

Policies and Procedures

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1. BACKGROUND

ARF Personnel are responsible for all routine maintenance of the ARF, which includes cleaning and polishing floors, managing the storage areas, cleaning restrooms and offices, laundering uniforms, and any other tasks that do not require intervention by Creighton University Facilities Management.

2. SANITATION

2.1. Frequency of Contact and Non-Contact Bedding Changes:

- 2.1.1. **Rodent Polycarbonate Shoe Box Cages (Static Microisolator Caging)** – Contact bedding in static microisolator caging is changed twice weekly unless otherwise requested by the Principal Investigator or required by the nature of the protocol (for example, diabetic animals).
- 2.1.2. **Rodent Individually-Ventilated Caging Systems** – Contact bedding in mice and hamster caging is changed weekly unless otherwise requested by the Principal Investigator or required by the nature of the protocol (for example, diabetic animals).
- 2.1.3. **Rodent Suspended Cages** – Non-contact bedding excreta pans and pan liners are changed twice weekly unless otherwise requested by the Principal Investigator.
- 2.1.4. **Guinea Pig Cages** – Contact bedding in guinea pig cages are changed twice weekly unless otherwise requested by the Principal Investigator.
- 2.1.5. **Rabbit Cage Pans** – Non-contact bedding excreta pans and pan liners are changed twice each week unless otherwise requested by the Principal Investigator.
- 2.1.6. **Dog and Swine Pens** – Pens are hosed daily including weekends and holidays.
- 2.1.7. **Goat Pens/Room** – Fecal material is removed from contact bedding daily.

- 2.2. **Dirty Cage/Soiled Bedding Locations** – After soiled cages are replaced and excreta pans are removed from the animal cages, the cages/pans are transported to the dirty cage processing area adjacent to the cage washer. The soiled bedding is emptied into a HEPA-filtered bedding dump station. When potentially infectious agents are present (either as

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part of the experimental design or due to infection of the colony), cages are autoclaved prior to emptying to inactivate any infectious agents.

2.3. Cleaning and Disinfection of Primary Enclosures – Washing/Sanitizing Frequency:

- 2.3.1. **Rodent Polycarbonate Shoe Box Cages (Static Microisolator Caging) –** Mouse, rat, guinea pig, hamster, and gerbil caging is changed and sanitized twice weekly unless otherwise requested by the Principal Investigator or required by the nature of the protocol (for example, diabetic animals). Hamster caging is sprayed with a 10% bleach solution prior to transport to the dirty cage processing area.
- 2.3.2. **Rodent Individually-Ventilated Caging Systems (Solid Bottom Caging) –** Mouse caging is changed and sanitized weekly unless otherwise requested by the Principal Investigator or required by the nature of the protocol (for example, diabetic animals).
- 2.3.3. **Suspended Wire Bottom/Slotted Floors –** Rabbit caging is changed and sanitized on a weekly basis. Rat suspended caging is changed and sanitized at least every two weeks.
- 2.3.4. **Cage Tops –** All cage tops, including wire-bar lids and filter tops, and feeders are changed at least once every two weeks.
- 2.3.5. **Cage Racks and Shelves –** All mobile cage racks and shelves are sanitized through the cage washer at least quarterly.
- 2.3.6. **Cage Pans Under Suspended Cages –** Excreta pans for all wire bottom caging is changed and sanitized twice each week at the time of litter or pan liner change.
- 2.3.7. **Playpens, Floor Pens, Stalls, etc. –** All dog and swine runs are sanitized daily including weekends and holidays. Goat pens are disinfected at least three times each week.
- 2.3.8. **Cage Washing/Sanitizing Procedures –** The ARF utilizes two cage washers, one cage/rack washer and one tunnel washer. The cage/rack washer is programmed to maintain a wash cycle of five minutes, followed by a guaranteed 180°F rinse cycle for three minutes. Steris Corporation is under contract to provide preventative maintenance services for this cage washer. The tunnel washer is also programmed for a 180°F-rinse cycle. Sterile caging set-ups (cage with bedding, nestlet, feed, wire bar lid, and filter top) and water bottles are provided. Getinge

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Corporation is under contract to provide preventative maintenance services for the tunnel washer and the autoclave.

2.4. Cleaning and Disinfection of Secondary Enclosures:

- 2.4.1. **Animal Room Cleaning Frequency, Procedures, Methods and Agents** – Animal room floors are swept and mopped on cage change days, or more often if necessary. All small animal rooms are cleaned and sanitized at least every three months or as the rooms become empty. The rooms are washed with a high-pressure sprayer, including walls, ceilings, and floors. The floors of rooms containing large animals housed in pens or runs are cleaned of excreta and washed and disinfected daily.
- 2.4.2. **Corridor and Support Area Cleaning** – The corridors, dirty cage processing area, and receiving area are swept and mopped daily. Procedure rooms are swept and mopped after each use or, at a minimum, weekly. The feed and bedding storage room is mopped weekly. Other support areas are cleaned monthly or more often if needed. Animal rooms are stripped, scrubbed, and sealed as they become available. The Cage Wash area is hosed daily and cleaned with a mechanical scrubber at least monthly.
- 2.4.3. **Implements** – Mop heads are sanitized every two weeks or more frequently if needed. Mop buckets are rinsed after each use and placed in the cage washer every two weeks or more frequently if needed.
- 2.4.4. **Separation of Cleaning Implements by Room** – Cleaning implements are not shared between animal rooms. Each animal room has dedicated cleaning equipment, including a broom, dustpan, mop, and mop bucket.

2.5. Sanitation of Cage Equipment:

- 2.5.1. **Procedures and Frequency for Feeders** – Wire bar lids, which serve as feeders in shoebox caging, and hanging cage feeders from suspended rat caging are changed and sanitized in the cage washer every two weeks. J-type hanging feeders associated with guinea pig and rabbit caging are changed and sanitized in the cage washer weekly. Other types of feeders, such as bowls and feed pans, are washed daily and sanitized weekly.

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2.5.2. **Procedures and Frequency for Watering Devices** – Water bottles are changed and sanitized weekly. Bottles and sipper tubes are sanitized in the cage washer. Water bowls and troughs are washed daily and sanitized weekly.

2.5.3. **Procedures and Frequency for Enrichment Devices** – Enrichment devices, including Nylabones, balls, lids, and toys, are changed and sanitized weekly or more often if the need arises.

2.6. **Sanitation of Transport Cages, Equipment, and Vehicles** – Cages and portable kennels used for transporting large animals to the surgical suite are sanitized in the cage washer after each use. ARF carts designated for transporting caging, feed, and bedding between animal rooms and both clean and dirty cage processing areas are sanitized after each use. In addition, the ARF van is sanitized after every use.

2.7. Cage Sanitation Monitoring

The proper function of the cage washer, as determined by monitoring the water temperature of the final rinse cycle, is used to assess its effectiveness. Indicator strips allow for immediate visual verification that the critical final temperature (180°F) is met.

Cage sterilization is monitored by several means. Each load is monitored using physical indicators – both a Castle® control card and a steam sterilization integrator. Integrators provide immediate visual indication that critical parameters for sterilization have been met, including steam pressure, temperature, and time. The printer tape is examined at the completion of each load and verified to have reached the appropriate temperature for the appropriate time. Furthermore, Castle biological indicator test, ampules containing both *Bacillus stearothermophilus* and *Bacillus subtilis var. niger* spores, is run weekly. A Castle Sterilizer Mechanical Air Removal Test Pack ® (S.M.A.R.T. Pack), designed to produce the challenge that is presented by the BOWIE and DICK towel pack, is also run on a weekly basis.

Periodically, the ARF Manager or ARF Personnel will perform microbiological monitoring to ensure appropriate sanitation and disinfection of the ARF utilizing RODAC (Replicate Organism Detection and Counting) plates. Within 12 hours of sanitation, the surface of the plate will be pressed against the sample surface. The plate is marked with the source of the sample and the plate incubated at 37°C for 24 hours. Colonies are counted and plates disposed of as biohazardous waste.

Interpretation of the results is as follows:

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- 0-5 colonies: excellent;
- 6-15 colonies: good
- 16-30 colonies: borderline
- 31-50 colonies: poor
- >50 colonies: unacceptable

3. WASTE DISPOSAL METHODS

- 3.1. **Soiled Bedding and Refuse** – All excreta from dogs, swine, and goats are either flushed into the city sewage system daily or disposed of in plastic bags into the dumpster. Conventional waste from small animal caging is transported immediately to the dirty cage processing area, where it is emptied into a HEPA-filtered bedding dump station. **Caging and bedding may be autoclaved prior to dumping in special circumstances when determined to be potentially infectious to either animals or humans.** The dump station's receptacle consists of a 30-gallon Rubbermaid container lined with a heavy-duty plastic bag. The bags are filled to approximately 30-40 lbs then tied off and placed in a Rubbermaid trash cart. As the trash cart is filled (minimum of once per day), it is taken to the dock area where it is emptied into the dumpster. A facility contractor transports the dumpster to a sanitary landfill.
- 3.2. **Animal Carcasses** – All animal carcasses are placed into a plastic or Ziploc bag and placed inside a lined biohazard container that is stored in dedicated carcass freezers in the ARF. All containers must be labeled with the Principal Investigator's name, room number where animals originated, number of animals placed in container, and date of euthanasia. Stericycle Inc. of Lincoln, Nebraska, Creighton University's contracted biohazard waste disposal firm, picks up the containers monthly for incineration, or more often if needed.
- 3.3. **Hazardous Wastes** – All potentially infectious waste is placed into a biohazard container lined with a red biohazard bag. When the container is filled, it is transported to a dedicated storage area within the ARF prior to removal by a contracted biohazard waste disposal firm or by specific arrangement made by Creighton University's Environmental Health Services. All potentially biohazardous waste (e.g., waste containing carcinogens, etc.) is handled on a case-by-case basis in consultation with Creighton University Environmental Health Services.

4. PEST CONTROL

Creighton University has a pest and vermin control program maintained by a commercial pest control company, Presto-X. Snap traps, insect sticky traps, and insect light traps are used to

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monitor for pests and vermin. Bait gel is used throughout the ARF for control of roaches. ARF personnel report any sightings of pests to the ARF Manager and Facilities Management who, in turn, contact Presto-X.