FORM MRC-313M				ULATORY COMMISSION			
7-77	APPLICATION FOR MATERIALS LICENSE - MEDICAL						
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10 CFR 35. 100, SCHEDU	LE A, GROUP I	X	AS NEEDED	PHOSPHORUS 32 AS SOLI FOR TREATMENT OF PO	UBLE PHOSPHATE		
10 CFR 36.100, SCHEDU	LE A, GROUP II	x	AS NEEDED	PHOSPHORUS-32 AS COL PHOSPHATE FOR INTRA	LOIDAL CHROMIC		
10 CFR 35. 100, SCHEDU	LE A, GROUP III	X	2,000	GOLD-198 AS COLLOID F	OR INTRA-	1	
10 CFR 38. 100, SCHEDUL	E A, GROUP IV	X	AS NEEDED	EFFUSIONS.		-	
10 CFR 35. 100, SCHEDU	LE A, GROUP V		AS NEEDED	OF THYROID CARCINON	A	-	
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APPENDIX B MEDICAL ISOTOPES COMMITTEE

Responsibility:

The Committee is responsible for:

- Ensuring that all individuals who work with or in the vicinity of radioactive material have sufficient training and experience to enable them to perform their duties safely and in accordance with NRC regulations and the conditions of the license.
- Ensuring that all use of radioactive material is conducted in a safe manner and in accordance with NRC regulations and the conditions of the license.

Duties:

The Committee shall:

- Be familiar with all pertinent NRC regulations, the terms of the license, and information submitted in support of the request for the license and its amendments.
- Review the training and experience of any individual who uses radioactive material (including physicians, technologists, physicists, and pharmacists) and determine that the qualifications are sufficient

Item No. 7 Date: to enable them to perform their duties safely and in accordance with NRC regulations and the conditions of the license.

- 2 -

- 3. Establish a program to ensure that all individuals whose duties may require them to work in the vicinity of radioactive material (e.g., nursing, security and housekeeping personnel) are properly instructed as required by Section 19.12, of 10 CFR Part 19.
- Review and approve all requests for use of radioactive material within the institution.
- Prescribe special conditions that will be required during a proposed use of radioactive material such as requirements for bioassays, physical examinations of users and special monitoring procedures.
- 6. Review the entire radiation safety program at least annually to determine that all activities are being conducted safely and in accordance with NRC regulations and the conditions of the license. The review shall include an examination of all records, reports from the radiation safety officer, results of NRC inspection, written safety procedures and management control system.

Item No. 7 Bate:

- 3 -

- Maintain written records of all committee meetings, actions, recommendations, and decisions.
- Ensure that the byproduct material license is amended, when necessary, prior to any changes in facilities, equipment, policies, procedures, and personnel.

Meeting Frequency:

The medical isotopes committee shall meet as often as necessary to conduct its business, but not less than once in each calendar quarter.

Hten No. 7 Date:

•	Manufacturer's name: Radix	
	Manufacturer's model number:	
	Number of instruments available:	1

- 2 -

3. Diagnostic instruments

2

Type of Instrument	Manufacturer's Name	Model No.
Gamma camera	Searle	Pho/Gamma V
Scanner	Picker	
		1

4. Other

Item No. 9 Date:

1

CALIBRATION OF SURVEY INSTRUMENTS

Check appropriate items

X

- X 1. Survey instruments will be calibrated at least annually and following repair.
 - 2. Calibration will be performed at two points on each scale. The two points will be approximately 1/3 and 2/3 of full scale. A survey instrument may be considered properly calibrated when the instrument readings are within + 10% of the calculated or known values for each point checked. Readings within + 20% are considered acceptable if a calibration chart or graph is prepared and attached to the instrument.
- X 3. Survey instruments will be calibrated
 - a. By the manufacturer
 - b. At the licensee's facility
 - (i) Calibration source Manufacturer's name Model no. Activity in millicuries Accuracy Traceability to primary standard
 - (ii) The calibration procedures in Appendix D, Section I will be used.

or

- (iii) The step-by-step procedures, including radiation safety procedures are attached.
- X

c. By a consultant or outside firm

(i) Name Medical Physics Consultants (Ray A. Carlson)

(ii) Location Detroit, Mich.

(iii) Procedures and sources

have been approved by NRC and are on file in License No. 16327-01

are attached

Item No. 10 Date:

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INSTRUMENTATION

1. Survey meters

b

a.	Manufacturer's name:	Victoreer	1
	Manufacturer's model	number:	470
	Number of instruments	s available:	1

Minimum range: 0 mr/hr to 25 mr/hr Maximum range: mr/hr to r mr/hr

Manufacturer's name: Picke	r
Manufacturer's model number:	GM
Number of instruments available:	1
ranges:3	

Minimum	range	0	mr/hr	to	0.5	mr/hr
Maximum	range	0	mr/hr	to	50	mr/hr

Item No. 9 Date:

CALIBRATION OF DOSE CALIBRATOR

A. Sources Used for Linearity Test:

Check as appropriate

x First elution from new Mo-99/Tc-99m generator

0i-

other* (specify) _____

B. Sources Used for Instrument Accuracy and Constancy Tests:

Radionuclide	Activity (mCi)	Accuracy
57 Co	5	<u>± 5%</u>
133 Ba	0.200	<u>+</u> 5%
137 Cs	0.200	± 5%
other		

C.

X

The procedures described in Appendix D Section 2 will be used for calibration of the dose calibrator.

or

Equivalent procedure are attached.

*Must be equivalent to the highest activity used.

Item No. 10 Date:

Item 12 Personnel Training Program

- 20 -

The training program will be of sufficient scope to ensure that all personnel, including clerical, nursing, housekeeping, and security personnel, receive proper instruction in the items specified in Section 19.12 of 10 CFR Part 19, including:

- a. Areas where radioactive material is used or stored.
- b. Potential hazards associated with radioactive material.

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- Radiological safety procedures appropriate to their respective duties.
- d. Pertinent NRC regulations.
- e. The rules and regulations of the licensee.
- f. The pertinent terms of the license.
- g. Their obligation to report unsafe conditions.
- h. Appropriate response to emergencies or unsafe conditions.
- Their right to be informed of their radiation exposure and bioassay results.

Personnel will be properly instructed:

 Before assuming their duties with or in the vicinity of radioactive materials.

b. During annual refresher training.

 c. Whenever there is a significant change in duties, regulations, or the terms of the license.

REGULATIONS FOR THE USE OF RADIONUCLIDES

ORDERING:

All radionuclides orders will be placed through the Nuclear Medicine Department. Only those radionuclides present on the authorized list will be ordered, and in quantities not exceeding those specified on this list. A current record of all standing radionuclides orders will be maintained by the Department.

RECEIPT:

The receipt of radionuclides will be recorded by the Nuclear Medicine Department. Any radionuclides received but not ordered, or any errors in activity or form, will be reported immediately to the Radiation Safety Officer. All incoming packages shall be monitored for leakage, comtamination, or damage before opening. If leakage or contamination is found, the NRC will be notified immediately along with the Michigan Health Department and the manufacturer.

CONTROL:

Each radionuclide will be checked to assure accuracy of the:

- (a) Activity.
- (b) Volume.
- (c) Specific activity.
- (d) Calibration.

All radionuclides will only be accepted during normal working hours.

Procedure for Opening Packages Containing Radioactive Material

- 1. Wear Disposable gloves when handling package.
- Survey package for leakage and contamination using a G-M survey meter and record reading in log book.

Limits: Surface - 200 mR/hr. 3 feet - 10 mR/hr.

- 3. If package is contaminated store immediately in decay storage area to limit spread of contamination and notify radiation safety officer.
- If package is not contaminated open it and monitor the packing material. Notify radiation safety officer if packing material is contaminated.
- 5. Store material in appropriate area for use and record in appropriate log book.

APPENDIX G LABORATORY RULES FOR THE USE OF RADIOACTIVE MATERIAL

- Wear laboratory coats, or other protective cloching at all times in areas where radioactive materials are used.
- Wear disposable gloves at all times while handling radioactive materials.
- Monitor hands and clothing for contamination after each procedure or before leaving the area.
- Use syringe shields for preparation of patient doses and administration to patients except in circumstances, such as pediatric cases, where their use would compromise the patient's well-being.
- Do not eat, drink, smoke or apply cosmetics in any area where radioactive material is stored or used.
- 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%.

Item No. 15 Date: 7. Wear personnel monitoring devices (Film badge or TLD) at all times while in areas where radioactive materials are used or stored. These should be worn at chest or waist level.

- 2 -

- Wear TLD finger badges during elution of generator and preparation, assay, and injection of radiopharmaceuticals.
- 9. Dispose of radioactive waste only in specially designated receptacles.
- 10. Never pipette by mouth.
- Survey generator, kit preparation, and injection areas for contamination after each procedure or at the end of the day. Decontaminate if necessary.
- 12. Confine radioactive solutions in covered containers plainly identified and labelled with name of compound, radionuclide, date, activity, and radiation level if applicable.
- 13. Always transport radioactive material in shielded containers.

Item No. 15 Date:

APPENDIX H

EMERGENCY PROCEDURES

Minor Spills:

- 1. NOTIFY: Notify persons in the area that a spill has occurred.
- 2. PREVENT THE SPREAD: Cover the spill with absorbent paper.
- 3. CLEAN UP: Use disposable gloves and remote handling tongs. Carefully fold the absorbent paper and pad. Insert into a plastic bag and dispose of in the radioactive waste container. Include all other contaminated materials such as disposable gloves.
- SURVEY: With a G.M. Survey Meter, check the area around the spill, your hands and clothing for contamination.
- 5. REPORT: Report incident to the Radiation Safety Officer.

Major Spills:

- CLEAR THE AREA: Notify all persons not involved in the spill to vacate the room.
- PREVENT THE SPREAD. Cover the spill with absorbent pads, but do not attempt to clean it up. Confine the movement of all personnel potentially contaminated to prevent the spread.

Item No. 16 Date:

- 3. SHIELD THE SOURCE. If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing your radiation exposure.
- CLOSE THE ROOM. Leave the room and lock the door(s) to prevent entry.
- 5. CALL FOR HELP. Notify the Radiation Safety Officer immediately.
- 6. PERSONNEL DECONTAMINATION. Contaminated clothing should be removed and stored for further evaluation by the Radiation Safety Officer. If the spill is on the skin, flush thoroughly and then wash with mild soap and lukewarm water.

RADIATION SAFETY OFFICER:	George J. Benisek, M.D.
OFFICE PHONE:	(616)673-8424
HOME PHONE:	Lating and a state

Item No. 16 Date:

- 2 -

APPENDIX I

SURVEY PROCEDURES

- A. All elution, preparation and injection areas will be surveyed daily with a G-M survey meter and decontaminated if necessary.
- B. Laboratory areas where only small quantities of radioactive material are used (less than 100 µCi) will be surveyed monthly.
- C. All other laboratory areas will be surveyed weekly.
- D. The weekly and monthly survey will consist of:
 - A measurement of radiation levels with a survey meter sufficiently sensitive to detect 0.1 mR/hr.
 - A series of wipe tests to measure contamination levels. The method for performing wipe tests will be sufficiently sensitive to detect 100 dpm.
- E. A permanent record will be kept of all survey results, including negative results. The record will include:

Item No. 17 Date:

- 1. Location, date, and type of equipment used.
- 2. Name of person conducting the survey.
- Orawing of area surveyed, identifying relevant features such as active storage areas, active waste areas, etc.

- 2 -

- Measured exposure rates, keyed to location on drawing (point out rates that require corrective action).
- 5. Detected contamination levels, keyed to locations on drawing.
- Corrective action taken in the case of contamination or excessive exposure rates, reduced contamination levels or exposure rates after corrective action, and any appropriate comments.
- F. Area will be cleaned if the contamination level exceeds 100 dpm/ 100 cm².
- <u>NOTE</u>: For daily surveys where no abnormal exposures are found, only the date, the identification of the person performing the survey, and the survey reports will be recorded.

Date:

APPENDIX J

WASTE DISPOSAL PROCEDURES

1.	Liquid	Waste	wi11	be	disposed	of	
----	--------	-------	------	----	----------	----	--

Check as appropriate

By commercial waste disposal service (See also No. 4 below)

X

In the sanitary sewer system in accordance with Section 20.303 of 10 CFR Part 20.

Other (specify):

Mo-99/Tc-99m generators will be:

(Check as appropriate)

Returned to the manufacturer for disposal

X Held for decay until radiation levels as measured with a lowlevel survey meter and with all shielding removed, have reached background levels. All radiation labels will be removed or obliterated and the generators disposed of asnormal trash. (Note: this method of disposal may not be practical for generators containing long-lived radioactive contaminants)

Disposed of by commercial waste disposal service (See also No. 4 below)

Other (specify):

3. Other Solid Waste will be:

(Check as appropriate)

X

Held for decay until radiation levels as measured with a lowlevel survey meter and with all shielding removed) have reached background levels. All radiation labels will be removed or obliterated and the waste will be disposed of in normal trash.

> Item No. 18 Date:

in support of our inducet for the use of Xe- gus the following . information is submitted.

- A. Quantities to be used:
 - 1. Estimated number of patients per year is 520, with a dose of 10mCi per patient.
 - 2. The possession limit request is 500 mCi.
 - B. Use and storage areas:
 - 1. The Xe-133 will be both stored and used in the Department of Nuclear Medicine. The Xe-133 will be stored in the shipping container behind a lead shielded storage area.
 - 2. The ventilation in the area where the Xe-133 will be both stored and used is 300 CFM. The exhaust vents are located in the ceiling and vent directly to the roof.
 - C. Procedures for routine uso.
 - 1. Position patient and set up.
 - (a) Single breath the patient inhales the Xe-133 gas and holds breath during scintigraphy.
 - (b) Rebreathing a rebreathing study is performed
 - through the system until equilibrium is achieved.
 (c) Washout the Xe-133 is exhaled from the patient
 - and collected in the Xe-133 trap.
 - The Xe-133 gas will be supplied by New England Nuclear or Diagnostic Isotopes, and will be dispensed and collected by the Pulmonex Xenon System model no. 130-500 from Atomic Products Corp.
 - 3. Nose clamps or face masks will be used in order to reduce possible contamination of the air.
- D. Emergency Procedures in case of accidental release of Xe-133
 - 1. All personnel and patients will leave the room and close the door.
 - 2. Notify Dr. Benisek
 - 3. Do not enter the room for a minimum of 10 minutes.
- E. Air Concentration of Xe-133 in restricted areas.
 - 1. Maximum amount of activity to be used per week is (A).
 - 2. Estimate of Xe-133 lost during use and storage (f).
 - 3. Volume of air available per week for dilution of the Xe-133 (v) =
 - $A = \frac{10 \text{ mCi}}{\text{patient}} \times \frac{10 \text{ patients}}{\text{week}} \times 10^{3} \frac{\text{uCi}}{\text{mCi}} = 100^{5} \frac{\text{uCi}}{\text{week}}$

F = assume 25%

1.0

· ·	
$V = \frac{A \times f}{1 \times 10}$	SuCi/ml
$= \frac{1 \lambda 10}{1 x}$	⁵ uCi/week x 0.25 10 ⁵ uCi/ml
= 2.5 x	10 ⁹ ml week
The requir	ed ventilation rate is
2.5 x 10 ⁹	$\frac{1}{\text{week x}}$ 1 $\frac{\text{cfm}}{36., \text{cfm}}$
40 hrs/w	neek 1.7 x 10 ⁶ ml/hr
The actual required v	ventilation in the area is 300 CFM which is greater than the ventilation for a restricted area.
F.	Method of disposal:
	1. The Xe-133 will be collected in the model 130-500 Pulmonex Xenon system from Atomic Products Corp.
	(a) Maximum amount of Xe-133 to be released per year (A)
	(b) Air Flow per year (V)
	$A = 1 \times 10^5 \frac{\text{uCi}}{\text{week}} \times 52 \frac{\text{week}}{\text{year}} = 5.2 \times 10^6 \frac{\text{uCi}}{\text{year}}$
	Assume 75% of all Xe-133 is trapped in the system. Therefore
	$A = 5.2 \times 10^6 \frac{uCi}{year} \times 0.25$
	$= 1.3 \times 10^6 \frac{\text{uCi}}{\text{year}}$
	$v = 300 \frac{ft^3}{min} \times 1.49 \times 10^{10} \frac{ml/year}{ft^2/min}$
	= $4.47 \times 10^{-2} \text{ ml/year}$
	$C = \frac{1.3 \times 10^{\circ} \text{ yci/year}}{4.47 \times 10^{\circ} \text{ ml/year}}$
	$= 2.9 \times 10^{-7} \text{ uCi/ml}$
	2. The trap system will be surveyed at the end of each month to ensure that the trap is working efficiently. A five liter bag will be placed over the exhaust post of the trap. The unit will be operated until the bag is full. The bag will be sealed and placed in front of the gamma camera and counted for one minute. The counts per minute will be recorded and compared with previous readings. A replacement cartridge will be installe whenever there is a significant increase in the monthly CPM. The saturated cartridge will be stored and disposed of in accordance with our disposal procedures.

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APPENDIX K

PROCEDURES FOR USE OF GROUPS IV AND V RADIOPHARMACEUTICALS FOR TREATMENT OF PATIENTS

- All patients treated with iodine-131 or gold-198 will be placed in a private room with a toilet.
- The patient's room will be properly posted in accordance with Section 20.203, 10 CFR Part 20.
- 3. Surveys of the patient's room and surrounding areas will be conducted as soon as practicable after administration of the treatment dose. Exposure rates will be measured at the patient's bedside, three feet away and the entrance to the room. The Radiation Safety Officer or his designate will then determine how long a person may remain at these positions and will post these times in the patient's chart and on his door. The results of daily surveys will be used to recalculate permitted times which will be posted on the patient's chart and on his door.
- 4. The form, Nursing Instructions for Patients Treated with Phosphous-32, Gold-198, or Iodine-131, will be completed immediately after administration of the treatment dose. A copy will be posted in the patient's chart.

- Radiation levels in unrestricted areas will be maintained less than the limits specified in Section 20.105(b), 10 CFR Part 20.
- All linens will be surveyed for contamination before being removed from the patient's room and will, if necessary, be held for decay.
- 7. Disposable plates, cups, eating utensils, tissue, surgical dressings, and other similar waste items will be placed in a specially designated container. The material will be collected daily by the Radiation Safety Officer (or his designate) checked for contamination, and disposed of as normal or radioactive waste, as appropriate.
- 8. Non-disposable items used for these patients will be held in plastic bags in the patient's room, and checked for contamination by the Radiation Safety Officer or his designate. Items may be returned for normal use, held for decay or decontaminated, as appropriate.
- 9. Urine and vomitus, from iodine-131 therapy patients will be stored for decay in our radioactive waste storage area. When it has reached background levels as measured with a low-level survey meter, it will be released to the sanitary sewer system.

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- f. Attending personnel must wear rubber or disposable plastic gloves when handling urinals, bedpans, emesis basins or other containers having any material obtained from the body of the patient. Wash gloves before removing and then wash hands. The gloves must be left in the patient's room in the designated waste container. These gloves need not be sterile or surgical in type.
- g. Disposable items should be used in the care of these patients, whenever possible. These items should be placed in the designated waste container. Contact the Nuclear Medicine Department for proper disposal of the contents of the designated waste container.
- h. All clothes and bed linens used by the patient should be placed in the laundry bag provided and left in the patient's room to be checked by a member of the Nuclear Medicine Department.

 All non-disposable items should be placed in a plastic bag and left in the patient's room to be checked by a member of the Nuclear Medicine Department.

- 5 -

- j. Surgical dressings should be changed only as directed by physician. Gold-iso leaking from a puncture wound will stain the dressings dark red or purple. Such dressings should not be discarded but should be collected in plastic bags and turned over to the Nuclear Medicine Department. Handle these dressings only with tongs or tweezers. Wear disposable gloves.
- k. For iodine-131 patients:
 - (1) Urine from iodine-131 patients will be collected in special containers provided by the Nuclear Medicine Department. The patient should be encouraged to collect his own urine in the container. If the patient is bedridden, a separate urinal or bed pan should be provided. The urinal or bed pan should be flushed several times with hot soapy water after use.
 - (2) If the nurse helps to collect the excreta, she should wear disposable gloves. Afterwards she should wash her



- 6 -

- (3) Disposable plates, cups, and eating utensils will be used by patients who are treated with iodine-131.
- (4) Vomiting within 24 hours after oral administration, urinary incontinence, or excessive sweating within the first 48 hours may result in contamination of linen and/or floor. In any such situations or if radioactive urine and/or feces is spilled during collection, call the Nuclear Medicine Department, Ext. _____. Meanwhile, handle all contaminated material with disposable gloves and avoid spreading contamination.
- (5) All vomitus must also be kept in the patient's room for disposal by the Nuclear Medicine Department. Feces need not be routinely saved, unless ordered on the chart. The same toilet should be used by the patient at all times and it should be well flushed (3 times).

11.



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- m. If a nurse, attendant or anyone else knows or suspects that his skin, or clothing, including shoes, is contaminated, notify the Nuclear Medicine Department immediately. This person should remain in the patient's room and not walk about the hospital. If the hands become contaminated, wash immediately with soap and water.
- If a therapy patient should need emergency surgery or should die, notify the Nuclear Medicine Department immediately.
- o. When the patient is discharged call the Nuclear Medicine Department and request that the room be surveyed for contamination before remaking the room.

NURSING INSTRUCTIONS FOR PATIENTS TREATED WITH PHOSPHOUS-32, GOLD-198, or IODINE-131

- 8 -

Room No.	. Physicianic Name	
Dadiaia	·· Physician's Name:	
Radioise	d Time of Advision of	
vate and	a lime of Administration:	
Dose Red	ceived: Method of Admini	istration:
	Exposure Rates in MR/H	ır
Date	3 feet from bed	10 feet from bec
	(Comply with all Check It	ems)
1.	(Comply with all Check It Visting time permitted:	ems)
1.	(Comply with all Check It Visting time permitted: Vistors must remain	ems) from patient.
1. 2. 3.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may <u>not</u> leave room	ems) from patient.
1. 2. 3. 4.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may <u>not</u> leave room Vistors under 18 <u>not</u> perrmitted.	ems) from patient.
1. 2. 3. 4. 5.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may <u>not</u> leave room Vistors under 18 <u>not</u> permitted. Pregnant visitors <u>not</u> permitted.	ems)
1. 2. 3. 4. 5. 6.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may not leave room Vistors under 18 not permitted. Pregnant visitors not permitted. Film badges must be worn.	ems) from patient.
1. 2. 3. 4. 5. 6. 7.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may not leave room Vistors under 18 not permitted. Pregnant visitors not permitted. Film badges must be worn. Use and complete the following tags:	ems)
1. 2. 3. 4. 5. 6. 7.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may not leave room Vistors under 18 not permitted. Pregnant visitors not permitted. Film badges must be worn. Use and complete the following tags: door	ems)
1. 2. 3. 4. 5. 6. 7.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may not leave room Vistors under 18 not permitted. Pregnant visitors not permitted. Film badges must be worn. Use and complete the following tags: door bed	ems)
1. 2. 3. 4. 5. 6. 7.	(Comply with all Check It Visting time permitted: Vistors must remain Patient may not leave room Vistors under 18 not permitted. Pregnant visitors not permitted. Film badges must be worn. Use and complete the following tags: door bed chart	ems)

1

Date:

- 8. Gloves must be worn while attending patient.
- 9. Patient must use disposable utensils.
- 10. All items must remain in romm until OK'd by Radiation Safety.
- .11. Smoking is not permitted.
- 12. Do not release room to admitting until OK'd by Radiation Safety.

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13. Other instructions

In case of an emergency contact:

RSO name

on/off duty telephone no.

INSTRUCTIONS TO BE GIVEN ORALLY TO RADIOIODINE

THERAPY PATIENTS

TO BE OBSERVED FOR 2 WEEKS WHEN THEY GO HOME

- You do not represent a significant danger to others, but others receive absolutely no benefit from your radiation and the precautions are to absolutely minimize their exposure.
- 2. Flush the toilet 3 times each time it is used. Use care not to contaminate the bathroom with urine.
- 3. Use a separate drinking glass.
- 4. Avoid kissing on the lips, especially children.
- Avoid tasting food, 'f you cook, and placing the spoon back into the lood; thus contaminating it with your saliva.
- 6. Avoid prolonged lose contact with young children and pregnant w
- 7. Secretions from the breast may be radioactive, thus nursing is forbidden.

RADIOSOTOPE COMMITTEE

- George Benisek, M.D. (Radiologist) Chairman See license number 21-13230-01
- John Engels, M.D. (Radiologist) See license number 21-13230-01
- William L. Songer, M.D. (Radiologist) See license number 21-13230-01
- John Roosenberg, M.D. (Internist) (See attachment)
- 5. Wendell C. Trent, M.P.H. (Administrator)
- 6. Dwight C. Bruining, R.T. (N.M.T.) Department Head

John M. Roosenberg, M.D. - Medical Information

Education in the principles and medical usage of radioactive material was received as a result of training at nuclear medicine and endocrinology seminars, clinics, and individual instruction received during Dr. Roosenberg's residency in Internal Medicine.

Washington Adventist Hospital - Intern - 1974
Veterans Hospital, Washington, D.C. - 1975 - Resident in Internal Medicine
Georgetown Medical Center - 1975 - Resident in Internal Medicine
Loma Linda University Medical Center, Loma Linda, California - 1975 to 1977 - Resident in Internal Medicine

MEMORANDUM FOR: Nursing Department Personnel

FROM:Dwight C. Bruining R.T.(NMT), Dept. Head of RadiologySUBJECT:RECEIPT OF PACKAGES CONTAINING RADIOACTIVE MATERIAL

Any packages containing radioactive material that arrive between 5:00 P.M. and 7:00 A.M. or on Saturdays or Sundays shall be signed for by the Emergency Room Nurse on duty. Immediately the package will be taken to the Nuclear Medicine Department. Unlock the door, and place the package on the counter next to the 3" Picker Magnascanner, and relock the door.

If the package is wet or appears to be damaged, <u>immediately</u> contact the Nuclear Medicine Technologist. Ask the carrier to remain at the hospital until it can be determined that neither he nor the delivery vehicle is contaminated.

Nuclear Medicine Technologist: Dwight C. Bruining R.T. Home Phone: 673-3187

The Nuclear Medicine Technologist will determine whether or not to contact the Radiation Safety Officer. OUTSIDE WALL

