You can see the difference.
Lungaggregate™ Reagent [Aggregated Albumin (Human)] has eight important advantages for pulmonary scintigraphy.

The first one is obvious:

1. Particles Presuspended in Solution. Lungaggregate Reagent is the only Tc 99m-labeled MAA agent containing albumin aggregate particles that are already suspended in an aqueous solution. There is less chance for radiation exposure to the user since no visual inspection is required after radioactive labeling.

2. Soft Particles for Rapid Lung Clearance. The uniform-size particles in Lungaggregate Reagent have a biological half-time of 4.77 hours.

3. Quick, Easy Preparation. No thawing, reconstitution of lyophilized particles, or ultrasonic agitation are required.

4. Conveniently Stable. Lungaggregate Reagent, labeled with Tc 99m, may be used up to 24 hours after preparation when stored as directed. A supply of Tc 99m-Lungaggregate Reagent is therefore available when emergency studies are required.

5. Multi-Dose Economy. Each vial can be used to give several patient doses since Lungaggregate Reagent contains a preservative.

6. Imaging Excellence. Tc 99m is the radionuclide of choice for scintigraphy. With a 4 mCi dose of Tc 99m-Lungaggregate Reagent, up to 500,000 counts can be obtained in two to three minutes on a gamma camera.

7. High Lung/Liver Activity Ratio. The ratio of lung to liver-and-spleen activity is over 10/1.

8. Patient Safety. No adverse reactions have been reported. See the brief summary section below.

For a monograph summarizing clinical experience with Lungaggregate Reagent, or for additional information, call Medi-Physics toll free: (800) 772-2446 in California or (800) 227-0483 outside California.

Brief Summary
(For full product information including method of preparation and administration procedure, see package insert.)

Description: Lungaggregate™ Reagent is a sterile, pyrogenic, buffered, preserved, aqueous preparation of aggregated albumin from human plasma.

Indications: For imaging regional pulmonary perfusion in the presence of clinically suspected regional ischemia.

Contraindications: This agent is contraindicated (1) in the presence of large right-to-left cardiovascular shunts which could allow direct entry of macroaggregates into systemic circulation; (2) in patients with cyanosis or evidence of severely restricted pulmonary blood flow, as in pulmonary hypertension; (3) in pregnant or lactating women and in patients under 18 years, unless expected benefits outweigh risks involved.

Warnings: Whenever protein-containing materials such as Tc 99m-labeled Lungaggregate Reagent are used in man, hypersensitivity reactions are possible. Have epinephrine, antihistamines, and corticosteroid agents available.

Precautions: Note—Follow aseptic techniques in preparing this agent to minimize the possibility of contamination with microorganisms. Take steps to minimize exposure to patient and attending personnel. Including use of minimum dosage to achieve useful diagnostic data. Make injection slowly. Use an 18-21 gauge needle. After withdrawal from the vial the material should be administered promptly; also avoid aspirating blood and tissue fluids into the syringe.

Adverse reactions: None reported in over 4,000 patient studies.
Two time-saving tests for your lab: pipette once, incubate for one hour, automatic phase separation, measure.

**Contents T3 kit:** 12 calibrating tubes with 3.5 ml thybon* (J-125)-solution each • total activity: 3 µCi J-125 • preservative: 0.02% sodium azide • 12 adsorption tubes • 1 ml standard serum of defined TBG capacity •

**Contents T4 kit:** 12 calibrating tubes with 3.3 ml TBG-T4- (J-125)-solution each • total activity: 1 µCi J-125 • preservative: 0.02% sodium azide • 12 adsorption tubes • 1 standard serum of defined T4-concentration •

**Storage:** store protected from light in the refrigerator at +4°C to +6°C

**Stability:** 8 weeks at proper storage. The expiry date is indicated on the package.

Order No.: J5113 for T3 1 package 12 tests | Order No.: J5114 for T4 1 package 12 tests

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Call (617) 667-9531 for technical consultation or product information.
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The radiopharmaceuticals you depend on must be predictable and consistently pure, as well as efficacious. But radiopharmaceuticals need not be expensive.

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KITS:
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- 99m Tc DTPA-Tin
  5mg DTPA and 0.25mg Stannous Chloride

Ready-to-use:
- Xenon-133 in Gas Phase
  10 or 20 mCi/Vial
- Xenon-133 in Saline
  10 or 20 mCi/Vial
- Selenomethionine (Se-75)
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A commitment to quality
You depend on a bone imaging agent for consistent detection of skeletal lesions...
A 65-year-old patient with known carcinoma of the prostate. Note pelvic, skull, rib, sternum and vertebral lesions.

Imaging Agent: 15 mCi 99mTc-OSTEOSCAN  
Anterior Count per Time: > 1,000,000/30 min  
Posterior Count per Time: > 1,000,000/30 min  
Instrument:  
Searle Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator  
Scanned: 3 hours postinjection

When selecting a bone scanning agent for your department, there is a single overriding concern: Which will most consistently image the patient’s detectable bone lesions?

When labeled with 99mTc, the physical and chemical properties of Osteoscan’s diphosphonate formula deliver the excellent lesion imaging you need . . . scan after scan, day after day.

- P-C-P molecular bonding assures excellent in vivo stability—to minimize soft tissue uptake.
- Dry mix diphosphonate formulation reduces potential for hydrolysis.
- Formulated to produce consistently high tagging efficiency.

L POSTERIOR R R ANTERIOR L

The result:
- Rapid blood clearance
- High target/non-target ratios
- Clear imaging of detectable bone lesions

If you would like further information about Osteoscan’s performance benefits or would like to prove Osteoscan’s consistent lesion imaging for yourself—please call Arnold Austin, Technical Manager, Professional Services Division, Procter & Gamble, (513) 977-8547.

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OSTEOSCAN®  
(5.9 mg disodium etidronate 0.16 mg stannous chloride)  
SKELETAL IMAGING AGENT

L POSTERIOR R R ANTERIOR L

An 82-year-old patient with extensive metastatic bone disease secondary to known carcinoma of the prostate.

Imaging Agent: 15 mCi 99mTc-OSTEOSCAN  
Anterior Count per Time: 561,220/30 min  
Posterior Count per Time: 631,388/30 min  
Instrument:  
Picker Dynacamera®  
2C with Omniview® table and ultrafine collimator  
Scanned: 4 hours postinjection

L POSTERIOR R R ANTERIOR L

A 79-year-old male with known prostatic carcinoma metastatic to bone. Multiple lesions are seen throughout skeletal system.

Imaging Agent: 15 mCi 99mTc-OSTEOSCAN  
Anterior Count per Time: 621,153/26 min  
Posterior Count per Time: 640,702/31 min  
Instrument:  
Picker Dynacamera®  
2C with Omniview® table and ultrafine collimator  
Scanned: 4 hours postinjection
A 58-year-old male with a 41-year history of smoking displays extensive metastatic disease in ribs, vertebral bodies, pelvis, sternum and skull, secondary to known carcinoma of the lung. Imaging Agent: 15 mCi 99mTc-OSTEOSCAN Anterior Count per Time: > 1,000,000/30 min Posterior Count per Time: > 1,000,000/30 min Instrument: Sears Pho/Gamma® HP camera with whole body table, Microdot Imager® and high-sensitivity collimator Scanned: 3 hours postinjection

A 49-year-old female with previous right radical mastectomy for malignancy, having rib pain. Increased uptake in ribs suggests metastatic disease. Imaging Agent: 15 mCi 99mTc-OSTEOSCAN Posterior Count per Time: 500,361/28 min Anterior Count per Time: 508,462/27 min Instrument: Picker Dynacamera 2C with Omniview® table and ultraline collimator Scanned: 4 hours postinjection

OSTEOSCAN® consistently delivers:

- Clear, sharp images
- High-quality lesion detection

See following page for brief summary of package insert.
OSTEOSCAN... Clear, sharp images for high-quality lesion detection... consistently

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

DESCRIPTION
Each vial of OSTEOSCAN contains 5.9 mg disodium etidronate and 0.16 mg stannous chloride as active ingredients. Upon addition of ADDITIVE-FREE 99mTc-pertechnetate, these ingredients combine with 99mTc to form a stable soluble complex.

ACTIONS (CLINICAL PHARMACOLOGY)
When injected intravenously, 99mTc-labeled OSTEOSCAN has a specific affinity for areas of altered osteogenesis. Areas of bone which are undergoing neoplastic invasion often have an unusually high turnover rate which may be imaged with 99mTc-labeled OSTEOSCAN.

Three hours after intravenous injection of 1 ml 99mTc-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 blood. A small amount is retained by the soft tissue. The level of 99mTc-labeled OSTEOSCAN excreted in the feces is below the level detectable by routine laboratory techniques.

INDICATIONS
OSTEOSCAN is a skeletal imaging agent used to demonstrate areas of altered osteogenesis.

CONTRAINDICATIONS
None.

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.

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.

The 99mTc-generator should be tested routinely for molybdenum breakthrough and aluminum. If either is detected, the eluate should not be used.

PRECAUTIONS
Both prior to and following 99mTc-labeled OSTEOSCAN administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the 99mTc-labeled OSTEOSCAN injection to minimize background interference from accumulation in the bladder and unnecessary exposure to radiation.

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.

ADVERSE REACTIONS
None.

DOSAGE AND ADMINISTRATION
The recommended adult dose of 99mTc-labeled OSTEOSCAN is 1 ml with a total activity range of 10-15 mCi. 99mTc-labeled OSTEOSCAN should be given intravenously by slow injection over a period of 30 seconds within three (3) hours after its preparation. Optimum scanning time is 3-4 hours postinjection.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.
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PHO/CON — the first of a new generation of multi-plane imaging devices — gives you significant new dimensions, whether you are imaging the brain, whole-body organs, individual organs, or bone. It can quickly confirm lesions masked by normal anatomical structures and provide definitive visualizations when other methods fail.

Your facility gets up to six anterior and six posterior tomographic images from one PHO/CON scan, each readout being sharply focused on a different plane in the subject. Lesions can be dramatically visualized with near-constant resolution regardless of depth or the organ being imaged.

PHO/CON utilizes two detector heads for simultaneous anterior-posterior imaging. It has a 26" x 70" scan field, suitable for any size study. Each detector head produces six simultaneous 2" x 2" tomographic images on 5" x 7" film, or three simultaneous 2" x 5½" whole body images on 8" x 10" film.

PHO/CON’s tomographic capability provides significantly more data than is available from conventional dual-headed scanners. In addition, PHO/CON has 3 times the crystal area of a dual 5" scanner, with scanning speed up to 1000 cm/min. A full range of collimators is available.

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Roche Diagnostics' new T₄ RIA eliminates the cumbersome and time-consuming extraction and separation steps associated with competitive protein binding (CPB) assays. This unique procedure can be run in less than two hours, requires minimal "hands on" bench time, is easily automated for large volume testing and utilizes only a 25 µl patient sample. ROCHE T₄ RIA is a convenient assay which requires no additional equipment if you are currently running radioassays, and frees your time for other laboratory work.

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ROCHE T₄ RIA has a broader standard curve range than any other major product. Its curve from 0 to 30 µg% attests to the procedure's sensitivity, since most other available assays lose sensitivity beyond 15 µg%. This increased range, which is easily transformed to a linear plot, virtually eliminates the need to rerun high values and provides more free time.

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Roche Diagnostics offers this assay at a low cost with attractive discounts geared to your testing volume. The greatest economy in ROCHE T₄ RIA is in time saved and increased productivity for your lab.

Along with all these advantages we have created a new, compact packaging system for our assay—providing an economy of refrigeration space.

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Turn the page to see the rest of our offer...
To complement your T₄ results, Roche Diagnostics offers the same superior convenience with the ROCHE T₃ Uptake assay. This test utilizes a resin tablet as the separating medium. ROCHE T₃ Uptake is a rapid procedure which requires no special handling or washing. A T₃ Uptake serum calibrator is included, which makes pre-count and temperature correction unnecessary.

Together, ROCHE T₄ RIA and ROCHE T₃ Uptake offer you a complete convenient package for the major thyroid assays. The pricing schedule for both assays is responsive to your volume needs. From start to finish, it's a system which makes your work easier with sensitive, reliable products.

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☐ Please forward complete information by mail.

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They’re all products of the “little extra” philosophy.

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Our lung scan kit, offering the advantages of a frozen product, gives an excellent particle size range and a tagging efficiency always at or near 100% conversion of pertechnetate to labeled MAA.

Our stannous pyrophosphate product for bone imaging gives high tagging efficiency, consistency and stability both in vitro and in vivo, and high bone-to-soft-tissue ratios.

We package sulfur colloid in a unique dispenser which lets you keep a visual check on your supply. A convenient little extra.

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OUR KITS
SCANS.

Before prescribing please consult the complete product information, a summary of which follows:

**TechnoScan** MAA Lung Scan Kit

**CONTRAINDICATIONS:** The safety of TechnoScan MAA Tc 99m in patients with a known right-to-left cardiac shunt has not been established and its use in such patients is contraindicated.

**WARNINGS:** In acute pulmonary edema the administration of aggregated albumin is theoretically hazardous due to the temporary small additional mechanical impediment to pulmonary blood flow. Although not reported with TechnoScan MAA Tc 99m there are three reports in the literature of deaths occurring after the administration of radioidinated aggregated albumin as a result of pre-existing primary pulmonary hypertension.

The contents of the TechnoScan MAA reaction vials are intended only for use in the preparation of TechnoScan MAA Tc 99m and are not to be directly administered to the patient. 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.

This radiopharmaceutical preparation should not be administered to patients with severe kidney disease unless the benefits to be gained outweigh the potential hazards. Similar care should be observed with patients who are pregnant or who are lactating. Ideally, examinations using radiopharmaceuticals, especially those elective in nature, with a normal pregnancy or lactation capacity 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 reactor or particle accelerator and whose experience and training will 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 minimal radiation exposure to the patient, consistent with proper patient management, and to insure minimum radiation exposure to occupational workers.

**ADVERSE REACTIONS:** Although no anaphylactoid reactions have been reported in patients following the administration of TechnoScan MAA Tc 99m, the possibility should be considered that hypersensitivity reactions may occur rarely in patients who, after the initial administration, receive additional doses a number of weeks after the initial dose.

**REFERENCES:**


**TechnoScan** PYP Bone Scan Kit

**CONTRAINDICATIONS:** None.

**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, with a normal pregnancy or lactation capacity 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 reactor or particle accelerator and whose experience and training will have been approved by the appropriate government agency authorized to license the use of radionuclides.

**PRECAUTIONS:** Both prior to and following TechnoScan PYP Tc 99m administration, patients should be encouraged to drink fluids. Patients should void as often as possible after the TechnoScan PYP Tc 99m injection to minimize background interference from accumulation in the bladder and unnecessary exposure to radiation.

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

**ADVERSE REACTIONS:** None.
Cardiovascular
In Black And White

All studies are $^{99m}$Tc albumin gated blood pool studies. All studies done on Ohio-Nuclear Series 160 DataSystem with the Series 100 Camera gated directly into the 2 separate 16K memories of the DataSystem. Studies performed in December, 1974.

32 year old male
History — Normal

160 DataSystem in half field mode

60 year old female
History — extensive infarct 1972, progressive shortening of breath, congestive heart failure, acute pulmonary embolism, recurring ventricular tachycardia, patient was defibrillated.

63 year old male
History — acute infarction Aug. '74, ventricular tachycardia, patient was defibrillated.
Nuclear Diagnosis
Or In Color

Normal — LAO View

Focal Akinesis — Anterior View

Diffuse Hypokinesis — Anterior View

32 year old male
History —
Normal

160 DataSystem
in half field mode

60 year old female
History — extensive infarct 1972, progressive shortening of breath, congestive heart failure, acute pulmonary embolism, recurring ventricular tachycardia, patient was defibrillated

63 year old male
History — acute infarction Aug. '74, ventricular tachycardia, patient was defibrillated.

Series 180 DataSystem

32 year old male
History —
Normal

160 DataSystem
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PICTURES OF PEOPLE
Monochrome display: of multicycle grey scale with matrix blocks interpolated out.
Real labelled contours.
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Curves displayed as continuous lines with labelled axes positive and negative, linear or log scale.
Paper hardcopy: life size (or other scaling) of all except isometric display. Formatted reports, including billing if required, may be generated cheaply.
Color display: for viewing of successive dynamic frames, etc.

PICTURES BY PEOPLE
Easy use: full plain text dialogue separated from display enables sophisticated use under people control without the usual secret code of computers.
Protocols: routine procedures may be chained into a protocol, with comment, for full automatic machine control.
Identification: it is impossible to have unidentified displays or to mix patient records in these systems.

PICTURES FOR PEOPLE
Dynamic: flexible visualization and quantification of physiological processes promotes positive diagnoses.
Static: finally available, static images significantly better than the raw camera output promote earlier more effective clinical diagnoses.

PICTURES FOR MORE PEOPLE
Dual Cameras: systems for two cameras with simultaneous dynamic capability without interference or record confusion.
Multi-tasking: the BETA executive automates the computer functions for clinical use, or permits the computer-orientated to access FORTRAN or ASSEMBLER and to multi-task up to 7 functions (memory size option permitting) simultaneously.
Multi-accessing: background tasks may be run such as radio immunoassay, E.K.G., radiotherapy planning, etc., simultaneously with gamma camera use (which has, of course, priority).
System Growth: a start may be made with a low-cost budget system. Large comprehensive systems may be built from standard modules.

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For clinical utility, ease of use, and computing power for your people.
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- MINITEC has its own handle for easy lifting, easy carrying and reduced hand exposure
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Designed for easy elution
- Sets up in seconds
- Elutes in only 3 minutes after eluent vial has emptied

Designed for safety
- No exposed tubing when eluting
- 1½” lead surrounds the MINITEC column
- 1½” of extra lead protection from MAXI-SHIELD™. Base, cap and interlocking half rings easily assembled on site . . . only the cap is removed for elution. (You get MAXI-SHIELD free with your first MINITEC Generator purchase.)

Designed for convenience
- MINITEC Generator is available in 50, 100, 200, 300, 400 and 500 mCi potencies. Delivery on Monday AM (precalibrated through Thursday) and Wednesday (precalibrated through Monday) provides maximum versatility to satisfy technetium requirements of your lab's work load.

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Minitec®
(Technetium 99m)
Generator

Minitec® (Technetium 99m) Generator provides a means of obtaining a sterile, non-pyrogenic supply of technetium 99m (99mTc) as sodium pertechnetate (Tc).

Indications: Sodium pertechnetate (Tc) is indicated for brain imaging, thyroid imaging, salivary gland imaging, blood pool imaging, and placenta localization.

Contraindications: At present, there are no known contraindications to the use of sodium pertechnetate (Tc).

Warnings: Radiopharmaceuticals should be used only by physicians who are qualified by specific training in the safe use and safe handling of radionuclides, produced by nuclear reactor or cyclotron, and whose experience and training have been approved by the appropriate federal or state agency authorized to license the use of radionuclides. This radiopharmaceutical should not be administered to women who are pregnant or who may become pregnant or during lactation unless the information to be obtained outweighs the possible potential risks from the radiation exposure involved. 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.

Since radioactive pertechnetate is secreted in milk during lactation, formula-feedings should be substituted for breast-feedings.

Important: Since material obtained from the generator may be intended for intravenous administration, aseptic technique must be strictly observed in all handling. Only the eluent provided should be used to elute the generator. Do not administer material eluted from the generator if there is any evidence of foreign matter.

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: At present, adverse reactions have not been reported following the use of sodium pertechnetate (Tc).

For complete prescribing information, consult package insert.

How Supplied: Minitec (Technetium 99m) Generator is available in potencies of 50, 100, 200, 300, 400, and 500 mCi. Supplied with the generator are vials of eluent containing 5 ml of a sterile, non-pyrogenic solution of 0.9% sodium chloride in water for injection. Also supplied is suitable equipment for eluting, collecting, and assaying the technetium 99m.
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Volume 16, Number 10
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ADVERSE REACTIONS: To date, no adverse reactions based on the use of this agent have been reported.

DOSEAGE AND ADMINISTRATION: Pertechnetate Sodium Tc 99m is usually administered by intravenous 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: 10-20mCi
- Thyroid Imaging: 1-10mCi
- Salivary Gland Imaging: 1-5mCi
- Placental Localization: 1-3mCi
- Blood Pool Imaging: 10-20mCi

Note: Up to 1 gram of reagent grade potassium perchlorate in a suitable base or capsule may be given orally prior to administration of Pertechnetate Sodium Tc 99m injection for brain imaging, placental localization and blood pool imaging.

The patient dose should be measured by a suitable radioactivity calibration system immediately prior to administration.
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CEA-ROCHE has been the subject of numerous clinical studies over the past four years to assess its value in cancer management. Most investigators have found this assay to be a useful biological marker for following the clinical course of patients with many types of internal carcinoma.* These studies have reported CEA-ROCHE to be a valuable adjunct in the overall evaluation of the patient’s clinical progress and prognosis by indicating...

- lack of response to or escape from therapy
- need for a change or reevaluation of therapy
- development of metastases and/or local recurrence
- the need for more intensive patient examination and observation since a rise in CEA titer has been reported to precede other evidence of recurrence by periods averaging 2 months and up to as much as 29 months.*

CEA-ROCHE may also be used...

- as an adjunct to other diagnostic tests or procedures in the patient suspected of having cancer

*Literature available upon request from Professional Services Department, Roche Laboratories, 340 Kingsland Street, Nutley, N.J. 07110.
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*Product of: Medi-Pix, Inc. (Pats. pending)

Note: Customer must specify type unit and manufacturer’s name of instrumentation with which the Multi/Pix is to be used.
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be continued...
### Suggested Guidelines for the Use of CEA-ROCHE as an Aid in the Management of the Cancer Patient*

<table>
<thead>
<tr>
<th>Type of Therapy</th>
<th>When to order CEA-ROCHE</th>
<th>Why order CEA-ROCHE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>During Periods of Active Therapy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery</td>
<td>As part of the presurgical workup and approximately 3 weeks after surgery</td>
<td>To monitor the effects of surgery&lt;sup&gt;1,4&lt;/sup&gt;</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>Prior to initiating radiotherapy, once at midpoint and/or upon completion of radiation</td>
<td>To monitor the effects of radiation&lt;sup&gt;1,2,5,6&lt;/sup&gt;</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>Prior to initiating chemotherapy, once at midpoint if therapy extends over a 6-week period and upon completion of chemotherapy</td>
<td>To monitor the effects of chemotherapy&lt;sup&gt;1,2,7&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>During Short-term Follow-up After Therapy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All types</td>
<td>Every 1 to 2 months during the first 6 months following therapy</td>
<td>To provide a basis for the reevaluation of therapy and/or an early indication of recurrence or progression of disease&lt;sup&gt;4,8&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>During Long-term Follow-up</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All types</td>
<td>Every 6 to 12 months</td>
<td>To provide an early indication of recurrence or progression of disease&lt;sup&gt;4,8,9,10&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>During Active Change in Clinical Condition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All types</td>
<td>Every two weeks until trend is established</td>
<td>To aid in determining the probable presence of metastases or local recurrence&lt;sup&gt;1,2,3,9&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

When using this assay remember CEA-ROCHE is…

- not specific for any one type of cancer
- best used periodically to establish a trend, usually identifiable within 30 to 90 days
- not an absolute test for malignancy and should not be used as the sole criteria for diagnosis (use with other diagnostic tests and procedures)
- not recommended as a screen to detect cancer

*These are general guidelines for the use of CEA-ROCHE only and may vary widely depending on such factors as patient status, clinical symptoms, type of malignancy, results of other tests and procedures.

**References**

1. CEA ROCHE: A Clinical Monograph. Hoffmann-La Roche Inc., Nutley NJ
When to use CEA-ROCHE as an aid in the postsurgical management of a cancer patient

A simulation of a representative patient showing graphically when to perform CEA-ROCHE assays using the suggested guidelines appearing on the reverse side.

<table>
<thead>
<tr>
<th>Management Phase</th>
<th>Periods of active therapy</th>
<th>Short-term follow-up after therapy</th>
<th>Long-term follow-up</th>
<th>Active changes in clinical condition*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior to surgery</td>
<td>Approx. 3 weeks after surgery</td>
<td>Every 1-2 months</td>
<td>Every 6-12 months</td>
<td>Every 2 weeks until trend is established</td>
</tr>
</tbody>
</table>

Baseline

Response to therapy

Monitor clinical progress

Indicate need for increased examination

*This phase may occur during any one of the three other management phases.

CEA-ROCHE may be ordered from
- Roche Clinical Laboratories, Inc., Five Johnson Drive, Raritan, New Jersey 08869 (201) 526-2400
- Major hospital and private laboratories

Additional information may be obtained from
- your Roche Representative
- the Professional Services Department, Roche Laboratories, 340 Kingsland Street, Nutley, New Jersey 07110 (201) 235-4873
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OR

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Chief, Nuclear Medicine Service (172)
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Category 1 credit has been applied for.
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Table of Contents

NUCLEAR MEDICINE—A Summary of Current Techniques 1
This section contains a summary of current practices in nuclear medicine, prepared by Dr. Leonard M. Freeman and M. Donald Blaufax of the Albert Einstein College of Medicine in New York. The clinical applications of the radiopharmaceuticals and imaging techniques listed in the Product Information section are discussed here. A detailed table of contents precedes the text material.

INDICES 301
This section, divided into five parts—Manufacturers' Index, Brand Name Index, Generic Name Index, Drug Classification Index and Instrumentation Index—is cross-referenced to simplify location of desired product information.

PRODUCT INFORMATION 301
Products are listed alphabetically by manufacturer. The information concerning the products described in this section has been prepared by the manufacturer, and edited and approved by the medical department, medical director, or medical counsel of each manufacturer.

INSTRUMENTATION, EQUIPMENT, RADIOGRAPHIC FILM 301
This section is divided into two parts: Part I—Specialized Instruments and Equipment; Part II—Radiographic Film and Accessories. Participating companies have described or listed categories of products manufactured along with the locations of their sales and service offices. Additional information about these companies and their products and services may be solicited by using the enclosed Reader Service Card.

EDUCATIONAL MATERIAL 491
This section alphabetically lists publishers and current books available pertaining to radiology and nuclear medicine. Current prices are included and a Reader Service Card is enclosed for your purchasing convenience.
A quiet revolution in

WHOLE BODY and ORGAN imaging.

The Cleon Imager fills basic needs in the busy nuclear medicine department. In "WHOLE BODY MODE," it handles patient caseloads three to five times as rapidly as a conventional rectilinear scanner, providing dual anterior and posterior skeletal images of such clarity and sharpness that repeat small-area scans to confirm diagnoses rarely are needed. Yet it can provide, in "ORGAN MODE," small-area organ images with speed comparable to (and in-depth resolution better than) a gamma camera.

Large crystal area (109 square inches in each detector head) gives high information density with reproducible results for given scan times. Interchangeable focused collimators permit use with various nuclides for skeletal and organ imaging, as well as tumor-screening. (The Imager has proved successful in detecting abnormalities in soft tissue when used with Ga-labelled agents.)

The Imager's display and recording options, enhancement of photo-images, and the capability to playback stored data greatly increase its clinical usefulness. Reliability, rapidity of operation, and high patient turnover mean increased utilization and economy, along with improved diagnostic efficiency.

Bone image of 58-year-old male.
Imaging agent: 15 mCi Tc-99m Pyrophosphate.
Time-to-scan (2 views): 24.6 minutes.
Image courtesy of Cedars of Lebanon Hospital, Los Angeles.
BRAIN IMAGE.
Imaging agent: 15 mCi Tc-99m Perlechnetate.
Time-to-scan (4 views): 13.7 minutes.
Image courtesy of Cedars of Lebanon Hospital, Los Angeles.

LUNG IMAGE SERIES.
Imaging agent: 1.5 mCi Tc-99m MAA.
Time-to-scan (8 views): 16 minutes.
Image courtesy of Leonard Morse Hospital, Natick, MA.

LIVER AND SPLEEN IMAGE OF PATIENT SHOWING SPLENOMEGALY AND CIRRHOTIC LIVER.
Imaging agent: 1.5 mCi TC-99m Sulfur Colloid.
Time-to-scan (4 views) 14 minutes.
Image courtesy of Cedars of Lebanon Hospital, Los Angeles.
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The 1335A gives them excellent detailing as each area of the body is scanned. The display's very small spot size focuses uniformly over the entire 8 x 10 division screen regardless of writing speed or intensity level. This eliminates the need to refocus at each intensity setting and assures crisp images, even around the outer edges of the screen.

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