

YALE ANIMAL RESOURCES CENTER BSL-2+ PROCEDURES

The YARC will follow established regulatory policies. The outline listed below is the standard policy for handling of animals infected with BSL-2+ agents. Biological safety may advise additional procedures on a case by case basis, for larger animals or unique circumstances.

NOTE: PI must contact the YARC Facility Supervisor (72 hours-3 business days) prior to administering compound to ensure YARC husbandry staff are advised of the use of a (potentially) hazardous agent.

Labeling

- Label animal room door with biohazard symbol and BSL-2+ sign w/ all information completed on sign.
- Cages must be labeled with "BSL-2+ Agent in Use" cage card. All information must be completed by P.I./researcher (agent, PI, day and emergency contact phone #s)

Protective clothing

- Solid front, long sleeve gown with gloves (recommend double glove) pulled over gown sleeve cuff.
 - *Contaminated gown is removed in animal room and deposited in appropriate container.*
- Gloves should be removed, hands washed thoroughly before exiting room.
- A mask and eye protection must be worn if a Class II biosafety cabinet (BSC) is not available.
- Biological Safety will advise if additional personal protection is required (i.e. respirator).

Engineering Controls

- A BSC is required for the handling of (small) animals and experimental manipulations. Biological safety will advise if not available or for unique circumstances.
- YARC Air pressure differential of the animal room must be set at negative pressure.

Housing

- Static Micro-isolator (MI) with filter top. Biological safety will advise if alternative is acceptable.

Work Space/Practices

- Once animals are infected, cages should only be opened in the BSC.
- Decontaminate the BSC with Vimoba before and after use; allow 10 minutes contact time.
- Assess area prior to set up; ensure sharps containers are in the BSC
- Place cage on disinfectant soaked paper towel prior to opening top and working with animals.
- Disinfect outside of cages prior to removal from the BSC by wiping with Vimoba or approved disinfectant soaked paper towel avoiding filter top (do not spray)
- Other work surfaces can be decontaminated with a 10% bleach, Vimoba, or approved disinfectant
- Husbandry & experimental procedures should be conducted in such manner to minimize the potential release of aerosols into the environment (i.e. do not vacuum any BSL-2 waste or materials, caution when handling to prevent spills)
- YARC Room sanitizing agent is Saniplex.

Experimental Manipulations

- Use a separate syringe and needle for each animal.
- Dispose of sharps immediately in sharps container; do not rest down on work surface.
- Reusable sharps and instruments should be placed in a solid container for personnel safety.
- Soak in 10% bleach solution for 30 minutes and rinse well with ethanol.

Decontamination

Caging

- BSL-2+ cages should be autoclaved intact (MI filter bonnet in place, bedding in cage) prior to washing.

- ☑ MI filter bonnet must remain on the soiled cage to minimize potential for contamination.
- ☑ The BSL-2+ cage card must also remain on the cage.
- ☑ Caging must remain in the animal room until YARC can immediately autoclave
- ☑ In most instances, there will be a designated cart or rack in the animal room for soiled cages.

- YARC ☑ Cages cannot be power-sprayed prior to placement in rack washer or tunnel washer.
- YARC ☑ Caging must be washed in rack washer or tunnel washer at 180^of cycle for a minimum of 3 minutes.

Waste

- ☑ Carcasses and soft waste are bagged in biohazard bags within the BSC.
- ☑ Soft waste is bagged, labeled (PI, agent, BSL-2+), and left in BSC or on soiled cage rack for YARC pick up.
- ☑ Wrap carcasses in opaque absorbent material and bag; label with PI, agent, and BSL-2+.
- ☑ Disinfect outside of the bag prior to removal from the BSC.
- ☑ BSL-2+ carcasses should be autoclaved immediately.
- ☑ Contaminated gloves should be changed prior to handling outside of the bag.
- ☑ If a deceased animal is found when YARC staff is unavailable, move remaining alive animals to clean cage, and leave carcass and soiled cage on BSL-2+ rack until autoclaving can be done. Label carcass with PI and agent.

- YARC ☑ All waste is autoclaved for 30 minutes at 250^of at 15 psi
- YARC ☑ After autoclaving, bedding is disposed of by YARC. Carcasses and soft waste are packaged and sent out as regulated medical waste.

Transportation of Supplies and Animals

- ☑ Place supplies in a primary leak proof container, then in secondary containment lined with absorbent material.
- ☑ Tubes and containers must be labeled with biohazard sticker with PI, agent, and phone number.
- ☑ In the event of a spill, contain the spill and mark off the area. Either YARC (#785-2526) (if within animal Facility) and/or Biosafety Office should be notified (#785-3555).
- ☑ Recommend carrying extra absorbent material during transport to contain a spill.
- ☑ Cages are to be secured with cargo straps and placed in secondary container

Emergency Response

- ☑ Secure animal(s)
- ☑ Apply first aid: Forced bleed and wash or flush mucous membranes.
- ☑ Review the *Procedures to Follow for Injuries Associated with Laboratory Animals*:
<https://your.yale.edu/policies-procedures/other/4438-policy-and-procedure-follow-injuries-associated-laboratory-animals#3>
- ☑ Contact Employee Health #432-7978 or #432-0071 and EHS #785-3555, or 911 if after hrs.

Medical Surveillance

- ☑ Case by case assessment of agent and personal health history must be conducted by Employee Health (EH) and Biosafety. Sera storage, consultations, sampling or immunizations may be recommended.
- ☑ Immunosuppressed or immunocompromised individuals should not be assigned to this project without consultation with the EH Physician. Any individual with an immunosuppressive condition must notify EH (#432-7978 or #432-0071) for a confidential evaluation for clearance to work on this project.
- ☑ If health status of any individual assigned to this project changes after initiation of the project, they must notify the Yale EH Office for a medical clearance review.

Please view Animal Biosafety Level 2 video at <http://ehs.yale.edu/animal-biosafety>

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