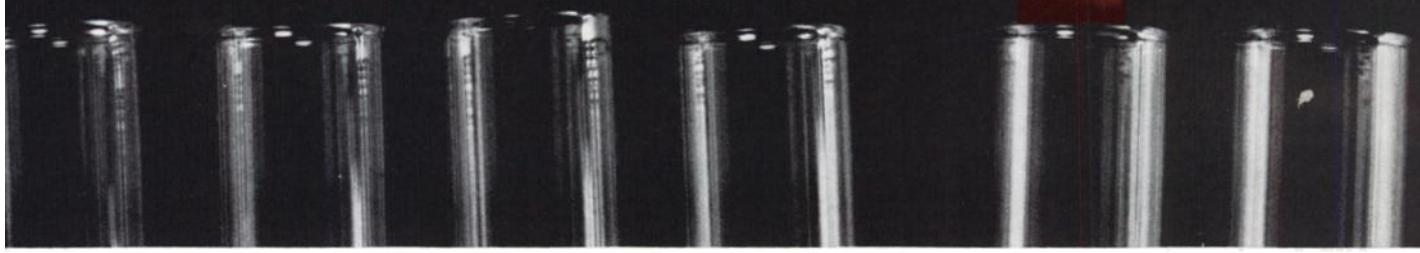


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Convenience: Irosorb-59 is in a disposable kit form ready for immediate use at room temperature.

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

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Thyroid testing— As easy as throwing in the sponge!

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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

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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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T-4 DIAGNOSTIC KIT

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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

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

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1. Murphy, B. P. and Patte, 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.



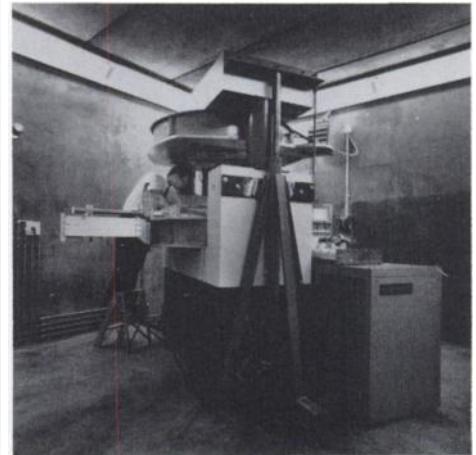
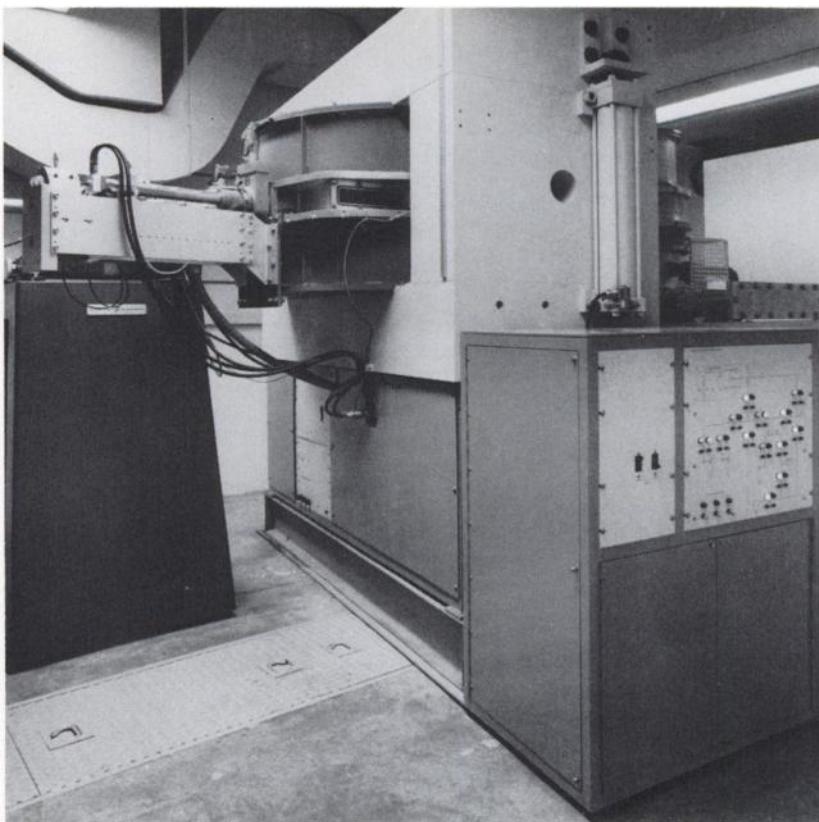
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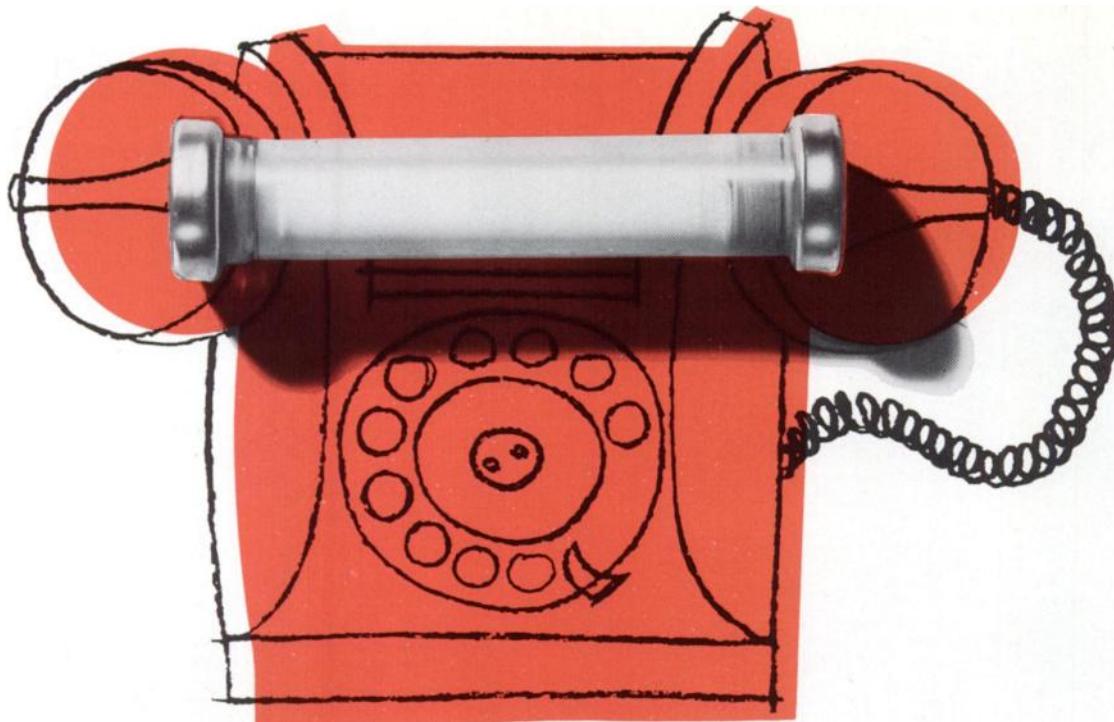
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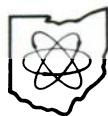
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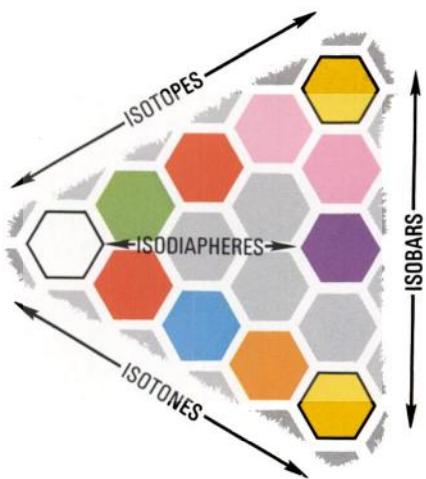
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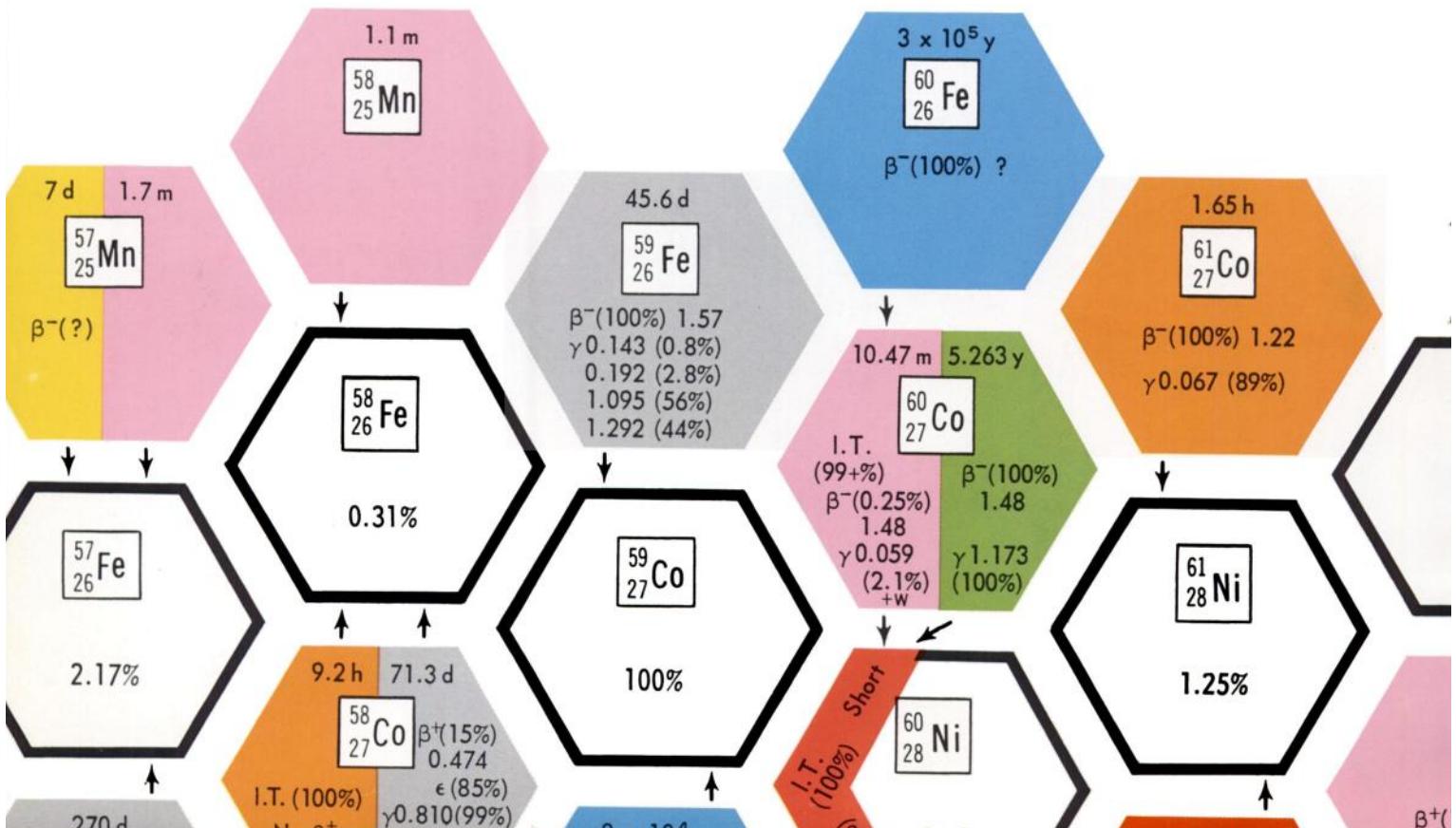
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Characteristics of all the presently known nuclides (January 1968) are presented for the first time in easy-to-use trilinear chart form. Eight colors are used to simplify interpretation.

The chart shows:

- approximately 1800 nuclides
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- stable nuclides
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This new chart is displayed at the 15th Annual Meeting of the Society of Nuclear Medicine. It is available in two forms: as a 48-page booklet with the "Vignettes in Nuclear Medicine," available separately without charge; and as a 54" x 38" wall chart ready for mounting. The wall chart is available for a handling charge of \$2.00. Check or money order must be sent with your request.

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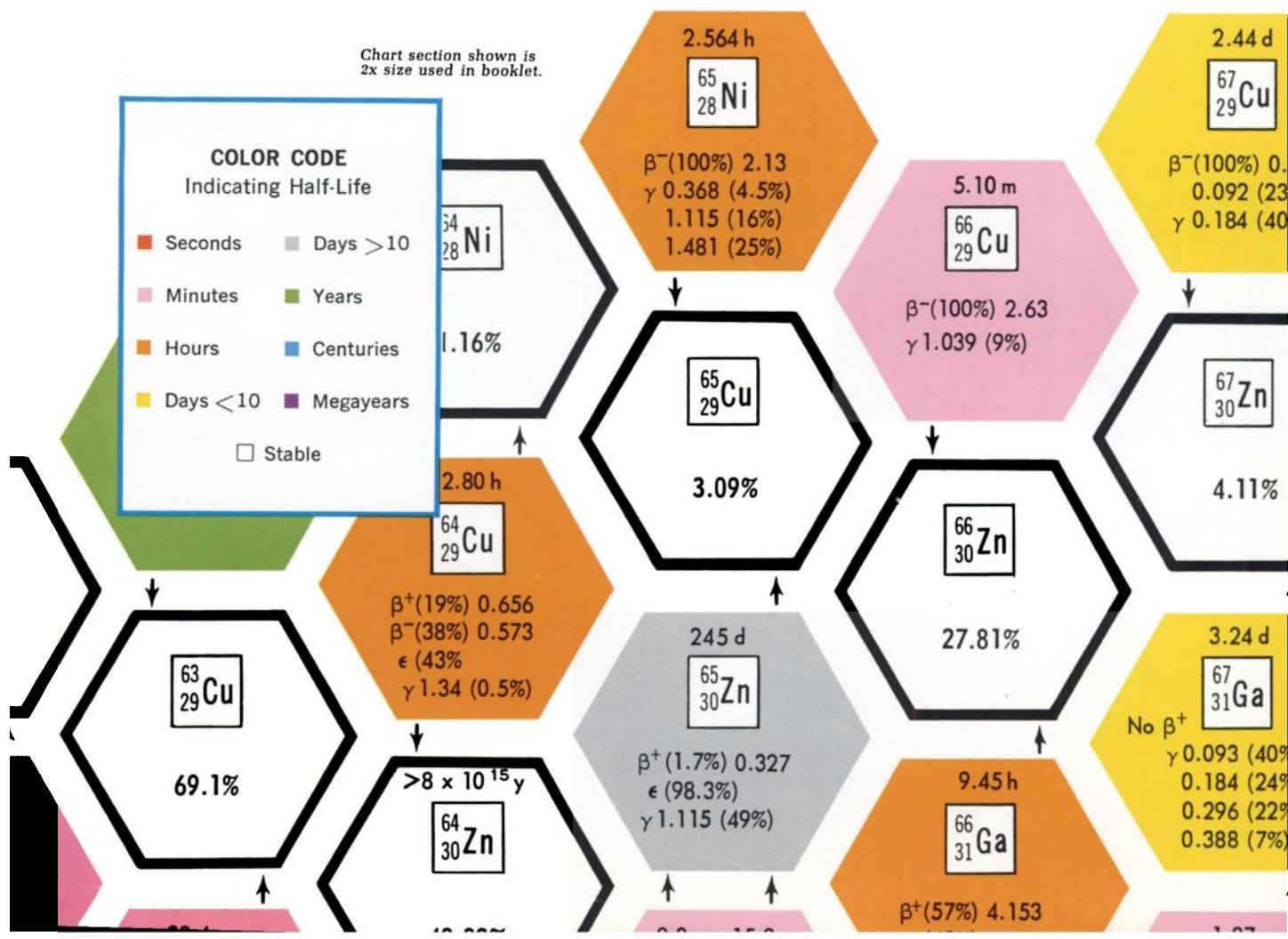
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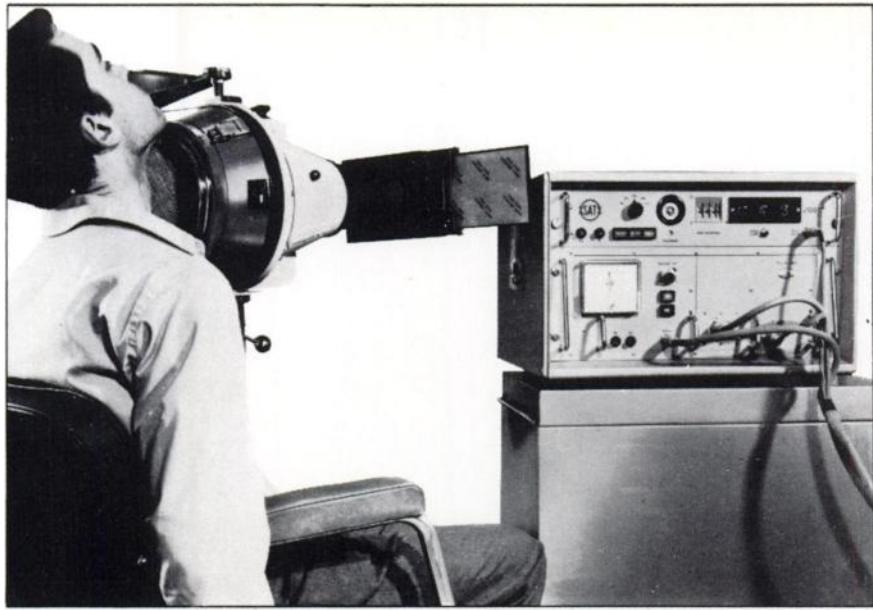
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The Commissariat à l'Energie Atomique spark chamber camera provides rapid photos of radioisotope distribution in vital organs. With excellent resolution characteristics and extremely simple operation, this instrument is ideal for obtaining instantaneous distribution patterns of short-lived radioisotopes at very low cost.

The photographs below illustrate the use of this device in thyroid tumor location, using iodine-125.

Examination of Front and Profile of Thyroid Gland

24 hours after injection of $50\mu\text{c}^{125}\text{I}$

$15\mu\text{c}^{125}\text{I}$ in gland at examination
12,000 sparks collected in each view



Right Profile
6 min. 16 sec.
collection time



Front
4 min. 35 sec.
collection time



Left Profile
7 min. 32 sec.
collection time

Note cold nodule in inferior pole of right lobe

Thyroid Photo showing slight Hypothyroidism

$10\mu\text{c}^{125}\text{I}$ in gland
15,000 sparks collected



Front
5 min.
collection time

Thyroid Photo of subject with Pulmonary Metastases

$13\mu\text{c}^{125}\text{I}$ in gland
12,000 sparks collected



Front
4 min. 55 sec.
collection time

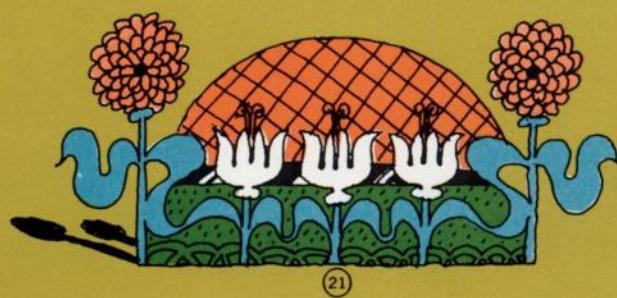
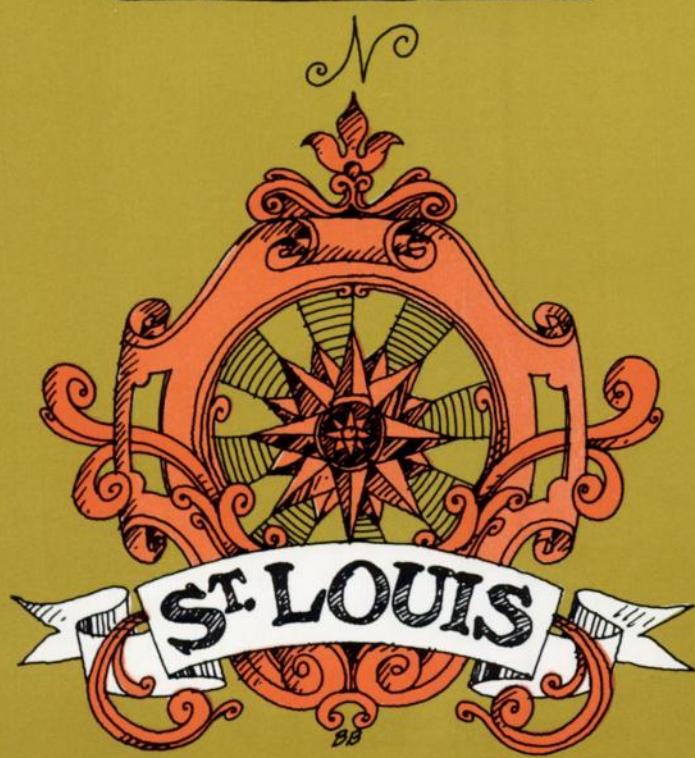
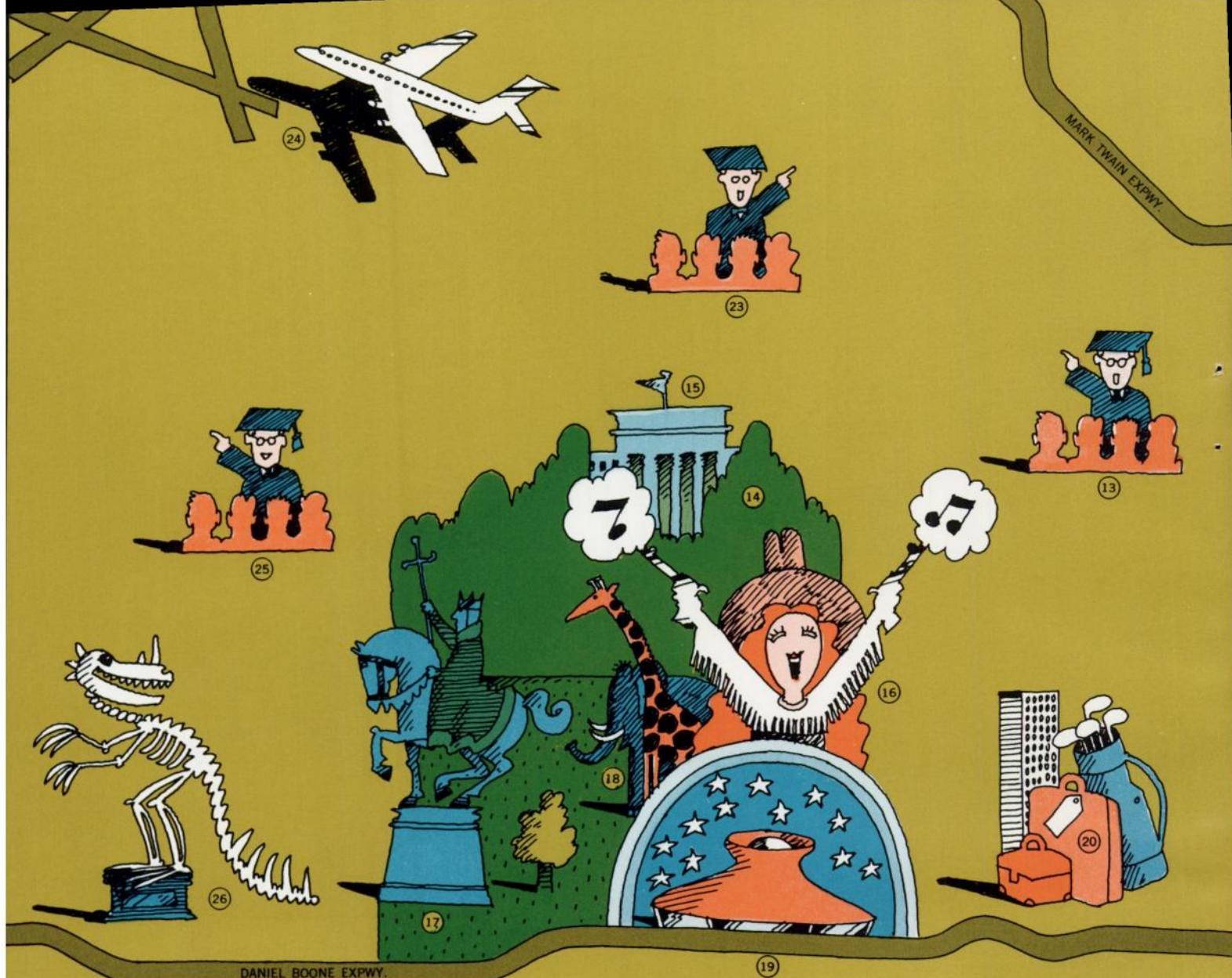
Note suspect area
in inferior pole of left lobe

Brevatome USA Inc.

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Tel. (212) 752-2414

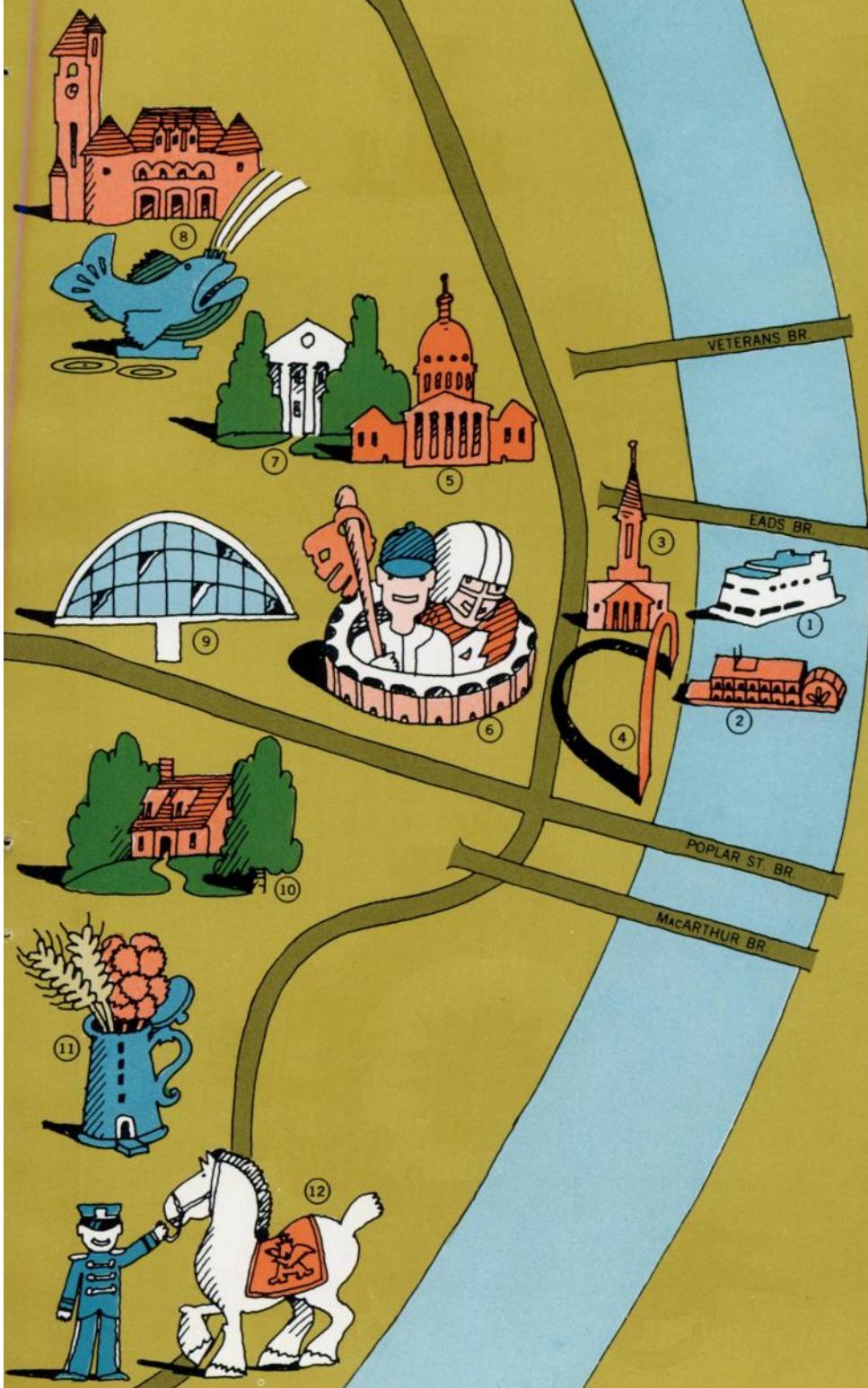
A photograph of the St. Louis skyline at sunset. The sky is a warm orange and yellow. The Gateway Arch is visible in the foreground, its dark silhouette forming a large, thin-lined arch shape. Below the arch, the city's buildings are silhouetted against the bright sky. A few lights from street lamps or buildings are visible along the water's edge in the foreground.

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- ⑥ Busch Stadium
- ⑦ Campbell House
- ⑧ Carl Milles Fountain Aloe Plaza — Union Station
- ⑨ Memorial Plaza (Kiel Auditorium)
- ⑩ Eugene Field House
- ⑪ Falstaff Museum of Brewing
- ⑫ Anheuser-Busch Brewery
- ⑬ St. Louis University
- ⑭ Forest Park
- ⑮ Jefferson Memorial (Lindbergh's trophies)
- ⑯ Municipal Opera ("Annie Get Your Gun" June 26-30)
- ⑰ Art Museum (Statue of St. Louis)
- ⑱ St. Louis Zoo
- ⑲ McDonnell Planetarium
- ⑳ Chase-Park Plaza Hotel
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- ㉒ Grant's Farm
- ㉓ University of Missouri (St. Louis Campus)
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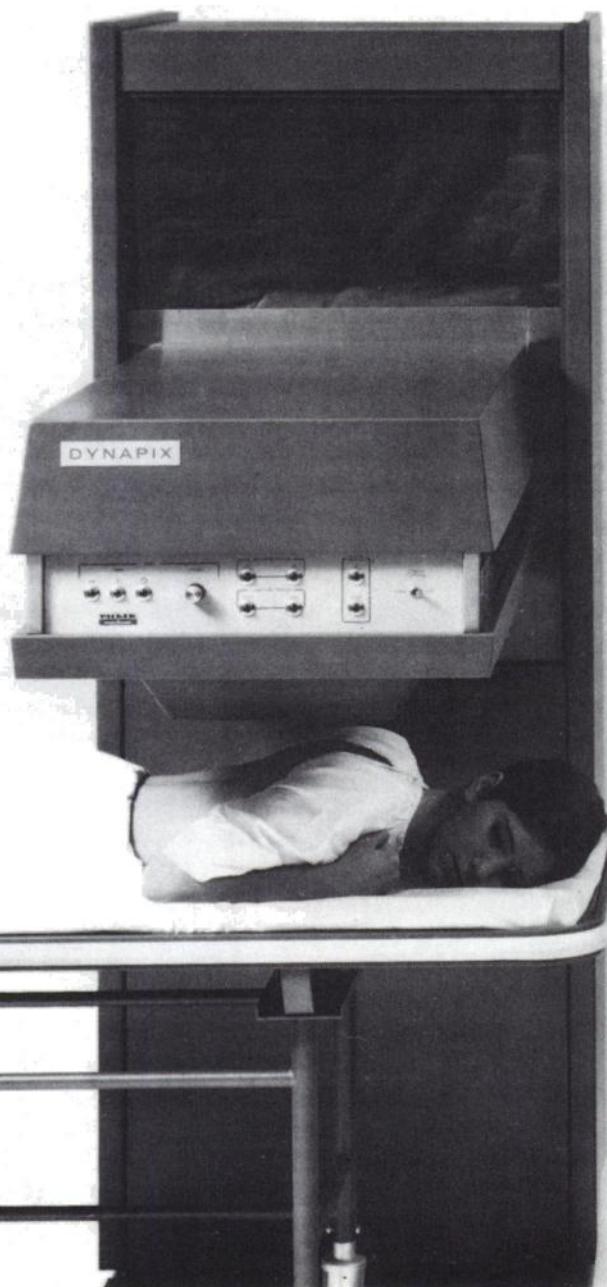
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Selection of the preliminary note shall be on a competitive basis for each issue. One will be selected after careful screening and review by the Editors. Those not selected will be returned immediately to the authors without criticism. Authors may resubmit a rejected or revised preliminary note for consideration for publication in a later issue. The subject material of all rejected manuscripts will be considered confidential.

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This is the business end of a simple, self-contained unit¹ that provides sterile², pyrogen-free³ technetium.⁴ Quickly.⁵ Safely.⁶ Reliably.⁷

- 1. Simple, self-contained unit** — Nothing else needed. Nothing.
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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 $\frac{3}{4}$ " 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.)



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Four radioisotope generators

Indium-113m*

Choice of two models
Standard and low-volume
Pyrogen-tested
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Strontium-87m

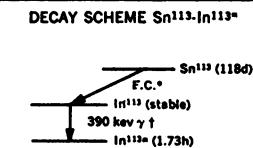
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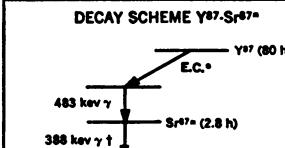
For therapeutic applications
Chemistry similar to technetium- 99m

Gallium-68

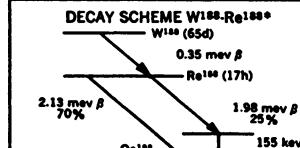
1.89 mev positrons
0.51, 1.08 mev gammas



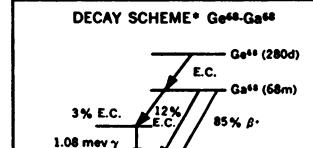
* Does not show 2% branch (260 kev γ)
† ~35% internal conversion



* Does not show 2% branch (0.3% β)
† About 21% internal conversion



* Does not show low abundance (<2%) beta decay from states of Os-188 which then emit γ rays. The only abundant transition is the 155 kev state shown which is fed by β decay (25%) and decay of higher states (about 3%).



* Does not show branches with abundance <1%

All units individually leak-tested prior to shipment.
Elution yield guaranteed and demonstrated.
Write for full technical data.

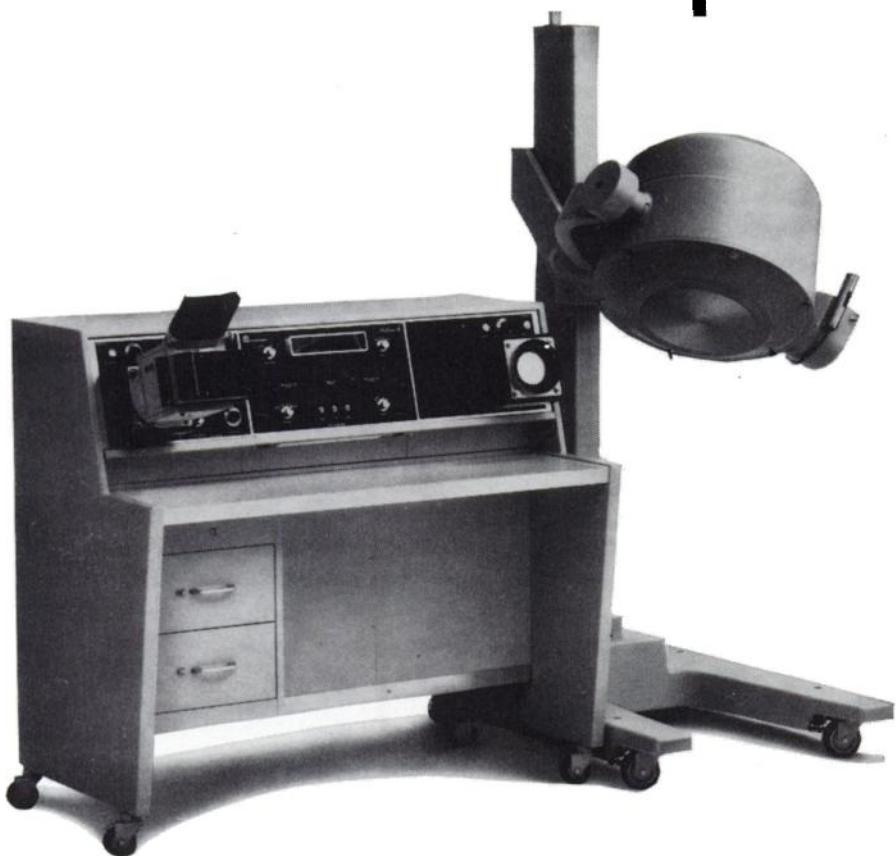


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Now – the Pho/Gamma[®] III Scintillation Camera talks to computers.



And listens.



How? With our new computer-compatible Magnetic Tape System.

The two instrument consoles shown directly above constitute our Magnetic Tape System. In the console on the right is our multidimensional analyzer. It connects to the Pho/Gamma III Scintillation Camera. This combination provides analog-to-digital conversion of data on the location and distribution of gamma-emitting radioisotopes in body organs.

The analyzer also encodes the data, in computer-compatible form. And then transfers the data to the second console (above left), the magnetic tape transport.

So much for theory. Application is where the Magnetic Tape System pays off. Because the taped data on a multitude of clinical organ studies can now be fed to a programmed off-line computer.

Which then does what a computer is meant to do—analyze, correlate, and manipulate data. To let you find out more, in more ways. New ways.

Of course you can play back the tape. And re-display and re-orient the data on the analyzer's scope. Then photograph the scope display. Or read out the data on a digital printer. Or—well, you're sure to find more to do with data in a convenient, permanent taped form.

But first you should talk to your Nuclear-Chicago sales engineer about the Magnetic Tape System for

Pho/Gamma III. And about our other new Pho/Gamma III accessories (fast digital printer, chart recorder, and 35-mm automatic time-lapse camera, among others). Or, if you'd like, write directly to us.

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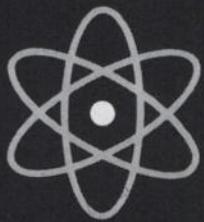
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Do not ask our representatives
for a "sneak preview"
of our exciting new isotope-imaging device
until we officially unveil this
brand new addition to our line
at the Society of Nuclear Medicine meeting
in St. Louis on June 27, 1968.

Thank you

(If you just can't come to the unveiling, attach your name and address to this page and mail it to Picker Nuclear, 1275 Mamaroneck Avenue, White Plains, N. Y. 10605. We'll get the story to you as promptly as possible. But *after* June 27th.)

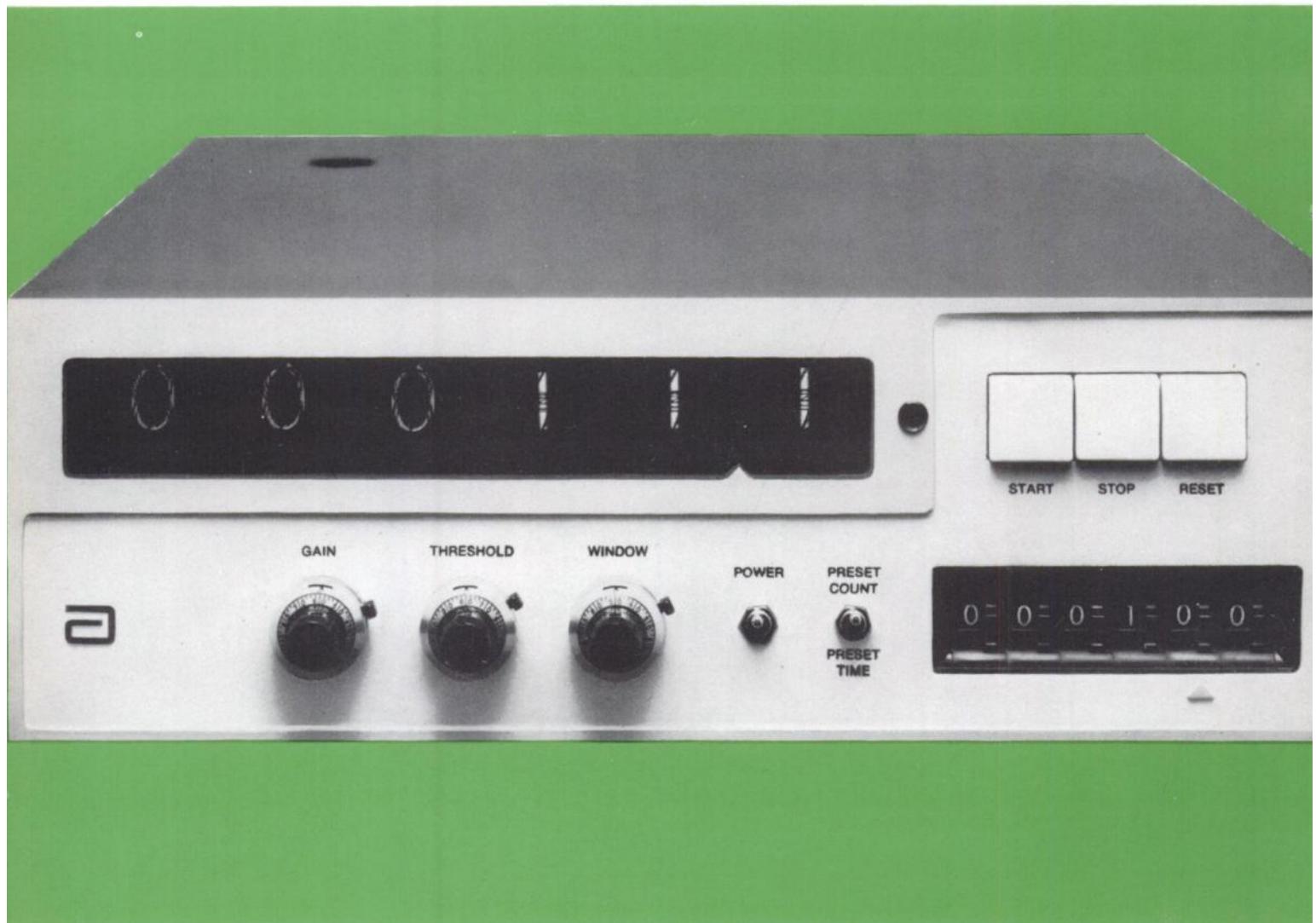
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The LOGIC Series—the most compact counting systems ever designed—is available now in 3 models.

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who knows both instruments
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A self contained gamma irradiation unit specifically designed for small animals, cultures, viruses and biological samples featuring—

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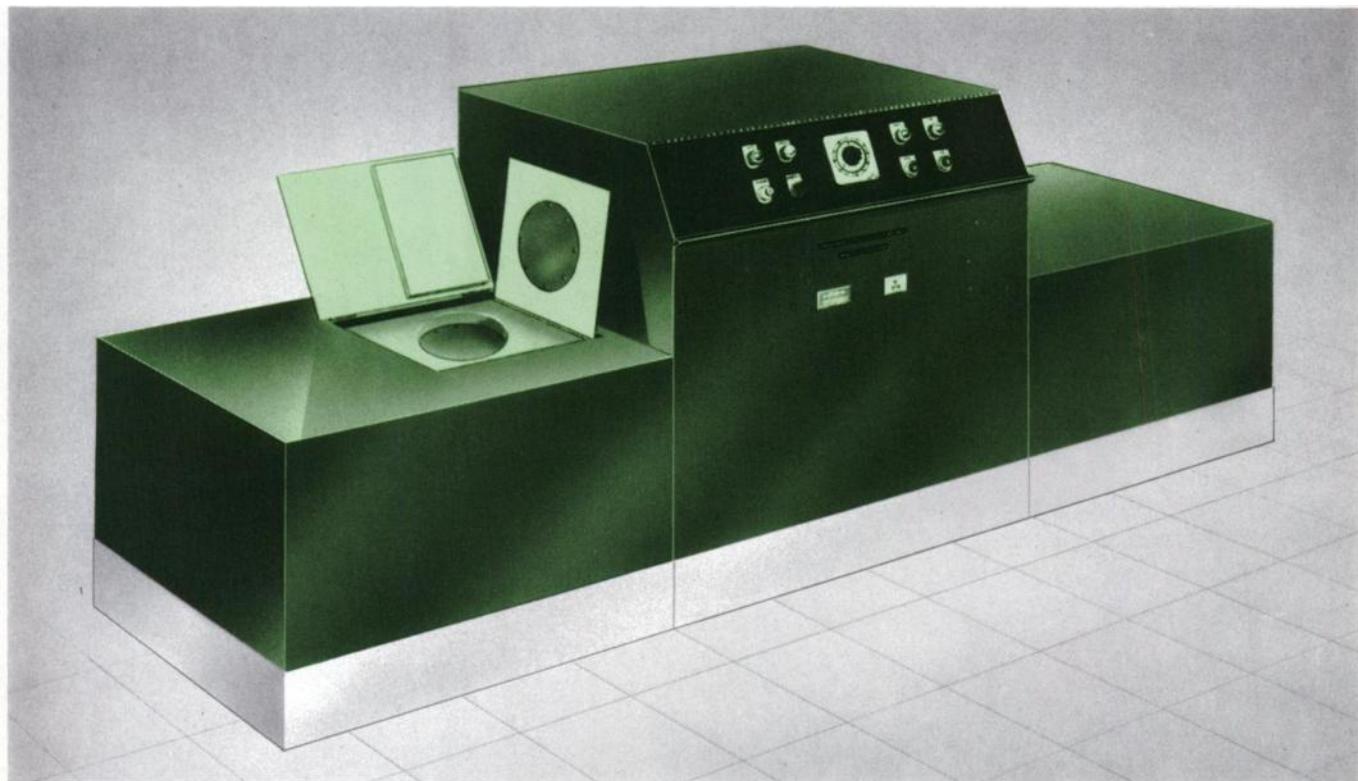
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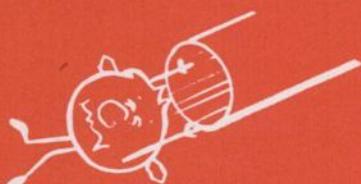
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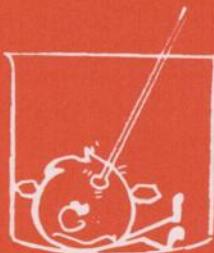
I'm a T₃ molecule

I have been

pipetted



rotated



frozen



swizzled & agitated

But now I live in the gentle world of



I.S.G.

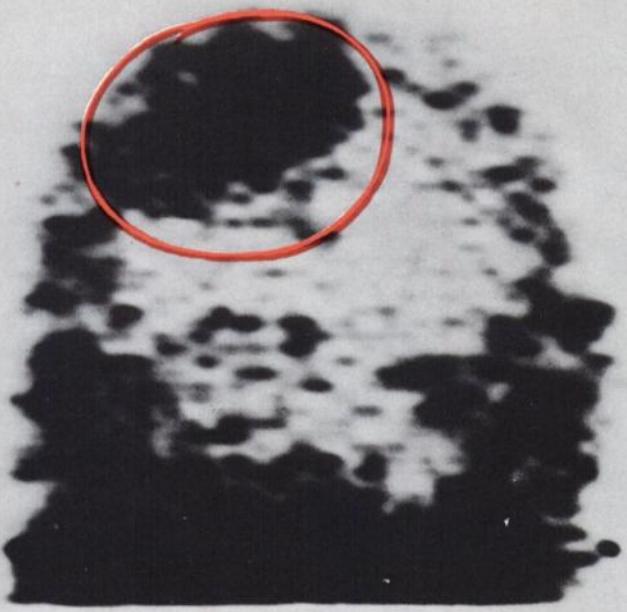
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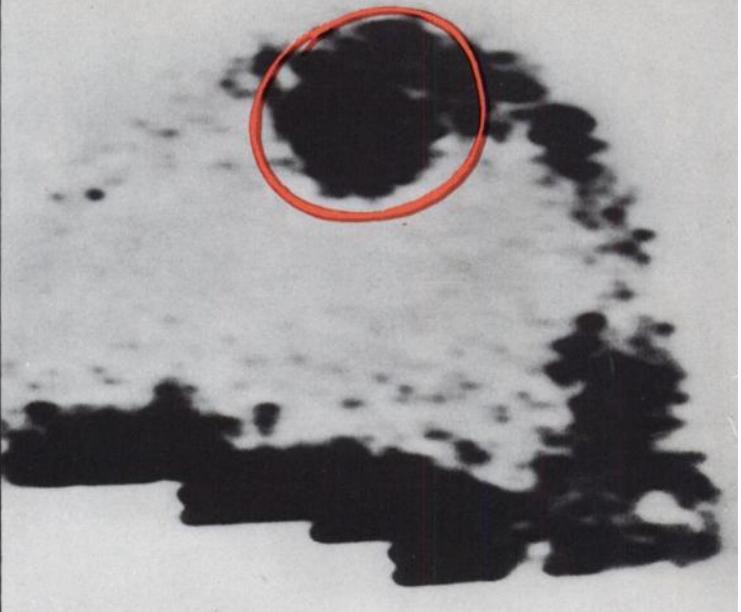
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An approach toward
excellence in medicine



POSTERIOR

R



LEFT LATERAL

In suspected brain pathology, find out fast with Pertscan-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. And you get each projection fast—as little as 2 minutes with a camera, 15 minutes or less with rectilinear scanners.

A 54-year-old man was hospitalized with progressive weakness of the right side, followed by seizures of the right side (Jacksonian seizures). Brain scans showed an abnormal concentration of isotope in the left parasagittal area. Surgery revealed a meningioma, which was removed, and the patient recovered.

The 2 scans above, showing the marked abnormal uptake (which turned out to be a meningioma), were made with Pertscan-99m. This product is shipped Monday through Friday—and Sunday. Thus, brain scans can be scheduled 6 days a week—Monday through Saturday.

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

CONTRAINDICATIONS: 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.

804464

Pertscan™-99m

SODIUM PERTECHNETATE Tc 99m

Also available:



Pertgen™-99m

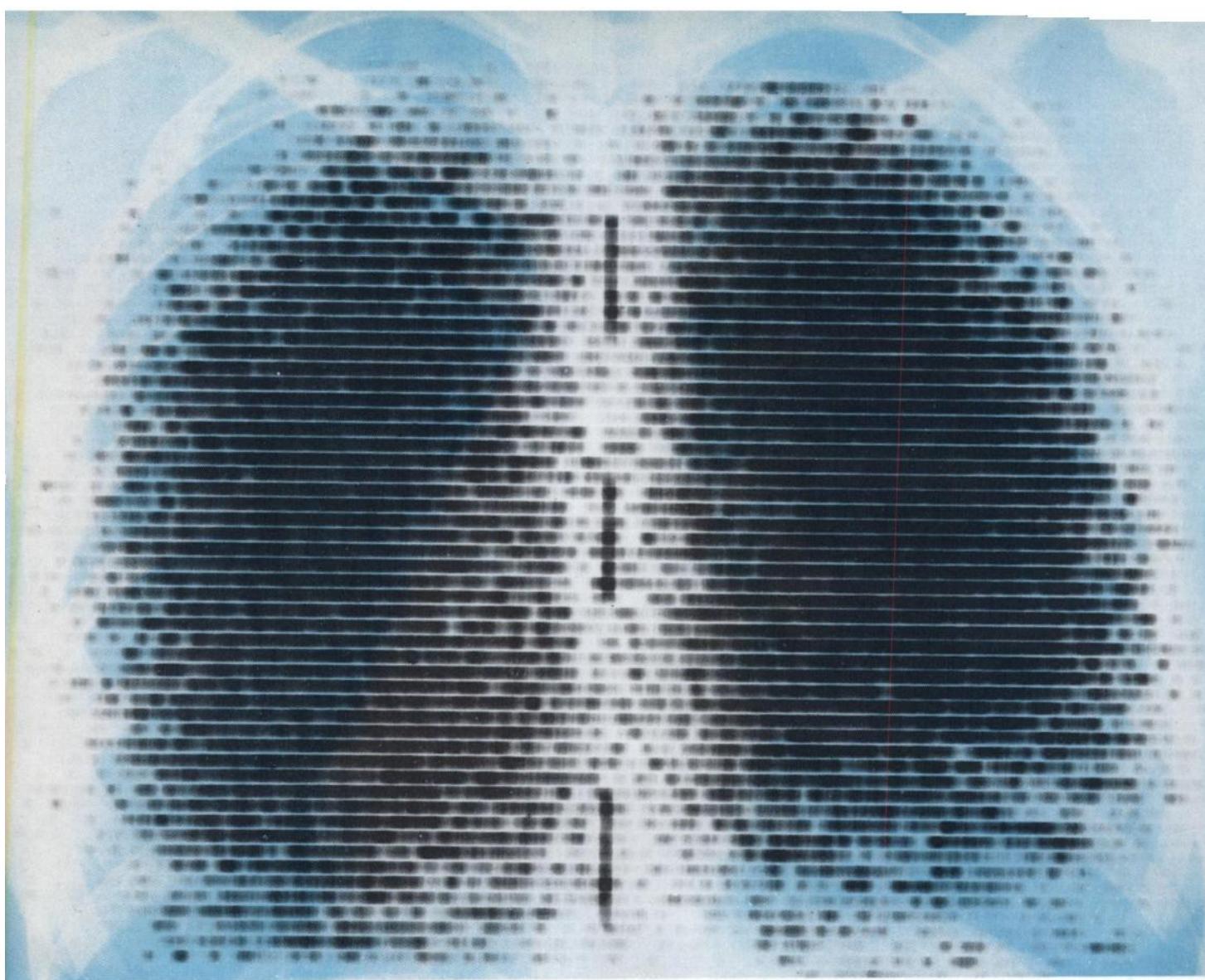
TECHNETIUM 99m GENERATOR KIT

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Abbott announces **Macroscan™-131** AGGREGATED RADIO-IODINATED (I^{131}) 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.

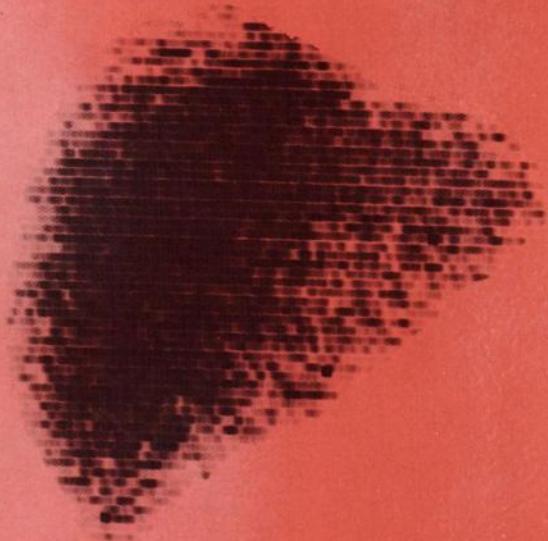
Surgery and/or other therapy for lung disorders: To evaluate the effectiveness of therapeutic measures.

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



Abbott Announces **Colloscan™-99m** TECHNETIUM SULFIDE Tc 99m

A.E.C. or Agreement State licensing required.

Now, you can "see" the liver without exploratory surgery!

Liver scanning is employed to help determine the size, position, shape and functional integrity of the liver. Space-occupying lesions of the liver from all causes usually can be detected and diagnosed. Scanning is especially useful when serologic or other laboratory tests are equivocal or not useful.

Colloscan-99m offers major advantages over earlier medical isotopes:

1. It provides very high counting rates that can be readily detected.
2. It is easily collimated and shielded.
3. And because of its short half life (about 6 hours) and fast clearance, the patient receives minimum radiation.

For these reasons, technetium sulfide Tc 99m has been called the agent of choice.^{1,2}

It is important to note that Colloscan-99m is formulated with low molecular weight dextran (dextran 40)—and not clinical dextran (dextran 75).

Colloscan-99m is a sterile, non-pyrogenic, colloidal solution that can be administered as received—no preparation is necessary. It is shipped 6 days a week—Monday through Friday and Sunday.

INDICATIONS: For indirect visualization of the liver, spleen, and bone marrow.

CONTRAINDICATIONS: Radio-pharmaceutical agents should not be administered to pregnant or lactating 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 to all personnel. Physicians administering this agent should be prepared for emergency resuscitation in the event of an anaphylactoid reaction. The absence of a lesion in the scan does not necessarily denote the absence of lesions.

ADVERSE REACTIONS: In more than 200 patient studies, there were 2 reported instances of hypotension requiring prompt supportive treatment.

TM—TRADEMARK 803461

1. Gottschalk, A., J.A.M.A., 200:630, 1967.

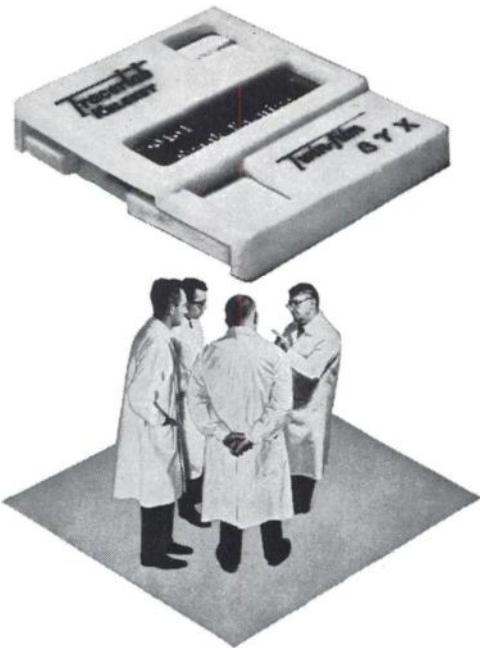
2. Shingleton, W. W., et al., Ann. Surg., 163:685, 1966.



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Tracerlab Film Badge Service



where people count!

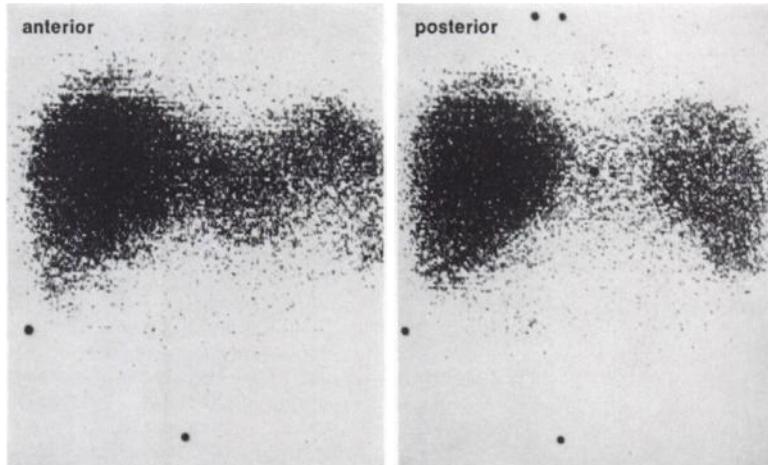
A dosimetry badge is a personal thing; the health, the very life of the wearer may depend on it. That's why Tracerlab people give so much personal care and attention to each and every film badge that passes through their hands, before and after computer processing and quick return to you. And more dosimetry badges pass through their skilled hands than any other monitoring service. Yours should be among them.

You can also count on Tracerlab people for the safest, most reliable radioactive sources in the world — a wide selection of stock or custom types for standardization and analysis. For dependable products and services in the life sciences and health physics, including a broad range of radioanalytical services, come to Tracerlab — where people count!



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A new Squibb radiopharmaceutical offering important advantages in liver scanning



Normal liver scans. Both anterior and posterior scans obtained approximately 15 minutes after injection of 300 μ Ci of Squibb Aggregated Radio-Iodinated (I^{131}) Albumin.

Courtesy of John G. McAtee, M.D.

A new Squibb radiopharmaceutical specifically for liver scanning offers important advantages over radiogold and iodinated rose bengal. New ALBUMOTOPE-H [Squibb Aggregated Radio-Iodinated (I^{131}) Albumin (Human) for Liver Scanning] is a Squibb "first" and the latest addition to the broad line of radiopharmaceuticals available under the Medotopes® label.

excellent liver scans

Albumotope-H appears to be free of a major disadvantage of I^{131} rose bengal. 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 densities.²

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 nonradioactive 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 And the half-life is almost three times that of radiogold-198,⁴ simplifying inventory maintenance and handling.

less chance of toxicity

Unlike inorganic colloid radiopharmaceuticals, Albumotope-H is metabolized 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. Finally, 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.

contraindications

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.

precautions

In women of childbearing 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.

supply

Albumotope-H is a sterile, aqueous, nonpyrogenic preparation available in vials containing 1 to 10 mg. of heat-aggregated (colloidal) human serum albumin per cc. The preparation also contains 0.9% benzyl alcohol as a preservative.

references

- (1) Charles, N. D., and Shlansky, E.: J. Albert Einstein Med. Center 12:126 (April) 1964. (2) Schwabe, A. D., and Bender, M. A., in Blahd, W. H.: Nuclear Medicine, New York, McGraw-Hill, 1965, p. 297. (3) Taplin, G. V., et al.: J. Nucl. Med. 5:259 (April) 1964. (4) McAfee, J. G.; Ause, R. G., and Wagner, H. N., Jr.: Arch. Intern. Med. 116:95 (July) 1965.

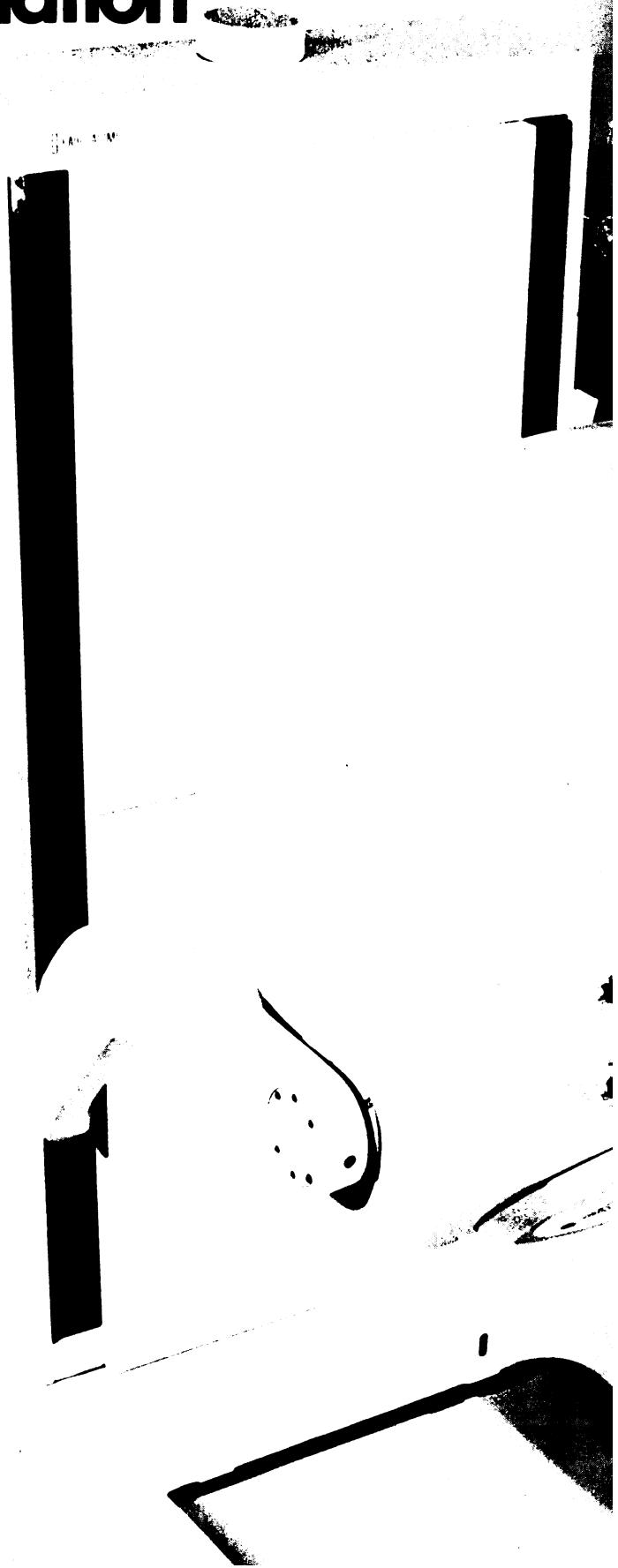
Albumotope®-H

Squibb Aggregated Radio-Iodinated (I^{131}) Albumin (Human) for liver scanning



Division of Nuclear Medicine
East Brunswick, N.J. 08816

**The Baird-Atomic
Autofluoroscope® can do things
that no other scintillation
camera can.**





Fact: The Baird-Atomic Scintillation Camera is the only Camera that can provide quantitation of patient data with real numbers as read directly from the front panel. You can do cardiovascular dynamics and cerebral blood flow dynamics both visually and quantitatively. And you can do lung, pancreas, thyroid, placenta, and other static analyses. The Autofluoroscope is the only system that can provide permanent patient record storage with instant recall of all the original data in unaltered form.

Up to three areas of quantitation can be outlined by a light pen and presented to the multiple pen recorder for a graphic display of total organ activity versus time. It is the only complete instrument having all the high demand computer functions built into the system. Let us prove to you that the Baird-Atomic Scintillation Camera will do everything we say it will. 33 University Road, Cambridge, Mass. 02138, Telephone 617 864-7420 • Baird-Atomic Europe, The Hague, The Netherlands. Baird-Atomic Ltd., Hornchurch, England

B A **BAIRD-ATOMIC**

o-sef'ah-le).

Gr. *skaphē*
boat; navic-
bone of the
bone on the
ragalus and

ation of the
ondrosis of

The shoul-
the back of



terior view: 1,
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(coracoid)
margin; 6,
inferior an-
the scapula; 9,
10, spine; 11,
ommencement,
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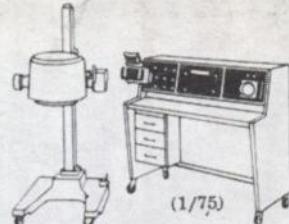
ah-vik'u-lar).
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scapula + Gr.
e shoulder.
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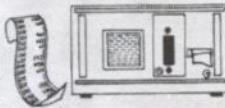
e're-or). De-

Scintillation camera (sin'ti-lā'shün kăm'ĕr-ă).
The Pho/Gamma® III manufactured by Nuclear-Chicago Corporation. Provides in-vivo visualization and recording of radioisotope distribution in body organs through a variety of readout techniques.



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scintidigit (sin'ti-dij'it). Digitized record, on paper tape of total number of counts accumulated during each Pho/Gamma III examining period. Produced by high-speed digital printer accessory.



scintiphoto (sin'ti-fō'tō). Photographic recording of radioisotope distribution in body organs, as displayed on Pho/Gamma III oscilloscope. Scintiphotos can be either 1. individual, self-developing pictures exposed during



Scintiphoto 1



Scintiphoto 2

total examination period and processed by triple-lens camera supplied with Pho/Gamma III, or 2. serial, time-lapse pictures made throughout examination period on 35mm film by optional automatic time-lapse camera available for Pho/Gamma III.

scintiplot (sin'ti-plō't'). Analog record, on chart paper, of radioisotope distribution, as visualized by Pho/Gamma III. Used especially for renal studies, when Pho/Gamma III detector is operated in divided-crystal mode. Produced by dual-channel ratemeter/dual-pen recorder accessory combination.

scintitape (sin'ti-tāp'). Magnetic-tape recording of Pho/Gamma III data. Produced by magnetic tape system accessory. Clinical information is transferred to tape by system's multidimensional analyzer. Tape is manipulated by system's tape transport. Taped data can be 1. played back for photographic recording from analyzer's scope as digital scintiphotos (DSP), or 2. fed to an off-line computer for automatic processing and analysis.



Because we've come up with some exciting new accessories for the Pho/Gamma® III Scintillation Camera.

Perhaps not all of the words in our "dictionary" will end up in the clinician's vocabulary. Frankly, we invented most of them. For a reason. To help illustrate the newly expanded versatility of Pho/Gamma III for the processing, storage, and analysis of data on radioisotope distribution in body organs and areas.

And versatility is the key word. Now Pho/Gamma III can help you learn more, in more ways, than ever before.

For example: To the familiar scintiphoto must now be added sequential scintiphotos. They're taken with our new 35-mm automatic time-lapse camera. It fits right on one of the twin scopes on the Pho/Gamma III console.

Other new additions include analog chart records, digital printouts, magnetic tape—all new, all briefly defined in our dictionary.

Why not use it as a point of departure for a talk with your Nuclear-Chicago sales

We're helping add some new words to the "diagnostic dictionary."

engineer. Or write to us for all of the words on Pho/Gamma III and its expanded array of accessories.

Research in the Service of Mankind



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