Name of Policy: Radioactive material disposal THE UNIVERSITY OF TOLEDO **Policy Number:** 3364-135-111 MEDICAL CENTER **Department:** Radiology **Approving Officer:** Chief Operating Officer - UTMC Chairman & Professor, Radiology **Responsible Agent: Effective Date:** 5/1/2023 Scope: Radiology Initial Effective Date: 9/14/2005 New policy proposal Minor/technical revision of existing policy

Reaffirmation of existing policy

## (A) Policy Statement

Major revision of existing policy

Only licensed Nuclear Medicine Technologists or designated Authorized Users, as determined by Radiation Safety, are authorized to dispose of radioactive materials (RAM), in accordance with the rules and regulations from the Ohio Department of Health (ODH), the United States Department of Transportation (DOT), and the Radiation Safety office.

## (B) Purpose of Policy

To ensure that proper radiation safety procedures are followed, in accordance with applicable state and federal regulations, to mitigate unnecessary radiation exposure to staff, patients, visitors, and the environment.

## (C) Procedure

- 1. The Nuclear Medicine Hot Lab room 1230, in the UTMC Main Hospital, and the PET/CT Hot Lab Room 1070D, in the Dana Cancer Center, where radioactive materials and waste are present will be locked and secured at all times, to prevent unauthorized access.
- 2. The designated hot labs are the only locations authorized to store RAM waste from nuclear medicine procedures. Waste containers that occupy too much space may be removed by the Radiation Safety office and stored in the basement RAM waste storage rooms.
- 3. Items contaminated with RAM will be shielded and stored appropriately, dependent upon on the radiation properties of the radioisotope(s), and the level of radioactivity present. All radiation symbols must be defaced prior to disposal. RAM waste items may only be disposed after readings document that radiation levels do not exceed background measurements.
- 4. All contaminated needles and other sharps items used in the preparation and administration of radiopharmaceuticals will be placed in shielded biohazard sharps containers. Contaminated non-sharps items (e.g., gloves, bandages, absorbent pads, etc.) will be stored in the hot lab for decay and disposal. Once RAM sharps containers are <sup>3</sup>/<sub>4</sub> full, the Radiation Safety office will be contacted to remove the container for decay-in-storage (DIS) and replace the container with a new one.

- 5. All shipping cases containing RAM, must comply with applicable state and federal rules and regulatory limits of activity for shipping and transporting RAM. Unused routine (non-PET) radiopharmaceutical unit doses will be returned to the radiopharmacy of origin. Unused PET radiopharmaceuticals will be placed in shielded containers for decay in the hot lab and only the empty cases will be sent back to the PET radiopharmacy of origin. At no time will RAM be disposed of in the sink or sanitary sewer system.
- 6. All shipping cases and containers will be wipe tested for removable contamination and results must be under department action levels. Contaminated items must be either decontaminated or stored in the hot lab to decay, until wipe test results are below department action levels.
- 7. All survey, wipe testing, and waste logs must be properly documented and maintained for inspection. All survey, wipe testing, and RAM waste logs must be kept and maintained for a minimum of three (3) years, per ODH regulations.
- 8. All packages to be shipped will be surveyed with a properly calibrated GM meter at the surface and at one (1) meter and recorded. Survey readings and radionuclide quantities contained in the package must not exceed DOT regulatory limits for the type of package being shipped.
- 9. RAM sealed sources being disposed will be wipe tested, and the wipe results must not exceed 5nCi.

Approved by:		Review/Revision Date: 5/29/2008 5/20/2011 5/19/2014 5/1/2017 5/1/2020
Haitham Elsamaloty, MD Chairman & Professor, Radiology	Date	5/1/2023
Ryan Landis, BSRT, (R) (CT) Director, Radiology	Date	
Review/Revision Completed By: Haitham Elsamaloty, MD  Policies Superseded by This Policy: R-027		Next Review Date: 5/1/2026