Introduction

Wild Rodents, or their parasites, can be vectors/carriers of pathogens that are zoonotic, and can infect humans. Uncommon, but serious, risks associated with using wild rodents in research include: Hantavirus, Lymphocytic Choriomeningitis Virus (LCMV), plague and leptospirosis. Risk of infection depends on the species of the rodent, the geographic location of the rodent, work practices, the personal protective equipment (PPE) used when handling the rodent, prevalence of the disease, and the immunologic status of the person(s) handling the rodents.

In the event of an accidental exposure or injury, the protocol is as follows:

1. **Potential Modes of Transmission:**
   i. Skin puncture
   ii. Ingestion
   iii. Contact with mucous membranes (eyes, nose, mouth)
   iv. Contact with non-intact (scraped) skin
   v. Bite or scratch from an infected animal
   vi. Aerosols – Breathing in dust contaminated with rodent urine or droppings

2. **First Aid:**
   a. **Skin Exposure**, immediately go to the sink and thoroughly wash the wound with soap and water. Decontaminate any exposed skin surfaces with an antiseptic scrub solution.
   b. **Skin Wound**, immediately go to the sink and thoroughly wash the wound with soap and water and pat dry.
   c. **Splash to Eye(s), Nose or Mouth**, immediately flush the area with running water for at least 10 minutes.
   d. **Splash Affecting Garments**, remove garments that may have become soiled or contaminated and place them in a double red plastic bag.

3. **Treatment:**
   a. In the event of a serious injury that requires immediate medical care, the injured employee should report to the emergency room for acute medical treatment. **The injured employee must take a copy of this document to the emergency department.**
   b. In the event of exposure, with or without an injury, call the Exposure Hotline in order to get access to medical care for the exposure. The exposure hotline responder will provide guidance to the injured individual on necessary medical treatment and post exposure follow-up.

4. **Follow-up is needed in the event of any Exposure:**
   a. After first-aid is complete, **IMMEDIATELY** inform you supervisor of the exposure.
   b. Contact Occupational Health Services for employees, after first aid is complete for follow-up care.
1. **WORKER’S RESPONSIBILITIES (Worker Initial Self-Care)**
   a. **First Aid:** Perform the recommended first aid and decontamination according to the posted instructions.
   b. **Treatment:** i) In the event of a serious injury resulting from a laboratory incident which requires immediate medical care, the injured employee should report to the emergency room for acute medical treatment. The employee should bring a copy of this document for review. ii) In the event of an exposure, with or without an injury, call the Exposure Hotline pager in order to get access to medical care for the exposure.
   c. **Access to Exposure:** Call the Exposure Hotline pager in order to get access to medical care for the exposure. Dial 415/353-7842; Do not leave, wait for the call back. If none in 15 minutes, call again. If there is no call back the second time, proceed to the nearest Emergency Department with a copy of this protocol.
   d. **Reporting:** Inform your supervisor/Manager of the exposure.
   e. **Secure the animal:** Identify the mouse involved in the exposure and the route of exposure.
   f. **Page rodent nurse:** Make sure to isolate the mouse involved in the exposure and page a rodent vet nurse or the On Call Veterinarian immediately after the exposure. The rodent nurse will pick up the animal for sampling that same day.
   g. **Follow up:** Contact Occupational Health Services (OHS) as soon as possible for any follow up care if, needed. Call the main line at 415/885-7580.

2. **SUPERVISOR’S RESPONSIBILITIES**
   a. **First Aid and Decontamination:** Verify that the worker has washed and decontaminated himself/herself.
   b. **Page rodent nurse:** Ensure rodent nurse or On Call Veterinarian has been contacted.
   c. **Report the exposure:** Call OHS during regular hours. Briefly describe the circumstances of the exposure. Provide employee identification information (name and home telephone number).
   d. **Follow – Up:** Confirm that the employee has scheduled an appointment at the UCSF Occupational Health Clinic for evaluation on the next weekday the clinic is open. Later, confirm that the employee has been evaluated, and coordinate a safe return to work.
   e. **Report the Injury:** Within 24 hours, report the injury to the UCSF Human Resources Disability Management Services (HR DMS) Office on the Supervisor’s Report of Injury (SRI) form. [http://ucsfhr.ucsf.edu/dismgmt/forms/workcomp/claim/SRI.pdf](http://ucsfhr.ucsf.edu/dismgmt/forms/workcomp/claim/SRI.pdf)
3. **LARC’S RESPONSIBILITIES** (Actions taken by rodent team nurses)

   a. **Obtain animal:** Once rodent nurse is informed of exposure via pager, the isolated mouse will be collected for testing. If the exposure occurs after hours, the mouse will be isolated until the next working day. The LARC rodent nurse will euthanize the wild mouse involved in the exposure, and collect samples for serology and PCR.

   b. **Serology sample collection:** Serum will be collected for Hantavirus and LCMV diagnostics. Collect at least 0.2mL of blood. **Do not submit whole blood; hemolysis will occur during freezing or shipping and may interfere with serologic test performance.**

      i. **Serology preparation:** Blood will need to be diluted at 1:5. (Example: If 0.2mL of blood is collected then 0.8mL ambient temperature saline will need to be added) Refrigerate the diluted blood for 6 to 12 hours, centrifuge at low speed for 5-10 minutes, and recover the 1:5 diluted serum for submission. It is recommended that 0.1mL of diluted serum be submitted for each sample.

      ii. **Shipment:** Serum samples should be shipped frozen using an overnight service. One or two pounds of ice packs is adequate. Optimal shipping conditions are achieved when the entire package is frozen overnight at or below -20, with the lid open.

   c. **Tissue sample collection:** To test for Leptospirosis via PCR, the entire set of kidneys of the mouse need to be collected.

      i. **Tissue samples:** Collection of kidney for PCR evaluation should be performed *aseptically* within a biosafety cabinet. Each kidney should be placed in individually labeled, sterile containers, such as plastic screw top containers.

      ii. **Shipment:** Kidney samples should be frozen and shipped frozen via overnight courier with sufficient dry ice so that it remains frozen during shipment. (On the Q-drive under Rodent Program > Shipment > Shipment Forms > 2011 is an electronic air bill from Midnite Express titled, “(MNX) Collection Request AWB.”) Fill in the missing information and email it to OR Rodent Shipment who will then arrange the pick up.

   d. **Waste Disposal:** Dispose of the remainder of the animal carcass as BSL 2 waste in a double red biohazard bag.

   e. **Forms:** Completed serology and PCR case forms must be included with each submission specifying the species, serum dilution, and the serology profile or individual test(s) requested. Describe any potential biohazards associated with the samples.

   f. **Paperwork for these samples can be submitted via RADIL’s online system at:** www.radil.missouri.edu. On the home page go to the tab labeled “sample submission” and then click on “On-line submission” and fill out the form.

   g. Results should be received within 5 business days after the samples have arrived at the diagnostic laboratory. They will be provided via the on-line sample reporting system.

   h. Results will be distributed to the Medical Director of Occupational Health Services (885-7580) by a LARC veterinarian or the Public Health Officer.