

Iron deficiency anemia testing— As easy as throwing in the sponge!

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 iron-binding 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.**

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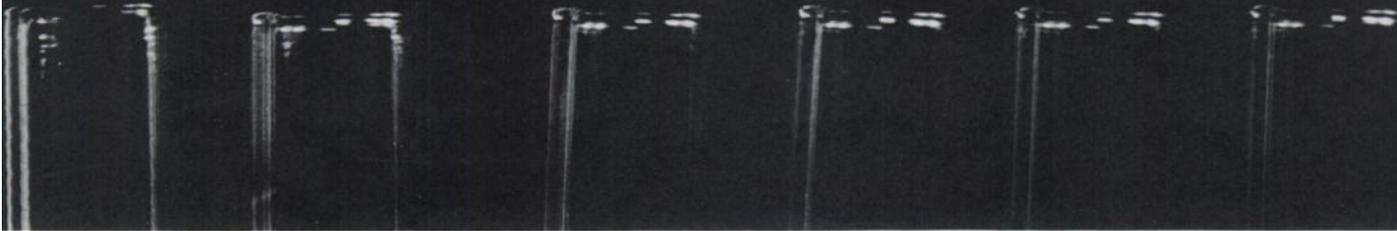


IROSORB-59[®]
DIAGNOSTIC KIT

ABBOTT LABORATORIES NORTH CHICAGO, ILLINOIS
Abbott Laboratories, S.A., 2, rue Thalberg, 1201 Geneva, Switzerland



Thyroid testing— As easy as throwing in the sponge!



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 I^{131} T3 test in terms of simplicity, convenience and elimination of errors characteristic of the erythrocyte procedure.”¹

“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.

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**TRIOSORB®-I31
TRIOSORB-I25
T-3 DIAGNOSTIC KIT**

ABBOTT LABORATORIES NORTH CHICAGO, ILLINOIS
Abbott Laboratories, S.A., 2, rue Thalberg, 1201 Geneva, Switzerland

Announcing
TETRASORB™-125
T-4 DIAGNOSTIC KIT

On the opposite page,
Abbott announces its
3rd “sorb” product—
Tetrasorb-125.
Please lift this page
for information about
Triosorb® and Irosorb-59®.



**This sponge puts the
squeeze on the PBI!**



"For many years the protein-bound iodine (PBI) has been used as an indirect index of the level of thyroid hormones; however, in an appreciable number of cases it does not provide an accurate measurement, because compounds containing iodine or mercury are present."¹

It is now generally recognized that a quantitative **direct measurement** of thyroid hormones in serum is the most valuable single laboratory aid in assessing thyroid function.

"Using a resin-sponge and thyroxine tagged with I-125, a simple method was developed to determine serum thyroxine."²

That method is Tetrasorb-125, the first diagnostic kit offering a direct measurement of thyroid function by determining serum thyroxine. Hypothyroid patients show a decrease in serum thyroxine while hyperthyroid patients show an increase.

Tetrasorb-125 is based on the principle of saturation analysis for measuring total serum thyroxine (T-4). Prior to the availability and convenience of the Tetrasorb-125 Kit, these results were reported for the T-4 test:

"When T₄ and PBI values were compared, a good correlation (r=0.823) was obtained with a higher diagnostic accuracy for the T₄ determination. All euthyroid individuals with PBI's elevated due to iodine had T₄ values in the normal range. . . . The T₄ level correlated well with the clinical status in hypothyroid subjects receiving T₄ or hyperthyroid subjects receiving various forms of therapy."¹

"Unlike the protein-bound iodine determination, this technique is entirely unaffected by iodine or mercury, an important advantage from the clinical point of view."³

"These results proved that this method could be used as a routine clinical diagnostic test in place of the determination of PBI."⁴

By requesting both Tetrasorb-125 (a direct measure of thyroid activity) and Triosorb® (an indirect measure of thyroid activity) for his patient, the physician is provided with more information than ever before possible.

Tetrasorb-125 is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required.

1. Murphy, B. P. and Pattee, C. J., J. Clin. Endocr., 26:247, 1966. 2. Kaplan, B. C., AAAS Meeting, Dec., 1966.
3. Murphy, B. P., J. Lab. & Clin. Med., 66:161, 1965. 4. Nakajima, H., et. al., J. Clin. Endocr., 26:99, 1966.

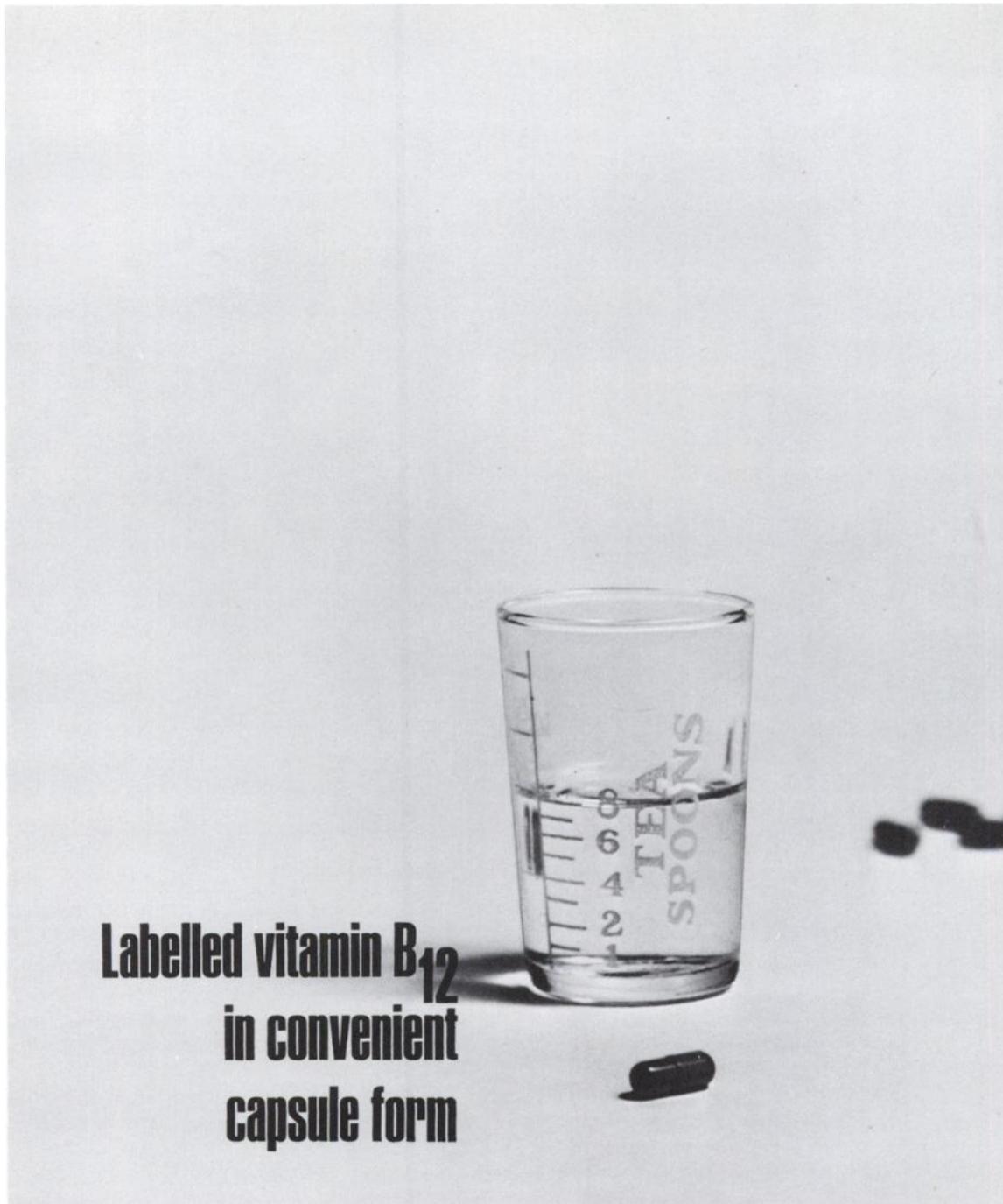


Announcing **TETRASORB-125**
T-4 DIAGNOSTIC KIT

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in convenient
capsule form**

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The Radiochemical Centre supplies various labelled forms of vitamin B₁₂, in a range of specific activities.

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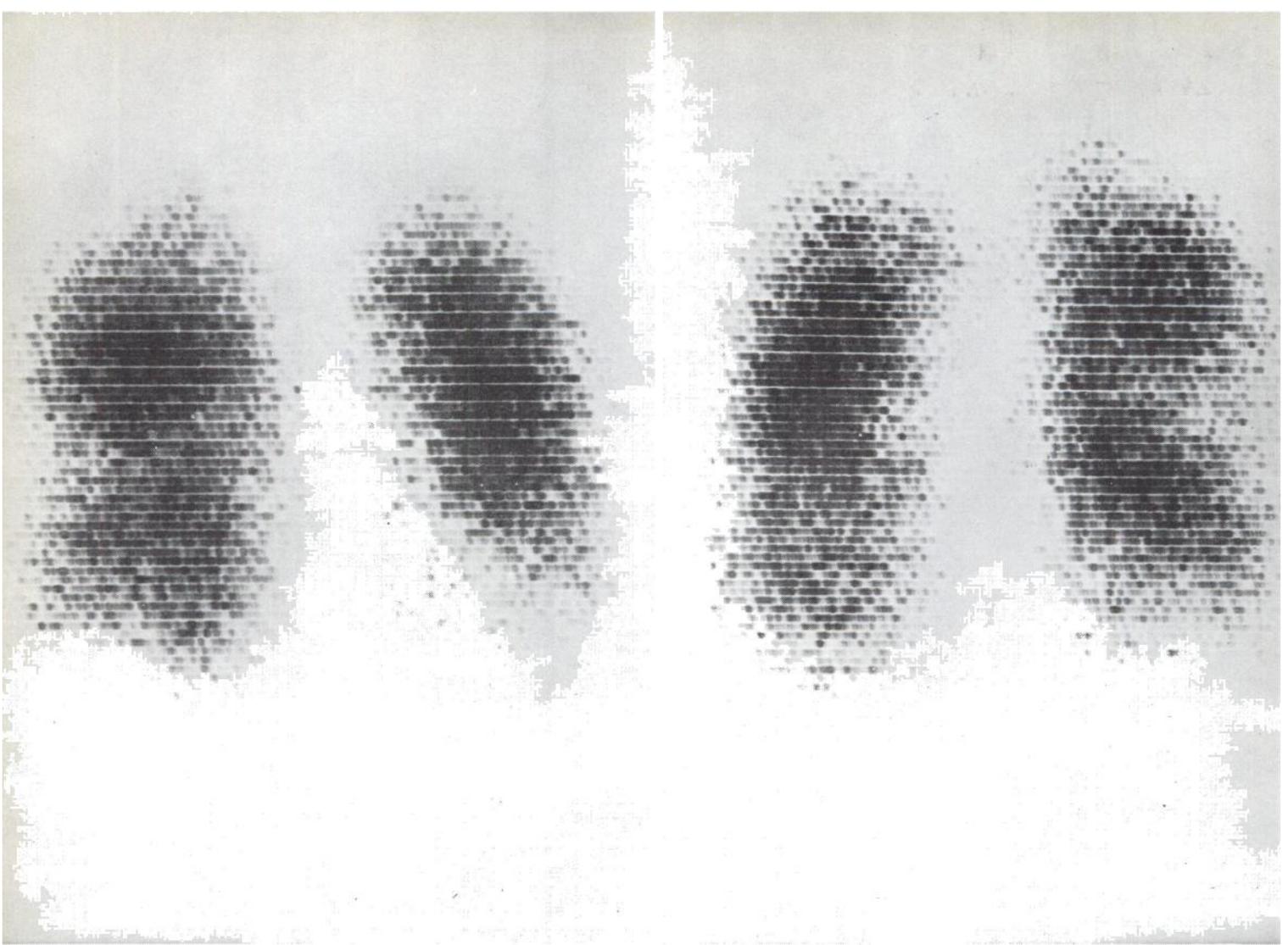


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Lung scan demonstrating abnormal perfusion of right lung, female patient, age 58; courtesy Washington University School of Medicine. (AP view at left, PA view at right.)

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.
3. Lopez-Majano, V., et al., Radiology, Vol. 83: No. 4, Oct. 1964, p. 698.
4. 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.

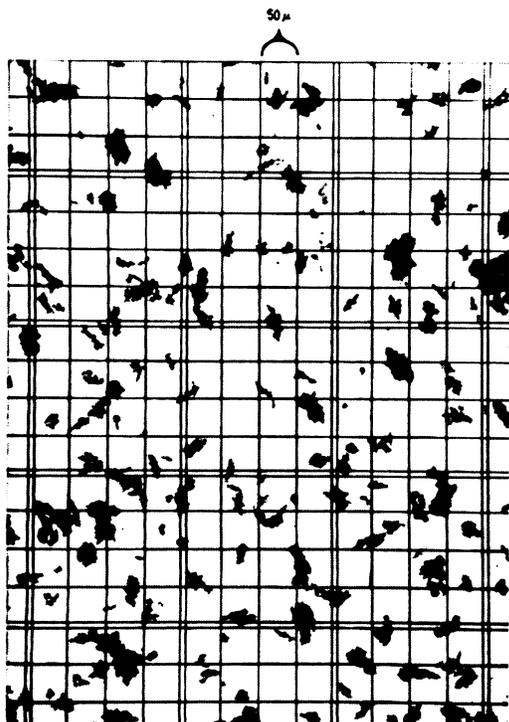
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Mallinckrodt/Nuclear (formerly Nuclear Consultants) produces a complete line of radiopharmaceuticals for scanning, diagnostic tests and therapy. For further information: call collect to the Mallinckrodt/Nuclear laboratory nearest you.

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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Specifications

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.

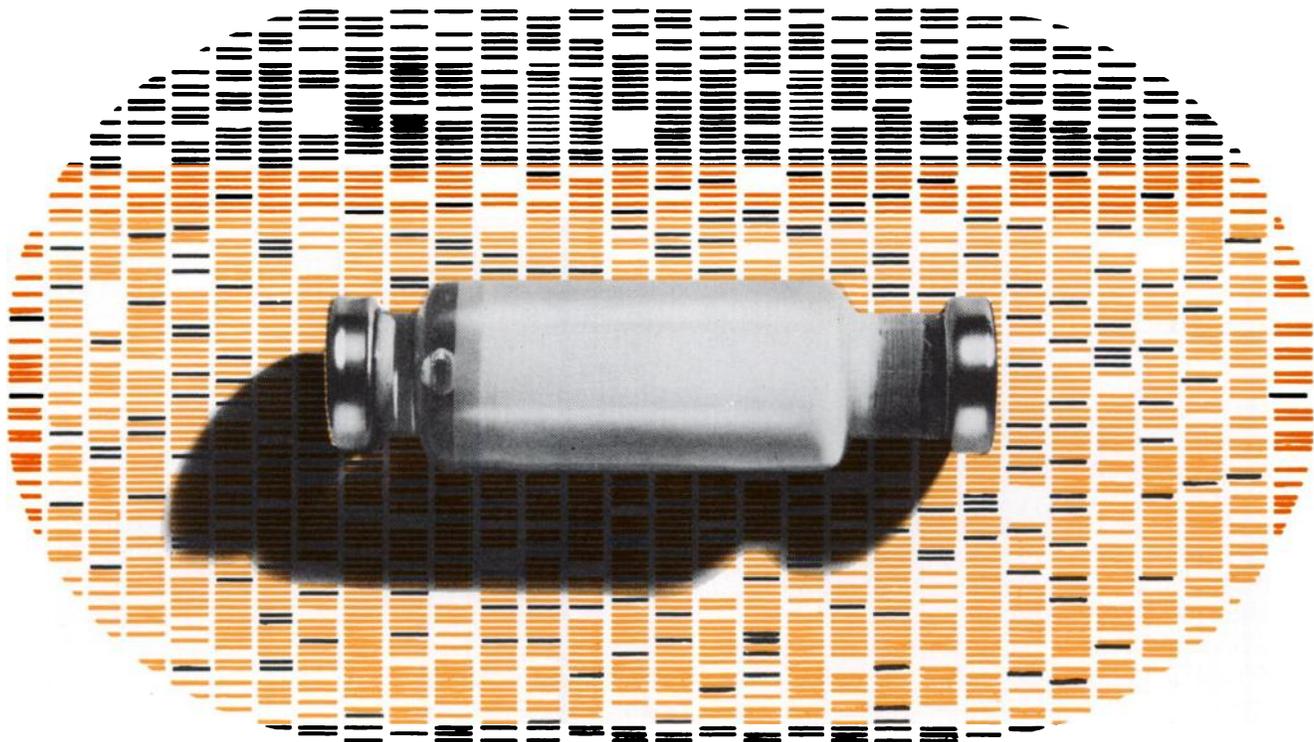
Concentration is approximately 500 $\mu\text{C}/\text{ml}$ and specific activity approximately 500 $\mu\text{C}/\text{mg}$ at time of calibration.

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.



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cow 99m and the uses of the scanning agent technetium-99m will gladly be sent on request. Samples are available free of charge. Stercow 99m is manufactured by Duphar to the very high quality standards necessary for nuclear pharmaceuticals. A new design of sterile generator, it is available in three types with 150, 300 or 450 mc of the parent radioisotope Mo99. Complete elution with 15, 20 or 30 ml. When milked in the approved manner, the resultant technetium-99m is sterile, non-pyrogenic and hence ready for immediate use - either orally or intravenously. The Duphar Shielded Stercow Milking System gives additional safety and efficiency in the elution operations.

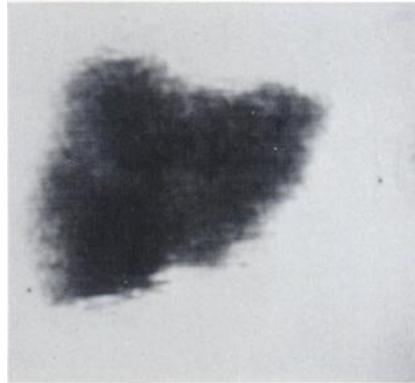
Nuclear pharmaceuticals



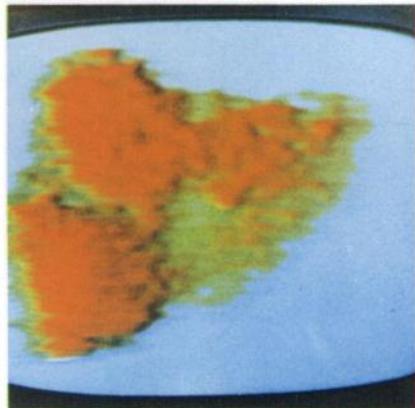
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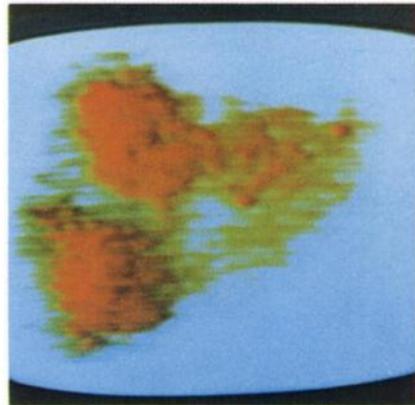


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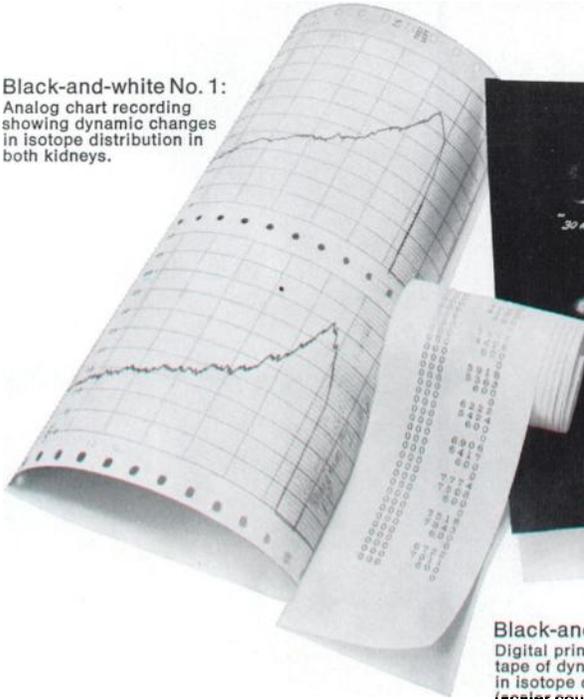
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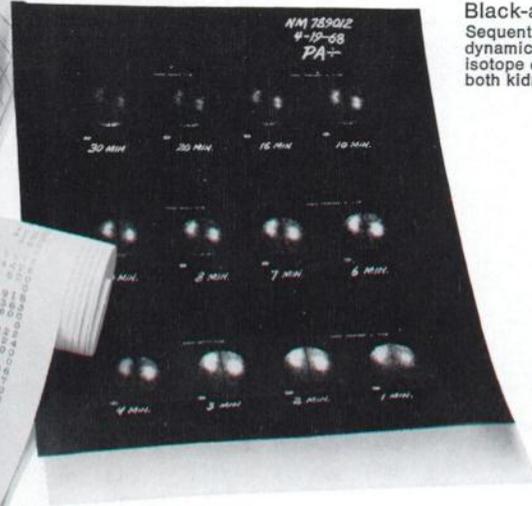
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We'd like to make the interpretation of clinical data from our Pho/Gamma[®] III Scintillation Camera as clear-cut as black-and-white.

Black-and-white No. 1:
Analog chart recording showing dynamic changes in isotope distribution in both kidneys.

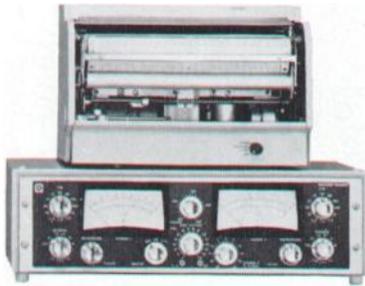


Black-and-white No. 2:
Sequential scintiphotos of dynamic changes in isotope distribution in both kidneys.

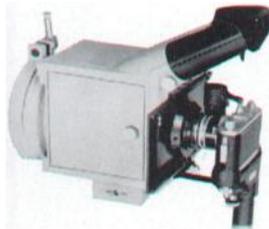


Black-and-white No. 3:
Digital printout on paper tape of dynamic changes in isotope distribution (scaler counts) in both kidneys.

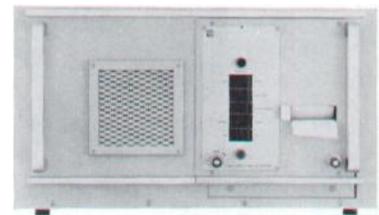
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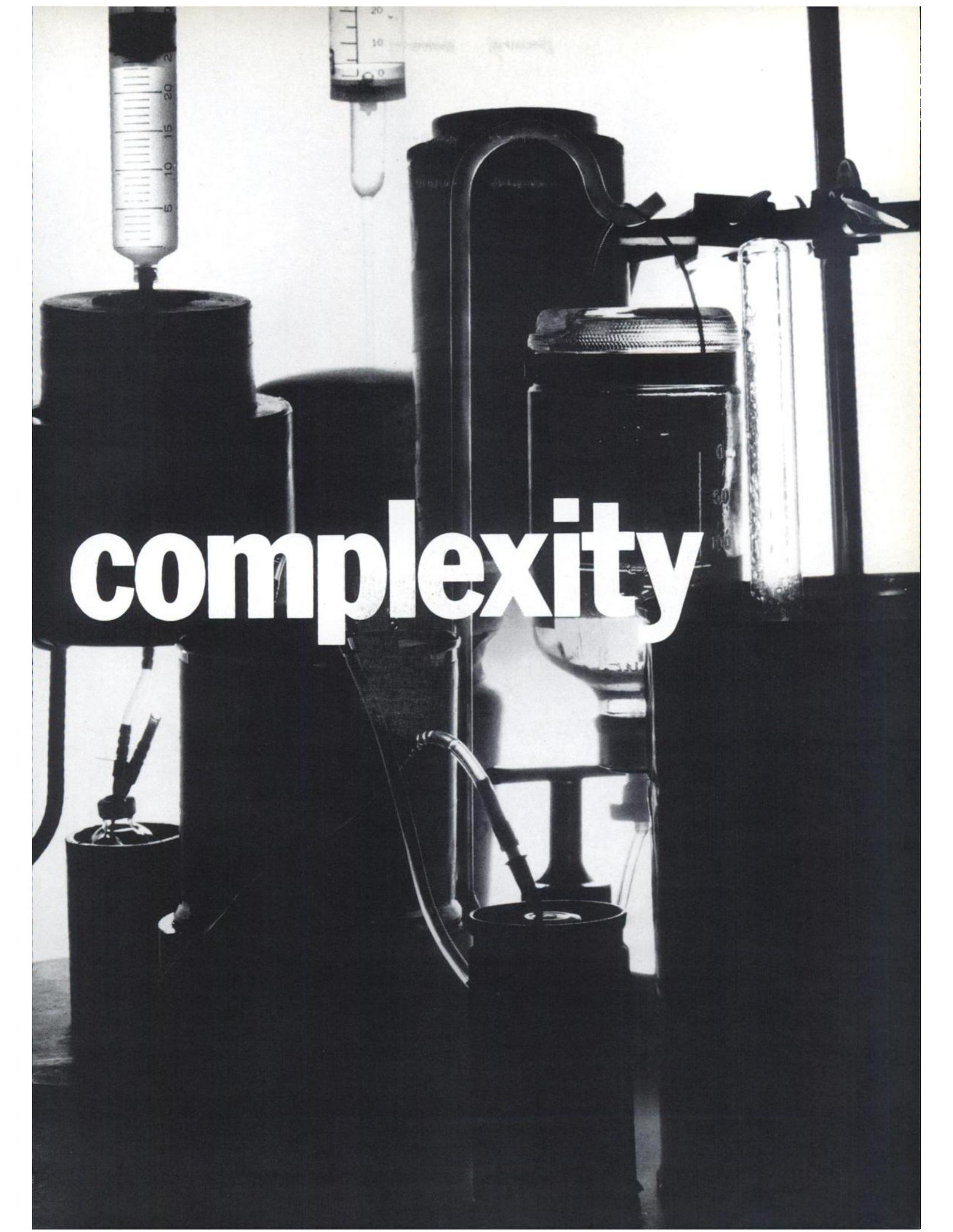
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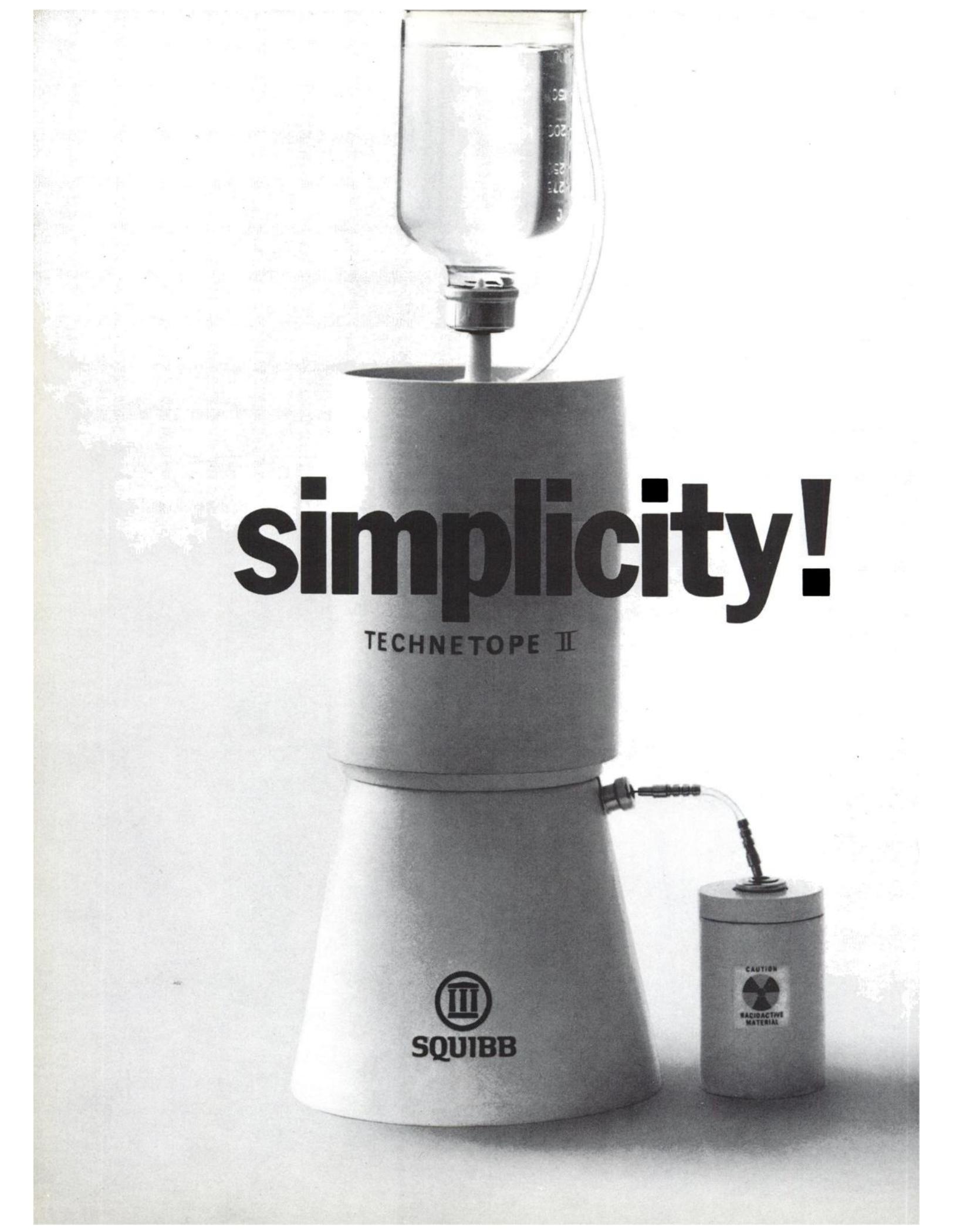
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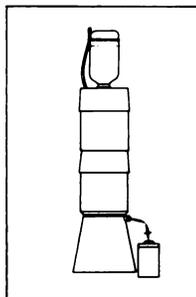
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In addition, Technetope II is readily adaptable to tandem milking which provides high concentrations of ^{99m}Tc per ml.—another Squibb first and exclusive.



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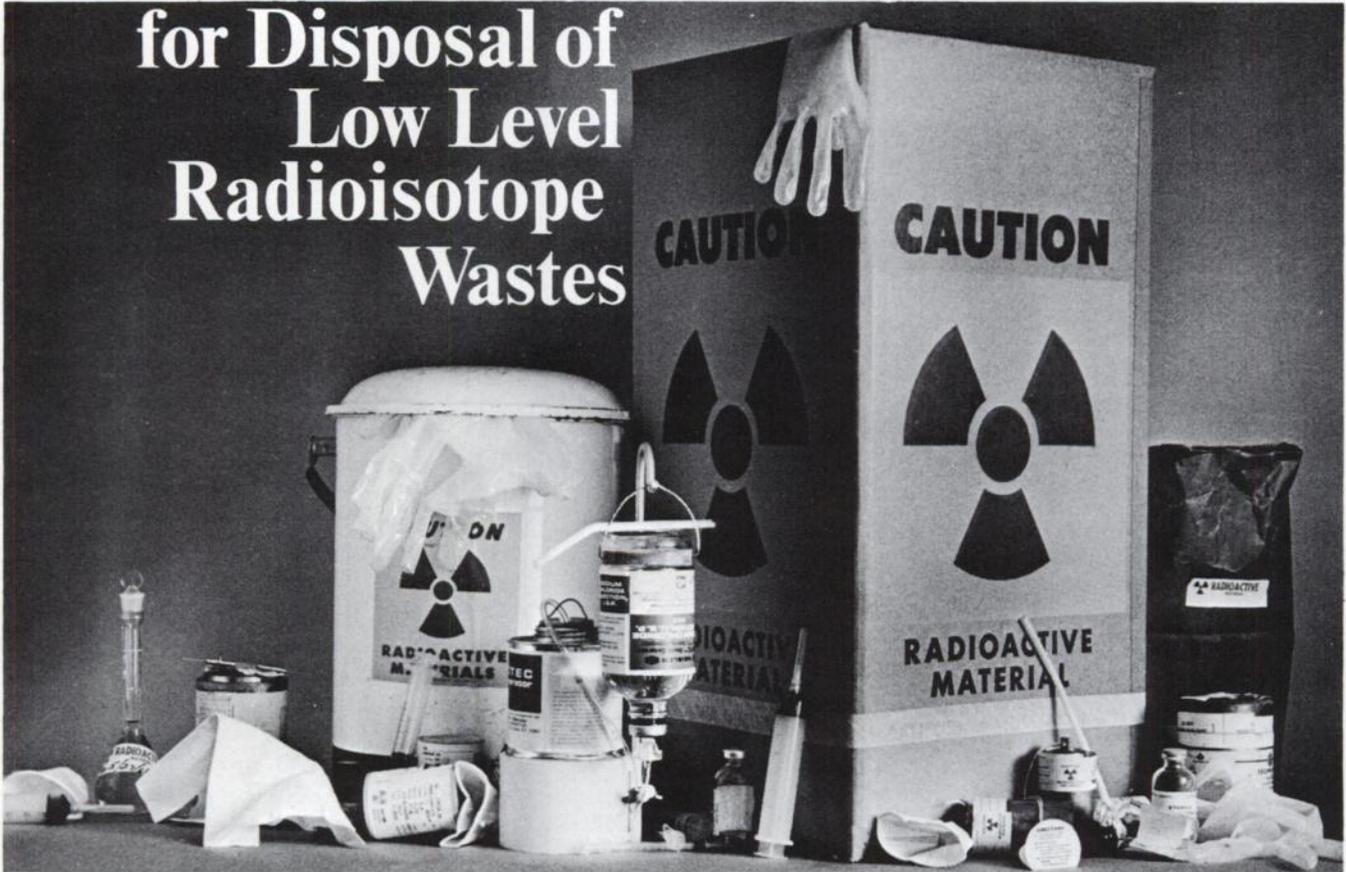
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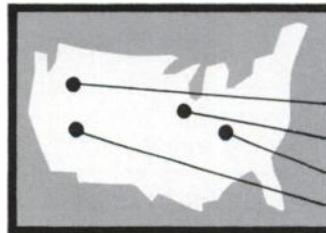


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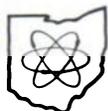
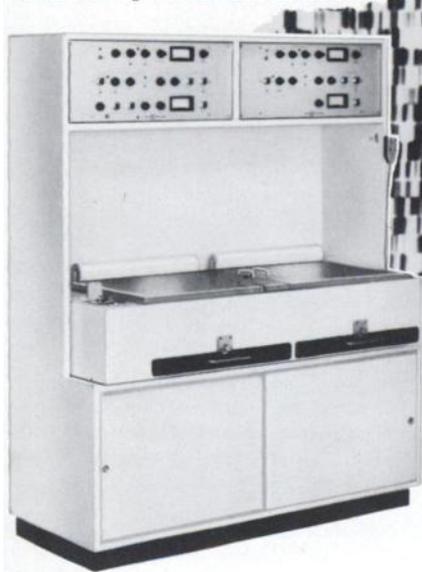
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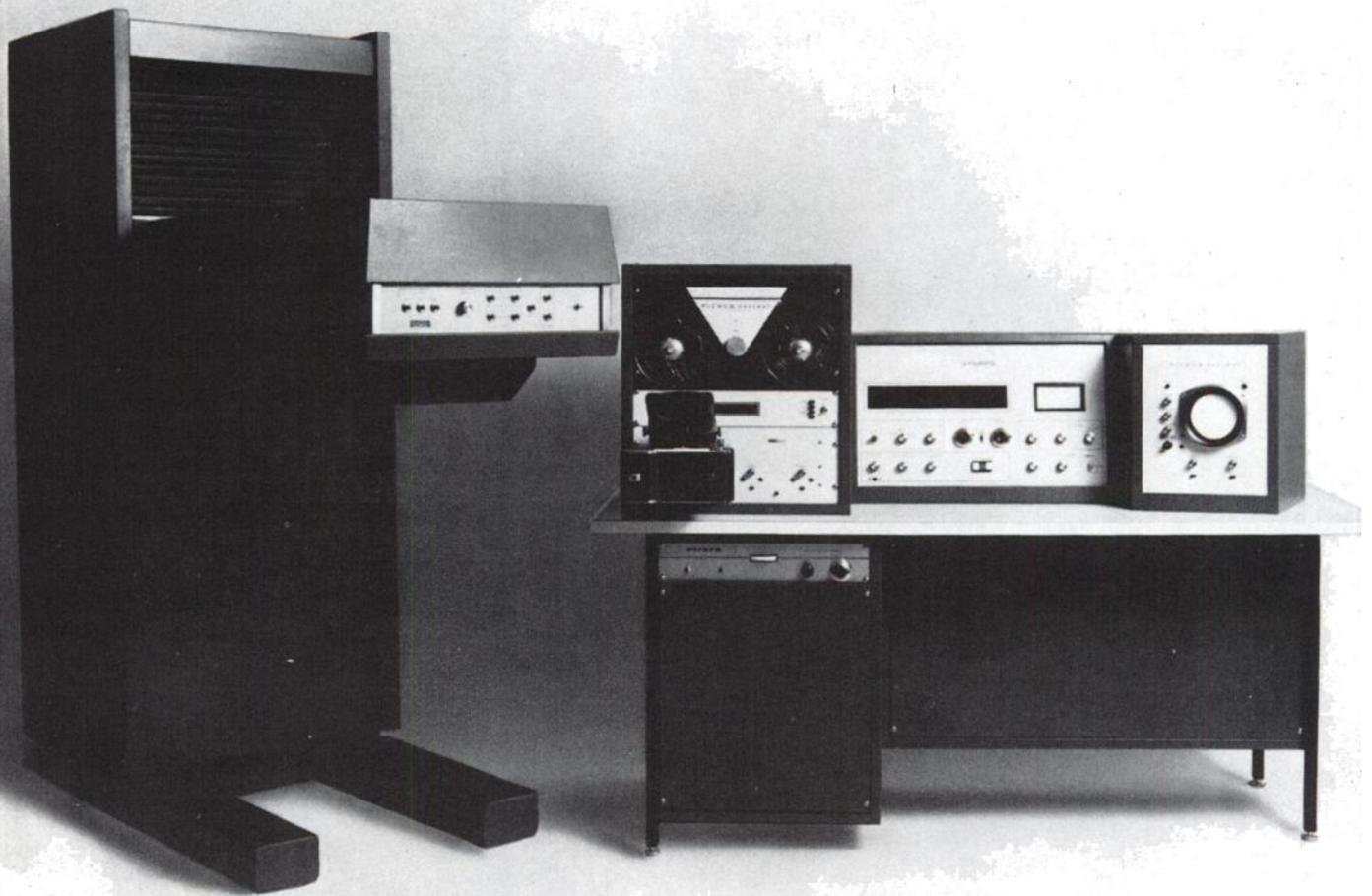
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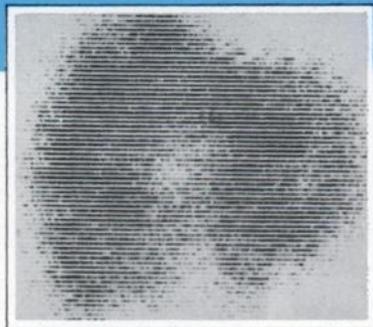
a new Squibb radiopharmaceutical offers
important advantages in liver scanning

New ALBUMOTOPE-H (Squibb Aggregated Radio-Iodinated [I^{131}] Albumin [Human] for Liver Scanning) offers excellent liver scans with exceptionally low radiation exposure to your patient. In addition, it is rapidly metabolized by the reticuloendothelial cells so that it may be administered for serial follow-up of therapy for hepatic abscesses or hepatic malignancy. And there appears to be little risk of sensitivity reactions.

excellent liver scans Albumotope-H appears to be free of a major disadvantage of I^{131} -rose bengal, one of the most widely used agents for liver scanning. As rose bengal is rapidly excreted in the bile, a constantly varying amount is present in the liver during the 40 to 60 minutes of the scanning procedure.¹ This can produce a wide range of densities² or "...excessively dark and light areas which may give rise to misinterpretations."¹

less radiation exposure to patients Radiation exposure with Albumotope-H is low because of rapid metabolic degradation in the liver and elimination of the I^{131} label from the body within 72 hours, if thyroid uptake is blocked by prior oral administration of non-radioactive iodine. The calculated radiation dose to the liver has been estimated to be at least 100 times less than that of an equivalent dose of colloidal radiogold-198 and about 3 times less than I^{131} -rose bengal.³

less chance of toxicity Unlike inorganic colloid radiopharmaceuticals, Albumotope-H is metabo-



lized by the body. In contrast to radiogold, there is no accumulation in the reticuloendothelial cells and no alteration in their function or future capacity. This not only means reduced potential for toxicity but also that serial liver scans can be done with the same test agent. In addition, anaphylactoid reactions have not been reported in studies of colloidal albumin I^{131} . And only a few isolated instances of skin reactions have been reported.

a Squibb "first" ALBUMOTOPE-H (Squibb Aggregated Radio-Iodinated [I^{131}] Albumin [Human] for Liver Scanning) is a Squibb "first" and a new addition to a broad line of radiopharmaceuticals available under the Medotopes® label. The isotope clinician in your area or your Squibb Professional Representative will be happy to give you additional information concerning Albumotope-H and how liver scanning may be of value to you in your practice.

contraindications and precautions Radiopharmaceuticals should not be administered to pregnant women or to persons under the age of 18 years unless indications are very exceptional. Colloidal radioalbumin should not

be administered to nursing mothers because iodide is excreted in human milk. In women of child-bearing age, radiopharmaceuticals may be administered during or immediately following a menstrual period to minimize the possibility of administration during pregnancy.

adverse reactions A few isolated instances of generalized urticaria or dermatitis have been reported in patients receiving an aggregated albumin preparation.

ALBUMOTOPE-H (Squibb Aggregated Radio-Iodinated [I^{131}] Albumin [Human] for Liver Scanning), an aqueous colloidal formulation of radio-iodinated microaggregates of human serum albumin, contains 1-10 mg. of heat-aggregated (colloidal) human serum albumin per cc. The sterile, nonpyrogenic preparation also contains 0.9% benzyl alcohol as a preservative.

References: (1) Charkes, N. D., and Shlansky, E.: *J. Albert Einstein Med. Center* 12:126 (April) 1964. (2) Schwabe, A. D., and Bender, M. A., in Biahld, W. H., ed.: *Nuclear Medicine*, New York, McGraw-Hill, 1965, p. 297. (3) Taplin, G. V., et al.: *J. Nucl. Med.* 5:259 (April) 1964.

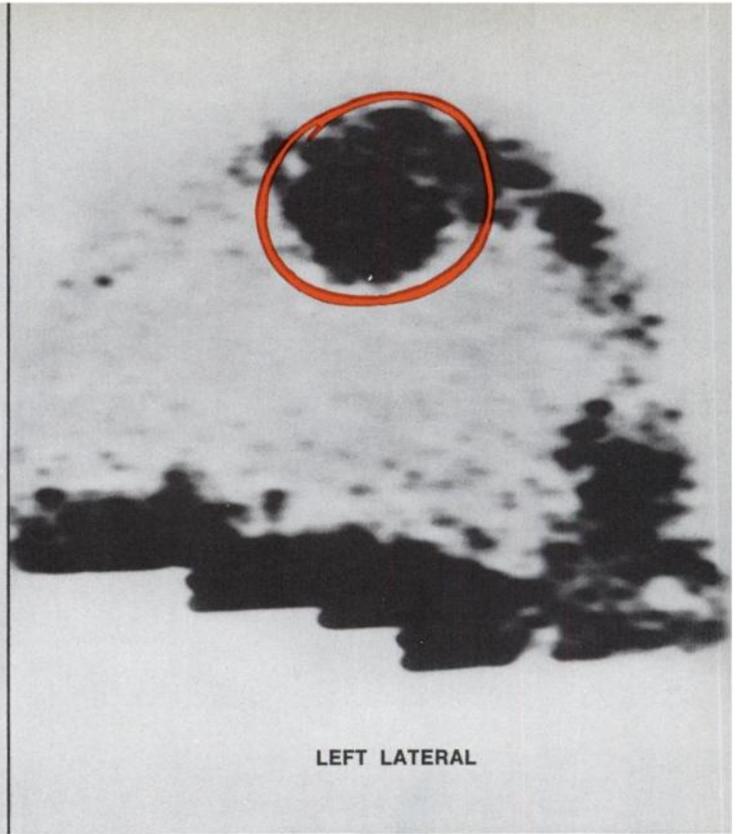
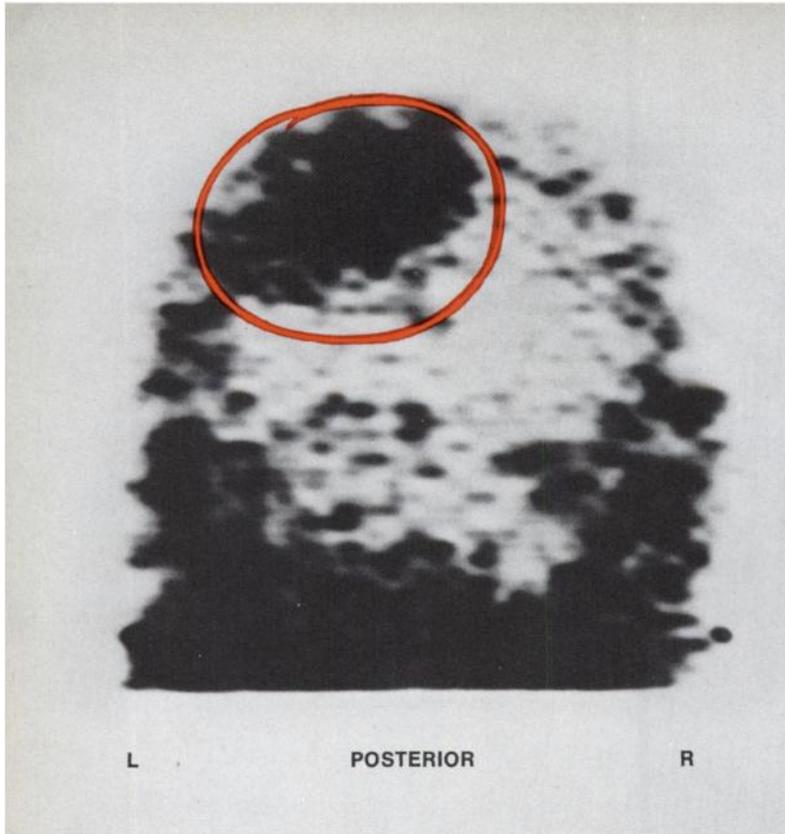
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Albumin (Human) for
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Division of Nuclear Medicine
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PRECAUTIONS: Care should be taken to ensure minimum radiation exposure to the patient as well 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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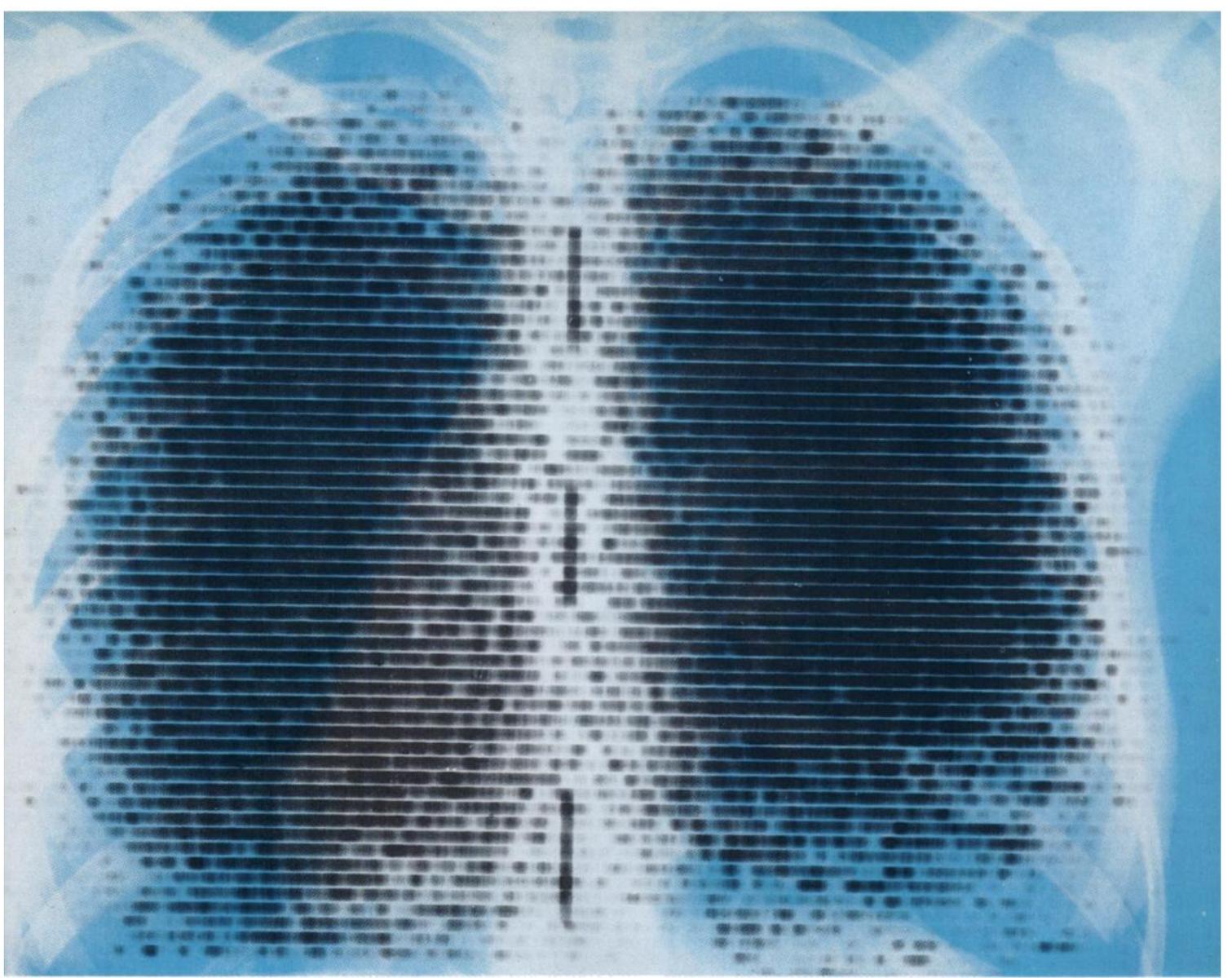


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mia resulting from compression or obstruction of pulmonary arteries.

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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 urticaria has been related to a similar preparation. The thyroid gland should be protected by prophylactic administration of concentrated iodide solution.



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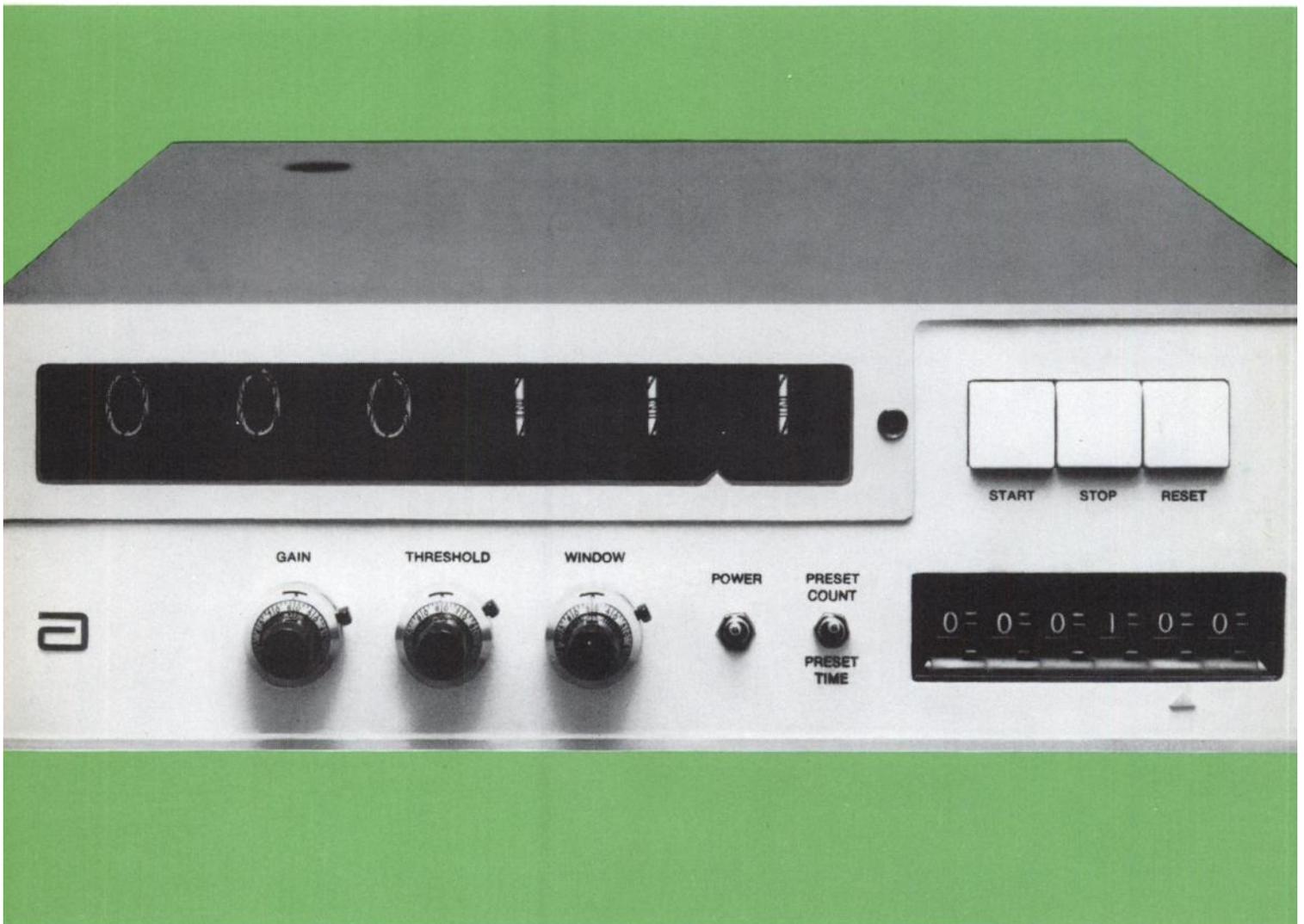
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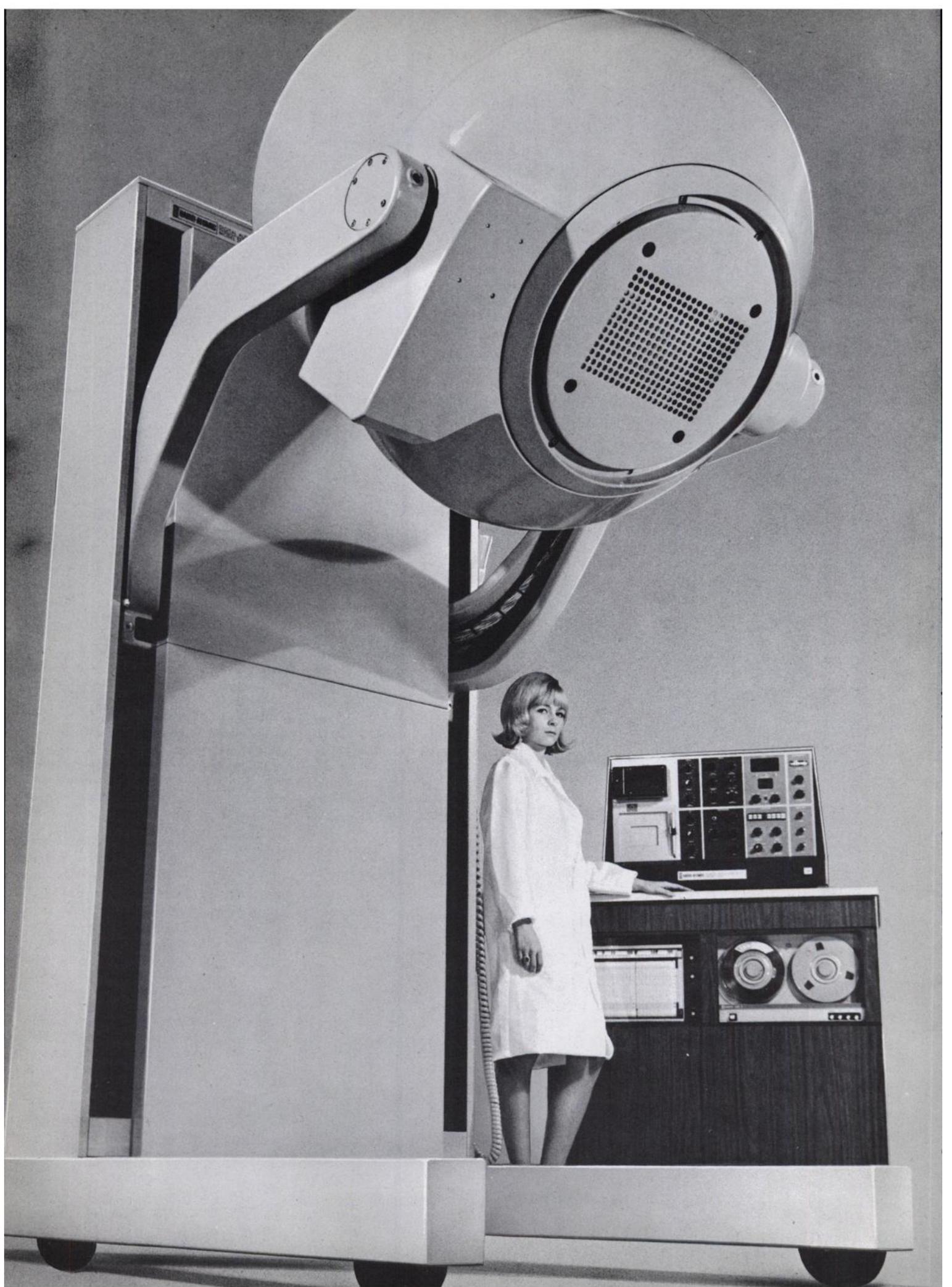
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