RUTGERS UNIVERSITY	CMR STANDARD OPERATING PROCEDURE	
TITLE: Rad Disk™ Use with Gammacell Irradiators		
SOP Category: Veterinary	**CMR SOP #: 7.18**	**Page: 1 of 2**
Effective Date: 03/05/2024	**Approval: David Reimer, DVM** DR	
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SCOPE: This SOP applies to all Animal Care Staff (ACS), ACS Supervisors (ACSS) Veterinary Staff (VS), and Research Staff members (RS) at the Rutgers University facilities.

OBJECTIVE: This SOP is to provide instructions on proper use and sanitation of the Rad Disk™. Used as directed, the Rad Disk™ provided containment and prevents contamination of rodents during the irradiation process, even when the irradiator is located outside of the animal rooms or facility.

Note: Rad Disk™ cages are for use in Gammacell Irradiators and are to be purchased and maintained by each individual research lab. Rad Disk™ are available through Braintree Scientific. SKU: IRD-P M

DEFINITIONS:

ATS – Animal Transfer Station
BSC – Biosafety Cabinet

PROCEDURES

Product Information: The Gammacell® Rad Disk™ is a pie-shaped cage constructed of polycarbonate components and one nylon fastener (Figure 1). The steam autoclavable, medical grade polycarbonate construction and filter-protected sterile interior mitigate attenuation of gamma radiation and allow for germ-free transport from cage to irradiator and return, using micro-isolation techniques described herein. The filters are triple-layered and are protected from the cage interior by a nylon screen. The filters and the screen are also autoclavable and installed in place on the cage.

Directions for Use:

Each disk is sanitized, bagged, and autoclaved by the RS before each use.

1. Sterilized disks are transported to the animal housing room by RS.
2. Disk are removed from bags and are opened under a running ATS or BSC in the animal room.
3. Mice are loaded into the disk using aseptic technique and the lid is secured
4. Mouse loaded disk is moved into the irradiator room.

5. Mice are irradiated as described in IACUC-approved protocol.
6. The exterior of the Disk is sprayed with available disinfectants like chlorine dioxide (MB-10 or Clidox-S) or Peroxigard before re-entering the suite of origin. The entire surface (including the bottom) should be damp.
7. Disk containing mice are transported to animal housing room.
8. Using Aseptic technique within the ATS or BSC, mice are transferred from disk back into their original or clean cages.
9. The disk interior is sprayed with chlorine dioxide or Peroxigard and wiped clean.
10. Steps 3-9 are repeated as needed.
11. When irradiation session is complete, disks are to be cleaned sanitized and sterilized by RS.

Sanitation:

- All units may be hand washed and sanitized. Lifespan of the Disk can be extended by cleaning the cage with water only before autoclaving (if permissible by the facility SOP).
- If liquid sterilants such as chlorine dioxide are used on the cages, they should be thoroughly rinsed with water as soon as practical. These chemicals cloud the polycarbonates surfaces and can reduce the lifespan of the cages by accelerating brittleness of the plastic. Direct wetting of the filter should be avoided.
- Units are steam autoclave capable at 250 degrees F, 15 psi for 20 minutes.
- When cages are used as directed, the lifespan should be approximately two years depending on the frequency of autoclaving and irradiation.

Figure 1. Exterior and Interior of Gammacell® Rad Disk