

ST. JOSEPH HOSPITAL
128 STRAWBERRY HILL AVENUE
STAMFORD, CONNECTICUT 06904
TELEPHONE 327-3500

my
28 19

October 1, 1979

Joseph Del Medico
Material Licensing Branch
Division of Fuel Cycle & Material Safety
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

In answer to your letter dated August 21, 1979 (97444) we submit the following:

1. This communication and all future applications or amendment requests will be signed by James McSweeney, M.D., Director of Radiology and Sister Daniel Marie, Administrator.
2. The source used for the higher level scales will be 6 curies of Cs-137. The calibration certificate will give specific correction factors at calibration points for each scale and will indicate the material used for calibration.
3. A Ba-133 standard of 250 uCi is the stated accuracy of an order. The source is 1.3-5% at 99% confidence.
4. The dose calibrator will be tested for linearity at quarterly intervals.
On a Monday morning the first elution of a new Tc-99m generator will be assayed. The elution will then be divided in half and both halves assayed to assure that they total the original assay. One half will be used for clinical studies and the other half shall be used for the linearity test as per our license renewal application.
5. See enclosed diagram.
6. We will use your "appendix B" to define the duties of our Radio-isotope Committee.
This committee will meet on a quarterly basis.
Sister Daniel Marie, The hospital Administrator, will sit on the committee.
Paul Weinstein, M.D. is already on our committee and he is an Oncologist whose specialty is Hematology.
7. Pocket chambers will no longer be used. Commercially supplied film badges will be used for all personnel monitoring.
8. All packages will be delivered directly to the Nuclear Medicine Department.

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INSPECTION AND ENFORCEMENT

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REG: LIC30
06-06922-02 PDR

A letter as per your "Appendix E" will be sent our security department.

9. All new radiation workers meet with the physicist and their backgrounds are evaluated. The physicist then instructs them on procedures, risks and radiation safety. Regular on-the-job instruction is given as situations warrant. This instruction will be documented in an education log.

The Radioisotope Preparation and Storage area is the only "Restricted Area". It is locked during off hours and under supervision during working hours, therefore no ancillary personnel can enter.

10.
 - a) Personnel, after isotope elution or the preparation of a radiopharmaceutical kit will monitor their hands and clothing with a G. M. meter prior to leaving the area.
 - b) Syringe shields shall be used in all instances where they will not compromise the patients well being.
 - c) Each patient dose will be assayed in the dose calibrator prior to administration. Doses differing from the prescribed dose by greater than 10% shall not be given.
11. Daily contamination surveys shall be made in the isotope preparation area and injection area with a G. M. meter. Areas showing greater than .5 ml/hr above normal levels shall be investigated and decontaminated if necessary.

If contamination is found in excess of 100 DPM/100 cm² during weekly or monthly surveys the area will be decontaminated.

12. See enclosed.
13. Therapeutic liquid I-131 will be opened in a hood. Gloves shall be worn at all times when handling therapeutic quantities of I-131.

Approximately 24 hours after handling of therapeutic quantities of liquid I-131 all personnel involved will be counted under the Gamma Camera. Background will be counted and a 250 uCi Ba-133 source in a suitable phantom will be counted. Background will be subtracted and the Ba-133 will give an efficiency which will allow calculation of the thyroid burden. Records will be kept of the above.
14. We are presently using commercially supplied film personnel monitoring devices.
15. See enclosed nursing instructions.
16.
 - a) We have designated one individual as source custodian.
 - b) Enclosed is a copy of a form we use for a running inventory.
 - c) Periodic inventories are conducted on a quarterly basis. See the enclosed form.
 - d) Two individuals are involved in each injection and extraction as a double check.

17. a) Due to some technical difficulties the measurements of actual flow rates will follow in a separate communication. 2879

Enclosed is a copy of a letter, that has been previously submitted to you, from Edward V. Franklin, Architect, explaining that the scanning room 411 has supply air entering at 1425 C.F.M. and an exhaust of 1075 C.F.M. plus a transfer exhaust of 355 C.F.M. This is a total of 1430 C.F.M. exhausted and 1425 C.F.M. entering, a negative pressure of C.F.M.

The previous calculation used only the 1075 C.F.M. If we use the 1430 C.F.M., estimate a 20% Xenon loss, as you suggest, and use the minimum amount of air exhausted from the building (20%) the calculations are as follows:

$$(.20) (1430 \text{ C.F.M.}) (60 \text{ min/hr}) (40 \text{ hr/wk}) 28320 \text{ ml/ft}^3 = 1.94 \times 10^{10} \text{ ml/wk}$$

$$(100 \text{ mCi/wk}) (.20) (1000 \text{ uCi/mCi}) = 2 \times 10^4 \text{ uCi/wk}$$

$$\frac{2 \times 10^4 \text{ uCi/wk}}{1.94 \times 10^{10} \text{ ml/wk}} = 1 \times 10^{-6} \text{ uCi/ml}$$


$$\text{Allowed level Part 20.103} = 1 \times 10^{-5} \text{ uCi/ml}$$

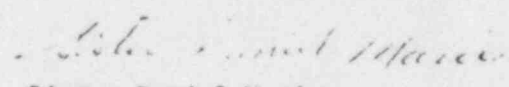
By design calculation our levels are 10% of the allowable concentration limit in Part 20.

- b) A maximum of 80% of exhausted air is recirculated, for energy conservation purposes, only to the Nuclear Medicine Department and not to any other area of the hospital.
- c) A description of periodic measurements of our ventilation system will follow as per "a" of this item.
- d) A description of our method for determining Xenon escape will follow.
- A new procedure may require modification of our trap exhaust system.

Please continue to review our application and the additional information enclosed. We will provide you with the balance of the information required as soon as possible.

Sincerely,


James J. McSweeney, M.D.
Director of Radiology


Sister Daniel Marie
Administrator

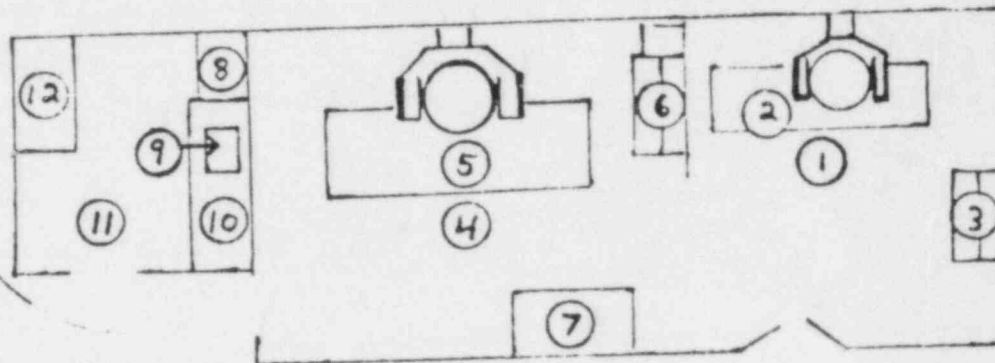
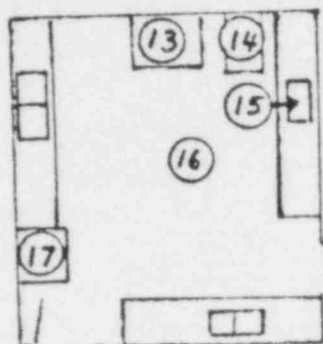
ST. JOSEPH'S HOSPITAL

Department of Nuclear Medicine

Date: _____

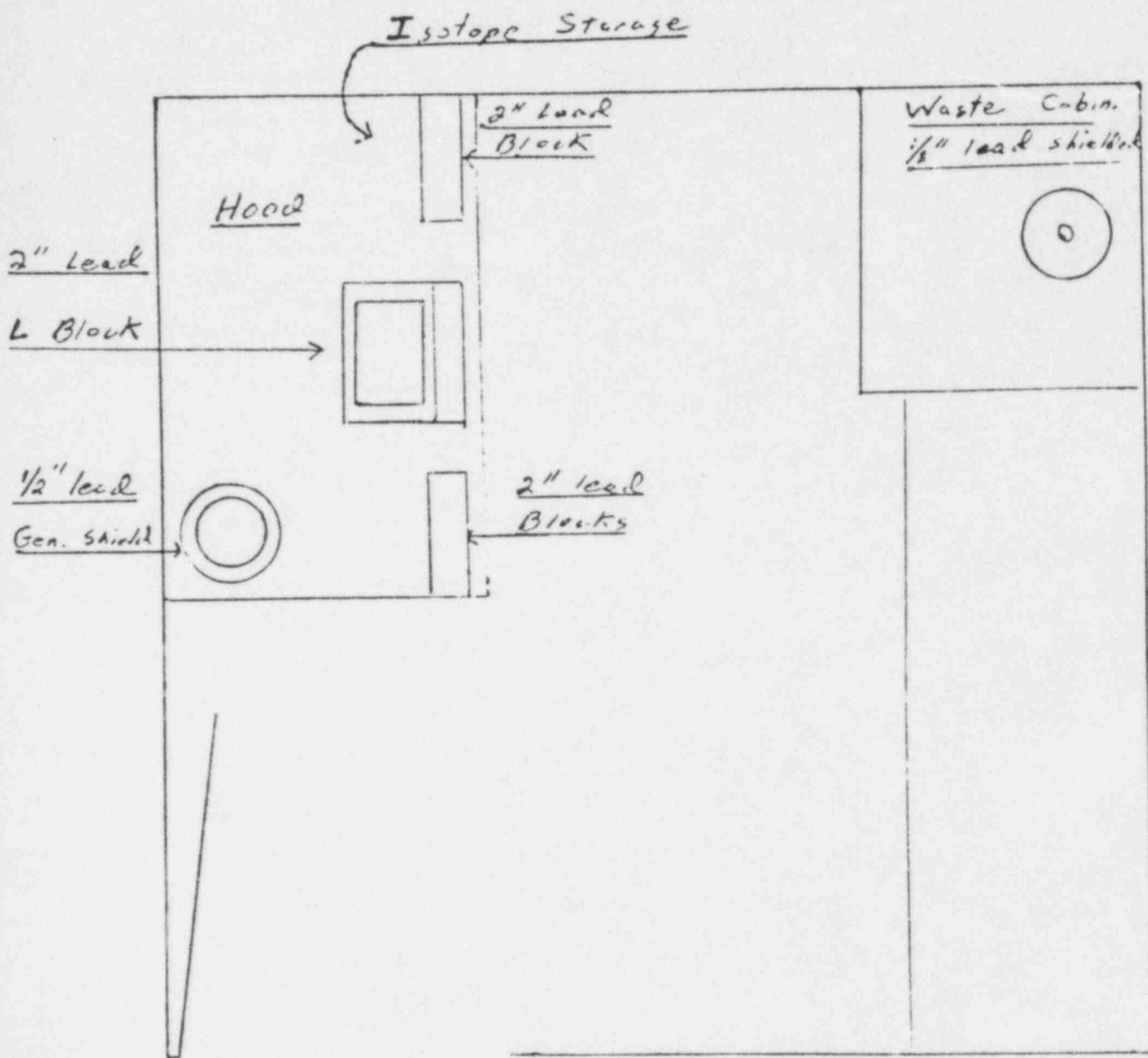
MONTHLY

WEEKLY



No.	Area	CPM	mR/hr	No.	Area	CPM	mR/hr
1	Floor			11	Floor		
2	Stretcher			12	Hood		
3	Console			13	Scint. Count.		
4	Floor			14	Centrifuge		
5	Stretcher			15	Sink		
6	Console			16	Floor		
7	Counter			17	Refridge.		
8	Sink			Background (Bkg)			
9	Counter			Standard			

COMMENTS:



Hot Lab

DATE OF INVENTORY

SOURCE	COLOR CODE
GI 172	Red Yellow Orange
GI 265	"
GI 322	"
GI 385	Red Yellow Gray
GI 398	"
GI 407	"
GI 423	"
GI 434	"
GI 435	"
GI 459	"
GI 332	Orange Orange Orange
GI 209	Brown Brown Orange
-----	Blank Blank Blank
INVENTORIED BY:	

CARSON, LUNDIN & THORSON, PC
880 THIRD AVENUE

ARCHITECTS
NEW YORK 10022

ROBERT L. THORSON

DONALD O. CHAPMAN
DONALD J. FELL
MICHAEL KUBIN
EDWARD V. FRANKLIN
BRUCE L. ALLEN

212 751 1040

June 16, 1977

St. Joseph Hospital
New Emergency APD
Addition & Alteration
Job No. 258-12 -CL&T Job No. 1275

Dr. James J. McSweeney,
Director Department of Radiology
St. Joseph Hospital
128 Strawberry Hill Avenue
Stamford, Connecticut 06904

Dear Dr. McSweeney:

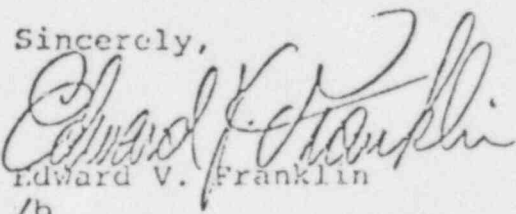
In response to your telephone call regarding supply and return air quantities for Rooms 410 (Hot Lab) and 411 (Scanning), we wish to advise that the design criteria indicated on the Construction Documents is as follows:

Hot Lab. Room 410: The supply air enters the room from the supply duct at the rate of 235 CFM and is exhausted through the hood at 580 CFM. Make up air enters the room through a transfer grille at 355 CFM.

The air from the hood exhaust passes through an absolute filter and is exhausted 25'-0" from the fresh air intake of the supply fan. A distance of ten to twelve feet is usually considered acceptable.

Scanning Room 411: The supply air enters the room from three registers at a total rate of 1425 CFM and is exhausted at 1075 CFM. The transfer grill to Room 410 exhausts at 355 CFM.

Sincerely,


Edward V. Franklin

/b

CC: Sister Daniel Marie
Mr. Feyzi Bil



October 1979

SUBJECT:

Radiation therapy radioactive sealed source and radioactive isotope therapy.

There are two types of radiation therapy which require safety precautions for care of the patient. Sealed source therapy, such as Cesium therapy consists of an encapsulated source of radioactive material which has been implanted in the patient. The source is then removed after a prescribed time. Radioactive isotope therapy consists of the administration of various isotopes in an unencapsulated form much as any other drug. Radioactive isotopes may be given in varying amounts for either diagnostic or therapy purposes.

The following contains general instructions for care of patients undergoing either type of therapy. Additional radiation safety instructions will be supplied to the attending staff, as necessary, by the Radiation Safety Office for each individual case.

1. Identification of Hazard:

The beds of all patients who are undergoing sealed source therapy are to be tagged. The tags for the patients will be supplied with the radioactive material. The Radiation Safety Officer will add necessary safety instructions to the tag for each case. The tag should remain with the patient if he leaves his bed for any reason. The tag will be removed from the bed when the source is removed from the patient.

The beds of all patients undergoing isotope therapy in amounts greater than 50 millicuries are to be tagged. The tag will be supplied with the isotope. Again, the tag should remain with the patient if he leaves his bed, and the Radiation Safety Officer will add any necessary radiation safety instructions to the tag. The technicians will remove the tag

when through decay and disappearance of the isotope the hazard is reduced and normal nursing routine can be reestablished. The tag should then be placed on the chart. If a death should occur to any of these patients, whether or not the tag has already been removed, the Radiation Safety Officer or the Radiologist on call should be notified immediately. The tag, should be replaced on the body before removal to the mortuary. Special arrangements with the pathologists and/or morticians must be made in these cases for the protection of those caring for the body.

2. Isolation of Patients:

All patients who receive isotope therapy involving amounts of 100 millicuries or greater, or patients who receive sealed source therapy should be in a single room. When this is not possible, the patient should be placed in the end bed of the unit. The adjoining bed should be unoccupied.

3. Monitoring Badges:

Nursing personnel caring for patients who are receiving sealed source therapy or isotope therapy involving more than 50 millicuries should wear monitoring badges.

General Instructions:

1. Nursing Personnel should not remain in close contact with the patient after necessary nursing care has been provided. Special restrictions may be ordered by the doctor or by the Radiation Safety Officer.

The time restrictions ordered by the Radiation Safety Officer should not be allowed to interfere with adequate nursing care. They may be exceeded if needed for proper patient care.

2. Visitors are allowed in accordance with the usual hospital rules. Nurses should advise them to sit at least six feet away from the patient and restrict the time of their visit. No pregnant visitors should be permitted or children.

3. Sealed Sources:

- a) No special precautions are needed for sputum, urine, feces, vomitus, dishes, instruments, utensils or bedding.
- b) Surgical dressings and bandages should be changed only as directed by the Radiotherapists.
- c) If plaques, needles, capsules or containers become loose or fall out, do not try to replace them. Call the Radiologist on duty immediately.

4. Radioactive Isotopes:

The hazards in caring for patients who have received radioactive isotopes may arise from radiations emitted by the isotopes in the patient, by accidental contamination of the skin, or by ingestion of radioactive materials in the course of patient care. Often the excretions of these patients are radioactively contaminated.

Precautions to be taken in the case of isotope administration are:

- a) Close contact with the patient should be limited to the minimum needed to

SUBJECT: Radiation Therapy Radioactive Sealed Source
and Radioactive Isotope Therapy

Page 2 of 3

give adequate nursing care. The doctor or the Radiation Safety Officer may give special instructions if the hazard is high.

- b) Hands should always be scrubbed immediately after any patient contact.
- c) All Equipment contaminated by excretions should be washed carefully with hot water and soap. Heavy rubber gloves should be worn while contaminated equipment is being handled. Before removing gloves they should be carefully scrubbed to avoid collection of radioactivity and subsequent dissemination.
- d) It may be necessary to use special precautions for dishes or instruments. The Radiation Safety Officer will leave instructions if special precautions are needed.
- e) Linen should be kept separate until it has been checked by the Radiation Safety Officer personnel and then disposed of according to their instruction.
- f) Contaminated disposable material should be turned over to Nuclear Medicine personnel for disposal (tissues, dressings, etc.)
- g) Unless specifically ordered by the doctor, the bath should be postponed.
- h) Collections of Specimens:
 - 1. Urine: Accurate urine collections are frequently desired by the laboratory or the doctor in charge. Great care should be taken not to lose any part of the specimen. In the case of iodine therapy the urine collection bottles may contain a large amount of radioactivity therefore prolonged contact with these should be avoided as with the patient. The Nuclear Medicine personnel will collect the bottles. The patient should be encouraged to collect his own urine, if possible. If the urine is not to be collected, it may be disposed of in the usual manner.
 - 2. Stools: Usually there is very little radioactivity in stools. They may be disposed of in the usual way unless collection is specially requested.
- i) Incontinence:

If there has been a spill of urine or vomitus the Radiation Safety Officer or the Nuclear Medicine Laboratory should be notified immediately. The damp bed clothes should not be handles without rubber gloves.

Special Instructions:

Specific instructions for nursing personnel regarding care of the individual patient will be sent to each floor when a patient there is receiving sealed source or radioactive isotope therapy.

Any questions regarding hazards in caring for these patients should be referred to the Radiation Safety Officer and at night or on a weekend to the Radiologist on call. In case of emergency, technical assistant (checking of contamination, etc.) please contact the Nuclear Medicine Laboratory.

ISOTOPE DEPARTMENT

DEPARTMENTAL CODE

28-19

EFFECTIVE DATE

October 1979

REVISIONS



POLICY

AND

PROCEDURE

MANUAL

ST. JOSEPH HOSPITAL

STAMFORD, CONNECTICUT

SUBJECT:

Radiation Therapy Radioactive Phosphorus Nursing Care.

1. There is no danger in carrying out normal nursing care, and no restriction on time spent with the patient.
2. Patients are allowed visitors in accordance with the usual hospital rules.
3. No special precautions are necessary for sputum or feces.
4. If the phosphorus was given intravenously, no special precautions are necessary for vomitus.
5. If the phosphorus was given orally, and the patient vomits within the first 12 hours, the vomitus and the soiled bedding, clothing or utensils should be isolated, the nurse wearing rubber gloves while attending this. CALL THE RADIATION SAFETY OFFICER, THE NUCLEAR MEDICINE LABORATORY OR THE RADIOLOGIST ON DUTY.

DISTRIBUTION:

SUBJECT: Radiation Therapy Radioactive Phosphorus Nursing Care

ISOTOPE DEPARTMENT

POLICY
AND
PROCEDURE
MANUAL



ST. JOSEPH HOSPITAL
ST. MICHAEL'S HOSPITAL

DEPARTMENTAL CODE:

EFFECTIVE DATE: October 1979

REVISIONS:

SUBJECT: Radiation Therapy Interstitial or Intracavitary
Nursing Care Therapy.

1. If Cesium Source becomes loose or falls out, DO NOT TRY TO REPLACE THEM. CALL THE RADIOLOGIST ON DUTY OR THE RADIATION SAFETY OFFICER.
2. Patients receiving Cesium therapy should be placed in a private room and should not be allowed to roam therefrom during the administration of the treatment. When a private room is not available the patient should be located in the end bed of the unit with the adjoining bed empty such as described in General Consideration, Sealed Source and Radioactive Isotope Therapy.
3. The tag supplied should be tied to the patient's bed and removed when
4. Nursing personnel caring for the patient should wear monitoring badges. If none are supplied call the Radiation Safety Officer.
4. Nursing personnel should spend only the amount of time near the patient required for adequate nursing care. Private duty nurses remaining in the patient's room should be instructed by the Radiation Safety Officer as to the distance to maintain except during actual nursing operations.
6. Instructions regarding visitors are given to the floor nursing and private duty nurses when the Radiation Safety Officer conducts survey of the patient.
7. Instruments and containers used to handle sources do not become radioactive. Special instruments are used to simplify

DISTRIBUTION:

SUBJECT: Radiation Therapy Interstitial or Intracavitary Nursing Care Therapy

Page 1 of 2

handling and to maintain appropriate distances from the hands to the sources.

8. No special precautions are needed for sputum, vomitus, feces, dishes, instruments, utensils or bedding. 2829
9. Surgical dressings and bandages should be changed only as directed by the radiologist or the physician designated by him.
10. Perineal care is not given during the treatment but the perineal pad may be changed when necessary. If the pad is changed be sure the radioactive sources or source containers are not disturbed or loosened.
11. Bed linens must be held in the room until checked for dislodged sources.

SUBJECT: Radiation Therapy Interstitial or Intracavitary Nursing Care Therapy
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