

# Standard Operating Procedures For Handling Nude Mice

## **Purpose:**

Nude and other immunocompromised mice are at greater risk than conventional mice for the development of infectious disease. Frequently, infectious pathogens are transferred to nude mice by contaminated equipment or exposure to contaminated environments. The procedures described here are implemented to minimize the risk of infectious disease to nude mice.

## **General Procedures:**

1. All equipment and caging is sterilized prior to using with the nude mice. See the "*Preparation of Nude Mouse Caging*" for details.
2. The night prior to manipulating the mice under the laminar flow hood, the hood is sprayed with 70% ethanol with the blower on. After each use, the hood is sprayed with a disinfectant and wiped of all debris and again sprayed with the 70% ethanol.
3. The hood blower is left on at all times. The light is turned off when the hood is not in use.
4. All individuals handling the nude mice must wear a steam sterilized gown, mask, hair bonnet, and sterile gloves. Optimally, two individuals are present during the handling of the mice, one that is designated as the animal handler and maintains sterility, while the other handles the non-sterile items and opens the sterile materials for the handler.
5. It is required that persons reaching into the hood wear a clean long-sleeved gown, lab coat or smock, mask and bonnet and the required gloves to prevent contamination of the sterile interior.
6. Aseptic technique should be used at all times when handling the nude mice. Any objects or surfaces that will come in contact with the mice should have been sterilized by steam, UV radiation, or contact with 70% ethanol for at least 30 minutes.

## **Unpacking Newly Arrived Mice:**

1. Prepare laminar flow hood as previously described. Animal handlers must be prepped, as described above.
2. Shipping labels, health reports, cable ties and animal information are removed and recorded.
3. Shipping containers are sprayed with a chlorine dioxide solution before they are placed in the hood.
4. The designated animal handler opens the sterile food and water under the hood.
5. The non-sterile person opens the cage and shipping box under the hood. Care must be taken by the non-sterile person to avoid contact with the inner surfaces of the hood and the inside of the shipping box and cage.
6. The animal handler then adds food and water to the cage top and removes the mice from the shipping box and places them in the cage. JAG cages are limited to 5 mice per cage; Nalgene cages will accommodate 7 mice per cage; Innovive cages allow 5 mice per cage. The non-sterile person will close the cage and remove it from the hood.
7. The animal handler should re-glove after each shipping container to avoid possible cross contamination of groups of animals in case the shipping container has been damaged.
8. Container number is recorded on the cage card to track origin of the animals in case of illness.
9. Place the water bottle onto the cage BEFORE removing from the hood.
10. Unused water bottles are resealed in the container and will be stored in the room for future use. Unused food is given to FLSC personnel for use in the breeding colony rooms.

11. Mice will undergo a two week acclimation period prior to experimental use.

**Cage changing:**

1. Follow all previous steps for hood preparation, gowning of personnel and cage handling.
2. The designated animal handler should re-glove after every 6-10 cages or if gloves are torn, contaminated or if a cage has ill animals.
3. Any cages with animals appearing sick will be placed at the end of the cage changing order to avoid possible exposure of healthy animals to pathogens or contaminants.
4. The mouse cages are changed at least once weekly or more often, if deemed necessary. JAG and Nalgene cages are sterilized as a complete unit consisting of a bedded cage, cage top with feeder and filter bonnet and will be replaced as a unit weekly. Innovive products come separately as empty cages, feeders, and cage tops. Animals housed in the Innovive caging will require weekly cage changes. Feeders will be reused changing them every 4 weeks and cage bonnets will be reused and changed every 8 weeks unless there is a break in sterility necessitating replacement of the contaminated component.
5. If food and/or water must be added between the scheduled cage changes, it must be done aseptically under the prepared hood.
6. Water bottle preparation and sterilization are the responsibility of the PI. Water is acidified by adding 2 drops of 12M HCl to 8 liters of RO water. Water is sterilized in individual bottles covered with foil. Bottle lids are sterilized separately in an autoclave bag. Innovive water bottles are pre-sterilized and are replaced weekly unless acidified in which case they are changed every other week. To acidify Innovive™ water bottles, place 0.15 ml of 12M HCl into each bottle through the lid opening. Any special diets must be provided by the PI. If diets are not sterilized by the manufacturer, the PI is responsible for autoclaving or sterilization of the food.
7. Food and water are stored in the room with the hood.
8. Gowns are laundered, wrapped and sterilized by FLSC staff. Should an experiment require daily gowning by multiple persons, disposable sterile gowns should be purchased by the PI and stocked in the storage cabinet in the room with the hood.

**Routine Inspection of the Mice:**

1. All animals will be checked daily, including on the weekends and holidays.
2. Examine the mice by viewing them through the cage. The micro-isolator top should not be opened without the permission of the investigator or the Associate Director or the Director of FLSC and NEVER outside the sterile hood.
3. In the event of a problem, the investigator (see the contact list on the door) should be called. Emergencies should also be directed to Dr. Suckow or Kay Stewart.