



Animal Facility SOP 20.2

Rodent Husbandry and Training for Animal Facility Personnel

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Purpose:

To describe in detail the procedures required for working with rodents in the Morgan State University animal facility to ensure the health and integrity of the animals within.

Personnel Responsibilities:

Investigators: To understand and follow the procedures described in this document.

Animal Facility Manager: To provide explicit training on these procedures and assure that new employees understand how and why these procedures are necessary to follow.

Materials and Information Required:

Equipment:

- Biosafety Cabinet: To supply clean air while animals are being transferred to a clean cage.
- Water Bottle Baskets: Used to wash, and store water bottles. Bottles are filled with reverse osmosis water from the filling station in room 116 E Clean side of the cage wash area.
- Carts: Used to transport clean or dirty cages within or out of a suite, or to carts in hallways or to euthanasia stations. Carts must be sprayed with PreEmpt or other approved disinfectant before and after holding dirty or clean caging or before it re-enters an animal room. Carts will also be sprayed down if taken outside to the loading dock area.

- The feed in containers in the animal rooms must be labeled with the type of feed and milling date. Each bin is sanitized between lot numbers. This same feed is used for topping off cages that may be low on feed prior to the changing schedule date.
- Feed Scoop- must be hung on the inside of the bin top and must not be allowed to lay on top of the feed or anywhere else.
- Fresh supply of water bottles from clean storage and filled using the bottle filling station on the clean side of the cage wash area.
- Disinfectant: An accelerated hydrogen peroxide disinfectant (Pre-empt) is used for cage changing, hood cleaning, room and floor mopping and equipment disinfection.
- Mop and bucket - each room has a dedicated set of cleaning utensils. There will be no use of other cleaning utensils from other rooms.
- Disposable gloves, masks, either a lab coat or scrubs and shoe covers are worn at all times.

Procedures:

Entering the Facility:

- You must have card key access to enter the facility or an escort into the facility who must be present at all times if you are a guest or contractor. All food and beverages must be left at the vestibule at the entryway and are prohibited in the vivarium. You must change into PPE as listed above. Either a provided uniform or street clothes, with a lab coat over them may be used.
- Each suite or animal area has an accessible emergency eyewash and shower station, sink, paper towel dispenser, dedicated mop, mop bucket, broom, dustpan and squeegee.

Procedure for Storage Rooms:

- Maintain room supplies in an orderly fashion and always restock on Mondays or whenever necessary.

- Rooms are to be cleaned daily. Cleaning includes: sweeping, mopping, and wiping down counters, checking sharps containers, removing dirty caging and trash removal. Restocking includes: clean cages, feed in clean containers, nestlets, face masks, hair bonnets, cage card holders, clean water bottles in a basket, and enrichment. Disinfectant spray bottles must be labeled with solution preparation date and content and replenished whenever they are low.

Procedure for Housing Rooms:

- All animal species are housed separately.
- Each room is to be swept and mopped daily using disinfection dispensed from the mixing station in 116 D, dirty side of the cage wash area. Trash is to be removed weekly or as needed. No trash can should be allowed to overflow. It must be emptied into the hallway trash cans for removal or taken out directly.
- Perform a room check to determine the number of cages needed. AM cage checks should be completed in all rooms by 10:00 am. Remove any dead animals and record date, number found dead and initials on the sheet in the room notebook . Critical health issues should be reported immediately to the Lab Manager or Director so that it can be reported to the investigator and the on-call veterinarian. After all cages have been checked, document in the room notebook located in the cabinet for each room.
- Each day, the number of dead animals must be reported to the Laboratory Manager and subtracted from the census total in the room note book in each room as described in SOP 13.1 for dead animal disposal.
- Check all rooms and stock PPE and other items as needed.

Cage changing guidelines that must be followed

- You must wear the appropriate PPE.
- Never stack caging of any kind on the floor
- Do not bring excess caging into the animal room as it can no longer be used once in the room and must be rewashed after removal. Caging whether clean or dirty is never stored in the animal rooms.
- Ensure that there are 2 nestlets (mice) and one bag of nesting (rats) placed in every clean cage prior to starting.

Cage Changing.

Sanitizing Surfaces

- Sanitize the cage changing hood before starting to work by following your disinfecting training procedures: i.e. spray all surfaces and wipe from top to bottom, then do the work surface in the same manner. Spray the outside of the cage. Spray your gloved hands before handling the inside of any cage and each animal.

Preparing the Clean Cage

- Open the clean cage, place the lid upside down.
- To add a water bottle, take one from a basket and place it underneath your hood. Secure the stopper and make sure there is an air pocket in the bottle. Bottles must not be filled completely to the top as the water becomes trapped and the animal will not be able to drink.
- Squeeze the bottle slightly after adding it to the cage to ensure water comes out after changes are completed.
- Under no circumstances are you to fill a water bottle using tap water, or water from the old bottle. Each change requires a fresh, pre-filled bottle from clean storage or from the clean side of the cage wash.
- When adding feed to a cage, add enough feed to come ½ inch below the top of the feed hopper. Do not overfill on to the top of the wire bar lid. During changes completely remove all old feed and dump it into the cage containing dirty bedding and stack with a filter top as a cover. Completely change out all caging with new, clean caging for each cage change.
- Single-housed rodents require additional enrichment such as autoclaved paper towel rolls, egg cart sections or plastic tunnels.

- Set a cage aside to prepare a sentinel cage for each rack. The sentinels will be placed in this cage as these animals are changed last. This cage should be placed at the bottom of the rack after completion of changes

Moving the Animals

- Open the dirty cage, move the animal and close the lid of the clean cage.
- Return clean cage to the rack
- Take a pinch of dirty bedding from the cage and place it in the new sentinel cage. Close the lid of the dirty cage and stack on a separate cart from the clean cages.
- Clean out the hood between each investigator by wiping all interior surfaces with disinfectant as described above and change your gloves.
- Discard ripped or excessively soiled PPE while changing.

Before Starting Your Next Rack:

- Obtain the sentinel cage from the rack and move the sentinel animals into the new sentinel cage that has been loaded with soiled bedding from all the cages on the rack. Close the cage and return it to its rack. Discard the old sentinel cage on the dirty cage cart.
- When changes are completed, make a notation in the animal room notebook to indicate that changes have occurred.

Sick or Dead Animals

- If you see any sick or injured animals, immediately inform the Laboratory Manager and place a red “Vet Check” card on the cage, which is found in a plastic jacket inside the metal cabinet.
- If you see any overcrowded cages, place an “Overcrowded” card on the cage and place the date and your initials on the card. If the cage is severely overcrowded, place the time on the tape as well. Notify the Facility Manager about the overcrowded cages and follow up on the notification.
- If any dead animals are seen, place them in ziploc plastic, resealable bag and label the bag with the following information; room and cage #, investigator’s name and extension, animal identification number, project number and date found. This information must be written clearly and legibly. Animals will be kept for *3 working days in the refrigerator*. The weekend days do not count. After the time period passes, the carcasses will be moved to the freezer in room 116 D, Dirty side of the cage wash area and placed in a box lined with a red, biohazard bag to be picked up by the biohazardous waste company (see SOP 13.1).
- After changes have been completed, check all animals, and wipe down the cage changing hood with disinfectant along with the surrounding areas.
- The room floor must be swept and mopped and the room must be left in a neat and orderly fashion.
- In the afternoon, a final PM health check must be completed in all of the animal rooms.
- Once a month the changing hood must be thoroughly cleaned, disinfected, vacuumed and filters inspected, vacuumed or changed as needed.

Cage Washing procedures

- Dirty caging must be removed promptly from the room to the dirty side of the cage wash area once cage changing in the room is completed. Caging will be scraped using the dumping station, rinsed and placed in the cage washer as appropriate. All caging will be washed or prepped for washing prior to the end of the day. If time does not permit washing the same day, remove dirty bedding and rinse.
- After prepping, dirty caging will be placed on the steel wire rack on the dirty side of the cage wash in an orderly fashion separating wire tops, filter tops, caging and water bottles and bottle tops as appropriate. Water bottles are placed into an empty bottle basket to be washed.
- Rodent caging will be washed separately from Crayfish caging.
- Before loading the cage washer, apply a temperature tape onto a piece of caging. This is retrieved after removal from the clean side of the cage washer and placed on the temperature tape log located on the door of the dirty side of the cage wash area. Any wash that does not reach 180 deg (strip turns black) will be rewashed. This will be noted on the temperature tape log after a successful washing.
- Clean items will be promptly retrieved from the cage washer from the clean side and placed on the metal rack to dry. The floor fan will be turned on to help speed up the drying process.
- After drying, the caging is placed into the clean storage room. No items can be used from this room after 30 days without washing them again prior to use so items should be rotated accordingly.
- Clean off all carts with disinfectant and return them to their original places in the hallway. Be sure to spray the undersides and the wheels.
- Sweep any spilled materials and mop both dirty and clean sides of the cage wash area daily after use.
- Remove all dirty bedding from the animal facility daily by placing it in a dark, plastic trash bag and taking it out to the 2nd floor rear loading dock for disposal in the large dumpster marked for trash.

Census Sheets:

- Animals must be subtracted or added daily using the room census sheet which will include dead animals or live animals either received from quarantine after delivery from a vendor or animals that have been weaned at 21 days. Single cages will not be deducted from the sheet unless animals are transferred from one room to another room or to another project permanently.

Special Instructions:

NEVER attempt to sort or identify animals that may have gotten mixed up. Most of the animals are unique because of their genetic make-up and cannot be distinguished visually. They can only be identified by genotyping. The investigator must be advised of any errors, even if only a potential error, so we can eliminate any doubts regarding the animals in question.

If you accidentally drop a rodent or cage of rodents, secure the animals in a clean cage, place the cage on the bottom of the rack that it came from, identify the cage as having been dropped, and notify the Facility Manager, Director and Principal Investigator.