A. Purpose

This policy establishes safe work practices for the use of radiopharmaceuticals for medical and research imaging studies. They are designed to reduce the risk of a significant contamination event or the accidental inhalation or ingestion of radioactive materials (RAM) and reduce radiation exposure. Adherence to these practices will help to achieve and maintain radiation exposures As Low As Reasonably Achievable (ALARA).

B. Applicability/Scope

This policy applies to all areas, laboratories, and facilities where radiopharmaceuticals are used or stored that are under the cognizance of Columbia University Radiation Safety Program. This includes, but is not limited to:

- Columbia University Medical Center
- New York Presbyterian Hospital
- Allen Hospital

C. Definitions

RAM – radioactive materials

D. Procedures

1. Wear laboratory coats or other protective clothing at all times in areas where radioactive materials are used.
2. Wear disposable gloves at all times when handling radioactive materials.
3. Either after each procedure or before leaving the area, monitor hands and feet for contamination in a low-background area using an appropriate survey instrument.
4. 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 this case, other protective methods, such as remote delivery of the dose should be considered.
5. Do not eat, store food, drink, smoke, or apply cosmetics in any area where licensed material is stored or used.
6. Do not bring anything you intend to eat, drink, smoke or apply as a cosmetic into an area where RAM is stored or used.
7. Wear personnel monitoring devices, if required, at all times in areas where radioactive materials are used or stored. These devices shall be worn as prescribed by the Radiation Safety Officer. When not being worn to monitor occupational exposures, personnel monitoring devices should be stored in the workplace in a designated low-background area.
8. Wear personnel monitoring devices, if required, when handling radioactive material.
9. Dispose of radioactive waste only in designated, labeled, and properly shielded receptacles.
10. Never pipette by mouth.
12. Daily survey with a radiation detection survey meter all areas where RAM is used (SOP 7.521 Radiation Survey in Clinical Areas).
13. Store radioactive solutions in shielded containers that are clearly labeled.
14. Radiopharmaceuticals in multi-dose diagnostic and therapy vials must be properly labeled.
15. Syringes and unit dosages must be labeled. Mark the label with the radionuclide, the activity, the date for which the activity is estimated, and the kind of materials (i.e., radiopharmaceutical). To avoid mistaking patient dosages, label the syringe with the type of study and the patient’s name.
16. For prepared dosages, assay each patient dosage in the dose calibrator before administering it.
17. Do not use a dosage if it does not fall within the prescribed dosage range or if it varies more than ±10% from the prescribed dosage, except as approved by an Authorized User.
18. Check the patient’s name and identification number and the prescribed radionuclide, chemical form, and dosage before administering. If the prescribed dosage requires a Written Directive, the patient’s identity must be verified and the administration must be in accordance with the Written Directive.
19. Check that the physician ordering administration of the radiopharmaceutical is an authorized user. A list of authorized users is posted on the Radiation Safety web site.
20. Always keep flood sources, syringes, waste, and other radioactive material in shielded containers.
21. Secure all licensed material when not under constant surveillance and immediate control.

E. Responsibilities

It is the responsibility of supervisors and personnel in areas where radiopharmaceuticals are used or stored to read, understand and adhere to these procedures.

Radiation Safety personnel will audit compliance with this policy during routine inspections.

F. Emergency contact

Radiation Safety: 212-305-0303

CUMC Public Safety: 212-305-8100

NYP Security 212-305-2222

G. Medical Surveillance

N/A

H. Recordkeeping

N/A
I. Appendices

N/A

J. Forms

N/A

K. References

SOP 7.521 Radiation Survey in Clinical Areas

L. Acknowledgements (optional)