

Safe Practices in Laboratories Using Radioactive Material

1. Only individuals trained in radiation safety, or under the direct supervision of an authorized user, may use radioactive material.
 2. Monitor all radioactive sources and stock solutions to determine safe working distances or shielding requirements before beginning work with sources.
 3. Wear laboratory coats or other protective clothing at all times in areas where radioactive material is used.
 4. Wear disposable gloves at all times while handling radioactive material or potentially contaminated items.
 5. Wear whole-body personnel monitoring devices (film badge or TLD) at all times, if required, while in areas where radioactive material is used or stored. These must be worn at chest or waist level where the highest exposure is expected.
 6. Wear film or TLD finger badges, turned inward towards material, during elution of generator and preparation, assay and injection of radiopharmaceuticals. Finger badges are worn on the finger likely to receive the highest dose.
 7. Use syringe shields for preparation of patient doses and administration to patients except in circumstances when their use would compromise the patient's well-being.
 8. For therapeutic doses, check the patient's name, the radionuclide, the chemical form and the activity vs. the order written by the physician who will perform the procedure.
 9. Do not eat, drink, smoke or apply cosmetics in any area where radioactive material is stored or used.
 10. Do not store food, drink or personal items in any area where radioactive material is stored or used.
 11. Secure all areas where radioactive material is stored when unattended.
 12. All containers of radioactive material must be properly labeled to meet regulatory requirements. Confine radioactive solutions in covered containers plainly identified and labeled with name of compound, radionuclide, date, activity and radiation level if applicable.
 13. Never pipette by mouth.
 14. Monitor hands and clothing with a low-level monitoring instrument (e.g., G-M survey meter) for contamination after each procedure or before leaving the area. Monitor gloves, apparatus and work surfaces after the work with radioactive material is completed. Decontaminate if necessary.
 15. Always transport radioactive material in shielded containers.
 16. Use a fume hood in all cases when radioactive material could be lost by evaporation, dusting, spraying or spattering causing airborne droplets or particles.
 17. When wearing rubber gloves in the handling of radioisotopes, do not touch light switches,
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phones or equipment to avoid possible cross contamination.

18. Always work on a surface covered with absorbent material to catch accidental spills. Survey and remove contaminated absorbent paper at the end of the procedure, and dispose of it as radioactive.
19. Do not put uncovered or unsealed samples in radiation counting devices to avoid cross-contamination.
20. Animals containing radioactive material should be housed in a facility approved by the Radiation Safety Office.
21. Dispose of radioactive waste only in specially designated receptacles.