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Convenience: Triosorb is in a disposable kit ready for immediate use at room temperature, making it the simplest and most convenient thyroid function test to perform.

McAdams* reported that "The resin sponge (Triosorb) technique is superior to the erythrocyte method for performing the I^{131} T3 test in terms of simplicity, convenience and elimination of errors characteristic of the erythrocyte procedure."

Triosorb is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required. Because Triosorb will enable far more screenings to be performed, this procedure may soon become as standard as today's blood counts and urinalyses.



*McAdams, G. B. and Reinfrank, R. F., Jrnl. Nuclear Med., 5:112, Feb., 1964.

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Flexibility: The test does not require the presence of the patient for the determination of the radioactivity. The 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.

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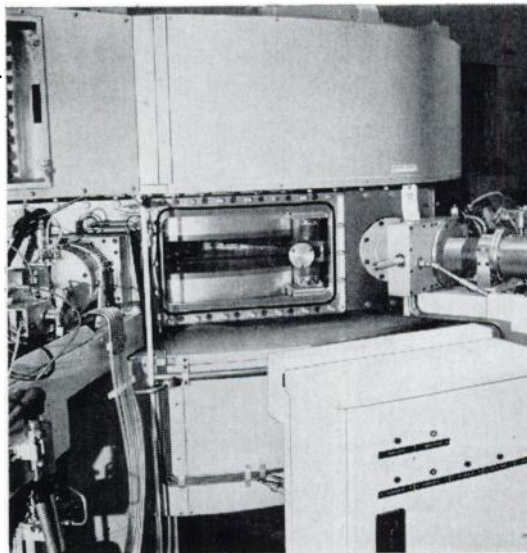


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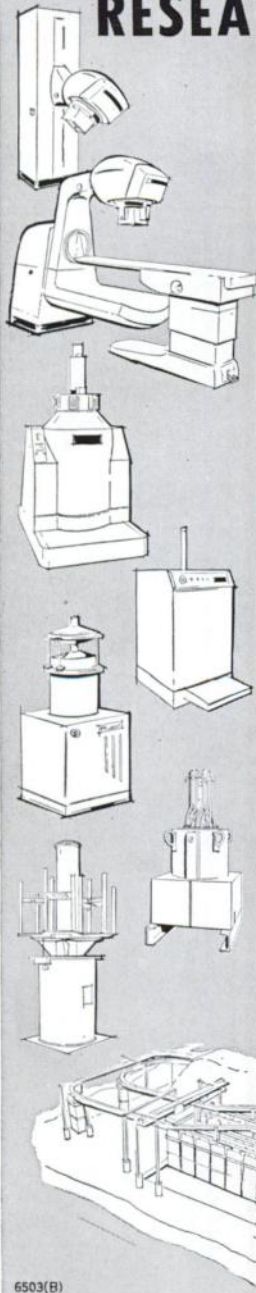
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New help in diagnosing pulmonary problems

Scintiscanning of the lungs now offers a new approach to the diagnosis of pulmonary disease.¹ With use of macroaggregated radio-iodinated I^{131} albumin, lung scanning has been found to be simple, rapid and relatively safe,^{2,3} and is invaluable as an adjunct to other diagnostic procedures whenever information about pulmonary vasculature is desired.

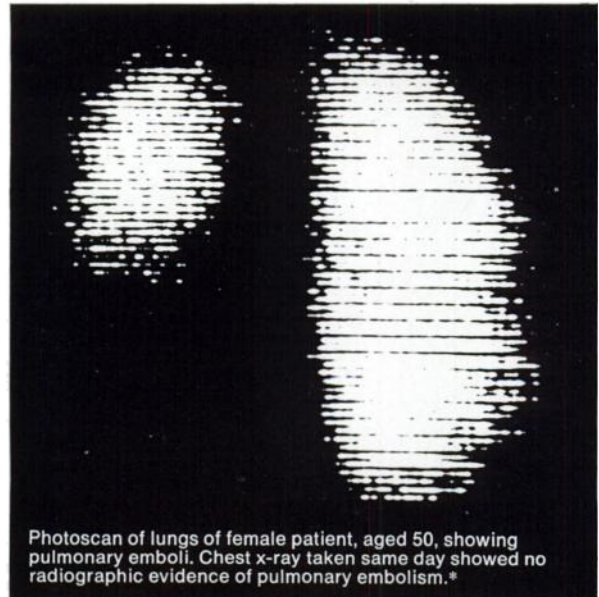
Perhaps the most useful application of the lung scan has been for the early detection of pulmonary embolism where "... it appears that the lung scan can point to the site of embolic lesions before signs of lung infarction are recognizable on plain chest films."³ This is important, for with the development of new means of treating pulmonary embolism, the need for improved diagnostic ability has increased. For example, the availability of anticoagulant drugs to prevent further thrombosis and of proteolytic agents to dissolve thrombi already formed, the use of surgical therapy (such as ligation or plication of the inferior vena cava and even pulmonary embolectomy) — all require more accurate diagnostic procedures.^{4,5}

Of course, pulmonary arteriography can give an immediate positive demonstration of an obstruction in the pulmonary circulation as soon as it occurs, but this procedure is time consuming and technically difficult to perform. It necessitates injection of large quantities of high density contrast medium directly into the pulmonary artery, and it also requires cardiac catheterization (with some risk of dislodgement of venous thrombi). Moreover, experience has shown that patients with pulmonary hypertension may tolerate injections of contrast material poorly. Other examinations, such as x-ray study of the chest and electrocardiography, are rarely definitive.⁴

In contrast, lung scanning with Albumotope-LS is a simple and direct adjunctive measure; reliable and virtually without risk of morbidity to the patient. And unlike pulmonary arteriography it does not require cardiac catheterization and involves only minimal inconvenience to the patient. All that is required is the i.v. administration of a relatively small amount of the isotope. And the test may be supplemented with other procedures when necessary.

Although the lung scan has been used most frequently for the detection of pulmonary emboli, it can provide useful information in the diagnosis and evaluation of other pulmonary problems. For example, a recent report⁶ in the September, 1966, issue of *Circulation* discusses the potential applicability of the technique in the detection and assessment of mitral valve disease. According to the authors, the technique has been found useful in screening patients with clinical findings of mitral valve disease who were not considered symptomatic enough to warrant cardiac catheterization... in the preoperative study of patients so ill that left heart catheterization was unusually hazardous... and in determining whether the pulmonary venous pressure is elevated in patients with known severe pulmonary arterial hypertension. In these latter patients it is often difficult to measure pulmonary arterial wedge pressure reliably and the more extensive manipulations necessary for left heart catheterization may be poorly tolerated. Thus, assessment of the distribution of pulmonary arterial blood flow by lung scanning affords a means for determining the existence of pulmonary venous hypertension, which suggests the presence of potentially correctable lesions, such as mitral stenosis or cor triatriatum.⁶

New radioisotope scanning procedure can help detect the vascular changes of pulmonary disease before they show on chest films



Photostatic of lungs of female patient, aged 50, showing pulmonary emboli. Chest x-ray taken same day showed no radiographic evidence of pulmonary embolism.*

Albumotope®-LS Squibb Aggregated Radio-Iodinated (I^{131}) Albumin (Human)

References:

- (1) Quinn, J. L., III; Whitley, J. E.; Hudspeth, A. S., and Prichard, R. W.: *Radiology* 82:315 (Feb.) 1964.
- (2) Sabiston, D. C., Jr., and Wagner, H. N., Jr.: *Ann. Surg.* 160:575 (Oct.) 1964.
- (3) Haynie, T. P.; Hendrick, C. K., and Schreiber, M. H.: *J. Nucl. Med.* 6:613, 1965.
- (4) Wagner, H. N., Jr., et al.: *New Eng. J. Med.* 271:377 (Aug. 20) 1964.
- (5) Quinn, J. L., III; Whitley, J. E.; Hudspeth, A. S., and Watts, F. C.: *J. Nucl. Med.* 5:1 (Jan.) 1964.
- (6) Friedman, W. F., and Braunwald, E.: *Circulation* 34:363 (Sept.) 1966.

Dosage and Scanning Procedure: Recommended scan doses of 150 to 300 microcuries of aggregated radioiodinated (I^{131}) albumin depending on the instrumentation available and the technics employed. Scanning immediately follows administration of slow intravenous injection. Patient may be placed in a prone or supine position.

Side Effects and Precautions: Radioisotopes should not be used in pregnant women, nursing mothers, or in patients under 18 years of age unless indications are very exceptional.

There have been no reported cardiovascular or other untoward effects attributable to Albumotope-LS. Extensive clinical use of Albumotope-LS has not borne out the hypothetical possibility that particles of large size might induce deleterious cardiovascular or cerebrovascular effects. The product appears to possess no antigenic properties. One patient with a known history of angioneurotic edema, who had been given Lugol's solution in conjunction with aggregated radioalbumin similar to Albumotope-LS, developed urticaria. **Available:** As a sterile, non-pyrogenic, aqueous suspension. Each cc. contains approximately 1 mg. aggregated human serum albumin labeled with 800-1500 microcuries of iodine-131 at time of manufacture. Also contains 0.9% benzyl alcohol as a preservative.

*Illustration furnished through the courtesy of George V. Taplin, M.D., Harbor General Hospital, Torrance, California.

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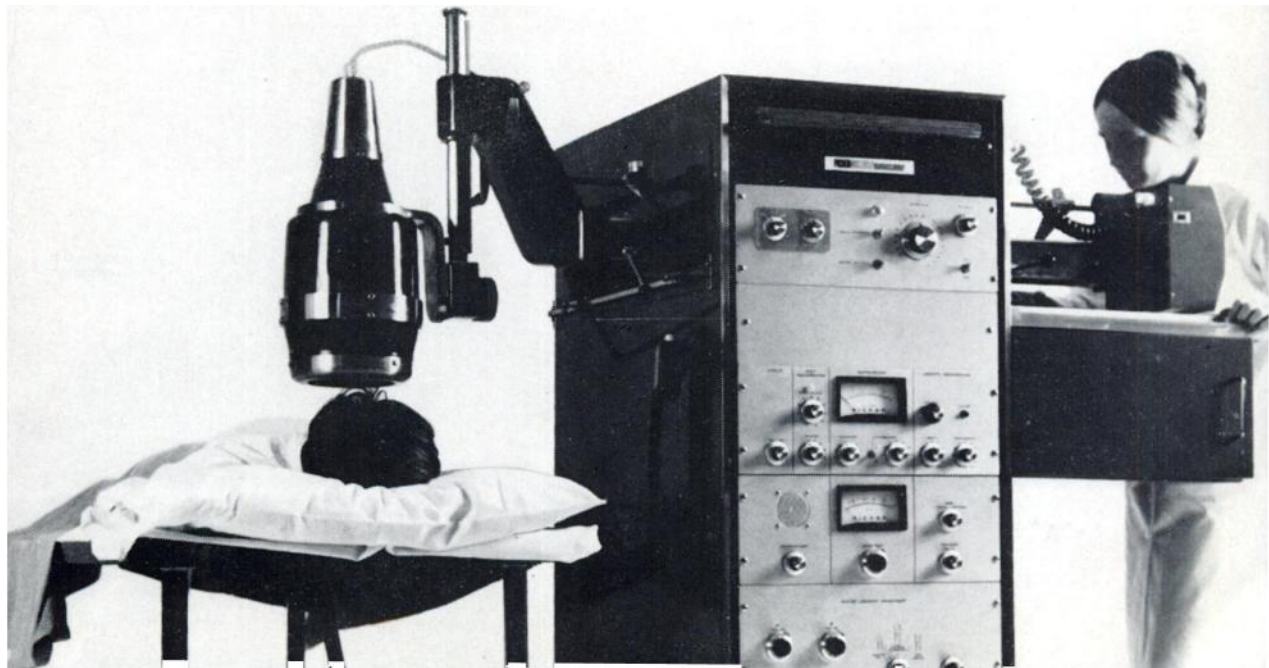
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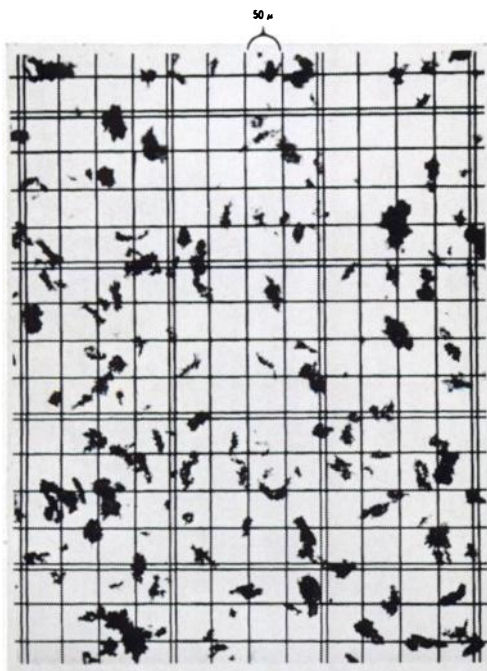
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1. Wagner, H. N. Jr., Scintillation Scanning in Clinical Medicine, Quinn, J. L., III, Editor, W. B. Saunders Co., Philadelphia and London, 1964, p. 158.

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.



Photomicrograph of MAA I 131 aggregates



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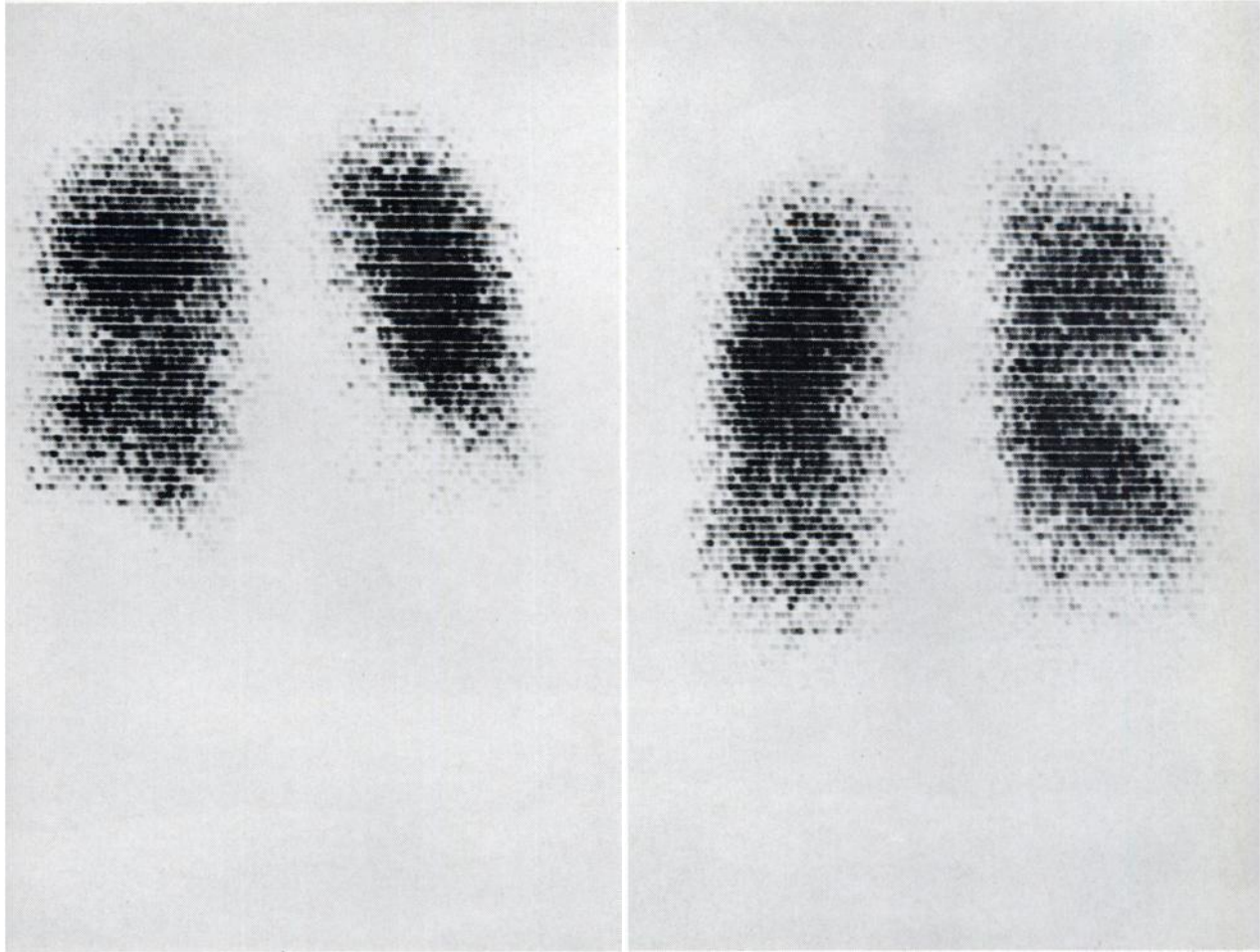
Concentration is approximately 500 $\mu\text{c}/\text{ml}$ and specific activity approximately 500 $\mu\text{c}/\text{mg}$ at time of calibration.

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

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.



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.”¹

“ . . . 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.”³

“ . . . locates the nonfunctional or avascular region and thus supplements conventional

pulmonary function tests and can replace differential bronchspirometry.”⁴

“ . . . estimation of regional pulmonary function, particularly in patients with emphysema, bronchiectasis, and chronic pulmonary tuberculosis.”⁵

1. Taplin, G.V., et al., Scientific Exhibit, Society of Nuclear Medicine, June, 17-20, 1964.
2. 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.
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5. Taplin, G. V., et al., Radioactive Pharmaceuticals, AEC Symposium Series #6, USAEC, Apr. 1966, p. 541.

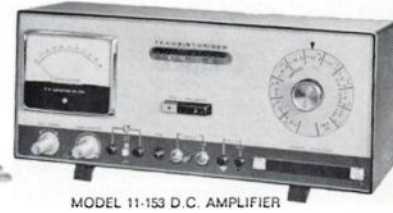
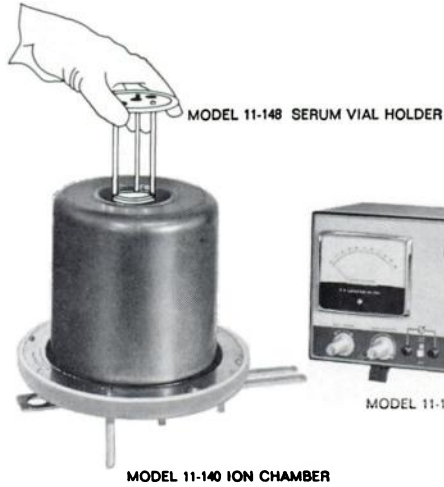


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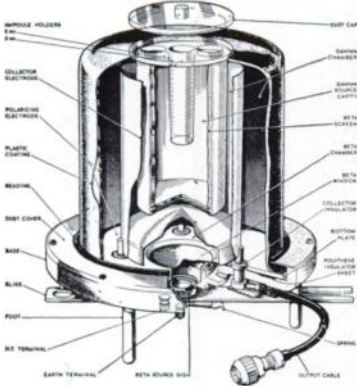
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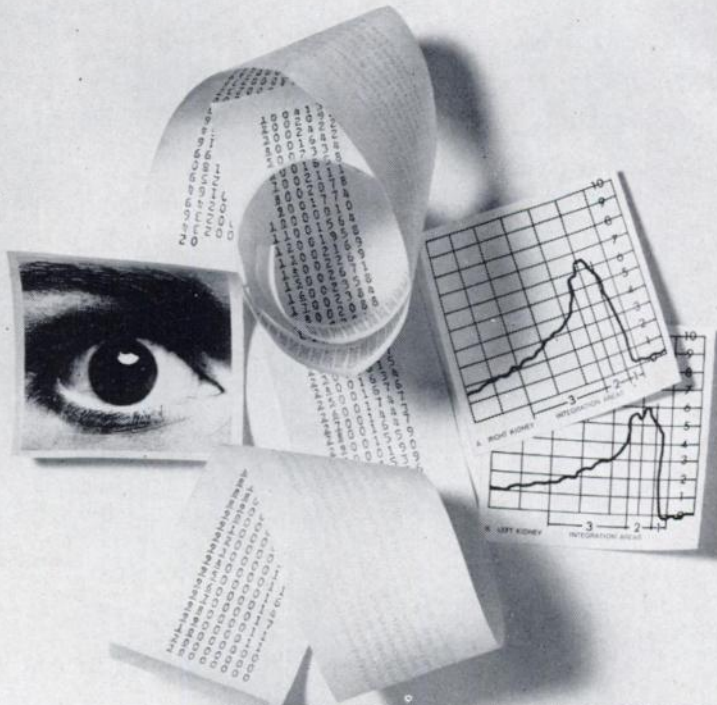
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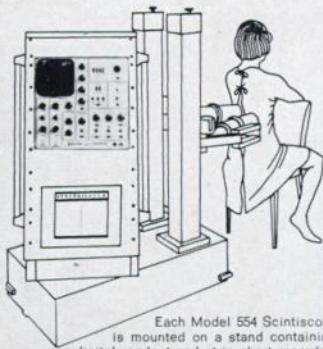
As a physician or medical researcher, you get not only an immediate visual record on the 554 SCINTISCOPE's display . . . but the instrument's memory storage presents data in digital form on paper tape, or as a curve on a strip chart recorder. This stored data can be referred to for future study whenever required . . . becomes a permanent part of the patient's records. The instrument need not be recalibrated for each patient — settings are standard!

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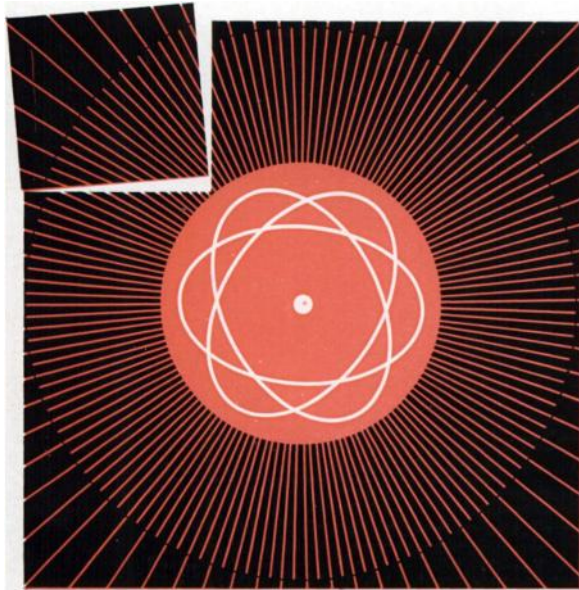
7. Reliably – Semi-automatic operation eliminates the risk of improper elution with the wrong solvent, the wrong volume of solvent, or at the wrong rate. (See also: most other points above.)

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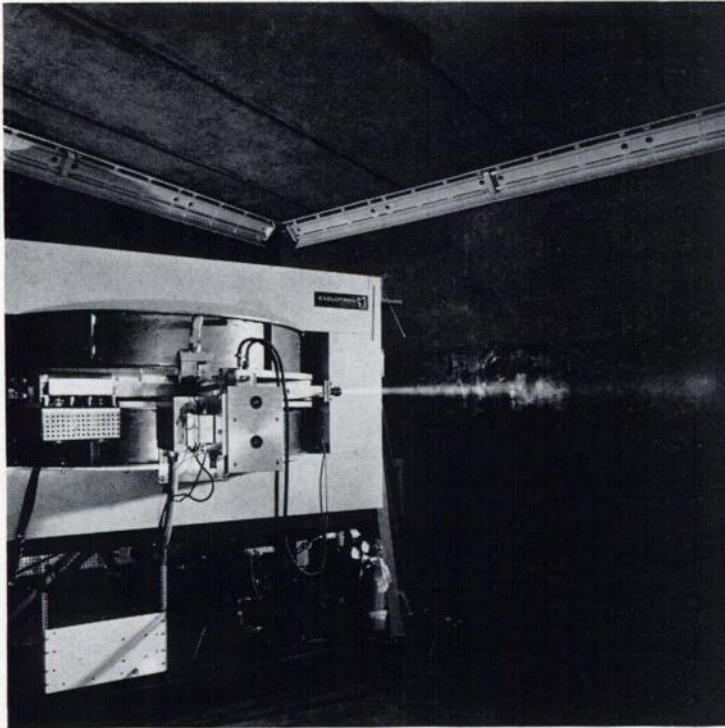


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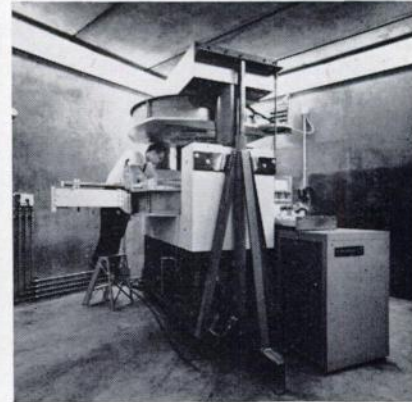
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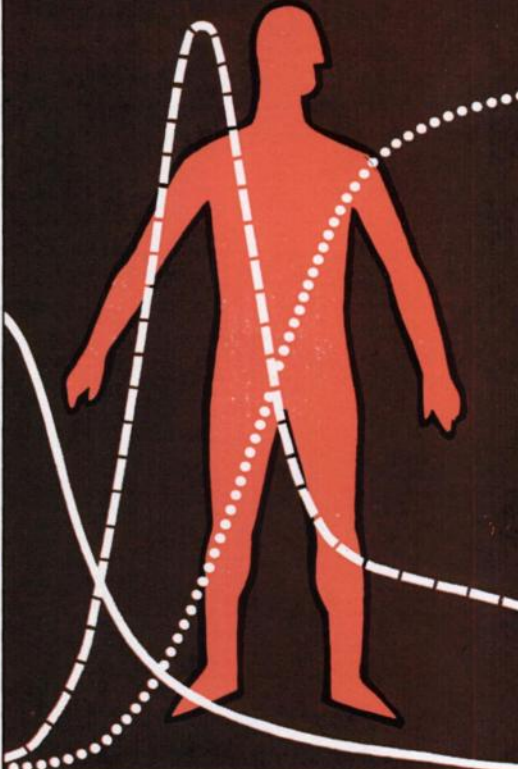
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SIDE EFFECTS: None reported to date; however, care should be exercised in administration.

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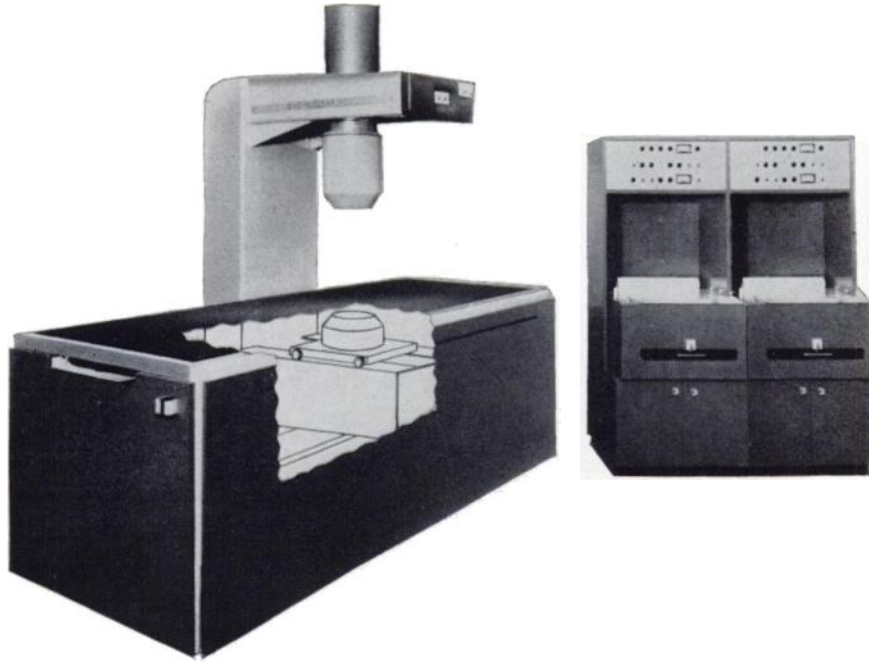


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MODEL 54-FD

DUAL, OPPOSED, 5-INCH CRYSTALS



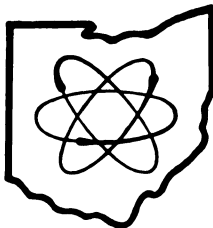
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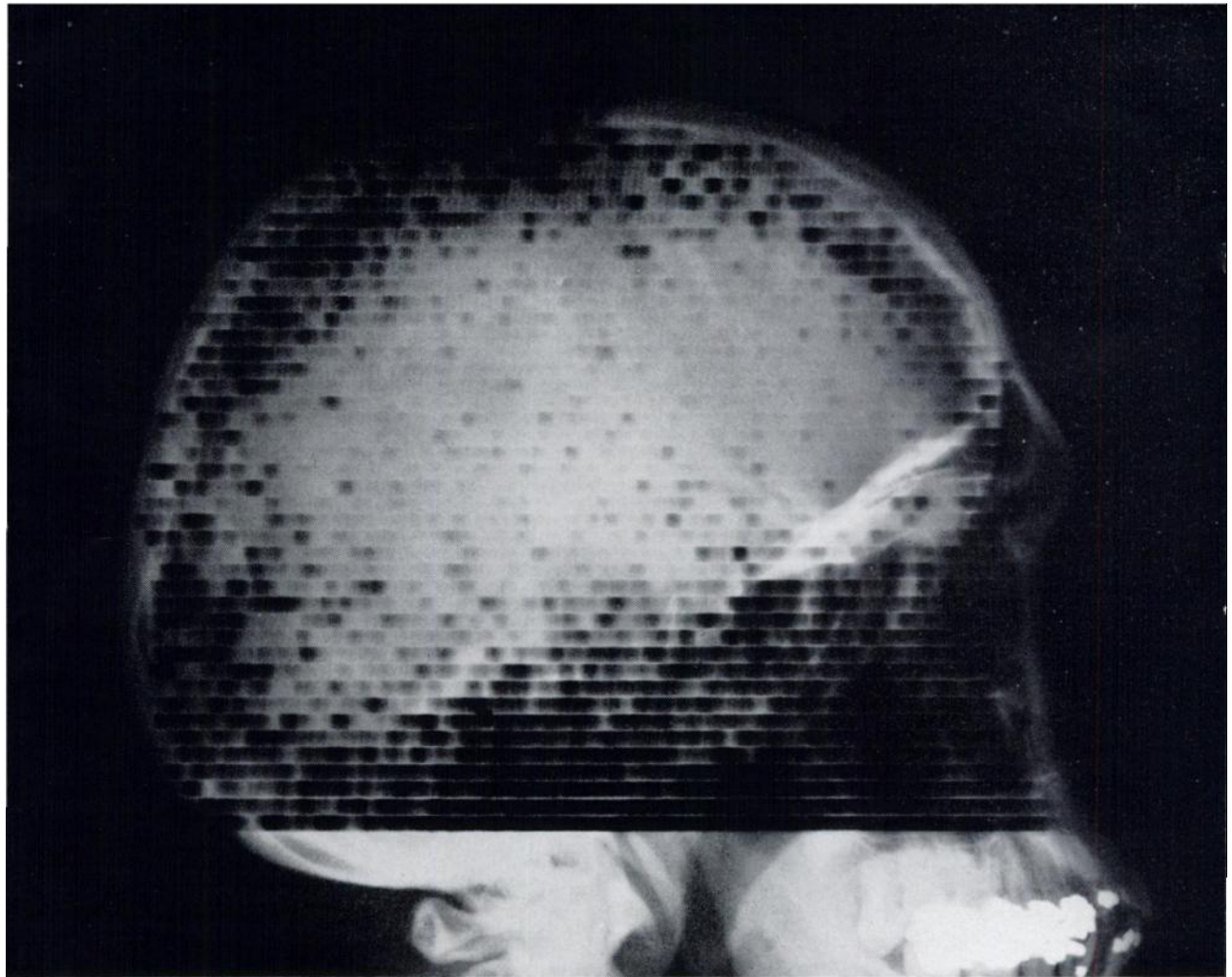


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SODIUM PERTECHNETATE Tc 99m

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.

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

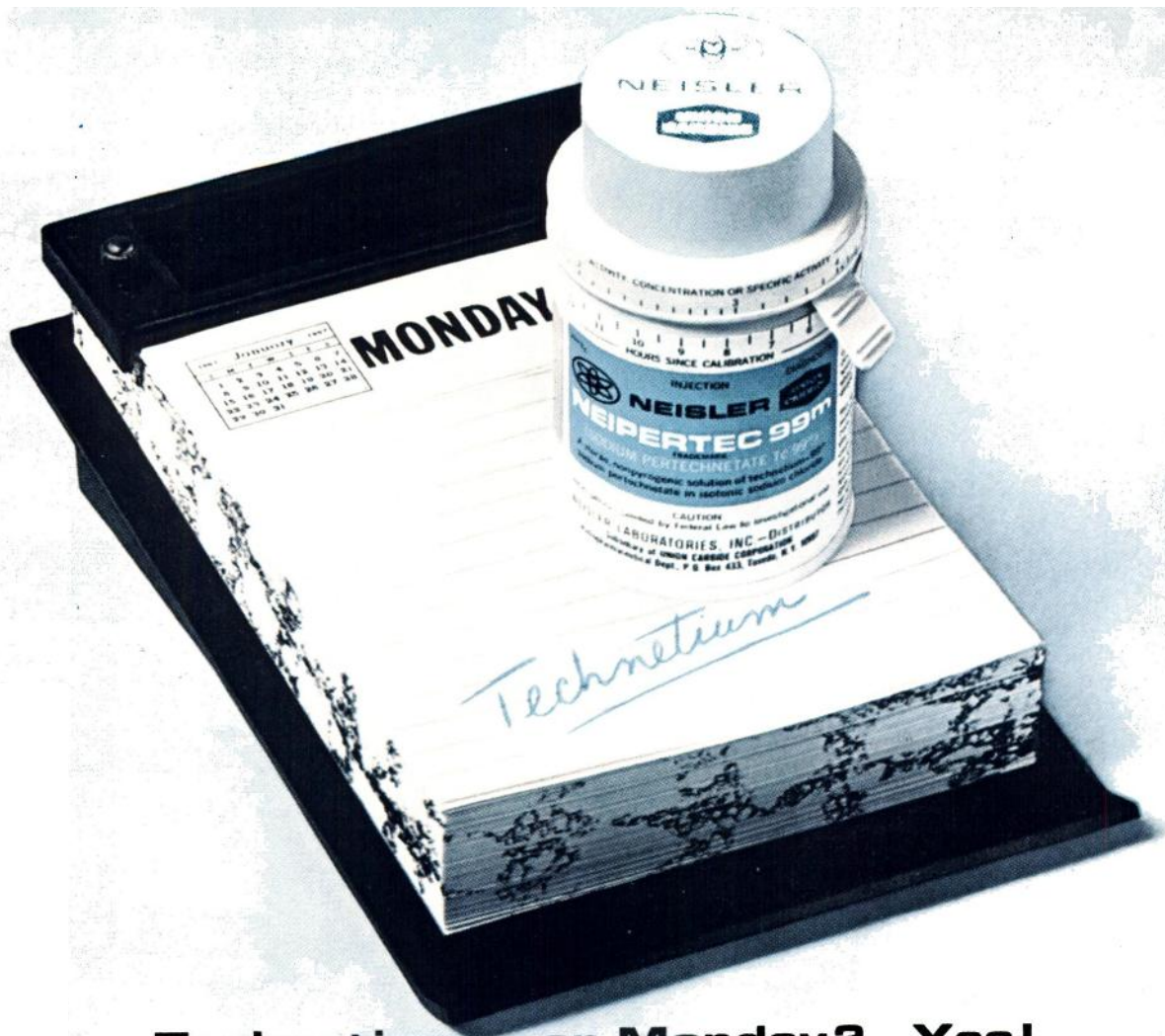
CONTRAINDICATION: Radio-pharmaceutical agents should not be administered to pregnant women or to persons less than 18 years old unless the indications are very exceptional.

PRECAUTIONS: Care should be taken to ensure minimum radiation exposure to the patient as well as all personnel; to prevent extracranial contamination because this can lead to erroneous interpretation; and to differentiate areas of abnormal activity from areas of normal vascular activity.

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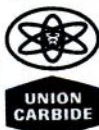
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1. J. G. McAfee, C. F. Fueger, H. S. Stern, H. N. Wagner, Jr. and T. Migita: Tc^{99m} pertechnetate for brain scanning, *J. Nucl. Med.*, 5:811, 1964.

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* TRADEMARK



ORGAN: Kidney, right.
DOSE: 4 millicuries technetium-99m iron-complex.
VIEW: Posterior.
EXPOSURE TIME: 10 minutes, taken 24 hours after injection.
DIAGNOSIS: Polycystic kidney.
 Taken with Pho/Gamma Scintillation Camera.

Kidney, abnormal.

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