



WASHINGTON 25, D. C.

December 26, 1950

NAVY DEPARTMENT

DEPARTMENT OF  
MEDICINE AND SURGERY

YOUR FILE REFERENCE:

IN REPLY REFER TO: 10F

Rear Admiral Clifford A. Swanson  
Surgeon General, U. S. Navy  
Washington 25, D. C.

Dear Admiral Swanson:

The enclosure describes briefly the development and some of the accomplishments, of the Radioisotope Program which is carried on under supervision of the Research and Education Service, Department of Medicine and Surgery, U. S. Veterans Administration.

I hope that you may find this of some interest.

Yours respectfully,

*E. H. Cushing* ✓

E. H. CUSHING, M. D.  
Assistant Chief Medical Director  
Research and Education Service

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RADIOISOTOPE PROGRAM OF U. S. VETERAN'S ADMINISTRATION

The radioisotope program of the Veterans Administration was initiated in the summer of 1947. At the present time radioisotopes are employed, in research, diagnosis and treatment, in 14 hospitals all closely associated with medical schools where radioisotopes are employed. Radioisotope laboratories and facilities are being included in the construction plans of 23 new VA hospitals (general medical and surgical). Of these, 18 will be completed by the end of fiscal year 1952.

The program is administered centrally as a part of the Research and Education Service of the Department of Medicine and Surgery. A committee consisting of Doctors Shields Warren, Stafford Warren, H. L. Friedell, Ferrin Long and Hugh Morgan serves in an advisory capacity and gives guidance to the overall program.

High standards have been established and maintained with respect to radiological safety, to clinical applications and to appropriate public relations.

In the eastern third of the United States, VAH having radioisotope programs have the advisory services of Doctor Shields Warren; in the central third Doctor H. L. Friedell, and in the western third Doctor Stafford Warren. They have rendered, and continue to render, a most invaluable service in this capacity.

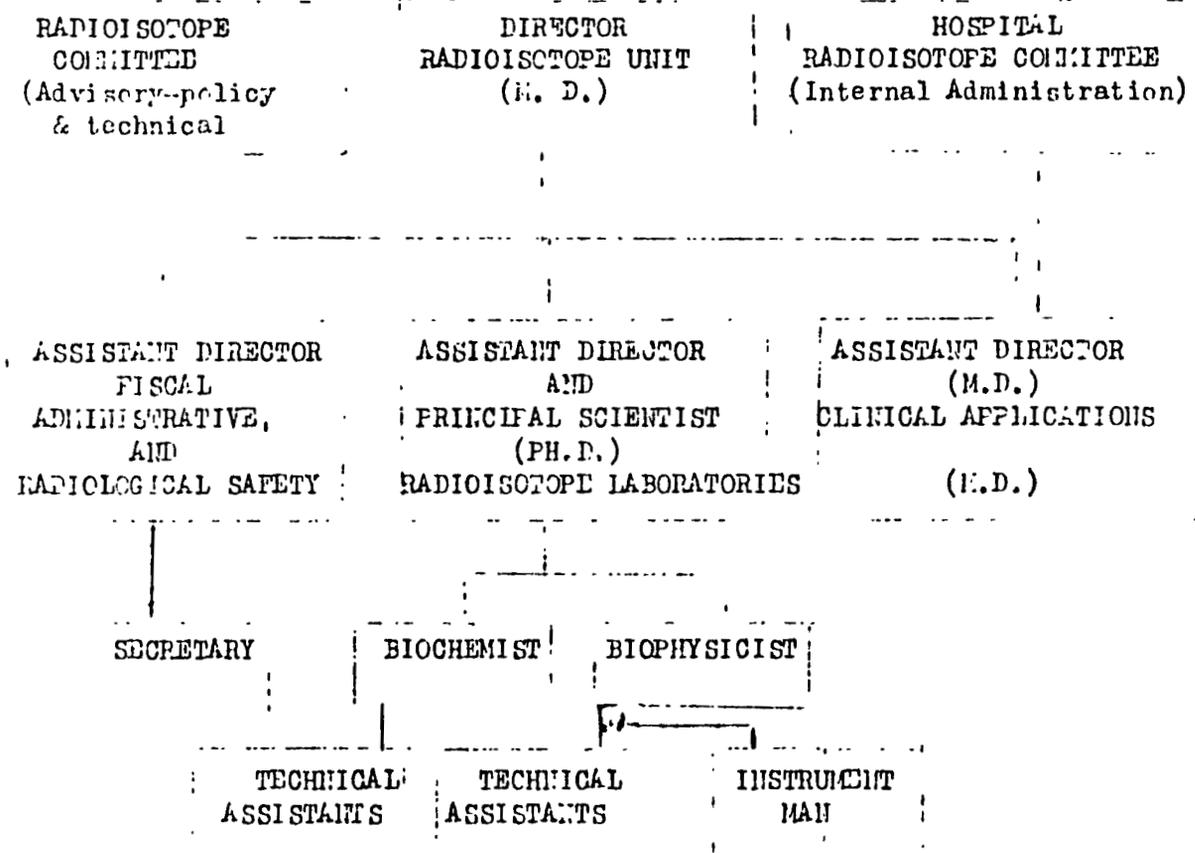
The radioisotope program in the individual hospital is administered by a Director of Radioisotope Unit. Usually, he is an internist, less frequently, a radiologist. He is responsible to the Manager of the hospital, usually through the Chief of the Medical Service of the hospital.

A Radioisotope Committee, selected by the local Dean's Committee from the teaching staff of the associated universities, advises the Director in respect to policies, personnel qualifications, professional and technical matters, human applications, radiological safety, and public information. This committee plays, in an advisory capacity, a vital role in shaping and guiding the local program in research and in all aspects of human applications. Biophysicists and biochemists, in addition to physicians, serve on these committees.

The staff of a VA radioisotope laboratory consists of professional, scientific, and technical, personnel organized in the manner indicated in the chart. Usually 5 to 8 individuals are employed full-time in a single unit. In addition, usually 2 or more individuals from the faculty or laboratories of the associated medical schools serve on a part-time basis and still others serve as consultants. This scheme has made possible a much greater utilization of technically qualified and, presently, relatively scarce personnel. Physicians of the professional services, frequently including residents, are closely associated in the research and clinical application.

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right indicate.



The facilities of the radioisotope program include:

1. Administrative office where the business side of the program is carried out and the radiological safety program administered and records kept.
2. Biochemical and biophysical laboratories with specially constructed hoods, chemical benches, et cetera, fitted out with the necessary instruments and equipment.
3. Clinical room, or rooms, where patients are brought for diagnostic studies involving administration of radioisotope materials or for treatment with such materials. In some few instances, special beds have

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been set aside for these patients so they can be observed more advantageously.

Personnel employed as of October 25, 1950 are:

<u>Full-time</u>		<u>Part-Time</u>		<u>Consultant</u>	
Medical	18	Medical	14	Medical	26
Scientific	56	Scientific	6	Scientific	16
Other	13				

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Expenditures to date totalling \$1,625,682 are:

	<u>Equipment and Supplies*</u>	<u>Personnel**</u>
FY 1948	\$ 220,500	51,604
FY 1949	157,970	290,260
FY 1950	216,032	299,836
FY 1951 (to date)	<u>235,480</u>	<u>183,978</u>
	\$ 820,002	\$ 805,680

\*Exclusive of construction and alterations.  
 \*\*Exclusive of salaries, travel expenses and per diem for DM&S personnel.

In research, two outstanding achievements of VA Radioisotope Units have been:

1. The development of a technique at VAM Hines, <sup>Le Roy</sup> in connection with Northwestern Medical School, for using di-iodo-fluorescein tagged with radioactive iodine to diagnose and accurately locate brain tumors in 95% of the more than 300 cases studied.
2. The development of a technique, at VAC Los Angeles in connection with the medical school of the University of California at Los Angeles, for making a thyroid function study employing only 1 microcurie of radioactive iodine and a scintillation counter. This test will probably replace the basal metabolic test in clinical practice. It is more accurate. It is entirely safe. It permits of repeated tests.

In clinical diagnosis, radioisotopes have been used in a wide variety of applications and their usefulness in this respect is being gradually extended. Evaluations of these applications are being developed.

In treatment, radioisotopes have been employed in polycythemia, leukemias, certain malignancies of the thyroid gland, and in selected cases of thyrotoxicosis. A conservative position is maintained.

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Conferences are held once or twice a year, at which time progress is reported and problems of mutual interest are discussed. These are attended by a physician and a scientist from each of the fourteen (14) Radioisotope Units. These conferences have proved of great value and represent an unique phase of the overall program.

#### VA Responsible for Civil Defense Training of VA Personnel

VA will accept responsibility for civil defense preparations within its own establishments, including training, but it will not attempt to take over responsibilities, including those for training which are the legal or moral responsibility of other agencies of civil government whether federal, state or local.

A plan for training personnel of the VA in three different but closely related subjects has been drawn up, and the first phases of instruction have been initiated.

- (1) Medical Aspects of Atomic Warfare,
- (2) Medical Aspects of Radiological Defense, and
- (3) Radiological Defense (Monitors).

The training program is administered within the Research and Education Service.

As a consequence of having facilities and staff for working with radioisotopes, the VA Radioisotope Units are uniquely suited to the conduct of training for medical and technical personnel of the Veterans Administration in "Medical Aspects of Radiological Defense" and in "Radiological Defense (Monitors)."

The laboratories and staff of specialists of the Radioisotope Units could render an unusual and perhaps vitally important community service in the event that an atomic attack produced a residual radiation hazard which would require the use of specialist teams and special facilities for radiochemistry analyses.

#### "Radiological Defense (Monitors)."

During October 1950, VA personnel from the staffs of 14 VA hospitals having Radioisotope Units were trained to serve as monitors on 70 VA "Radef" teams, three monitors to a team. During November, monitors for 51 additional teams were trained, thus bringing to 127 or more, the number of "Radef" teams dispersed in 14 widely scattered hospitals and available to the VA for such needs as it may have in connection with

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civil defense preparations within its own establishments. Courses of 40 and 80-hours of instruction were conducted in an attempt to ascertain if the shorter course will be adequate. Half of the time scheduled was devoted to practical work or exercises. Classes were limited to 15 to 24 members. Experience proved that 80-hours of instruction will be required to insure adequate basic instruction.

It is expected that four VA hospitals (Martinsburg, Hines, Houston and Long Beach) will be designated as VA "Radef" training centers to which personnel from VA hospitals not having Radioisotope Units may be sent to be trained to serve as monitors on VA "Radef" teams.

"Medical Aspects of Radiological Defense."

Plans have been made to give basic instruction to medical radiologists and selected physicians of the VA who have had the course in "Medical Aspects of Atomic Warfare." Perhaps as many as 10% of those taking the course in "Medical Aspects of Atomic Warfare" will be selected for instruction in "Medical Aspects of Radiological Defense." These courses will consist of 32 hours basic instruction, with classes limited to 25 individuals, will be conducted at VA hospitals with Radioisotope Units, principally the 4 designated as "Radef" Training Centers. These courses will be initiated soon after January 1, 1951, and will be conducted by the Radioisotope Unit staff members and associates.

"Medical Aspects of Atomic Warfare."

Plans have been made to give orientation instruction to as many VA physicians as practicable, initially only to the medical staffs of the 14 VA hospitals having radiceisotope units, and later to physicians from other VA hospitals. These courses will consist of 8 to 10-hours formal instruction with classes limited to 50 people and will be initiated during January 1951. While the staff of the Radioisotope Units will not be responsible for the conduct of this instruction they will serve as instructors where appropriate.

GEORGE H. LYON, M. D.

December 15, 1950.

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