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JOHNSTON-WILLIS HOSPITAL
2908 KENSINGTON AVENUE
RICHMOND, VIRGINIA 23221

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May 28, 1980

U. S. Nuclear Regulatory Commission
ATTN: Joseph DelMedico
Material Licensing Branch
Division of Fuel Cycle and
Material Safety
Washington, D. C. 20555

RE: CONTROL NO. 00408

Gentlemen:

In response to your letter of May 6, 1980, regarding our license renewal application, the following information is submitted:

1. Regarding documentation of training and experience for Dr. Gutierrez, please refer to NRC License No. 45-15249-01 for Chippenham Hospital, wherein he is authorized use of Xenon-133, and Groups, I, II, and III of 10 CFR Part 35.100.

Therefore, request that Dr. Gutierrez be authorized these same procedures at Johnston-Willis Hospital.

2. A revised sketch of our facility is attached as Enclosure 1, which adequately describes the storage and isotope preparation areas. These areas are included in the routine weekly survey.
3. The Medical Isotopes Committee membership has been increased to include an internist, James Wigand, M.D. Dr. Wigand's training and experience with radioactive materials is minimal.
4. Our training program has been amended to include limited training as needed for ancillary workers, i.e., housekeeping, clerical, nursing, security, etc. This training will be conducted initially and annually hereafter. Attached as Enclosure 2, is the amended training schedule.

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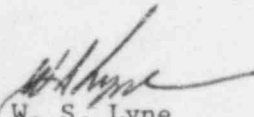
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May 28, 1980

5. All radioisotope preparation to be administered to humans will be assayed in the dose calibrator prior to administration. Attached as Enclosure 3 is the amended Item 15 (No. 10) of our original application.
6. Our procedures and nursing instructions for the care of radioisotope therapy patients have been amended to include all hospitalized therapy patients. Please refer to Enclosure 4 for these amended procedures.
7. Used Technetium-99m generators will be stored inhouse for approximately three (3) months and disassembled. The lead will be monitored to insure the absence of radioactivity, labels removed and then sold or otherwise disposed of. The Molybdenum cores will be maintained in storage until sufficient decay, i.e., background levels, have been obtained, as determined with a G-M survey meter, prior to disposal as non-radioactive waste.

If you should have any questions, please give me a call.

Sincerely,



W. S. Lyne
Administrator

/jr
Enclosures

RADIATION SAFETY TRAINING FOR RADIATION WORKERS

1. The principal user of radiation sources is responsible for insuring that all such sources under his jurisdiction are used only by individuals who have been properly trained to use them safely.
2. Radiation workers will participate in continuing education programs such as on-the-job training, in-service educational programs, technical workshops, and professional society meetings. Such training will be documented.
3. In addition to on-the-job training provided initially by supervisory personnel, all individuals who work with radiation sources (including security, nursing, and housekeeping personnel) will receive periodic training at least annually in radiation safety. The health physics staff will conduct this training. The attached outline lists the topics to be included in this training. The depth of discussion will be based on the extent of applicability to the employees involved. This training will be documented.

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SUBJECT: Radiation Safety Training

PRESENTED TO: Radiation Workers and Ancillary Personnel (as indicated)

FREQUENCY OF INSTRUCTION: Minimum of once a year, and before assuming duties, or whenever there is a significant change in duties, regulations, or terms of license.

CLASS OUTLINE

1. Introduction

A. *Purpose: To familiarize personnel with the established standards for protection against unwarranted radiation exposure from radioactive materials.

B. References

- 1) *NRC Regulations, 10CFR, Parts 19, 20, and 21
- 2) *NBS Handbook No. 92
- 3) *NCRP Reports No. 39 & No. 48
- 4) Terms and conditions of specific license and application

2. Principles of Radiation Protection

- A. *Philosophy of radiation exposure control
- B. *Potential hazards and physical safeguards
- C. NRC Regulations and NCRP Recommendations

3. Radiological Safety Procedures Described in the license

- A. General laboratory rules
- B. Isotope receipt and inspection, use and storage
- C. *Radiation caution signs and labels
- D. Anti-contamination procedures
- E. *Radioactive waste disposal
- F. *Personnel monitoring
- G. Radiation emergency procedures
- H. Applicable special procedures, i.e., therapy, gases, animal

4. Health Physics Surveys

- A. Criteria and periodicity
- B. Measurement of radiation levels
- C. Assessment of laboratory procedures
- D. Facility evaluation
- E. Records review

5. *Question and Answer Period

*Topics to be presented to ancillary personnel, i.e., clerical, nursing, housekeeping, security, etc., for the same "Frequency of Instruction" as indicated above.

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10. Assay each patient dose in the dose calibrator prior to administration. Do not use any doses that differ from the prescribed dose by more than 10%.
11. Keep "hot" vials and syringes in shielded containers. Syringe shields should be used for preparation and administration of radioactive material in millicurie quantities.
12. At the close of each work period, the laboratory work surfaces shall be carefully monitored.
13. Before leaving the laboratory after working with uncontained radioactive materials, each person will wash his hands thoroughly and check them with a laboratory monitor for contamination.
14. Review pertinent safety practices frequently, especially before using a new radioactive compound.

HEALTH PHYSICS ASPECTS OF THERAPEUTIC USE OF RADIOACTIVE MATERIAL

PURPOSE

To familiarize the Nuclear Medicine staff with their radiation safety responsibilities during the use of therapeutic quantities of radioactive materials.

GENERAL

The physician will determine which radioisotope and proper activity is to be administered to the patient.

Because of the relatively high energy and activity used in radiation therapy, the staff must take advantage of time, distance, and shielding to reduce unnecessary exposure to radiation. This is important in the initial preparation stage as well as the hospitalization period. When Iodine-131 is used, the procedures outlined in "Iodine-131 Handling Procedures" must be followed (see attached).

OUTPATIENT THERAPY

Outpatients may be administered up to 30 millicuries of radioactive material. Radiation safety instructions should be given to the patients, depending on the age of other members in their household.

For levels administered greater than 30 millicuries, the patients must be admitted to the hospital.

INPATIENT THERAPY

Inpatients may be administered radioactive materials as limited by the facility license.

Because of the significant potential for contamination by the patient during hospitalization, it is important that proper radiation controls be strictly exercised.

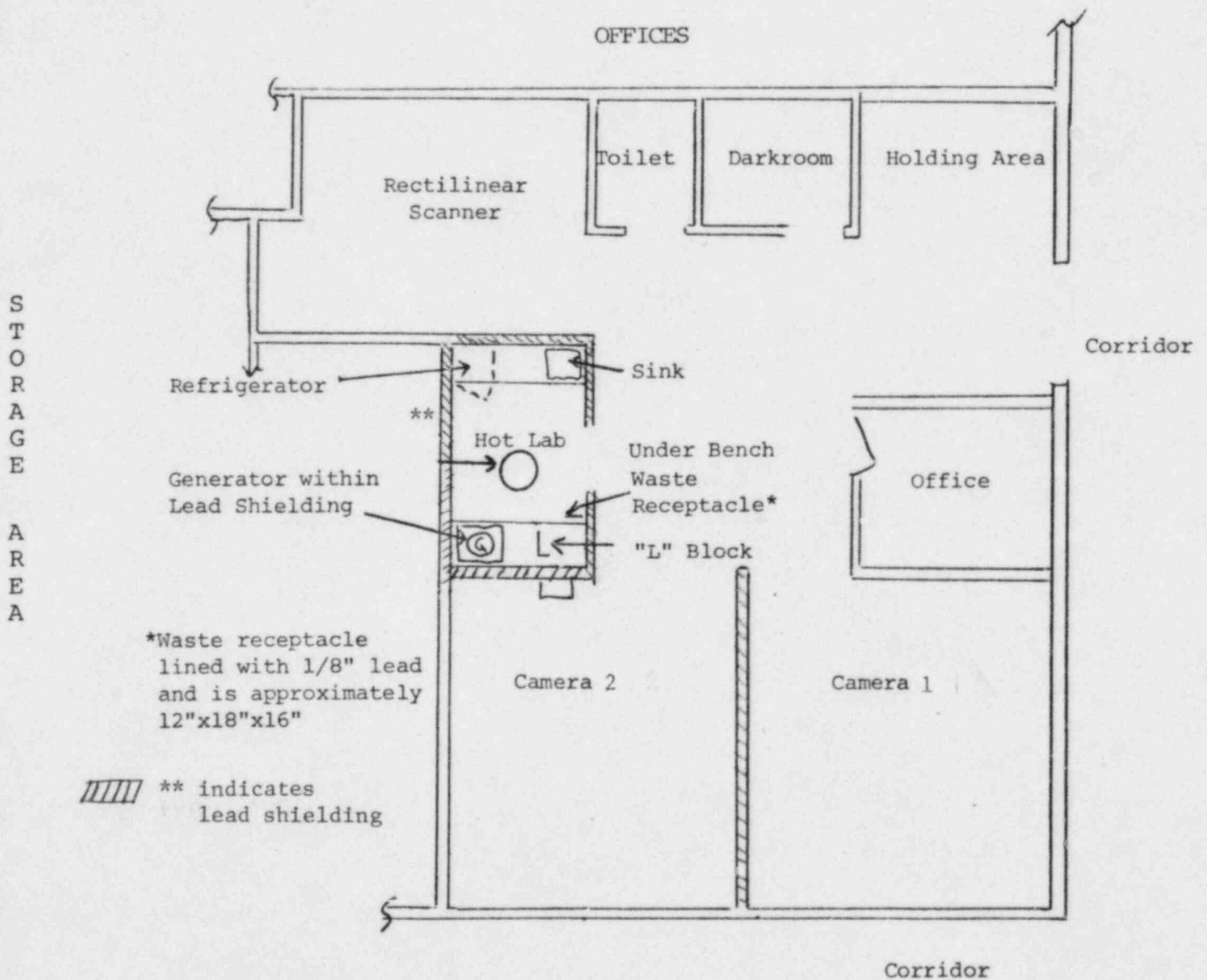
The nursing staff should be given written instructions and dosimetry (as determined by the Radiation Safety Officer). A copy of the instructions is attached herewith.

The patient may be discharged from the hospital when the residual activity is less than thirty (30) millicuries. After vacating the room, a thorough radiation protection survey should be conducted to insure the absence of radioactivity, radiation signs, etc. Special attention should be given to the monitoring of the bed linen, waste containers, and bathroom.

If the patient is to remain hospitalized, radiation safety controls will continue until the residual activity is five (5) millicuries or less.

NUCLEAR MEDICINE DEPARTMENT
JOHNSTON-WILLIS HOSPITAL
1401 Johnston Willis Drive
Midlothian Turnpike
Richmond, Virginia, 23235

SCALE: 3/16 inch = 1 foot



IODINE-131 HANDLING PROCEDURES

1. In order to minimize the potential volatilization and contamination during patient dose preparation, the use of radioiodine will be in the physical form of capsules.

HEALTH PHYSICS ASPECTS OF NURSING CARE OF RADIATION THERAPY PATIENTS
WITHSEALED SOURCES

PURPOSE: To familiarize the nursing staff with their responsibilities to the patient and themselves in the prevention of unnecessary exposure to ionizing radiation.

GENERAL

- A. This type of radioactive material is administered in capsule form and, therefore, is classified as a sealed source. The material will remain in the patient until it decays by radioactive half-life and/or is excreted. Therefore, the contamination of linen, etc., is possible.
- B. Therapeutic quantities of radioactive materials will be administered by a physician specifically trained in Nuclear Medicine to perform such procedures.
- C. The Nuclear Medicine physician or the Radiation Safety Officer will select a private room and bath most suitable for the radiation protection requirements for the type of radioactive material to be administered.
- D. The Radiation Safety Officer will monitor the patient area, provide anticontamination material, and provide radiation protection special instructions and materials to the patient and ward personnel. He will notify ward personnel when the residual radioactive material in the patient's body is sufficiently low enough to permit the patient to be discharged.
- E. The Radiation Safety Officer will monitor the patient area and will indicate a "safe distance" line for visitors.

SPECIFIC GUIDELINES FOR NURSING PERSONNEL

- A. Pregnant nursing personnel will not be assigned the duties of caring for radiation therapy patients.

SPECIFIC GUIDELINES FOR NURSING PERSONNEL (continued)

- B. Consistent with adequate patient care, carry out only minimal nursing procedures close to the patient. If the patient's clinical status requires constant observation, rotate personnel required to perform adequate nursing care in order to minimize exposure to personnel. (The Radiation Safety Officer will advise.) The patient's bed should be approached only when required by nursing duties.
- C. Film badges or dosimeters will be worn when entering the area. (DO NOT use the film badge of any other employee.) Film badges/dosimeters will be supplied by the Radiation Safety Officer.
- D. A television set, telephone, books, etc., may be provided the patient.
- E. The food tray will be prepared entirely with disposable components. The tray will be disposed of as waste within the patient's room. Uneaten food WILL NOT be given to other patients or staff members.
- F. Notify the Radiation Safety Officer AND the physician who administered the radioactive material if any of the following occur:
 - 1. Major surgery
 - 2. Transfer of the patient
 - 3. Death of the patient
- G. The patient may have visitors. Visitors should stay on the "safe" side of the line indicated on the floor.
- H. Necessary contamination control measures are very similar to isolation techniques.
- I. Cover the mattress and pillow on the bed with plastic or rubber material.
- J. Wear gloves when changing bed linen, dressings, etc.
- K. The patient must wear hospital pajamas.
- L. Place a plastic-lined wastebasket and linen hamper in the patient's room.
- M. Place waste, soiled linen, etc., in the designated containers for monitoring the disposal by the Radiation Safety Officer.
- N. Personal items for patient care (thermometer, bedpan, etc.) will be kept in the patient's room. Bath water may be disposed of in the commode.

SPECIFIC GUIDELINES FOR NURSING PERSONNEL (continued)

- O. Ambulatory patients will use the commode in THEIR room only. The commode should be flushed three times after use when Iodine is the radioactive material.
- P. Diagnostic samples of blood, urine, and feces should only be obtained when authorized by the radiotherapist.
- Q. The urine excreted by the patient may be radioactive. Spills, bedwetting, or any accident with urine may be hazardous. Wear gloves. In the event of an accidental spill of urine, cover it with absorbent material, then place the material in the designated waste container. Notify the Radiation Safety Officer.
- R. Call the hospital Engineer AND the Radiation Safety Officer for correction of plumbing problems. Blocked drains may be a radiation hazard.
- S. The room will not be returned to use by the general public, i.e., another patient, until surveyed by the Radiation Safety Officer.

PATIENT RADIATION SURVEY SHEET
(Unsealed Sources)Enclosure 4
Control 00408

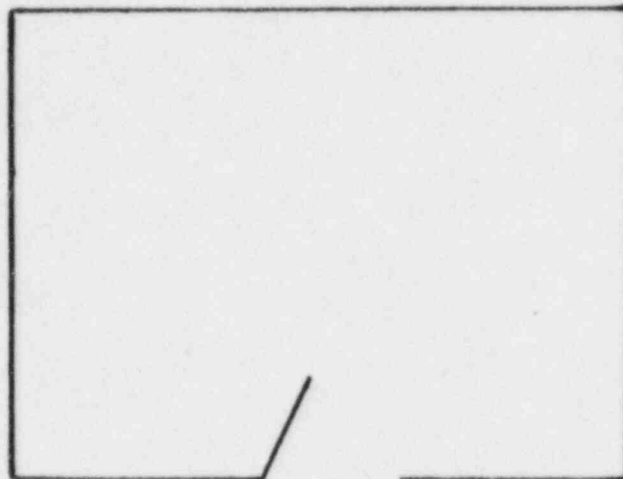
PATIENT'S NAME: _____ Room No. _____ Therapy Start Date _____

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Isotope: _____ Activity _____ (millicuries)

SKETCH OF PATIENT'S ROOM/BED LOCATION (be specific)

Adjacent Room?

Yes _____
No _____

Adjacent Room?

Yes _____
No _____Survey Meter Measurements: At Bedside: _____ mR/hr.
Doorway: _____ mR/hr.
Occupied adjacent room(s): _____ mR/hr.
1 meter from source: _____ mR/hr.GENERALHave nurses been given film badges or dosimeters and log? YES _____ NO _____
Has the 5 mR/hr. tape been placed on the floor? YES _____ NO _____
Has the patient been positioned so exposure to others is minimal? YES _____ NO _____
Have the nurses received a copy of the protocol for Nursing Care of Radiation Therapy Patients? YES _____ NO _____ (Supply with protocol if answer is NO)

Therapy Termination Date: _____ Termination Survey Conducted By: _____

Radiation survey of patient and room confirmed removal of all radioactive materials: YES / NO
(Circle One)

ALL radiation caution signs removed? YES _____ NO _____

Film badges or dosimeters collected? YES _____ NO _____

NOTE: If radiation levels are detected above natural background levels, IMMEDIATELY NOTIFY RADIATION SAFETY OFFICER AND THERAPIST.

PERSONNEL DOSIMETER LOG
(Do not use if film badges
are utilized)

[illegible]