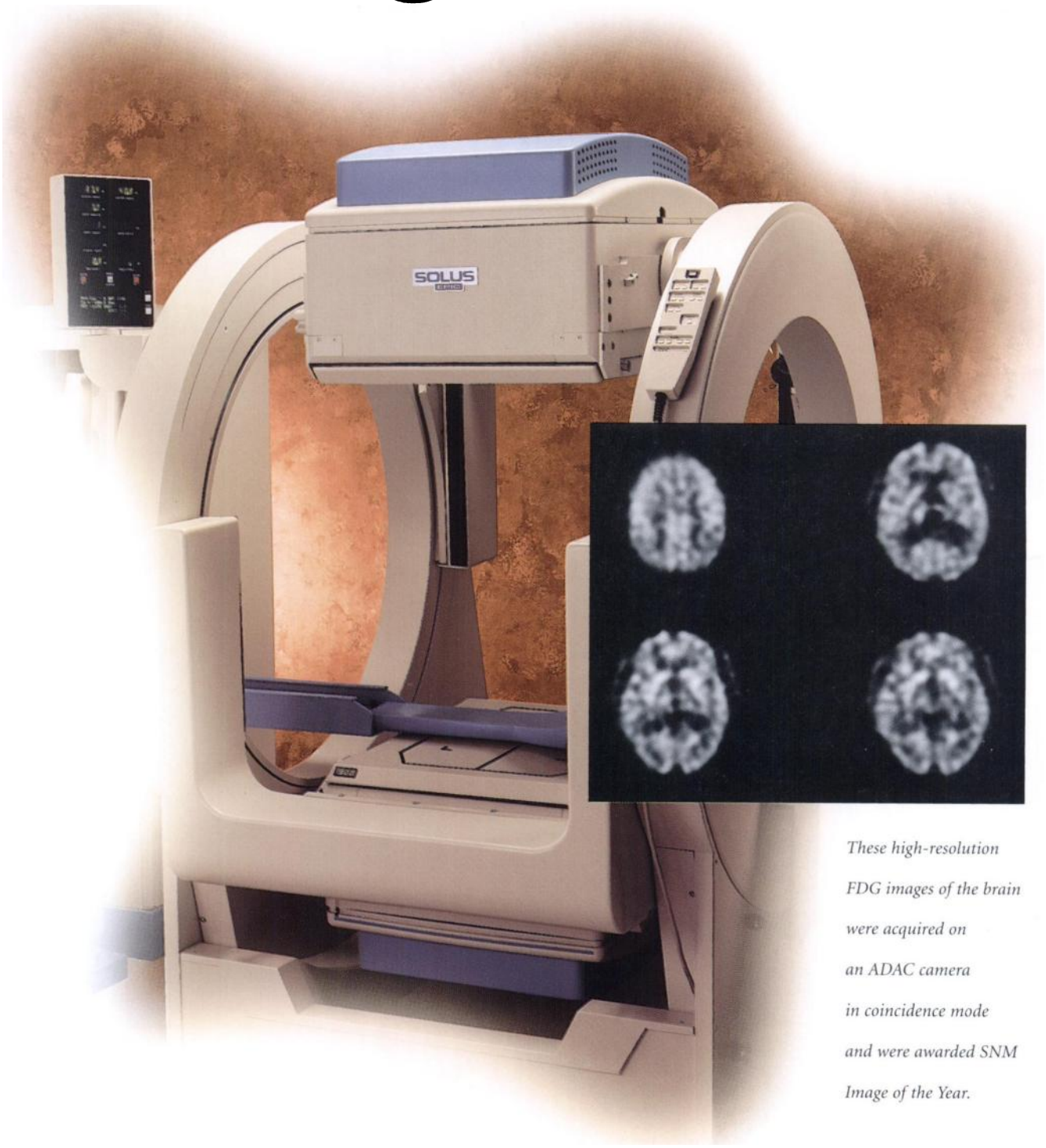
It's no *surprise* that the image of the year...



These high-resolution FDG images of the brain were acquired on an ADAC camera in coincidence mode and were awarded SNM Image of the Year.

Cost-Effective Technology for Today. Imagine having a revolutionary dual-function camera with totally digital non-anger EPIC™ detectors, that with the touch of a button becomes capable of FDG/PET imaging– without collimators. Picture an immediate 2X improvement in image resolution and a 3-10X increase in counting efficiency for oncology, neurology and cardiac applications.

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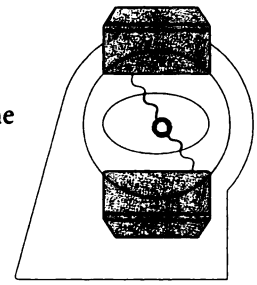
Routine Clinical Flexibility. With the EPIC-MCD, every nuclear medicine department can now gain the immediate clinical advantage of a dual-function emission tomography camera that produces remarkably clear images. In fact, EPIC-MCD acquired the brain scan pictured to the left. It won the prestigious Henry Wagner Image of the Year award at the 1995 Annual SNM meeting.



ADAC Vertex and Solus cameras in coincidence mode deliver a clear clinical advantage.

Take a closer look at the cost-effective EPIC-MCD technology you could have with Vertex and Solus. We guarantee you'll be impressed by what you see. Call 1-800-538-8531 (extension 1800) to receive an EPIC-MCD slide set tutorial. It will bring into perspective the future of your nuclear molecular medicine practice. **Pending 510k approval*

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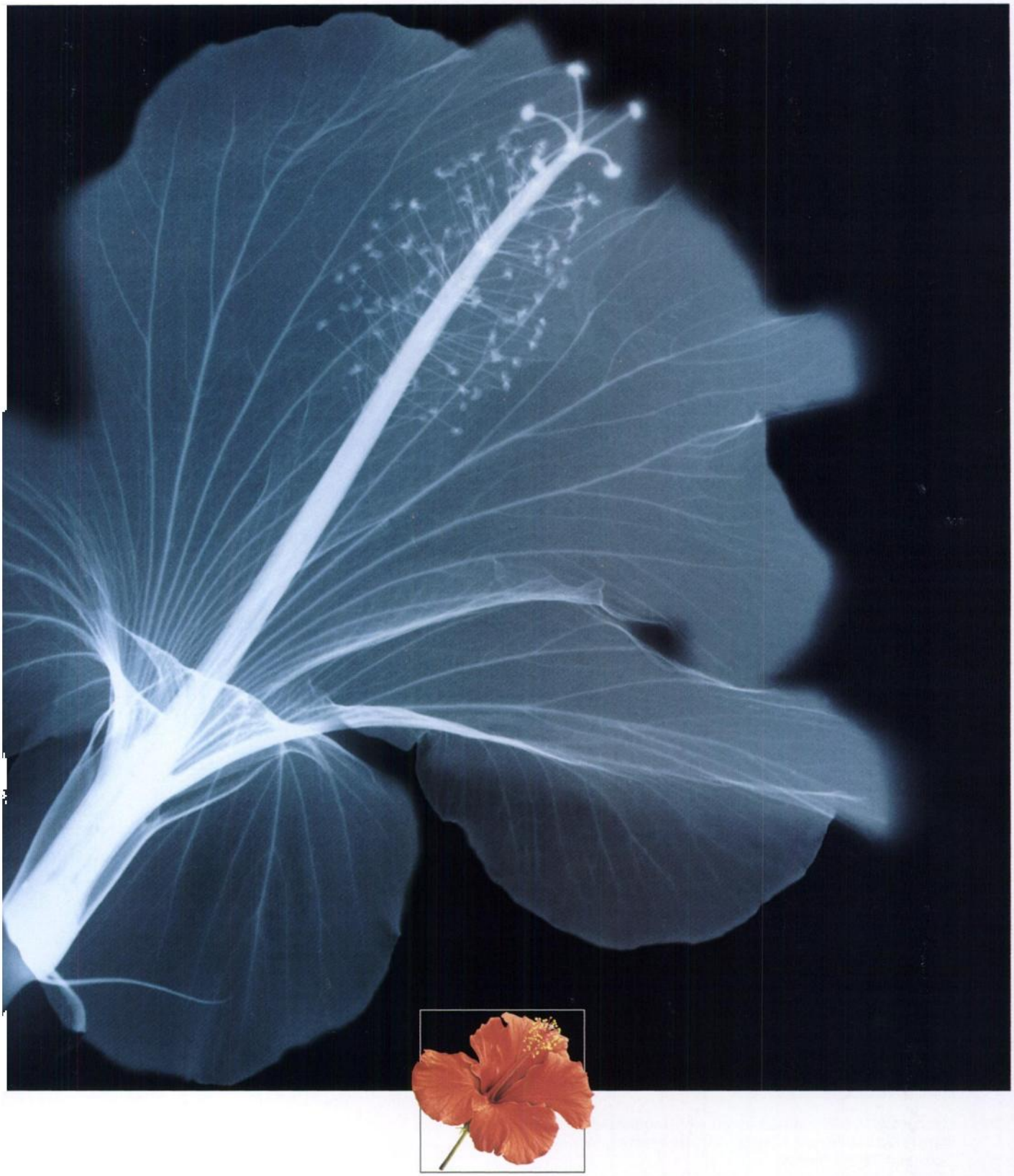
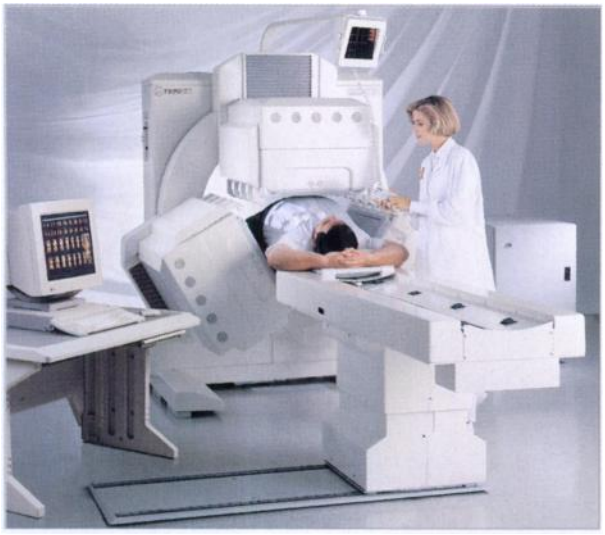


Harmony in Contrast

The Next Generation Systems for FDG Whole Body SPECT



TRIAD XLT 20 Whole BodySPECT

Best Image Resolution

- PROXIMA Real-time Auto Body-Contouring
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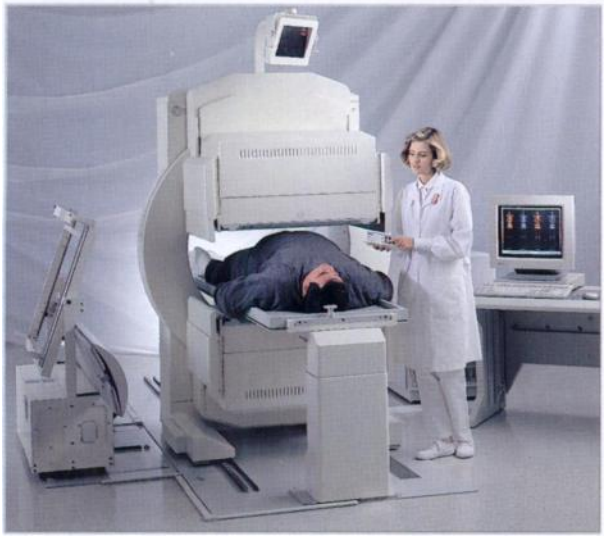
TRIAD XLT 20 Imaging Complete Patient Population

- Industry-best 20 in. axial FOV
- 36 in. Open Access Gantry
- 500 lb. patient weight capacity
- 6 ft. 4 in. patient height imaging capacity

TRIAD XLT 20 Best Clinical Throughput

- Entire torso SPECT in one rotation
- Entire torso three planar views
- Six-view WholeBody Scan in 22 minutes
- Whole BodySPECT up to 6 ft. 4 in.
- Optimized for Oncology Applications



BIAD XLT 20/24 Clinical Workhorse

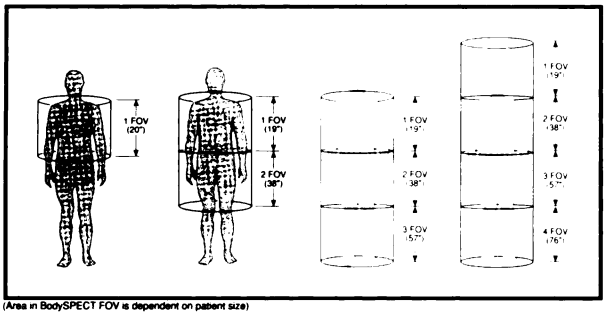
BIAD XLT 20/24 Imaging Complete Patient Population

- Industry-best 24 in. FOV
- 36 in. Open Access Gantry
- 500 lb. patient weight capacity
- Interchangeable SPECT and Whole Body tables optimized for patient comfort and image quality
- 7 ft. patient height imaging capacity

BIAD XLT 20/24 Premier Whole Body Imaging

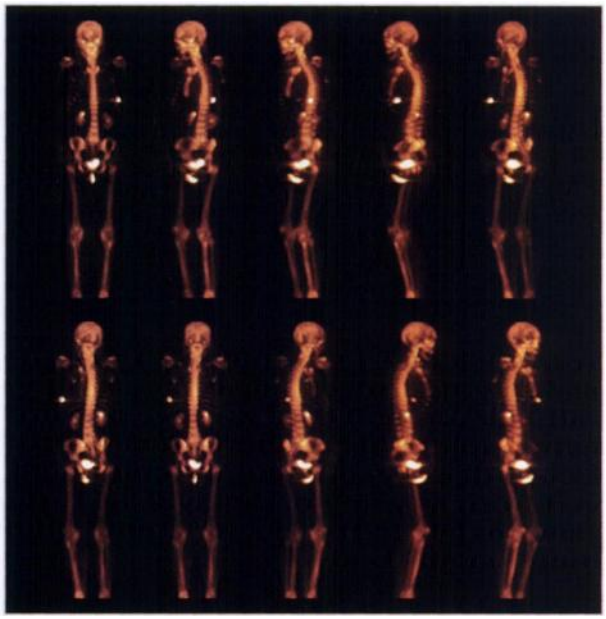
- Single-pass, simultaneous anterior and posterior whole body
- True Rectangular Detector provides sensitivity increases of up to 30% over chamfered corners detector
- 24 in. x 15 in. Jumbo Detectors always ensure complete imaging including arms and shoulders
- A flat 24 in. wide table provides maximum patient comfort and highest image resolution by allowing the posterior detector to be positioned as close as 6 mm to patient

BodySPECT Multiple Field-Of-View SPECT Imaging



(Area in BodySPECT FOV is dependent on patient size)

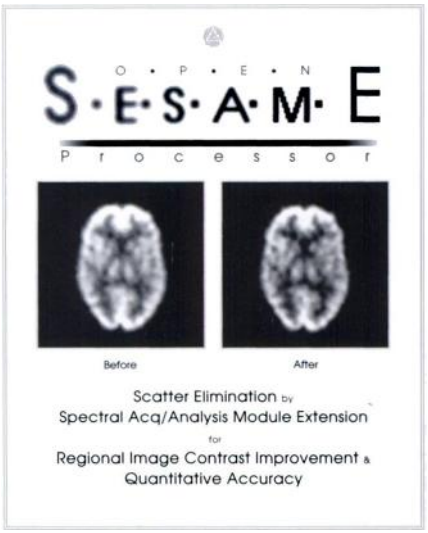
Only TRIONIX Systems perform BodySPECT multiple FOV SPECT imaging. Combining gantry stability and mechanical precision with a simple acquisition command, all TRIADs and BIADs have this imaging capacity. BodySPECT acquires multiple fields-of-view as a single SPECT study. When used with Reprojection display software, the entire study can be rotated on screen and viewed from any angle. BodySPECT directly compliments new radiotracers such as labeled monoclonal antibodies and peptides that target tumors throughout the body.



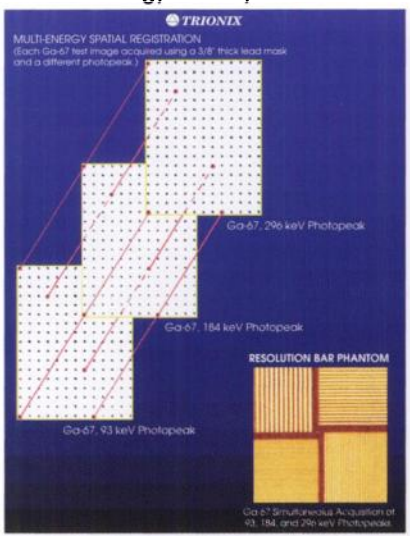
Courtesy of Centennial Medical Center, Tennessee

AQM
Absolute Quantitation Modules

TAP - TRIONIX ACCURACY & PRECISION

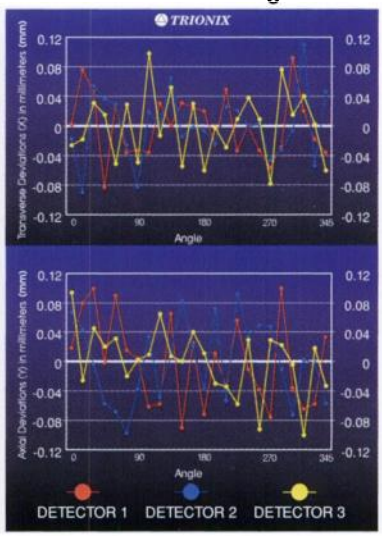


MELC
Multi-Energy Linearity Correction



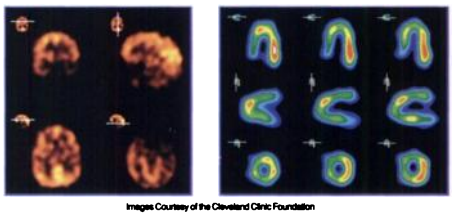
Test Results (Based on 10 Detectors)
- **NO deviations** larger than **0.75 mm** for all tested detectors.
- **NO RMS deviations** larger than **0.5 mm** for all tested detectors.
- **Average RMS deviation is <RMS>=0.41 mm.**

TADA
Trans-Axial Detector Alignment



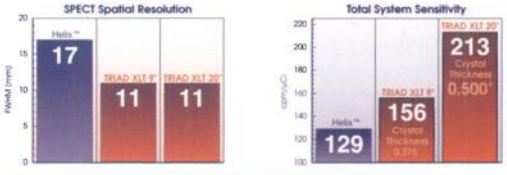
Test Results (Based on 10 Systems)
- **NO deviation** larger than **0.2 mm** for both directions.
- **NO RMS deviation** larger than **0.1 mm** for both directions.
- **Average RMS deviation** less than **0.05 mm** for both directions.

Enhancing the Image of FDG SPECT



Images Courtesy of the Cleveland Clinic Foundation

511 keV SPECT System Performance Comparison
TRIAD XLT (Triple-Head) vs. Helix™ (Dual-Head)*
(Using 511 keV-optimized collimators)



System	UFOV	Crystal Thickness (inches)	Collimator Weight in lbs. (kg)	SPECT Spatial Resolution FWHM (mm)	SPECT Spatial Resolution FWTM (mm)	Energy Window (%)	Detector Sensitivity (cpm/-Ci)	Total System Sensitivity (cpm/-Ci)
Helix™	20" x 15"	0.375	313 (142)	17	Unknown	20.0	64.5	129
TRIAD XLT 9°	16" x 9"	0.375	290 (131)	11	25	15.0	52	156
TRIAD XLT 20°	15" x 20"	0.500	475 (215)	11	25	15.0	71	213

* William H. Martin, et al. "FDG-SPECT Correlation with FDG-PET." J Nucl Med June 1995, 36: 988-996.

TRIONIX XLT Products Workstation

Sun SPARCstation 20, Model 71

- SuperSPARC II CPU
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- Two-1.05 GByte Internal Disk Drives

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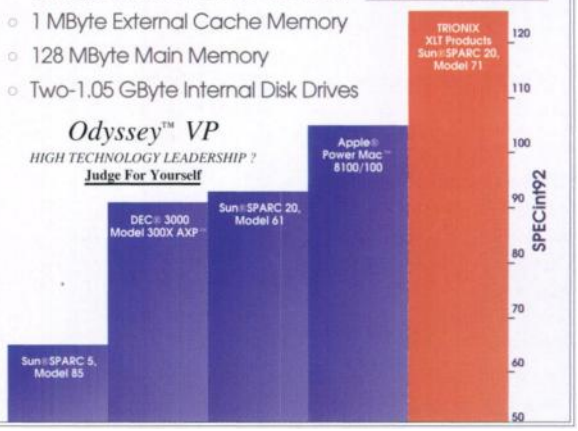

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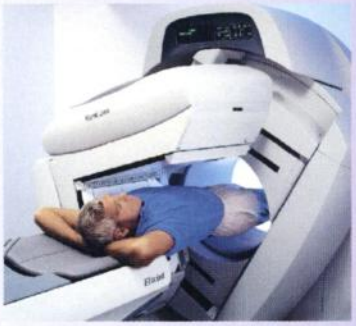
VariCam



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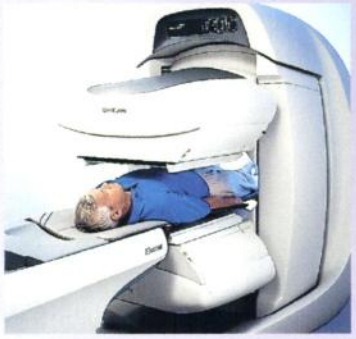
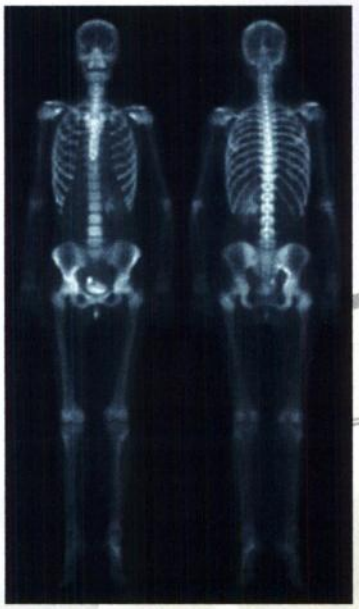
- Designed for coincidence detection (work-in-progress)
- Leading in High-Energy Imaging
- TransACT™: Transmission Attenuation Corrected Tomography

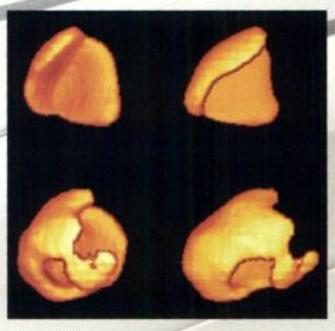


Robotic Design, Convertible Geometry

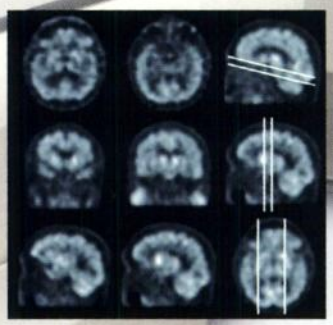
- EleGantry™: Truly open, variable-angle (180°/90°) detector geometry
- OptiTrack™: Real-time fully automatic body-contoured scanning
- Evolving-Images™ with Slip-Ring technology



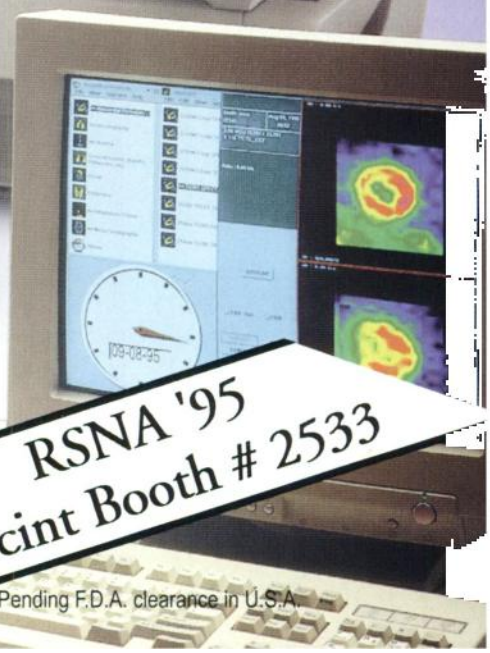
Double-efficiency *Whole-Body scan, featuring superior lesion detectability with OptiTrack real-time body contouring.*



Double-efficiency *right-angle cardiac tomography: simultaneous dual-isotope FDG/MIBI SPECT.*



Double double-efficiency *ultra-flared fan-beam NeuroScintigraphy.*



RSNA '95
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A jolly good profile for Cardiolite®

When performing myocardial perfusion imaging this season, his profile may result in images that are considered technically inadequate because of soft-tissue attenuation.

That's where Cardiolite comes through, especially for female and large-chested or obese male patients. The higher photon energy (140 keV) provides greater anatomical detail that can enhance interpretive confidence—which may reduce false-positives and equivocal cases.

Cardiolite also offers the unique advantage of direct measurement of both myocardial perfusion and ventricular function from one study.

So, for patients with profiles like Santa and Mrs Claus, use Cardiolite to reduce soft-tissue attenuation. And, with images this good, you may even find something extra under your tree.

Please see us at RSNA. Booth #4135

Cardiolite®

Kit for the preparation of Technetium Tc99m Sestamibi

To reduce soft-tissue attenuation Cardiolite comes through

DU PONT
PHARMA
Radiopharmaceuticals

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.

Brief Summary

Cardiolite®

Kit for the preparation of Technetium Tc99m Sestamibi

FOR DIAGNOSTIC USE

DESCRIPTION: Each 5ml vial contains a sterile, non-pyrogenic, lyophilized mixture of:
Tetrakis (2-methoxy isobutyl isonitrile) Copper (I) tetrafluoroborate - 1.0mg
Sodium Citrate Dihydrate - 2.6mg
L-Cysteine Hydrochloride Monohydrate - 1.0mg
Mannitol - 20mg
Stannous Chloride, Dihydrate, minimum ($SnCl_2 \cdot 2H_2O$) - 0.025mg
Stannous Chloride, Dihydrate, ($SnCl_2 \cdot 2H_2O$) - 0.075mg
Tin Chloride (Stannous and Stannic) Dihydrate, maximum (as $SnCl_2 \cdot 2H_2O$) - 0.086mg

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

This drug is administered by intravenous injection for diagnostic use after reconstitution with sterile, non-pyrogenic, oxidant-free Sodium Pertechnetate Tc99m Injection.The pH of the reconstituted product is 5.5 (5.0-6.0). No bacteriostatic preservative is present.

The precise structure of the technetium complex is $Tc99m[MIBI]_6^+$ where MIBI is 2-methoxy isobutyl 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 coronary artery disease is 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 may 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 apex, localization in the anterior or inferior-posterior wall in patients with suspected angina pectoris or coronary artery disease was shown. Disease localization isolated to the apex 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, accepted clinical procedure. Infrequently, death has occurred 4 to 24 hours after 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 preparative procedure.

Radioactive drugs must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel. Also, care should be taken to minimize radiation exposure to the patients consistent with proper patient management.

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 Tc99m 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 radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

Stress testing should be performed only under the supervision of a qualified physician and in a laboratory equipped with appropriate resuscitation 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:

Fatigue	35%
Dyspnea	17%
Chest Pain	16%
ST-depression	7%
Arrhythmia	1%

Carcinogenesis. Mutagenesis, Impairment of Fertility

In comparison with most other diagnostic technetium labeled radiopharmaceuticals, the radiation dose to the ovaries (1.5rads/30mCi at rest, 1.2 rads/30mCi at exercise) is high. Minimal exposure (ALARA) is necessary in women of childbearing capability. (See Dosimetry subsection in DOSAGE AND ADMINISTRATION section.)

The active intermediate, $[Cu(MIBI)_4]BF_4$, was evaluated for genotoxic potential in a battery of five tests. No genotoxic activity was observed in the Ames, CHO/HPRT and sister chromatid exchange tests (all *in vitro*). At cytotoxic concentrations (≥ 20μg/ml), an increase in cells with chromosome aberrations was observed in the *in vitro* human lymphocyte assay. $[Cu(MIBI)_4]BF_4$ did not show genotoxic effects in the *in vivo* mouse micronucleus test at a dose which caused systemic and bone marrow toxicity (9mg/kg, > 600 × maximal human dose).

Pregnancy Category C

Animal reproduction and teratogenicity studies have not been conducted with Technetium Tc99m Sestamibi. It is also not known whether Technetium Tc99m Sestamibi can cause fetal harm when administered to a pregnant woman or can affect reproductive capacity. There have been no studies in pregnant women. Technetium Tc99m Sestamibi should be given to a pregnant woman only if clearly needed.

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 parosmia and/or taste perversion (metallic or bitter taste) immediately after the injection of Technetium Tc99m Sestamibi. A few cases of transient headache, flushing, edema, injection site inflammation, dyspepsia, nausea, vomiting, pruritus, rash, urticaria, dry mouth, fever, dizziness, fatigue, dyspnea, and hypotension also have been attributed to administration of the agent. Cases of angina, chest pain, and death have occurred (see Warnings and Precautions). The following adverse reactions have been rarely reported: signs and symptoms consistent with seizure occurring shortly after administration of the agent; transient arthritis in a wrist joint; and severe hypersensitivity, which was characterized by dyspnea, hypotension, bradycardia, asthenia and vomiting within two hours after a second injection of Technetium Tc99m Sestamibi.

DOSAGE AND ADMINISTRATION: The suggested dose range for I.V. administration in a single dose to be employed in the average patient (70kg) is:

370-1110MBq (10-30mCi)

The dose administered should be the lowest required to provide an adequate study consistent with ALARA principles (see also PRECAUTIONS).

When used in the diagnosis of myocardial infarction, imaging should be completed within four hours after administration.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to patient administration. Radiochemical purity should be checked prior to patient administration.

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

Store at 15-25°C before and after reconstitution.

RADIATION DOSIMETRY: The radiation doses to organs and tissues of an average patient (70kg) per 1110MBq (30mCi) of Technetium Tc99m Sestamibi injected intravenously are shown in Table 4.

Table 4. Radiation Absorbed Doses from Tc99m Sestamibi

	Estimated Radiation Absorbed Dose			
	REST			
	2.0 hour void		4.8 hour void	
Organ	rads/ 30mCi	mGy/ 1110MBq	rads/ 30mCi	mGy/ 1110MBq
Breasts	0.2	2.0	0.2	1.9
Gallbladder Wall	2.0	20.0	2.0	20.0
Small Intestine	3.0	30.0	3.0	30.0
Upper Large Intestine Wall	5.4	55.5	5.4	55.5
Lower Large Intestine Wall	3.9	40.0	4.2	41.1
Stomach Wall	0.6	6.1	0.6	5.8
Heart Wall	0.5	5.1	0.5	4.9
Kidneys	2.0	20.0	2.0	20.0
Liver	0.6	5.8	0.6	5.7
Lungs	0.3	2.8	0.3	2.7
Bone Surfaces	0.7	6.8	0.7	6.4
Thyroid	0.7	7.0	0.7	6.8
Ovaries	1.5	15.5	1.6	15.5
Testes	0.3	3.4	0.4	3.9
Red Marrow	0.5	5.1	0.5	5.0
Urinary Bladder Wall	2.0	20.0	4.2	41.1
Total Body	0.5	4.8	0.5	4.8

	STRESS			
	2.0 hour void		4.8 hour void	
Organ	rads/ 30mCi	mGy/ 1110MBq	rads/ 30mCi	mGy/ 1110MBq
Breasts	0.2	2.0	0.2	1.8
Gallbladder Wall	2.8	28.9	2.8	27.8
Small Intestine	2.4	24.4	2.4	24.4
Upper Large Intestine Wall	4.5	44.4	4.5	44.4
Lower Large Intestine Wall	3.3	32.2	3.3	32.2
Stomach Wall	0.5	5.3	0.5	5.2
Heart Wall	0.5	5.6	0.5	5.3
Kidneys	1.7	16.7	1.7	16.7
Liver	0.4	4.2	0.4	4.1
Lungs	0.3	2.6	0.2	2.4
Bone Surfaces	0.6	6.2	0.6	6.0
Thyroid	0.3	2.7	0.2	2.4
Ovaries	1.2	12.2	1.3	13.3
Testes	0.3	3.1	0.3	3.4
Red Marrow	0.5	4.6	0.5	4.4
Urinary Bladder Wall	1.5	15.5	3.0	30.0
Total Body	0.4	4.2	0.4	4.2

Radiopharmaceutical Internal Dose Information Center, July, 1990, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831, (615) 576-3449.

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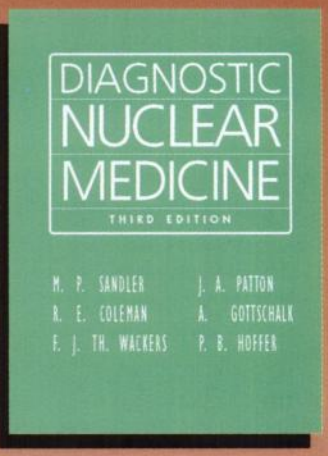

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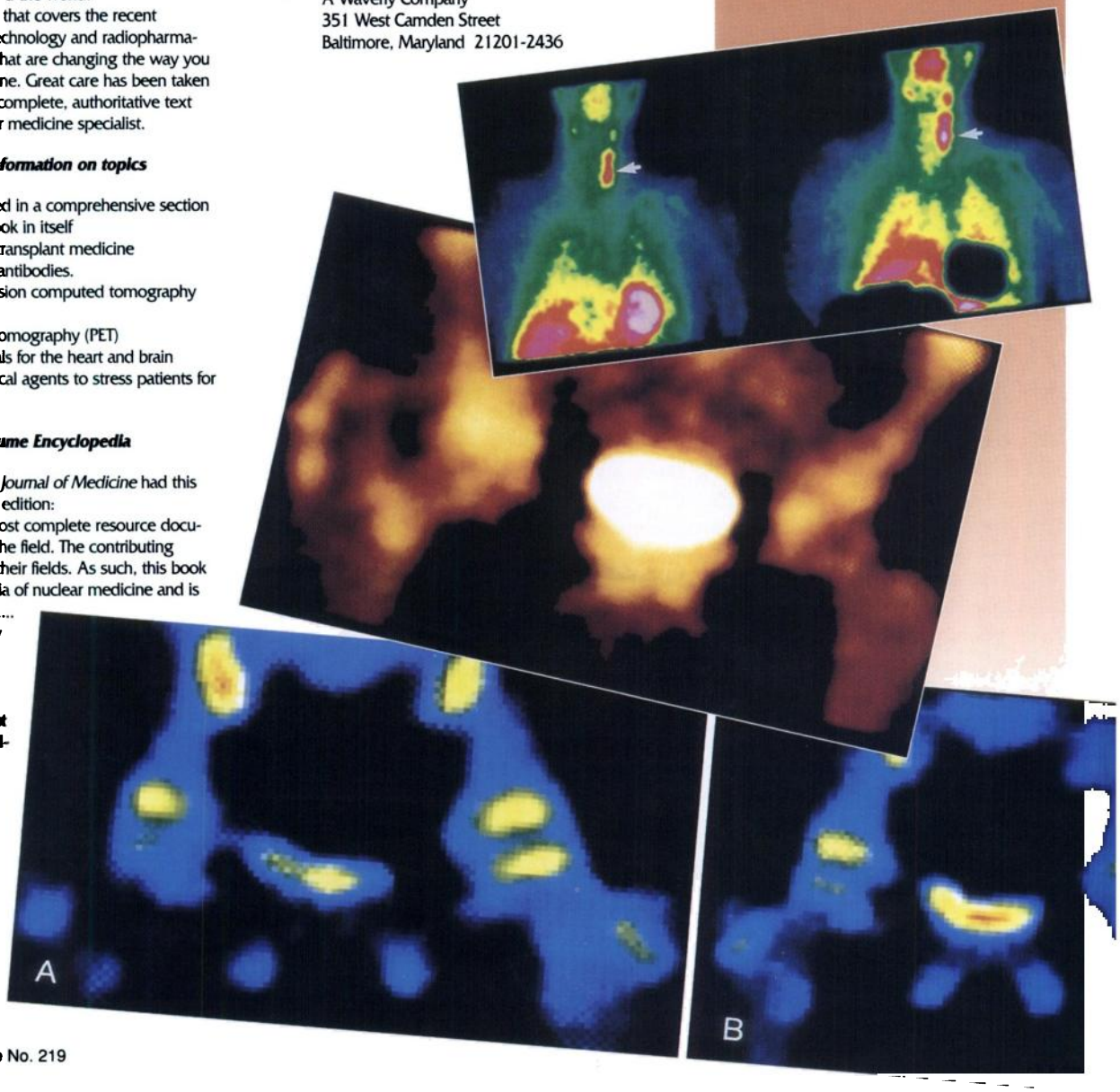

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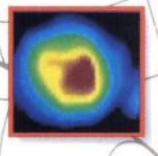

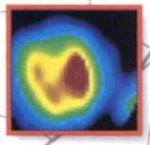

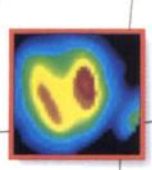

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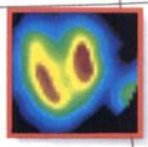

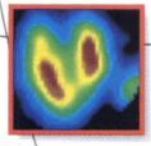

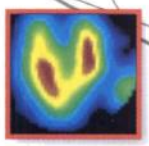

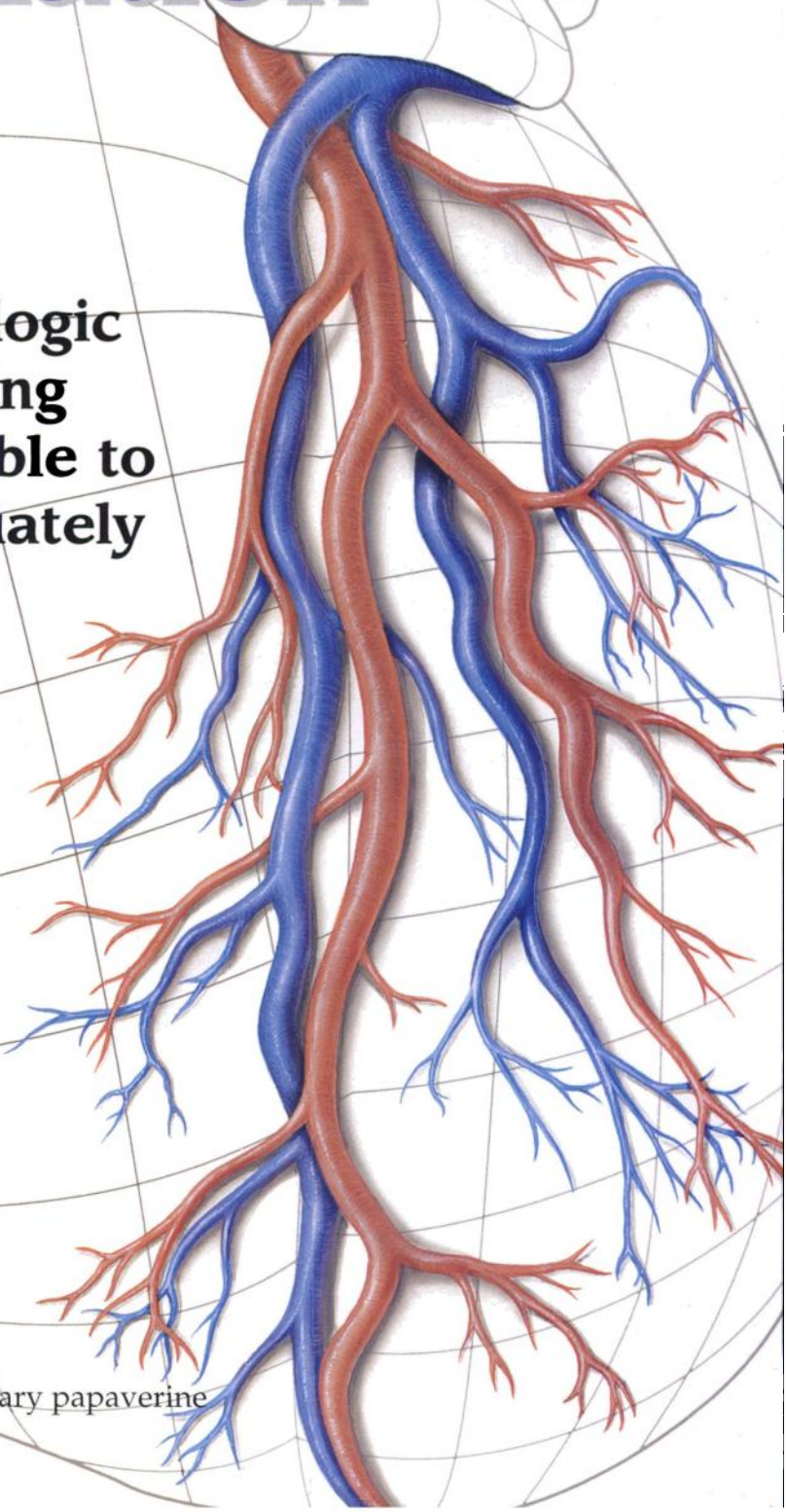

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Indicated as an adjunct to thallium-201 myocardial perfusion scintigraphy in patients unable to exercise adequately

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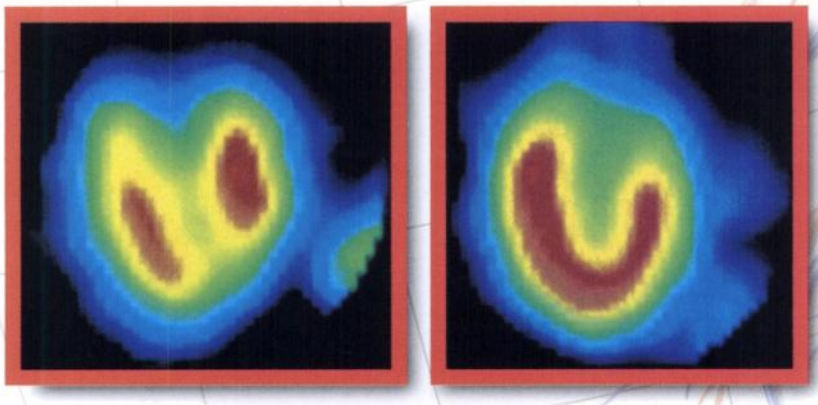

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62-year old male with no history of myocardial infarction referred for adenosine/thallium-201 stress study.

Imaging comparable to exercise

Maximal pharmacologic stress

- Most patients reach maximum coronary hyperemia*
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Established safety profile

- With a half-life of < 10 seconds, adverse experiences usually resolved quickly†
- The most common adverse experiences were flushing (44%), chest discomfort (40%) and dyspnea or the urge to breath deeply (28%)
- Contraindicated in patients with 1) 2nd- or 3rd-degree AV block, 2) sinus node disease, 3) and known or suspected bronchoconstrictive or bronchospastic lung disease (eg, asthma)
- Theophylline was used in less than 2% of patients

* Intracoronary Doppler flow catheter studies have demonstrated that a dose of intravenous Adenoscan of 140 mcg/kg/min produces maximum coronary hyperemia (relative to intracoronary papaverine) in most cases within 2-3 minutes of the onset of the infusion. Coronary blood flow velocity returns to basal levels within 1-2 minutes of discontinuing the Adenoscan infusion.

† Despite the short half-life of adenosine, 10.6% of the side effects occurred not with the infusion of Adenoscan but several hours after the infusion terminated. Also, 8.4% of the side effects that began coincident with the infusion persisted for up to 24 hours after the infusion was complete. In many cases, it is not possible to know whether these late adverse events are the result of Adenoscan infusion.

Please see brief summary of prescribing information on adjacent page.

Maximal Vasodilation*
in patients unable to exercise

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- Imaging comparable to exercise
- Well established safety profile†

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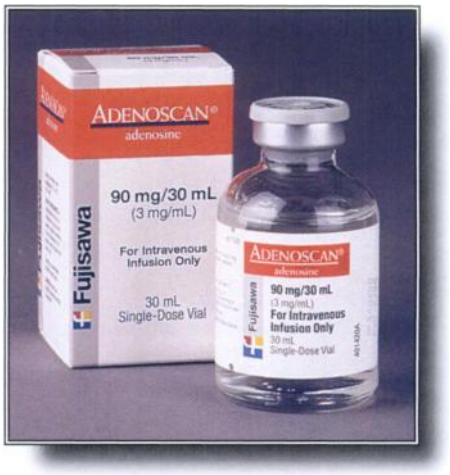

ADENOSCAN®
adenosine
For maximal pharmacologic stress imaging

Please see brief summary of prescribing information on adjacent page.

*Relative to intracoronary papaverine.

† Contraindicated in patients with 2nd- or 3rd-degree AV block, sinus node disease and known or suspected bronchoconstrictive or bronchospastic lung disease.

References:

1. Wilson RF, Wyche K, Christensen BV, et al. Effects of adenosine on human coronary arterial circulation. *Circulation*. 1990;82:1595-1606.
2. Cerqueira MD, Verani MS, Schwaiger M, et al. Safety profile of adenosine stress perfusion imaging: results from Adenoscan multicenter trial registry. *J Am Coll Cardiol*. 1994;23:384-389.

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BRIEF SUMMARY

ADENOSCAN®
adenosine

For Intravenous Infusion Only

DESCRIPTION

Adenosine is an endogenous nucleoside occurring in all cells of the body. It is chemically 6-amino-9-beta-D-ribofuranosyl-9-H-purine.

Adenosine is a white crystalline powder. It is soluble in water and practically insoluble in alcohol. Solubility increases by warming and lowering the pH of the solution.

Each Adenoscan vial contains a sterile, non-pyrogenic solution of adenosine 3 mg/mL and sodium chloride 9 mg/mL in Water for Injection, q.s. The pH of the solution is between 4.5 and 7.5.

INDICATIONS AND USAGE:

Intravenous Adenoscan is indicated as an adjunct to thallium-201 myocardial perfusion scintigraphy in patients unable to exercise adequately. (See **WARNINGS**).

CONTRAINDICATIONS:

Intravenous Adenoscan (adenosine) should not be administered to individuals with:

1. Second- or third-degree AV block (except in patients with a functioning artificial pacemaker).
2. Sinus node disease, such as sick sinus syndrome or symptomatic bradycardia (except in patients with a functioning artificial pacemaker).
3. Known or suspected bronchoconstrictive or bronchospastic lung disease (e.g., asthma).
4. Known hypersensitivity to adenosine.

WARNINGS:

Fatal Cardiac Arrest, Life Threatening Ventricular Arrhythmias, and Myocardial Infarction.

Fatal cardiac arrest, sustained ventricular tachycardia (requiring resuscitation), and nonfatal myocardial infarction have been reported coincident with Adenoscan infusion. Patients with unstable angina may be at greater risk.

Sinoatrial and Atrioventricular Nodal Block

Adenoscan (adenosine) exerts a direct depressant effect on the SA and AV nodes and has the potential to cause first-, second- or third-degree AV block, or sinus bradycardia. Approximately 8.3% of patients develop AV block with Adenoscan, including first-degree (2.9%), second-degree (2.6%) and third-degree (0.8%) heart block. All episodes of AV block have been asymptomatic, transient, and did not require intervention. Adenoscan can cause sinus bradycardia. Adenoscan should be used with caution in patients with pre-existing first-degree AV block or bundle branch block and should be avoided in patients with high-grade AV block or sinus node dysfunction (except in patients with a functioning artificial pacemaker). Adenoscan should be discontinued in any patient who develops persistent or symptomatic high-grade AV block. Sinus pause has been rarely observed with adenosine infusions.

Hypotension

Adenoscan (adenosine) is a potent peripheral vasodilator and can cause significant hypotension. Patients with an intact baroreceptor reflux mechanism are able to maintain blood pressure and tissue perfusion in response to Adenoscan by increasing heart rate and cardiac output. However, Adenoscan should be used with caution in patients with autonomic dysfunction, stenotic valvular heart disease, pericarditis or pericardial effusions, stenotic carotid artery disease with cerebrovascular insufficiency, or uncorrected hypovolemia, due to the risk of hypotensive complications in these patients. Adenoscan should be discontinued in any patient who develops persistent or symptomatic hypotension.

Hypertension

Increases in systolic and diastolic pressure have been observed (as great as 140 mm Hg systolic in one case) concomitant with Adenoscan infusion; most increases resolved spontaneously within several minutes, but in some cases, hypertension lasted for several hours.

Bronchoconstriction

Adenoscan (adenosine) is a respiratory stimulant (probably through activation of carotid body chemoreceptors) and intravenous administration in man has been shown to increase minute ventilation (Ve) and reduce arterial PCO_2 causing respiratory alkalosis. Approximately 28% of patients experience breathlessness (dyspnea) or an urge to breathe deeply with Adenoscan. These respiratory complaints are transient and only rarely require intervention.

Adenosine administered by inhalation has been reported to cause bronchoconstriction in asthmatic patients, presumably due to mast cell degranulation and histamine release. These effects have not been observed in normal subjects. Adenoscan has been administered to a limited number of patients with asthma and mild to moderate exacerbation of their symptoms has been reported. Respiratory compromise has occurred during adenosine infusion in patients with obstructive pulmonary disease. Adenoscan should be used with caution in patients with obstructive lung disease not associated with bronchoconstriction (e.g., emphysema, bronchitis, etc.) and should be avoided in patients with bronchoconstriction or bronchospasm (e.g., asthma). Adenoscan should be discontinued in any patient who develops severe respiratory difficulties.

PRECAUTIONS:

Drug Interactions

Intravenous Adenoscan (adenosine) has been given with other cardioactive drugs (such as beta adrenergic blocking agents, cardiac glycosides, and calcium channel blockers) without apparent adverse interactions, but its effectiveness with these agents has not been systematically evaluated. Because of the potential for additive or synergistic depressant effects on the SA and AV nodes, however, Adenoscan should be used with caution in the presence of these agents. The vasoactive effects of Adenoscan are inhibited by adenosine receptor antagonists, such as alkylxanthines (e.g., caffeine and theophylline). The safety and efficacy of Adenoscan in the presence of these agents has not been systematically evaluated. The vasoactive effects of Adenoscan are potentiated by nucleoside transport inhibitors, such as dipyridamole. The safety and efficacy of Adenoscan in the presence of dipyridamole has not been systematically evaluated. Whenever possible, drugs that might inhibit or augment the effects of adenosine should be withheld for at least five half-lives prior to the use of Adenoscan.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Studies in animals have not been performed to evaluate the carcinogenic potential of Adenoscan (adenosine). Adenosine was negative for genotoxic potential in the Salmonella (Ames Test) and Mammalian Microsome Assay.

Adenosine, however, like other nucleosides at millimolar concentrations present for several doubling times of cells in culture, is known to produce a variety of chromosomal alterations. In rats and mice, adenosine administered intraperitoneally once a day for five days at 50, 100, and 150 mg/kg [10-30 (rats) and 5-15 (mice) times human dosage on a mg/M^2 basis] caused decreased spermatogenesis and increased numbers of abnormal sperm, a reflection of the ability of adenosine to produce chromosomal damage.

Pregnancy Category C

Animal reproduction studies have not been conducted with adenosine; nor have studies been performed in pregnant women. Because it is not known whether Adenoscan can cause fetal harm when administered to pregnant women, Adenoscan should be used during pregnancy only if clearly needed.

Pediatric Use

The safety and effectiveness of Adenoscan in patients less than 18 years of age have not been established.

ADVERSE REACTIONS:

The following reactions with an incidence of at least 1% were reported with intravenous Adenoscan among 1421 patients enrolled in controlled and uncontrolled U.S. clinical trials. Despite the short half-life of adenosine, 10.6% of the side effects occurred not with the infusion of Adenoscan but several hours after the infusion terminated. Also, 8.4% of the side effects that began coincident with the infusion persisted for up to 24 hours after the infusion was complete. In many cases, it is not possible to know whether these late adverse events are the result of Adenoscan infusion.

Flushing	44%	Gastrointestinal discomfort	13%	Second-degree AV block	3%
Chest discomfort	40%	Lightheadedness/dizziness	12%	Paresthesia	2%
Dyspnea or urge to breathe deeply	28%	Upper extremity discomfort	4%	Hypotension	2%
Headache	18%	ST segment depression	3%	Nervousness	2%
Throat, neck or jaw discomfort	15%	First-degree AV block	3%	Arrhythmias	1%

Adverse experiences of any severity reported in less than 1% of patients include:

Body as a Whole: back discomfort; lower extremity discomfort; weakness.

Cardiovascular System: nonfatal myocardial infarction; life-threatening ventricular arrhythmia; third-degree AV block; bradycardia; palpitation; sinus exit block; sinus pause; sweating; T-wave changes, hypertension (systolic blood pressure > 200 mm Hg).

Central Nervous System: drowsiness; emotional instability; tremors.

Genital/Urinary System: vaginal pressure; urgency.

Respiratory System: cough.

Special Senses: blurred vision; dry mouth; ear discomfort; metallic taste; nasal congestion; scotomas; tongue discomfort.

OVERDOSAGE:

The half-life of Adenosine is less than 10 seconds and side effects of Adenoscan (when they occur) usually resolve quickly when the infusion is discontinued, although delayed or persistent effects have been observed. Methylxanthines, such as caffeine and theophylline, are competitive adenosine receptor antagonists and theophylline has been used to effectively terminate persistent side effects. In controlled U.S. clinical trials, theophylline (50-125 mg slow intravenous injection) was needed to abort Adenoscan side effects in less than 2% of patients.

DOSAGE AND ADMINISTRATION:

For intravenous infusion only.

Adenoscan should be given as a continuous peripheral intravenous infusion.

The recommended intravenous dose for adults is 140 mcg/kg/min infused for six minutes (total dose of 0.84 mg/kg).

The required dose of thallium-201 should be injected at the midpoint of the Adenoscan infusion (i.e., after the first three minutes of Adenoscan). Thallium-201 is physically compatible with Adenoscan and may be injected directly into the Adenoscan infusion set.

The injection should be as close to the venous access as possible to prevent an inadvertent increase in the dose of Adenoscan (the contents of the IV tubing) being administered. There are no data on the safety or efficacy of alternative Adenoscan infusion protocols.

The safety and efficacy of Adenoscan administered by the intracoronary route have not been established.

Note: Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration.

CAUTION: Federal law prohibits dispensing without prescription.

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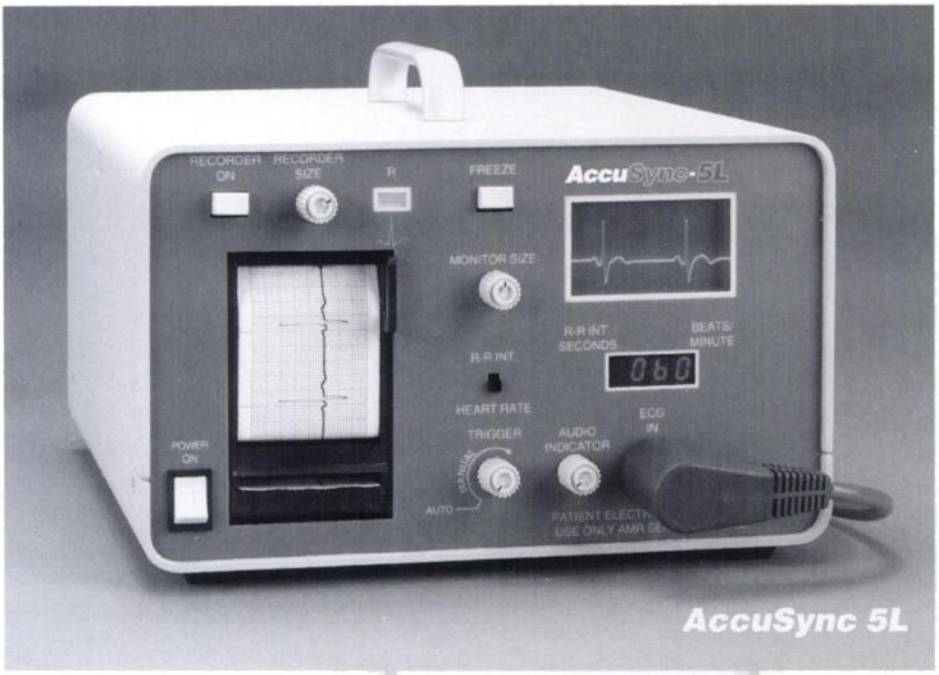

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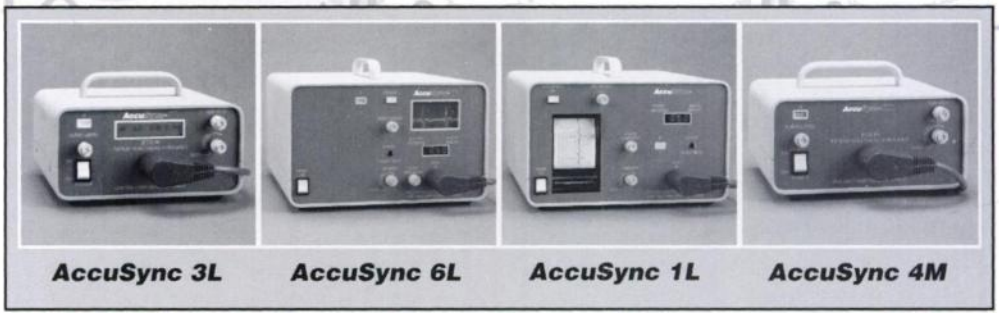
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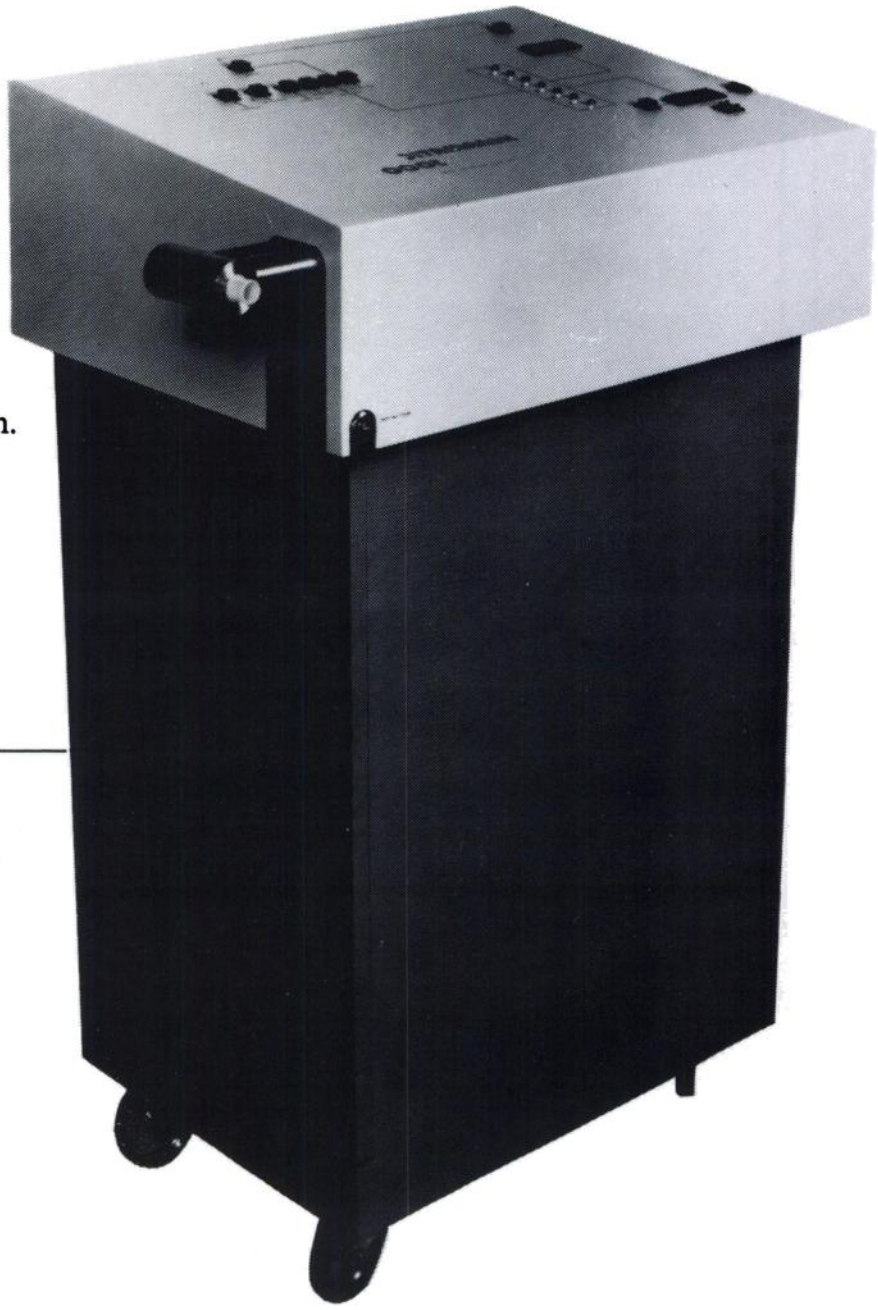

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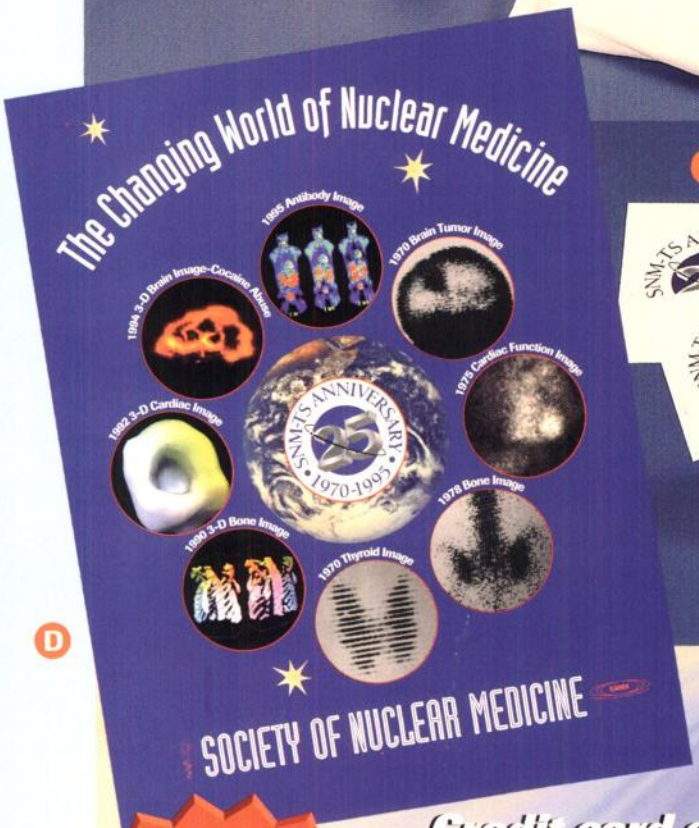

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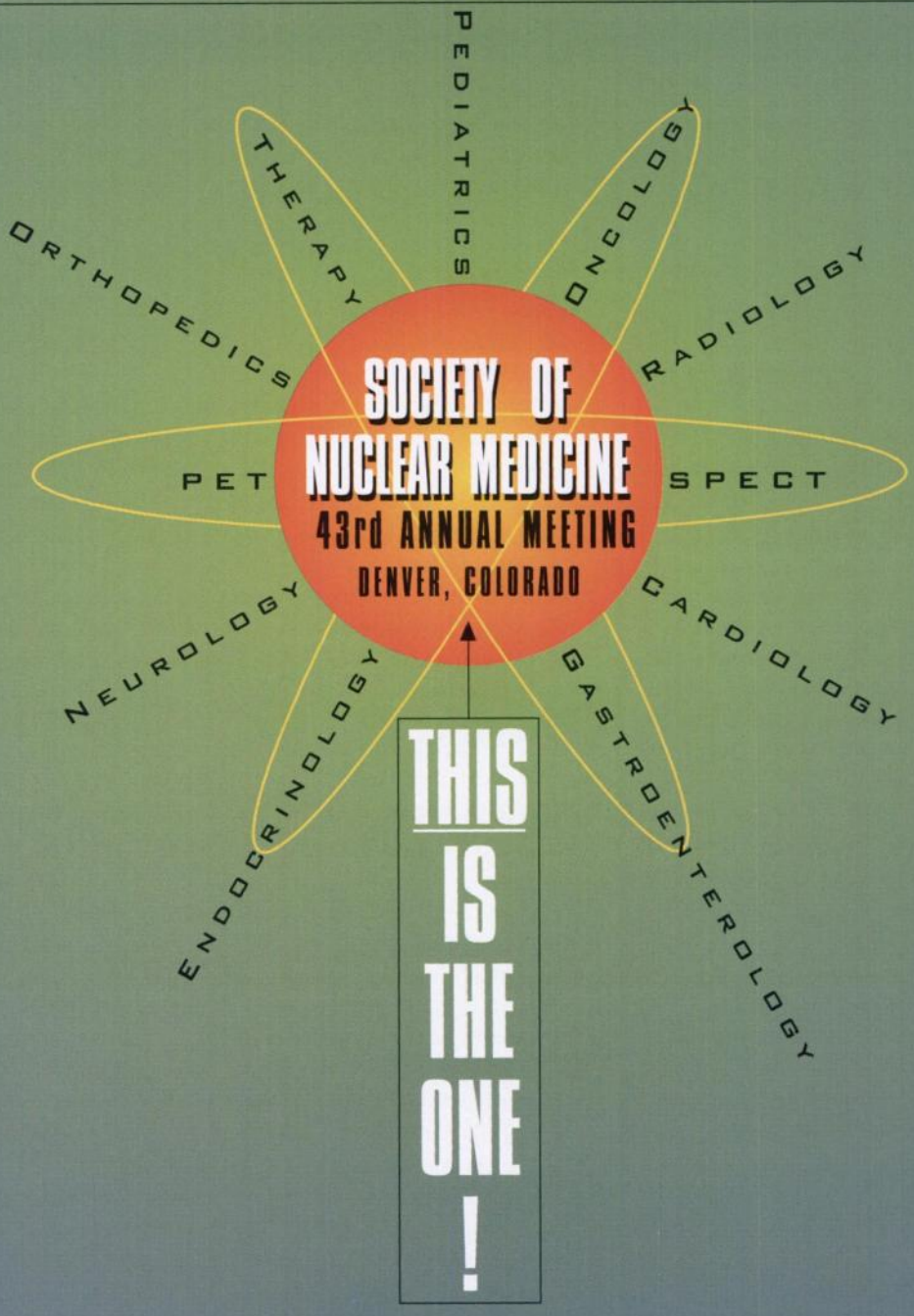

ATTEND NUCLEAR MEDICINE'S FOREMOST INTERNATIONAL GATHERING

1996 promises to bring many exciting advances to the field of nuclear medicine. What better way to learn about the latest research and examine the newest technology than at the Society of Nuclear Medicine's 43rd Annual Meeting? Amidst the scenic beauty of Denver, the Mile High City, you can participate in the extensive scientific and educational programs, review posters, and visit with the numerous companies exhibiting nuclear medicine products and related services. In addition, you will have the opportunity to meet colleagues and other health care professionals from around the world.

Mark your calendars now for the Society of Nuclear Medicine's 43rd Annual Meeting in Denver, Colorado June 2 - 6, 1996

Please watch for the Meeting Preview Guide in early 1996

CALL FOR ABSTRACTS FOR SCIENTIFIC PAPERS AND SCIENTIFIC EXHIBITS

the Society of Nuclear Medicine

43rd Annual Meeting

June 2- June 6, 1996

Denver, Colorado

The 1996 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 43rd Annual Meeting in Denver, CO. 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 1995 JNM. The Scientific Exhibits abstract form is only available by calling or writing to:

The Society of Nuclear Medicine
Att: Abstracts
1850 Samuel Morse Drive
Reston, VA 22090-5316
Tel: (703)708-9000 • FAX: (703)708-9015

DEADLINE FOR RECEIPT OF ABSTRACTS FOR SCIENTIFIC PAPERS IS TUESDAY, JANUARY 9, 1996.

DEADLINE FOR RECEIPT OF ABSTRACTS FOR SCIENTIFIC EXHIBITS IS TUESDAY, JANUARY 9, 1996.

1S

ANNOUNCING

The American Board of Science In Nuclear Medicine 1996 Certification Examination

The 1996 examination will be given Sunday, June 2, 1996 in Denver, Colorado, in conjunction with the 43rd Annual Meeting of the Society of Nuclear Medicine.

The examination is written and consists of two parts —

Part One (3.5 hours) assesses knowledge of basic aspects of Nuclear Medicine Science.

Part Two (2.5 hours) examines in depth the knowledge of a predetermined subspecialty area of the candidate's choice including:

- Nuclear Medicine Physics and Instrumentation
- Nuclear Pharmaceutical Science and Radiochemistry
- Radiation Protection

Completed Applications must be postmarked by March 15, 1996. The examination fee is $450 ($400 refundable if you do not qualify).

For applications and more information, please contact:
Joanna Wilson, Associate Coordinator
American Board of Science in Nuclear Medicine
c/o The Society of Nuclear Medicine
1850 Samuel Morse Drive, Reston, Virginia 22090-5316
Tel: (703) 708-9000, ext. 250 • Fax: (703) 708-9015

SNM 43RD ANNUAL MEETING

Critical Dates

Item		Due Date
ABSTRACT FORMS		
Scientific Papers	October Issue JNM	1/9/96
Scientific Exhibits	Contact Department: MEETING SERVICES	1/9/96
REGISTRATION FORM		4/29/96
HOUSING FORM		5/3/96

DON'T FORGET THE MID-WINTER MEETING IS IN SAN JUAN, PUERTO RICO

DATE: January 9-16, 1996

LOCATION: Caribe Hilton Hotel and Casino

EDUCATION PROGRAM SPONSOR: The Computer and Instrumentation Council

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.

Innovative Color Printing for Medical Applications

The Codoncis NP-1600M medical color printer is a high quality paper and transparency output solution designed for medical imaging applications. Utilizing dye-sublimation technology and digital image processing, the NP-1600M generates precise grayscale and color prints through a dry imaging process. A high-speed internal SPARC processor, standard Ethernet interface and built-in print spooler allow shared access of the printer. Print requests are quickly spooled and processed to free valuable personnel and equipment resources.

To provide consistency high image quality for medical applications, Codonics engineers have developed an innovative printer calibration technique called CorrectImage™. This ensures uniform color distribution by compensating for elemental printhead variations during the printing process. CorrectImage significantly improves image quality by reducing artifacts such as ghosting and color shifting common in dye-sublimation printers. The NP-1600M interfaces are industry standard Ethernet and Centronics parallel. These interfaces provide high speed connectivity to workstation based imaging systems, including Apple Macintosh, IBM, PC, Sun and Silicon Graphics. Many proprietary systems also support one or both of the NP-1600M interfaces. No special software drivers are required to transfer images to the NP-1600M. Ethertalk is used for Apple Macintosh networks. LPR and FTP allow easy printer access from workstations using TCP/IP. Telnet can be used to connect to the printer and modify operational parameters or the print queue. Both TCP/IP and EtherTalk can be used simultaneously. **Codonics, 17991 Englewood Dr., Middleburg Heights, OH 44130. Phone: (216) 243-1198. Fax: (216) 243-1334.**

Ensuring Safety With SECURE™ Injection Shield

An improved injection shield for use in the administration of unit-dose radiopharmaceticals is now on the market. The SECURE™ Safety Injection Shield is capable of reducing the chance of accidental needlesticks and eliminating shield contamination. Other shields currently on the market require the user to load the syringe in the shield, then withdraw it back through the shield after injection. This can cause contamination of the shield from radioactive and potentially biohazardous material. The advanced Syncor design allows the syringe to pass through the protective shield directly into a sharps container with the simple push of a tab. As a result, shields can be maintained with normal cleaning rather than advanced sterilization procedures. The problem of shield contamination is eliminated with this injection shield; there is no need to recap a used needle. **Syncor International Corp., Marc Mullen, Program Manager, 20001 Prairie St., Chatsworth, CA 91311. Phone: (818) 717-4477. Fax: (818) 717-4676.**

Economical Radioactive Measurements Can Be Achieved Using the CRC®-35R

Designed with the busy department in mind, the powerful CRC®-35R offers time-savings and easy-to-use features in a sleek new package. The menu-driven system provides for automated tracking of inventory, dose calculation, quality assurance record keeping, radiochemical purity analysis and isotope decay correction. The inventory control function categorizes by radionuclide, compound or both and allows for withdrawals from multiple dose vials. The CRC-35R allows the user to step through daily tests, system tests, as well as accuracy, constancy, quality control, linearity and geometry testing. Radiopharmaceutical dispensing information for up to 100 patient doses can be stored in memory. In addition, the memory provides half-life data for 86 radionuclides, pre and postcalibration measurement activities and the ability to measure over 200 radionuclides. The new calibrator's screen displays nuclide activity, Ci or Bq calibration numbers, the date and the time. A high-speed printer provides peel-off label tickets and full-page reports with the push of a button. The system can be configured with up to eight remote ionization chambers and readouts. **Capintec Inc., Christina Santaiti, 6 Arrow Rd., Ramsey, NJ 07446. Phone: (201) 825-9500. Fax: (201) 825-1336**

Backup Power for Broadband Communications

Designed for use in hospital, clinic or lab facilities to power ultrasound, monitoring, diagnostic, computer and communication equipment, the AlphaMed Uninterruptible Power Supply (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 AlphaMed UPS from Alpha Technologies provides clean and uninterrupted backup power to medical and dental equipment in case of utility power failure and/or interruption. The systems low current leakage prevents the unit from interfering with other critical equipment. Health care facility computer networks such as, LAN/WAN and telecommunication networks can provide complete status and performance monitoring through the use of AlphaMed's communication features including RS-232 port, SNMP compatibility, two-way on-board modem and intelligent digital panel. **Alpha Technology, 3767 Alpha Way, Bellingham, WA 98226-8302. Phone: (206) 647-2360. Fax: (206) 671-4936.**

Position Available

Chief of Nuclear Medicine at the VA Hospital, Salt Lake City

Applications are being sought for the Chief of Nuclear Medicine, Veteran's Administration Medical Center, Salt Lake City, UT. The position includes an academic appointment in the Dept. of Radiology, University of Utah School of Medicine. The applicant is expected to develop a research program. A CV and 3 letters of reference should be sent to: Frederick L. Datz, MD, Director of Nuclear Medicine, Dept. of Radiology, University of Utah Health Sciences Center, Salt Lake City, UT 84132. The University of Utah is an EE-AA employer and encourages applications from women and minorities.

Fellowship

Research fellowship in PET at the Northern California PET Imaging Center, affiliated with the University of California at Davis, for one year starting 7/1/96. Active clinical and research facility, 800 studies per year in oncology, neurology and cardiology. BC/BE applicant expected to participate in interpretation of studies, oncologic PET research and presentation of results. Please send cirriculum vitae to: Peter E. Valk, MD, Northern California PET Imaging Center, 3195 Folsom Blvd., Sacramento, CA 98516. Phone (916) 733-3200, Fax (916) 733-6203.

Nuclear Medicine Residency/Fellowship

Nuclear Medicine Residency/Fellowship positions are available at the University of Missouri Health Sciences Center beginning July 1, 1996. One year of prior ACGME approved clinical training and eligibility for Missouri States Medical License are required. The program is fully accredited by ACGME and provides comprehensive training in all aspects of nuclear medicine including nuclear cardiology, SPECT imaging and oncologic applications. Contact: Amolak Singh, MD, Professor of Radiology, Director of Nuclear Medicine, MU Health Sciences Center, One Hospital Drive, Columbia, MO 65212. Phone (314) 882-7955, Fax (314) 884-5557.

Nuclear Medicine Radiologist - Central New Jersey

A 34 person radiology group seeks a board certified radiologist with additional nuclear medicine boards or ABR special competency to share responsibilities in nuclear medicine and general radiology. Cardiac, nuclear and SPECT experience required. Practice includes two 450-bed hospitals, 3 offices, radiology residency and medical student teaching. Send CV to Anthony Yudd, MD, PhD, c/o Kathy McGrath, Radiology Group of New Brunswick, P.A., 800 Ryders Lane, P.O. Box 1075, East Brunswick, NJ 08816-1075.

Physician Full-Time

A full-time employment opportunity is available to qualified physicians who are Board Eligible/Board Certified in both IM/NM or equivalent. Applicants must be trained and interested in practicing both internal medicine and nuclear medicine procedures. Responsibilities are approximately divided equally. Experience in thyroidology, osteoporosis and outpatient procedures for primary care is preferred. A unique growing solo practice that combines outpatient office IM/NM as well as hospital coverage for two community hospitals. Send CV to: Carolina Nuclear Medicine/Burlington Medical Center, Alamance Professional Village, 841 Heather Road, Burlington, NC 27215.

Positions Wanted

Nuclear medicine physician, ABNM, ABIM. Five + years experience at major university hospital with radiology residency and medical school. Experienced in all aspects of diagnostic and therapeutic nuclear medicine, including cardiac, pediatric, oncologic, SPECT, $^{89}Sr/^{131}I$ therapy. Available Jan., 1996. Please respond to the Society of Nuclear Medicine, Box #1101, 1850 Samuel Morse Drive, Reston, VA 22090.

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

NOMINATIONS SOUGHT FOR

Benedict Cassen Prize

$25,000 Award

To a scientist or physician-scientist whose work has led to a major advance in basic or clinical nuclear medicine science.

Deadline: November 15, 1995

For more information, contact: Education & Research Foundation, The Society of Nuclear Medicine, 1850 Samuel Morse Dr., Reston, VA 22090; or Sue Weiss, C.N.M.T., Administrative Director (312) 880-4416.

ACGME ACCREDITED TWO-YEAR NUCLEAR MEDICINE RESIDENCY

Two PGY-II and one PGY-III positions available for two-year Nuclear Medicine Residency at The Christ Hospital in Cincinnati, Ohio. The Christ Hospital, one of the country's most prestigious private institutions, is affiliated with University of Cincinnati Hospital. State-of-the-art-equipment includes: one dual-head whole-body planar scanner, two triple-head SPECT scanners, two dual-head SPECT scanners, one single-head SPECT scanner, one multi-crystal cardiac first pass camera, and a Positron Emission Tomography scanner and cyclotron. The experience will include cardiac and non-cardiac clinical nuclear medicine, radiopharmacy, radio-immunoassay, nuclear physics, mathematics, radiation protection, exposure and training in Magnetic Resonance Imaging and potentially spectroscopy. Extensive lectures and teaching conferences are pre-planned, and the faculty to resident ratio is 1:1. Our department, which includes 16 technical staff, performs well over 15,000 imaging procedures annually. Extensive academic support, extensive library resources, and the opportunity for research exists. Salary and benefits are highly competitive. Application should be received by February 1, 1996 for the program year starting July 1, 1996. Applicants must have at least one year of clinical experience in ACGME approved program. To apply, send/fax complete CV with two letters of recommendation to Stephen J. Pomeranz, MD, Director of Advanced Imaging, c/o Nuclear Medicine Residency Coordinator, 2139 Auburn Ave., Cincinnati, Ohio 45219. Telephone: 513-369-1146, Fax: 513-369-8414.

The Christ Hospital is an equal opportunity employer.

SMV

Combining the high energies of Sopha and Summit

Sopha Medical and Summit Nuclear have merged to form a dynamic new company. As *SMV*, our combined forces are focused on being the finest nuclear medicine imaging company in the world.

Behind our new name stands a history rich in nuclear medicine *firsts*. In 1985 it was the first 32 bit computer. In 1991 the first variable angle camera. Not to mention advanced all-digital detectors and the most envied clinical software in the business. All of which resulted in new industry standards for quality, efficiency and value.

As *SMV*, our combination of powerful resources and strong financing, underscored by $50 million in committed capital, enables us to continue building on this tradition of excellence. To better meet the needs of our customers, *SMV* offers the most diverse product line-up in nuclear medicine. We offer solutions for meeting the vast array of clinical and economic requirements, and support them with comprehensive customer service.

Now, as you might expect from the world's largest dedicated nuclear medicine company, the *SMV* commitment to research and development spans the globe. Our mission — discover new practical solutions which expand the clinical value and use of nuclear medicine. Assuring Sopha, Summit and *SMV* customers — currently numbering over 3,500 systems in 50 countries — a steady stream of enhancements to keep their investment right up with the cutting-edge for years to come.

If you are considering a new nuclear medicine imaging system, plug into the high energy of *SMV*. For more information on our dynamic new company, products and services, please contact:

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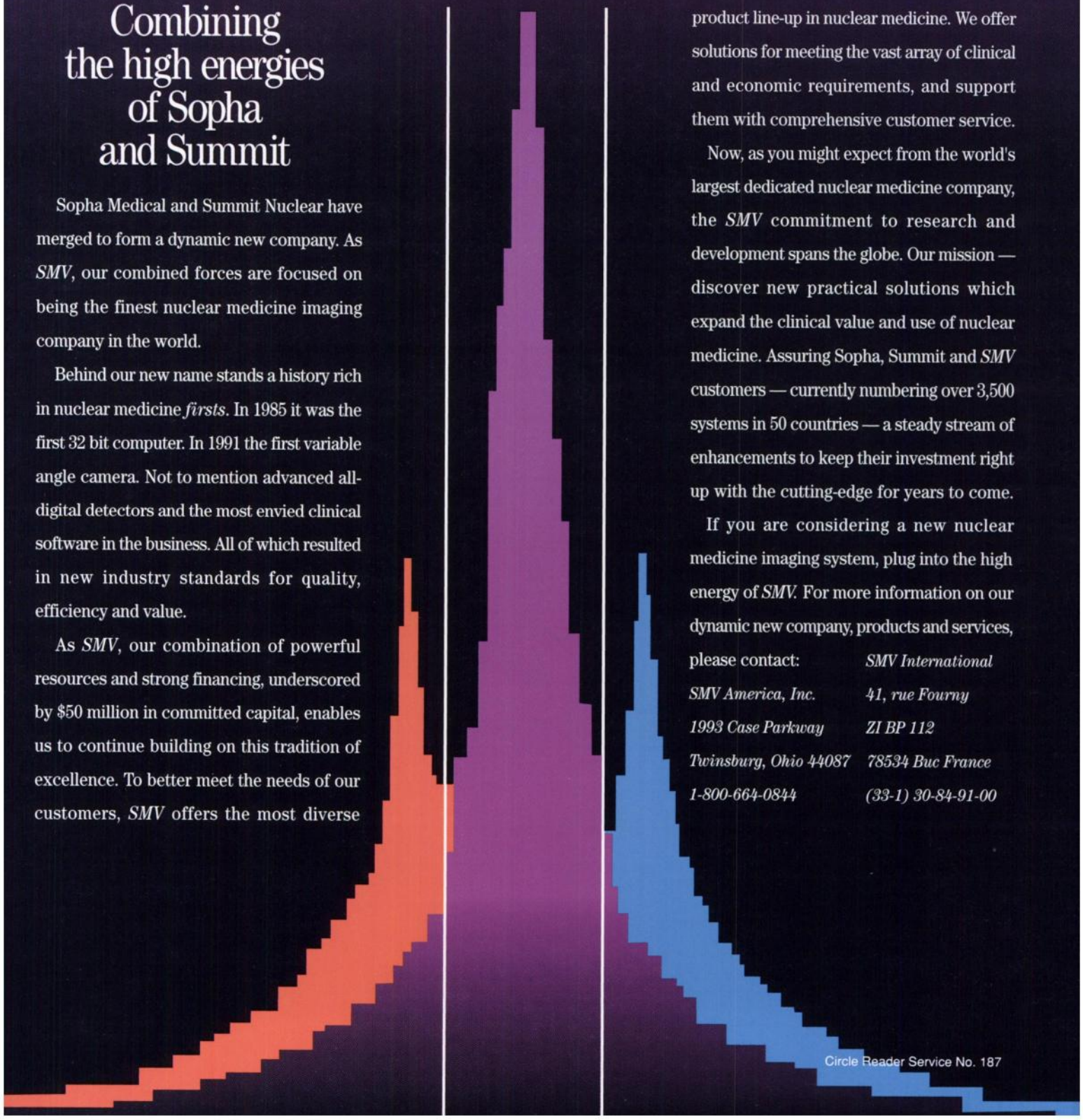
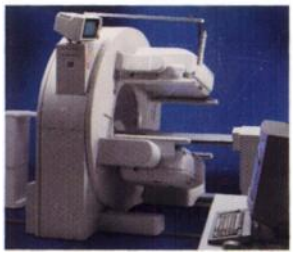
1993 Case Parkway
Twinsburg, Ohio 44087
1-800-664-0844

SMV International
41, rue Fourny
ZI BP 112
78534 Buc France
(33-1) 30-84-91-00



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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