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

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

ALFRED J. SWYER, M.D.
307 - 60TH STREET
WEST NEW YORK, NEW JERSEY 07093

TELEPHONE NO.: AREA CODE (201) 854 1200

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

2. PERSON TO CONTACT REGARDING THIS APPLICATION

ALFRED J. SWYER, M.D.

TELEPHONE NO.: AREA CODE 201 854 1200

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

a. ☐ NEW LICENSE
b. ☐ AMENDMENT TO LICENSE NO.
c. ☒ RENEWAL OF LICENSE NO. 29-03198-03

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

ALFRED J. SWYER, M.D.

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.)*

JOSEPH WARMUND, M.S.

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	X	1 MCI
10 CFR 35.100, SCHEDULE A, GROUP I	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP II	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP III	X	15 MCI
10 CFR 35.100, SCHEDULE A, GROUP IV	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP V	X	AS NEEDED
10 CFR 35.100, SCHEDULE A, GROUP VI		

ADDITIONAL ITEMS:	MARK ITEMS DESIRED "X"	MAXIMUM POSSESSION LIMITS *(In millicuries)*
IODINE-131 AS IODIDE FOR TREATMENT OF HYPERTHYROIDISM	X	15
PHOSPHORUS-32 AS SOLUBLE PHOSPHATE FOR TREATMENT OF POLYCYTHEMIA VERA, LEUKEMIA AND BONE METASTASES	X	15
PHOSPHORUS-32 AS COLLOIDAL CHROMIC PHOSPHATE FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.	X	15
GOLD-198 AS COLLOID FOR INTRACAVITARY TREATMENT OF MALIGNANT EFFUSIONS.		
IODINE-131 AS IODIDE FOR TREATMENT OF THYROID CARCINOMA	X	100
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
COBALT 57	VIAL TYPE E N.E.N.	10 MCI	STANDARD FOR DOSE CALIBRATION
COBALT 57	LUCITE DISK N.E.N.	10 MCI	FLOOD SOURCE FOR GAMMA CAMERA
STRONTIUM 90	SEALED SOURCE N.E.N. NER-8090	100 MCI	EYE APPLICATOR (THERAPY)

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: _____

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)*
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**
✓ Appendix F Procedures Followed; or	☐ Detailed Information Attached
☐ Equivalent Procedures Attached	**23. PROCEDURES AND PRECAUTIONS FOR USE OF RADIOACTIVE MATERIAL SPECIFIED IN ITEM 6.b**
	☐ Detailed Information Attached

24. PERSONNEL MONITORING DEVICES

TYPE (Check appropriate box)			SUPPLIER	EXCHANGE FREQUENCY
a. WHOLE BODY	X	FILM	LANDAUER	MONTHLY
		TLD		
		OTHER (Specify)		
b. FINGER		FILM		
	X	TLD	LANDAUER	MONTHLY
		OTHER (Specify)		
c. WRIST		FILM		
		TLD		
		OTHER (Specify)		

d. OTHER (Specify)

25. FOR PRIVATE PRACTICE APPLICANTS ONLY

a. HOSPITAL AGREEING TO ACCEPT PATIENTS CONTAINING RADIOACTIVE MATERIAL

NAME OF HOSPITAL: ST. MARY HOSPITAL

MAILING ADDRESS: WILLOW AVENUE

CITY: HOBOKEN | STATE: NJ | 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: CK#16884-8/15/84 $150.00 CK#17002-9/14/84 $430.00

b. APPLICANT OR CERTIFYING OFFICIAL *(Signature)* Alfred J. Swyer

(1) NAME *(Type or Print)* ALFRED J. SWYER, M.D.

(2) TITLE RADIOLOGIST

c. DATE FEBRUARY 4, 1985

NRC FORM 313M (9-81)

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.

#8

FORM NRC-313M-SUPPLEMENT A
(7-77)
10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

TRAINING AND EXPERIENCE
AUTHORIZED USER OR RADIATION PROTECTION OFFICER

1. NAME OF AUTHORIZED USER OR RADIATION PROTECTION OFFICER	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
A.J. SWYER, M.D.	NEW JERSEY-NEW YORK

3. CERTIFICATION

SPECIALITY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
AMERICAN BOARD OF RADIOLOGY	RADIOLOGY	DECEMBER, 1952
AMERICAN BOARD OF NUCLEAR MEDICINE	NUCLEAR MEDICINE	SEPTEMBER, 1976
PLEASE SEE ADDENDUM		

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE(S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	SEE BOARD CERTIFICATION		
b. RADIATION PROTECTION	SEE BOARD CERTIFICATION		
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	SEE BOARD CERTIFICATION		
d. RADIATION BIOLOGY			
e. RADIOPHARMACEUTICAL CHEMISTRY			

LIC.# 29-03198-03
DOCKET # 030-02468-
CONTROL # 18026

The American Board of Nuclear Medicine

Incorporated 1971

conjoint Board organized with the sponsorship of the American Board of Internal Medicine, erican Board of Pathology, American Board of Radiology and the Society of Nuclear Medicine

hereby certifies that

Alfred Jerome Lwyer, M.D.

has met the requirements of this Board and is certified as qualified to practice as a specialist in all aspects of clinical and laboratory

Nuclear Medicine

including but not limited to Radiobioassay, Nuclear Imaging, in Vivo Measurements & therapy with unsealed Radionuclides.

Joseph F Rawls M.D.
CHAIRMAN

SECRETARY

Organized through the cooperation of the
American College of Radiology, the American Roentgen Ray Society,
the American Radium Society, the Radiological Society of North America
and the Section on Radiology of the American Medical Association
Hereby certifies that

Alfred Jerome Swyer, M.D.

Has pursued an accepted course of graduate study and
clinical work, has met certain standards and qualifications and
has passed the examinations conducted under the authority of
The American Board of Radiology
On this, the Sixth day of December, 1952
Thereby demonstrating to the satisfaction of the
Board that he is qualified to practice the specialty of

Radiology

Report of Continuing Medical Education for AMA's Physician's Recognition Award 1982 - 1985

CATEGORY 1: C.M.E. Activities with Accredited Sponsorship (At least 60 hours are required. The total-150 credit hours-may be earned in this category.)

Please print or type

Accredited Sponsor or Co-sponsor	Location of Accredited Sponsor City, State	Description of Learning Activity (Title of course, seminar, CME intermittent program, field of medicine, etc.)	Dates of Attendance (inclusive)	Hours of Study	Total
AMERICAN COLLEGE OF RADIOLOGY	WASHINGTON, D.C.	PNEUMOCONIOSIS	3-12-15/82	16	
ACADEMY OF NUCLEAR MEDICINE (ACR)	LAWRENCEVILLE, N.J.	CT IN GASTROINTESTINAL DIS.	4-15-82	3	
CONTEMPORARY DIAGNOSTIC RADIOLOGY(UNIV. OF PENN.)	PHILADELPHIA, PA.	BIWEEKLY REVIEWS	8-11-82	14	
ACADEMY OF MEDICINE, N.J.		CA RECTUM	11-17-82	1	
ACADEMY OF MEDICINE		HYPERTHERMIA IN TREATMENT OF CA	10-20-82	1	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	EMISSION TOMOGRAPHY	12-13-82	25	
UNIV. OF PENN.-CONTEMPORARY DIAGNOSTIC RADIOLOGY		BIWEEKLY REVIEW	12-14-82	5	
ACADEMY OF MEDICINE		VOCAL CORD TUMOR	1-19-83	1	
UNIV. OF PENN.		BIWEEKLY REVIEW	1-17-83	7	
ACADEMY OF MEDICINE		CT & HEAD TRAUMA	1-20-83	2	
YALE UNIVERSITY	NEW HAVEN, CT.	CARDIOVASCULAR NUCLEAR MEDICINE, 1983	3-12-83	20	
ACADEMY OF MEDICINE		NMR	4-21-83	2	
ACR	WASHINGTON, D.C.	WORKSHOP-MAMMOGRAPHY	5-14-83	5	
ACADEMY OF MEDICINE		CA CERVIX	5-18-83	1	
CONTEMPORARY DIAGNOSTIC RADIOLOGY	UNIV. OF PENN. PHILADELPHIA, PA.	CLINICAL RADIOLOGIC PRACTICE	8-15-83	7	
ACADEMY OF MEDICINE,N.J.	LAWRENCEVILLE, N.J.	LYMPHOMA, INTESTINE	9-15-83	2	

Total number of hours spent in Category 1 activities (carry forward to next page) 89.5

Report of Continuing Medical Education for AMA's Physician's Recognition Award

1982 - 1985 (CONTINUED)

Accredited Sponsor or Co-sponsor	Location of Accredited Sponsor City, State	Description of Learning Activity (Title of course, seminar, CME intermittent program, field of medicine, etc.)	Dates of Attendance (inclusive)	Hours of Study	Total
CATEGORY 1: C.M.E. Activities with Accredited Sponsorship (At least 60 hours are required. The total 150 credit hours may be earned in this category.)				FORWARD	89.5
Please print or type					
ACADEMY OF MEDICINE, N.J.		HEAD & NECK CA, RADIATION THERAPY, CHEMOTHERAPY	9-21-83	1	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	DIAGNOSIS & MANAGEMENT INFLAMMATORY BOWEL DISEASE	10-10-83	2.5	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	SPECT. NMR	12-12-83	2.5	
ACADEMY OF MEDICINE, N.J.		CONGENITAL HEART DISEASE	12-15-83	2.0	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	NEW & REVISED USES OF NUCLEAR MEDICINE, CHILDHOOD	1-9-84	2.5	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	NUCLEAR MEDICINE EVALUATION OF CORONARY ARTERY PERFUSION	2-13-84	2.5	
ACR	CHICAGO, ILL.	21ST NATIONAL CONFERENCE ON BREAST CANCER	3-19-23/84	37	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	DIAGNOSIS & THERAPY WITH RADIO-LABELLED ANTIBODIES	3-12-84	2.5	
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	MAGNETIC RESONANCE IMAGING	4-19-84	1	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	PULMONARY EMBOLISM	5-14-84	2.5	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	GALLIUM-DR. WM. KAPLAN	11-12-84	2.5	
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	ISCHEMIC CEREBROVASCULAR DISEASE	10-18-84	3	
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	RADIATION THERAPY, RTOG DR. DAVIS	11-14-84	1	
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	MYOCARDIAL IMAGING	12-10-84	3	
CONTEMPORARY DIAGNOSTIC RADIOLOGY	UNIV. OF PENN. PHILADELPHIA, PA.	REVIEWS OF CLINICAL RADIOLOGY	11-30-84	5	
SOCIETY OF NUCLEAR MEDICINE ACADEMY OF MEDICINE, N.J.	NEW YORK CITY	BONE SCANNING RADIATION THERAPY-CA PANCREAS	1-14-85 1-16-85	3 1	
Total number of hours spent in Category 1 activities (carry forward to next page)					160.5

1. NAME OF AUTHORIZED USER OR RADIATION PROTECTION OFFICER	2. STATE OR TERRITORY IN WHICH LICENSED TO PRACTICE MEDICINE
JOSEPH WARMUND, M.S.	

3. CERTIFICATION

SPECIALITY BOARD A	CATEGORY B	MONTH AND YEAR CERTIFIED C
AMERICAN BOARD OF RADIOLOGY RADIOLOGIC PHYSICS PLEASE SEE ADDENDUM		JUNE 1972

4. TRAINING RECEIVED IN BASIC RADIOISOTOPE HANDLING TECHNIQUES

FIELD OF TRAINING A	LOCATION AND DATE (S) OF TRAINING B	TYPE AND LENGTH OF TRAINING	
		LECTURE/ LABORATORY COURSES (Hours) C	SUPERVISED LABORATORY EXPERIENCE (Hours) D
a. RADIATION PHYSICS AND INSTRUMENTATION	COLUMBIA UNIVERSITY MASTER OF SCIENCE IN RADIOLOGIC PHYSICS	1 YEAR	1 YEAR
b. RADIATION PROTECTION	"	"	"
c. MATHEMATICS PERTAINING TO THE USE AND MEASUREMENT OF RADIOACTIVITY	"	"	"
d. RADIATION BIOLOGY	"	"	"
e. RADIOPHARMACEUTICAL CHEMISTRY	"	"	"

FORM NRC 313M SUPPLEMENT A
(7-77)

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

CURRICULUM VITAE

JOSEPH WARMUND, M.S.
212-30 23rd Avenue
Bayside New York 11360
718-4286754

CITIZENSHIP: U.S.A.

EDUCATION: The City University of New York - B.S. 1961
(Physicis Major; Mathematics Minor)
Additional 16 credits on Science Education, 1962
New York High School Substitute License for Physics and General Science.
Columbia University - M.S., 1963 (Radiological Physics)

EXPERIENCE: British Rcyal Army Medical Corps., 62nd General Hospital; 6½ years during World War II. - 1939 - 1946.

New York Presbyterian Hospital - 1 year radiological physics, 1963.

New York Memorial Hospital - 1 year Radiation Safety Officer; also in charge of Standard Calibration Laboratory of Sloan Kettering Institute - 1964.

Maimonides - Coney Island Hospital - Chief Physicist, Radiation Safety Officer for both hospitals.

Physics Teacher X-ray Technology School, 1966 - 1969. Nuclear Medicine Technology Course, 1968. Radiology residents training in radiation physics. Nurses radiation protection courses.

The Bronx-Lebanon Medical Center - Chief Physicist, Radiaton Safety Officer. Physics Teacher: Radiology residents training in radiation physics. Nurses radiation protection courses. April 2nd - 1969 to present.

Harlem Hospital Medical Center - Senior Physicist Consultant, Radiology residents teaching - R.S.O. - June 1969 to present.

SOCIETIES: The New York Academy of Sciences

CURRICULUM VITAE

Josephy Warmund, M.S.

SOCIETIES: The New York Academy of Sciences

The Society of Nuclear Medicine

American Association of Physicists in Medicine

New York Chapter of Health Physics Society

Radiological Society of North American

American College of Radiology.

LANGUAGES: French, Spanish, Italian, German.

AMERICAN COLLEGE OF RADIOLOGY: Radiological Physics Board Certification in Diagnostic Radiology

Nuclear Medicine and Radiation Therapy.

The American Board of Radiology

Organized through the cooperation of the
American College of Radiology, the American Roentgen Ray Society,
the American Radium Society, the Radiological Society of North America
and the Section on Radiology of the American Medical Association
Hereby certifies that

Joseph Warmund, M.S.

Has pursued an accepted course of graduate study
and clinical work, has met certain standards and qualifications and
has passed the examinations conducted under the authority of
The American Board of Radiology
On this ninth day of June, 1972
Thereby demonstrating to the satisfaction of the Board
that he is qualified to practice the specialty of

Radiological Physics

State of New York **Department of Health**

CERTIFICATE
RADIATION EQUIPMENT SAFETY OFFICER

Issued for the period ending midnight, December 31, 1986, without restriction unless marked RESTRICTED hereon, to the individual whose name, certificate number, and address appear following, pursuant to Section 16.2 (a) (6) of the State Sanitary Code.

JOSEPH WARMUND, M.S.
BRONX LEBANON HOSPITAL
1650 GRAND CONCOURSE
BRONX, NY 10457

026

VALID ONLY
WITH EMBOSSED
NYSDH SEAL

DAVID AXELROD, M.D., COMMISSIONER OF HEALTH

Through
Bureau of Environmental Radiation Protection

GEN 361 (Rev 11/84)

ALBERT EINSTEIN COLLEGE OF MEDICINE
OF YESHIVA UNIVERSITY

1300 MORRIS PARK AVENUE, BRONX, N.Y. 10461 • CABLE EINCOLLMED, N.Y.

OFFICE OF THE DEAN

PHONE (212) 430-2000

August 1, 1984

Dr. Joseph Warmund
92-05 Whitney Avenue
Elmhurst, New York 11373

Dear Dr. Warmund:

I am pleased to inform you that on the recommendation of the Chairman of your Department you are being reappointed as Principal Associate in Radiology commencing on July 1, 1984 and terminating on June 30, 1986.

Your reappointment is in the Associate Status in accordance with the System of Appointments, Titles, and Compensation Arrangements at the Albert Einstein College of Medicine and as provided in this appointment letter. Your appointment will terminate for all purposes at the end of the period aforementioned unless renewed in writing by the Dean of the College of Medicine.

Since you are not currently on the payroll of the Albert Einstein College of Medicine, Yeshiva University can assume no liability or responsibility for salary in connection with this appointment. Upon the recommendation of your Chairman, your appointment to the faculty may be renewed.

I acknowledge with gratitude your service to the College of Medicine and note with pleasure that you will be continuing as a member of our faculty.

Sincerely yours,

Ernst R. Jaffé

Ernst R. Jaffe, M.D.
Acting Dean

RE:26

Attachment: Copy of System of Appointments, Titles and Compensation Arrangements for the Faculty of the A.E.C.O.M. of Y.U.

ERJ:pd

INSTRUMENTATION

1. Survey meters

   a. Manufacturer's name: EON NUCLEAR-MEDICAL

   Manufacturer's model number: PSM 700

   Number of instruments available: 1

   Minimum range: 0.01 mr/hr to 0.5 mr/hr

   Maximum range: 0.01 mr/hr to 50 mr/hr

   b. Manufacturer's name: VICTOREEN

   Manufacturer's model number: THYAC III SER. # 1749

   Number of instruments available: 1

   Minimum range 0.01 mr/hr to 0.2 mr/hr

   Maximum range 0.01 mr/hr to 200 mr/hr

2. Dose calibrator

   Manufacturer's name: CAPINTEC

   Manufacturer's model number: CRC 30

   Number of instruments available: 1

3. Diagnostic instruments

Type of Instrument	Manufacturer's Name	Model No.
THYROID UPTAKE PROBE	NUCLEAR CHICAGO	821320 SER.#270
	PROBE & PICKER	SPECTROSCALER
	RATE METER	IIIA
GRAMMA CAMERA WITH COMPUTER	SEARLE	HP
	UPDATED M.D.S.	A^2

FM-3-75 Lithd

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

#10

CALIBRATION OF DOSE CALIBRATOR

CALIBRATION OF SURVEY METERS

LICENSE# 29-03198-03
DOCKET# 030-02468
CONTROL# 18026

Daily Dose Calibration Record
99mTc Procedure

1) Co 57 standard.

2) Cs 137 standard.

3) 99mTc eluate. Label container: date, time, quantity/cc.

4) 99 Mo break through. Measure with lead shield. Divide 99 Mo microcuries by millicuries of 99mTc in vial. Do not use if more than 0.1 microcurie/millicurie.

5) Label container with 99mTc S_2O_4, DTPA, PYP, M.A.A.: date, time, quantity/cc.

6) Measure each patient dose in syringe.

Test for instrument accuracy CONSTANCY EVERY 6 MONTHS 1/15/85 -

Assay the long live standard Ra-226 in the dose calibrator and subtract background leval to obtain net activity. Use appropriate setting.

Use the same isotope Ra-226 and calibrate with various radionuclide sett

Use Tc-99, I-131, I-123, Xe-133, Ga-67, Tl-201, In-111 etc.

Massured activity is as above.

Radionuclid setting	PREVIOUS Activity in uci	1/15/85
Ra 226	15.7	15.3
Tc-99	80.85	80.2
I-131	56.60	56.1
I 123	37.50	37.2
Xe-133	48.38	48.1
Ga-67	70.86	70.5
Tl 201	45.80	45.6.
In-111	34.10	34

Y. Vamundy. P.S.

TEST FOR INSTRUMENT LINEARITY EVERY 6 MONTHS

1 Assay .5cc Tc-99m in syringe in the dose calibrator and subtract background level to obtain net activity in millicuries.

2 Repeat step 1 at time intervals of 6, 24, 30, and 48 hours.

Results as above:

HOUR	ACTIVITY	EXPECTED
0	122	122
6	61	61.12
~~24~~ 12	30	30.62
~~30~~ 24	7.8	7.69
48		

Plot the measured net activity for each time interval versus the decay predicted activity on semi-log paper.

. GEOMETRIC TEST DONE AT INCEPTION.

$10

(212) 428-6754

(212) 294-5085

JOSEPH WARMUND, M.S.
BOARD CERTIFIED RADIOLOGICAL PHYSICIST
212-30 23rd AVENUE
BAYSIDE, NEW YORK 11360

SURVEY METER: THYAC III. Ser. # 1749

LOCATION: A.J. Swyer, M.D.

DATE	Standard Source	Calculated mR/hr	Reading mR/hr	Centimeter Distance	mR/hr Scale	Battery	Correct Factor
1/15/85	CESIUM 137	6.52	7	100	20	O.K.	0.93
	20.20 mCi	0.13	0.14	700	0.2		0.93
		0.18	0.2	600	0.2		0.9
		0.72	0.7	300	2		1.03
		1.63	1.8	200	2		0.90
		13.2	14	70	20		0.94
		72.63	70	30	200		1.04
		163.43	170	22	200		0.96

A. Warmund R.S.

(212) 428-6754 (212) 294-6085

JOSEPH WARMUND, M.S.
BOARD CERTIFIED RADIOLOGICAL PHYSICIST
212-30 23rd AVENUE
BAYSIDE, NEW YORK 11360

SURVEY METER: EON G.M.

LOCATION: A.J. Swyer, M.D.

DATE	Standard Source	Calculated mR/hr	Reading mR/hr	Centimeter Distance	mR/hr Scale	Battery	Correct Factor
1/15/85	CESIUM 137	6.52	6	100	50	O.K	1.09
	20.20 mC	26.1	27	50	50		0.98
		2.90	3	150	5		0.98
		0.26	0.29	500	0.5		0.90

J. Warmund M.S

NO. 11

FACILITIES & EQUIPMENT (ITEM #11)

ROOM FOR DIAGNOSTIC STUDIES IS FREE OF ANY STORED RADIONUCLIDE WHICH IS BROUGHT IN ONLY AT THE TIME OF ADMINISTRATIONS TO PATIENTS. INSTRUMENTATION WITHIN THE ROOM CONSISTS OF GAMMA CAMERA HEAD AND STAND AND TABLE UPON WHICH PATIENT RECLINDES.

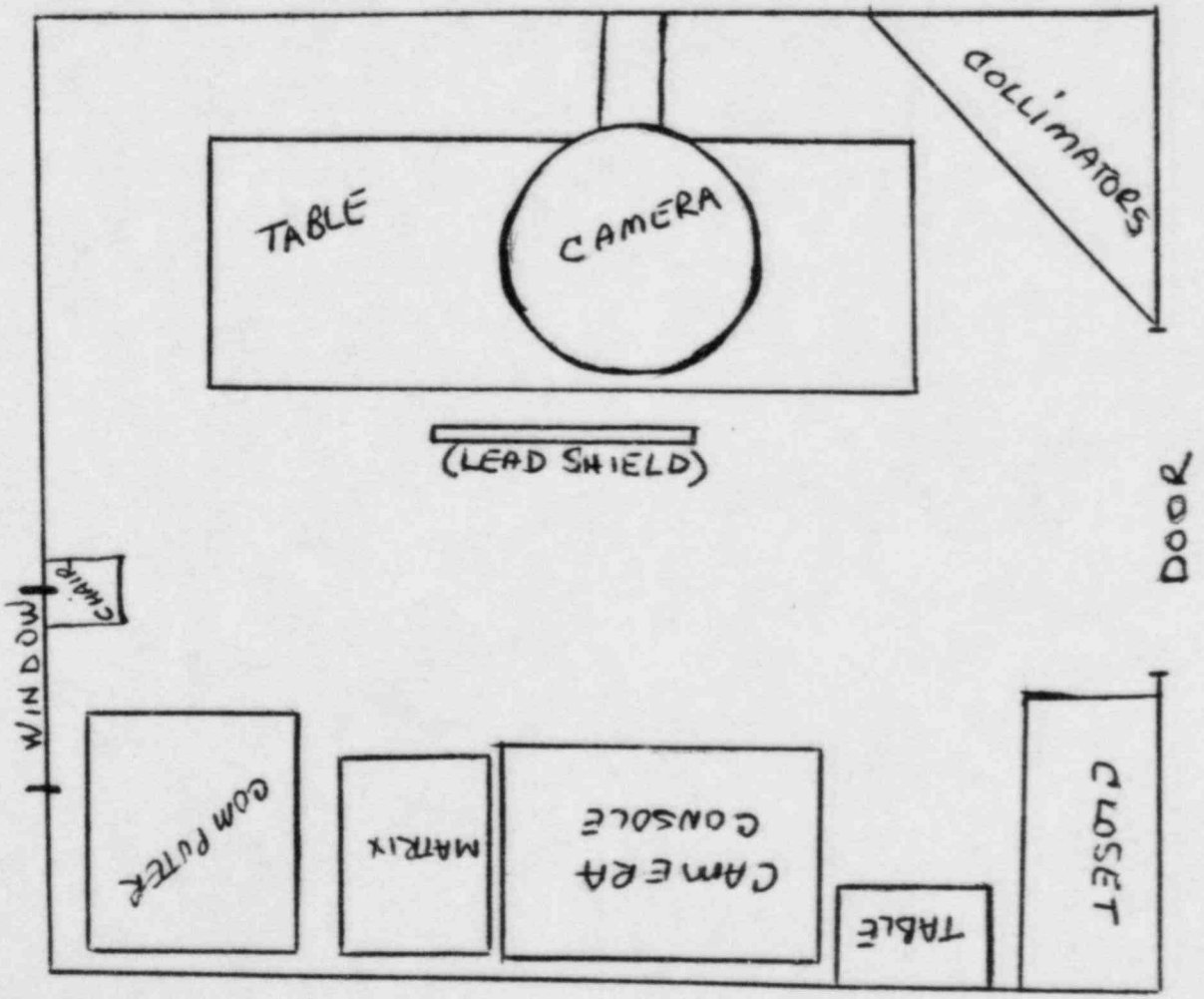
ON OPPOSITE SIDE OF ROOM IS THE CONTROL CONSOLE FOR CAMERA AND COMPUTER UNIT. ACCESSORIES ARE HELD WITHIN THE ROOM.

SEPARATE SPACE AWAY FROM THE EXAMINING ROOM IS UTILIZED FOR STORING SYNCOR UNIT DOSE AND STORING DECAYING WASTE IN APPROPRIATE LEAD CONTAINERS. IN THIS AREA, PATIENT DOES ARE PREPARED WITH APPROPRIATE PHARMACEUTICALS AND DOSE CALIBRATION IS CARRIED OUT INDIVIDUALLY WITH CAPINTEC CRC30 UNIT.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

NUCLEAR MEDICINE ROOM

ALFRED J. SWYER, M.D., P.A.
307 60TH ST., WEST NEW YORK, N.J.



1 FOOT = 1/2 INCH

NO. 12

PERSONNEL TRAINING PROGRAM AND FREQUENCY

DR. ALFRED J. SWYER IS A SENIOR CLINICAL ASSISTANT, ANDRES MEYER DEPT. OF PHYSICS AND NUCLEAR MEDICINE, MT. SINAI HOSPITAL AND INSTRUCTOR IN RADIOLOGY, MT. SINAI HOSPITAL AND ATTENDS NUMEROUS SEMINARS AND MEETINGS.

THE NUCLEAR MEDICINE TECHNOLOGIST CONTINUES HIS/HER ON THE JOB TRAINING BY THE PHYSICIAN AND THE PHYSICIST. THE TECHNOLOGIST HAS BEEN TRAINED TO DO SURVEYS, DOSE CALIBRATION CONSTANCY TEST, RECTILINEAR SCANNER VOLTAGE PEAKING, ORDERING, RECEIVING, DISPOSAL AND RECORDING OF RADIOACTIVE MATERIALS, FOLLOW "GOOD HOUSEKEEPING" ETC.

JOSEPH WARMUND, M.S., THE CONSULTANT PHYSICIST ATTENDS LECTURE AND CONVENTIONS.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

The Radiological Society of North America, Inc.

1415 W. 22nd Street, Suite 1150 • Oak Brook, Illinois 60521

1983 CERTIFICATE OF CREDIT

RSNA 69th. Scientific Assembly & Annual Meeting

WARMUND M. S., JOSEPH
BRONX LEBANON HOSPITAL
1650 GRAND CONCOURSE
BRONX NY 10457

DATE: 1/25/84
BADGE NO.: 919761 AA
CERTIFICATE NO.: 233696

As an organization accredited by the Accreditation Council for Continuing Medical Education, the Radiological Society of North America designates that the continuing medical education activities identified as Category I meet the criteria for Category I Credit, on an hour-for-hour basis. This confirms that the individual designated attended the Scientific Assembly and Annual Meeting of the RSNA, and participated in those activities.

This report is the computer accumulation of credit vouchers submitted at the Annual Meeting, and is provided to the Radiologist, Physicist or Technologist as a help in record keeping. It may not reflect the total credits earned if credit vouchers have not been appropriately used. If that is the case, it is the responsibility of the individual to correct his own records in accordance with the honor system which is customarily observed in reporting continuing medical education credits. This record of credit is available only to the designated individual and will not be supplied to accrediting agencies and other organizations. The individual is charged with the responsibility of maintaining his own record of accumulated credits; no cumulative records are maintained by the RSNA.

E. Robert Heitzman, M.D.

EVENT CODE	DESCRIPTION	CREDITS	
2RC304	304...Musculoskeletal CT and NMR with Emphasis on the Lumbar Spine	1.50	
2RC419	419...CT and Ultrasound in Radiation Treatment Planning	1.50	
2RC616	616...Unifying Principles of Medical Imaging	1.50	
2RC814	814...The Digital Imaging Process	1.50	
2SSE03	Scientific Session-PHYSICS	1.50	
2SSE14	Scientific Session-CARDIOVASCULAR	.00	*
2SSH07	Scientific Session-BREAST	1.50	
2SSK03	Scientific Session-PHYSICS	1.50	
2SSK11	Scientific Session-NMR	.00	*
2SSL13	Scientific Session-NUCLEAR MEDICINE	1.50	
2SSP13	Scientific Session-NUCLEAR MEDICINE	1.50	
2SSS03	Scientific Session-PHYSICS	1.50	
	NMR Seminar I (Thu. 11/17)	2.00	
	NMR Seminar II (Fri. 11/18)	4.50	

TOTAL CREDITS: 21.50

* CREDIT HAS ALREADY BEEN ISSUED FOR THIS TIME SEGMENT

RC = REFRESHER COURSE SS = SCIENTIFIC SESSION SE = SCIENTIFIC EXHIBIT

The Radiological Society of North America, Inc.

1415 W. 22nd Street, Suite 1150 • Oak Brook, Illinois 60521

1982 CERTIFICATE OF CREDIT

RSNA 68TH SCIENTIFIC ASSEMBLY & ANNUAL MEETING

WARMUND M.D., JOSEPH
BRONX LEBANON HOSPITAL
212-30 23RD AVE
BAYSIDE NY 11360

DATE: 1/15/83
BADGE NO.: 335201 AA
CERTIFICATE NO.: 164346

As an organization accredited by the Accreditation Council for Continuing Medical Education, the Radiological Society of North America designates that the continuing medical education activities identified as Category I meet the criteria for Category I credit, on an hour-for-hour basis, of this accrediting body. This confirms that the individual designated attended the Scientific Assembly and Annual Meeting of the RSNA, and participated in those activities.

All sessions where the individual deposited a credit voucher are listed below. Within any one time segment only one credit unit may be earned. The daily credit maximum for scientific exhibits is one and one half credit hours. Where applicable, test scores are included.

James McCort
James J. Mc Cort, M.D.

EVENT CODE		DESCRIPTION	CREDITS
2RC317	317	PROTECTION DESIGN FOR DIAGNOSTIC FACILITIES	1.50
2RC416	416	ESSENTIALS OF QUALITY ASSURANCE FOR DIAGNOSTIC IMAGING	1.50
2RC517	517	TECHNICAL ASPECTS OF COMPUTERIZED TOMOGRAPHY	1.50
2RC617	617	PRACTICAL CONSIDERATIONS OF DIAGNOSTIC ULTRASOUND FOR PHYSICISTS	1.50
2RC711	711	EMISSION TOMOGRAPHY-A PRACTICAL APPROACH	1.50
2RC716	716	BASIC PHYSICS AND IMAGING CHARACTERISTICS OF X-RAY TUBE FOCAL SPOTS	.00 *
2SSB09		PHYSICS (DIAGNOSIS)	1.50
2SSD05		ULTRASOUND (NMR)	1.50
2SSE10		PHYSICS (WORK IN PROGRESS)	1.50
2SSJ05		INTERVENTIONAL	1.50
2SSK09		PHYSICS (DIGITAL/CT)	2.00
2SSZ04		ANNUAL ORATION	2.00
2SSZ07		RSNA/AAPM SYMPOSIUM	1.50

TOTAL CREDITS: 19.00

CREDIT HAS ALREADY BEEN ISSUED FOR THIS SEGMENT *

RC = REFRESHER COURSE SS = SCIENTIFIC SESSION XO = SCIENTIFIC EXHIBIT

Albert Einstein College of Medicine

of Yeshiva University

THIS IS TO CERTIFY THAT

JOSEPH WARMUND, M.D.

ATTENDED A 28 HOUR POSTGRADUATE COURSE IN

NUCLEAR MEDICINE

CONDUCTED BY THE DIVISIONS OF NUCLEAR MEDICINE

ALBERT EINSTEIN COLLEGE OF MEDICINE

Program Director

Leonard M. Freeman

Program Director

GIVEN THIS 21 DAY OF MAY, 1981

AT BRONX, N.Y.

AMERICAN COLLEGE OF RADIOLOGY

Individual Meeting Attendance Record

Name of Accredited Co-Sponsoring Organization American College of Radiology
(ACR, University of, etc.)

City/State 20 North Wacker Drive, Chicago, Illinois 60606
(Location of co-sponsoring organization)

Kind of Educational Activity Three day seminar
(Weekend Symposia, Refresher Course, Home-study, etc.)

Title of Activity DIAGNOSTIC RADIOLOGY--HOW TO PLAN FOR THE 80's
(Title of course, seminar, program)

Dates of Participation February 12, 1981 to February 14, 1981
Month/Day/Year Month/Day/Year

Total Hours Awarded this Activity 19

Category: (circle one)
(1) 4
2 5
3 6

Total Hours in Attendance by Participant 19

Physician's Name and Address JOSEPH WARMUND

(Note: Please keep this record for your own files. Do not send this to the ACR office or to the AMA office. Thank you.)

Approved by the Committee on Continuing Evaluation in Postgraduate Education

Byron G. Brogdon, M.D., Chairman

Please retain for your own record

Radiological Society of North America, Inc.
Oak Brook Regency Towers • 1415 W. 22nd Street • Oak Brook, Illinois 60521

1980 CERTIFICATE OF CREDIT

As an organization accredited by the Council on Medical Education of the American Medical Association and by the Liaison Committee for Continuing Medical Education, the Radiological Society of North America designates that the continuing medical education activities identified as Category 1 meet the criteria for Category 1 credit, on an hour-for-hour basis, of both of these accrediting bodies. This confirms that the individual designated below attended the 66th Scientific Assembly and Annual Meeting of the RSNA, Dallas, Texas, November 16-21, 1980 and participated in those activities. Where applicable, test scores are included.

efresher Course SS=Scientific Session X00=Scientific Exhibit

James McCort, M.D.
James J. McCort, M.D.

JOSEPH WARMUND, MS

BRONX LEBNON HOSP
1650 GRAND CONCOURSE
BRONX N. Y. 10457

SSF00 ,SSG07 ,SSK05 ,SSL07 ,SSM00
SSP07 ,SSQ05 ,SSS01 ,SSX03 ,SSX05
RC215 ,RC315 ,RC410 ,RC515 ,RC711

TOTAL CREDITS 23.00

THE SOCIETY OF NUCLEAR MEDICINE

3 PARK AVENUE, SOUTH NEW YORK, N.Y. 10016 TEL. 212-689-0721

November 14, 1980

Joseph Warmund, M.S.
Division of Nuclear Medicine &
Radiation Therapy
The Bronx Lebanon Hospital Center
1650 Grand Concourse
Bronx, NY 10457

Dear Dr. Warmund:

This is to confirm that you attended 13 hours of educational course activities which met the criteria for AMA and LCCME Category I credit.

The accreditation of the 6th Ann. Mtg. Greater NY Chapter, SNM on the dates of November 7 - 9th, 1980 was approved by the SubCommittee on Continuing Education and Course Accreditation of the Society of Nuclear Medicine.

We appreciate your interest in the educational offerings of the Society and its affiliated providers.

Sincerely,

William H. Just
Director, Educational Programs
and Meetings

WHJ:fp

Report of Continuing Medical Education for AMA's Physician's Recognition Award 1982 - 1985

Accredited Sponsor or Co-sponsor	Location of Accredited Sponsor City, State	Description of Learning Activity (Title of course, seminar, CME intermittent program, field of medicine, etc.)	Dates of Attendance (inclusive)	Hours of Study	Total

CATEGORY 1: C.M.E. Activities with Accredited Sponsorship (At least 60 hours are required. The total-150 credit hours-may be earned in this category.)

Please print or type

AMERICAN COLLEGE OF RADIOLOGY	WASHINGTON, D.C.	PNEUMOCONIOSIS	3-12-15/82	16
ACADEMY OF NUCLEAR MEDICINE (ACR)	LAWRENCEVILLE, N.J.	CT IN GASTROINTESTINAL DIS.	4-15-82	3
CONTEMPORARY DIAGNOSTIC RADIOLOGY(UNIV. OF PENN.)	PHILADELPHIA, PA.	BIWEEKLY REVIEWS	8-11-82	14
ACADEMY OF MEDICINE, N.J.		CA RECTUM	11-17-82	1
ACADEMY OF MEDICINE		HYPERTHERMIA IN TREATMENT OF CA	10-20-82	1
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	EMISSION TOMOGRAPHY	12-13-82	25
UNIV. OF PENN.-CONTEMPORARY DIAGNOSTIC RADIOLOGY		BIWEEKLY REVIEW	12-14-82	5
ACADEMY OF MEDICINE		VOCAL CORD TUMOR	1-19-83	1
UNIV. OF PENN.		BIWEEKLY REVIEW	1-17-83	7
ACADEMY OF MEDICINE		CT & HEAD TRAUMA	1-20-83	2
YALE UNIVERSITY	NEW HAVEN, CT.	CARDIOVASCULAR NUCLEAR MEDICINE, 1983	3-12-83	20
ACADEMY OF MEDICINE		NMR	4-21-83	2
ACR	WASHINGTON, D.C.	WORKSHOP-MAMMOGRAPHY	5-14-83	5
ACADEMY OF MEDICINE		CA CERVIX	5-18-83	1
CONTEMPORARY DIAGNOSTIC RADIOLOGY	UNIV. OF PENN. PHILADELPHIA, PA.	CLINICAL RADIOLOGIC PRACTICE	8-15-83	7
ACADEMY OF MEDICINE,N.J.	LAWRENCEVILLE, N.J.	LYMPHOMA, INTESTINE	9-15-83	2

89.5

Total number of hours spent in Category 1 activities (carry forward to next page)

Report of Continuing Medical Education for AMA's Physician's Recognition Award

1982 - 1985 (CONTINUED)

CATEGORY 1: C.M.E. Activities with Accredited Sponsorship (At least 60 hours are required. The total-150 credit hours may be earned in this category.)

FORWARD 89.5

Please print or type

Accredited Sponsor or Co-sponsor	Location of Accredited Sponsor City, State	Description of Learning Activity (Title of course, seminar, CME intermittent program, field of medicine, etc.)	Dates of Attendance (inclusive)	Hours of Study
ACADEMY OF MEDICINE, N.J.		HEAD & NECK CA, RADIATION THERAPY, CHEMOTHERAPY	9-21-83	1
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	DIAGNOSIS & MANAGEMENT INFLAMMATORY BOWEL DISEASE	10-10-83	2.5
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	SPECT. NMR	12-12-83	2.5
ACADEMY OF MEDICINE, N.J.		CONGENITAL HEART DISEASE	12-15-83	2.0
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	NEW & REVISED USES OF NUCLEAR MEDICINE, CHILDHOOD	1-9-84	2.5
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	NUCLEAR MEDICINE EVALUATION OF CORONARY ARTERY PERFUSION	2-13-84	2.5
ACR	CHICAGO, ILL.	21ST NATIONAL CONFERENCE ON BREAST CANCER	3-19-23/84	37
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	DIAGNOSIS & THERAPY WITH RADIO-LABELLED ANTIBODIES	3-12-84	2.5
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	MAGNETIC RESONANCE IMAGING	4-19-84	1
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	PULMONARY EMBOLISM	5-14-84	2.5
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	GALLIUM-DR. WM. KAPLAN	11-12-84	2.5
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	ISCHEMIC CEREBROVASCULAR DISEASE	10-18-84	3
ACADEMY OF MEDICINE, N.J.	LAWRENCEVILLE, N.J.	RADIATION THERAPY, RTOG DR. DAVIS	11-14-84	1
SOCIETY OF NUCLEAR MEDICINE	NEW YORK CITY	MYOCARDIAL IMAGING	12-10-84	3
CONTEMPORARY DIAGNOSTIC RADIOLOGY	UNIV. OF PENN. PHILADELPHIA, PA.	REVIEWS OF CLINICAL RADIOLOGY	11-30-84	5
SOCIETY OF NUCLEAR MEDICINE ACADEMY OF MEDICINE, N.J.	NEW YORK CITY	BONE SCANNING RADIATION THERAPY-CA PANCREAS	1-14-85 1-16-85	3 1

160.5

Total number of hours spent in Category 1 activities (carry forward to next page)

NO. 13

ORDERING AND RECEIVING RADIOACTIVE MATERIAL

THERE IS NO GENERATOR ON THE PREMISES.

ONLY THE NECESSARY AMOUNT OF ANY ISOTOPE IS ORDERED, PRE-CALIBRATED BY THE MANUFACTURER FOR SCHEDULED PROCEDURES.

RADIOACTIVE MATERIALS ARE SECURED AT ALL TIMES AGAINST UNAUTHORIZED REMOVAL.

RADIATION LEVELS IN THE UNRESTRICTED AREAS NEVER EXCEED ALLOWED LIMITS.

APPENDIX E IS FOLLOWED.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

PROCEDURES FOR ORDERING AND RECEIVING RADIOACTIVE MATERIAL

1) THE CHIEF NUCLEAR MEDICINE TECHNOLOGIST WILL PLACE ALL ORDER FOR RADIOACTIVE MATERIAL AND WILL ENSURE THAT THE REQUESTED MATERIALS AND QUANTITIES ARE AUTHORIZED BY THE LICENSE AND THAT POSSESSION LIMITS ARE NOT EXCEEDED.

2. DURING NORMAL WORKING HOURS CARRIERS WILL BE INSTRUCTED TO DELIVER RADIOACTIVE PACKAGES DIRECTLY TO THE NUCLEAR MEDICINE DEPARTMENT.

3. DURING OFF-DUTY HOURS (7:P.M. - 7:45 A.M.) SYNCOR DELIVERS RADIOACTIVE PACKAGES DIRECTLY TO THE LOCKED FOYER OF THE PREMISES (SYNCOR IS PROVIDED WITH A KEY). AFTER PLACING THE RADIOACTIVE PACKAGES IN THE FOYER THE SYNCOR DELIVERY PERSONNEL RELOCKS THE FOYER DOOR. WITHIN THE HOURS OF DELIVERY OF MATERIAL IT IS TAKEN BY AUTHORIZED PERSONNEL TO THE NUCLEAR MEDICINE LAB.

4. PACKAGES SHALL BE INSPECTED BY THE NUCLEAR MEDICINE TECHNOLOGIST AS SOON AS PRACTICABLE FOR POSSIBLE DAMAGED AND/OR WET PACKAGE.

5. DISPOSABLE GLOVES SHALL BE WORN WHILE PROCESSING PACKAGES AND REMOTE HANDLING DEVICES SHALL BE USED WHEN PRACTICABLE. ABSORBANT PADS SHALL BE USED TO COVER THE PROCESSING AREA. THE FOLLOWING STEPS WILL BE TAKEN.

   A. MONITOR EXPOSURE RATES AT THE PACKAGE SURFACE AND AT THREE FEET FROM PACKAGE SURFACE. IF THE EXPOSURE RATE AT THE PACKAGE SURFACE EXCEEDS 200 MR/HR., OR IF THE EXPOSURE RATE AT THREE FEET EXCEEDS 10 MR/HR., OR IF THE PACKAGE IS DAMAGED AND/OR IF THE PACKAGE IS WEAK, PACKAGE IS NOT TO BE OPENED. PLACE THE PACKAGE BEHIND THE PROTECTIVE LEAD BARRIER AND NOTIFY THE RADIATION SAFETY OFFICER.

   B. OPEN BRIEFCASE AND REMOVE ITEMIZED RADIOPHARMACEUTICAL INSERT. CHECK ALL ITEMS VERSUS CONTENTS.

   C. DUE TO LOW LEVEL RADIATION PER UNIT DOSE, WIPE TESTING PER VIAL IS NOT NECESSARY.

   D. REMOVE FROM CASE A SPECIFIC UNIT DOSE FOR A SPECIFIC PATIENT. THREE RECEIPTS WILL BE WRAPPED AROUND LEAD SYRING SHIELDS. FILL IN PATIENT NAME AND PERTINENT DATA. ADHER ONE INTO RADIOPHARMACEUTICAL LOG. ONE IS TO BE ATTACHED TO PATIENTS REQUISITION SLIP. ONE TO BE KEPT WITH DOSE UNTIL AFTER PATIENT ADMINISTRATION AND THEN MAY BE DISREGARDED.

   E. AFTER SPECIFIC PATIENT HAS BEEN ADMINISTERED WITH SPECIFIC UNIT DOSE RETURN SYRINGE INTO LEAD SHIELD FOR DISPOSAL BY SYNCOR CORP.

NO. 14

WE WILL FOLLOW THE PROCEDURES DESCRIBED IN APPENDIX F.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

APPENDIX F

PROCEDURES FOR OPENING PACKAGES CONTAINING RADIOACTIVE MATERIAL

1. Visually inspect package for any sign of damage (e.g., wetness, crushed). If damage is noted stop procedure and notify Radiation Safety Officer.

2. Measure exposure rate at 3 feet from package surface--record. If >10 mR/hr--stop procedure and notify Radiation Safety Offier.

3. Measure surface exposure rate and record. If >200 mR/hr--stop procedure and notify Radiation Safety Officer.

4. Put on gloves.

5. Open the outer package (following manufacturer's directions, if supplied) and remove packing slip. Open inner package to verify contents (compare requisition, packing slips, and label on bottle) check integrity of final source container (inspect for breakage of seals or vials, loss of liquid, discoloration of packing material). Check also that shipment does not exceed possession limits.

Item No. 14
Date: _____

6. Wipe external surface of final source container with moistened cotton swab or filter paper held with forceps, assay and record.

7. Monitor the packing material and packages for contamination before discarding.

   a. if contaminated, treat as radioactive waste.

   b. if not, obliterate radiation labels before discarding in regular trash.

RADIOACTIVE SHIPMENT RECEIPT REPORT

1. P.O. # _____ Survey Date _____ Time _____

   Surveyor _____

2. CONDITION OF PACKAGE:

   _____ O.K. _____ Punctured _____ Status _____ Wet

   _____ Crushed _____ Other

3. RADIATION UNITS OF LABEL: _____ Units (mRem/hr)

4. MEASURED RADIATION LEVELS

   a. Package surface _____ mRem/hr

   b. 3 feet or 1 meter from surface _____ mRem/hr

5. DO PACKING SLIP AND VIAL CONTENTS AGREE?

   a. Radionuclide _____ yes _____ no, difference _____

   b. Amount _____ yes _____ no, difference _____

   c. Chem Form _____ yes _____ no, difference _____

6. WIPE RESULTS FROM:

   a. Outer _____ CPM = _____ DPM

      eff = ( )

   b. Final source container _____ CPM = _____ DPM

      eff = ( )

8. SURVEY RESULTS OF PACKING MATERIAL AND CARTONS _____ mRem/hr, CPM

9. DISPOSITION OF PACKAGE AFTER INSPECTION _____

10. IF NRC/CARRIER NOTIFICATION REQUIRED, GIVE TIME, DATE, AND PERSONS NOTIFIED.

_____ _____

Signature Date

NO. 15

WE WILL FOLLOW THE LABORATORY RULES DESCRIBED IN APPENDIX G.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

APPENDIX G

LABORATORY RULES FOR THE USE OF

RADIOACTIVE MATERIAL

1. Wear laboratory coats, or other protective clothing at all times in areas where radioactive materials are used.

2. Wear disposable gloves at all times while handling radioactive materials.

3. Monitor hands and clothing for contamination after each procedure or before leaving the area.

4. 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.

5. Do not eat, drink, smoke or apply cosmetics in any area where radioactive material is stored or used.

6. 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.

8. 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.

11. 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: _____

NOTICE

RULES AND REGULATIONS FOR RADIONUCLIDE DEPARTMENT

1. No food shall be eaten in the department where Radioactive materials are used.
2. No smoking is allowed in the department.
3. All Radioactive sources and solutions should be properly labeled and stored.
4. Never pipette a Radioactive solution by mouth.
5. Always wear disposable gloves when working with Radioactive solutions.
6. Monitor and dispose of all syringes daily.
7. Keep daily records of all Radioactive dosages used.
8. Contain immediately any Radioactive spill, monitor and take whatever steps necessary to decontaminate.
9. Notify the Physicist if spill is significantly hazardous.
10. Never allow any original studies to be taken from the department.
11. Always wash your hands after handling Radioactive materials of any nature before handling collimators.
12. Observe at all times GOOD HOUSEKEEPING PRACTICES.

NUCLEAR MEDICINE

PROCEDURAL STATEMENTS
CONCERNING HUMAN SAFETY AND TECHNICAL PROCEDURES

A. PATIENT SAFETY:

A medical doctor requests the procedure; its indication is reviewed by the nuclear medicine expert. A medical doctor injects calibrated standard radionuclide dose after having examined the patient.

B. SAFETY OF DEPARTMENTAL PERSONNEL:

All personnel wear film badges which prove over several years that their exposure is well below the M.P.D. They have been trained in radiation safety and they follow "Good Housekeeping" rules.

C. SPECIAL NURSING CARE:

Nurses have attended lectures about radiation safety and have received a pamphlet describing special nursing care.

D. RECORDS AND RECORD-KEEPING:

All procedures are kept on record and on file for each patient.

E. RECORDS REQUIRED BY FEDERAL, STATE, AND LOCAL AUTHORITIES:

These are kept available for inspection. They were inspected recently by the office of Radiation Control and found to be adequate; they have been improved following their suggestions.

F. STANDARDIZED PERFORMANCE OF DIAGNOSTIC PROCEDURES:

We follow a standardized procedure for each study as described in the PDR for Radiology and Nuclear Medicine.

G. INSTRUMENT CALIBRATION:

Instruments are calibrated and checked daily for constancy.

H. MEASUREMENT OF RADIOACTIVITY:

Each radionuclide dose is checked in the radionuclide calibrator which is available in the isotope room.

I. CONTROL OF ON-SITE PREPARATION OF RADIOPHARMACEUTICALS:

The only pharmaceutical is 99 mTc. This is prepared especially calibrated and checked for 99 Mo contamination.

J. INDIVIDUAL DOSE PREPARATION AND ADMINISTRATION:

A medical doctor injects an individual dose that was measured and calibrated; the amount is the least possible but yielding the diagnostic information.

K. STORAGE OF RADIOACTIVE MATERIALS:

The radionuclides that need refrigeration are kept in a refrigerator where no food is allowed and which is clearly posted with a radioactive material sign. Other radionuclides are stored behind lead bricks.

L. PROPER DISPOSAL OF RADIOACTIVE MATERIALS:

All radioactive materials are kept for decay of 10 half lives and then after monitoring with a G.M. survey meter the liquids are disposed down the drain, and labels are removed and the record book signed with the date of disposal.

INFECTION CONTROL POLICY AND PROCEDURE

SUBJECT: NUCLEAR MEDICINE

POLICY:

Strict adherence to guidelines in the handling of radioactive materials is imperative. Strict observance of sterilization and disinfection processes wherever necessary should always be maintained. Precautionary measures in the prevention and spread of infection should always be utilized.

PROCEDURES:

1. All radioactive materials and kits used for injection must be tested and certified sterile and pyogen free by the manufacturers who supply them.

2. Agents prepared with albumin from human plasma are to be nonreactive when tested for hepatitis associated antigen by the manufacturer.

3. Proper handwashing technique (as outlined in this manual) with bacteriocidal preparation should be employed before and after each patient and whenever else necessary.

4. Sterile, disposable syringes and needles are to be used.

5. Sterile 70% isoprophyl alcohol pads are used to cleanse each vial before preparing materials and drawing up injections.

6. Povodine iodine preparations are used to cleanse area at site of injections.

7. Aseptic technique is followed at all times.

8. All used radioactive materials, vials, syringes, needles, alcohol and iodine pads are placed in a waste disposable receptacle and allowed to decay to background.

9. All sheets, pillowcases and other linen in contact with the patients are to be changed in between patients.

PROCEDURE:

I. *Radioactive Iodine for Metastatic Therapy (exceeding 20mc) (In Hospital)*

a. *Contaminated problems exist, particularely with respect to urine, feces, vomitus, perspiration and bedclothes.*
b. *All contaminated items are to be placed in plastic cups or bags and sent to Nuclear Medicine Dept.*
c. *Use gown and glove technique in caring for patients.*
d. *Disposable rubber gloves are always to be worn when handling contaminated materials. Long handle forceps are also to be used whenever appropriate.*

II. *Radioactive Iodine for benign Conditions (less than 10mc) (In Hospital)*

a. *All vomitus occurring on the day of therapy is to be handled as contaminated and sent to Nuclear Medicine in any container with lid.*
b. *Urine, for the first week after treatment, is to be handled as contaminated.*

Nuclear Medicine Departme

Technologists Personal Survey - Hands

FROM: _____ to _____

"/" if below Bkg; record reading if above.

NAME	M. AM	M. PM	T. AM	T. PM	W. AM	W. PM	TH. AM	TH. PM	F. AM	F. PM	S. AM
Bkg →											
Bkg →											

2/84

NO. 16

WE WILL FOLLOW THE EMERGENCY PROCEDURES IN APPENDIX H.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

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 handl ·g 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.

4. 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:

1. CLEAR THE AREA: Notify all persons not involved in the spill to vacate the room.

2. 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.

4. 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: 1) JOS WARMUND, PHYSICIST 2) A.J. SWYER, M.D.

OFFICE PHONE: 1) 212-294-5085 2) 201-854-1200

HOME PHONE: 1) 718-428-6754 2) 201-854-1203

Item No. 16
Date: _____

INCIDENT PROCEDURE:

In case of unauthorized removal, theft, or loss of a radiation source, the Radiation Safety Officer will notify the Department of Health -

In the event of the escape of a radioactive substance from its normal confines (spill, evaporation, vaporization, combustion, escape of a gas, liquid, solid, etc.) the Radiation Safety Officer shall be notified promptly. Pending his arrival, take the following steps:

1. Where airborne contamination (from evaporation, vaporization, explosion, combustion, formation of a smoke, dust, spray, escape of a gas, etc.) may have occurred:

   (a) Evacuate the Laboratory immediately.
   (b) Shut all doors to the laboratory.
   (c) Post a guard to insure that no one re-enters the laboratory.
   (d) Assemble all persons who were in the laboratory at the time of the incident. The place of assembly should be near the contaminated area, in order to reduce the spread of contamination about the building.
   (e) Monitor assembled personnel if an instrument is available, to determine whether contamination of the skin or clothing exists. If such contamination is found, proceed as follows:

      1. Remove all contaminated clothing.
      2. Flush contaminated cuts with running water.
      3. Wash contaminated areas of skin with soap and water.

2. Where ingestion of a radioisotope may have occurred:

   (a) Induce vomiting by placing a finger well back in the throat.
   (b) Have the victim drink a pint of water and induce vomiting again. Repeat until the vomitus is clear.

3. Where there is a spill of a substance that will not readily become airborne (such as a solid, not so finely divided that it may be carried about as a dust, or a liquid of relatively low volatility, such as an aqueous solution, provided spraying did not occur):

   (a) Block off the area, using a rope barrier or items of furniture, to insure that others will not walk through the area.

   (b) Monitor the skin and clothing of persons near the site of the spill. If contamination is found, proceed as in 1-e.

4. The escape of a radioisotope in an amount exceeding by less than a factor of ten the M.P.D.,* need not be treated as an incident for the purpose of this section. However, the laboratory shall be decontaminated, and a record shall be made of the incident.

NOTIFICATION IN EVENT OF EMERGENCY:

J. WARMUND TELE: 212-294-5085 OR 718-4286754 ~~630-1570~~

A.J.SWYER, M.D. TELE: 201 854 1200 OR 854 1203

RADIATION ACCIDENT INCIDENT REPORT

DATE: _____ TIME: _____

SOURCE OF SPILL: _____

AMOUNT: _____

PERSON(S) EXPOSED _____ PERSON(S) CONTAMINATED _____

DESCRIBE METHOD OF CLEANUP (PERSON, ROOM, CLOTHING, AND DISPOSITION OF CONTAMINATED MATERIAL)

WHAT WAS CAUSE OF SPILL: _____

RECOMMENDED ACTION TO PREVENT OCCURRENCE: _____

_____
Signature

Copies to: Radiation Protection Officer
Assistant Executive Director
Coordinator, Quality Assurance

NO. 17

AREA SURVEY PROCEDURES

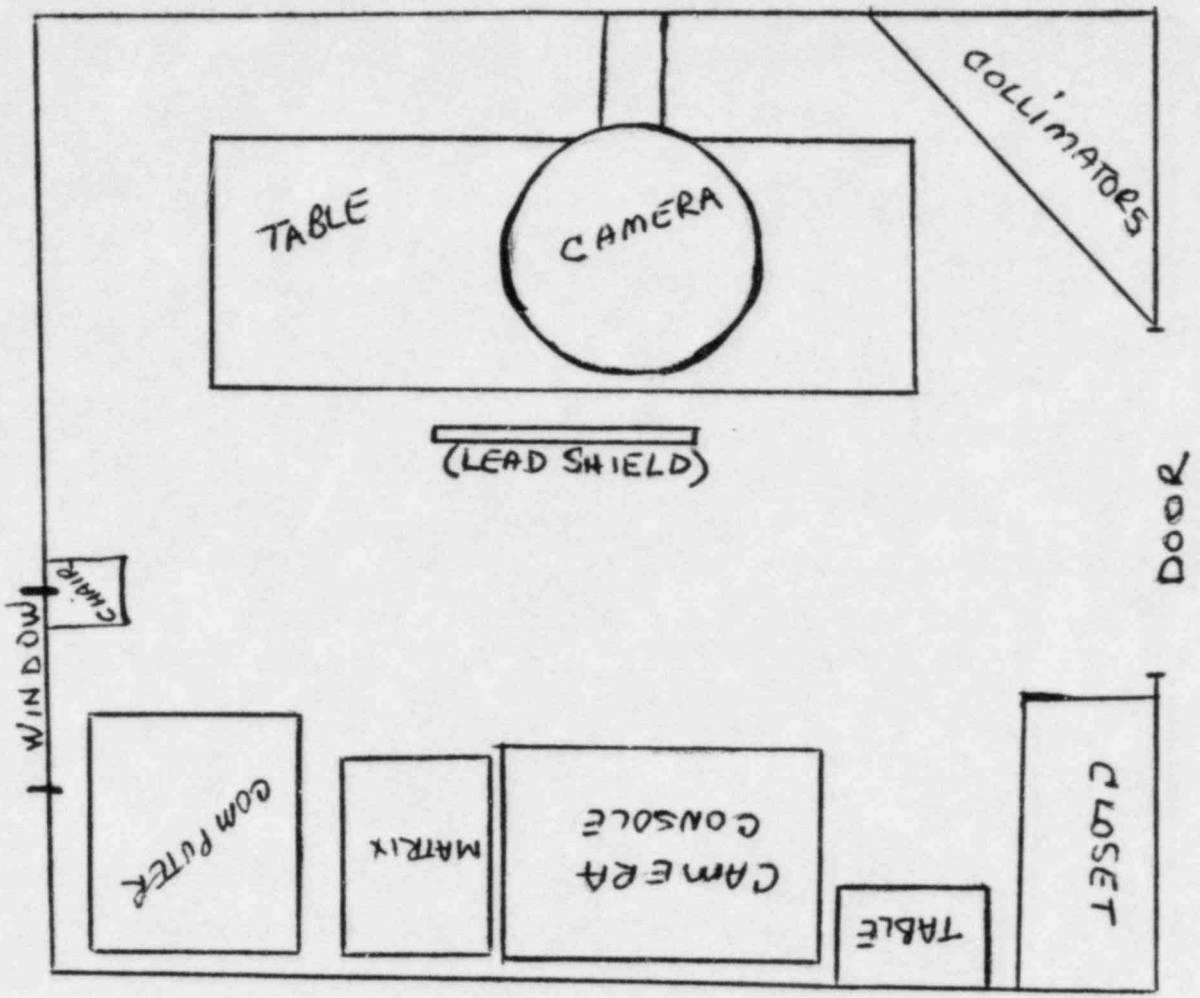
THE NUCLEAR MEDICINE ROOM IS SURVEYED WITH A G-M SURVEY METER EVERY DAY. WIPE TESTS ARE DONE ONCE A MONTH.

WE WILL FOLLOW PROCEDURES IN APPENDIX 1.

LICENSE # 29-03198-03
DOCKET # 030-02468
CONTROL # 18026

NUCLEAR MEDICINE ROOM

ALFRED J. SWYER, M.D., P.A.
307 60TH ST., WEST NEW YORK, N.J.



1 FOOT = 1/2 INCH

SURVEY REPORT

Department:	Period Covered from:
Licensee:	on this Sheet to:
Bldg. Room	Person in Charge:

Date	*Test Method	Counts Per Minute Location: Sink, bench, etc. or reference pts. on floor plan dwg.							Background	Signature

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:

1. A measurement of radiation levels with a survey meter sufficiently sensitive to detect 0.1 mR/hr.

2. 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:

1. Location, date, and type of equipment used.

2. Name of person conducting the survey.

3. Drawing of area surveyed, identifying relevant features such as active storage areas, active waste areas, etc.

4. Measured exposure rates, keyed to location on drawing (point out rates that require corrective action).

5. Detected contamination levels, keyed to locations on drawing.

6. 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 cm^2.

NOTE: 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.

NO. 18

WASTE DISPOSAL PROCEDURES

WE PURCHASE OUR MATERIAL FROM SYNCOR, INC., 19A GARDNER ROAD, FAIRFIELD, NEW JERSEY. INDIVIDUAL DOSES ARE PURCHASED ON A DAILY BASIS. ANY UNUSED DOSES EXCEPTING I 123 CAPSULES ARE PICKED UP AT OUR FACILITY BY SYNCOR , INC. FOR DISPOSAL THEREOF. AS OF NOVEMBER 19, 1983 WE ARE SECURING DAILY RECEIPTS FROM SYNCOR, INC. FOR ITEMIZED MATERIAL PICKED UP FROM OUR OFFICE FOR DISPOSAL. THESE RECEIPTS WILL BE KEPT AS PART OF OUR RECORDS.

WITH REGARD TO I 123 CAPSULES WHICH ARE NOT USED, THEY ARE HELD HERE FOR DECAY FOR 10 HALF LIVES, THE LABELS ARE REMOVED AND MATERIAL IS FLUSHED INTO SEWERAGE SYSTEM.

LICENSE 29-03198-03
DOCKET 030-02468
CONTROL 18026

NO. 19

THERAPEUTIC USE OF RADIOPHARMACEUTICALS

WE WILL FOLLOW PROCEDURES IN APPENDIX K.

LICENSE 29-03198-03
DOCKET 030-02468
CONTROL 18026

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

1. All patients treated with iodine-131 or other internally administe radioactivity, mentioned in the above group, will be placed in a private room with a toilet, if possible, in a corner of the floor with two wall exposed to outside.

2. The patient's room will be properly posted

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. Nursing Instructions for Patient's Treated as outlined in Paragraph 1, will be completed immediately after administration of the treatment dose. A copy will be posted in the patients chart.

5. Radiation levels in unrestricted areas will be maintained less than the limits specified

6. 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. These materials collected daily and checked by the Radiation Safety Officer (or his designate) for contamination, and disposed of as normal or radioactive waste, as approprated.

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.

10. Before a therapy patient's room is reassigned to another patient, the room will be surveyed for contamination (and decontamined if necessary) and all radioactive waste and waste containers will be removed.

11. Nursing Instructions

    a. Nurses should spend only that amount of time near the patient required for ordinary nursing care. Special restrictions may be noted on the precaution sheet in the patient's chart. Nurses should read these intructions before administering to the patients. Call the Nuclear Medicine Department if you have any questions about the care of these patients.
    b. Visitors will be limited to those 18 years of age or over, unless other instructions are noted on the precautions sheet in the patient's chart.
    c. Patients must remain in bed while visitors are in the room and visitors should remain at least three feet from the patient.

(cont'd)

d. Radioactive patients are to be confined to their rooms except for special medical or nursing purposes approved by the Nuclear Medicine Department.

e. No nurse, visitor or attendant who is pregnant should be permitted in the room of a patient who has received a therapeutic amount of radioactivity until the patient no longer presents a radiation hazard. Female visitors should be asked whether they are pregnant.

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.

i. 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.

j. Surgical dressings should be changed only as directed by physician Gold-198 leaking from a puncture would will stain the dressing dark red or purple. Such dressings should not be discarded but should be collected in plastic bags and turned over the the Nuclear Medicine Department. Handle these dressings only with tongs or tweezers. Wear disposable gloves.

(cont'd)

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 hands with the gloves on and again after the gloves are removed. The gloves should be placed in the designated waste container for disposal by the Nuclear Medicine Department.

(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).

(cont'd)

l. Utmost precautions must be taken to see that no urine or vomitus, is spilled on the floor or the bed. If any part of the patient's room is suspected to be contamined, notify the Nuclear Medicine Department.

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.

n. 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

Patient's Name: _____

Room No.: _____ Physician's Name: _____

Radioisotope Administered: _____

Date and Time of Administration: _____

Dose Received: _____ Method of Administration: _____

Exposure Rates in MR/hr

Date	3 feet from bed	10 feet from bed

(Comply with all Check Items)

_____1. Visting time permitted: _____

_____2. Vistors must remain _____ from patient.

_____3. Patient may not leave room

_____4. Vistors under 18 not permitted.

_____5. Pregnant visitors not permitted.

_____6. Film badges must be worn.

_____7. Use and complete the following tags:

_____door

_____bed

_____chart

_____wrist

_____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.

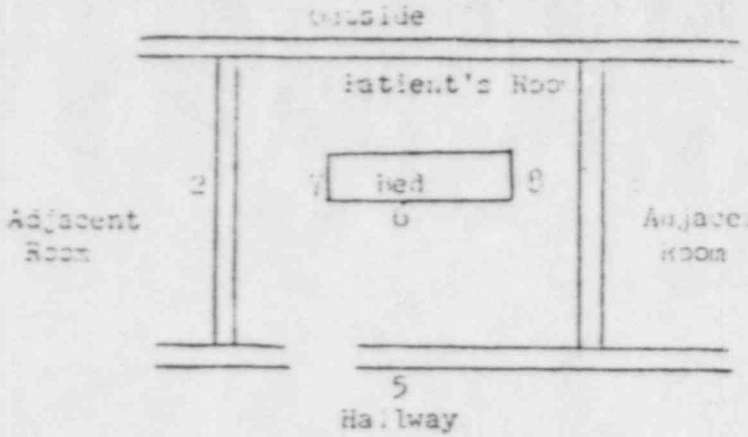
_____13. Other instructions

In case of an emergency contact:

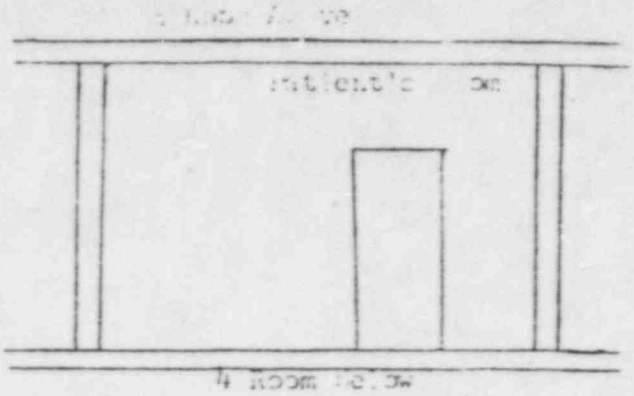
RSO _____ M.D. _____

name on/off duty telephone no.

Top View of Patient's Room



Vertical Cross-Sectional View of Patient's Room



Survey Points	mR/HR	Approximate Distance From	in Feet
#1	____	_____	On wall 2'-3' above floor
#2	____	_____	On wall 2'-3' above floor
#3	____	_____	2'-3' above floor of room above
#4	____	_____	2'-3' above floor of room below
#5	____	_____	Hallway wall 2'-3' above floor
#6	____	_____	Bedside
#7	____	_____	Foot of Bed
#8	____	_____	Head of Bed
#9	____	_____	Wall opposite #5 if occupied (or use like #10)
#10	____	_____	Another fixed location where data is desired (Inside of wall)

Date of Survey_____

Total amount of_____

Treatment time_____

DISCHARGE OF RADIOACTIVE PATIENTS

Patients containing about 3 millicuries or more of 131-iodine or other gamma emitty radio isotopes:

1. Holding of infants by the patient should not be allowed until three (3) weeks after discharge and then only for a brief period each day.

2. Contact with the patient for an individual under 45 years of age should be restriced to 4 hours/day at 1 meter until 3 weeks after discharge.

3. Brief periods of closer contact, such as shaking hands, may be permitted.

4. After 3 weeks definite restrictions are removed, but prolonged close association with the patient should be limited.

5. Final restrictions of paragraph 1 and 4 will be removed when the activity of the prescribed dose reaction background level as the result of biological and ~~surg~~ PHYS ical decay, this state will be determined by the physicist or Radiation Safety Officer.

EMERGENCY SURGERY PROCEDURES FOR PATIENTS WHO HAVE RECEIVED THERAPEUTIC DOSES OF RADIOACTIVE MATERIAL

1. All patients containing radioactive isotopes must be conspicuously identified as radioactive.

   If a patient needs surgery shortly after having received a large, internal, therapeutic dose of a radioactive isotope, the handling the patient may pose problems of radiation exposure for personnel of the surgical Department. Members of these groups must be alert to the hazards so that they may take proper precautions.

2. Each patient containing radioactive isotopes, shall have a conspicuous "Radioactive Tag" CONTAINING:

   A. A statement of dose
   B. Date of administration
   C. Activity level of radiation
   D. Recommendations from the Hospital Radiation Safety Officer.

3. The chairman of the Isotope Committee will designate the Physicist and the Radiation Safety Officer to deal with any radiation safety problems relating to the particular patient.

4. In the case of administration of beta emitty radioactive materials wearing double surgical gloves as suggested, this will reduce drastically the exposure to the hands well below the maximum permissible dose. R.S.O. will survey for gamma exposure from Au 198 or I 131 and if necessary limit the exposure time of the Pathologists.

AUTOPSY PROCEDURES FOR PATIENTS WHO HAVE RECEIVED THERAPEUTIC DOSES OF RADIOACTIVE MATERIAL

1. All bodies of deceased patients containing radioactive isotopes must be conspicuously identified as radioactive.

   If a patient dies shortly after having received a large, internal therapeutic dose of a radioactive isotope, the handling of the body may pose problems of radiation exposure for personnel of the Pathology Department, the Mortuary, and the Funeral Directors. Members of these groups must be alerted to the hazards so that they may take proper precautions.

2. Each hospital releasing a body containing radioactive isotopes, shall attach to the body a conspicuous "Radioactive Tag" CONTAINING:

   A. A statement of dose
   B. Date of administration
   C. Activity level of radiation
   D. Recommendations for the Hospital Radiation Safety Officer, (Director of Radiology) for:

      1) Pathologist
      2) Embalmer
      3) Funeral Director

3. In order to provide necessary safeguards in case of autopsy the following procedure shall be followed.

   At the time of the administration of the therapeutic dose a preliminary estimate will be made by the Physicist of the date when the activity will be reduced to 5 mCi. A tag showing the amount of radioactive material present should be placed prominently.

4. This information shall be transmitted to the Division of Nuclear Medicine.

5. The chairman of the Isotope Committee will designate the Physicist and Radiation Safety Protection Officer to deal with any radiation safety problems relating to the particular patient.

AUTOPSY PROCEDURES FOR PATIENTS WHO HAVE RECEIVED
THERAPEUTIC DOSE OF RADIOACTIVE MATERIAL

(cont'd)

6. No autopsies should be performed on the patient prior to the estimated date without authorization from the Chairman of the Isoptope Committee or the Radiation Safety Protection Officer.

7. If it is established that the body contains less then 5mCi of any radioactive isotope, an autopsy will be authorized without special precautions other than wearing surgical gloves. However, if it is established that the body contains 5mCi, or more, of any radioactive isotope, it shall not be opened until the Radiation Safety Protection Officer is present. It is the responsibility of the Radiation Safety Protection Officer to evaluate the radiation hazards and recommend suitable procedures.

8. In the case of administration of beta emitty radioactive materials wearing double surgical gloves as suggested, this will reduce drastically the exposure to the hands well below the maximum permissible dose. R.S.O. will survey for gamma exposure from Au 198 or I-131 and if necessary limit the exposure time of the Pathologists.

ADDITIONAL PHYSICIST REPORTS

CALIBRATIONS, LEAK TESTS, SURVEYS

LICENSE 29-03198-03
DOCKET 030-02468
CONTROL 18026

A.J. Swyer, M.D.

Radiation Protection Survey of Radioactive Material Storage Area.

Date: 1/15/85

At lead shielding the maximum reading was 0.1 mR/hr.

At 1 meter the reading was 0.02 mR/hr.

J. Warmund 1/15.

J. Warmund, M.S.

A.J. Swyer, M.D.

DATE OF REPORT

1/15/85

SEALED SOURCE LEAK TEST REPORT

1. SOURCE 133 - BARIUM Vial Standard for Dose Calibrator

Ser. # 3580579 A - 20 260 uCi on 5/23/79

2. INSTRUMENT USED TO PERFORM LEAK TEST

Gamma Well Counter

3. INSTRUMENT CALIBRATION SOURCE ACTIVITY IN MICROCURIES

Picker Cs137 Standard 0.118 on 7/1968

4. ACTIVITY OF LEAK TEST SAMPLE

BACKGROUND COUNT	-	NET ACTIVITY OF LEAK TEST SAMPLE
224 COUNTS/MIN.	MINUS 222 COUNTS/MIN.	= 2 COUNTS/MIN.

LEAK TEST RESULTS

Less than 0.0005 MICROCURIES

J. Warmund, M.S.

PERFORMED BY J. Warmund, M.S.

TITLE Board Certified Radiological Physicist

DATE OF REPORT

1/15/85

A.J. Swyer, M.D.

SEALED SOURCE LEAK TEST REPORT

1. SOURCE 137 Cs Vial Standard for Dose Calibrator

2. INSTRUMENT USED TO PERFORM LEAK TEST

Gamma Well Counter

3. INSTRUMENT CALIBRATION SOURCE ACTIVITY IN MICROCURIES

Picker Cs137 Standard 0.118 on 7/1968

4. ACTIVITY OF LEAK TEST SAMPLE

BACKGROUND COUNT - NET ACTIVITY OF LEAK TEST SAMPLE

223 COUNTS/MIN. MINUS 222 COUNTS/MIN. = 1 COUNTS/MIN.

LEAK TEST RESULTS

Less than 0.0005 MICROCURIES

PERFORMED BY J. Warmund, M.S.

TITLE Board Certified Radiological Physicist

A.J. Swyer, M.D.

DATE OF REPORT

1/15/85

SEALED SOURCE LEAK TEST REPORT

1. SOURCE 57 Co 7.150 mCi on 11/1/1982 For Dose Calibrator.
SERIAL # 4535 MA

2. INSTRUMENT USED TO PERFORM LEAK TEST

Gamma Well Counter

3. INSTRUMENT CALIBRATION SOURCE ACTIVITY IN MICROCURIES

Picker Cs137 Standard 0.118 on 7/1968

4. ACTIVITY OF LEAK TEST SAMPLE

BACKGROUND COUNT		NET ACTIVITY OF LEAK TEST SAMPLE
	-	

224 COUNTS/MIN. MINUS 222 COUNTS/MIN. = > 2 COUNTS/MIN.

LEAK TEST RESULTS

Less than 0.0005 MICROCURIES

PERFORMED BY J. Warmund, M.S.

TITLE Board Certified Radiological Physicist

A.J. Swyer, M.D.

DATE OF REPORT 1/15/85

FLOOD SOURCE FOR GAMMA CAMERA

SEALED SOURCE LEAK TEST REPORT

1. SOURCE 57 Co 3 mCi in November 1982

SERIAL # 1608 MF

2. INSTRUMENT USED TO PERFORM LEAK TEST

Gamma Well Counter

3. INSTRUMENT CALIBRATION SOURCE ACTIVITY IN MICROCURIES

Picker Cs137 Standard 0.118 on 7/1968

4. ACTIVITY OF LEAK TEST SAMPLE

BACKGROUND COUNT - NET ACTIVITY OF LEAK TEST SAMPLE

225 COUNTS/MIN. MINUS 222 COUNTS/MIN. = 3 COUNTS/MIN.

LEAK TEST RESULTS

Less than 0.0005 MICROCURIES

PERFORMED BY J. Warmund, M.S.

TITLE Board Certified Radiological Physicist

DATE OF REPORT
1/15/85

Beta Therapy Source
Strontium-Yitrium 90

SEALED SOURCE LEAK TEST REPORT

1. SOURCE Beta Therapy Eye Applicator

2. INSTRUMENT USED TO PERFORM LEAK TEST

Geiger Survey Meter

Thin end window

Nuclear Chicago Serial 2531

3. INSTRUMENT CALIBRATION SOURCE ACTIVITY IN MICROCURIES

0 .0211 microcurie 90Sr. on 9-23-76

N.E.N. Source

18 mR/hr on 100 scale

4. ACTIVITY OF LEAK TEST SAMPLE — BACKGROUND COUNT = NET ACTIVITY OF LEAK TEST SAMPLE

30 COUNTS/MIN. MINUS 27 COUNTS/MIN. = 3 COUNTS/MIN.

LEAK TEST RESULTS

Less than 0.0005 MICROCURIES

PERFORMED BY J. Warmund, M.S.

TITLE Board Certified Radiological Physicist

Method: A thin piece of paper was placed on end window. Background was less than 0.02 mR/hr. The Sr90 calibration source was placed on the paper and measured 18 mR/hr. The calibration source was replaced by the wipe smear filter papers and showed no increase

NEN New England Nuclear

CERTIFICATE OF SEALED SOURCE TEST

ISSUED TO: Nuclear Associates
100 Voice Road
Carle Place, N.Y. 11514

NEN ORDER NO.: 319343

Nominal Radioactivity: 100 mCi

Radionuclide: Strontium-90

Serial No.: 0350

Source Model: NER-8090

Date of Mfr.: February, 1980

Capsule No. NB-1

I.A.E.A. Certificate No. USA/0151/A

ANSI N5. 10-1968 Performance Classification C43311

* * * * * * * * *

Radioassay

The source radioactivity was measured on Feb. 29, 19 80 and determined to be 90.3 ± _____% millicuries. The measurement value is based on ☐ Gamma Dose Rate _____ R/Hr/Cm/mCi ☒ Special measurement technique. Surface dose rate is 57.8 Rads/sec.

Seal Integrity Test

The source capsule was tested for seal integrity on Feb. 12, 19 80 pursuant to the specifications of ANSI N5. 10-1968 Procedure No. B2.4 and/or special Procedure No. _____ as prescribed. Test indicated seal integrity.

Radioactivity Leakage/Contamination Test

The source was tested for capsule contamination and radioactivity leakage immediately after manufacture, pursuant to ANSI standard N5. 10-1968 Procedure ☒ B2.1 Smear Test or ☐ B2.2 Immersion Test. Less than 1×10^{-3} microcurie was detected.

The source was again tested on March 3, 19 80 per Procedure ☒ B2.1 ☐ B2.2. Less than 1×10^{-3} microcurie was detected.

The source was determined to be free of leakage or contamination as specified by applicable regulations and specifications.

New England Nuclear Corporation certifies that the herein described sealed source has been manufactured in conformance with approved specifications and/or specification No. 313-132 Rev. F issued by New England Nuclear Corporation; that the source has been tested as described herein; as well as in accordance with the requirements of the above specification.

DATE: May 5, 1980

NSQA NEN

For NEW ENGLAND NUCLEAR CORPORATION

By: Susan M. Donnelly
Susan M. Donnelly, Source Technologist
Research & Industrial Sources
Nuclides & Sources Division

FORM NO. CLT-102-779

New England Nuclear®

CERTIFICATE OF (BETA) DOSE RATE CALIBRATION

FOR

MODEL NB-1 EYE THERAPY SOURCE

SERIAL NO. 0350

The tissue equivalent absorbed dose rate at the surface of the applicator was measured(1) to be 57.8 rads(2) per second, expressed as the average dose over the one centimeter diameter source. The stated value is effective February 29, 1980, with an overall uncertainty tolerance of ± 10% at the 95% confidence level.

METHOD OF MEASUREMENT

(1)Calibration of the subject applicator was obtained by direct comparison of its integrated ionization current in a parallel plated ionization chamber with that of an NB-1 for which the surface integral absorbed dose rate to water had been determined at the Center for Radiation Research, U.S. National Bureau of Standards. The average dose rate was computed as the integrated dose divided by the integral area.

TECHNICAL DATA

(2)Radiation absorbed dose - The ICRU recommended unit of beta dosimetry, corresponding to absorption of 100 ergs per gram of tissue.

The Castroviejo masks reduce the integrated dose rate to approximately the following ratios to the open source dose:

3mm disc aperature 0.20
5mm disc aperature 0.37
Small limbus aperature 0.39
Large limbus aperature 0.45

The dose rate decreases in proportion to the decay of ^{90}Sr with a half-life of 29.1 years. The current dose ratio to the value stated herein, may be computed as $(0.9765)^t$ where t is expressed in years elapsed.

This information must be used in conjunction with that contained in the instruction manual for proper use of the NB-1 Eye Therapy Source.

DATE: March 3, 1980

FOR: NEW ENGLAND NUCLEAR CORPORATION

Peter M McCarthy

NRC INSPECTOR

BY: Joseph Donnelly

RESEARCH AND INDUSTRIAL SOURCES

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