

Radiation Safety in the Hospital for Housekeeping Personnel

**Presented By: Walter L. Robinson, M.S.,
A.B.S.N.M. & A.B.M.P.**

**Consultant Certified Medical Radiation Health
& Diagnostic Imaging Physicist**

Areas of Concern in a Hospital

- Nuclear Medicine Hot Lab
- Nuclear Cardiology Stress Lab
- Nuclear Medicine Imaging Rooms
- Therapy Patient Rooms
- Remote Radioactive Materials Storeroom
- Assistance with Radiation Accidents in the E.R.

Nuclear Medicine Hot Lab

- This room is locked; therefore access must be acquired by approval of the Radiation Safety Officer (R.S.O.), or designate, and re-secured (locked) upon exit.
- The R.S.O., or designate, must explain what can be (and should not be) cleaned and with what materials or procedures-prior to access to this room.

Nuclear Medicine Hot Lab

The Hot Lab contains shielded radioactive materials. If the technologist confirms that the room is “O.K. to clean now”, then they have shielded all radioactive sources and rendered them safe for you to work around. Since you occupy this room for a short time and infrequently, no personnel monitor (film badge) is issued to you. This keeps your radiation exposure limit to 10% of the technologist. Therefore, you need not be concerned about the radiation exposure that you might acquire while cleaning the room.

Nuclear Medicine Hot Lab

In most instances, the technologist who indicates that it is O.K. to clean in the hot lab, has assured you that there is no radioactive contamination on the environmental surfaces that you will be cleaning. Therefore, you are not required to monitor your equipment upon leaving the room. In the event that a radioactive spill needs your assistance in its clean-up, the technologist will direct your actions, and monitor your equipment before it can be released for use elsewhere in the hospital. Simple soap and water are all that is necessary to decontaminate your re-useable cleaning equipment. Disposable components may be required to be left in the hot lab for radioactive decay of a few days.

Nuclear Medicine Hot Lab

In the event that you must assist in the decontamination of the room, you will be required to wear disposable gloves and should wear disposable shoe covers. Again, the time of your assistance will be minimal; therefore, you will not be required to wear a personnel monitor (film badge) due to the fact that the very low exposure you will receive is considered to be a safe amount. In general, keep your time to a minimum, while not rushing your duties to the degree that accidents or mistakes could happen.

Nuclear Medicine Hot Lab

Should you knock a vial of liquid onto the floor, and it breaks, notify the technologist, if one is present. Notify the R.S.O. (phone number posted on the outside of the door), or your supervisor, if no one is present. There should not be any vials of liquid around for you to bump-they should be shielded or secured in drawers or cabinets.

No trash should be removed from this room. The technologist will take the responsibility for removing this. No unopened boxes should be removed from this room. Empty boxes with “radioactive material” labels on the side can be disposed off only if the labels are obliterated or defaced.

Nuclear Cardiology Stress Lab

If there are no containers labeled “Caution Radioactive Material” left in this room, then no special precautions apply to housekeeping clean-up duties. If there is a posted “Caution Radioactive Material” waste container in this room, do not empty it. It will be maintained by the technologist. Such containers should have locks and should be affixed or bolted to cabinets or other immobile object.

Nuclear Medicine Imaging Room

The same precautions hold as for the Stress Lab-previously mentioned.

Radioactive Material Therapy Patient Room

There are two types of radioactive material therapies. One, the brachytherapy, utilizes sealed sources either left in the patient, or removed from the patient, and re-stored safely in a remote storeroom. Once the patient leaves the room, and the “Caution” signs are removed, the room is ready for clean-up. The other is often a radioiodine therapy, which is an unsealed source therapy. This means that the room may be left with radioactive contamination after the patient leaves. The nuclear medicine technologist is responsible to declare the room accessible to housekeeping staff for cleaning. When the technologist has declared the room decontaminated (and therefore “safe”), they will remove the yellow and purple “Caution Radiation Material” and “Caution Radiation Area” signs.

Remote Radioactive Materials Storeroom

This room may be as small as a closet. It is always locked. It should only be cleaned when an authorized person is present. Sealed radioactive sources of various sizes and shapes are stored in this room. Some are locked in a leaded safe. Some may be on countertops. Although these sources are very radioactive, and therefore under strict control and accountability, the short time that you are in the room will not represent a measurable exposure to you. No contamination risk is usually present, unless this room is also used to store radioactively-contaminated linen or radio/biowaste from radioiodine therapies.

Radiation Accidents and Drills

Housekeeping staff may be asked to assist with the preparation of disposable sheeting for floors and tables in the Emergency Department. They may be asked to acquire large trash containers with disposable plastic bags. This is all done before a drill or actual admission of a contaminated victim/patient. Following the completion of the drill or actual victim treatment, the room will have to be cleaned-up. The emergency or nuclear medicine staff may ask for help from the housekeeping staff. They will direct your activities, and provide cautionary instructions as needed.

In Conclusion



- 1. Do not enter a room marked “Caution Radiation Area” or “Caution Radioactive Materials” without prior training (such as this program) and specific authorization.**
- 2. Do not remove anything from the room unless you are told to or there is a note on the object, authorizing you to do so.**
- 3. If any liquid is on the floor, contact the technologist or R.S.O., who should have their phone numbers posted on the outside of the door.**
- 4. If in doubt, ask someone like the technologist or your supervisor, when the technologist is not present.**
- 5. If you have walked in liquid on the floor, call the technologist or your supervisor first-before departing from the room!**