

Working in a Rodent Barrier Room

 Division of Laboratory
Animal Resources

Working in a Rodent Barrier Room: What is a Barrier?

A system of engineering, equipment, and practices either to keep microbes within an area or prevent their entry into an area.



Working in a Rodent Barrier Room: The Barrier Concept

Can be applied at different levels:

- Entire facility
- Part of a facility
- Room(s)
- Groups of cages
- Single cage

Working in a Rodent Barrier Room: The “Whys”

- ❑ Why Enter a Barrier Room First
- ❑ Why Work Under The Hood
- ❑ Why Open Items Under a Hood
- ❑ Why Irradiated Feed
- ❑ Why Sterile Bedding and Water
- ❑ Why Pre-made Setups

Working in a Rodent Barrier Room: Why “Enter a Barrier Room First”

Animals in DLAR Barrier Rooms are:

- Immunocompromised
- Specific Pathogen Free (SPF)
- Gnotobiotic
- Opportunistic Pathogen

Outside contamination could be detrimental to the animal colony and the research being conducted

Working in a Rodent Barrier Room: Why “Work Under The Hood”

Protect animals from:

- Animals from other health statuses in the room
- Room Environment



Working in a Rodent Barrier Room: Why “Open Items Under a Hood”

- Protect research integrity
- Prevent contamination from the air inside the Room
- Protect staff from potential hazards

Working in a Rodent Barrier Room: Why “Sterile Water & Bedding”

This ensures that unwanted infectious agents are excluded and do not come into contact with the animal via direct contact or ingestion

Working in a Rodent Barrier Room: Why “Irradiated Feed”

- ❑ Require less processing after receipt
- ❑ Not subjected to the effects of heat and temperature that results from autoclaving
- ❑ Not sterile, However bacterial (cells and spores) and fungal loads are reduced to less than 100 bacteria or fungi per gram of feed

Working in a Rodent Barrier Room: Why “Pre-made Autoclaved Setups”

Prevent Contamination By:

- Preventing multiple entries and exits of the Barrier
- Easier accessibility of cages for weaning and cage changes

Working in a Rodent Barrier Room: The “Must”

All rodent work or opening of rodent caging MUST be done under a hood

Always enter barrier room first before entering conventional rodent room

Entering a non-barrier room prior to entering a barrier room will jeopardize not only your animals but the animals of other investigators in the barrier room

Working in a Rodent Barrier Room: The “Must” Cont.

All Items Brought Into The Barrier Room

Must

Be

Opened Under The Hood

Working in a Rodent Barrier Room: Personal Protective Equipment PPE

Putting on Personal Protective Equipment (PPE)

Basic rules to follow when putting on PPE:

- A general rule of thumb is to start at the top and work your way down
- There may be circumstances where you would want to put gloves on first

Working in a Rodent Barrier Room: Personal Protective Equipment (PPE) Investigators

Bouffant Cap (Hair Net)
Disposable Gown
Tyvek® Sleeves
Latex or nitrile Gloves



Working in a Rodent Barrier Room: Basic Rules for Putting on PPE “Hair Bonnet”

- ❑ Head cover, (be sure all of your hair is tucked into your bonnet)
- ❑ Disposable gown, remember the tie goes in the back

Correct



Incorrect



Working in a Rodent Barrier Room: Basic Rules for Putting on PPE “Disposable Gown”



Do NOT wear the gown with the opening in the front.

Working in a Rodent Barrier Room: Basic Rules for Putting on PPE “Tyvek Sleeves and Gloves”

- Tyvek sleeves
- Gloves



Be sure that you have pulled the cuffs of your gloves up over the edges of your sleeves



Brief Discussion about Masks

Masks are no longer required to work in Barrier Rooms.

However, masks can be helpful in other ways.

Surgeon's masks may look “cool”

- Do not offer much allergen protection for the wearer
- They do protect the animals from us, though.



N95 may not look as “cool”

- More efficient mask
- Helps keep allergens at bay



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques

DLAR has several types of hoods within the various facilities

- Laminar air flow change stations
- Class II Biological safety cabinets
- Fume hoods



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Initial Preparation”

Turn on workstation hood fan and light

- Allow to run for several minutes
(about 4-5 at least)



DO NOT Disable
the Alarm

Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Sash Height”

Make sure that the sash is at the correct working height



SASH TOO HIGH

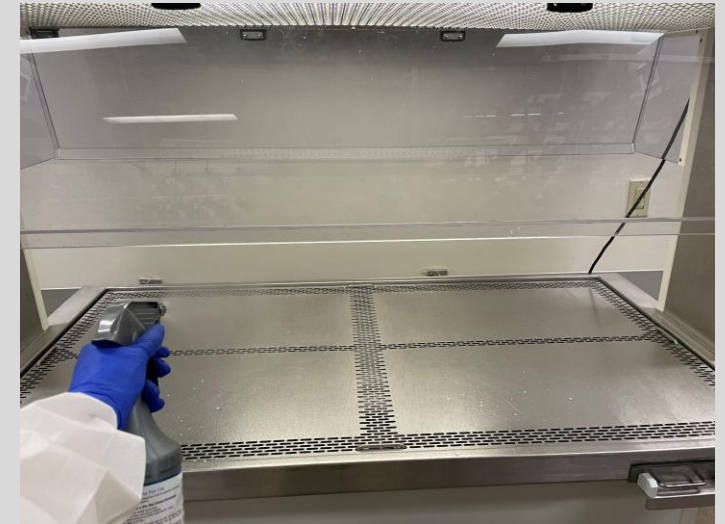


Correct Height

Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Disinfection”

Peroxigard:

- ✓ Spray the work surface and internal side of hood
- ✓ **Do Not spray HEPA Filter Area**
- ✓ **Back wall of laminar flow hood**
- ✓ **Ceiling of Biosafety Cabinet**
- ✓ Remember contact time (1 Minute)
- ✓ Wipe debris from work surface area before disinfecting



Proper Placement for: Phantom Cage Change Stations

Correct Set-up



Incorrect Set-up



Proper Placement for: CS5 Cage Change Stations

Correct Set-up



Incorrect Set-up

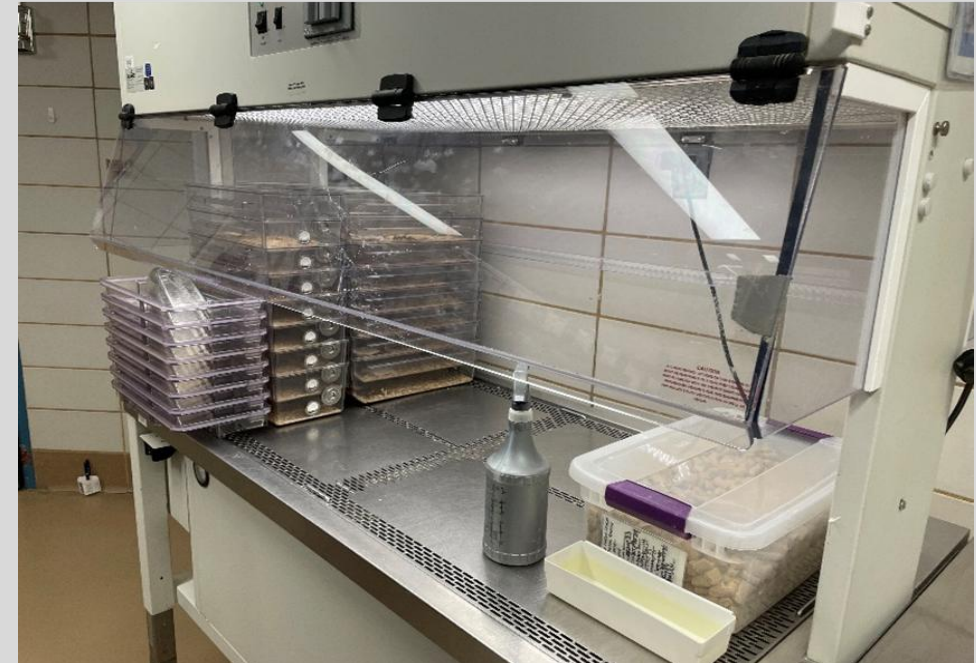


Proper Placement for: Nuair Change Stations

Correct Set-up



Incorrect Set-up



Proper Placement for: SterilGard III Bio Safety Cabinet

Correct Set-up



Incorrect Set-up



Proper Placement for: NUAIRE Class II BSC

Correct Set-up



Incorrect Set-up



Proper Placement for: Lab Product Stayclean Workbench

Correct Set-up



Incorrect Set-up



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Cage Changing Procedures”



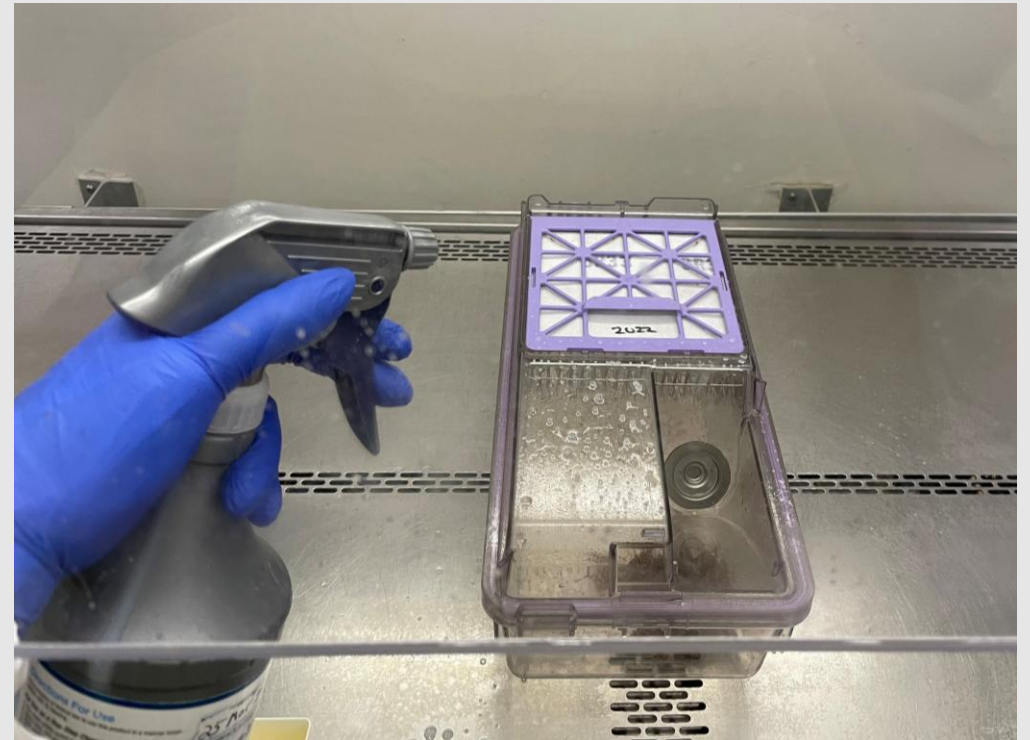
- Pick up a stack of pre-made cages and place under the hood
- Remove cages needed cages from the bottom of the stack reducing the risk of contamination for unused cages.
- Take the number of cages needed
- If you are putting cages back, make sure the original lid is back on the cages and return to cart

DO NOT remove the top lid from cages outside the hood



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Preparing to Change Dirty Boxes”

- ❑ Place the micro-isolator in the hood
- ❑ Spray the outside of the box with disinfectant *this includes the clean box if you are changing dirty boxes*
- ❑ **Avoid spraying the cage card**



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Cage Handling”

All caging regardless of style or manufacturer
MUST Be worked with under Laminar flow
workbenches or Biosafety Cabinets



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Cage Handling”

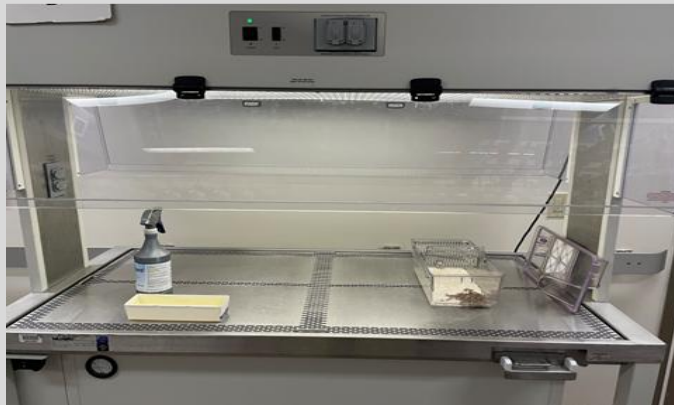


An acceptable alternative is to rest the lid against the back of the box or placed on its' side

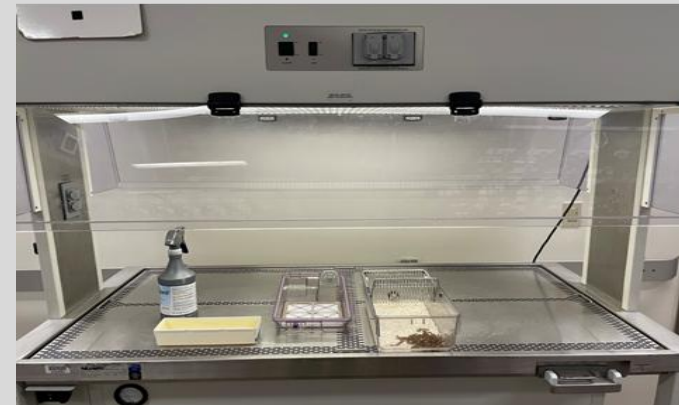
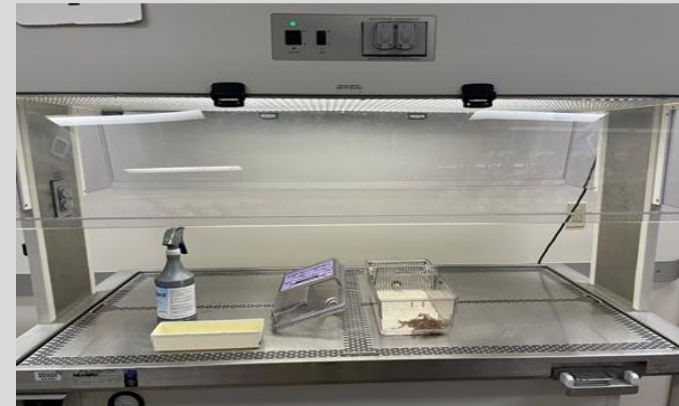
****The floor of the hood should be sprayed periodically to prevent contamination between filter tops.****

Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Cage Handling” Cont.

Correct



Incorrect



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Handling Micro-Isolator Cage”

- ❑ Touching the outside of the micro-Isolator cage contaminates your gloves
- ❑ Dip gloves in forceps tray filled with disinfectant until completely wet
- ❑ **This should be done after handling each cage**
- ❑ Rub hands together
- ❑ If using forceps, remember to submerge them in disinfectant when not in use



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Animal Manipulations”



Procedures:

- ❑ Transfer Animals from dirty cage to clean cage
- ❑ Weaning/Separating
 - ❑ When weaning animals place several food pellets (8-10) on Cage Floor

Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “Placing Items in the Hood”

When placing items in the hood, it is important to make sure that they do NOT block the air flow and they have been sprayed with appropriate disinfectant.



Working in a Rodent Barrier Room: Practice Good Micro-Isolator Techniques “REMEMBER”

All Items Brought Into The Barrier Room Must Be Opened Under The Hood

All rodent work or opening of rodent caging Must be done under a hood

Even if it is a “*Quick Check*”

Always enter barrier rooms first before entering conventional rodent room

QUESTIONS

Where to Find Assistance: Management

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