

The Triosorb Sponge is an in vitro test providing accuracy, speed and convenience.

Accuracy: Because factors such as red blood cells and exogenous iodine have been eliminated from consideration in the Triosorb Test, it is unsurpassed in accuracy.

Speed: With only 3 washes and no need for double pipettings, shakers, or incubators, the Triosorb Test can be more rapidly performed than any other T-3 test.

Convenience: Available in a disposable kit ready for immediate use at room temperature. There is no dilution or pipetting of radioactive materials with Triosorb. It is the simplest and most convenient thyroid function test to perform.

"The resin sponge (Triosorb) technique is superior to the erythrocyte method for performing the I¹³¹ T3 test in terms of simplicity, convenience and elimination of errors characteristic of the erythrocyte procedure."

"The T-3 uptake test was vastly improved by a resin-sponge . . . (Triosorb) . . . which is offered as a replacement for the red cells as well as for the loose granular resin which varies from day to day."²

Triosorb is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required.

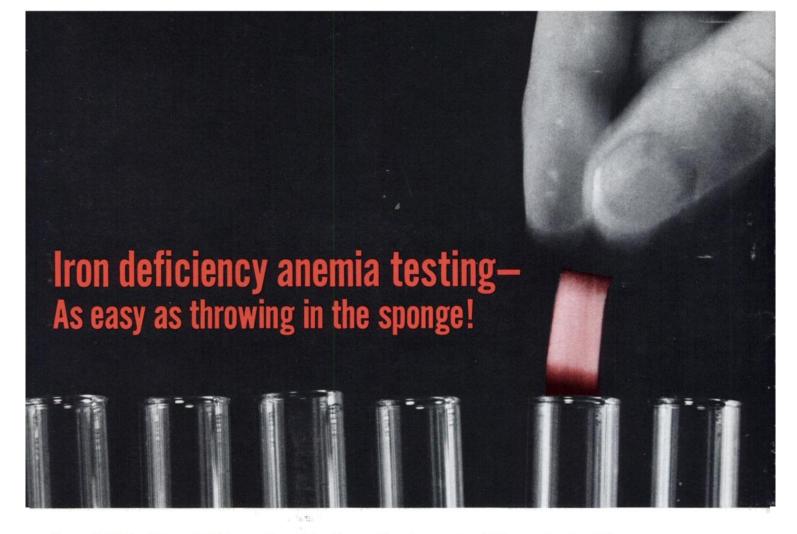
- 1. McAdams, G. B., and Reinfrank, R. F., J. Nuclear Med., 5:112, 1964.
- 2. Manfredi, O. L., et al., J. Nuclear Med., 7:72, 1966.





T-3 DIAGNOSTIC KIT

ABBOTT LABORATORIES NORTH CHICAGO, ILLINOIS



Irosorb-59 is the second in a series of in vitro radio-pharmaceutical tests developed by Abbott Laboratories. The Irosorb-59 Sponge offers a remarkable degree of accuracy and simplicity that makes routine screening a practical matter.

Accuracy: The diagnostic accuracy of the test is unsurpassed in measuring latent ironbinding capacity. What's more, unlike other methods, it can be used following the administration of a hematinic.

Speed: Irosorb-59 can be washed quickly, there being only 3 washes. No incubators or shakers are needed.

Convenience: Irosorb-59 is in a disposable kit form ready for immediate use at room temperature.

Safety: No dilution or pipetting of radioactive material is necessary. Since the patient receives no radioactive materials, the test can be used in children, pregnant women, or in adults without any hazard of radioactivity.

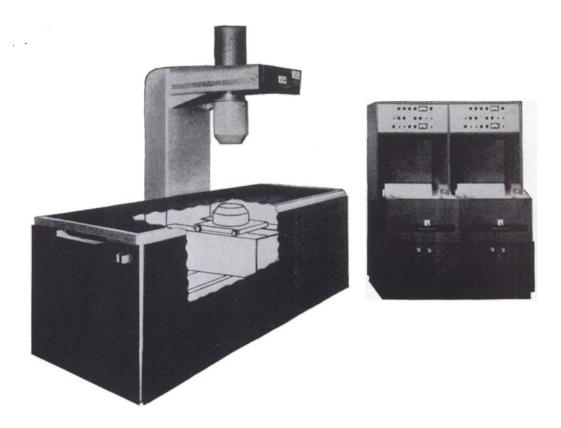
Flexibility: The test does not require the presence of the patient for the determination of the radioactivity. Serums can be frozen and saved until a sufficient number has been collected to run a rack full of tubes at one time, or serum samples can be mailed to personnel performing the test.

Irosorb-59 is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required.



RADIOISOTOPE SCANNER

MODEL 54-FD DUAL, OPPOSED, 5-INCH CRYSTALS



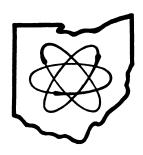
The demonstrable advantages of a dual 5-inch crystal scanner should be investigated by all those with a high clinical load who desire high resolution, rapid scans of both large and small organs or of the whole body.

The two scanning heads, exactly opposite each other, have separate, and complete electronics and print-out so that the data collected by each crystal may be used separately, in coincidence, or additively.

Mechanical and electronic specifications are the same as for our other large-crystal radioisotope scanners Models 54F and 54H:

Scanning speeds continuously variable to 200 inches per minute (500 cm/min.); adequate shielding even for high energy gamma emitters (up to 3 inches lead and 1 inch steel); high resolution crystals (9 per cent or better); accurate, reproducible scanning speeds and line spacing; no scalloping at any speeds; low background crystals (2 inch thick pure NaI light pipe); Gammagraphic (patent pending) or slit mask photoscans; unequivocal one year warranty anywhere in USA or Canada.

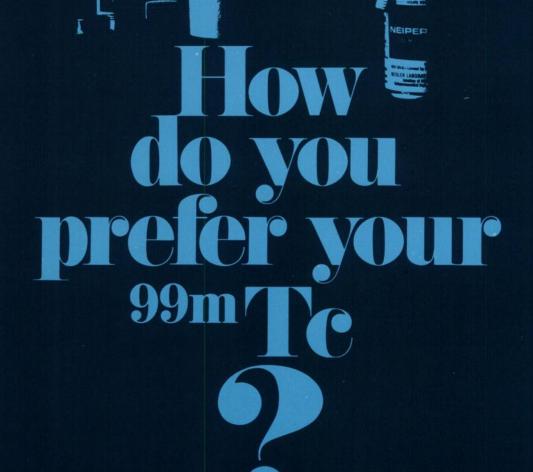
This unparalleled radioisotope scanner is priced at \$28,750 with delivery in 90 days guaranteed.



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INDICATIONS: Brain scanning. CONTRAINDICATIONS: Should not be administered to pregnant or lactating women, or to patients under the age of 18 years, except when necessary diagnostic information cannot be obtained by other types of studies or can only be obtained at a risk greater than the radiation exposure caused by this drug. WARNINGS: As with all radiopharmaceuticals, dose should be limited to smallest reasonable amount consistent with greatest value in terms of relevant diagnostic information. PRECAUTIONS: Approved radiation safety precautions should be maintained at all times. ADVERSE REACTIONS: None reported to date; however, patients should be carefully observed. DOSAGE AND ADMINISTRATION: 2 to 10 mCi, administered by intravenous injection.

Physicians should consult product package insert before administering.



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Subsidiary of UNION CARBIDE CORPORATION Radiopharmaceutical Dept. P.O. Box 433, Tuxedo, New York 10987

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SUPPLIED: In lead-shielded vials in convenient COMPUTERCAP™ packaging; 10 or 15 mCi at the time of calibration.



a research concept in radiodiagnostics

Some significant advances in thyroid-testing technique

In the continuing research for superior thyroid function tests, the in vitro Tresitope procedure represents important refinements in safety and simplicity—with longer shelf life of test material.





The Tresitope Diagnostic Kit offers significant refinements in the performance of the resin uptake test for thyroid function. First, it employs 1¹²⁵ which permits a much longer shelf life of test materials than 1¹³¹ and also lowers radiation exposure to the technician. Second, the kit is completely self-contained—no other equipment is required. And, as an *in vitro* test, it avoids exposing patients to any ionizing radiation, and the results are unaffected by the prior administration of most iodinecontaining preparations. Furthermore, the technique is simple enough so that the test can be run in any hospital or office laboratory with suitable isotope facilities, and the amount of radioactivity is sufficiently small so that no AEC licensing is necessary, provided that not more than 100 vials of Liothyronine 1¹²⁵ Buffer Solution are on hand at any one time.

The technical difficulties encountered in preparing different batches of resin sponges are avoided.

Moreover, because it is an *in vitro* test, it is diagnostically significant in the presence of unrelated nonthyroidal factors that are known to complicate interpretation of other test findings. More specifically, the test is unaffected by anxiety, hypertension, congestive heart failure, or administration of mercurial agents. And it is unaffected by prior administration of most iodinecontaining preparations that can completely nullify the results of other thyroid function tests for considerable periods.

I¹²⁵ versus I¹³¹

The use of I¹²⁵ rather than I¹³¹ to label the liothyronine employed in the test is also advantageous. Employing I¹²⁵ considerably lengthens the shelf life of the liothyronine because I¹²⁵ has a longer half-life and also because it emits no beta rays to affect the stability of liothyronine. The half-life of I¹²⁵ is considered to be 60 days while I¹³¹ has a half-life span of approximately 8 days. Other advantages of I¹²⁵-labeled material include lowered radiation exposure to the technician, yet radioactivity is well within good counting range of modern standard equipment and *in vitro* counting is quite efficient.

convenient, safe, and practical

The Tresitope Diagnostic Kit was specifically designed so that the test procedure is simplified and the possibility of radioactive contamination of the laboratory is minimized. The kit contains 10 capped vials, each containing Liothyronine I¹²⁵ Buffer Solution (activity does not exceed 0.1 microcurie per vial), 10 plastic tubes of resin powder, and 10 separate droppers to avoid crosscontamination. The polystyrene carrier is also a test-tube rack, and it has been modified to facilitate washing of the resin powder. The reverse side of the package insert becomes the record sheet for test results.

NOTE: While the resin uptake test is a very useful aid in the evaluation of thyroid function, it should not be used as the sole basis for such an evaluation. In any patient, the clinical state is probably the best indication of thyroid status, and any laboratory test must be interpreted with caution when test results do not agree with clinical evidence.

Precautions

Use appropriate radiation precautions in handling, identifying and discarding all radioactive material. Remember that minute amounts of radioactivity remain on components used in the test, including the polystyrene platform when it is used in performing the test, and particularly when the Tresitope Suction Method is used for a number of tests.

Tresitope® Diagnostic Kit

Squibb Resin Uptake Kit with Liothyronine I¹²⁵ Buffer Solution

'The Priceless Ingredient' of every product is the honor and integrity of its maker.



cyclotron offers hew



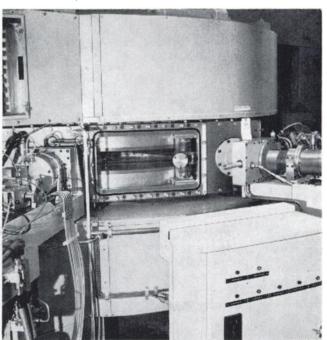
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Bi207 Br77	l126 Ar42/K42 Rb83/Kr83	V48/49 W181 Xe127
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 - No. A.E.C. LICENSING REQUIRED. Long vials for easier sample handling.
 - Easy step-by-step procedure. Available in 1125 for longer shelf life.

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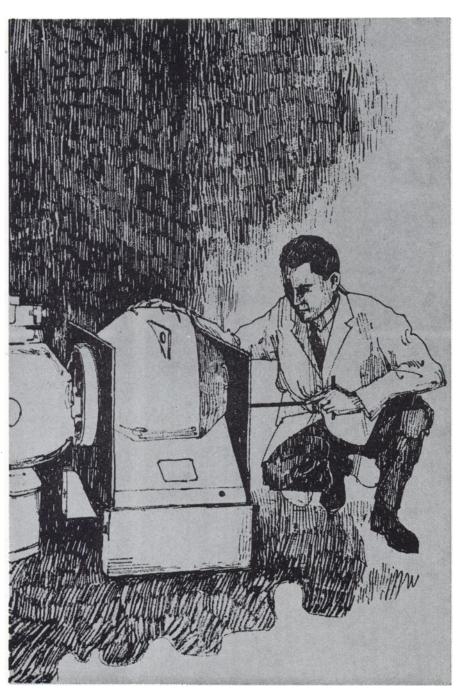


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Radioactive isotopes of the elements shown above are available from New England Nuclear, largest American producer of radioactive chemicals for research.

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the entire procedure – even without any relevant prior experience.

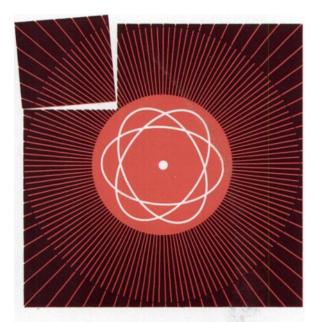
- **6. Safely** Patient safety derives from points 2 and 3 above and this: every elution is easily and precisely checked for possible molybdenum breakthrough; simple, accurate radioassay materials are included for testing all elutions. Hospital personnel safety is related to point 5 above since speed reduces exposure, and: the generator never leaves its ³/₄" lead shield or its 6 inch diameter can; and the construction is unbreakable.
- 7. Reliably Semi-automatic operation eliminates the risk of improper elution with the wrong solvent, the wrong volume of solvent, or at the wrong rate. (See also: most other points above.)

For more information, contact any Picker Nuclear office or write for file 131B.



a research concept in radiopharmaceuticals

Are you ordering radioisotopes piecemeal?



Are you ordering separately after each referral and then rescheduling the patient? Most drugs are on hand when the patient needs them.
Why not radiopharmaceuticals?

If a hospitalized patient needs blood, he can have it within minutes. If an ill patient needs penicillin, it can be prescribed immediately. But if he should need a radio-diagnostic test, he may have to wait several days for the material to arrive.

There was a time when such waiting was necessary, but no longer. Many of the available radio-pharmaceuticals have now reached the stage when they can be integrated into the mainstream of medical and hospital practice and can be "at hand" when needed. In particular, the unique 5-day precalibration of Squibb radioisotopes makes the

need for ordering separately after each referral a thing of the past. Most laboratories can pretty well estimate what their approximate weekly need will be, so that everything can be ordered in one shipment to arrive on any given day. Thus, when a patient is referred, the diagnostic agent is already on hand and the test can be run immediately. Moreover, there is only one shipping charge. And if the material arrives for use during the latter part of the working week, Squibb will bear the cost of radioactive decay over weekends.

If you want to know more about this unique service feature, please contact your Squibb professional representative. He can arrange for a weekly "blanket order" that is shipped to you automatically for arrival on any day you specify.

It is also important that you know of the unique Squibb "prefill" program that anticipates and programs radiopharmaceutical parenteral production so that sterility and pyrogen test data are "in house" before the material is released. Thus, Squibb good manufacturing practices assure—even with radiopharmaceuticals—the same high standards you would expect in any regular parenteral preparation.

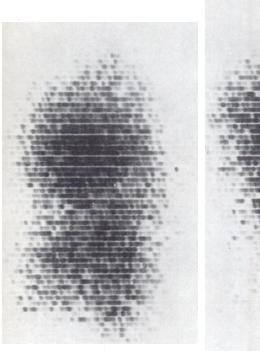
These are only a few of the many important features and services available to you when you use Squibb radioisotopes. Your Squibb representative will be happy to give you more details.

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unique 5-day precalibration lets you have your entire week's needs at one time

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χv







Lung scan demonstrating abnormal perfusion of right lung, female patient, age 58; courtesy Washington University School of Medicine. (AP view at left, PA view at right.)

Proven Advantages of Lung Scanning

- "... indicate the site and magnitude of pulmonary arterial obstruction before this is recognizable radiographically."
- "... delineate normally vascularized pulmonary tissue and assess the pulmonary vascularization of roentgenographically obvious abnormalities ..."²
- "... estimating the differences in pulmonary arterial perfusion between regions of the same lung."
- "...locates the nonfunctional or avascular region and thus supplements conventional

- pulmonary function tests and can replace differential bronchospirometry."⁴
- "... estimation of regional pulmonary function, particularly in patients with emphysema, bronchiectasis, and chronic pulmonary tuberculosis." 5
- Taplin, G.V., et al., Scientific Exhibit, Society of Nuclear Medicine, June, 17-20, 1964.
- Quinn, J. L., III, Whitley, J. E., Scintillation Scanning in Clinical Medicine, Quinn, J. L., III, Editor, W. B. Saunders Co., Philadelphia & London, 1964, p. 148.
- 3. Lopez-Majano, V., et al., Radiology, Vol. 83: No. 4, Oct. 1964, p. 698.
- Taplin, G. V., et al., Radioactive Pharmaceuticals, AEC Symposium Series #6, USAEC, Apr. 1966, p. 542.
- 5. Taplin, G. V., et al., Radioactive Pharmaceuticals, AEC Symposium Series #6, USAEC, Apr. 1966, p. 541.

LUNG SCANNING with MAA I 131

Aggregated Radioiodinated (I 131) Serum Albumin (Human)

Controlled Particle Size...

A KEY TO GOOD SCAN RESOLUTION

Proper control of aggregate particle size is essential to obtaining good scan resolution.^{1,2} To assure this control, Mallinckrodt/Nuclear has instituted special production techniques which effectively minimize the number of small particles that do not contribute scanning information because they clear the arteriole - capillary bed too rapidly.

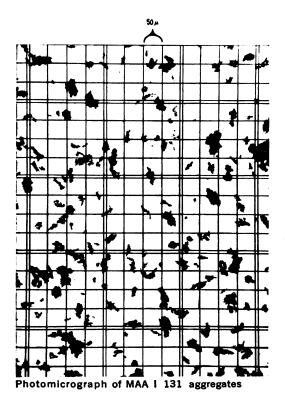
This "controlled uniformity" makes a positive contribution to good scan resolution, providing highly efficient temporary deposition of the scanning agent in the capillary field.

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sizes as small as 500 microcuries. It may be used with reliance on its proven safety, shown by thousands of scans in hospitals all over the country. Lung excretion half-time is approximately 1 - 6 hours, and urinary excretion of 50 to 80\% of the injected dose occurs in approximately 24 to 48 hours.3

Mallinckrodt/Nuclear (formerly Nuclear Consultants) produces a complete line of radiopharmaceuticals for scanning, diagnostic tests and therapy. For further information: call collect to the Mallinckrodt/Nuclear laboratory nearest vou.

- 1. Wagner, H. N. Jr., Scintillation Scanning in Clinical Medicine, Quinn, J. L., III, Editor, W. B. Saunders Co., Philadelphia and London, 1964, p. 158.
- 2. Taplin, G. V., et al., Radioactive Pharmaceuticals, AEC Symposium Series #6, U.S.A.E.C., April 1966, p. 547.
- 3. Taplin, G. V., Health Physics, Dec. 1964, p. 1219.





formerly Nuclear Consultants
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Sterile, non-pyrogenic aqueous suspension of heat produced aggregates of albumin, 90% of which are between 10 and 90 microns in size, and none larger than 150 microns.

Concentration is approximately 500 μ /c/ml and specific activity approximately 500 μ c/mg at time of calibration.

Contraindications

Radiopharmaceuticals are contraindicated in pregnancy and during lactation and in persons less than 18 years old unless, in the judgment of the physician, the situation requires their use. In acute cor pulmonale, the procedure may be hazardous due to the temporary small additional mechanical impediment to pulmonary blood flow.

Side Effects

Side Effects

The results of extensive clinical studies with MAA I 131 have shown it to be extremely well tolerated. However, the literature does reveal one case in which administration of the product was associated with the death of a patient seriously ill with extensive adenocarcinoma involving the lungs. Antigenic reactions have not been reported, but the possibility of such reactions attendant to the introduction of serum albumin into the patient's immunological system should be considered.

FIELD REPRESENTATIVE

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Heavy emphasis on research in the field of nuclear medicine has positioned Abbott Laboratories into the forefront of the radio-pharmaceutical industry—but we know that the advanced technology of today is only the beginning so we're stepping up the pace, moving ahead, with a major expansion of our product line and our entry into dynamic new markets.

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June 27-30, 1968

Chase-Park Plaza Hotel

St. Louis, Missouri

Call for Scientific Exhibits

The Program Committee is now selecting Scientific Exhibits for the 15th Annual Meeting. The committee solicits both large and small scientific exhibits from both members, non-members and organizations. To plan space, the Program Committee must have an abstract of each exhibit including the following:

Exhibitor's Name:

Underline the responsible exhibitor.

Title of Exhibit:

Maximum of 10 words.

Abstract:

Maximum of 100 words.

Indicate the minimum number of front feet required to precisely display exhibit. The abstracts will be edited by the Program Committee and possibly published in the final program.

Send abstracts on or before May 1, 1968 to:

E. James Potchen, M.D.
Director, Nuclear Medicine
Mallinckrodt Institute of Radiology
510 S. Kingshighway
St. Louis, Missouri 63110

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NEW

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The need for a complete and thorough reference in a relatively new field of technology – health physics – has at last been filled

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An Introduction to Health Physics

Edited by KARL Z. MORGAN and JAMES E. TURNER, both of Health Physics Division, Oak Ridge National Laboratories, Tennessee

Since World War II, when the new science of health physics developed, there has been a serious scarcity of adequate books about radiation protection. Now, for the first time, chapters and materials written by "the" experts in the field have been pulled together to form the one comprehensive volume that will fill the vital need in this increasingly important field.

Principles of Radiation Protection offers a thorough presentation of the physical, biological, and medical principles of radiation protection. It contains the basic tools, not only for the practicing health physicist in the field, but also for the administrator who must determine standards and procedures.

Special features ...

- Focuses on physical description of radiation, its interaction with matter, and radiation dosimetry
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- Describes biological effects of radiation
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- Discusses prevention of criticality accidents

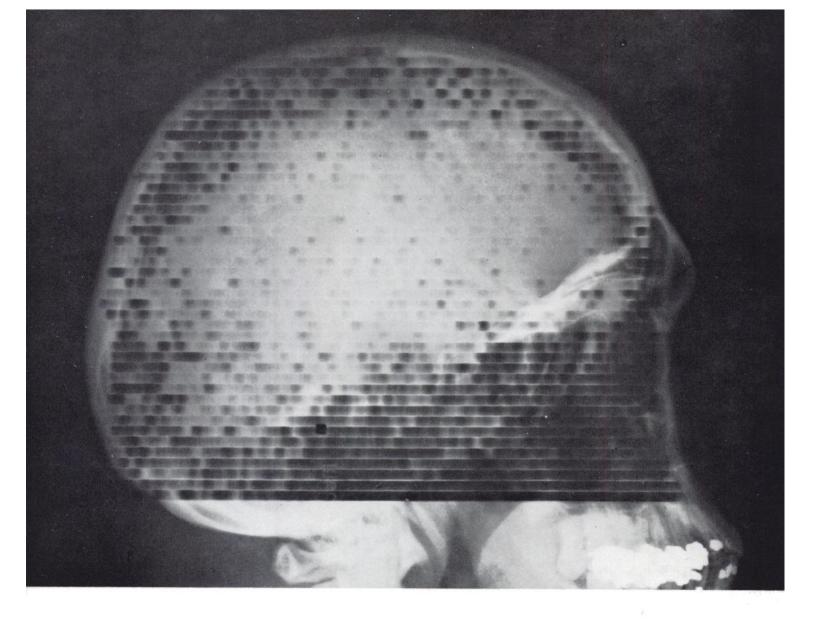
1967

622 pages

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Abbott announces Pertscan-99m SODIUM PERTECHNETATE To 99m

For brain scanning, Pertscan-99m provides more information with less radiation to the patient than any other related cerebral test—whether other radioisotopes or x-rays.

SPEED: Gives each projection fast—15 minutes or less with rectilinear scanners, 2 to 4 minutes with a camera.

CONVENIENCE: Supplied in a ready-to-use single dose vial.

SAFETY: Carrier-free, non-pyrogenic, sterile, and isotonic.

FLEXIBILITY: Oral or intravenous administration in two sizes: 10 millicuries in 4 ml. and 15 millicuries in 6 ml.

SHIPMENTS: Monday through Friday—and Sunday... allows scheduling of brain scans 6 days a week—Monday through Saturday.

INDICATIONS: Adjunctive diagnostic aid in detecting and localizing intracranial neoplastic (primary or metastatic) and non-neoplastic lesions.

CONTRAINDICATION: Radio-pharmaceutical agents should not be administered to pregnant women or to persons less than 18 years old unless the indications are very exceptional.

PRECAUTIONS: Care should be taken to ensure minimum radiation exposure to the patient as well as all personnel; to prevent extracranial contamina-

tion because this can lead to erroneous interpretation; and to differentiate areas of abnormal activity from areas of normal vascular activity.





Abbott announces Macroscan -131

AGGREGATED RADIO-IODINATED (1131) ALBUMIN (HUMAN)

If it's a pulmonary problem, Macroscan-131 pictures it!

Pulmonary embolism, suspected: To confirm (or rule out) its occurrence.

Chronic pulmonary tuberculosis: To estimate unilateral and regional function and perfusion of the lungs.

Emphysema: To evaluate the degree of focal lack of perfusion.

Pneumonitis: To evaluate the decreased regional blood flow that occurs without obstruction of vessels.

Lung tumors: To evaluate the regional ische-

mia resulting from compression or obstruction of pulmonary arteries.

Surgery and/or other therapy for lung disorders: To evaluate the effectiveness of therapeutic measures.

Macroscan-131 is sterile and non-pyrogenic. It is ready to use and should not be heated prior to use.

INDICATIONS: For scintillation scanning of the lungs to evaluate total, unilateral, and regional arterial perfusion to the lungs.

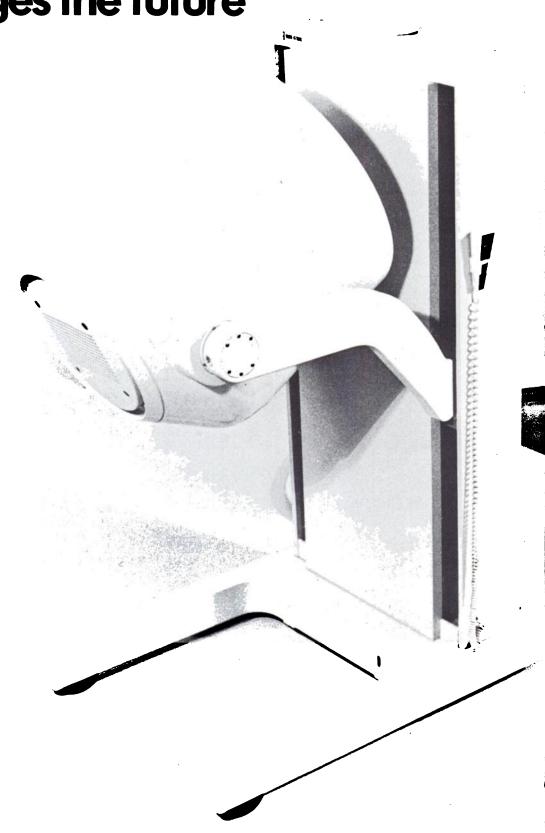
CONTRAINDICATION: Radio-pharmaceutical agents should not be administered to pregnant women, nursing mothers, or to persons less than 18 years old unless the indications are very exceptional.

PRECAUTIONS, SIDE EFFECTS: Care should be taken to administer the minimum dose consistent with safety and validity of data. The possibility of an immunological response to albumin should be kept in mind when serial scans are performed. There is a theoretical hazard in acute cor pulmonale, because of the temporary small additional mechanical impediment to pulmonary blood

flow. A possible case of urticara has been related to a similar preparation. The thyroid gland should be protected by prophylactic administration of concentrated iodide solution.



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