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University of Pennsylvania Perelman School of Medicine  
Policy and Procedure Manual

**QUARANTINE OF RODENTS DUE TO INFECTIOUS DISEASE OUTBREAK IN SCHOOL OF  
MEDICINE ANIMAL FACILITIES**

**RESEARCH ADMINISTRATION**

**Policy Number: RA-ANML-002.1**

**Date Approved: 4/11/12**

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**I. PURPOSE**

To establish guidelines for the quarantine of rodents during an infectious disease outbreak in the School of Medicine animal facilities.

**II. POLICY STATEMENT**

These guidelines serve as the official Perelman School of Medicine policy for imposing, maintaining, documenting, and lifting of quarantine. Quarantine may be imposed following the detection of mouse hepatitis virus (MHV), mouse parvovirus (MPV), epizootic diarrhea of infant mice (EDIM), and other pathogens.\* This policy is intended to supplement/complement Policy Number RA-ANML-001: Management of MHV- and EDIM-Infected Rooms/Suites in SOM Animal Facilities, and Policy Number RA-ANML-008: Management of MPV-Infected Rooms/Suites in SOM Barrier Animal Facilities. Pathogens such as MHV, EDIM and MPV can cause profound changes in murine physiology, affecting the interpretation of a wide variety of experimental results. Such outbreaks can have a devastating effect on research and can result in the need to euthanize numerous animals. Early management and imposition of quarantine are critical to containing and eradicating such pathogens.

\*Other pathogens may include: Sendai virus, lymphocytic choriomeningitis virus (LCMV), ectromelia virus, mouse minute virus (MMV), sialodacryoadenitis virus (SDAV, rat coronavirus), conventional rat parvovirus (RV) as well as parasites such as pinworms or fur mites.

**III. WHO SHOULD KNOW THIS POLICY?**

- Dean
- Executive Vice Dean/CSO for Research and Research Training
- Assistant/Associate Dean for Animal Research
- School of Medicine Animal Research Committee (SOMARC)
- Faculty and lab personnel engaged in animal research
- University Laboratory Animal Research (ULAR) Staff
- IACUC Chair and Regulatory Affairs Staff

#### IV. POLICY AND PROCEDURES

##### Imposition of Quarantine

- ULAR Diagnostic Services holds authority to impose quarantine.
- Quarantine is imposed immediately (within 24 hours) after an initial diagnostic test positive for the presence of a pathogen in a SOM animal facility is confirmed by a second test. In the case of a viral infection, testing is performed by two methods in the ULAR Diagnostic Serology Laboratory AND presumed positive samples are sent to a commercial diagnostic lab for testing by two additional methods. A diagnosis of fur mites or pinworms does not require confirmatory testing.
- Imposition of quarantine will be initiated by a request from ULAR for facilities services to change the locks on the affected room(s)/suite(s).
- At the time locks are changed, imposition of quarantine will be communicated by e-mail to the facility veterinarian(s), the facility manager, the Associate Director for Husbandry and Facilities, IACUC staff, and the SOM-ARC. ULAR will also communicate notification of quarantine through the facility-relevant Polaris list. A notification will also be posted to the home page of the ULAR website. Principal Investigators will be notified via email and phone. Once lab is notified, the PI must discuss with ULAR any unique situations that could affect movement of staff and investigators.
- For viral disease outbreaks: In order to reduce the population of susceptible animals, investigators in the affected room(s) will be asked to mark, within 24 hours of notification, all cages of rodents that can be euthanatized. Euthanasia will be performed by ULAR staff.

##### Basic Principles of Quarantine

- **Posting: Room and Facility**  
ULAR personnel will post quarantine signs on the doors of affected rooms immediately upon imposition of quarantine. In addition, notification will be posted to the ULAR website and sent by e-mail to affected personnel (see "Imposition of Quarantine" above.)
- **Gowning Stations and Procedures**  
When entering a room under quarantine, all personnel will be required to wear the usual personal protective equipment (PPE, face masks, hair covers) and to double gown, double glove, and put on two pairs of shoe covers. Upon exiting the animal room, the outer gown, gloves and shoe covers should be removed in the room and disposed of in containers within the room. The remaining PPE should be removed in the anteroom or hallway outside the animal room and disposed of in containers provided for this purpose.

- **Restrictions on Movement of Staff and Investigators**  
No one should enter any other rodent housing room, on the same day after entry into a quarantined rodent room unless he or she has showered and changed all clothing, including shoes.
- **Restricted Access and Security**  
Access will be limited to normal working hours (7:00AM-6:00PM). There will be no night or weekend access unless special arrangements are made. Animals will be cared for by ULAR in a compliant and humane manner.
- **ULAR Staff**  
These procedures pertain both to investigators and ULAR staff. Additionally, in order to minimize the chance of transferring infectious agents to a clean room, ULAR will revise the order of rooms entered to perform routine husbandry such that quarantined rooms will be last to be checked daily and to be cleaned.

### Animals and Tissue Use

- **Breeding Suspension**  
For any viral disease outbreak, breeding will be suspended. Male and female mice must be separated within 24 hours of the quarantine announcement. Investigators or their lab staff are strongly encouraged to separate breeding pairs; however, investigators may also mark the cages for separation by ULAR staff. Following this period, ULAR caretakers will euthanize any neonates born in quarantined rooms and place any breeding males in separate cages if investigators fail to do so.
- **Restriction on Movement of Live Animals**
  - a. Live rodents may not be removed from any quarantined room(s). ULAR staff will make provisions to provide appropriate equipment/services to the quarantine rooms to euthanize live animals as necessary.
  - b. Scientists and ULAR staff will avoid relocating cages on a rack or between racks within quarantined rooms.
  - c. In the event of a viral outbreak, animals cannot be removed from or enter the affected room(s). New shipments of mice already in transit prior to the quarantine will be considered on a case-by-case basis.  
In the case of pinworms, mice from approved vendors or mice having approval for transfer can enter the quarantined room and be treated with the rest of the population, but they cannot be removed from the room(s) under any circumstances.
  - d. In the event of a zoonotic disease outbreak, both laboratory personnel and animals will be barred from entering the affected room(s).
- **Removal of Dead Animals And Tissues**  
After consultation with ULAR Diagnostic Services, rodents and rodent tissues may be removed from the room and transported to the investigator's laboratory, but must be placed in containers that are double-bagged and sprayed with Clidox before leaving quarantined room. Tissues derived from animals in a quarantined room must not be injected into other rodents. Intestinal, liver and lymphoid

tissues are at high risk of being infected with mouse hepatitis virus (MHV). Tissues removed from the quarantined facility should be fixed in formalin or some other cross-linking agent if possible. If tissues are not fixed, but are manipulated in the laboratory, care should be taken to disinfect all contact work surfaces, equipment and supplies. Clidox or a 5% Clorox solution is recommended. (Freezing will preserve virus, not kill it.) Rodent carcasses removed from a quarantined room will be disposed in the Richards facility cooler.

- **Cages**
  - a. All dirty cages must remain in the quarantined room, with the filter tops in place. They will be removed by ULAR personnel within 24 hours.
  - b. Clean cages must be requested from ULAR staff and will be placed in the room. Personnel who have been in a quarantined room may not leave the room and get clean cages from the central suite corridor or the clean cage wash area. Cage requests will be filled within 24 hours of notification of ULAR staff. Personnel may not enter any other rodent facility on campus until they have showered and changed clothes, including shoes.
- **Exporting Animals for Rederivation**

Investigators who are approved to export animals for rederivation purposes (see Policy No. RA-ANML-001: Management of MHV- and EDIM-Infected Rooms/Suites in SOM Animal Facilities), are required to complete a “Request to Send Rodents to Other Institutions” form, which can be found at: [http://www.ular.upenn.edu/forms/Ship\\_Rodents\\_to\\_Institutions\\_Form.pdf](http://www.ular.upenn.edu/forms/Ship_Rodents_to_Institutions_Form.pdf). Submitting this form to ULAR initiates the exportation process. Rodents housed in a quarantined room may be exported to other institutions only if the facility veterinarian at the destination facility expressly approves the shipment in the context of the infectious agent.
- **MHV and MPV Guidelines**

Quarantine procedures for managing MHV and MPV outbreaks in are detailed in Policy Number RA-ANML-001: Management of MHV- and EDIM-Infected Rooms/Suites in SOM Animal Facilities and Policy Number and Policy Number RA-ANML-008: Management of MPV-Infected Rooms/Suites in SOM Barrier Animal Facilities.

### **Lifting of Quarantine**

- The cessation of quarantine is linked to the verified absence of pathogens following specific diagnostic testing as outlined in this policy.
- The decision to lift the quarantine will be made by the ULAR Associate Director, Diagnostic Services and Rodent Quality Assurance in accord with approved policies on specific pathogens.
- When quarantine is lifted, e-mail notification will be sent by ULAR to the SOM-ARC and to all investigators who use the affected room(s). The facility veterinarian(s) and the facility manager, as well as the Associate Director for Husbandry and Facilities and the IACUC staff, will be notified concurrently.
- After the quarantine has been lifted, the ULAR website will be updated to reflect this and the room will revert to normal operational procedures.

**Request for Exemption**

- Requests for exceptions to this policy will be considered on a case-by-case basis by the SOMARC in consultation with the Director of ULAR Diagnostics and Executive ViceDean/Chief Scientific Officer. A request for exemption can be submitted via email to [somar@mail.med.upenn.edu](mailto:somar@mail.med.upenn.edu). Any exemption to this policy must be obtained in writing from the Assistant Dean for Animal Research.

**V. CONTACTS**

**Executive Vice Dean and CSO, Research and Research Training, Perelman School of Medicine**

Phone: 215.898.2874

Fax: 215.573.7945

**Director, University Laboratory Animal Resources**

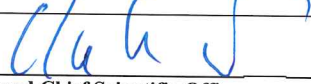
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**Chair, Institutional Animal Care and Use Committee**

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<p><b>Supersedes: Policy No. RA-ANML-002 approved on 4/11/05</b></p>	<p><b>APPROVED:</b>  Executive Vice Dean and Chief Scientific Officer Perelman School of Medicine      Date: 4/11/12</p>
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