NRC FORM 313M (9-81) 10 CFR 35	U.S. NUCLEAR REGULATORY COMMISSION **APPLICATION FOR MATERIALS LICENSE – MEDICAL**	Approved by OMB 3150-0041 Expires 9-30-86

INSTRUCTIONS – *Complete Items 1 through 26 if this is an initial application or an application for renewal of a license. Use supplemental sheets where necessary. Item 26 must be completed on all applications and signed. Retain one copy. Submit original and one copy of entire application to: Director, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Upon approval of this application, the applicant will receive a Materials License. An NRC Materials License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30, and the Licensee is subject to Title 10, Code of Federal Regulations, Parts 19, 20 and 35 and the license fee provision of Title 10, Code of Federal Regulations, Part 170. The license fee category should be stated in Item 26 and the appropriate fee enclosed.*

1.a. NAME AND MAILING ADDRESS OF APPLICANT *(institution, firm, clinic, physician, etc.)* INCLUDE ZIP CODE

Morris Hospital
150 West High Street
Morris, Illinois 60450

TELEPHONE NO.: AREA CODE (815) 942 - 2932

1.b. STREET ADDRESS(ES) AT WHICH RADIOACTIVE MATERIAL WILL BE USED *(If different from 1.a.)* INCLUDE ZIP CODE

Same

2. PERSON TO CONTACT REGARDING THIS APPLICATION

Ashwin Patel

TELEPHONE NO.: AREA CODE (312) 564 - 3330

3. THIS IS AN APPLICATION FOR: *(Check appropriate item)*

a. ☐ NEW LICENSE
b. ☒ AMENDMENT TO LICENSE NO. 12-15531-02
c. ☐ RENEWAL OF LICENSE NO. _____

4. INDIVIDUAL USERS *(Name individuals who will use or directly supervise use of radioactive material. Complete Supplements A and B for each individual.)*

Please amend to authorize S . C. Soni, M.D. for use of materials listed in Group VI of 10 CFR 35.100

5. RADIATION SAFETY OFFICER (RSO) *(Name of person designated as radiation safety officer. If other than individual user, complete resume of training and experience as in Supplement A.)*

Bhurji Singh, M.D .

6.a. RADIOACTIVE MATERIAL FOR MEDICAL USE

RADIOACTIVE MATERIAL LISTED IN:	ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS *(In millicuries)*
10 CFR 31.11 FOR IN VITRO STUDIES		
10 CFR 35.100, SCHEDULE A, GROUP I		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP II		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP III		
10 CFR 35.100, SCHEDULE A, GROUP IV		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP V		AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP VI	X	2,000

ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS *(In millicuries)*
IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM		
PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES		
PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA		
XENON-133 AS GAS OR GAS IN SALINE FOR BLOOD FLOW STUDIES AND PULMONARY FUNCTION STUDIES		

6.b. RADIOACTIVE MATERIAL FOR USES NOT LISTED IN ITEM 6.a. *(Sealed sources up to 3 mCi used for calibration and reference standards are authorized under Section 35.14(d), 10 CFR Part 35, and NEED NOT BE LISTED.)*

ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	MAXIMUM NUMBER OF MILLICURIES OF EACH FORM	DESCRIBE PURPOSE OF USE
N / A			

CONTROL NO. 82602

INFORMATION REQUIRED FOR ITEMS 7 THROUGH 23

For Items 7 through 23, check the appropriate box(es) and submit a detailed description of all the requested information. Begin each item on a separate sheet. Identify the item number and the date of the application in the lower right corner of each page. If you indicate that an appendix to the medical licensing guide will be followed, do not submit the pages, but specify the revision number and date of the referenced guide: Regulatory Guide 10.8 , Rev. _____ Date: _____

For Item 7, 9, 10, 13, 14, 15, 16, 17, 18 and 19, please refer to the previous application for license No. 12-15531-02

7. MEDICAL ISOTOPES COMMITTEE	15. GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIAL *(Check One)*
☐ Names and Specialties Attached; and	☐ Appendix G Rules Followed; or
☐ Duties as in Appendix B; or *(Check One)*	☐ Equivalent Rules Attached
☐ Equivalent Duties Attached	16. EMERGENCY PROCEDURES *(Check One)*
Please refer to attached Item #8. 8. TRAINING AND EXPERIENCE	☐ Appendix H Procedures Followed; or
☐ Supplements A & B Attached for Each Individual User; and	☐ Equivalent Procedures Attached
☐ Supplement A Attached for RSO.	17. AREA SURVEY PROCEDURES *(Check One)*
9. INSTRUMENTATION *(Check One)*	☐ Appendix I Procedures Followed; or
☐ Appendix C Form Attached; or	☐ Equivalent Procedures Attached
☐ List by Name and Model Number	18. WASTE DISPOSAL *(Check One)*
10. CALIBRATION OF INSTRUMENTS	☐ Appendix J Form Attached; or
☐ Appendix D Procedures Followed for Survey Instruments; or *(Check One)*	☐ Equivalent Information Attached
☐ Equivalent Procedures Attached; and	19. THERAPEUTIC USE OF RADIOPHARMACEUTICALS *(Check One)*
☐ Appendix D Procedures Followed for Dose Calibrator; or *(Check One)*	☐ Appendix K Procedures Followed; or
☐ Equivalent Procedures Attached	☐ Equivalent Procedures Attached
11. FACILITIES AND EQUIPMENT	20. THERAPEUTIC USE OF SEALED SOURCES
☒ Description and Diagram Attached	☒ Detailed Information Attached; and
12. PERSONNEL TRAINING PROGRAM	☐ Appendix L Procedures Followed; or *(Check One)*
☒ Description of Training Attached	☒ Equivalent Procedures Attached
13. PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL	21. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE GASES (e.g., Xenon 133)
☐ Detailed Information Attached	☐ Detailed Information Attached
14. PROCEDURES FOR SAFELY OPENING PACKAGES CONTAINING RADIOACTIVE MATERIALS *(Check One)*	22. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL IN ANIMALS
	☐ Detailed Information Attached
☐ Appendix F Procedures Followed; or	23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b
☐ Equivalent Procedures Attached	☐ Detailed Information Attached

24. PERSONNEL MONITORING DEVICES

TYPE (Check appropriate box)			SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	X	FILM	R.S. Landauer Jr. & Co.	Monthly
		TLD		
		OTHER (Specify)		
b. FINGER		FILM		
	X	TLD	R. S. Landauer Jr. & Co.	Monthly
		OTHER (Specify)		
c. WRIST		FILM		
		TLD		
		OTHER (Specify)		

d. OTHER (Specify)

Log Dec 86 III
Remitter
Check No. 11812
Amount $120
Fee Category 7C
Type of Fee Paid
Date Check Rec'd. 12/19/86
Date Completed 12/22/86
By: Missie

25. FOR PRIVATE PRACTICE APPLICANTS ONLY

a. HOSPITAL AGREEING TO ACCEPT PATIENTS CONTAINING RADIOACTIVE MATERIAL

NAME OF HOSPITAL

MAILING ADDRESS

CITY | STATE | ZIP CODE

b. ATTACH A COPY OF THE AGREEMENT LETTER SIGNED BY THE HOSPITAL ADMINISTRATOR.

c. WHEN REQUESTING THERAPY PROCEDURES, ATTACH A COPY OF RADIATION SAFETY PRECAUTIONS TO BE TAKEN AND LIST AVAILABLE RADIATION DETECTION INSTRUMENTS.

26. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1a certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Parts 30 and 35, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

a. LICENSE FEE REQUIRED
(See Section 170.31, 10 CFR 170)

(1) LICENSE FEE CATEGORY:

(2) LICENSE FEE ENCLOSED: $ 120.00

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)*
Frederick E Butts

(1) NAME *(Type or Print)*
Frederick E. Butts

(2) TITLE
President

c. DATE
12-10-86

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PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313M. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).

2. **PRINCIPAL PURPOSE(S)** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30-36 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.

3. **ROUTINE USES** The information may be used: (a) to provide records to State health departments for their information and use; and (b) to provide information to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for a NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you. A copy of the license issued will routinely be placed in the NRC's Public Document Room, 1717 H Street, N.W., Washington, D.C.

4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed.

5. **SYSTEM MANAGER(S) AND ADDRESS** Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

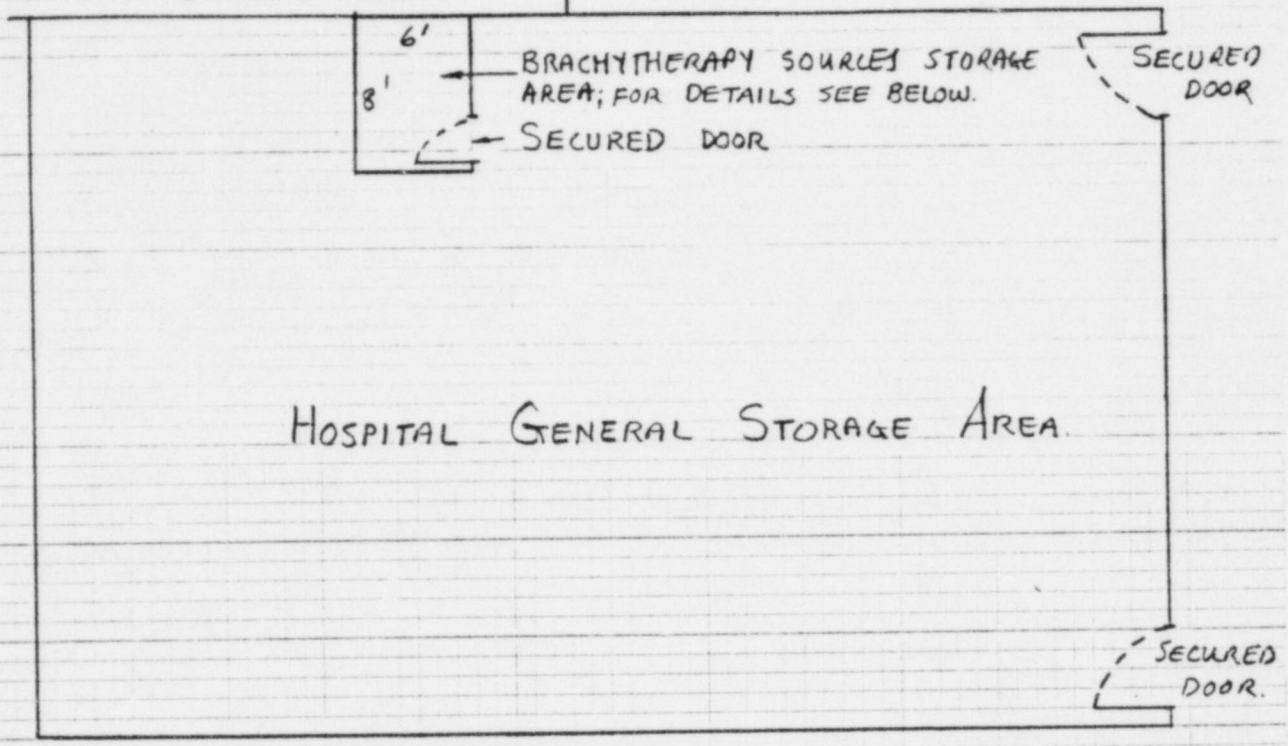
TRAINING AND EXPERIENCE

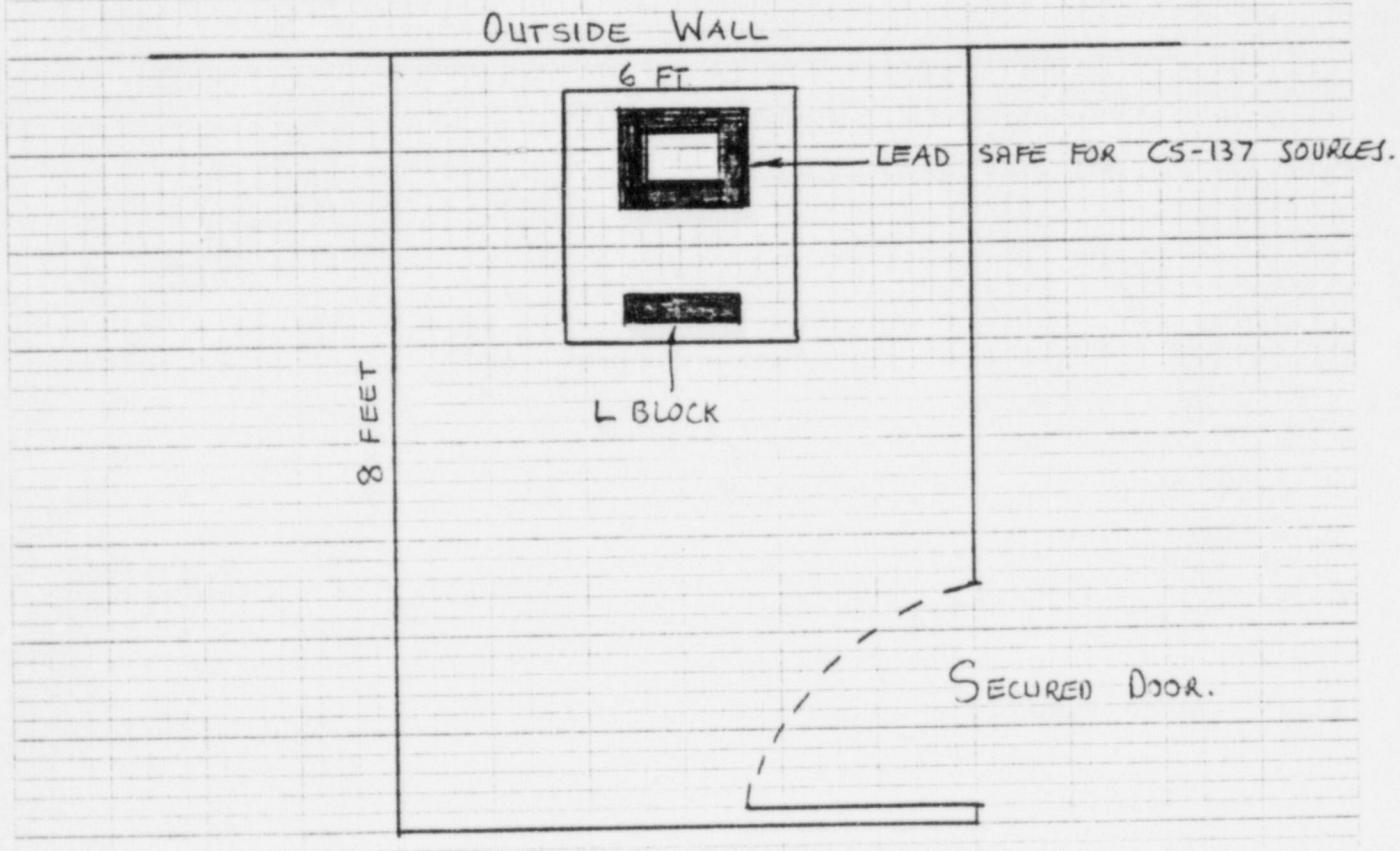
For training and experience of S. C. Soni, M.D., please refer to the previous application for license No.12-15531-02, and the Byproduct Materials License issued to St. Joseph's Hospital, Joliet, Illinois.

PROPOSED BRACHYTHERAPY SOURCES STORAGE FACILITY.

License No. 12-15531-02

MORRIS HOSPITAL, MORRIS, IL.





BRACHYTHERAPY SOURCES

(Storage, Inventory and Wipe Tests)

1. The brachytherapy sources, upon receipt, will be assayed in a dose calibrator to ensure that each source has the activity certified by the supplier.

2. The sources will be stored in a secured room with sufficient lead shielding to ensure that the radiation levels from the sources will be as far below 2mR/hr as possible in the unrestricted area.

3. The sources will be inventoried at quarterly intervals.

4. The sources will be wipe tested at intervals required by NRC Rules and Regulations. The wipe sources will be wipe tested as specified in the application for license No. 12-09160-01 issued to Health Physics Associates, Ltd., Northbrook, Illinois.

5. The inventory of the sources when removed from storage for therapy and returned to the storage at the completion of the therapy will be maintainted. ("Please see the attached Cs-137 Brachytherapy Sources Inventory Form").

Cs-137 BRACHYTHERAPY SOURCES INVENTORY FORM

SOURCES IN STORAGE:

DATE OF INVENTORY	SOURCE ACTIVITY MILLIGRAM RADIUM EQUILAVENT	NO. OF SOURCES IN STORAGE	SOURCES INVENTORIED BY:
	5		NAME:
	10		SIGNATURE:
	15		
	20		
	30		

SOURCES REMOVED FROM STORAGE FOR THERAPHY:

DATE	TIME	SOURCE ACTIVITY MILLIGRAM RADIUM EQUIVALENT	No.OF SOURCES REMOVED FROM STORAGE	SOURCES LEFT IN STORAGE	SOURCES REMOVED FROM STORAGE BY:
		5			NAME:
		10			SIGN:
		15			
		20			
		30			

SOURCES RETURNED TO STORAGE AT THE COMPLETION OF THERAPY:

DATE	TIME	SOURCE ACTIVITY MILLIGRAM RADIUM EQUIVALENT	No.OF SOURCES RETURNED TO STORAGE	TOTAL No.OF SOURCES IN STORAGE	SOURCES RETURNED TO STORAGE BY:
		5			NAME:
		10			SIGN:
		15			
		20			
		30			

ARE ALL SOURCES ACCOUNTED FOR ?

yes [ ] no [ ] INITIALS:

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IR-192 BRACHYTHERAPY SOURCES INVENTORY FORM

SOURCES IN STORAGE:

DATE OF INVENTORY	SOURCE ACTIVITY mg Ra Equiv.[ ] or Millicuries [ ] (check one)	No. OF SOURCES IN STORAGE		SOURCES INVENTORIED BY:
		SEEDS/RIBBON	No. OF RIBBONS	
				NAME:
				SIGNATURE:

SOURCES REMOVED FROM STORAGE FOR THERAPY:

DATE	TIME	SOURCE ACTIVITY mg Ra Equiv.[ ] or Millicuries [ ] (check one)	No. OF SOURCES IMPLANTED		No. OF SOURCES LEFT IN STORAGE		SOURCES REMOVED FROM STORAGE BY:
			SEEDS / RIBBON	No. OF RIBBONS	SEEDS / RIBBON	No. OF SOURCES	
							NAME:
							SIGNATURE:

SOURCES RETURNED TO STORAGE AT THE COMPLETION OF THERAPY:

DATE	TIME	SOURCE ACTIVITY mg Ra Equiv.[ ] or Millicuries [ ] (check one)	No. OF SOURCES RETURNED TO STORAGE		TOTAL No. OF SOURCES IN STORAGE		SOURCES REMOVED FROM STORAGE BY:
			SEEDS / RIBBON	No. OF RIBBONS	SEEDS / RIBBON	No. OF RIBBONS	
							NAME:
							SIGNATURE:

ARE ALL SOURCES ACCOUNTED FOR ? YES [ ] NO [ ] INITIALS:_____

SOURCES RETURNED FOR DISPOSAL ON_____ INITIALS:_____

RADIATION SAFETY PROCEDURE

FOR

THERAPEUTIC USE OF - BRACHYTHERAPY SOURCES

IMPLANT PROCEDURE:

The licensed physician will perform the implants.

A record will be maintained of the number of sources implanted and the number of sources not used.

All personnel involved will be provided with pocket dosimeters or film badges.

Upon completion of the implant procedure, and after the patient has been transferred from the operating room, the room and any containers used (such as containers used in the suction, irrigation, etc.) will be carefully surveyed with a low-level G.M. survey meter.

OPERATING ROOM SURVEYS

BRACHYTHERAPY SOURCES

NAME OF PATIENT: _____

DATE: _____ TIME: _____

SURVEY METER USED: _____ CALIBRATION DATE: _____

Cs-137 SOURCES IMPLANTED:

SOURCE ACTIVITY (mg.Ra.eq.)	No. OF SOURCES IMPLANTED

TOTAL ACTIVITY USED FOR THERAPY = _____ mgm radium equivalent.

1. Are all personnel involved provided with pocket dosimeters or film badges?

   yes[ ] no[[

2. Survey of containers, etc. _____ mR/hr

3. Survey of surgical room _____ mR/hr

REMARKS: _____

SIGNED BY _____ DATE _____ TIME _____ A.M. / P.M.

RADIATION SAFETY PROCEDURES

FOR

THERAPEUTIC USE OF - BRACHYTHERAPY SOURCES

1. Patient with brachytherapy implants will be placed in a private room that has a toilet.

2. The patient's room will be posted with "CAUTION - RADIATION AREA" sign.

3. Survey of patient's room and surrounding areas will be conducted as soon as practicable after sources are implanted. Radiation levels will be measured at 3 feet from patient with brachytherapy sources, at the patient's bedside, at 3 feet from the bed and at the entrance of the room.

   The Radiation Oncologist, or his designee, will then determine how long a person may remain at these positions and will post these times and the exposure rate at 3 feet from the patient on the patient's chart. (See the attached form)

4. Immediately after sources are implanted, the form "Nursing Instructions for Patients Treated with Brachytherapy Sources" will be completed and attached to the patient's chart.

5. Radiation levels in unrestricted areas will be maintained less than the limits specified in paragraph 20.105 (b)(1) and (b)(2) of 10 CFR Part 20.

6. Nurses caring for patient will be assigned pocket dosimeters. A record of exposure of each nurse involved will be kept.

7. The implant patient's room will not be released for reassignment until the room has been surveyed to rule out radiation levels above those of natural background levels. The record of these surveys will be maintained.

PATIENT ROOM SURVEYS

FOR

PATIENTS WITH IMPLANTS OF - BRACHYTHERAPY SOURCES

NAME OF PATIENT: _____

ROOM NO. _____ DATE: _____

SURVEY METER MODEL NO. _____ CALIBRATION DATE _____

		YES
1.	Room posted with "CAUTION RADIATION AREA" sign	[ ]
2.	Nursing Staff given "Nursing Care Instructions"	[ ]
3.	Nursing Staff provided with pocket dosimeters	[ ]

4. Radiation Levels:

			DO NOT REMAIN LONGER THAN THE TIME INDICATED IN ANY GIVEN HOUR
A.	Bedside	_____ mR/hr	_____ minutes
B.	3 feet from bed	_____ mR/hr	_____ minutes
C.	6 feet from bed	_____ mR/hr	_____ minutes
D.	At door	_____ mR/hr	_____ minutes
E.	Adjoining room	_____ mR/hr	_____ minutes

5. Patient's used gowns, linens, etc.

_____ mR/hr Date _____ Signature _____

_____ mR/hr Date _____ Signature _____

_____ mR/hr Date _____ Signature _____

6. Patient discharged on _____

7. The entire room surveyed? [ ] Yes

8. Natural background radiation levels _____ mR/hr

If any area or article in the patient's room is above natural background radiation levels, give the particulars below:

_____

_____

_____

NURSING INSTRUCTIONS

FOR

PATIENTS WITH IMPLANTS OF - BRACHYTHERAPY SOURCES

PATIENT:_____

ACTIVITY:_____mCi of_____has been implanted

On_____ at_____ A.M. / P.M.

BASIC RULES TO FOLLOW:

TIME: Every effort should be made to spend the least possible time in the patinet's room

DISTANCE: When not giving direct care, keep a distance of at least three feet from the patient.

SPECIFIC INSTRUCTIONS:

1. Patient must remain in his room at all times. The entrance to the room must have a "CAUTION - RADIATION AREA" sign posted in such a manner that anyone entering the room would immediately notice the caution sign.

2. Pregnant employees should not be assigned to the personal care of these patients.

3. Nurses must wear a pocket dosimeter while in the room. One dosimeter will be assigned to each nurse in the shift who will be responsible for the patient care. The nurses will not interchange the dosimeters.

4. If the source becomes dislodged, use long forcepts and put it in a container in the corner of the room. Contact the physician or the Radiation Therapy Department.

5. Perineal care is not given during gynecologic treatment - the perineal pad may be changed when necessary unless orders to the contrary have been written.

6. Bed bath given by the nurse should be omitted while the sources are in place.

7. All gowns and linens used by the patient should be kept in a plastic bag or container in the patient's room until it has been checked with a radiation survey meter to ensure that no dislodged sources are inadvertently removed.

continued

NURSING INSTRUCTIONS FOR PATIENTS WITH IMPLANTS OF ~~Cs-137~~ BRACHYTHERAPY SOURCES (continued)

8. Floor and trash cannot be cleaned by housekeeping until patient is discharged or approved by the Radiation Therapist.

9. Surgical dressings and bandages used to cover the area of implant may not be discarded until they have been surveyed with a survey meter. Similarily, all utensils and other such items should be checked with a radiation survey meter to ensure that no sources have been inadvertently displaced into them.

10. Visitors will be limited to those 18 years of age and over, unless other instructions are noted on the patient's chart.

11. Visitors should sit at least three feet from the patient.

12. No nurse, visitor or attendant who is pregnant should be permitted in the room of implant patient.

13. **Emergency Procedure:**

    a) If an implanted source becomes loose or separated from the patient, or

    b) If the patient dies, or

    c) If the patient requires emergency surgery,

    Immediately call Dr._____or the Radiation Oncology Department

    TELEPHONE NUMBER - DAYS:_____

    NIGHTS:_____ _____

    RADIATION ONCOLOGY DEPARTMENT EXTENSION:_____

14. Discharge of Patient:

    Before the implant patient's room is assigned to another patient, Dr._____or designate must survey the room thoroughly and maintain a log of the survey levels.

POCKET DOSIMETER READINGS RECORD

DATE OF USE	TIME INTERVAL OF USE FROM	TO	NAME OF EMPLOYEE	POCKET DOSIMETER NO.	INITIAL READING MREM	FINAL READING MREM	TOTAL EXPOSURE	CHECKED BY DATE	TIME	INITIALS

REMARKS: _____

_____

_____

_____

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ITEM #20 **(12/86)**