



RODENT PATHOGEN OUTBREAK MANAGEMENT PLAN

Objective

The objective of this Plan is to describe the process for responding to a positive diagnostic test result for an excluded pathogen within a CCM rodent facility. The test results will be based on sentinel animals as part of the health monitoring program. However this Plan will also be followed when positive results are noted in research animals.

Phase One: Positive Test Result Response & Confirmation

Room Status: “Suspect Positive”

The Health Coordinator or designee reviews health surveillance testing results. If a positive result is identified, the Health Coordinator or designee will send an email to the Outbreak Response Team within 24 hours of receipt. The Outbreak Response Team includes the facility veterinarian, the facility manager and the team leader of the affected room. All other facility managers and veterinarians, the Procurement Specialist and the Import-Export Coordinator will be copied on this email.

Facility Manager Responsibilities:

Required:

- ❑ Post door sign designating the room as ‘Suspect’ for the specific pathogen
- ❑ Post a room sign-up sheet for everyone who enters the room
- ❑ Restrict room access to only those who need it
- ❑ Label all cages on the affected rack.
- ❑ Prevent animal movement out of room except for a terminal procedure in an investigator lab
- ❑ Prevent movement from this room to another room or facility will be permitted.
- ❑ Prevent movement of new cages into this room.
- ❑ Review daily census data to monitor whether significant numbers of cages are leaving the room without permission.
- ❑ Provide email information for each PI and lab liaison in the affected room to the Facility Veterinarian.

Recommended:

- ❑ Cessation of breeding
- ❑ No movement of cages between racks
- ❑ Track cages that are moved out of the room
- ❑ Exports to outside institutions: an email will be sent by the Import-Export Coordinator to the receiving institution to inform it of the ‘Suspect’ room status. The receiving institution will decide whether to accept the animals from this room.

At this time the room door will not be locked and no PPE changes or BL-2 husbandry processes are in effect. The room in this phase is not considered to be “in Quarantine”.

Facility Veterinarian Responsibilities:

- ❑ Implement the Investigator Communication Response.
 - ⇒ Contact PIs and identified lab liaisons using the affected room via email to inform them of the suspect status of the animal room.

- ⇒ Describe the confirmation process
- ⇒ Explain the required and recommended practices during this confirmatory period
- Review any investigator requests for cage movement that cannot be adjudicated by the facility manager

Health Affairs Coordinator Responsibilities:

- Implement the Confirmation Testing Response
 - ⇒ Contact another diagnostic laboratory (usually Charles River Laboratories) to run the frozen duplicate saved serum sample as well as blood samples collected from each sentinel in the affected cage and at least one sample per sentinel cage from other sentinels in the animal room in the case of serology; in the event of an MPV outbreak, a live animal will be sent for mesenteric lymph node PCR testing; in the case of bacteriology or parasitology positives, a culture or sample specimen will be sent.
 - ⇒ Arrange for the shipment of these samples within 7-10 days of receipt of the original positive result.
 - ⇒ Schedule with the Team Leader and Facility Manager when the resampling will be done and how many samples will be collected.
- Review confirmatory testing results

Team Leader Responsibilities:

- Find duplicate sera, if available, stored in freezer and prepare for retesting
- Rebleed or collect sentinel animals to confirm the presence of an unwanted pathogen. Unlike routine health surveillance sampling, rebleeding should be a survival procedure whenever possible. Pooled samples from one cage are acceptable. All sentinels from the original positive sentinel cage and one sample per cage from all other sentinel cages in the room should be collected.
- Reorder sentinels for any potentially positive cages in that room (based on original results) to be delivered once confirmation testing has been completed and the sentinel cage is found to be positive.

Phase Two:

A: Confirmation Test Results Negative

Room Status: returns to 'Clean'

Facility Manager Responsibilities:

- Remove door signage
- Remove investigator sign-up sheet
- Provide email information for each PI and lab liaison in the affected room to the Facility Veterinarian.

Facility Veterinarian Responsibilities:

- Communicate to investigator staff the negative results of testing

Health Affairs Coordinator Responsibilities:

- Resume normal sentinel testing schedule for room unless otherwise advised by facility veterinarian

Team Leader Responsibilities:

- ❑ Cancel sentinel order

Phase Two:**B. Confirmation Test Results Positive****Room Status: Positive; under Quarantine****Facility Manager Responsibilities:**

- ❑ Post door sign designating the room as 'Positive' for the specific pathogen
- ❑ Lock room door with access restricted to only those with active protocol in room during CCM business hours
- ❑ Post a room sign-up sheet for everyone who enters the room.
- ❑ Begin BL-2 husbandry practices to restrict spread of pathogen to other areas of the facility.
- ❑ Provide BL-2 PPE with instructions for all staff.
- ❑ Label all cages on all racks.
- ❑ Prevent movement of cages between racks.
- ❑ Prevent all animal movement out of room.
- ❑ Prevent movement from this room to another room or facility.
- ❑ Prevent movement of new cages into this room.
- ❑ Track of cages that are moved out of the room.
- ❑ Samples should be obtained from any cages labeled for euthanasia.
- ❑ Cessation of breeding
- ❑ Review daily census data to monitor whether significant numbers of cages are leaving the room without permission.
- ❑ Provide email information for each PI and lab liaison in the affected room to the Facility Veterinarian.

Recommended:

- ❑ Exports to outside institutions: an email will be sent by the Import-Export Coordinator to the receiving institution to inform it of the 'Positive' room status. The receiving institution will decide whether to accept the animals from this room.

Facility Veterinarian Responsibilities:

- ❑ Implement the Investigator Communication Response.
 - ⇒ Contact PIs and identified lab liaisons using the affected room via email to inform them of the positive status of the animal room.
 - ⇒ Review the pathogen's characteristics and the risk of the pathogen to the colony's health.
 - ⇒ Explain the required practices during this quarantine period.
 - Removal of all non-critical animals (animals not on active study or excess breeding stock)
 - Restricted animal movement; all cages must remain on current rack
 - Restricted animal breeding; only allowed with veterinarian approval for critical stock
 - ⇒ Describe the eradication plans (see below) and assist investigators with selection.
- ❑ Review any investigator requests for cage movement that cannot be adjudicated by the facility manager

Health Affairs Coordinator Responsibilities:

- ❑ Schedule all diagnostic testing associated with the eradication plan chosen.
- ❑ Communicate the schedule to Team Leader, Facility Manager, Facility Veterinarian and PI staff.
- ❑ Review test results and inform Team Leader, Facility Manager and Facility Veterinarian

Team Leader Responsibilities:

- ❑ Collect, process and ship all samples in coordination with testing schedule developed by Health Affairs Coordinator.
- ❑ Communicate any changes to Facility Manager and Health Affairs Coordinator.
- ❑ Order replacement sentinels as needed during the eradication process.

Three Eradication Plan Options:

1. Depopulation:

A time will be set for all studies in the room to end. It is recommended that this be no more than three weeks from time of eradication plan implementation. Animals can either be sent to off-site housing (CRL or Taconic Isolators) at investigator expense or euthanized.

For euthanasia, animals will be euthanized and disposed of following BSL-2 SOPs. All cages and supplies will be removed and cleaned following BSL-2 SOPs or thrown out following BSL-2 SOPs. The room will be decontaminated before repopulation.

Animals originally housed in this room and moved off-site in complete isolation from any other animal colonies and must have individual colony testing for a minimum of 3 negative test results at least 24 days apart to be considered clean enough to return to the room after depopulation.

Estimated Time for reoccupation of the room as 'Clean' is 5-6 weeks.

2. Test and Cull

At least one sample from every cage in the room will be rebled or retested for the identified pathogen. Access to the room during this time will be restricted to critical staff who will not visit any other room after this room in the same day. All positive cages will be moved off-site and/or euthanized within one week of positive result communication. This process will continue every 21 days until there are three negative results. During this time sentinel testing will be increased from every twelve weeks to every six weeks and may include additional testing (PCR of lymph nodes for MPV) if warranted. The Test and Cull Sentinel and Rebleeding Schedule will comply with the following outline unless approved by the Sr. Clinical Veterinarian:

- a) Based on Positive Confirmation results, all cages on rack with positive sentinel will be bled along with the sentinels from the other racks (Testing #1). Unlike normal sentinel testing, this should be a survival blood collection. Animals in the positive sentinel cages should be euthanized and replaced. Ordering should be projected so that the rack has sentinels at all times.
- b) Within two weeks of this bleeding, results should be received, reviewed and positive cages removed from the room.

- c) Twenty-one days after Testing #1, all cages on any positive rack, its sentinels and a sentinel from each rack in the room should be bled again using survival blood collection methods. Cages with positive sentinels should be removed and replaced. (Testing #2)
- d) Within two weeks of the bleeding, results should be received, reviewed and positive cages removed from the room.
- e) This testing process is continued every 21 days until all cages on the positive rack and all sentinels test negative (Negative #1).
- f) Once all sentinels and any cages from a positive rack test negative, a four-week waiting period will be implemented to allow for any latent seroconversion. After four weeks, all cages on the originally positive rack will be bled along with sentinels from the other racks in the room.
- g) Within 2 weeks of this bleeding, results should be received, reviewed for a second negative confirmation. (Negative #2)
- h) Once all results have been reviewed, a final bleeding of all cages in the animal room (sentinels and study animals) will be conducted.
- i) Within 2 weeks of this bleeding, results should be received and reviewed for a third negative confirmation. (Negative #3)

Estimated time for reoccupation of the room as 'Clean' is 5-6 months.

3. Biocontainment for Short-term Study Completion or Rederivation:

For pathogens that are known to be minimally contagious or commensal in the same or like species populations, positive animals may be maintained until the study is completed or the colony is rederived. Because of the high risk of disease transmission associated with this method, approval to initiate this eradication program with a defined timeframe must have approval of the CCM Director. The room will be operated as a quarantine room. This includes:

- All biocontainment practices consistent with BSL-2 facilities.
- Traffic will be restricted to this room during a 24 hour period.
- Personnel working in this room cannot visit any other rooms in the same day.
- Waste disposal only after autoclaving

Estimated time for reoccupation of the room as 'Clean' depends on the nature of the experiments.

Final Documentation

The Health Affairs Coordinator will review all diagnostic results for quality assurance of the testing process and to provide updated information to the Veterinarian. The Health Coordinator may at the request of the Veterinarian, communicate these updates to the research community affected by the outbreak.

The Outbreak Management Team will provide a summary of the outbreak and its management/eradication to the Associate Director and/or Director, CCM once it has been successfully managed. This should minimally include information on cost, timeframe adherence and any obstacles that had to be overcome.