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A versatile, disposable system
Xenon Xe 133-V.S.S. includes everything you need for a Xenon Xe 133 ventilation study. The completely disposable system includes the Xenon Xe 133 contained in a valve-shield, a CO₂ absorber and bag for rebreathing and collection of expired xenon, and a filter/mouthpiece assembly.

One system can be used for single-breath, rebreathing and wash-out studies.

The valve-shield can deliver either a concentrated or a dispersed dose.

Safe, convenient assembly
Xenon Xe 133-V.S.S. can be assembled in less than a minute. Radiation exposure is minimized because there is no need to dilute the xenon gas or transfer it to a delivery system. After assembly, the ventilation study may begin immediately.

For complete information consult the package insert, a summary of which follows:
Xenon Xe 133-V.S.S. (Xenon Xe 133)
Ventilation Study System

DESCRIPTION: The Xenon Xe 133-Ventilation Study System consists of a sealed frangible capsule containing 10 millicuries ±20% of Xenon Xe 133 gas at calibration time and date with less than 1% carrier xenon in air.

INDICATIONS AND USAGE: Study of pulmonary ventilation.

WARNINGS: Xenon Xe 133 should not be administered to children or to patients who are pregnant, or to nursing mothers unless the benefits to be gained outweigh the potential hazards. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses.

Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Xenon Xe 133 should be used in pregnant women only when clearly needed.
CONSIDER MPI's XENON Xe 133-V.S.S. (Xenon Xe 133) VENTILATION STUDY SYSTEM

True, single-unit dose
The MPI Xenon Xe 133-V.S.S. contains enough Xenon Xe 133 for one ventilation study. You only use what you need and are not "locked into" an expensive delivery system that requires daily use to justify costs. Another advantage of single-unit dosage is that the risk of cross infection via reusable apparatus is significantly reduced. Further safety is afforded by the filter/mouthpiece assembly.

Reduced radiation exposure
The Xenon Xe 133 is supplied in a sealed frangible capsule. The valve-shield is designed to prevent radiation leaks during transport and use. Additionally, a shield to reduce radiation exposure to patient and attending personnel and a valve assembly to minimize the escape of exhaled xenon during washout studies are available as accessory components.

PRECAUTIONS: Xenon Xe 133 gas, as well as other radioactive drugs, must be handled with care and appropriate safety measures should be used to minimize radiation exposure to clinical personnel and to patients consistent with proper patient management. Exhaled Xenon Xe 133 gas should be controlled in a manner that is in compliance with the appropriate regulations of the government agency authorized to issue licenses for radionuclides. Xenon Xe 133 gas delivery systems, i.e., respirators or spirometers, and associated tubing assemblies must be leak-proof to avoid loss of radioactivity into the laboratory environs not specifically protected by exhaust systems. Xenon Xe 133 adheres to some plastics and rubber and should not be allowed to stand in tubing or respirator containers for such unrecognized loss of radioactivity from the dose for administration may render the study non-diagnostic.

ADVERSE REACTIONS: Adverse reactions specifically attributable to Xenon Xe 133 have not been reported.

DOSE AND ADMINISTRATION: The recommended activity range for pulmonary ventilation studies in the average patient (70 kg) is 2 to 20 millicuries (0.03 to 0.3 millicuries/kg).

HOW SUPPLIED: Each Ventilation Study System (V.S.S.) contains Xenon Xe 133 in a sealed frangible capsule containing 10 millicuries ±20% at calibration time and date stated on the label. The sealed capsule is enclosed in a metal valve-shield which is sealed with a plastic shrink-band to prevent accidental loss of xenon during shipping. A key is provided to remove the end plugs of the valve-shield and to turn the valve fitting which breaks the sealed capsule of Xenon Xe 133. The V.S.S. also includes a disposable filter/mouthpiece assembly and a breathing-collection bag with an attached CO2 absorber canister.

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Technetium Tc 99m Aggregated Albumin Kit

BRIEF SUMMARY OF PRESCRIBING INFORMATION

Indications and usage
Technetium Tc 99m Aggregated Albumin is indicated as a lung imaging agent to be used as an adjunct in the evaluation of pulmonary perfusion.

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

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

Warnings
The possibility of allergic reactions should be considered in patients who receive multiple doses.

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

This radiopharmaceutical preparation should not be administered to children, pregnant women or lactating women unless the expected benefits to be gained outweigh the potential risks.

Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capacity should be performed during the first few (approximately 10) days following the onset of menses.

Precautions
In cases of right-to-left cardiac shunt, additional risk may exist due to the rapid entry of aggregated albumin into the systemic circulation.

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

The labeling reactions involved in preparing the agent depend on maintaining the pH in the reduced state. Any oxidant present in the Sodium Pertechnetate Tc 99m supply may thus adversely affect the quality of the prepared agent. Hence, Sodium Pertechnetate Tc 99m containing oxidants, or other additives, should not be employed without first demonstrating that it is without adverse effect on the properties of the resulting agent.

The contents of the vial are sterile and pyrogen-free. It is essential that the user follows the directions carefully and adheres to strict aseptic procedures during preparation of the radiodiagnostic.

Technetium Tc 99m Aggregated Albumin is physically unstable and as such the particles will settle with time. Failure to agitate the vial adequately before use may result in non-uniform distribution of radioactivity.

It is also recommended that, because of the increasing probability of agglomeration with aging, a batch of Technetium Tc 99m Aggregated Albumin not be used after eight hours from the time of preparation. Refrigerate at 2° to 8°C after preparation if blood is withdrawn into the syringe, unnecessary delay prior to injection may result in clot formation in situ.

The contents of the vial are under a nitrogen atmosphere and should be protected from air. On preparation with Sodium Pertechnetate Tc 99m, the contents of the vial should be mixed by gentle swirling to avoid changes in particle size. Do not use if clumping or foaming of the contents is observed.

Adequate reproduction studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Technetium Tc 99m Aggregated Albumin should be used in pregnant women only when clearly needed.

It is not known whether this drug is excreted in human milk. As a general rule, nursing should not be undertaken while a patient is on a drug since many drugs are excreted in human milk.

Safety and effectiveness in children have not been established.

As in the use of any radioactive material, care should be taken to minimize radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to the occupational worker.

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 governmental agency authorized to license the use of radionuclides.

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

Hypersensitivity reactions are possible whenever protein-containing materials such as Technetium Tc 99m labeled aggregated albumin are used in man. Epinephrine, antihistamines and corticosteroid agents should be available for use.

How supplied
kit contents
5 STERILE MULTIDOSE REACTION VIALS (10 cc, silver aluminum overseal), each containing 0.34 mg MAA Aggregated Normal Serum Albumin (Human) 2.0 x 10⁴± 25% particles, 0.27 mg stannous tartrate, 0.6 ml of isotonic saline. Hydrochloric acid and/or sodium hydroxide may have been added for pH adjustment.
10 PRESSURE-SENSITIVE LABELS for final Technetium Tc 99m Aggregated Albumin preparation.
1 PACKAGE INSERT.

FOR FULL PREPARATION AND PRESCRIBING INFORMATION, SEE PACKAGE INSERT.


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Above — Diffuse metastatic disease throughout torso and limbs.

Top — Hepatoma in 31-year-old female with 3.5 mCi Tc-99m Sulfur Colloid.
Bottom — Subdural hematoma on left, seen in 76-year-old male with 20 mCi D, T.P.A.
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*Data on file, Mallinckrodt, Inc.

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For the Production of Sodium Pertechnetate Tc 99m

DESCRIPTION
The Ultra-TechneKow FM Generator is prepared with fission-produced molybdenum-99. This generator provides a closed system for the production of sterile metastable technetium-99m, which is produced by the decay of molybdenum-99. Sterile, pyrogen-free isotonic solutions of Sodium Pertechnetate Tc 99m can be obtained conveniently by periodic aseptic elution of the generators. These solutions should be crystal clear.

The generator consists of a sealed glass chamber containing specially processed alumina. This treated alumina has a high absorption capacity for molybdenum-99 follows. As a result, elution of the generator yields a solution of technetium-99m containing negligible amounts of molybdenum-99.

ACTIONS
The pertechnetate ion distributes in the body similarly to the iodide ion but is not organified when trapped in the thyroid gland. Pertechnetate tends to accumulate in intracranial lesions with excessive neovascularity or an altered blood-brain barrier. It also concentrates in thyroid gland, salivary glands, stomach and chorid plexus. After intravascular administration it remains in the circulatory system for sufficient time to permit blood pool, organ perfusions, and major vessel studies. It gradually equilibrates with the extracellular space. A fraction is promptly excreted via the kidneys.

INDICATIONS
Sodium pertechnetate Tc-99m is used for brain imaging, thyroid imaging, salivary gland imaging, placenta localization and blood pool imaging.

CONTRAINDICATIONS
None.

WARNINGS
This radiopharmaceutical should not be administered to patients who are pregnant or during lactation unless the information to be gained outweighs the potential hazards.

Ideally, examinations using radiopharmaceuticals, especially those effective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses.

Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and handling of radionuclides produced by nuclear reactors or particle accelerators and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

PRECAUTIONS
As in the use of any other radioactive material, care should be taken to insure minimum radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to occupational workers.

At the time of administration the solution should be crystal clear.

ADVERSE REACTIONS
None.

DOSEAGE AND ADMINISTRATION
Sodium pertechnetate Tc-99m is usually administered by intravascular injection but can be given orally. The dosage employed varies with each diagnostic procedure.

The suggested dose range employed for various diagnostic indications in the average patient (70 kg) is:

- brain imaging: 10 to 20 mCi
- thyroid gland imaging: 1 to 5 mCi
- salivary gland imaging: 1 to 5 mCi
- placenta localization: 10 to 20 mCi
- blood pool imaging: 10 to 20 mCi

NOTE: Up to 1 gram of reagent grade potassium perchlorate in a suitable base or capsule may be given orally prior to administration of sodium pertechnetate Tc-99m injection for brain imaging, placenta localization and blood pool imaging.

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

HOW SUPPLIED
The Ultra-TechneKow FM (Technetium Tc 99m) Generators contain the following amount of molybdenum-99 at the time of calibration stated on the label:

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>0.25 curies</th>
<th>0.50 curies</th>
<th>0.75 curies</th>
<th>1.0 curies</th>
<th>1.5 curies</th>
<th>2.0 curies</th>
<th>2.5 curies</th>
<th>3.0 curies</th>
</tr>
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<tbody>
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</table>

Each generator is supplied with the following components for the elution of the generator:

- 6—Sterile, graduated, evacuated collecting vials
- 6—Sterile Luer-Lock needles with plastic covers
- 6—Pressure-sensitive ‘Caution—Radioactive Material’ collecting vial labels
- 6—Pressure-sensitive radioassay data labels for lead dispensing shield

EVACUATED COLLECTING VIALS. Collecting vials are available on request in 5, 10, 20 and 50 milliliter sizes.

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St. Louis, MO 63134

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With 3,900 Gamma cameras presently installed throughout the world, Searle recognizes its obligation to the nuclear medicine community

Since the very inception of nuclear medicine, Searle has provided exceptional equipment, technology and the professional services required to make nuclear imaging a reality.

What of the future? As the acknowledged leader in nuclear imaging instrumentation, Searle Radiographics is keenly aware of its responsibility to you. Inventive product ideas, engineering, testing, evaluation, production, and the most important after purchase feature, excellent service, are evidence of our continued commitment to the future.

We are committed to maintaining our position of leadership in the dynamic, ever-changing science of nuclear medicine by evolving ever more sensitive, high resolution instruments and systems (Cardiac Analysis Package) capable of early disease detection and analysis. You and the patients you care for deserve no less. Searle will continue to be the leader, providing only the finest in imaging equipment and services. That is our pledge to the medical community for the 1980's.

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Now from the leader in nuclear medicine computer systems:

The ADAC Radiation Therapy Planning System.
This remarkable new system combines innovative ADAC technology and clinically-proven software by the Northwest Medical Physics Center—plus lower cost.

Only ADAC provides all these features:

- A complete software package developed by the Northwest Medical Physics Center for use in their treatment planning network of 26 hospitals—includes external beam, irregular field and brachytherapy calculations.

- Simplified operation in plain English and a "menu" format makes the system easy to use without learning a special computer language.

- Printed radiotherapy machine settings and field descriptions allow verification of hand calculations, and are provided with each plan for inclusion in the patient's chart.

- Exclusive 4-color plotter provides easy-to-read dose distributions.

- In cases not requiring a complete dose calculation, an external beam dose summary is prepared which clearly defines the treatment parameters.

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- Built-in expansion capability and continuing software support guarantees you state-of-the-art technology for years to come.

To arrange for an actual demonstration of the ADAC Radiation Therapy Planning System at a convenient location near you, please write or call collect.

ADAC Laboratories, 255 San Geronimo Way, Sunnyvale, CA 94086. (408) 736-1101.
In the recent months, Eastman Kodak Company has introduced many products, ideas, improvements, and services that can be used by those who work in the world of medicine. They add up to a restatement of our commitment to your profession. Here's a recap, in case you missed any of the news the first time.

1. KODAK Ortho H Film. Companion to Ortho G Film, it combines with KODAK LANEX Regular Screens to provide a speed four times faster than KODAK X-OMAT RP Film and high-speed calcium tungstate screens.

2. KODAK MIN-R Cassette, now available in 18 x 24 cm and 24 x 30 cm sizes to facilitate mammographic studies.


4. KODAK EKTACHROME 400 Film for color photography. Now make training and record slides without special lighting.

5. KODAK RP X-OMAT Fixer and Replenisher. Improved to reduce processor maintenance time.


7. New, improved KODAK Instant Color Film for sharper, more brilliant color, and faster development time.

8. KODAK RP X-OMAT Processor, Model M8. Called "Kodak's smartest processor" because it monitors itself while processing radiographs in 90 seconds.

9. KODAK LANEX Fine Screen. A logical choice for extremity work, providing excellent detail, but with the increased speed of rare earth technology.

10. 14th volume of the Encyclopedia of Practical Photography. A useful addition to your medical library.

11. KODAK EKTAGRAPHIC Slide Projector, Model B-2AR, with automatic voltage selection, convenient for use around the world.

12. New KODAK EKTAGRAPHIC AudioViewer with sound. Permits "hands-off" training for in-service and voluntary effort programs.

13. KODAK ROYALPRINT Processor, Model 417, for 55-second processing of black-and-white prints.

14. KODAK Technical Pan Film (ESTAR-AH Base) SO-115, an excellent choice for photomicrography.

15. Replenishment Consumption Analysis—an analysis provided by your Kodak Technical Sales Representative to help you get the most out of your processing chemicals.

16. KODAK Automixer. Automatically mixes chemicals and replenishes film processors, eliminating a time-consuming chore.

17. KODAK RP X-OMAT Developer Replenisher and Fixer and Replenisher, now packaged for use with the KODAK Automixer.

19. KODAK IMT Microimage Terminals that employ micro-computer intelligence to speed access to master patient indexes and accounts receivable records stored on microfilm.

20. KODAK EKTACHEM GLU/BUN Analyzer. For accurate glucose and blood urea nitrogen analysis using new technology. You'll be hearing more about this.

21. RECORDAK Portable Microfilmer, Model RP-1, and RECORDAK Continuous Forms Accessory, Model FMT. Allows hospitals or clinics to copy 5 x 6-in. trace records onto 16 mm rolls of microfilm.


23. KODAK EKTACOLOR FilterFinder Kit, for quickly identifying proper photographic filters required for excellent color prints from negatives.

24. KODAK Chemical Recovery Cartridge, Junior 1-P, a small-size (3¾-gallon) silver-recovery cartridge. It can recover valuable silver from virtually all types of processors.

25. Management Challenge—a one-day seminar on management techniques for managers of radiology departments.

26. Radiographic Image Analysis—a two-day seminar on radiographic imaging for radiologists and residents.

27. Q.C. Steps Program. A radiology department quality-control training program conducted at the Kodak Marketing Education Center in Rochester.

28. Management of Radiographic Environments Program (M.O.R.E.). A radiology department training program to provide the techniques for improving department efficiency, radiographic quality, and cost effectiveness.

29. KODAK LANEX Screens and KODAK X-OMATIC Intensifying Screens in new sizes to fit virtually all automatic film-handling equipment.

30. KODAK Gray Tone Imaging Film for CRT Imaging.

31. KODAK EKTAPRINT Copier-Duplicator, providing high quality and high speed, a vital combination for meeting volume copy needs.

32. KODAK Safelight Filter Type GBX, safe for handling most blue- and green-sensitive films while providing a high level of darkroom illumination.

33-34. Two films for nuclear medicine, KODAK NMB Film (blue base) and KODAK NMC Film (clear base). Available in notched sizes to fit daylight-loading equipment.

35. EASTMAN Organic Chemicals Catalog No. 50 (JJ-1), listing more than 4,000 chemicals.

36. EASTMAN Products for Electron Microscopy Catalog (JJ-984), complete with products, bibliographies for fixatives and stains, and a stain specification table.

37. Directory of KODAK Products and Services for Life Sciences (LS-1). Updated with a convenient listing to help you locate Kodak medically related products and services.

38. KODAK Medical X-ray Products Catalog (MS-15). Thirty-two pages of products for your imaging needs.

39-40. Four more issues of "Medical Radiography and Photography," published by Eastman Kodak Company for the medical profession for 54 years. For more information about Kodak products, publications, or programs, ask your Kodak Technical Sales Representative, or write: Eastman Kodak Company, Health Sciences Markets Division, Dept. 7408, Rochester, New York 14650.

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EUROTOPE SERVICES Ltd. / Rex House - 354 Ballards Lane / North Finchley - London - N 12 OEG GB / Tel. (01) 446.4405 / Telex 23310
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Imaging Film
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SCOPIX CR3 Film is a single-coated, orthochromatic, medium speed film of relatively high contrast, which gives outstanding recording of CT scan, ultrasound and nuclear video images.

**Sharper Image**

Its higher speed allows CRT monitor intensity to be decreased, thus reducing the "halo" effect on the video screen and improving image definition.

SCOPIX CR3 Film is single-coated on GEVAR polyester base, with anti-halation layer. This combination enhances image detail and definition by preventing image parallax. It is suitable for all RP and manual film processing.

**With SCOPIX CR3 film... you purchase fewer film types and simplify film inventory; get improved and consistent quality and economy because one film does it all!**

For additional information, contact your nearest Agfa-Gevaert Rex Representative or call 914-682-5650.

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Agfa-Gevaert Rex offers a complete line of superior, sensitometrically dependable X-ray films. All have the finest definition and image quality to help make precise diagnoses. And all offer appropriate speed for the desired technique. Whether it's general purpose radiology, or special procedures such as cineradiography, angiography or mammography, Agfa-Gevaert has the film to meet your diagnostic needs.

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Special Products Division
Lockhart, Texas 78644
Phone: 512/398-5294

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☐ Please have representative call

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Organization ________________________
Address ______________________________
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Phone _______________________________
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Xenon-133 ventilation lung imaging reliably increases the specificity of the perfusion study by demonstrating regions of abnormal perfusion—normal ventilation (strongly suggesting PE) or of abnormal perfusion—abnormal ventilation (COPD, effusion or infiltrate).

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Perfusion lung imaging is recognized as the most sensitive noninvasive means of detecting pulmonary embolism (PE). Almost every patient with PE will have an abnormal study—while a normal study virtually rules out PE. But perfusion defects are nonspecific, since both vascular disorders, such as PE, and parenchymal disease or effusion alter pulmonary perfusion.

36-year-old female, 7 years oral contraceptive use, presented with 10-day history of increasing shortness of breath, dyspnea and nonproductive cough. No history of hemoptysis, fever or thrombophlebitis. Bilateral wheezes and rhonchi. Chest X-ray normal. Sent to nuclear medicine with suspected pulmonary embolism. Perfusion lung images showed multiple peripheral defects, many concave and wedge-shaped. The ventilation study showed severe bilateral air trapping, particularly lower lobes, corresponding in distribution to perfusion defects. Studies compatible with alpha-1-antitrypsin deficiency, confirmed by laboratory tests.

For convenient, safe ventilation imaging

Xenon Xe 133 Gas (CALIDOSE) Dispensing System

For high-quality perfusion lung imaging

PULMOLITE™ Technetium Tc 99m Aggregated Albumin Kit

New England Nuclear®

Please see following page for full prescribing information.
Xenon Xe 133 Gas

DESCRIPTION: Xenon Xe 133 is a radioactive gas that may be used in a number of tracer procedures. It is used in the preparation of xenon radioisotopes for use in the treatment of patients with cerebral ischemia. Xenon Xe 133 is a colorless, odorless gas that is not flammable.

PHYSICAL AND CHEMICAL PROPERTIES: Xenon Xe 133 has a half-life of 5.27 days. The recommended number of xenon Xe 133 atoms to be administered per day is 200,000-700,000 with a maximum single dose of 500,000 atoms. Xenon Xe 133 is administered as a gas and should be used in a manner that minimizes exposure to personnel and the environment.

PULMOhost™

Technetium Tc 99m Aggregated Albumin Kit

August 1976

DIAGNOSTIC-FOR INTRAVENOUS USE

DESCRIPTION: Each vial of Technetium Tc 99m Aggregated Albumin Kit contains a sterile, pyrogen-free, lyophilized mixture of 1.0 mg of aggregated albumin (sodium salt), with a minimum activity of 10 mCi (370 MBq). The particles are approximately 300 Å in diameter. These particles are not radioactive.

DATA AND USE: Technetium Tc 99m aggregated albumin is a radiopharmaceutical agent used in the diagnosis and management of a variety of clinical conditions. It is used to image the heart, lungs, and bone marrow.

PULMOhost™ contains a sodium salt of aggregated albumin (sodium salt) and is administered intravenously.

Table 1. Principle Radiolabeled Isotope Data

<table>
<thead>
<tr>
<th>Isotope</th>
<th>β Maximum Energy (MeV)</th>
<th>β Mean Energy (MeV)</th>
<th>γ Energy (MeV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tc-99m</td>
<td>0.44 1.08 2.28</td>
<td>0.44 1.08 2.28</td>
<td>140.5</td>
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Table 2. Radiation Admistration by Lead Shield Thickness (mm) Coefficient of Attenuation

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<tr>
<th>Thickness (mm)</th>
<th>Coefficient of Attenuation</th>
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<td>0.2</td>
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<td>0.5</td>
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<td>4.0</td>
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Table 3. Physical Decay Chart: Tc-99m Half-Life 6.55 days

<table>
<thead>
<tr>
<th>Time (days)</th>
<th>0  10  20  30  40  50  60  80  100 120 150 180 200 250 400 500 600 700 800 900 1000</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>0.903</td>
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<tr>
<td>30</td>
<td>0.818</td>
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<td>0.739</td>
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<td>0.656</td>
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<td>60</td>
<td>0.557</td>
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<td>80</td>
<td>0.459</td>
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<td>100</td>
<td>0.379</td>
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<tr>
<td>120</td>
<td>0.303</td>
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<tr>
<td>150</td>
<td>0.236</td>
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<tr>
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<td>0.173</td>
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<tr>
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<td>900</td>
<td>0.000</td>
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<tr>
<td>1000</td>
<td>0.000</td>
</tr>
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</table>

Table 4. Radiographic Absorption Dose (rad/45cm²)

<table>
<thead>
<tr>
<th>Tissue</th>
<th>Activity (mCi)</th>
<th>Distance (cm)</th>
<th>Dose (rad)</th>
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</thead>
<tbody>
<tr>
<td>Lung</td>
<td>0.25</td>
<td>1.00</td>
<td>0.05</td>
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<tr>
<td>Whole Body</td>
<td>0.50</td>
<td>1.00</td>
<td>0.10</td>
</tr>
<tr>
<td>Skull</td>
<td>0.80</td>
<td>1.00</td>
<td>0.16</td>
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Table 5. Radiation Dose

<table>
<thead>
<tr>
<th>Tissue</th>
<th>Activity (mCi)</th>
<th>Distance (cm)</th>
<th>Dose (rad)</th>
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</thead>
<tbody>
<tr>
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<td>1.00</td>
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<tr>
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<td>0.80</td>
<td>1.00</td>
<td>0.16</td>
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</tbody>
</table>

Table 6. Physical Decay Chart: Tc-99m Half-Life 6.55 days

<table>
<thead>
<tr>
<th>Time (days)</th>
<th>0  10  20  30  40  50  60  80  100 120 150 180 200 250 400 500 600 700 800 900 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<tr>
<td>10</td>
<td>1.000</td>
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<tr>
<td>20</td>
<td>0.903</td>
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<td>30</td>
<td>0.818</td>
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<td>40</td>
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<tr>
<td>1000</td>
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</tr>
</tbody>
</table>

Nuclear Medical Diagnostic Division

Europe:
NEN Chemical GmbH, B-60727 Darmstadt, W. Germany, Postfach 407240
Tel. 06103/85034
Order Entry: 06103/81011

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As a result, Type 611 can give you information from video displays fully equivalent to that of the best transparency films. But without the expense, delay or inconvenience of darkrooms and wet-film processors. Because all its operations—from loading to developing—take place in the light. And the prints don’t need coating after development.

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What’s more, Type 611 prints can be left to develop up to 3 minutes without any noticeable change in image quality.
When Chandler Clover ordered his patients evacuated at 7:30 P.M. on Good Friday, he thought he was just taking a sound precautionary step. Neither the administrator of the new Womans Hospital, nor anyone else in Flowood, Mississippi, really expected the swelling waters of the Pearl River to reach their doorsteps. Yet by Easter Sunday, April 15, 1979, a dry doorstep was just a happy memory in this and other Jackson-area communities, deluged by the Pearl's historic “500 Year Flood.”

For nearly a week, the water stood 41 inches deep in Womans Hospital. When it finally receded the following Thursday, Clover surveyed $1.5 million in damages. Among the few items of equipment appearing remotely salvageable, was the Radiology Department’s two year old Dunn Instruments Model 600 multi-image camera. Although it had been totally submerged for several days, the administrator decided to have it returned to the factory for evaluation.

When Dunn service engineers received the camera, they scraped the mud off its video monitor face and shutter mechanism. Then they plugged it in and turned it on. When they operated the controls—you guessed it—the camera worked! All electronic and mechanical components, save the delicate shutter leaves, functioned normally. With a little cleaning up and replacing of rusted metal parts, the same camera—Serial No. 937—is going back to Womans Hospital.

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Newspaper articles and flood photos courtesy Jackson, Mississippi Clarion-Ledger.
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The Department of Nuclear Medicine at the University of Tennessee Center for the Health Sciences has opening at Instructor or Assistant Professor level, depending upon qualifications. The department serves City of Memphis Hospital, LeBonheur Children's Hospital, and University of Tennessee Hospital. Proven ability in teaching and research and knowledge and practical experience in all major areas of Clinical Nuclear Medicine are necessary. ABMM certification or eligibility required. Send C.V. and references to Dr. Lawrence M. DeSantis, M.D., Acting Chairman, Department of Nuclear Medicine, University of Tennessee: 865 Jefferson, Room 190C, Chandler Building, Memphis, Tennessee 38163. The University of Tennessee is an Equal Opportunity/Affirmative Action employer.

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For 600-bed teaching hospital with medical school affiliation. Graduate AMA approved nuclear medicine technology program, or I year training, experience in Clinical setting. NARR registry or registry eligible. Contact: Office of employment service, Richland Memorial Hospital, 3301 Hardin St. Columbia, SC 29203 (803) 765-6271. An Equal Opportunity Employer, M. F. H.

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Physician being sought to join practice in a 400 bed community hospital. Send resume to William M. Bridger, MD, Baptist Medical Center, 2105 East South Boulevard, Montgomery, Alabama 36116.

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For information contact John A. Burdine, M.D., Chief, Nuclear Medicine Section, Departments of Internal Medicine and Radiology, 6720 Bertner Avenue, Houston, TX 77030; phone 713/521-2272.

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We also take extra care in adding and deleting personnel. Our toll-free hotline is at your disposal for making changes or asking technical questions, and badges for new employees are on the way to you within 24 hours.

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Brief summary of Package Insert. Before using, please consult the full Package Insert included in each kit.

**Description:** Each vial of OSTEOSCAN contains 5.5 mg etidronate disodium, 0.16 mg stannous chloride, and 0.56 mg sodium ascorbate as active ingredients. Upon addition of ADETEX-FREE sodium pertechnetate labeled Tc-99m the etidronate disodium and stannous chloride combine with Tc-99m to form a stable soluble complex.

**Clinical Pharmacology:** When injected intravenously, Tc-99m-labeled OSTEOSCAN has a specific affinity for areas of altered osteogenesis. Areas of bone which are undergoing neoclastic invasion often have an unusually high turnover rate which may be imaged with Tc-99m-labeled OSTEOSCAN. Three hours after intravenous injection of Tc-99m-labeled OSTEOSCAN, an estimated 40-50% of the injected dose has been taken up by the skeleton. At this time approximately 50% has been excreted in the urine and 6% remains in the bone. A small amount is retained by the soft tissue. The labeled OSTEOSCAN is also taken up in areas of necrosis and severely injured myocardial cells. Approximately 1.5 hours following intravenous injection 0.01-0.02 percent of the administered dose per gram of tissue is taken up by an actively infarcted myocardium.

**Indications:** OSTEOSCAN is a skeletal imaging agent used to demonstrate areas of altered osteogenesis and a cardiac imaging agent used as an adjunct in the diagnosis of acute myocardial infarction. When used as an adjunct in the diagnosis of myocardial infarction the incidence of false negatives has been found to be approximately 14% and false positives about 16%. False negatives may result from failure to observe temporal requirements for good myocardial imaging. False positives may be related to coronary heart disease, left ventricular aneurysm, trauma, repeated cardioversion following coronary by-pass surgery or old myocardial infarct.

**Contraindications:** None known.

**Warnings:** This radiopharmaceutical should not be administered to patients who are pregnant or lactating unless the information to be gained outweighs the potential hazards. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses. The technetium used to tag the product should be routinely tested for molybdenum and aluminum; if an unacceptable level of either is found, the technetium should not be used. Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and handling of radionuclides produced by nuclear reactor or particle accelerator and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides.

**Precautions:** As in the use of any other radioactive material, care should be taken to ensure minimum radiation exposure to the patient, consistent with proper patient management, and to ensure minimum radiation exposure to occupational workers. Bone Imaging: Bone images prior to and following Tc-99m-labeled OSTEOSCAN administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the Tc-99m-labeled OSTEOSCAN injection to minimize background interference from accumulation in the bladder and unnecessary exposure to radiation. Cardiac Imaging: Patient's cardiac condition should be stable before beginning the cardiac imaging procedure. If not contraindicated by the cardiac status, patients should be encouraged to ingest fluids and to void frequently in order to reduce unnecessary radiation exposure. Interference from chest wall lesions such as breast tumors and healing rib fractures can be minimized by employing the three recommended projections.

**Adverse reactions:** None known.

**Dosage and administration:** The recommended adult dose of Tc-99m-labeled OSTEOSCAN is 10-15 mC. The activity of each dose should be measured by a suitable radiation calibration system just prior to administration. The dose should be given intravenously by slow injection. For optimal results bone imaging should be done 2-4 hours post injection and cardiac imaging 1-1.5 hours post injection. The acute myocardial infarct can be visualized from 1-9 days following onset of symptoms with maximum uptake at 2-3 days. It is recommended that three projections of the heart be made (antero, left anterior oblique and left lateral).

**References:**
When you and other healthcare professionals speak about radiation monitoring, we listen. And then we act to provide you with the best personnel dosimetry system available—bar none! At Searle, we believe the personal touch means a great deal.

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You also get the most reliable exposure reporting system—a complete, computerized report showing all data on one line for each badge in your facility. The reports meet federal, state, and local regulations, yet they are flexible and can be modified to meet your specific needs. Of course, in case of high exposure, we telephone you immediately.

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See following page for brief summary of package insert
INDICATIONS

IBRIN is indicated for use in prospective studies for the early detection and subsequent monitoring of developing deep-vein thromboses and in diagnostic studies for the detection of established thrombosis in the legs.

A. The IBRIN (Fibrinogen 1 I 125) test is indicated in patients with signs and symptoms suggestive of deep-vein thrombosis with or without associated pulmonary embolism or in patients with pulmonary embolism, with or without evidence of peripheral deep-vein thrombosis. In patients with established, old or 'inactive' thrombs, the test will be positive only if radionuclide-labeled fibrin deposition occurs in a sufficient quantity to allow detection. Its use is not contraindicated in patients on anticoagulants.

B. The IBRIN (Fibrinogen 1 I 125) test is indicated for the detection of thrombus formation in patients undergoing major orthopedic or other surgical procedures, myocardial infarction, pulmonary disease, malignant disease and other medical conditions known to predispose to thromboembolism.

CONTRAINDICATIONS

There are no known contraindications to the use of IBRIN. However, it should be noted that the iodides given to block the uptake of I 125 by the thyroid gland are contraindicated in patients with a known sensitivity to the iodides.

WARNINGS

This radiopharmaceutical should not be administered to patients under 18 years of age, to patients who are pregnant, or to patients who are lactating, unless the information to be gained outweighs the potential risk. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, of a woman of child-bearing capability should be performed during the first few (approximately 10) days following the onset of menses. Nursing mothers should substitute formula feeding after the administration of Fibrinogen 1 I 125.

Extraordinary precautions have been taken in the preparation of IBRIN (Fibrinogen 1 I 125) to eliminate the possible transmission of hepatitis. Nevertheless, the remote risk of hepatitis associated with the administration of Fibrinogen 1 I 125 cannot be entirely eliminated. The finding of viral hepatitis in any patient up to six months after the administration of IBRIN should be reported to Amersham for further evaluation, since there are numerous possible sources of hepatitis infection.

PRECAUTIONS

Care should be taken to insure minimum radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to occupational workers.

This drug contains radioactive materials which must be handled only by qualified personnel in conformity with Nuclear Regulatory Commission agreement state, or other appropriate government regulations. Care must be taken to avoid excessive exposure to its radiation. Shielding or equivalent radiation protective measures must be used.

This product is prepared from units of human plasma which have been tested using RIA methods and found non-reactive for Hepatitis B surface antigen. Approved detection methods are not sensitive enough to detect all infectious units of blood or all possible cases of hepatitis. However, IBRIN has been prepared from single donor plasma and has been injected into recipients without incidence of fibrinogen related Hepatitis B as evidenced by periodic physical examination and laboratory testing (liver profile, CBC, and Hepatitis B surface antigen and antibody by radioimmunoassay) of the recipients.

There are a number of clinical circumstances requiring consideration in the interpretation of the test results. (See complete Package Insert.)

Fibrinogen I 125 scanning should preferably be performed prior to venography if both procedures are contemplated, since venography may cause increases in count rate making interpretation of post-venography monitoring data difficult.

Adequate reproduction studies on animals have not been performed to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Fibrinogen I 125 should be used in pregnant women only when clearly needed.

ADVERSE REACTIONS

There has been no reported incidence of allergic or anaphylactic reactions following the intravenous administration of IBRIN.

GENERAL

Technetium Tc 99m Medronate as well as other 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.

To minimize radiation dose to the bladder, the patient should be encouraged to void when the examination is completed and as often thereafter as possible for the next 4-6 hours.

This preparation contains no bacteriostatic preservative. Technetium Tc 99m Medronate should be formulated within six (6) hours prior to clinical use.

Pregnancy Category C

Adequate reproductive studies have not been performed in animals to determine whether this drug affects fertility in males or females, has teratogenic potential, or has other adverse effects on the fetus. Technetium Tc 99m Medronate should be used in pregnant women only when clearly needed.

Nursing Mothers

It is not known whether this drug is excreted in human milk. As a general rule nursing should not be undertaken while a patient is on the drug since many drugs are excreted in human milk.

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

No adverse reactions specifically attributable to the use of Technetium Tc 99m Medronate have been reported.

DOSEAGE AND ADMINISTRATION

The suggested dose range for iv. administration, after reconstitution with oxidant-free sodium pertechnetate Tc 99m Injection, to be employed in the average patient (70 kg) is:

- Bone Imaging: 10-20 mil Ci Technetium Tc 99m Medronate
- Scanning post-injection is optimal at about 1-4 hours.
- Slow administration of the drug over a period of 30 seconds is recommended.

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

HOW SUPPLIED

Diagnostic Isotopes' Technetium Tc 99m Medronate Kit is supplied as a sterile, pyrogen-free kit containing 10 vials.

Each 10 ml vial contains 10 mg medronic acid, 0.17 mg (minimum) stannous chloride (maximum stannous stannic chloride 0.29 mg), and 2 mg ascorbic acid. The pH has been adjusted to 4.8 with either HCl or NaOH prior to lyophilization. Following lyophilization, the vials are sealed under a nitrogen atmosphere.
Diagnostic Isotopes, one of the first companies to develop a Technetium labeled bone imaging agent, is proud to announce its new MDP Kit. Physicians who are acquainted with D.I. quality and service will welcome this latest addition to our product line. As with all D.I. reagents, MDP is conveniently packaged in 10 multi-dose vial kits which may be stored at room temperature.

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THE JOURNAL OF NUCLEAR MEDICINE
Zero IN with seven [125I] RIA drug screening kits from Clinical Assays

- Digitoxin
- Digoxin
- Gentamicin
- Phenobarbital
- Phenytoin
- Theophylline
- Tobramycin

Complete directions for use are provided with each product. These directions should be read and understood before use. Particular attention should be paid to all warnings and precautions. Additional performance data are available. Should you have any questions, contact your Clinical Assays representative.
...DESIGNED EXPRESSLY FOR NUCLEAR CARDIOLOGY
...DESIGNED FOR HEAVY DUTY TROUBLE-FREE USE!
...DESIGNED FOR THE COST-CONSCIOUS BUYER!
For the past year, we've been showing you why **OSTEOLITE™** Technetium Tc 99m Medronate Sodium Kit (MDP) should be your department's bone imaging agent.

*"The bone scan may be the only technique capable of locating sites of suspected or unsuspected (bone) trauma."*

*"Perhaps the greatest contribution of bone imaging is its superiority over conventional radiography in the detection of metastatic bone tumors."*

*"The bone scan is a more sensitive indicator of abnormal metabolic activity than the X-ray."*

Now you can show your referring physicians with...
OSTEOITE
Technetium Tc 99m Medronate Sodium Kit (MDP)
Radioisotope Bone Imaging
Normal and Benign Osseous Variants

...this new wall chart
By now, most nuclear medicine specialists have seen first-hand the reasons why more bone scans are performed with OSTEOLITE

- most rapid blood clearance¹
- lowest soft tissue activity²
- highest target-to-background differential³
- convenient storage and preparation

New England Nuclear can provide you with a giant (24 x 37 inch) wall chart that shows your referring physicians the clinical appearance of OSTEOLITE images in patients with commonly seen normal and benign osseous variants. This wall chart, compiled from OSTEOLITE images provided by leading practitioners, clearly illustrates a wide range of findings, with a brief discussion of each condition.

To find out how you may receive your copy of this attractive and educational wall chart, just fill out and mail the reply card below, or ask your NEN representative on his next visit.

And to keep getting outstanding bone images, keep using OSTEOLITE!

References:
2. Forstrom L et al: Data on file at New England Nuclear, Medical Diagnostics Division, North Billerica, MA

OSTEOLITE
Technetium Tc 99m Medronate Sodium Kit (MDP)

I'd like information on how to obtain the OSTEOLITE wall chart.

Name
Title
Institution
Address
City, State
Zip

Please see following page for full prescribing information.
CLINICAL PHARMACOLOGY: Upon intravenous injection, Technetium Tc 99m OSTEOLITE exhibits a specific affinity for areas of altered osteogenesis. In humans, blood levels fall to 4-10% of the injected dose by two hours post-injection and to 3-5% by the tenth hour. During the first 24 hours following its administration in patients with normal renal function, 50-75% of the radioactivity is excreted into the urine and less than 2% of the injected dose remains in the vascular system.

Uptake of the Technetium Tc 99m in bone appears to be related to osteogenic activity and to skeletal blood perfusion. The deposition in the skeleton is bilaterally symmetrical, with increased accumulation in the axial structure as compared to the appendicular skeleton. There is increased activity in the distal aspect of long bones as compared to the diaphyses. In pediatric patients, in whom the epiphyseal centers are still open, there is more marked accumulation of the radioisotopic activity in the metaphyseal regions, probably related to growth. In adults, the bone scan is less sensitive for bone scans. In disease, regional migratory osteoporosis, areas of aseptic necrosis, and in general, any pathological situation involving bone in which there is increased osteogenic activity or localized increased osseous blood flow. Since increased osteogenic activity and localized increased osseous blood perfusion are usually present in chronic bone diseases, bone imaging agents, in general, are not effective in detecting such diseases. Localized areas of decreased accumulation of the radioisotopic activity may be related to areas of bone with decreased blood flow resulting from external factors or to which blood flow has been interrupted. OSTEOLITE has also been noted to accumulate in areas of acute myositis and fat. This may be related to an acute disease or to therapy employing these areas of pathology.

INDICATIONS AND USAGE: Technetium Tc 99m OSTEOLITE may be used as a bone imaging agent to delineate areas of altered osteogenesis.

CONTRAINDICATIONS: None known.

WARNING: The contents of the OSTEOLITE vial are intended only for use in the preparation of Technetium Tc 99m in bone scans and are NOT to be directly administered to the patient. Ideally, examinations using radiopharmaceuticals—especially those elective in nature—of women of childbearing capability should be performed during the first ten days following the onset of menstruation.

PRECAUTIONS: A thorough knowledge of the normal distribution of intravenously administered Technetium Tc 99m in bone scans is essential in order to accurately interpret pathologic studies. Technetium Tc 99m in bone scans, as well as any radioisotope agent, must be handled with care. Once a bone scan Technetium Tc 99m is added to the kit, appropriate safety measures should be used to minimize radiation exposure to medical personnel. Care should also be taken to minimize radiation exposure to patients in a manner consistent with proper patient management. The Technetium Tc 99m labeling reaction involved in preparing Technetium Tc 99m in bone scans depends on the maintenance of the trivalent state. Any oxidant present in the sodium pertechnetate Tc 99m may adversely affect the quality of the prepared agent. Thus, sodium pertechnetate Tc 99m containing oxidants should not be used without first demonstrating that it is without adverse effect on the properties of the resulting agent.

The use of bariatric acid sodium chloride as a diluent for sodium pertechnetate Tc 99m may adversely affect the biologic distribution of the prepared agent, and its use is not recommended. Adequate reproduction studies have not been performed in animals to determine whether this agent is effective in mice or females, has teratogenic potential, or has other adverse effects on the fetus. Technetium Tc 99m in bone scans should be used in pregnant women only when clearly needed. It is not known whether this drug is excreted in human milk. As a general rule, nursing mothers should not be undertaken when a patient is administered radioactive material.

SAFETY AND EFFECTIVENESS IN CHILDREN have not been established.

ADVERSE REACTIONS: None reported.

DOSEAGE AND ADMINISTRATION: The recommended dose for the average 70kg adult patient is 550mCi with a range of 10-20mCi. The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.

Optimal imaging results are obtained within one to four hours after administration. OSTEOLITE should be used within six hours after reconstitution with sodium pertechnetate Tc 99m. For optimum results this time should be minimized.

The vial contains no bacteriostat.

Radiopharmaceuticals should be used by persons who are qualified by specific training in the safety and handling of radionuclides produced by nuclear reactor or particle accelerator and whose experience and training have been approved by the appropriate governmental agencies authorized to license the use of radionuclides.

RADIATION DOSIMETRY: The estimated absorbed radiation dose to an average patient (70kg) from an intravenous injection of a maximum of 20 millicuries of Technetium Tc 99m OSTEOLITE is shown in Table 4.

Table 4. Absorbed Radiation Dose

<table>
<thead>
<tr>
<th>Organ (rad)/20mCi</th>
<th>Total Body</th>
<th>Bone Total</th>
<th>Red Marrow</th>
<th>Kidneys</th>
<th>Liver</th>
<th>Bladder Wall</th>
<th>Ovaries</th>
<th>Testes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.13</td>
<td>0.70</td>
<td>0.56</td>
<td>0.62</td>
<td>0.16</td>
<td>2.60</td>
<td>4.60</td>
<td>4.60</td>
</tr>
</tbody>
</table>


HOW SUPPLIED: New England Nuclear’s OSTEOLITE Technetium Tc 99m in Bone Scans is supplied as a set of five or thirty vials, sterile and non-pyrogenic. Each nitrogen-flushed vial contains a vial insert in the form of:

- Bone Sodium Chloride Dihydrate—0.85mg

- Sodium Chloride Dihydrate—7.5mg

The pH is adjusted to between 7.0–7.5 with hydrochloric acid and/or sodium hydrosulfate solution. The contents of the vial were lyophilized under nitrogen. Store at room temperature (15-30°C). Included in each five (5) vial kit is one (1) package insert and six (6) radiation labels. Included in each thirty (30) vial kit is one (1) package insert and thirty-six (36) radiation labels.

INSTRUCTIONS FOR PREPARATION OF TECHNETIUM Tc 99m OSTEOLITE: Aseptically inject 2 to 5ml of sodium pertechnetate Tc 99m (pertechnetate in isotonic saline without a bacteriostat) into the supplied vial of OSTEOLITE enclosed by a radiation shield. Swirl for at least ten seconds to dissolve completely. Label appropriately. Suitable labels have been supplied with each OSTEOLITE Kit. Use within six hours after reconstitution. For optimum results, this time should be minimized.

Using proper shielding, the vial containing the reconstituted solution should be visually inspected to assure that it is clear and free of particulate matter.

The contents of the kit vials are radioactive; however, after reconstitution with sodium pertechnetate Tc 99m the contents are radioprotective and adequate shielding and handling procedures must be maintained.

Do not use if there is a vacuum in the immediate drug container or if air is injected into the container when the dose is withdrawn.

Catalog Number: NRP-420C (30 vial kit)

Catalog Number: NRP-420D (5 vial kit)
No knobs, no meters, no errors
The spartan panel above tells the second-best part of our story. If you want to photograph peak systole, press the SYSTOLE button. If, say, you want systole only at full expiration, press the EXPIRATION button as well. If only breathing is relevant, don’t press the heart button.

The Brattle is connected to the patient and to your gamma camera. Whenever the patient is in the selected phase, both the scope and the scaler on your gamma camera are gated ON, and film is exposed. Otherwise, they are OFF.

Brattles lock onto patients—and stay locked on
It doesn’t matter if the patient’s heart rate and breathing depth change while he’s under the collimator because we stay right with him. Brattles contain an ECG to track heart, a plethysmograph to track respiration, and a tiny computer to deduce systole and diastole times from the heart signal. And because it’s all built in, your operator need not be a physiologist.

We don’t cover our tracks—we print them
The panel lights flash whenever the patient reaches the selected phases; and pushing the RECORDER-ON button gets you an ECG tracing marked with breathing and camera-on times. You can verify function before, during and after exposure.

A single pair of axillary electrodes captures both heart and breath
It’s easy. And we supply disposable, pre-filled electrodes.

Some Brattles have been in clinical use for over three years—in community and major hospitals
More than half of our instruments are in community hospitals and the list is growing rapidly. Upon request, we’ll supply names of happy users in your area.

What’s the next step?
Get in touch
Ask your NEN man about Brattles and HSA Kits. He can show you a portfolio of clinical pictures and arrange to have one of our people give you a demo. Or write or call us direct. We’ll send you brochures on this and other models, and will give you your own set of clinical pictures and a bibliography on gated scintigraphy. If you wish, we’ll even make you a Brattle owner. (This is the best part of our story.)

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It started with UNION CARBIDE leadership in nuclear technology back in the 1940s. And we’ve stayed first ever since. First with unit-dose radiopharmaceuticals. First with a stand-alone, 61-tube, large field gamma camera. First with a commercially available single-photon emission tomographic imager. First high speed, high resolution whole body imager. First-ranking supplier of $^{99m}$Molybdenum.