

SUBJECT: *EMERGENCY PROCEDURES*  
Radioactive Spills

ISSUED  
3-5-79

FORMULATED BY:  
Richard D. Smith R.T.

A. If Spill Occurs on Floor or on Equipment.

1. Use a survey-instrument to define the area of contamination. This can be done by passing the instrument over this approximate area of the spill and observing changes in the reading of the meter. Use a red "China Marker" to outline the area of contamination.
2. All personnel in the immediate area should move to another location away from the spill. Care should be taken that these people do not "Track" radioactive-material around.
3. Notify Radiation Safety Officer.
4. Restrict entrance to the area until complete decontamination has been performed, or step # 9 has been performed.
5. Using rubber-gloves, wipe up the spilled liquid as rapidly as possible with absorbent material.
6. Place all material which has been used to decontaminate, in a proper waste container until it has decayed properly.
7. After repeated cleaning, use the survey meter to check the contaminated area.
8. If significant readings are low (below 10 MR/HR), cover the affected area with tape, and remove after one hour and place the tape in a proper container. Reread the area with a survey instrument.
9. If the reading is below 10 MR/HR, retape the area and allow personnel to return to work.
10. After one week, remove the tape and dispose of it properly.
11. All personnel involved in the decontamination process must wear their film badges and if possible, a ring or wrist badge.
12. When the spill occurs, it is very important that the person in charge be notified immediately. This person should oversee the decontamination procedure.

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## B. If the Body is suspected of being Contaminated:

1. Scan with alpha detector if applicable. Scan with beta-gamma survey meter to determine contaminated areas of body.
2. Do not immediately attempt decontamination if cuts, abrasions or open wounds are observed.
3. If cuts, abrasions or open wounds are contaminated, dry-clean the area with suction apparatus or swabs. Wet cleaning increases absorption.
4. If the skin is contaminated in the area of cuts, abrasions and open wounds, use wet swabs in a direction away from the cut, abrasion or open wound, taking care not to spread activity over the body or into the wound.

## C. If the skin appears to be intact, use the following procedures:

1. Wet hands and apply mild soap.
2. Work up a good lather; keep the lather wet.
3. Work lather into the contaminated area by rubbing gently for three minutes. Apply water frequently.
4. Rinse thoroughly with lukewarm water. (Limit water to contaminated area.)
5. Repeat above procedure twice, if necessary.
6. If the radiation level is still above background, initiate more powerful decontamination procedures.

For All Major Accidents, Including Explosions, and Release of Airborne Radioactivity and Leakage of Sealed Gaseous and Powdered Sources:

If possible, cut off the release of radioactive material from the source of the environment.

1. Report incident to the Radiation Safety Officer as soon as possible.
2. Do not attempt to clean up spill immediately. Cover the Radioactive areas if they are localized.
3. Close windows, shut off fans, air conditioners, and any air outlets to other areas. Shut off hoods if they are not equipped with exhaust filters.  
- Evacuate and isolate area. Close all doors. Seal with tape if powdered or gaseous sources are involved.

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| DAVINGSS COMM HOSPITAL.                    | POLICIES & PROCEDURES |   |
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4. Proceed to nearby uncontaminated control area: start personnel decontamination and radioactivity surveys. Remove contaminated shoes and laboratory coats at the laboratory door, to avoid tracking radioactive material.
5. Do not leave the control area until the extent of the hazard has been determined and you have been thoroughly surveyed for contamination.
6. Have signs posted and guards stationed where necessary to prevent additional exposure or spread of radioactivity.
7. In the event of major contamination, no decontamination should be attempted without the advice and direction of personnel experienced in radiation protection.

IN CASE OF FIRE:

Unless necessary, avoid any fire extinguishing method likely to spread radioactive material.

Fires In Boxes. These fires may be extinguished by cutting off the air supply to the box.

Fires In Hoods. If these fires cannot be extinguished without the danger of spreading, radioactive materials should be confined by closing the door of the hood and throwing a blanket or other cloth over the top air inlet so as to reduce the supply of air.

Radiation Safety Officer: Richard D. Smith R.T. Nuclear Medicine department  
Home Phone 1-812-254-5099

# APPENDIX J

## WASTE DISPOSAL

1. Liquid waste will be disposed of (check as appropriate)

\_\_\_\_\_ By commercial waste disposal service (see also item 4 below).

\_\_\_\_\_ In the sanitary sewer system in accordance with §20.303 of 10 CFR Part 20.

\_\_\_\_\_ Other (specify): \_\_\_\_\_

2. Mo-99/Tc-99m generators will be (check as appropriate)

\_\_\_\_\_ Returned to the manufacturer for disposal.

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

\_\_\_\_\_ Disposed of by commercial waste disposal service (see also item 4 below).

\_\_\_\_\_ Other (specify): \_\_\_\_\_

3. Other solid waste will be (check as appropriate)

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

\_\_\_\_\_ Disposed of by commercial waste disposal service (see also item 4 below).

\_\_\_\_\_ Other (specify): \_\_\_\_\_

4. The commercial waste disposal service used will be

(Name) \_\_\_\_\_ (City, State) \_\_\_\_\_

NRC/Agreement State License No. \_\_\_\_\_