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"I've used many different brands of nuclear imaging equipment, but none live up to Siemens." —Nuclear Physician

"In this day and age, you need their kind of stability." —Chief Technologist

"Service is a Siemens high point. It's one of the main reasons we buy their nuclear medicine equipment." —Administrator

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Simply put, people depend on our equipment. The new Integrated DIACAM™ System continues to set the standard. And our second generation MULTISPECT™ Systems extend that reputation. Features like the revolutionary ICON™ interface bring interactive ease and flexibility to nuclear studies. And the new Integrated Console saves the two things most valuable in a nuclear department—space and time.

Advanced features, sensible designs, continuous improvements. At Siemens, we use our heads to keep you ahead in nuclear medicine.

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2501 North Barrington Road
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Telephone: 708-304-7252

Siemens... technology in caring hands.
Visit us at RSNA in Chicago, IL
Booth 1533
For all the thyroid uptake tests you need to handle quickly and accurately, there's really only one system capable of being compared to our computer-based, Capintec System 1000. It's our fast, accurate and economical CAPTUS® 500. Both feature on-screen prompts and spectrums, hard-copy printouts, and with the addition of a well detector let you do a variety of laboratory and wipe tests efficiently and easily. In fact, the only difficulty you'll ever have is simply choosing the system best suited to your needs. For more information, please call (800) 631-3826 today.
Medasys reveals advanced, new protocols for studying and diagnosing diseases like Alzheimer's, AIDS and others which will increasingly test your departments' expertise and imaging capabilities.

As you know, it's the software and its protocols which give an imaging system its greatest value. Now you can get the world's most complete library of software with our Pinnacle System.

Pinnacle allows you to choose from a greater selection of protocols and run up to four simultaneously. Users can set and save each protocol's parameters for greater ease of operation and continuity of results. With our multi-tasking capabilities, you'll see increased productivity. Most importantly, you can diagnose with total confidence, and stay on the leading edge with Medasys' continual software upgrades.

Medasys is continuing its tradition of opening minds to the unexpected possibilities of nuclear imaging.
Call today for a free consultation:
1.800.331.1958
A new gold standard in Nuclear Imaging:

Helix™
The latest member of the APEX family

The first Slip-Ring Nuclear Imaging System, with the unprecedented imaging power of continuous, high-speed orbiting

A sequence of five evolving SPECT images. Note improvement of image quality, yielding final resolution of 7mm (tomographic brain phantom scan, courtesy of Dr. J. Abramowici, Ixelle, Belgium).

Elscint
The Intelligent Image
Events that changed the course of Nuclear Imaging:

1971—Elscint takes the lead in the 70’s by introducing the industry’s first image processing station, the VDP.

1981—Elscint sets the trend for the 80’s by introducing the first digital gamma camera, the APEX.

1991—Elscint introduces...
A new gold standard in Nuclear Imaging:

**Helix**

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Elscint

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Elscint

The Intelligent Image
**Dual-head SPECT: triple efficiency**

You can perform Helix tomographic scans at up to 3.5 times the efficiency of conventional imagers, because Helix’s jumbo-size detectors cover an area of 4320 square centimeters.

This means maximum SPECT detection efficiency, and makes unsurpassed 7mm system resolution images achievable.

And only Helix can span a 400mm-long segment in a single SPECT scan. Not to mention our unique Scatter-Free Imaging™ package built right into the system for much improved contrast and resolution.

**SPECT and Whole-Body: the best of both worlds**

Face it, most multi-head systems just can’t do whole-body scans. Not so with Helix.

Helix gives you the best of SPECT, the best of Whole-Body, with no compromises, no trade-offs.

Two super-size rectangular detectors provide 3.5mm resolution* across the entire field. Plus, microcast collimators and Scatter-Free Imaging give you the highest lesion detectability available.

And Helix’s pre-programmable, body contoured “smart” scans, with 1280 x 1024 display, give you what you’re looking for—the best possible Whole-Body images.

No compromises, no trade-offs – no excuses.

**Planar imaging: Scatter-Free and more**

With Scatter-Free Imaging, the system “learns” the local scatter characteristics and makes corrections based on the measured energy spectrum, for

---

* HR configuration
Helix's golden aspect of Nuc

A triumph of technology: for now and for the future

Helix represents a culmination of efforts, based on a solid R&D foundation and drawing from a decade of experience gained over the course of close to 2000 APEX installations worldwide.

Helix's Slip-Ring technology will carry it well into the 21st century, together with such features as:
- a 100 MHz infra-red optronics communications link... an Intel™ i486 33 MHz computer platform... truly modular design... and advanced detector technology.
- pioneering activity in digital nuclear imaging and over 20 years of medical image processing experience.

Built-in CLIP™ programs cover the widest spectrum of nuclear medicine processing protocols, each optimized for a specific task, and clinically validated over the last decade.

Simply put, when it comes to user-tested, user-available software, nobody comes close to APEX. Nobody.

Clinical software: nobody comes even close to APEX. Nobody.

Elscint has – right now – the most complete range of nuclear imaging clinical software in the industry.

Helix draws on more than a decade of
Events that changed the course of Nuclear Imaging:

1971—Elscint takes the lead in the 70’s by introducing the industry’s first image processing station, the VDP.

1981—Elscint sets the trend for the 80’s by introducing the first digital gamma camera, the APEX.

1991—Elscint introduces...
Helix:
The dual-head, multi-purpose nuclear imager featuring Slip-Rings.

Only from Elscint.

"I am easily satisfied with the very best."

Winston Churchill
touch. In every
lear Imaging.

Helix workstation:
perfect harmony

Think of a workstation as a symphony orchestra with instruments like 32 MB RAM, 128 KB cache memory, i486 33 MHz CPU, 800 MB optical disk, 700 MB hard disk, 1280 x 1024 display, 19" color screen, IBM standard operating system and Ethernet.

All world-class performers, to be sure. But only if they're playing from the same sheet of music.

Our Helix symphony is a harmonious combination of raw computer power; Elscint's industry-leading clinical software repertoire; real-time acquisition and reconstruction; IBM standard window management; full-simultaneity; multi-tasking; and the most powerful NM PACS in the industry.

Quite an ensemble. So you can give a virtuoso performance, every time.

Helix: an ergonomic marvel

A solid, fixed gantry... a superbly balanced cantilevered patient handling system for precise scanning... programmable “home” positions for easy patient set-up and collimator exchange... Touch-Ruler™ for single-touch Whole-Body scans... low-attenuation, ultra-thin interchangeable pallets of carbon fiber composite for high-resolution Whole-Body and SPECT scans... compact gantry design... 2.7-inch “brain reach” for better brain SPECT.

We've addressed every last detail of design to give you the ultimate imaging system.
The well-connected imager: leader of the PACS

Decide on Helix, and you instantaneously become a member of the most advanced NM PACS in the industry – right from day one.

If you have other Elscint APEX systems, Helix connects right into data communication and into centralized data and archive management via ApexNet™ Elscint’s NM PACS.

Multi-system connectivity is facilitated with more than 90% of the cameras and processors produced by other vendors like General Electric, Siemens, ADAC and Picker, or computers by DEC, IBM and others.

Helix provides instant access to data. ApexNet lets you view and process patient studies from different departments simultaneously, and ApexView™ Elscint’s remote viewing station, puts you in the picture even at home.

FieldWatch is a computerized, quick-response service network.

MasterMind is an artificial intelligence “expert” system, providing every on-site nuclear medicine field engineer with the constantly updated troubleshooting expertise of the company’s leading scientists and engineers.

The result: service done right the first time, every time.

Helix: the intelligent investment

When it comes to multi-detector systems, Helix could be the easiest, most logical product choice you ever made. You simply can’t go wrong.

With Helix you know that every referral can be imaged, every nuclear medicine procedure can be performed. No compromises, absolutely none.

Service à la MasterMind™: no time for down time

At Elscint we value your time. And Helix service support is among the world’s most advanced thanks to DigitalGuard, FieldWatch, and MasterMind™

DigitalGuard is a built-in optronic system for periodic automatic calibration of the gamma camera.
Look at Elscint's new Helix, and you're looking at the future of nuclear imaging technology.

A whole new world of imaging brought to life by our RingMaster™ Slip-Ring System. Take Evolving-Images™ and RollBack™ for example, two terms that are probably new to you.

With Evolving-Images you can now display and update SPECT images as you acquire them, not only after the job is done.

With RollBack, if a patient moves during a scan, you can recall the reconstructed image, as it was just prior to the movement, in order to assess its diagnostic value. Saves re-takes, saves time, saves money.

Helix's continuous-rotation Slip-Ring technology will open new horizons in nuclear imaging, such as Whole-Body SPECT spiral imaging, cardiac SPECT beat rejection and SPECT brain perfusion.
Add to Your Professional Excellence

Improve your skills and enhance your practice with:

- The ACNP Practice Audit Program
  - the most in-depth assessment available to confirm your quality assurance program
- Practice Enhancement Workshops
  - optimize billing and reimbursement procedures
- Continuing Medical Education Programs
- Monthly Newsletters
- ACNP’s Resource Center and Library

Stay Informed

Keep on top of the latest legislation and regulations affecting Nuclear Medicine through the:

- ACNP Annual Meeting
- ACNP Interim Meeting
- Scanner – our monthly newsletter

Advance the Science of Nuclear Medicine

Fight costly and unnecessary regulations.

Join and Receive a FREE Practice Audit Manual (Valued at $100)

— the complete manual used to prepare for the rigorous ACNP Practice Audit. It contains all the standards and requirements that must be satisfied in order to receive ACNP Certification — the only way to determine the true quality and excellence of a Nuclear Medicine Operation. Use it to evaluate your own practice’s strengths and weaknesses.

American College of Nuclear Physicians; Suite 700, 1101 Connecticut Avenue NW, Washington, DC, 20036; (202) 857-1135, Fax (202) 223-4579
Which imaging company grew a record 192-fold over the past 21 years?...

... and has MRI, CT, Nuclear Medicine and Ultrasound installations in 54 countries worldwide?

☐ Toshiba
☐ General Electric
☐ Elscint
☐ Picker
☐ Siemens
☐ Hitachi
☐ Philips
The answer
Here are some

A long list of imaging firsts: CT-Twin™ is our latest.

For more than two decades the name Elscint has been synonymous with innovation ... from our introduction of the industry's first medical imaging workstation to our most recent breakthrough, unique Twin-Beam™ technology. At the heart of the CT-Twin imager, Twin-Beam delivers simultaneous dual-slice imaging in CT, opening a new era of Double-Helix™ spiral scanning.

Daring design solutions: highest field MRI and more.

Never a follower, Elscint is bold in expanding medical-imaging frontiers ... from the highest count rate in nuclear medicine to our uncompromising solutions in high-field MRI. With our GYREX® 2-Tesla, we went all the way, offering the highest field-strength authorized by federal health agencies for routine clinical use.

Focused business philosophy: 100% medical imaging.

Elscint has a single purpose. Totally dedicated to medical imaging, our philosophy is to master all facets of this complex business, from clinical needs to service technology. This enables rapid response to the evolving needs of the radiology community.

Spiral volume scanning (top picture) has greatly advanced CT. But CT-Twin's Double-Helix spiral scanning (lower picture) goes even further, doubling spiral performance. For the same scan time, scan volume is doubled.

Elscint's GYREX 2-Tesla features an uncompromised 2-tesla magnet field strength.

Medical imaging is only 6-8% of the total business for most multi-modality companies; for Elscint it is 100%.
Global strategy from day one.

Medical imaging knows no national boundaries, and Elscint has been an international company from its very inception. With a dozen wholly-owned subsidiaries and scores of representative offices worldwide, we have installed thousands of imaging systems in 54 countries.

From Warsaw to Beijing, L.A. to Brussels, many of the thousands of APEX users around the world regularly convene to exchange information and learn about new developments.

Today, more than 2000 nuclear medicine systems bear the “APEX” nameplate.
HIGH PERFORMANCE IS A HABIT AT VICTOREEN.

Victoreen Inc., is the world’s largest manufacturer of radiation measurement instruments, the largest distribution network worldwide and we now have the “largest” (86%) open area on the Model RP-1 Pancake Probe series. The unique hexagonal shape, ultra thin stainless steel mesh work surpasses beta particle detection in count rate and percent detection efficiency. It not only provides equivalent or better detection capability than a copper-beryllium screen, it also provides the ultimate in durability of stainless steel.

The Model RP-1 was designed to maximize detection efficiency for gamma, beta, and alpha detection and compatible with a large array of G-M counting survey instruments. If you agree bigger is better...

For additional information, request Report RP-1 by calling (216) 248-9300 Customer Service.
Some cardiac imaging agents leave something out of the picture...

INF RMATION
&THR UGHPUT
A patient was imaged with CARDIOLITE for perfusion and first pass-function assessment. These tomographic slices show a fixed inferolateral perfusion defect in the territory of old inferior myocardial infarction. There is also a reversible inferolateral defect in the territory of a diagonal branch of the LAD. Coronary angiography showed a totally occluded RCA and a tight proximal stenosis of a large first diagonal branch of the LAD.

Ead-diastolic perimeter (white line) and end-systolic image acquired following rest injection of CARDIOLITE show LV dilatation with reduced (30%) LVEF and inferior hypokinesis. Stress perimeter and image acquired following exercise injection show decreased anterolateral wall motion, which corresponds anatomically to the perfusion defect seen on the perfusion scans above.

Gated short axis SPECT studies (imaged with CARDIOLITE) of a 64-year-old male with hypertensive cardiomyopathy demonstrate an interseptal myocardial infarction. The increased color intensity from diastole to systole represents myocardial wall thickening.
New expanded uses fill in the gaps with more myocardial information

From identifying ischemia to localizing infarction, CARDIOLITE now fills in all the gaps for a complete clinical picture. With a CARDIOLITE study, you can assess the perfusion status of your patients...and much more. CARDIOLITE can also fill in myocardial information that is missing from thallium imaging—wall motion from gated studies and evaluation of function with the first-pass technique.

And, image after image, you won’t find any gaps in quality, because CARDIOLITE provides the superior clarity of technetium.

Cardiolite®
Kit for the preparation of Technetium Tc99m Sestamibi
Fills in the gaps...with clarity that lasts
GREATER THROUGH

CARDIOLITE fills in gaps in your imaging schedule

**CARDIOLITE: Institution 1**

<table>
<thead>
<tr>
<th>Stress</th>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
<th>Study 4</th>
<th>Study 5</th>
<th>Study 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>Study 1</td>
<td>Study 2</td>
<td>Study 3</td>
<td>Study 4</td>
<td>Study 5</td>
<td>Study 6</td>
</tr>
</tbody>
</table>

**Thallium: Institution 2**

<table>
<thead>
<tr>
<th>Stress</th>
<th>Study 1</th>
<th>Study 2</th>
<th>Study 3</th>
<th>Study 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>Study 1</td>
<td>Study 2</td>
<td>Study 3</td>
<td>Study 4</td>
</tr>
</tbody>
</table>

Due to the lack of clinically significant redistribution and the slow washout of CARDIOLITE, patients can be batched for stress injection, then imaged one after another over a broader period of time. In comparison, imaging with thallium must take place almost immediately; therefore the camera is frequently idle.

*Please see last page of advertisement for Brief Summary of Prescribing Information.*
Improved camera utilization fills in scheduling gaps for greater throughput

CARDIOLITE virtually eliminates the gaps of time between camera use often associated with thallium. That's because CARDIOLITE allows you to uncouple the time of injection from the time of imaging. Patients can be batched for stress, then imaged at any time...up to 4 hours after injection. So your patients are ready and waiting for the camera, not the other way around.

As seen in the diagram, this permits the camera schedule to be filled all day...so there are no gaps in productivity.

Cardiolite
Kit for the preparation of Technetium Tc99m Sestamibi

Fills in the gaps...with clarity that lasts
CARDIOLITE fills in the information gaps to provide more information...all with the superior image clarity of technetium. Through new, expanded uses, CARDIOLITE gives you a complete CAD picture...from ischemia to infarction. CARDIOLITE also fills in gaps in your imaging schedule through the ability to uncouple the time of injection from the time of imaging. Patients can be batched, then imaged one after the other...virtually eliminating downtime for your camera. More information. Greater throughput. CARDIOLITE fills your cardiac imaging needs.
Pediatric Use

SAFETY AND EFFECTIVENESS IN CHILDREN: RESULTS ARE NOT YET AVAILABLE.

ADVERSE REACTIONS: When used in the diagnosis of myocardial infarction, imaging should be completed within 4 hours after administration.

The patient should be monitored 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.

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

RADIATION DOSIMETRY: The radiation dose to organs and tissues of an average patient (70 kg) per 111MBq (3McI) of Technetium 99m Sestamibi injected intravenously are shown in Table 4.

Table 4. Radiation Absorbed Dose from Technetium 99m Sestamibi

<table>
<thead>
<tr>
<th>Organ</th>
<th>Rad/30min</th>
<th>mg/111MBq</th>
<th>Rad/30min</th>
<th>mg/111MBq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest</td>
<td>2.0 hour</td>
<td>4.8 hour</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organ</td>
<td>rad/mgCi</td>
<td>rad/mgCi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breasts</td>
<td>0.2</td>
<td>0.2</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Gallbladder Wall</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Small Intestine</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Upper Large Intestine Wall</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Lower Large Intestine Wall</td>
<td>3.9</td>
<td>4.0</td>
<td>3.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Stomach</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Heart Wall</td>
<td>0.5</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Kidneys</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Liver</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Lungs</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Bone Surfaces</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Thyroid</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Ovaries</td>
<td>1.5</td>
<td>1.5</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Testes</td>
<td>0.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Red Marrow</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Urinary Bladder Wall</td>
<td>2.0</td>
<td>2.0</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Total Body</td>
<td>0.5</td>
<td>0.4</td>
<td>0.5</td>
<td>0.4</td>
</tr>
</tbody>
</table>

HOW SUPPLIED: Du Pont Radiopharmaceuticals’ CARDIOLITE®, Kit for the Preparation of Technetium 99m Sestamibi is supplied as a 5 ml vial in kits of two (2), five (5) and thirty (30) vials, sterile and non-pyrogenic.

Prior to lyophilization the pH is between 5.3-5.5. The contents of the vials are lyophilized and stored under nitrogen. Store at 15-25°C before and after reconstitution. Technetium 99m Sestamibi contains no preservatives. Included in each two (2) vial kit are one (1) package insert, six (6) vial shield labels and six (6) radiation warning labels. Included in each five (5) vial kit are one (1) package insert, six (6) vial shield labels and six (6) radiation warning labels. Included in each thirty (30) vial kit are one (1) package insert, thirty (30) vial shield labels and thirty (30) radiation warning labels.

The U.S. Nuclear Regulatory Commission has approved this reagent kit for distribution to persons licensed to use radiopharmaceutical material pursuant to section 35.11 and section 35.12 of Title 10 CFR 35, to persons who hold an equivalent license issued by an Agreement State, and, outside the United States, to persons authorized by the appropriate authority.

Marketed by:
Du Pont Radiopharmaceutical Division
The Du Pont Merck Pharmacool Co.
321 Treble Cove Road
Billerica, Massachusetts, USA 01862
For ordering Tel: Toll Free: 800-225-1572
All other business: 800-362-2668
(For Massachusetts and International, call 508-667-9531)

Printed in U.S.A.
Our advanced line of quality Dose Calibrators gives you speed...accuracy...and superior ease of use...all for the cost of lesser systems.

Compare us to our competition, and you'll see they just don't measure up.

Of all the dose calibrators in its price range, only the ATOMLAB 100* offers a one second response time • Automatic zeroing and background subtraction • Auto-ranging • An electronic power supply which eliminates expensive battery changes and downtime • A remote chamber with double shielding • Bidirectional RS-232 port (optional) • and MORE for a price that will surprise you.

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We've been serving the Nuclear Medicine community since 1949 (back then we were known as Atomic Products Corporation). We know what you expect from us and our products. That's why ATOMLAB Dose Calibrators performance specifications exceed NRC and agreement state requirements for accuracy and linearity. That's why we're the only company that provides a two-year warranty, a 30-day money-back guarantee and lifetime "loaner protection" with every dose calibrator we ship.

BIODEX...we give you what you need, at a price you can afford.

*Compare the ATOMLAB 100 or 200 to other comparably priced dose calibrators and see why we say it's only simple logic.
IT’S TIME TO TAKE THE NEXT STEP ...

NUCLEAR MEDICINE INFORMATION SYSTEMS © (Software Package)

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RECEIVING - INVENTORY
RADIOACTIVE SHIPMENT RECEIPT REPORTS
INVENTORY PROFILE DATA
COLD KITS LIMITATION FACTORS
FILECARDS

PATIENT SCHEDULING
INHOUSE RADIOPHARMACY

P.C.
CALCULATION OF DECAY
PT INJECTIONS
STATISTICS
BUDGET ANALYSIS
EXAMS

UNIT DOSE
STANDING ORDER

UNIT DOSE
PATIENT DATA

DISPOSAL REPORTS

REPORTS

DAILY
WEEKLY
MONTHLY
YEARLY

MISC
KIT/SYRINGE LABELS
START-UP FILE
SYSTEM UTILITIES
REMINDER FILE
TEACHING FILE
QUALITY CONTROL

ACCURACY TEST
CONSISTENCY TEST

QUALITY ASSURANCE PROGRAM

SCROLLING TEST

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P.O BOX 824, GREENVILLE, PA 16125

PHONE: 800/682-2226  FAX: 412/932-3176
Which imaging company grew a record 192-fold over the past 21 years? ...

... and has MRI, CT, Nuclear Medicine and Ultrasound installations in 54 countries worldwide?

☐ Toshiba  
☐ General Electric  
☐ Elscint  
☐ Picker  
☐ Siemens  
☐ Hitachi  
☐ Philips
The answer
Here are some

An expanding base of satisfied users.
The single most important factor behind business growth is customer satisfaction. As our products enjoy growing levels of acceptance, more and more healthcare professionals worldwide join the Elscint “family”. This is why we have outpaced even the impressive growth of our industry.

Pioneering achievements in nuclear medicine.
To many, Elscint means innovation in nuclear medicine technology. For nearly a quarter century, Elscint has been the initiator of many important advances in this field. From pioneering the first digital gamma camera to bringing the latest continuous-rotation slip-ring technology to nuclear medicine.

Elscint people – our greatest resource.
Elscint is the product of its people. Behind all our achievements stands a corps of highly-trained scientists and engineers. Nearly every second employee at Elscint holds one or more degrees from world-class academic institutions.
“Whatever-it-takes” manufacturing capability: from superconductive magnets to micron-precise optronics.

Elscint’s corporate philosophy is to master key technologies vital to medical imaging in all areas of activity. Our five manufacturing plants in three countries are state-of-the-art in their fields. We take complexity as a challenge. For example, we are one of the very few MRI manufacturers who design and manufacture superconductive magnets in-house.
SPECT BRAIN IMAGING 
CLINICAL FELLOWSHIP

Department of Radiology 
Section of Nuclear Medicine

BENEFIT: 
This program is designed for nuclear medicine physicians, 
riadiologists, technologists and referring physicians. It is intended 
to educate participants about the clinical utility of SPECT brain 
imaging with agents such as SPECTamidine® and Ceretec®. 
Objectives include: 
• Development of interpretation skills for brain images. 
• Appreciation of clinical applications of SPECT brain 
imaging. 
• Knowledge of image acquisition and reconstruction. 
• Appreciation of factors that influence image quality. 
• Knowledge of quality control techniques for SPECT.

SPONSORSHIP: 
This program is sponsored by the Medical College of Wisconsin.

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

CREDIT: 
The Medical College of Wisconsin is accredited by the 
Accreditation Council for Continuing Medical Education to 
sponsor continuing medical education for physicians. 
Accordingly, the Medical College of Wisconsin designates this 
continuing medical education activity as meeting the criteria 
for 13.00 hours in Category I toward the Physician's Recognition 
Award of the American Medical Association.

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

Register me for the following dates: (Please indicate a second choice) 
□ November 9–10, 1992 
□ January 11–12, 1993 □ March 8–9, 1993 
□ September 13–14, 1993 □ October 18–19, 1993 
I will need hotel reservations for _________ Sunday and Monday night/ 
only Monday night. 
i will need a _________ single/_________ double room. 
A check in the amount of $650 should accompany this registration form 
and be made payable to the Medical College of Wisconsin. Telephone 
registrations must be confirmed by check within 10 days.

Name _____________________________
Address ___________________________
City/State/Zip _______________________
Office Phone (_____) __________________
Home Phone (_____) __________________
_________ work address ___________ home address

Registrations and payment should be sent to:
LisaAnn Trembath 
SPECT Brain Imaging Fellowship Coordinator 
Nuclear Medicine Division 
Medical College of Wisconsin 
8700 W. Wisconsin Avenue 
Milwaukee, WI 53226 (414) 257-7867
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Europe: ADAC Laboratories BV, PO Box 1419, 3600 BK Maarssen, The Netherlands  Telephone: (0) 30-412 142
CALL FOR ABSTRACTS FOR SCIENTIFIC PAPERS AND SCIENTIFIC EXHIBITS

40

The 1993 Scientific Program Committee, Scientific Exhibits Subcommittee, and the Scientific & Teaching Sessions Committee solicit the submission of abstracts from members and non-members of The Society of Nuclear Medicine for the 40th Annual Meeting in Toronto, Ontario, Canada. Accepted Scientific Paper and Scientific Exhibit abstracts 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 and basic)
  - Endocrine
  - Gastroenterology (clinical and basic)
  - Neurology
  - Immunology (antibody)
  - Pediatrics
  - Pulmonary
  - Renal/Electrolyte/Hypertension
  - Hematology/Infectious Disease
  - Oncology (non-antibody)

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

Deadline for receipt of abstracts for SCIENTIFIC PAPERS
is Wednesday, January 6, 1993.

Deadline for receipt of abstracts for SCIENTIFIC EXHIBITS
is Wednesday, January 6, 1993.

There are two abstract forms for the annual meeting. The Scientific Paper abstract form can be obtained in the October 1992 JNM. The Scientific Exhibits abstract form is only available by calling or writing:
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Computers in Nuclear Medicine: A Practical Approach

Kai Lee, PhD

Computers have become an indispensable tool in nuclear medicine. This is the book for those who wish to acquire a basic understanding of how computers work and the processing techniques used to obtain diagnostic information from radionuclide images. The text gives a thorough description of the hardware components of a nuclear medicine computer system and explains the principles behind many common image processing techniques. The following topics are discussed in detail:

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

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

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### THE SOCIETY OF NUCLEAR MEDICINE

#### MID-WINTER MEETING

<table>
<thead>
<tr>
<th><strong>Title:</strong> Desktop Computing in Nuclear Medicine</th>
<th><strong>THE FEE</strong></th>
<th>Before 12/18</th>
<th>On/After 12/18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Atlanta Airport Hilton, Atlanta, GA</td>
<td>Physicians/Scientists</td>
<td>$175.00</td>
<td>$220.00</td>
</tr>
<tr>
<td><strong>Date:</strong> Monday-Tuesday, February 8-9, 1993</td>
<td>Members</td>
<td>205.00</td>
<td>250.00</td>
</tr>
<tr>
<td><strong>Sponsor:</strong> The Computer and Instrumentation Council of The Society of Nuclear Medicine</td>
<td>Nonmembers</td>
<td>80.00</td>
<td>110.00</td>
</tr>
<tr>
<td><strong>Seminar Notes:</strong> Registration includes a luncheon on Monday, February 8th, with a guest speaker. There are a limited amount of lunches available so please register early.</td>
<td>Technologists</td>
<td>110.00</td>
<td>140.00</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>70.00</td>
<td>70.00</td>
</tr>
</tbody>
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**ALL PRE-REGISTRATIONS MUST BE RECEIVED BY JANUARY 15, 1993**

### COMPUTER AND INSTRUMENTATION: DESKTOP COMPUTING IN NUCLEAR MEDICINE

Atlanta Airport Hilton, Atlanta, GA • Monday, February 8 — Tuesday, February 9, 1993

PLEASE ENROLL THE FOLLOWING (use copies for additional registrants):

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<thead>
<tr>
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<th>Affiliation</th>
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**SNM**

**40th Annual Meeting**

**Critical Dates**

<table>
<thead>
<tr>
<th>Item</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract Forms</td>
<td></td>
</tr>
<tr>
<td>Scientific Papers</td>
<td>October Issue JNM</td>
</tr>
<tr>
<td>Scientific Exhibits</td>
<td>Contact SNM, Dept. of Meetings</td>
</tr>
<tr>
<td>Registration Form</td>
<td>Contact SNM, Dept. of Meetings</td>
</tr>
<tr>
<td>Housing Form</td>
<td>Contact SNM, Dept. of Meetings</td>
</tr>
</tbody>
</table>

**DON’T FORGET THE MID-WINTER MEETING IN ATLANTA, GEORGIA**

**TITLE:**
Desktop Computing in Nuclear Medicine

**DATE:**
February 8–9, 1993

**LOCATION:**
Atlanta Airport Hilton, Atlanta, GA

**SPONSOR:**
The Computer and Instrumentation Council
Cardiovascular Learning and Research Center Presents

Nuclear Cardiology Level I

CONCEPT:
This program is designed to provide physicians, technologists, and nurses with direct hands-on experience in acquiring, processing, and interpreting clinical nuclear cardiovascular studies (myocardial perfusion imaging, infarct-avid imaging, and radionuclide ventriculography). In the process of reviewing actual patient studies, participants gain a strong clinicopathophysiologic framework for selecting, performing, and interpreting diagnostic imaging studies. Case studies are used as the framework for additional technical and clinical discussions. Clinical protocols emphasize “practice” and “real-world” constraints as well as theory. Special emphasis is placed on quality control requirements and techniques for SPECT myocardial perfusion imaging studies with thallium, CardioteQ, and Cardiolite performed with exercise and with pharmacologic (I.V. Adenosin and I.V. Dipyridamole) stress.

The Cardiovascular Learning and Research Center, a division of Management Laboratories of America, Inc., is a non-profit, tax-exempt facility located in North Dallas

CREDIT:
Physicians receive 15.25 hours in Category 1 toward Physician’s Recognition Award of American Medical Association. Technologists are eligible for 1.89 VOICE credits.

REGISTRATION INFORMATION:
Jacqui L. Holmes, Coordinator, Cardiovascular Learning and Research Center, 1630 Coit Road, Suite 204, Plano, Texas 75075. (214) 985-1641.
**DU PONT PHARMA CARDIOVASCULAR NUCLEAR MEDICINE RESEARCH GRANTS**

**CALL FOR PROPOSALS**

The Society of Nuclear Medicine Awards Committee announces that two grants for $25,000 each are available for July 1, 1993.

The objectives of these grants are to: (1) Encourage physicians to enter the field of Cardiovascular Nuclear Medicine, and (2) Support high quality nuclear cardiology clinical research.

Funds can be used to support the research and/or salary of the investigator. Preference will be given to young physicians, or those new to the field of Cardiovascular Nuclear Medicine. Awards will be announced at the Annual SNM Business Meeting, June, 1993.

Please send for more information and an application to:

**Deadline: January 15, 1993**

The Society of Nuclear Medicine
SNM Awards Committee
136 Madison Avenue
New York, NY 10016

---

**MALLINCKRODT FELLOWSHIP**

Mallinckrodt, Inc. has announced an Annual Fellowship of $30,000 for a physician fellow active in nuclear medicine research and/or development. The award is to further a research or development project, and applicants are asked to submit their curriculum vitae, a detailed account of their research project including prior accomplishments on the project, and future plans. Deadline for this year’s award is January 8, 1993. Requested information, along with at least two letters supporting the application, should be forwarded to: William J. MacIntyre, PhD, The Society of Nuclear Medicine, 136 Madison Ave., New York, NY 10016-6760. The recipient will be announced at the Annual Meeting of The Society of Nuclear Medicine.

---

**THE SNM/MEDE-PHYSICS AWARD FOR INNOVATION IN THERAPY WITH UNSEALED SOURCES**

The Society of Nuclear Medicine Awards Committee announces that a grant for $30,000 is available.

The funds will be used to support research for therapy by the investigator chosen.

To request more information and an application please contact:

The Society of Nuclear Medicine
SNM Awards Committee
136 Madison Avenue
New York, NY 10016

**Deadline date: January 15, 1993**
New Products

Each description of the products below was condensed from information supplied by the manufacturer. The reviews are published as a service to the professionals working in the field of nuclear medicine and their inclusion herein does not in any way imply an endorsement by the Editorial Board of The Journal of Nuclear Medicine or by The Society of Nuclear Medicine. To receive product information, see page 75A.

Beta-Ram Model 2 Beta Detector

IN/US Systems, Inc. introduces the Beta-Ram Model 2 Beta Detector for radio-chemical HPLC. The Beta-Ram is an on-line radioactivity quantitation system of 3H, 14C, 32P, and 35S, other beta or soft gamma emitters for HPLC techniques. The new concepts in controlling the instruments allow the detector to be an integral part of any liquid chromatography data system. Flexible interfacing options eliminate the need for a dedicated controlling computer. IN/US System's communication software sets the detector counting parameters when run on the HPLC data station. However, the detector is compatible with other computer systems or chromatography software. Unique features of the system include: AIM, an exclusive accelerated inline mixing procedure which improves scintillator-eluents mixing; newly designed mirrored and optically enhanced counting cells; three analog inputs for mass detector; four analog outputs for chart recording and chromatography systems; detector shield for backgrounds typically less than 8 cpm; liquid connection fully exposed on the front panel for convenience and control of possible leaks; and the detector is compact and stackable.

IN/US Systems, Inc., 5809 North 50th Street, Tampa, FL 33610-4809. 1-800-875-4687.

"Power-Up" Program

Computer Resources and Technology, Inc. announces the release of its new "Power-Up" Program to specifically meet the needs of the radiology profession. This software application will run on various hardware platforms from the PC environment to IBM'S AS/400 series. Some of the product's features are: easy to use payment and billing entry screens; the ability to view patient account information at any time and the ability to add electronic claims as needed. Computer Resources and Technology, Inc., 20100 West Greenfield Avenue, Waukesha, WI 53186. 414-786-9171.

Model 6000-532 Ionization Chamber

The Model 6000-532 Ionization Chamber is available from Victoreen, Inc. The unit's 400 cc phenolic chamber and 200 cm² window make it suitable for typical scatter measurements in x-ray facilities. It is compatible with most commercially available electrometers, but it was specifically designed to complement Victoreen Models 4000M+, Rad Check, and NERO noninvasive x-ray test devices. When used with one of these units, it enables the technician to perform routine x-rays using fewer instruments. Among the Model 6000-532's features are: 400 cm³ chamber volume, 10 ft cable length, Triax or BNC/Banana cable termination and specified minimum detectability (137Cs). Victoreen, Inc. 6000 Cochran Rd., Cleveland, OH 44139. 216-248-9301.

Cardiac SPECT Pallet

Siemens Medical Systems, Inc. introduces its new Cardiac SPECT Pallet which enables optimal 180 degree cardiac SPECT imaging when used with the ORBITER gamma camera. Carbon fiber composition allows the pallet to virtually eliminate attenuation in the cardiac region with dimensions of 12.5" × 16" and a thickness of only 60/1000 inch. The pallet includes a steel support bar for reinforcement of the specially designed cardiac region and may be repositioned to allow imaging of both prone and supine patients. A set of four pallet pads for patient comfort and a T-bar handholder to help support the patient's arms in an overhead position for less imaging obstruction are also included. An optional second support bar can be inserted along with the headrest to perform brain SPECT imaging studies. Siemens Medical Systems, Inc., Nuclear Division, 2501 North Barrington Road, Hoffman Estates, IL, 60195-7372. 708-304-7252.
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The single-headed gamma camera has been the mainstay of the typical nuclear medicine department for many years. Over the past decade, the advantages of SPECT imaging over simple planar imaging have been well documented, and the versatility of a single-headed system capable of performing planar or SPECT studies has become readily apparent to both users and manufacturers. In fact, anyone planning the purchase of a new planar-only gamma camera will find the selection quite limited.

In spite of the large number of SPECT systems in place, SPECT imaging is extremely underutilized in community practice, presumably due to a number of potential factors, including the lack of SPECT knowledge and training, quality control problems with the standard SPECT systems, and a perception that SPECT is "too difficult".

Over the past several years, the biggest advance in gamma camera technology has been the development of effective multi-headed devices. Prior to this time, several two-headed SPECT systems had been attempted, but they soon went "out of vogue" due to alignment and sensitivity registration problems. The new developments include the commercial availability of both two-headed and three-headed systems.

The two-headed, extra-large field-of-view (20° - 24° wide) gamma cameras are capable of both whole body (with simultaneous anterior and posterior image acquisition) as well as high resolution SPECT. Dedicated multi-headed SPECT cameras, most commonly using the triple-headed design, allow rapid, high resolution SPECT.

Advanced gamma camera correction circuitry and powerful, but relatively inexpensive computing power, have allowed both these types of systems to advance our SPECT capabilities.

OVERALL BENEFITS OF MULTI-HEADED GAMMA CAMERAS

There are certain general benefits to multi-headed gamma cameras. They are:

- Increased productivity
  A multi-headed camera increases the case per technologist ratio. This is important, since the availability of technologists is declining.
- High resolution SPECT imaging
  7 - 8 mm resolution, or even better with improved collimator design, is typical.
- Dynamic SPECT
  Rapid, sequential SPECT studies as short as 20 seconds each can be acquired.
- Efficient, dual-isotope or gated SPECT scans can be performed
- Spatial resolution and image quality are improved due to decreased motion artifacts
  The shorter imaging time results in less motion on whole body or SPECT scans.
- "Salvaging" of SPECT studies of uncooperative patients
  If each detector of a triple-headed system rotates 360° during a 20-minute SPECT acquisition and patient movement occurs in the latter part of the study, the data from the first 120° rotation of each head (with the output of each head summed together forming a single 360° rotation) can be reconstructed, thus "salvaging" the SPECT examination.
- The system can be operated in single, or multiple-head mode
  Most individuals worry about "down time". If there is a malfunction of one head of a multi-headed system, the malfunctioning head can be "shut down", with utilization of the remaining detector(s) until repair is performed.
BENEFITS OF AN EXTRA-LARGE FIELD-OF-VIEW (≥24") DUAL-HEADED GAMMA CAMERA, WHEN INTERFACED TO A POWERFUL, VERSATILE COMPUTER

While multi-headed gamma cameras have certain general benefits as outlined above, extra-large field-of-view, dual-headed gamma cameras have certain unique advantages as follows:

- 15-minute bone scan
  Most nuclear medicine departments derive a large portion of their income from bone scintigraphy. Any development that makes this process faster and more efficient is of great benefit. An extra-large field-of-view, dual-headed gamma camera allows the performance of high resolution, anterior and posterior whole body scans, including the extremities, in 10-20 minutes. Further, digital processing and display by a versatile computer system with contrast and background adjustments, and "zoom" capability greatly decreases the need for "spot" imaging.

- Rapid whole body imaging
  5-minute whole body blood pool scans for testing biodistribution of new radiopharmaceuticals or rapid, whole body imaging of other agents such as gallium, indium, or iodine are possible.

- Quantitation/geometric mean determinations
  This function is particularly useful for differential renal function, GI nuclear medicine, etc.

- The system remains a versatile device for both high resolution SPECT and planar scanning

COST EFFECTIVENESS OF A DUAL-HEADED SYSTEM

In addition to its clinical advantages, a dual-headed system is more cost effective than a single-headed system. It can more than double capacity with no additional space or technologist requirements as shown below:

<table>
<thead>
<tr>
<th></th>
<th>Single-Headed System</th>
<th>Dual-Headed System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity:</td>
<td>= 8 studies per day</td>
<td>= 20 studies per day</td>
</tr>
<tr>
<td>Cost:</td>
<td>= $300,000</td>
<td>= $350,000 - $500,000</td>
</tr>
</tbody>
</table>

ADVANTAGES OF A TRIPLE-HEADED SPECT SYSTEM

The triple-headed SPECT systems have their own unique advantages as follows:

- Marked increase in throughput
  As an example, thallium SPECT acquisition in 8 minutes versus 24 minutes for a single-headed system.

- Superior image quality for equal acquisition time
  Examples are remarkably high resolution, high count bone SPECT, or cerebral perfusion imaging in 20 minutes.
ADVANTAGES OF A TRIPLE-HEADED SPECT SYSTEM (CONTINUED)

- New capabilities
  (a) Dynamic SPECT (rapid sequential SPECT studies)
     -- for dynamic mapping of regional perfusion of the heart and brain
     (new BATO agents)
     -- for evaluation of cavernous hemangiomas combining the resolution of
       standard SPECT with the specificity of progressive RBC accumulation
       seen on planar studies
  (b) Efficient, simultaneous dual-energy SPECT
     -- for simultaneous SPECT of $^{99m}$TcO$_4$ / $^{201}$TI, for parathyroid localization,
       simultaneous SPECT of $^{111}$In-antimyosin and $^{201}$TI, etc.
  (c) Positron imaging of the heart and other organ systems where
      sub-centimeter resolution is not required
      The efficiency of the standard detector system for imaging positrons is only
      about 10% that of $^{99m}$Tc imaging. The triple-headed system makes the counting
      efficiency loss less significant. Positron SPECT can be performed with resolution
      of 1.8-2.0cm ("cold" lesion in "hot" background), adequate for cardiac work using
      $^{18}$FDG.
  (d) Efficient acquisition of SPECT gated blood pool scans and gated myocardial
      perfusion scanning (thallium or iodonitrites)
  (e) Because of the increased counting efficiency and gantry stability, sequential
      SPECT acquisitions (whole body SPECT) can be performed as the patient is
      translated through the gantry. Whole body SPECT allows bone SPECT studies
      of the entire axial skeleton in about 45 minutes. This is of particular value for
      "whole body" gallium (or labeled white blood cell) SPECT for infection
      or lymphoma evaluation, or for monoclonal antibody whole body surveys.

DUAL-HEADED VS. TRIPLE-HEADED SYSTEMS: WHICH ONE DO WE NEED?

The dual-headed systems have only 67% of the counting efficiency of the triple-headed devices. However, they
allow complete "sampling" of data in regard to SPECT of large areas (chest, abdomen, pelvis) which may prove
important as more "quantitative" SPECT is attempted (i.e.,
for estimating monoclonal antibody dosimetry, etc.). Also,
the opposing detector arrangement allows geometric mean
 correction, which is important for gastrointestinal functional analysis, differential renal or lung function, and biokinetics
analysis of new radiopharmaceuticals.

In addition, standard whole body imaging still utilizes
anterior and posterior views which is best performed by
the dual-headed arrangement.

A final relative advantage of the dual-headed system is
again in the area of "quantitative" SPECT. Absolute
attenuation measurement can be performed by attaching
a "flood" source to one of the detectors and producing a
SPECT image of the transmission data seen by the
opposing head. This type of measurement would be more
difficult with the triple-headed configuration.

Thus, a dual-headed SPECT/whole body system is a
"safer" investment for the smaller, or community hospital
department than a triple-headed system, since the cost of
the scanner can be recouped rapidly by performing whole
body scans. Its advanced SPECT capabilities can be
explored and marketed until the volume of studies can
justify a dedicated SPECT device.

The triple-headed devices have a smaller field-of-view
compared to most dual-headed devices. The smaller
field-of-view and the detector arrangement limits these
devices somewhat in regard to whole body imaging.
However, one of these devices is capable of whole body
work, with acquisition of three simultaneous whole body
views (one whole body posterior view and both 60° anterior
oblique views) acquired simultaneously.

As above, there may be limited data sampling of large
areas of the body with triple-headed devices, but in clinical
practice this fact is insignificant. The increased counting
efficiency and higher intrinsic resolution of the triple-
headed devices compared with the dual-headed systems
give these devices slightly better SPECT results.
DUAL-HEADED VS. TRIPLE-HEADED SYSTEMS: WHICH ONE DO WE NEED? (CONTINUED)

This counting efficiency advantage particularly comes into play with less common or more esoteric types of SPECT studies that frequently need high count rates (gated cardiac blood pool SPECT, rapid dynamic SPECT, whole body SPECT) or suffer from intrinsically low count rates (SPECT studies of $^{111}$In-white blood cells, $^{131}$I or $^{123}$I-MIBG, radiolabeled monoclonal antibodies, $^{131}$I metastatic thyroid surveys, etc.). Attempts at imaging positrons with non-PET equipment also benefit from the increased counting efficiency.

Dual and triple-detector systems are complementary, and ultimately both types of gamma cameras are important in nuclear medicine departments. Their presence and utilization will undoubtedly spark the development of many other as-of-yet unimagined uses.

WHY NOT MORE HEADS? AREN'T 4 HEADS BETTER THAN 3?

A dual-headed SPECT system can be used to image both the head and the torso. A triple-headed SPECT system provides a relatively large field-of-view, while permitting close positioning for either head or torso work. However, four or more detectors force a compromise between detector size for torso imaging and the ability to position these detectors close to the head. If the field-of-view is small enough to create a small square for close imaging of the head, torso imaging is compromised. If the field-of-view is increased for torso imaging, close positioning of the detectors for head imaging is lost.

Ring detector systems suffer from the same problem and, therefore, are typically dedicated to either head or body work. As such, more than three heads on the system limits its versatility.

MINIMUM REQUIREMENTS OF A NUCLEAR MEDICINE DEPARTMENT

Detailed below is a comparison of the past and future minimum needs of a nuclear medicine department; in the past when only single-detector technology was available and in the future with the advent of multi-detector systems:

<table>
<thead>
<tr>
<th>Past:</th>
<th>Future:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-headed SPECT/whole body system</td>
<td>Dual-headed SPECT/whole body system</td>
</tr>
<tr>
<td>Single-headed SPECT system</td>
<td>Triple-headed SPECT system</td>
</tr>
<tr>
<td>Single-headed SPECT or non-</td>
<td>Single-headed SPECT or non-</td>
</tr>
<tr>
<td>SPECT system (+ cardiac SFOV)</td>
<td>SPECT system (+ cardiac SFOV)</td>
</tr>
<tr>
<td>Cost: ~ $800,000</td>
<td>Cost: ~ $1,150,000</td>
</tr>
<tr>
<td>Capacity: 24 studies per day</td>
<td>Capacity: 36-44 studies per day</td>
</tr>
</tbody>
</table>

The increased capacity comes without any increase in technologists or space.

SUMMARY

Multi-headed gamma cameras are the “wave of the future”. Purchase of such a system can be easily rationalized through significantly increased efficiency (increased capacity per unit of space or technologist), and increased capabilities (dynamic SPECT, time-efficient gated or dual-isotope SPECT, high resolution SPECT, etc.). The superior quality of the images from these devices also serves as a good “marketing” tool for nuclear medicine services. In summary, multi-headed gamma cameras are here to stay.

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Residency
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NUCLEAR MEDICINE PROGRAMS TRAINER, State University of New York at Buffalo. The Department of Nuclear Medicine at SUNY/Buffalo offers the following programs: Nuclear Medicine residency program, 2-year PET program combining nuclear medicine with radiology or internal medicine or oncology or radiology. Contact: Barbara L. Bird, MD, Director of Residency Program, Division of Nuclear Medicine, New York Hospital-Cornell Medical Center, 525 East 68th Street, New York, NY 10021 or call (212) 746-4580.

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