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Working

UC Davis - Husbandry Care for Mice [↗](#)

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Mouse Metabolic Phenotyping Centers

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ABSTRACT

Summary:

The purpose of this policy is to outline the minimum standards of care for rodents based on the Animal Welfare Act, the Public Health Service Policy, and the ILAR Guide for the Care and Use of Laboratory Animals. Specific procedures for this program can also be located in MBPVIV-20-105 Daily Observations/Action and MBPVIV-31-101 Changing Mouse Cages. These procedures are to be followed by trained staff responsible for providing husbandry care for the mouse colony at MBP.

EXTERNAL LINK

<https://mmpc.org/shared/document.aspx?id=119&docType=Protocol>

MATERIALS TEXT

Reagent/Material

ILAR Guide
PPE (laboratory coat, shoes/booties and exam gloves)
Polycarbonate cages
Cage lids
Metal Feeders
Cage racks
Water bottles
Rodent chow
Feed Barrel with sealable lid
Bedding (Crinkle bedding and nestlets)
General Waste Barrel with sealable lid
Dust pan and hand brush set
Disinfectant
Temperature Monitoring Apparatus
Animal Room Monitoring Sheet

Daily Tasks

- 1 Daily Tasks – Refer to MBPVIV-20-105 Daily Observations/Action for further details

Note: daily tasks must be performed every day 365 days a year 7 days a week including weekends and holidays and should be completed with appropriate PPE in place (minimum of laboratory coat and gloves)

1.1 Provide nutritionally adequate ad libitum feed, unless approved otherwise in animal care and use Protocol. Food must be uncontaminated, fresh and topped off as needed.

1.2 Rodent chow must be used within 6 months of the milling date (Guide, pg. 39) unless manufacturer guidelines document a shorter or

longer expiration date.

1.3 Feed with Vitamin C added must be used within 3 months of milling date unless food is microencapsulated for Vitamin C which may extend the shelf life to 6 months.

1.4 Provide sufficient potable water (AWA section 3.55).

1.5 Observe each animal and check for health concerns.

1.6 Record sick or dead animals in accordance with the Vivarium Procedure for reporting sick or dead animals, using the Veterinary Health Check Request. Refer to MBPVIV-40- 102 Sick, Injured or Dead Mice.

1.7 Change heavily soiled or flooded cages when discovered.

1.8 Keep room clean and organized as needed.

1.9 Record minimum and maximum temperatures, (ideal room temperature range for rodents= 64-79° F Guide, pg. 32).

1.10 Check the cage card for pertinent information daily; update as needed.

1.11 Record completion of daily room tasks, initial and date on the Animal Room Monitoring Sheet. Record room temperature (see 4.9), number of animals, sick animals, dead animals, and animal care tasks completed.

Weekly Procedure

2 Weekly Tasks (see MBPVIV-31-101 for cage changing procedures)

2.1 Top off food.

2.2 Provide clean water/bottles at least with every cage change.

2.3 Wipe down racks.

2.4 Check cages.

Biweekly Procedure

3 Biweekly Tasks

Note: not to exceed 14 days

3.1 Change cages.

3.2 Clean and/or change environmental enrichment.

Monthly Procedure

4 Monthly Tasks

Note: At least once every 30 days

4.1 Hood filters cleaned/changed as needed.

As Needed Procedure:

5 5.1 Disinfect waste barrels and lids.

5.2 Change lids, feeders and duplex dividers.

Quarterly Procedure:

6 Quarterly Tasks

Note: At least once every 180 days

6.1 Disinfect the animal room (includes walls, floors and ceilings).

6.2 Disinfect feed barrels and lids, replaced feed liner.

6.3 Submit sentinels.

General Procedure:

7 7.1 Facilities

7.1.1 Refer to Physical Plant and Facilities Maintenance policy and MBPVIV-20-108 Facility Management 2nd Street Vivarium.

7.1.2 Temperature alarms must be installed in animal rooms housing USDA covered species.

7.1.3 Exceptions to this policy must be on file with the IACUC.

7.1.4 Minimum of 10-15 fresh room air exchanges (Guide, pg. 32).

7.1.5 "Floors should be moisture-resistant, nonabsorbent, impact-resistant, and relatively smooth..."(Guide, pg. 74).

7.2 Caging

7.2.1 Recommended floor space per rodent (see chart below Guide, pg. 27).

7.2.2 All animals at MBP are to be housed no more than 5 adult mice per cage.

7.2.2.1 As approved in our protocol, superovulated mice may be housed 8-10 per cage.

7.2.3 Cages must be in good condition and escape-proof.

7.2.4 Cages with cracks which may cause injury to the animals must be discarded.

7.2.5 For duplex housed mice, a maximum of 2 animals per side is allowed.

Weight of Animal	Floor Area/Animal (inches squared)	Height (inches)
<10 grams	6	5
Up to 15 grams	8	5
Up to 25 grams	12	5
>25 grams	>15	5

Mouse Cage Size Requirements:

7.3 Identification

7.3.1 Rodents can be individually identified in addition to having an appropriately labeled cage card (Refer to Identification of Animals policy).

7.3.2 Appropriate identification for mice includes ear tag, ear notch, tail/toe tattoo, microchip, toe clipping.

7.4 Environmental Enrichment

7.4.1 Refer to Environmental Enrichment policy.

7.4.2 Examples of rodent enrichments that promote species-typical behaviors include pair or group housing, shelters (tubes, tunnels, igloos, and houses), nesting materials, gnawing and foraging materials, and running wheels or other structures to increase locomotion.

7.4.3 Rodents that are singly housed must be provided with another form of enrichment.

7.4.4 Devices used for environmental enrichment must be easily sanitized or disposed of when cages are changed.

7.4.5 Devices must be checked regularly for wear and discarded if they pose a safety hazard.

7.5 Euthanasia Refer to MBPVIV-40-101 Rodent Euthanasia and MBPVIV-60-106 Carbon Dioxide Compressed Gas Cylinder.

7.6 Task Summary

Daily <ul style="list-style-type: none"> • Animal health checks (report sick and dead animals) • Daily food and water checks (top off as needed) • Record room temperature (minimum and maximum) • Complete Animal Area Monitoring Sheet
Weekly <ul style="list-style-type: none"> • Cage Checks • Provide fresh food ad lib • Provide clean water ad lib
Bi-Weekly <ul style="list-style-type: none"> • Change the polycarbonate cages and water bottles • Replenish/change environmental enrichment (more often as needed)
Monthly <ul style="list-style-type: none"> • Disinfect hoods and hood filters
As Needed <ul style="list-style-type: none"> • Disinfect waste barrels and lids • Change lids, feeders and duplex dividers
Quarterly <ul style="list-style-type: none"> • Disinfect feed barrels and lids, replace feed liner • Submit sentinels • Wipe/sanitize walls, floors and ceiling



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