

**VA San Diego Healthcare System**  
**Research Service Occupational Health Program**

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**Instructions:** All research service personnel must complete sections 1, 2 & 3, sign the form, and obtain their PI's signature. This form must be returned to the Research Training Coordinator in room 6001.

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**Section 1**

- I have received a copy of the "Laboratory Animal Hazards" Information Sheet (attached).
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**Section 2**

- Category 1:** Not working with research animals or animal parts. May be exposed to research animals in laboratories or common use areas. May come into contact with chemicals, radioisotopes and/or biological hazards (including human tissue, cells or body fluids). **The use of hazard requires additional training. The PI or safety department will provide training on the use of hazards.**
- Category 2:** Working with research animal tissues that are not exposed to hazardous chemicals, radioisotopes or biohazards. The tissue did not originate from animals injected with hazardous agents, and no hazardous agents are used in vitro. May be exposed to research animals in laboratories or common use areas.
- Category 3:** Working with research animal tissues that have been exposed to chemical, radioactive or biological hazards. May be exposed to research animals in laboratories or common use areas. **The use of hazard requires additional training. The PI or safety department will provide training on the use of hazards.**
- Category 4:** Working with live research animals that are not exposed to chemical, radioactive or biological hazards. **The PI or safety department will provide training on the use of hazards.**
- Category 5:** Working with live research animals that are, or have the potential of having been exposed to chemical, biological or radioactive hazards. **The PI or safety department will provide training on the use of hazards.**
- If you have a history of **allergies, asthma, breathing difficulties, bronchitis** or an **immune compromising condition**, you are strongly encouraged to participate in the LAOHP at least at the **category 4** level, regardless of the category to which you self identify.
- If you will be working with **human tissue, cells** or **body fluids** you are encouraged to receive immunizations against Hepatitis A and Hepatitis B
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**Section 3**

*Based on your selection from Section 2, choose one of the following:*

- I wish to participate in the VASDHS Laboratory Animal Medical/Allergy Surveillance Program.
- I am participating in an Occupational Health Program at another institution.  
**Provide Name of Institution:** \_\_\_\_\_
- I decline participation in the VASDHS Laboratory Animal Medical/Allergy Surveillance Program.  
**Note: Non-participation in these surveillance programs could result in adverse health effects.**

*I have been given the opportunity to participate in the VASDHS Laboratory Animal Medical/Allergy Surveillance program at no cost to me. I understand that if I decline, I may later choose to participate at any time.*

**Employee Name:** \_\_\_\_\_ **Employee Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Supervisor/PI Name:** \_\_\_\_\_ **Supervisor/PI Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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Laboratory Animal Hazards**

**Overview:**

The VASDHS Institutional Animal Care and Use Committee (IACUC) recognizes that staff who access the 6<sup>th</sup> floor of the VA San Diego Medical Center may encounter animals used in research and thus be exposed to allergens or zoonoses that affect their health. The purpose of this document is to provide the staff with an overview of the hazards specifically related to the use of animals in research at the VA San Diego Healthcare System (VASDHS) and to assure institutional compliance with federal regulations and guidelines, VA Handbook 1200.7, and with the Association for Assessment and Accreditation of Laboratory Animals, International (AAALAC, Int.) standards for the care and use of laboratory animals.

**General Safety Issues**

This document is intended to provide information on **hazards specific to the animal environment**. However, there are potential hazards inherent in any work environment. These include poor ergonomics, slips and falls, electrical safety hazards, etc. In the research environment, there are additional risks associated with laboratories, such as working with anesthetic gases, hazardous chemicals, biologicals, blood borne pathogens, biohazards, radioisotopes, and recombinant DNA. The Research Safety Department of VASDHS has role-specific safety training for personnel engaged in these various activities, as identified in the Annual Work-Associated Hazard Assessment.

**Animal-Related Hazards:**

1. Allergens and Allergies
2. Zoonoses (diseases transmitted from animals to humans)
3. Bites and Scratches
4. Physical Safety

**1. Allergens and Allergies**

**Why it's important:**

Up to a quarter of people who are regularly exposed to laboratory animal species develop animal related allergies. All persons who are exposed are at risk, even if you do not have a history of allergies or work directly with animals. The best way to avoid developing animal related allergies is to be aware of the risks and take preventive measures to reduce exposure. If you work with animals and become allergic to the animals, your job can become quite uncomfortable and even unhealthy. **If you have asthma, allergic conditions (hay fever) or eczema, working with animals to which you are allergic can be a significant health risk.**

**Symptoms:**

Symptoms of an allergic reaction can range from irritating, such as a runny nose or watery or itchy eyes, to severe, such as asthma, dermatologic effects or even gastrointestinal (GI) disorders.

**What to watch out for:**

- **Eyes:** Itching; watering; redness; swollen eyelids
- **Nose:** Itching; runny nose; sneezing bouts
- **Skin:** Itching, cracked skin; small blisters; rash; swelling & inflammation if scratched
- **Lungs:** Coughing/wheezing, chest tightness, shortness of breath
- Eye, nasal and most skin symptoms tend to occur during work. Asthma symptoms may not occur until some hours (2-8) after exposure
- It is important that you notify Employee Health if you experience any of these symptoms!

**How it happens:**

People who are exposed to animal allergens can become allergic to the animal species. Allergens are proteins that are secreted in an animal's body fluids, dander and excreta. These substances can be aerosolized and remain suspended and float around in the air. These particles can be breathed in or settle on exposed skin or clothing. This is how you can be potentially exposed even if you are not directly working with laboratory animals. Because allergies can develop to any animal species, you may become allergic to the species you work with or any other species that is housed or used in laboratories near your work area.

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Allergens are unique in each animal species. A person can be allergic to mice but not rats or cats or dogs. However, it is also possible to be allergic to more than one species. In fact, **if you have a history of allergies (animal, plant or other allergen) you are more likely to develop additional allergies than a person without any preexisting allergies.**

**Relative Risk:**

The Center for Disease Control has reported that the incidence of animal allergies among people who work with animals may be as low as 10% or as high as 30%. This means that most people who work with animals are not allergic to them. But, this also means that if you are regularly exposed to animals your risk of developing related allergies is as much as three times higher than people without exposure.

**Prevention:**

Protecting yourself from exposure to animals, animal bodily fluids and animal dander is the best way to prevent animal related allergies. The following practices may help you to reduce your exposure to animals:

- Be considerate of others in the Research Service – **keep animal cages properly covered** when moving them through common hallways. **Do not touch common items (such as door handles) with gloves or unwashed hands.**
- Work with animals in a **ventilated hood** or **biosafety cabinet** when possible.
- When not working in a hood, make sure that the room where you're working with animals is **well ventilated**. Contact the Engineering Department if you have any questions about the air handling in your lab.
- **Don't wear your street clothes when working with animals.** Always wear a lab coat or scrubs, or even a disposable gown or jumpsuit.
- **Don't take your lab coat or scrubs home for washing.** Send lab coats and hospital scrubs to the Laundry Service in the basement.
- **Always wear gloves when handling small animals.**
- **Wash your hands frequently and always after handling animals.**
- **Avoid touching your face when working with animals.**
- **Keep your work area clean.** Bedding, animal waste and dust should be removed from animal use areas promptly.
- Transfer animals into a **clean cage** before bringing to the laboratory.
- **Don't keep animals in your laboratory** for longer than needed; return animals to the vivarium.
- **Gentle handling** when moving a cage or picking up an animal will **reduce startling the animals and minimize the aerosolization of allergens.**

**Treatment:**

If you think you're allergic to animals you work with or around, notify Employee Health. Allergy symptoms may be controlled by medication or increased measures to reduce exposure. The earlier you report symptoms, the easier it is to prevent allergies from progressing and/or the easier it is to treat/control the symptoms you are experiencing. Employee Health will evaluate your condition and provide you with their recommendations. You should also speak with your own physician about your allergy symptoms. Some people have such severe symptoms they cannot continue to work with or near animals. If you need personal protective equipment to protect yourself from animal allergens, notify your supervisor and have him/her contact the safety office. If you will need to wear a respirator, you will need to enroll in the respirator fit program.

If you choose to decline participation in the Research Service Occupational Health Program you may "opt in" at any time.

**2. Zoonoses (diseases transmissible from animals to humans)**

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A person working in a facility with animals could potentially be exposed to any zoonotic disease agent affecting these species. In practice, however, these conditions are very rare. Modern laboratory animal facilities pay particular attention to animal vendor health status and vermin control, thereby reducing the likelihood of colony animals carrying disease. All animals are screened for the presence of pathogens before they are brought into the VMU and are monitored throughout their lives in the facility. When all animal handling and housing policies are followed properly, it is extremely unlikely that a zoonotic disease will develop within the facility. However, there is always the potential for breaks to occur. The following is a list of the more common zoonotic disease of laboratory animals.

**Rodents:**

- A. **Lymphocytic choriomeningitis:** Lymphocytic choriomeningitis (LCM) is caused by the arenavirus commonly associated with hamsters, but does infect mice. LCM is rare in laboratory animal facilities, more common in the wild. Transmission to humans is through contact with infected tissues including tumors, feces, urine, or aerosolization of any one of these. Disease in humans is generally flu-like symptoms that range from mild to severe.
- B. **Campylobacter:** This is a gram negative bacterium that has a worldwide distribution. Although most cases of human campylobacteriosis are of unknown origin, transmission is thought to occur by the fecal-oral route through contamination of food or water, or by direct contact with infected fecal material. The organism has also been isolated from houseflies. Campylobacter is shed in the feces for at least six weeks after infection. Symptoms, when seen, are acute gastrointestinal illness: diarrhea with or without blood, abdominal pain, and fever. It may cause pseudoappendicitis and, rarely, septicemia and arthritis. Usually it is a brief self-limiting disease that can be treated with antibiotics. Frequently humans and animals can be asymptomatic carriers of the bacteria.
- C. **Leptospirosis:** Is a bacterial infection found in many animals but is most commonly associated with livestock and dogs. The source of infection can be from any of the following: rats, mice, voles, hedgehogs, gerbils, squirrels, rabbits, hamsters, reptiles, dogs, sheep, goats, horses, wild ruminants and standing water. Leptospire are in the urine of infected animals and are transmitted through direct contact with urine or tissues via skin abrasions or contact with mucous membranes. Transmission can also occur through inhalation of infectious droplet aerosols and by ingestion. The disease in people is a multi-systemic disease with chronic sequelae. An annular rash is often present with flu like symptoms. Cardiac and neurological disorders may follow and arthritis is a common end result.
- D. **Rate Bite Fever:** This is transmitted by the bite of a rat infected with *Streptobacillus moniliformis* or *Spirillum minus*. Rats are asymptomatic carriers and the bacteria may be part of the normal flora in the oral pharynx of rats. The symptoms of disease include fever, lymphadenopathy, and swelling at the site of the wound. It may cause arthritis in untreated patients but is easily treated with antibiotics.
- E. **Hantavirus Infection:** Hantavirus occurs mainly among the wild rodent populations in certain portions of the world. Rats and mice have been implicated in outbreaks of the disease. A hantavirus infection from rats has very rarely occurred in laboratory animal facility workers. Rodents shed the virus in their respiratory secretions, saliva, urine and feces. Transmission to humans is via inhalation of infectious aerosols. The form of the disease that has been documented after laboratory animal exposure is characterized by fever, headache, myalgia (muscle aches) and petechiae (rash) and other hemorrhagic symptoms including anemia and gastrointestinal bleeding.
- F. **Other Potential Diseases:** There are several bacterial pathogens, including *Salmonella* spp. that are frequently associated with diarrhea in rodents and may also cause disease in people, such as diarrhea or dysentery.

**Rabbits**

- A. **Pasteurellosis:** Caused by the bacteria *Pasteurella multocida*, which lives in the oral cavity or upper respiratory tract of rabbits. Human infection is generally associated with a rabbit bite or scratch. Human infection is generally local inflammation around the bite or scratch, possibly leading to abscess formation with systemic symptoms.
- B. **Cryptosporidiosis:** An extracellular protozoal organism, cryptosporidium is transmitted via the fecal-oral route; waterborne transmission is also important. In humans infection varies from no

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symptoms to mild gastrointestinal symptoms to marked watery diarrhea. The infection is generally self-limited and lasts a few days to about 2 weeks. In immunocompromised individuals, the illness is more severe.

- C. **Other Potential Diseases:** While none of the following are commonly associated with laboratory rabbits, these diseases are associated with rabbits. *Brucella suis* biotype 2 (brucellosis), cheyletiella infestation (fur mites), *Francisella tularensis* (tularemia), plague, Q-fever, and *Trichophyton mentagrophytes* (ringworm).

**3. Animal Bites and Scratches**

Bites or scratches received from animals should be washed immediately with soap and water. Even though bites from laboratory strains of rodents rarely pose a significant health threat (and no threat of rabies), infections can and do occur. Like all workplace injuries, bites and scratches must be reported (see section 5).

**4. Physical Safety**

- A. **Sharps:** As a general practice, do not recap needles; this is a leading cause of injury. In cases where recapping a needle is unavoidable, a one-handed scoop method should be used. All sharps (needles, scalpels, razor blades and pipettes) must be disposed of in red plastic sharps containers. Needles should be placed in containers without recapping.
- B. **Waste Disposal:**
- 1) All glass, including pipettes, must be properly disposed of in designated "glass" disposal boxes or in sharps containers.
  - 2) All empty syringes and vials of a non-controlled agent are placed into a medical pharmaceuticals waste container.
- C. **Machinery:** No one is permitted to operate any vivarium equipment until they have been trained to do so. Training is provided by VMU staff or other designated, trained staff member.
- D. **Noise:** Excessive noise can result from animals, cage washers and other sources. OSHA regulations impose limits to noise exposure. In cases where noise may be considered excessive, Research Safety should be contacted to conduct an assessment. When noise levels exceed OSHA permissible exposure limits and engineering controls are not feasible, protective equipment must be used to minimize exposures. Currently, ear protection is required when working in the cagewash areas. All personnel working in areas where hearing protection is required must be enrolled in the hearing protection program.
- E. **Ergonomics:** Properly designed work spaces and practices reduce the risk of musculoskeletal injury. For example, storing heavy objects on the floor or above chest level should be avoided. Racks or carts should be pushed rather than pulled. The ability to change tasks within a workday helps to lessen static postures or repetitive motions that can result in injury or illness to tendons, ligaments and/or nerves. Take extreme care in heavy lifting (e.g. back straight, knees bent). Do not lift heavy items too high.

**5. Report of Injury**

- A. In case of a medical emergency involving respiratory distress or unconsciousness here in the VA San Diego Healthcare System (VASDHS), have someone call x3333 and report a Code Blue. For all other medical emergencies requiring assistance call the Emergency Department at x3386.
- B. Immediately report the injury to the principal investigator, office manager, or co-worker.
- C. If you are able to walk, but need immediate medical assistance for a severe injury or medical condition, proceed to Employee Health on the 1st floor, room # 1211 and be seen by the doctor. Follow all instructions given to you by Employee Health.
- D. If you do not need immediate assistance for a severe injury or medical condition, and you are a VMRF employee, go directly to VMRF HR who will direct you to the VMRF Occupational Doctor.
- E. If you do not need immediate assistance for a severe injury or medical condition, and you are a UCSD employee, go directly to UCSD Occupational Health.

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- F. If you elect to see your own doctor, get the proper forms from the nurse in employee health or VMRF HR and follow the instructions.
- G. If you are a VA Paid Employee, as soon as you are able, see Yolanda Castro in Research Administration on the 6th floor, Room# 6004 to complete the Occupational Workers Compensation Program (OWCP) forms.
- H. If you are a UCSD Paid employee, you will need to notify your UCSD HR.
- I. If you are a VMRF Paid employee, you will need to notify VMRF at x7606.
- J. If your injury is to the extent where you are admitted to the Emergency Department (ED) here at the VASDHS, please remember that you may be liable for the expenses that are not covered by your respective medical insurance company. Many times the person may be admitted to the ED, but then will be transported to the hospital of choice by your insurance company. It is up to your medical insurance provider to make that decision so you need to contact them as soon as possible. If you are not able to do so, then you need to have a family member or friend contact your insurance company for you.
- K. If you have any questions please call Yolanda Castro at x7014 or come and see her in room 6004.

**6. Laboratory Animal Medical/Allergy Surveillance Program**

All VASDHS personnel who work directly with or in proximity to research animals are covered by the VASDHS Research Service Occupational Health Program. A key component of this program is the VASDHS Laboratory Animal Medical/Allergy Surveillance Program, which allows individual employees an opportunity to confidentially consult with the VASDHS Employee Health (or equivalent) healthcare professionals about their specific health risk factors and appropriate preventive measures. This Medical/Allergy Surveillance portion of the Occupational Health Program is voluntary for staff. Employees who choose not to enroll in this portion of the program may change their mind at a later date and enroll at any time.

**7. Personal Hygiene**

- A. Do not eat, drink, handle contact lenses, use tobacco products or apply cosmetics in areas where animals are present. Eat, drink and store food in areas specially designated for those purposes.
- B. Keep hands away from your mouth, nose, and eyes when handling animals.
- C. Wash hands after handling animals and prior to leaving animal care and use areas. Hand washing, which is the most effective practice of personal hygiene to reduce the potential of exposure to infectious material, should be performed after the start of the work day, upon leaving for breaks, meals or restrooms, when returning to work, after the handling of any live animal, animal tissue or cage, and after handling any other potential source of contamination.

**8. Personal Protective Equipment (PPE)**

- A. Lab coats, disposable lab coats or scrubs and closed-toed shoes must be worn at all times in the VMU and all laboratory areas.
- B. Latex, nitrile or vinyl gloves must be worn when handling animals, chemicals or biologicals.
- C. Safety glasses and gloves must be worn when working with hazardous chemicals

**References:**

- NIH *Guide for the Care and Use of Laboratory Animals*
- ILAR *Occupational Health and Safety in the Care and Use of Research Animals*
- VA Handbook 1200.8, *Safety of Personnel in Research*
- **Preventing Asthma in Animal Handlers:** <http://www.cdc.gov/niosh/animalrt.html>
- ILAR Journal V42(1) 2001; **Laboratory Animal Allergy:** [http://dels.nas.edu/ilar\\_n/ilarjournal/42\\_1/](http://dels.nas.edu/ilar_n/ilarjournal/42_1/)
- **Asthma in Animal Handlers**, Massachusetts Department of Public Health; <http://www.state.ma.us/dph/bhsre/ohsp/sensor/mts0499b.pdf>
- **Animal Handlers and Allergy;** EEOH Connecticut Department of Health; <http://www.dph.state.ct.us/Publications/BCH/EEOH/news499.pdf>