

General Instructions For Auxiliary Personnel

Instructions For Maintenance Personnel

Introduction

Radioactive materials and radiation producing machines are found in many locations at USC. Some general guidelines for specific areas are outlined below.

Radiation or High Radiation Areas

Do not enter any of these areas without specific permission to do so either from someone in authority in that area or Radiation Protection.

When specifically authorized to enter such an area:

- ❖ Follow instructions.
- ❖ Do only work required.
- ❖ Leave area immediately when done.

Rooms Marked *Caution Radioactive Material*

Step	Procedure
1	Enter room unless specific sign says <i>Keep Out</i> .
2	Contact someone who works in the room and explain the work that is to be done.
3	Before you begin work, have laboratory personnel check for contamination to make certain that the work area is not contaminated.
4	If you cannot find someone in the area to check with, leave the room and ask at the department office for assistance in locating someone who works in that room.
5	If it is an emergency repair job and you cannot get help at the department office, call Radiation Protection.

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6	<p>If the area is free of contamination, proceed with the job. While in the area:</p> <ul style="list-style-type: none">❖ Do not smoke, eat or drink.❖ Do not enter other areas marked with radioactive material signs.❖ Watch for signs of possible contamination, such as broken labeled bottles or vials, or liquid pooled in an area.
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Equipment Marked *Caution Radioactive Material*

For sinks, hoods, refrigerators or other equipment marked *Caution Radioactive Material*:

- ❖ Have lab personnel check by wipe test or instrument survey to ensure that there is no contamination.
- ❖ If equipment must be taken back to the shop, or there are any questions, call Radiation Protection.
- ❖ Call Radiation Protection to have hood exhaust ducts surveyed.

Call Radiation Protection at any time if in doubt about any procedures for handling anything marked, *Caution Radioactive Material*.

Instructions For University Department of Public Safety

Access to Radiation Areas

Radioactive material and radiation producing devices are found in many locations at USC. This poses little or no hazard to security personnel if the guidelines below are followed:

- ❖ Locations labeled *High Radiation Area* should not be entered without calling Radiation Protection first, unless the situation is life-threatening.
- ❖ A location labeled, *Radiation Area* can be entered for a short time to protect life or property, but for routine matters, contact Radiation Protection first.

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- ❖ A location labeled, *Caution Radioactive Material* will be safe to enter unless specifically marked, *Do Not Enter*. While in the area:
 - Do not handle containers labeled with radioactive material symbols.
 - Do not smoke, eat or drink in these areas.
 - Be wary of evidence of spills of radioactive material.

When To Notify Radiation Protection

You should notify Radiation Protection:

- ❖ Before entering a high radiation or radiation area (with the exceptions noted above).
- ❖ If any container labeled *Caution Radioactive Material* is found broken, crushed or leaking.
- ❖ In case of fire in any room labeled *Caution Radioactive Material*.

When in doubt, call Radiation Protection!

(However, there is no need to contact Radiation Protection for alarms or lights on refrigerators, cold rooms, incubators, etc. Instead, notify the department responsible for the laboratory in which the item is located.)

Emergency Delivery of Radioactive Material For Norris Cancer Hospital

Any emergency shipment of radioactive material for Norris Hospital (Radiation Oncology, Nuclear Medicine), that arrives outside the normal working hours of 7:00 a.m. to 4:00 p.m. or Saturdays and Sundays shall be signed for by the Norris Security personnel on duty. The delivery person with the radioactive material shall be immediately escorted to Norris Hospital, room 2319. Unlock the door, place the package on top of the counter immediately to the right of the door, and relock the door.

If the package is wet or appears to be damaged, immediately contact the Radiation Safety Officer. Ask the carrier to remain at the Hospital until it can be determined that neither he nor the delivery vehicle are contaminated.

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Instructions For Housekeeping Personnel

Introduction

In order to prevent the spread of radioactive contamination or the improper disposal of radioactive waste, it is important that housekeeping personnel are aware of the proper way to conduct themselves in areas where radioactive materials are used. There are two separate areas of concern:

- ❖ Laboratories.
- ❖ Hospital rooms.

Conduct in Laboratories

Follow these guidelines in laboratories:

- ❖ Note the *Caution Radioactive Material* sign at entrance to the area.
- ❖ Look for and obey any other special instructions at entrances, such as *Do Not Enter*. If there are no special instructions, enter the room.
- ❖ Do not smoke, eat, drink, or apply cosmetics while in these areas.
- ❖ Do required work as quickly as possible, then leave the area.
- ❖ Watch for problems:
 - If you see a spilled or leaking container labeled with tape that has the radiation symbol, leave the area and contact your supervisor.
 - If you have stepped in something that you think is radioactive, leave your shoes inside the door to the room, and contact your supervisor.
- ❖ When in doubt, do not enter the area.
- ❖ Lock the door to the room when you leave.

Instructions for Specific Areas

Follow the instruction in this Table when dealing with the indicated areas.

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Item/Area	Instructions
Bench Tops Labeled With Caution Tape	Do not: lean on or against Do not: put anything down on it Do not: handle anything that is on it
Floor Areas Labeled With Caution Tape	Do not: walk in this area Do not: clean the floor in this area
Lab equipment Labeled With Caution Tape	Do not: touch or move this equipment
Refrigerators Labeled With Caution Tape or Sign	Do not: open, move or discard
Trash Bags or Cans Labeled With Caution Tape or Sign	Do not: empty this trash. If there is any doubt whether or not it is radioactive, do not empty it
Sinks Labeled With Caution Tape or Sign	Do not: use this sink to get water or dispose of water

Conduct in Hospital Rooms

Step	Procedure
1	Note the Caution Radiation Area sign at the entrance to a patient's room, and do not enter.
2	Go to the Nursing Station on the floor.
3	Tell a Nurse what you need to do in the patient's room.
4	Enter the patient's room only with a Nurse present.
5	Do only what the Nurse instructs you to do.

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Do not clean areas where radioactive material is spilled unless you are supervised by Nuclear Medicine, Radiation Oncology or Radiation Protection. If there are any questions or problems, contact Radiation Protection immediately.

Instruction For Pathologists Dealing With Radioactive Human Tissues

Post-Mortem Procedures

Bodies of patients containing administered radioactive material shall not be removed from the patient area without notification of Radiation Protection and the physician in charge of the case. Radiation Protection will determine whether or not a radiation hazard exists in handling the body and will issue instructions accordingly.

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Patient has received brachytherapy.	<p>The attending physician is responsible for the removal of brachytherapy sources and applicators from patients before the body leaves the patient area. (Once these sealed sources are removed, there is no further radiation problem).</p> <p><i>In all other cases, residual radioactive material may still be found in body fluids or tissues. Radionuclides may be concentrated in an organ or tumor, or may be distributed through all body fluids or tissues.</i></p>
There is to be an autopsy or body is to be embalmed.	<p>Radiation Protection will indicate what tissues or fluids are to be removed promptly (at autopsy), and what the special precautions should be taken.</p>
There are radioactive liquids present in the body	<p>Every effort should be made to see that they are properly discharged down the drain without spilling on the floor or or splashing neighboring areas.</p>
Any radioactive tissues are to be retained.	<p>They should immediately be placed in appropriately shielded vessels for storage or for disposal according to procedures approved by Radiation Protection. Each container needs to be labeled with:</p> <ul style="list-style-type: none">❖ The date❖ The patient's name and Hospital number❖ The radionuclide and activity❖ <i>Caution Radioactive Material</i> tape❖ The date when the radiation level will be below permissible level for disposal without precaution

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An injury occurs during an autopsy	Radioactive material may be introduced into the wound. In addition to ordinary treatment of the wound, Radiation Protection needs to be consulted with regard to any possible radiation hazard.
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Accidental Overflow Procedure

In case of accidental overflow, the fluid should be taken up immediately, as completely as possible, with absorbent paper or pad. The paper or pad should be held with tongs or forceps, promptly put into a plastic bag and labeled as radioactive waste. Special care should be taken to prevent the floor of the morgue from becoming contaminated. Such contamination can be transferred to shoes and spread throughout the institution.

Accidental Overflow Precaution

In addition, the floors of such rooms are often of rough concrete or other material that is difficult to decontaminate. Flushing or scrubbing the floor with water may only spread the contamination. The floor must be covered with a large sheet of absorbent material, underlaid with plastic, before beginning the autopsy. Tape the covering to the floor to prevent slipping.

Protective shoe covers should be worn by all personnel in this region and removed before they leave the work area. Wearing plastic aprons and gloves prevents contamination of clothing and skin. Care should be taken in removing protective clothing so as not to contaminate the skin.

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