

SAFE HANDLING PROCEDURES FOR RADIOPHARMACEUTICALS  
UPDATED: September 2006

CPT CODE: N/A

**Purpose:** To establish procedures to minimize the exposure to personnel preparing and administering radiopharmaceuticals, and to ensure safety for the general public.

**Definition:** ALARA: As Low As Reasonable Achievable. To follow this concept, it is necessary to work quickly and efficiently to minimize the time of exposure, maintain maximum possible distance between the source and personnel, and provide adequate shielding of the source to minimize exposure.

**Policy:** All doses will be handled with the concept of ALARA. Procedures/Recommendations in Appendix T of WisReg will be followed, as listed below.

1. Attire
  - a. Wear laboratory coats or other protective clothing at all times in areas where radioactive materials are compounded or administered.
  - b. If compounding a multi-dose kit, wear appropriate attire as outlined in policies for compounding of sterile pharmaceuticals, which includes radiopharmaceuticals (see Pharmacy P&P 6.1)
  - c. Wear disposable gloves at all times while handling radioactive materials.
2. Product Preparation
  - a. Use appropriate kit vial shields when compounding radiopharmaceuticals
  - b. Use syringe shields for reconstitution of radiopharmaceutical kits and administration of radiopharmaceuticals to patients, except when their use is contraindicated (e.g., recessed veins, infants). In these exceptional cases, use other protective methods, such as remote delivery of the dose (e.g., use a butterfly needle.)
  - c. Use tongs, when possible, when manipulating syringes during compounding or assaying
  - d. Do not eat, store food, drink, smoke, or apply cosmetics in any area where licensed material is stored or used.
  - e. Never pipette by mouth.
3. Product Labeling
  - a. Radiopharmaceutical multi-dose diagnostic and therapy vials must be labeled in accordance with HFS 157.62(6) and HFS 157.29(4).
    1. Mark the label with the radionuclide, the activity, the date for which the activity is estimated, and the kind of materials (i.e., radiopharmaceutical).
    2. Example:

(actual label to be added)
  - b. Syringes and unit dosages must be labeled in accordance with HFS 157.62(6) and HFS 157.29(4).
    1. Mark the label with the radionuclide, the activity, the date for which the activity is estimated, and the kind of materials (i.e., radiopharmaceutical).
    2. If the container is holding less than the quantities listed in Chapter HFS 157 'Radiation Protection', Appendix F, the syringe or vial need only be labeled to identify the radioactive drug (HFS 157.62(6)).
    3. To avoid mistaking patient dosages, label the syringe with the type of study and the patient's name.
    4. Example:

(actual label to be added)

4. Product Dose Verification
  - a. For prepared dosages, assay each patient dosage in the dose calibrator (or instrument) before administering it (HFS 157.62(3)). 220. Verify that the activity falls within the acceptable range, as defined in the study protocol.
5. Monitoring of Employee Radiation Exposure
  - a. After each procedure, or before leaving the area, monitor your hands for contamination in a low-background area using an appropriate survey instrument.
  - b. Wear personnel monitoring devices, if required, at all times while in areas where radioactive materials are used or stored.
    1. These devices shall be worn as prescribed by the RSO.
    2. When not being worn to monitor occupational exposures, personnel monitoring devices shall be stored in the work place in a designated low-background area.
  - c. Wear extremity dosimeters, if required, when handling radioactive material.
6. Monitoring and Surveying for Radioactive Materials
  - a. Wipe-test unsealed radioactive material storage, preparation, and administration areas weekly for contamination.
    1. If necessary, decontaminate the area.
  - b. Survey with a radiation detection survey meter all areas of licensed material use, including the generator storage, kit preparation, and injection areas daily for contamination.
    1. If necessary, decontaminate the area.
    2. Areas used to prepare and administer radiopharmaceutical therapies must be surveyed daily in accordance with HFS 157.62(7) (except when administering therapy dosages in patients' rooms when patients are confined).
  - c. Store radioactive solutions in shielded containers that are clearly labeled.
7. Disposal of Radioactive Waste
  - a. Dispose of radioactive waste only in designated, labeled, and properly shielded receptacles.

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