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**1. PURPOSE**

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This Standard Operating Procedure (SOP) describes the basic procedures for routine care and husbandry of rodents.

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**2. RESPONSIBILITY**

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Animal care staff, facility manager.

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**3. MATERIALS**

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- 3.1. Cage cards
- 3.2. Rodent diet
- 3.3. Clean or sterilized water bottles or valves
- 3.4. Clean or sterilized cages with bedding, micro-barrier tops, and wire-bar lids
- 3.5. Clean or sterilized environmental enrichment devices
- 3.6. Disinfecting solution

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**4. PROCEDURES**

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- 4.1. Observation of animals and environment:
  - 4.1.1. Observe all rodent cages daily for illness, injury, and general condition, and to ensure they have sufficient food and water.
  - 4.1.2. Report any health or behavioral abnormalities to veterinary care staff.
  - 4.1.3. Observe environmental conditions at room and caging level (temperature, humidity, light, noise, hazard, etc.). Report any abnormal environmental conditions.
  - 4.1.4. Carcasses of animals found dead should be removed from cages promptly, identified, and placed in the freezer.
  - 4.1.5. Maintain a daily log of observations, environmental parameters, husbandry, and maintenance procedures.
- 4.2. Emergency and holiday care:
  - 4.2.1. Provide routine care and husbandry for all rodents on weekends and holidays.
- 4.3. Animal identification methods:
  - 4.3.1. Identify all cages with a cage card.
  - 4.3.2. Include, at a minimum, the following information:
    - 4.3.2.1. Investigator
    - 4.3.2.2. Protocol number
    - 4.3.2.3. Species
    - 4.3.2.4. Strain
    - 4.3.2.5. Source
    - 4.3.2.6. Sex
    - 4.3.2.7. Number of animals in the cage
  - 4.3.3. Identify individual animals as needed in accordance with Rodent Identification SOP.

- 4.4. Food and water:
  - 4.4.1. Feed animals to meet current Canadian Council on Animal Care (CCAC) recommendations for rodent nutrition.
  - 4.4.2. Food and water is provided *ad libitum* unless otherwise specified in a approved in an Animal Use Protocol (AUP).
  - 4.4.3. Food storage:
    - 4.4.3.1. Store feed off the floor on plastic or metal pallets or shelves, allowing sufficient space to visualize the floor under food storage, and, where possible, 4-6 inches away from walls, in a vermin-proof storeroom.
    - 4.4.3.2. Store open feed bags in leak-proof containers with tightly fitting lids.
    - 4.4.3.3. Store at room temperature and avoid extremes in humidity. Stack feed in a manner that allows easy reading of the milling date. Consult the feed manufacturer to determine the expiration date.
  - 4.4.4. Check automatic watering devices daily for proper operation and cleanliness.
  - 4.4.5. Replace empty bottles with clean ones rather than refilling them.
  - 4.4.6. Monitor water quality routinely to ensure that it is free of contaminants.
- 4.5. Breeding program:
  - 4.5.1. Refer to Breeding Colony Management SOPs.
- 4.6. Social and environmental enrichment:
  - 4.6.1. Group-house rodents whenever possible.
  - 4.6.2. Provide environmental enrichment devices for all rodents. Refer to Environmental Enrichment SOPs.
- 4.7. Animal import procedures:
  - 4.7.1. Quarantine or rederive rodents from unapproved vendors depending on the status of both the vendor and the facility where they will be housed. The veterinarian will determine the requirements for each shipment. Refer to Rodent Import SOP.
  - 4.7.2. Quarantine or rederivation of rodents from approved commercial vendors is not required.
- 4.8. Euthanasia and disposal of dead animals:
  - 4.8.1. Euthanize rodents as per Rodent Euthanasia SOP.
  - 4.8.2. Ensure that euthanasia is conducted by trained and experienced staff.
  - 4.8.3. Place carcasses in the appropriate receptacle for future disposal by incineration.
- 4.9. Vermin control
  - 4.9.1. Refer to Vermin Control Program SOP.
- 4.10. Environment and environmental control:
  - 4.10.1. Maintain room temperatures between 18 and 24° C.
  - 4.10.2. Maintain relative humidity between 30% and 70%.
  - 4.10.3. Maintain a daily log of room temperature and humidity.
- 4.11. Bedding:
  - 4.11.1. Use wood chips, shredded paper products, or chopped corn cobs as bedding materials. Cedar shavings are not recommended due to the harmful presence of aromatic hydrocarbons.
  - 4.11.2. Use enough bedding to keep the rodents clean and dry until the next scheduled change.
- 4.12. Nesting material:
  - 4.12.1. Nesting material addresses behavioral needs of rodents and provides comfort for the animals.
  - 4.12.2. Provide nesting material (e.g., loose paper strands such as Enviro-Dri®, NESTLET®, corn husk, shredded aspen) in every cage, unless specifically described in a protocol and approved by the FACC.

- 4.12.3. During cage change, transfer a portion of the used nesting material to the clean cage to maintain scent markings in the new cage, add additional clean nesting material as needed.
- 4.13. Lighting:
  - 4.13.1. Provide a regular diurnal lighting cycle.
  - 4.13.2. Lights are controlled by timers set at a photoperiod of 12 to 14 hours of light. Check the timer performance routinely.
- 4.14. Space requirements:
  - 4.14.1. Provide cages that are appropriate in size for the number of rodents housed in them. Refer to CCAC recommendations.
- 4.15. Cleaning of cages:
  - 4.15.1. Change cages at a frequency that ensures clean, dry bedding is present in the living and sleeping area of the cage, away from the soiled areas, and that maintains the air quality inside the cage within acceptable parameters as per CCAC recommendations.
  - 4.15.2. Change cages at a frequency which promotes cleanliness without disturbing the cage environment unnecessarily to reduce the stress associated with cage cleaning and the potential impact on study data.
  - 4.15.3. Frequency of cage changing will vary depending on cage size, caging system, type and number of occupants, type and amount of bedding, number of air changes per hour, etc.
    - 4.15.3.1. It is recommended to change ventilated cage bottoms at least every two weeks.
    - 4.15.3.2. It is recommended to change static cage bottoms at least once every week.
    - 4.15.3.3. Change cage bottoms containing wet or soiled bedding.
  - 4.15.4. It is recommended to change cage components (grill, lid, water valve) at least every 4 weeks.
- 4.16. Cleaning and sanitation of housing room and equipment:
  - 4.16.1. Weekly:
    - 4.16.1.1. Flush the floor drains.
    - 4.16.1.2. Change/clean prefilters in changing stations/biosafety cabinets
    - 4.16.1.3. Check light timers.
    - 4.16.1.4. Mop floors.
    - 4.16.1.5. Wipe down all surfaces such as sinks, doors, doorjambes and doorknobs, windows, cart tops, shelves, etc. with the disinfectant solution.
  - 4.16.2. Monthly:
    - 4.16.2.1. Clean changing stations/biosafety cabinets: remove filters, vacuum, and drain.
    - 4.16.2.2. Clean room exhaust grills.
  - 4.16.3. Annually:
    - 4.16.3.1. Wash racks.
- 4.17. Transportation:
  - 4.17.1. Transport rodents as per Animal Transport and Use Outside of Animal Facilities SOP.
- 4.18. Waste Management:
  - 4.18.1. Deposit non-regulated or non-infectious medical waste and soiled materials in dumpsters.
  - 4.18.2. Regulated or infectious Medical Waste is processed by McGill University's Waste Management program.

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## 5. SAFETY

- 5.1. Always wear required personal protective equipment.
- 5.2. Refer to Animal Related Injury SOP.

5.3. Preparation of disinfecting solution:

- 5.3.1. Wear personal protective equipment when preparing and using disinfectant solution as per manufacturer's recommendations.
- 5.3.2. Dilute according to manufacturer's recommendation.
- 5.3.3. Clean surfaces prior to disinfection to remove any organic material.
- 5.3.4. Apply disinfectant and allow for adequate contact time.

**6. REFERENCES**

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- 6.1. Canadian Council on Animal Care ([CCAC](#)) guidelines: [Mice](#), August 2019.
- 6.2. Canadian Council on Animal Care ([CCAC](#)) guidelines: [Rats](#), February 2020.

**SOP REVISION HISTORY**

DATE	NEW VERSION
2024.05.29	3.2. Rodent diet ( <del>within 6 months of the milling date</del> )
2024.05.29	4.4.3.3. Store at room temperature and avoid extremes in humidity. <del>Use feed within 6 months of milling date.</del> Stack feed in a manner that allows easy reading of the milling date. <b>Consult the feed manufacturer to determine the expiration date.</b>
2024.05.29	<b>4.12. Nesting material:</b> 4.12.1. Nesting material addresses behavioral needs of rodents and provides comfort for the animals. 4.12.2. Provide nesting material (e.g., loose paper strands such as Enviro-Dri <sup>®</sup> , NESTLET <sup>®</sup> , corn husk, shredded aspen) in every cage, unless specifically described in a protocol and approved by the FACC. 4.12.3. During cage change, transfer a portion of the used nesting material to the clean cage to maintain scent markings in the new cage, add additional clean nesting material as needed.
2024.05.29	6.2. Canadian Council on Animal Care (CCAC) guidelines: <a href="#">Rats</a> , February 2020.