



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WALTER REED HEALTH CARE SYSTEM
WASHINGTON DC 20307-5001

MCHL-HP

14 June 2010

MEMORANDUM FOR Deputy Commander for Clinical Services (MCHL-CDR)

SUBJECT: Revision of original memorandum- Radioactive materials (RAM) package incident (1-3 May 2010) dose assessment

1. Reference memorandum Deputy Commander for Clinical Services (MCHL-CDR), 6 May 2010, subject: Radioactive materials (RAM) package incident (1-3 May 2010) dose assessment.

2. Three additional personnel were identified as having been on duty during the time period when the RAM package was located at the concierge desk, and therefore need to be included in the dose estimation. The following table includes these three personnel.

3. Based on the information I was able to collect related to the RAM Package incident that occurred on 1-3 May 2010, I calculated the indicated maximum doses for the following personnel that were assigned to the Concierge Desk located on the first floor lobby of Bldg 2, WRAMC, during that time:

Name	Position	Estimated Max Dose (mrem)
		2.8
		2.8
		2.8
		3.4
		3.4
		9.3
		9.3
		45.0
		62.2
		45.0
		22.5
		22.5
		22.5
		22.5
		22.5
		4.0
		4.0
		4.0
		0.3

MCHL-HP

SUBJECT: Revision of original memorandum- Radioactive materials (RAM) package incident (1-3 May 2010) dose assessment

Name	Position	Estimated Max Dose (mrem)
		2.3
Nearest member of public	Waiting area	1.2

4. These doses were calculated by using the following conservative assumptions:

a. the concierge personnel were occupying the nearest station facing the patient waiting area for all of their assigned duty time;

b. the military personnel were occupying the nearest station facing the Dunkin' Donuts for all of their assigned duty time;

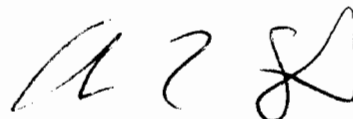
c. the exposure rate was assumed to be the decay corrected transport index at time of package receipt (2.1442 mR/hr at 1 m) for the entire time of the exposure (no decay correction while packages were stored under desk).

5. A more realistic dose estimate for the highest exposed person () might assume that during the course of the two shifts that he was on duty, that he was away from the desk for 2 of the 23.5 hours, and that his average location while behind the desk was in or near the center seat behind the desk facing the patient waiting area (2m rather than 0.9m from the package). This would result in a more realistic dose estimate of 11.5 mrem, as opposed to the upper bound estimate of 62.2 mrem.

6. In order to put these doses in perspective, the annual limit established by the NRC for exposure to a member of the general public from licensed operations is 100 mrem/yr, the occupational exposure limit established is 5000 mrem/yr, the average background dose due to environmental sources of radiation is about 300 mrem/yr, a typical pelvis x-ray delivers a dose of about 70 mrem, and an abdominal CT delivers a dose of about 910 mrem.

7. The Health Physics Society, in a Position Statement entitled Radiation Risk in Perspective, revised August 2004, indicated that for whole body exposures below 5000 mrem in one year, the "risks of health effects are either too small to be observed or are non-existent."

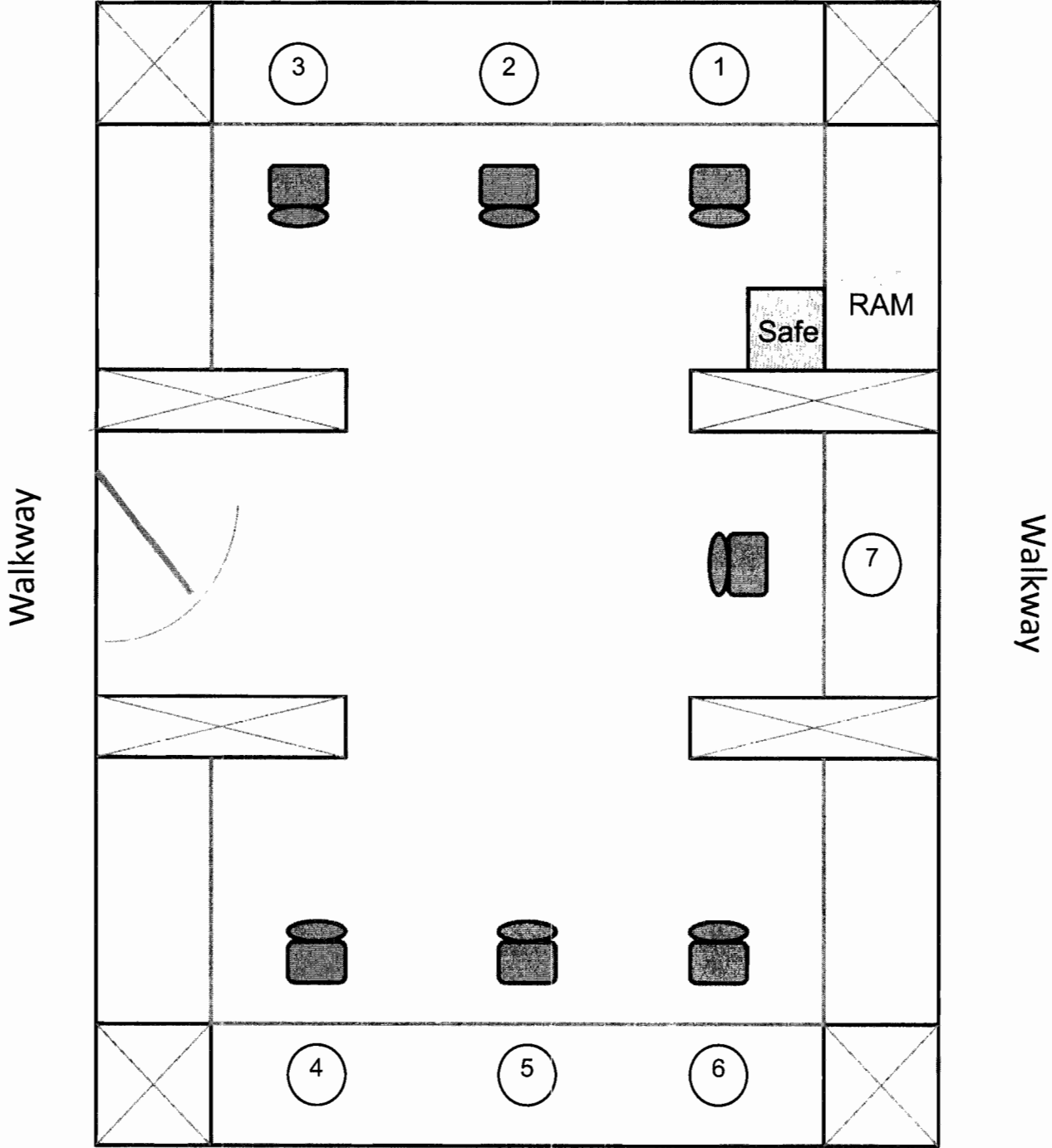
8. The point of contact for this memorandum is the undersigned at 202-356-0061 or andrew.scott1@us.army.mil.



ANDREW L. SCOTT
MAJ, MS
Chief, Health Physics Service

Encl

Patient Waiting Area



Dunkin' Donuts



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WALTER REED HEALTH CARE SYSTEM
WASHINGTON DC 20307-5001

MCHL-HP

15 June 2010

MEMORANDUM FOR Deputy Commander for Clinical Services (MCHL-CDR)

SUBJECT: Radioactive materials (RAM) package incident (1-3 May 2010) corrective actions

1. REFERENCES.

- a. Memorandum (and enclosures) for USNRC, 6 May 2010, subject: Incident report for loss of positive control of radioactive materials packages at Walter Reed Army Medical Center.
- b. Memorandum for Deputy Commander of Clinical Services (MCHL-CDR), 6 May 2010, Radioactive materials (RAM) package incident (1-3 May 2010) root cause analysis and recommended corrective actions.
- c. Memorandum for Deputy Commander for Clinical Services (MCHL-CDR), 14 June 2010, Revision of memorandum- Radioactive materials (RAM) package incident (1-3 May 2010) dose assessment.

2. The following were recommended corrective actions (Ref. 1b):

- a. Reiterate the WRAMC policy outlining who is authorized to sign for packages with AOD (Administrative Officer of the Day) and concierge personnel. This should be posted in the AOD binder and become a part of the duty in-brief for both groups.
- b. Make every effort to coordinate the delivery of radioactive materials packages during the normal duty day. If this is not possible, carefully coordinate the delivery with all personnel to be involved on the anticipated date and time of delivery. This should include the manufacturer, delivery company, Nuclear Medicine and Concierge Desk duty personnel.
- c. Ensure that the package tracking number is provided to the personnel expected to receive packages to allow for identification of package status at any time throughout the process.
- d. Write and post radioactive package identification and receipt instructions in the AOD binder.
- e. Update the Nuclear Pharmacy's radioactive package receipt SOP, to include a discussion of procedures to be followed in the event of a non-standard RAM package delivery and receipt.

3. The following corrective actions were instituted:

MCHL-HP

SUBJECT: Radioactive materials (RAM) package incident (1-3 May 2010) corrective actions

a. Training was modified so that package signature authority was clear to both new and currently employed Concierge personnel and the Concierge that signed for the radioactive materials package on 1 May 2010 was counseled (see encl. 1 & 2). RAM package receipt was included in the briefing to the AOD personnel (see encl. 3) and RAM package identification and receiving instructions were posted in the AOD and Concierge SOP binders, as applicable (see encl. 4 & 5).

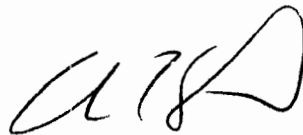
b. All the vendors providing radioactive materials to Walter Reed AMC were faxed instructions, including maps, regarding the delivery of RAM packages to the hospital. The instructions specifically address AOD signature authority for the packages (see encl. 6).

c. The Nuclear Medicine SOPs addressing RAM package receipt and handling were reviewed (see encl. 7). It was determined that modification was not necessary, based on the posted/faxed AOD and vendor instructions discussed in items 3a and 3b above.

d. In order to ensure that our Radiation Safety Program processes and procedures remain effective and in accordance with all regulations, the Health Physics Service has instituted a written policy outlining the review and auditing responsibilities of the RSO, to include all relevant SOPs and AOD instructions (see encl. 8).

e. While every effort will be made to obtain package tracking information, there is no process for the RAM vendors to provide tracking information automatically via e-mail or fax. This will remain a telephonic process initiated by the ordering pharmacy to the RAM vendor distribution facility.

5. The point of contact for this memorandum is the undersigned at 202-356-0061 or andrew.scott1@us.army.mil.



ANDREW L. SCOTT
MAJ, MS
Chief, Health Physics Service

8 Encls

1. Concierge training slide
2. E-mail: disciplinary action
3. E-mail: AOD briefing update
4. AOD RAM package SOP
5. Concierge RAM package instruction
6. RAM vendor delivery instructions
7. Nuclear Medicine SOPs
8. Health Physics SOP

Packages policy

- ❑ The Ravens Group staff are unauthorized to receive and sign for any incoming or outgoing packages.
- ❑ Concierge & Greeters staff members need to inform WRAMC security department ASAP in case a strange and unattended packages is left behind in their working areas.
- ❑ In case an radioactive materials package is identified the AOD and Nuclear Medicine/Health Physics needs to be informed right away.

Scott, Andrew L MAJ MIL USA

From: Stanciu, Tudor CTR US USA
Sent: Tuesday, June 01, 2010 12:48 PM
To: Scott, Andrew L MAJ MIL USA
Cc: McNeil, Walter A CTR USA; 'Darryl Wilkerson'
Subject: FW: Available for meeting the NRC Inspectors (UNCLASSIFIED)
Attachments: 20100601124227Tudor.Stanciu.pdf
Signed By: tudor.stanciu@us.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

MAJ Scott,

For any assistance in this matter feel free to reach out to me as well. If you have any other questions or feedback please provide them to my attention. In our "New Employee General Orientation" presentation we have instructions for packages policy see PDF file attached. I added the part to inform AOD and Nuclear Medicine in case they discover a package with a radioactive materials sign on it. Feel free to provide me with any materials that you have so I can incorporate them in the slide.

We understand the severity of the incident and responded accordingly. Let me reassure you that The Ravens Group management staff at WRAMC reacted right away once informed about the incident and administrative action was taken in this matter. The Ravens Group COR at WRAMC was informed that disciplinary action involving the staff member that signed for the package was performed.

If you need any other information to help your internal process please let me know.

Regards,

Tudor

Tudor Stanciu
Project Manager, Hospitality Services
The Ravens Group INC.
www.theravensgroup.com
Tel: 301-577-8585
Fax: 301-577-9097

Office
Walter Reed Army Medical Center
Tel: 202-356-1012 ext. 40450
Cell:
Email: tudor.stanciu@us.army.mil

-----Original Message-----
From: McNeil, Walter A CTR USA
Sent: Tuesday, June 01, 2010 10:54 AM
To: Stanciu, Tudor CTR US USA

Scott, Andrew L MAJ MIL USA

From: Hewlett, Natasha C Ms CIV USA MEDCOM WRAMC
Sent: Monday, June 07, 2010 2:37 PM
To: Scott, Andrew L MAJ MIL USA
Subject: RE: Radioactive Package Receipt (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I have not included this yet as I was waiting for the instructions from your section. However, I have included this in my briefing to the AOD's.

Ms. Natasha C. Hewlett
Administrative Officer
Executive Office
Walter Reed Army Medical Center
Washington, DC
COM 202-356-1012 ext 40991
DSN 642-1012 ext 40991
FAX 202-782-3361 DSN 662-3361

"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel."

~ Maya Angelou ~

-----Original Message-----

From: Scott, Andrew L MAJ MIL USA
Sent: Monday, June 07, 2010 2:36 PM
To: Hewlett, Natasha C Ms CIV USA MEDCOM WRAMC
Subject: Radioactive Package Receipt (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Ms. Hewlett,

Could you send me the updated AOD training package that includes the Radioactive Package Receipt instruction for my follow up memo to the Nuclear Regulatory Commission.

Thanks,

ANDREW L. SCOTT
MAJ, MS
Chief, Health Physics Service

Walter Reed Army Medical Center
6900 Georgia Ave, NW
Washington, DC 20307
202-356-0061
DSN: 642-0061

Classification: UNCLASSIFIED
Caveats: NONE

MEMORANDUM FOR ADMINISTRATIVE OFFICER OF THE DAY

SUBJECT: Receipt of Radioactive Packages/Radiation Protection Support

1. REFERENCE: Title 10, Code of Federal Regulations, part 20.1906, Procedures for Receiving and opening Packages, 01 January 2000.
2. PURPOSE: This memorandum provides guidance to the Administrative Officer of the Day (AOD) on receiving packages containing radioactive material during non-duty hours, and lists points of contact for radiation protection support. (ANNEX A)
3. GENERAL: Strict federal guidelines govern the receipt of radioactive materials. While most radioactive material is delivered to the hospital during regular duty hours, the timing of receipt of certain radioactive materials is critical, and may cause them to arrive at the hospital during non-duty hours. Often a member of the receiving organization (for example, Nuclear Medicine) is available to receive the package. Occasionally a package will arrive after hours unexpectedly or when a member of the receiving organization is not available. In these cases it is the responsibility of the AOD to receive the package and promptly secure it in accordance with the instructions below. Radioactive packages delivered by common carrier (e.g., Federal Express) are not hazardous to personnel as long as they are not damaged, and are promptly and appropriately secured.
4. PROCEDURES:
 - a. Damaged packages: If a package appears damaged or wet (as if the contents are leaking), ask the delivery driver to remain at the hospital until the package, the driver, and the vehicle can be checked for contamination. Check the AOD alert roster and contact the Health Physics staff member on call immediately.
 - b. Undamaged packages: Sign for the package. ONLY the AOD or AAOD is authorized to sign for Nuclear Medicine deliveries. Do not open it. Promptly secure the package as follows:
 - (1) Packages addressed to the Nuclear Medicine Service: Escort the driver to Nuclear Medicine. Secure the package in the Nuclear Medicine Clinic, Room 7A09 (Nuclear Medicine Dose room) Wd7A. The AOD Master Key provides access to the Nuclear Medicine Clinic and the Nuclear Pharmacy, located within the clinic. Page the on call nuclear medicine technologist at 106-6647 or SSG James Ashcraft, mobile |

to report the package receipt. Log in the AOD after-hours delivery log. In the event of a problem with the above procedures, call SSG Ashcraft immediately.

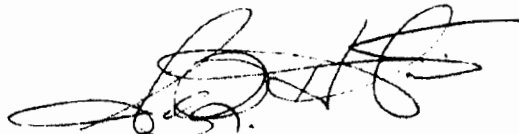
c. Off-hours radiation protection assistance can be obtained by contacting any of the Health Physics staff members. Contact the Health Physics staff for radiation protection support needs including:

- (1) Damaged radioactive packages
- (2) Fires in radioactive material areas (as identified by the yellow and magenta radioactive material posting)
- (3) Spills of radioactive material
- (4) Receipt of radioactively contaminated patients

5. RECOMMENDATION: Maintain a copy of this memorandum in the WRAMC AOD instruction book.

6. CONCLUSION: Federal regulations mandate compliance with these instructions.

7. POINT OF CONTACT for this memorandum is LTC Sidney R. Hinds at 202-782-0176/0169.



SIDNEY R. HINDS II
LTC, MC
Integrated Nuc Med Chief, WRAMC

ANNEX A
DOT RADIOACTIVE MATERIAL LABELS AND HEALTH PHYSICS CONTACTS

1. General: Radioactive packages containing certain quantities of radioactive material are required by the Department of Transportation (DOT) to be labeled with approved DOT labels White I, Yellow II or Yellow III. (See figures 1 and 2 below for examples of White I and Yellow II)



Figure 1



Figure 2

Smaller quantities of radioactive material do not require these labels but may be labeled

**RADIOACTIVE MATERIAL EXCEPTED PACKAGE
LIMITED QUANTITY OF MATERIAL UN2910
NO RADIOACTIVE LABEL REQUIRED**

All packages with any of these labels need to be secured and Health Physics and/or Nuclear Medicine notified.

HEALTH PHYSICS NUMBERS:

MAJ Andrew Scott
David Burton
SFC Harrison NCOIC

Home
Home
mobile

MEMORANDUM FOR Concierge Service Staff

SUBJECT: Identification of Radioactive Packages and Radiation Protection Support

1. Reference memorandum Administrative Officer of the Day, 12 May 2010, subject: Receipt of Radioactive Packages/Radiation Protection Support.
2. PURPOSE: This memorandum provides guidance to the Concierge Staff on identification of packages containing radioactive material and lists points of contact for radiation protection support. (ANNEX A)
3. GENERAL: Strict federal guidelines govern the receipt of radioactive materials. While most radioactive material is delivered to the hospital during regular duty hours, the timing of receipt of certain radioactive materials is critical, and may cause them to arrive at the hospital during non-duty hours. Often a member of the receiving organization (for example, Nuclear Medicine) is available to receive the package. Occasionally a package will arrive after hours unexpectedly or when a member of the receiving organization is not available. In these cases it is the responsibility of the AOD to receive the package and promptly secure it in accordance with the instructions below. Radioactive packages delivered by common carrier (e.g., Federal Express) are not hazardous to personnel as long as they are not damaged, and are promptly and appropriately secured.
CONCIERGE STAFF ARE NOT TO SIGN FOR THESE PACKAGES UNDER ANY CIRCUMSTANCES.
4. PROCEDURES:
 - a. If packages displaying any of the markings indicated in Annex A either arrive at the Information Desk or you encounter them elsewhere in the hospital, immediately inform the Administrative Officer of the Day (AOD).
 - b. If you are unsure as to whether or not a package contains radioactive material, you may page the on call nuclear medicine technologist at 106-6647 or SSG James Ashcraft, mobile
 - c. Further, off-hours radiation protection assistance can be obtained by contacting any of the Health Physics staff members indicated in Annex A. Contact the Health Physics staff for radiation protection support needs including:
 - (1) Damaged radioactive packages
 - (2) Fires in radioactive material areas (as identified by the yellow and magenta radioactive material posting)

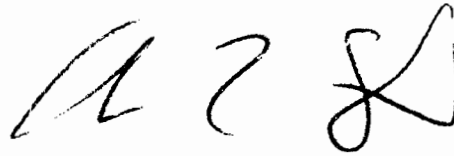
Encl 5

- (3) Spills of radioactive material
- (4) Receipt of radioactively contaminated patients

5. RECOMMENDATION: Maintain a copy of this memorandum in the WRAMC Concierge Staff SOP binder.

6. CONCLUSION: The safety of hospital employees as well as patients depend upon your adherence to these guidelines.

7. The point of contact for this memorandum is the undersigned at 202-356-0058/0061 or andrew.scott1@us.army.mil .

A handwritten signature in black ink, appearing to read 'A L Scott', written in a cursive style.

ANDREW L. SCOTT
MAJ, MS
Chief, Health Physics Service

ANNEX A
DOT RADIOACTIVE MATERIAL LABELS AND HEALTH PHYSICS CONTACTS

1. General: Radioactive packages containing certain quantities of radioactive material are required by the Department of Transportation (DOT) to be labeled with approved DOT labels White I, Yellow II or Yellow III. (See figures 1 and 2 below for examples of White I and Yellow II)



Figure 1



Figure 2

Smaller quantities of radioactive material do not require these labels but may be labeled

**RADIOACTIVE MATERIAL EXCEPTED PACKAGE
LIMITED QUANTITY OF MATERIAL UN2910
NO RADIOACTIVE LABEL REQUIRED**

All packages with any of these labels need to be secured and Health Physics and/or Nuclear Medicine notified.

2. HEALTH PHYSICS NUMBERS:

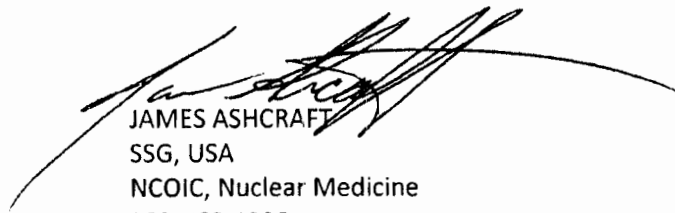
SFC Harrison NCOIC
David Burton
MAJ Andrew Scott

Mobile/
Home
Home

INSTRUCTIONS TO VENDORS

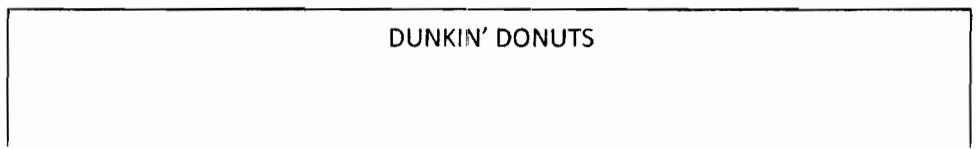
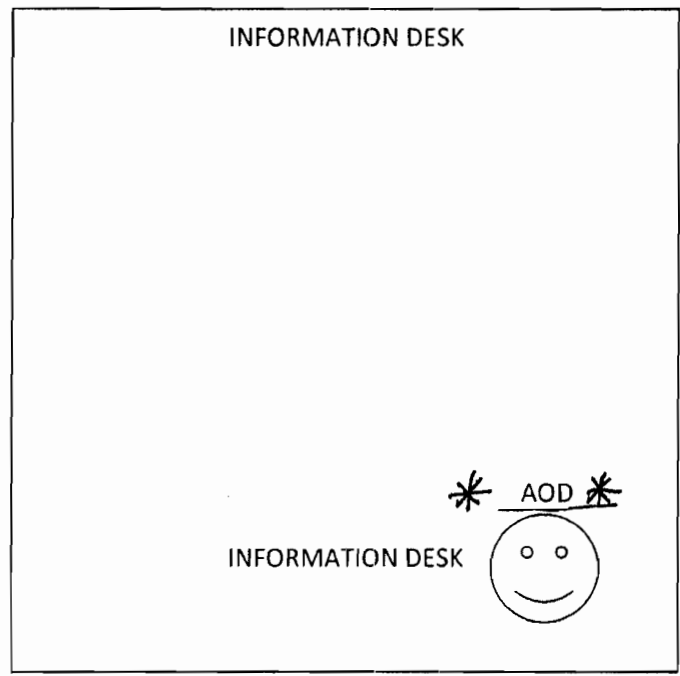
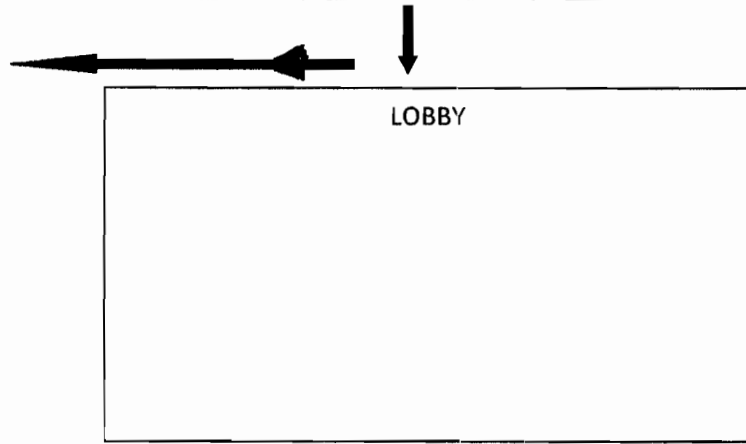
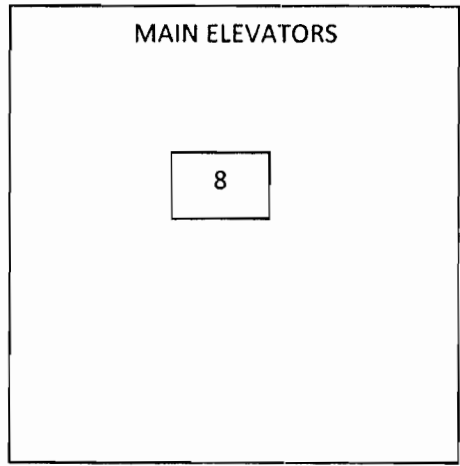
Directions to driver:

1. Take the Elder St entrance gate from Georgia Ave.
2. Take the first RIGHT after the gate.
3. Follow this road around until you reach the back of the Main Hospital (Heaton Pavilion).
4. There are two loading docks. Take a LEFT into the second loading dock marked "Logistics" NOT the first one.
5. You should see a security guard at the dock who will direct you to the "AOD" desk or "Information" desk. This is located on the FIRST floor of the hospital; you are currently on the second. If you do not see a security guard, call 202-782-7309 or 202-782-1442 and ask to speak to the AOD (Administrative Officer of the Day).
6. If you cannot reach the AOD or his assistant, immediately call SSG James Ashcraft at 202-468-1238.
7. Proceed to the front (Georgia Ave) entrance of the building by walking around the veranda. You will see the entrance on your left opposite the flag pole. Once inside, inform the Security Officer that you are delivering a package to the AOD. THIS IS NOT THE AOD DESK.
8. Straight ahead, take the main elevators down to the 1st floor and proceed to the INFORMATION Desk and ask for the AOD. You will show the package to the AOD or Assistant AOD ONLY. This person will be in military uniform. NO ONE else is authorized to sign for packages.
9. AOD will escort you to 7A Nuclear Medicine Clinic/ Pharmacy in accordance with AOD standard operating procedures.
10. If you have any questions, please call SSG James Ashcraft at 202-468-1238 or have the AOD page 106-6647 for the technologist on call.

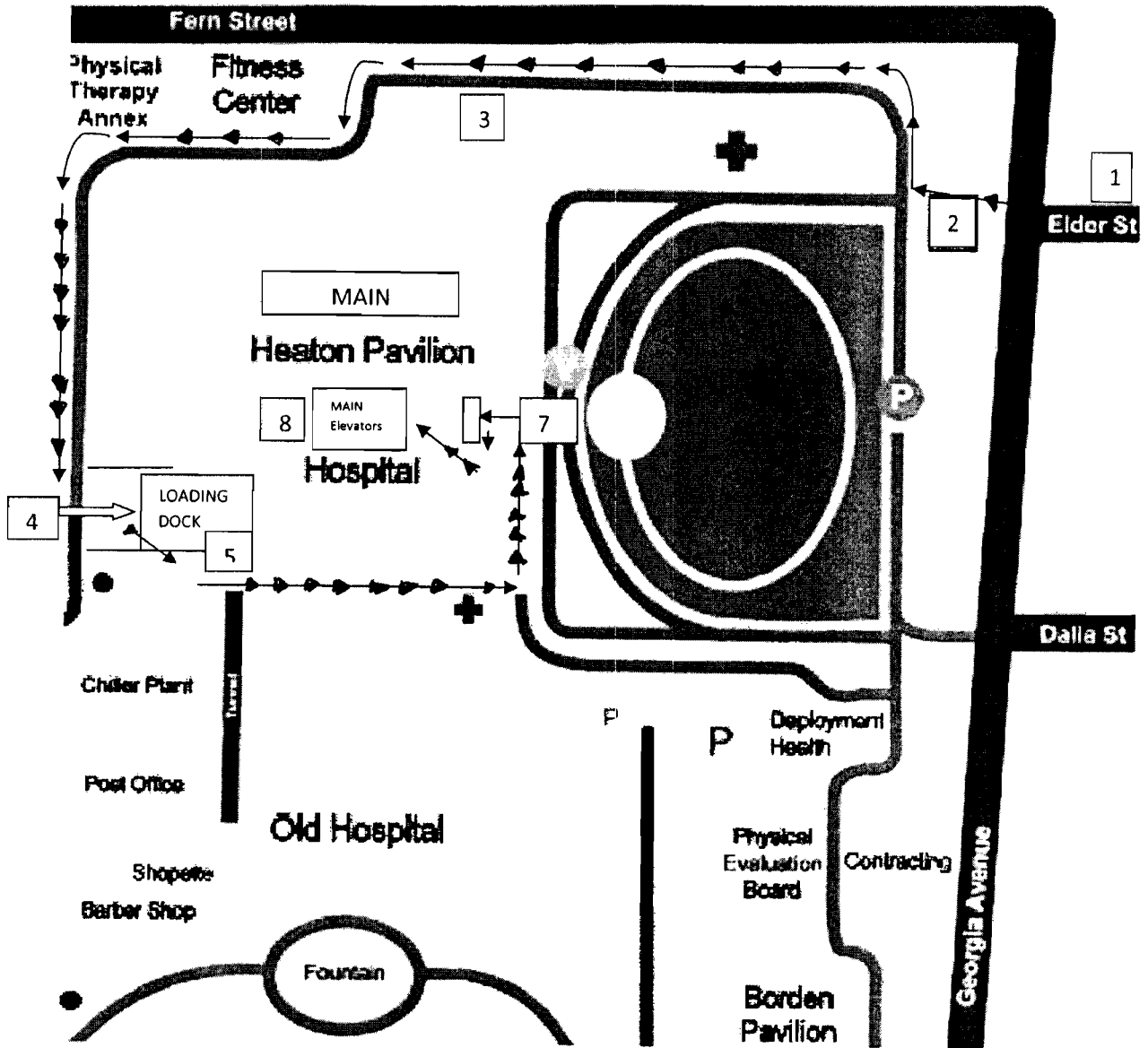


JAMES ASHCRAFT
SSG, USA
NCOIC, Nuclear Medicine
202-468-1238

1st Floor



NORTH




WALTER REED ARMY MEDICAL CENTER
NUCLEAR MEDICINE SERVICE
STANDARD OPERATING PROCEDURES
NUCLEAR PHARMACY

MCHL-XN
SUBJECT: Standard Operating Procedure Manual

The procedures, policies and related information enclosed are accurate and current as of:
Dec 31, 2009.



SIDNEY R. HINDS
LTC, MC
Chief, Nuclear Medicine Service

*Updated or
Revised 15 May 2010*


WALTER REED ARMY MEDICAL CENTER
NUCLEAR PHARMACY SERVICE
STANDARD OPERATING PROCEDURES

Receipt of Radioactive Materials

SOP RP#6.00

1. See SOP RP#6.10 and SOP RP#6.20 for information regarding authorization of Nuclear Medicine receipt of RAM.
2. All packages containing radioactive material must be monitored for radioactive contamination and radiation levels if the package is labeled according to U.S. DOT rules as White I, Yellow II, or Yellow III unless the package only contains radioactive material in a gaseous or special form as defined in 10 CFR 71.4. Please see SOP RP#6.30 for procedures for opening RAM packages.
3. RAM packages must be monitored for external radiation levels within 3 hours after receipt if received during a normal workday or not later than 3 hours from the beginning of the next working day if it is received after duty hours.
4. For deliveries during off-duty hours, RAM packages will be delivered to the Nuclear Medicine Service's radioactive waste storage area (Room 7A 14). During duty hours, these packages will be delivered directly to the Nuclear Pharmacy Hot Lab (Room 7A09).
5. See SOP RP#6.40 for procedures for logging in packaging into the NMIS.

WALTER REED ARMY MEDICAL CENTER
NUCLEAR PHARMACY SERVICE
STANDARD OPERATING PROCEDURES

Memorandum of Understanding
Between
WRAMC Health Physics Office & WRAMC Nuclear Medicine Service

SOP RP#6.10

Subject: Receipt of Radioactive Material Shipments by Nuclear Medicine Personnel

Paragraph 3b(5) of Condition 5, of all Radioactive Material Authorizations approved by the Radiation Control Committee, Walter Reed Army Medical Center, states that all radioactive material procured must be shipped to the Health Physics Office, unless specifically exempted by the Health Physics Office. The Nuclear Medicine Service has requested an exemption from this office requirement. This exemption will allow for expeditious receipt of isotopes in support of patient treatment, and allow for training of Nuclear Pharmacy students in isotope receipt procedures. An exemption from Paragraph 3b(5) of Condition 5, of the Radioactive Material Authorization H01 issued to Nuclear Medicine is granted under the following conditions:

- a. All radiopharmaceuticals used to treat patients, with the exemption of sealed radioisotope sources, may be shipped directly to Nuclear Medicine. Delivery procedures between Nuclear Medicine and any radiopharmaceutical supplier must insure that the security of materials is maintained during the delivery process.
- b. All records of isotope receipt surveys for this material will be initialed and maintained by Nuclear Medicine personnel. Copies of the paperwork and surveys must be available to Health Physics personnel for review during all routine surveys.
- c. Radioactive waste must be segregated into short half-life isotope and long half-life isotopes for processing. Short half-life material is defined as an isotope with a half-life of less than 8.5 days.

JOHN R. MERCIER
LTC, MS
Chief, Health Physics Office &
Radiation protection Officer

THOMAS W. ALLEN
COL, MC
Chief, Nuclear Medicine Service

Date

Date

WALTER REED ARMY MEDICAL CENTER
NUCLEAR PHARMACY SERVICE
STANDARD OPERATING PROCEDURES

Procedure for Opening Packages (ref. § 20.1906)

SOP RP#6.30

1. Monitor the external surface of packages labeled with a White I, Yellow II or Yellow III label for:
 - a. Contamination, unless the RAM is a gas or special form (sealed source)
 - b. Radiation levels, unless the amount of RAM is \leq to a Type A quantity

**Monitor the external surface for both contamination and radiation levels for any package of RAM package that appears damaged or leaking*
2. RAM packages must be monitored for external radiation levels within 3 hours after receipt if received during a normal workday or not later than 3 hours from the beginning of the next working day if it is received after duty hours.
3. Monitor the external surfaces of a labeled package for radioactive contamination by swiping at least a 300cm² area (ref. 49 CFR §173.443). Include all sides of the package when swiping.
4. Notify the HPO who will in turn notify the NRC Regional Office and final delivering carrier (by telephone and telegraph, mailgram or facsimile) if:
 - a. Removable radioactive surface contamination exceeds 22 dpm/cm² [(6600dpm/300cm²) 10⁻⁵ uCi/cm²]; or
 - b. External radiation levels exceed 200 mR at any point on the surface or 10 mR at one meter
5. Opening RAM Packages
 - a. Put on gloves to prevent hand contamination.
 - b. Visually inspect the package for any sign of damage (e.g., wet or crushed). If damage is noted, stop the procedure and notify the RSO or radiopharmacist immediately.
 - c. Measure the exposure rate from the package at 1 meter and at the package surface. If the exposure rates exceed those in the following chart, be sure to check the meter for proper function and to make sure there is no background radiation source in the area. Notify the radiopharmacist or RSO if radiation levels exceed those listed in the following chart.
 - d. Swipe all sides (at least 300 cm² surface area) of package for removable contamination. Assay the wipe sample with the Capintec wipe counter to determine if there is any removable radioactivity. The wipe counter's detection efficiency is set for a generic setting of 37% (per CAPRAC

instruction manual) for determining disintegrations per minute. If the generic reading exceeds a trigger level, you will have to investigate further to see if any specific nuclides in the sample exceed allowable limits.

- e. Remove the packing slip.
- f. Open the outer package, following any instructions that may be provided by the supplier.
- g. Open the inner package and verify that the contents agree with the packing slip.
- h. Check the integrity of the final source container. Notify the RSO (or the Radiopharmacist) of any broken seals or vials, loss of liquid, condensation, or discoloration of the packing material.
- i. If there is any reason to suspect contamination, wipe the external surface of the final source container and check this wipe for removable contamination.
- j. Monitor the packing material and the empty packages for contamination with a radiation detection survey meter before discarding. If contaminated, treat this material as radioactive waste. If not contaminated, remove, obliterate or deface the radiation labels before discarding in in-house trash.
- k. Log receipt into NMIS computer. (see NMIS instructions for logging-in package)
- l. Store material appropriately (i.e. iodine will be stored in fume hood).

Exposure (mR/hr)

<u>Type of Label</u>	<u>At One Meter</u>	<u>At Surface</u>
White I	< 0.05	< 0.5
Yellow II	< 1 (and less than T.I.)	> 0.5 and ≤ 50
Yellow III	> 1 and < 10 (and less than T.I.)	> 50 and < 200

counts/counting efficiency = dpm's

Limit = 2200dpm per 100cm² wipe area

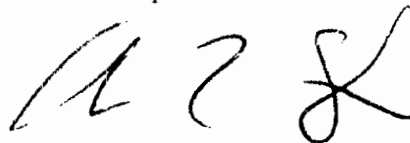
HEALTH PHYSICS SERVICE
WALTER REED ARMY MEDICAL CENTER
Washington, DC 20307-5001

MCHL-HP
SOP # 1-28

7 June 2010

SUBJECT: RADIATION SAFETY PROGRAM REVIEW

1. PURPOSE: To delineate the duties of the RSO with respect to review and auditing of the Radiation Safety Program, the SOPs and other local radiation safety guidance documents.
2. GENERAL: The RSO is responsible to ensure that all guidance documents and radiation safety programmatic elements remain relevant and up to date.
3. RESPONSIBILITIES/DUTIES:
 - a. On at least an annual basis, the RSO will:
 1. Review all Health Physics Service SOPs and certify that they are up to date.
 2. Conduct and document an internal audit of the Radiation Safety Program.
 3. Review and certify all Radiation Safety related postings to the Administrative Officer of the Day and Concierge SOP binders as relevant and up to date, specifically (but not limited to) instructions pertaining to the Radiological Advisory Medical Team and receipt of radioactive materials packages.
 4. Schedule and conduct a Staff Assistance Visit to review the Radiation Safety Program at Ireland Army Community Hospital, Fort Knox, and Womack Army Medical Center, Fort Bragg, as part of the regional oversight mission.
 - b. At least biennially (once every other year), the RSO will arrange for an external agent to audit the Radiation Safety Program. An NRC inspection may fulfill this requirement for an external audit.



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