This sponge revolutionized thyroid testing!

By eliminating the disadvantages of earlier methods, the Triosorb Sponge has achieved a real breakthrough in thyroid testing. It is an in vitro test unmatched in 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 unmatched 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: 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.

New!
This sponge simplifies iron deficiency anemia testing

Announcing IROSORB-59 Diagnostic Kit

Irosorb-59 is the second in a series of in vitro radio-pharmaceuticals tests developed by Abbott Laboratories. The Irosorb-59 sponge consists of a polyether foam in which is embedded a pre-measured finely divided ion-exchange resin. Irosorb-59 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, it can be scheduled where other standard methods may not be applicable. For example, it may be used following the administration of ferrous iron.

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 material, 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. 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.

Irosorb-59 is available to all doctors, hospitals and clinical laboratories—AEC licensing is not required.
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SALES REPRESENTATIVES AND OFFICES IN ALL MAJOR U.S.A. CITIES AND EUROPE.
New help in diagnosing pulmonary problems

Scintiscanning of the lungs now offers a new approach to the diagnosis of pulmonary disease. With use of macroaggregated radio-lodinated 131I albumin, lung scanning has been found to be simple, rapid and relatively safe, 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." 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 ligation of the inferior vena cava and even pulmonary embolectomy) — all require more accurate diagnostic procedures.

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 thrombus). 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.

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 report 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.

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

**Albumotope-LS**

Squibb Aggregated Radio-lodinated (131I) Albumin (Human)

**References:**

**Dose and Scanning Procedure:** Recommended scan doses of 150 to 300 microcuries of aggregated radioiodinated (131I) albumin depending on the instrumentation available and the technique 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 theoretical 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 860-1500 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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(What does this suggest to you?)

This fact hopefully suggests— to those contemplating the start (or expansion) of such a service—something about this instrument and the organization behind it. Other compelling points: the Magnascanner is far and away the instrument most widely used for diagnostic purposes by new or established Nuclear Medicine Departments; nearly 2000 hospitals are now serviced by Picker Nuclear. (Most Radioisotope Departments start with us and seem to stay with us.)

More. In less than 10 years the Magnascanner has become the keystone instrument in most Departments of Nuclear Medicine. This was the instrument that helped Nuclear Medicine specialists develop radioisotope diagnosis from a limited research technique to a practical, valuable, everyday, reliable, routine methodology. And in this rapidly-changing decade, the instrument changed too: multiple improvements and options were (and are always being) incorporated, making this the most up-to-date scanner available. Simultaneously, our line of other instruments for Nuclear Medicine expanded to the point of being the widest around. Nevertheless, nothing anyone has been able to do in this area (ourselves or others) has served to dislodge the Magnascanner from its keystone position in most Radioisotope Departments.

Now more about the new Magnascanner’s versatility. Every new Magnascanner has both automatic and manual modes of operation—the new automatic mode speeds and simplifies set-up and self-checks the entire photo-recording system prior to the scan. And this is the only scanner that supplements the usual black and white data presentation with “colorsanning” (both photo and dot) which provides semi-quantitative radioisotope distribution pictures. The Magnascanner also offers: the widest choice of collimators, an ability to upgrade (easily) from a 3” detector system well suited to the needs of the beginning program to a faster 5” system, exclusive subtraction and two-color scanning, and dual-detector scanning.

A few final words about our obligations to you. We accept the premise that our obligations don’t end at time of delivery. We not only install the instrument and show you how to use it, but we feel it our obligation to help train personnel when an institution new to this field doesn’t have experienced personnel on staff. We have other obligations to you which our people are happy to detail. But meanwhile, consider further the choice of the Magnascanner (and the Picker commitment to you) as the keystone of your service too by requesting our new brochure number 130N.

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with MAA I 131

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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.


Photomicrograph of MAA I 131 aggregates
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 bronchospirometry."4

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

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IN A CONVENIENT, PRACTICAL FORM
FOR INVESTIGATIONAL DYNAMIC FLOW STUDIES

ALL OF THE GAS IN SOLUTION—
No gas phase in the cartridge, therefore no loss of $^{133}$Xe into a gas space. Order the amount you need...know the dose you administer.

REDUCED RADIATION RISK...
CONVENIENT SHELF-LIFE—
Biological half-life of 15 minutes or less assures minimal radiation exposure...physical half-life of 5.27 days affords practical storage and use time.

READY FOR USE BY INJECTION—
Supplied as sterile, pyrogen-free solution— for investigational use only.

UNIQUE COMPUTERCAP™ PACKAGING—
Automatic computation of activity and concentration at any time after calibration.

PRECAUTIONS: Approved radiation safety precautions should be maintained at all times. Do not administer 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 that of the radiation exposure caused by this drug.

SIDE EFFECTS: None reported to date; however, care should be exercised in administration. Comprehensive literature available on request.

NEISLER LABORATORIES, INC.
Subsidiary of UNION CARBIDE CORPORATION
Radiopharmaceutical Dept.
P.O. Box 433, Tuxedo, New York 10987
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 percent or better); accurate, reproducible scanning speeds and line spacing; no scalloping at any speeds; low background crystals (2 inch thick pure NaI light pipe); Gamma-graphic (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.
Abbott announces

Pertscan™-99m
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.

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.

CONTRAINICATION: 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.
Technetium...on Monday? Yes!
Now available in ready-to-use form directly from our nuclear reactor to your radioisotope laboratory Monday through Friday

**NEIPERTEC**\(^*\) **99m**
(SODIUM PERTECHNETATE Tc 99m)

the radionuclide with "...ideal physical characteristics..." for brain scanning
- 6-hour half-life, clean 140 keV gamma-ray emission
- the photons you need for rapid scanning, excellent resolution
- with minimal radiation dose to the patient

sterile, pyrogen-free...precalibrated...ready-to-use...
with unique, new packaging feature—the COMPUTERCAP\(^*\)\(^T\)\(^M\)—for automatic computation of activity and concentration at any time after calibration

**Precautions:** Proper radiation safety precautions must be maintained at all times. Physicians should familiarize themselves with available literature on the use of \(^99\)Tc before administering the radioisotope to patients. The administration of radioactive materials to pregnant or lactating women, or to patients under the age of 18 years, requires careful evaluation by the physician of the potential benefits and risks involved.


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Kidney, abnormal.

Wouldn't you like to be able to locate lesions like these—rapidly?

The picture shown above is a scintiphoto—a record of isotope distribution made by Nuclear-Chicago's Pho/Gamma® III Scintillation Camera. Consider the advantages of Pho/Gamma for your work.

First of all, Pho/Gamma's continuously sensitive view of all of the organ, all of the time, gives you high-speed, high-resolution isotope imaging. The benefits: Maximum patient comfort. Accommodation of heavy patient case loads. Minimal distortion from respiratory and other motions. True dynamic visualization of in-vivo processes by means of rapid-sequence, stop-motion scintiphotography.

And Pho/Gamma has a motorized, omnidirectional detector head for fast, versatile positioning. You can easily obtain multiple views of organs and body areas in all orientations.

We've also made Pho/Gamma easy to operate. Its convenient desk console houses all electronics including twin oscilloscopes. You can simultaneously monitor and record the area of interest. The console also contains a dual scaler/timer and all controls for set-up and operation.

Finally, Pho/Gamma is ready for future developments in your work. There's built-in provision for adding a positron head for tomographic studies. Other system-expanding accessories include a fast printer and a 1600-data-point multidimensional analyzer for storage, manipulation, and analysis of digital data.

Your colleagues in nuclear medicine may well know the advantages of Pho/Gamma—why not ask them? Consult your local Nuclear-Chicago sales engineer, too, or write to us.

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.

Pho/Gamma III Scintillation Camera

Research in the Service of Mankind

NUCLEAR-CHICAGO CORPORATION
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