

**FITZSIMONS GENERAL HOSPITAL
U. S. ARMY**

DENVER 30, COLORADO

IN REPLY REFER TO

MEDEO-X

YOUR REFERENCE: LR:IB:NB (52563)

Nathan Bassin
Isotopes Branch
Division of Licensing and Regulation
US Atomic Energy Commission
Washington 25, D.C.



Dear Mr. Bassin

Reference your letter of 26 July 1963 to Commanding General, Fitzsimons General Hospital, Re: Change in AEC License. The following factors may clarify this application.

Fitzsimons General Hospital has used radioisotopes for approximately ten years under AEC licensure, (License Number 5-46-9). This is an individual user license under the supervision of Russell E. Graf, Lt. Col. MC, Gerald L. De Nardo, Major MC, and Leon Dixon, Major MC. Major De Nardo and Major Dixon will remain at Fitzsimons as users of radioisotopes. Lt. Col. Graf has been replaced by Major Siebert who will supervise the use of sealed source radioisotopes. Furthermore, the radioisotopes requested in the new institutional license application are to a great degree the same as those on the present AEC individuals license. It should be emphasized that this is not a new radioisotope program. A general license is felt to be in the best interest of Fitzsimons General Hospital as well as the AEC.

Iridium will be used in ribbon form i.e., seeds in nylon ribbon for interstitial implantation. It is available from Squibb under the trade name Iriditope. Storage in the receiving kit in a labeled and locked room will be carried out. Tantalum is available from Atomic Energy of Canada and will be used as metallic wire; storage will be in a lead-lined safe and all radium storage, handling, and usage procedures will be followed. This will be used in interstitial implantation.

The dosages for the use of iodinated human serum albumin for brain tumor localization and heart scans and for use of mercury 203 chlormeredrin for brain scans should read 10 microcuries per kilogram.

Items 4 (a) and 5 (a) 2 on page 1 of Form AEC - 313 (a) should be changed to read "Medical research with the prior approval of the Radioisotope Committee, Fitzsimons General Hospital and the AEC".

Approval of the following specific radioisotopes for the listed uses is requested now in addition to the previously submitted list.

ADDRESS ALL COMMUNICATIONS TO THE COMMANDING GENERAL
FITZSIMONS GENERAL HOSPITAL

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RADIOISOTOPE	DOSE	USE	ON HAND
Xenon - 133 gas	1.0 mc	Pulmonary function	2 curies
(Dose of 1.0 mc in normal male results in approximately 40 milli-rads total body radiation; technique of Bates and Hugh-Jones).			
Selenomethionin Se-75	500 uc	Pancreatic Scan	10 millicuries
(Technique of Bender and Sodee)			
Iodothyrochortisone I-131	in vitro	Binding proteins	10 millicuries
I-125	in vitro	Binding proteins	10 millicuries
Insulin I-131	in vitro	Binding proteins	10 millicuries
I-125	in vitro	Binding proteins	10 microcuries
P-toluidine polyvinylpyrrolidone I-131	100 uc	Protein loss	10 microcuries
	10 uc/kg	Brain scan	10 microcuries

Sections 4, 14, and 15 of the application should refer to Title 10 Code of Federal Regulations, Chapter 1, Part 20. In addition, section 4 refers to Title 10 Code of Federal Regulations Chapter 1, Parts as listed in the applications.

The Radioisotope Committee will meet quarterly or more frequently at the call of any of its members. A report of each meeting will be submitted in writing to the Commanding General, Fitzsimons General Hospital and to the Office of the Surgeon General quarterly. The Radioisotope Committee will perform the following:

1. Supervise the entire radioisotope program
2. Review and grant permission for, or disapprove, the use of radioisotopes within the institution from the standpoint of radiological safety.
3. Review the clinical training and experience and the radioisotope training and experience of each prospective user.
4. No prospective user will be designated to independently use byproduct material, who does not at least fulfill the minimum experience requirements recommended by the AEC.
5. Each prospective user will be restricted to the use of those byproduct materials which his experience indicates he can utilize with safety.
6. The Radioisotope Committee may, when necessary, extend the number and type of radioisotopes permitted to the user (within the limitations of the institutional license) as his experience increases.
7. Review each proposed type of use including dosage, mode of administration, radiation, mode of handling etc. to determine its safety and approve or disapprove the proposed use.

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8. Review reports and records of the radiological safety officer and enforce remedial action when necessary.
9. Assure the adequacy and calibration of monitoring instruments, detection instruments, and other equipment necessary in the safe use of radioisotopes.
10. Assure the proper and safe handling of radioisotopes.
11. Assure the adequacy of laboratory facilities to facilitate the safe handling of radioisotopes including but not limited to hoods, ventilation, storage, shielding, temperature control etc.
12. Assure that adequate numbers of properly trained technicians are available for the proper use of radioisotopes.
13. The Radiological Safety Officer will bring to the attention of the Committee unsafe practices in the use of radioactive material.
14. The Radioisotope Committee will implement its duties and responsibilities through the authority of the Commanding General, Fitzsimons General Hospital and the Office of the Surgeon General.

Enclosure No. 1 indicates supply control procedures referable to Receipt and Issue of Radioactive Isotopes.

The intent of Sections 7, 8, 11, and 12 of the Regulations and Rules is to reduce the exposure of personal handling radioisotopes as much as possible and at all times to keep this exposure considerably less than the maximum permissible dose for occupational exposure. A review of AEC records of personnel exposure at Fitzsimons General Hospital will indicate that this has been accomplished. An exception to Section 7 occurs with radiomaterials which deteriorate unless refrigerated; these are refrigerated in lead pigs. Remoted handling devices referred to in section 8 will always be used in handling large doses of radioisotopes, e.g., therapeutic doses, but are not always feasible in handling small doses e.g.; diagnostic doses. The only exception to Section 11 is the preparation of diagnostic doses of radioisotopes in the contaminated sink area immediately adjacent to the shielded storage area. Section 12 should read "An aluminum or leucite beta ray syringe shield will always be used when injecting therapeutic solutions containing beta emitting radioisotopes".

In addition to the instruments mentioned in the application, the following instruments are available in the Radioisotope Section:

1. Henson Quartz Fiber Electroscope (1219) - beta gamma 2.54 div/min/mc Ra 226 at 1 meter, (10.5 roentgens/div.)

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2. Admiral Corp. ANPDR-27 - beta gamma Geiger - Muller tube
0.5 - 500 mr/hour range.
3. Halliburton Corp. ANPDR - 54 - alpha meter.

Additional instrumentation is available in the Radiology Service as listed below.

1. Tracerlab, Model SU-IE, beta-gamma, ranges (0-15 mr/hr)
X1, X10, X100.
2. Spinco, Model XX2, beta-gamma, ranges (0-20 mr/hr) X0.2, X2, X20.
3. Proteximeter, Model 300, gamma, range 0-200 mr.
4. Siemens, gamma meter, range 0-100r per hour to 0-2000r per hour.
5. Tracerlab, Model SU-5A, alpha-beta-gamma, ranges (0-2 mr/hour)
X.02, X.2, X2, X20 and (0-100 C.P.M.) X1, X10, X100, X1000.
6. Victoreen r meter with chambers 1-0.25r, 3-25r, 2-100r,
2-250r, 1-2500r.

There are also available at Fitzsimons General Hospital higher range monitoring instruments up to 500 roentgens per hour since this is a military installation. This range of monitoring instruments should be adequate.

Thank you for processing this application.

Paul E. Siebert

PAUL E. SIEBERT

Major MC

Chief, Radiology Service

PES:jms

1 Encl.

D R A F T

FITZSIMONS GENERAL HOSPITAL
Denver, Colorado 80240

HOSPITAL REGULATION
NUMBER _____

15 August 1963

SUPPLY CONTROL

RECEIPT & ISSUE OF RADIOACTIVE ISOTOPES

Purpose1
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1. Purpose. To establish policies, procedures, and responsibilities for receipt and issue of radioactive isotopes.

2. Duty Hour Responsibilities.

a. Purchasing & Contracting will insure that purchase order indicates whether consignee is MRNL or Radioisotope Section, Radiology Service, Fitzsimons General Hospital, in order to expedite accurate and efficient delivery.

b. Transportation. Upon notification, personnel will pick up radioactive isotopes from airport and deliver the unopened shipping container to Storage Section, Supply Control Branch for identification purposes. If shipping container shows any evidence of damage, Transportation personnel will notify the Radiological Safety Officer, extension 23239, immediately.

c. Storage Section, Supply Control Branch will determine whether the material is for MRNL or Radioisotope Section, Radiology Service. Upon determination, they will immediately deliver to Radioisotope Section or notify MRNL for immediate pickup. If MRNL cannot pick up material immediately, Storage Sec.

will deliver the items. The individual in MRNL or Radioisotope Section receiving the radioactive isotopes will open the package and sign one copy of the billing document, returning the document to Storage Section personnel making the delivery. UNDER NO CIRCUMSTANCES WILL THE RADIOACTIVE ISOTOPE SHIPPING CONTAINER BE OPENED IN THE RECEIVING SECTION BY SUPPLY PERSONNEL.

d. Radiology Service, Radioisotope Section, & USAMRNL. will be responsible for safe storage of radioactive isotopes. Personnel will maintain DA Form 8-235 (Pharmacy-Drug and Narcotic Stock Record) in accordance with paragraph 5, AR 40-61.

4. After-Duty Hour Responsibilities.

a. The AOD, upon receiving a call from the airport, will arrange for pick up of radioactive isotopes and take the unopened shipping container to the Radium Room, Room #3125, Radiology Service, for safe storage until check-in can be accomplished. AOD will notify Storage personnel, Supply Control Branch, ext. 22210, at 0745 hours the following morning that radioactive material has been received.

b. All radioisotopes must be placed in safe storage (Radium Room, Room #3125, Radiology Service) without delay and under no circumstances will they be permitted to remain in any other area during transit from airport to safe storage room.

c. In the event of damage to shipping container, action will be taken as required in paragraph 2b above.

4. References.

a. HR 40-604
b. TB MED 249

c. AR 40-61
d. AR 40-580

e. AR 711-16
f. AR 725-50

MEDEO-S

FOR THE COMMANDER:

(PAUL A. MAXSON)
Major, MSC
Adjutant