Policy for Immune Compromised Personnel working in Research Settings

Policy and Scope

It is the policy of the University of California San Diego (UCSD) that all personnel who work in research laboratories or handle animals will receive education and training regarding risks specific for their work area and job duties. As part of this training, information will be given regarding causes and risk factors for immune compromise. It will be provided before starting work, with annual training updates thereafter.

This policy applies to all immune compromised laboratory personnel who may be at increased risk for development of infectious diseases as a result of research activities. Research activities include personnel who work directly with potential pathogens as well as personnel who have exposure because they work in the same laboratory space where infectious agents are studied. Examples from this group include ACP employees, research laboratory staff, EH&S staff, facilities staff, and custodial workers.

Education and Training of Laboratory Workers and Trainees

In addition to information and counseling on specific laboratory hazards, personnel will be advised that individuals who are immune compromised are more susceptible to infection by infectious agents that pose little risk for healthy individuals. Individuals will be given an informational handout or webpage link with educational and contact information in the event they have any questions. Personnel with immune compromise will not be asked to identify themselves during training, but will be referred to resources cited in the handout/webpage in the event they have any questions or concerns.

Counseling of Immune Compromised Laboratory Workers and Trainees Regarding Risk

At the time of hire:

- All personnel will be advised during IIPP/Laboratory and/or Orientation to Animal Research training about the increased risk of illness in immune compromised workers as a result of infectious disease exposure in the workplace.

- Immune compromised personnel will be encouraged to contact the Biosafety officer or EHS Occupational Health Nurse to develop a list of potential pathogens in their work area. An individual risk assessment will be completed based on the laboratory BUA(s) and/or research animal environment.

- All personnel who receive a risk assessment will be encouraged to discuss the results of the risk assessment with their primary care physician and/or UCSD Center for Occupational and Environmental Health (COEM).
In the event personnel have persistent concerns regarding risks of employment, they may be advised to make an appointment with COEM. COEM will assess risks and advise personnel regarding resources and options. The cost for this appointment may be covered either by the individual’s department or workers’ compensation, depending on the circumstances.

Personnel will be advised of the UCSD accommodation services available through Accommodation Counseling and Consulting Services (ACCES).

**During the course of employment:**
- Annual educational material regarding the risks for immune compromised individuals will be provided to all research personnel (e.g., via Lab Notes, ACP staff meetings, etc.). Employees are encouraged to seek advice regarding potential infectious hazards from the Biosafety Officer or EHS Occupational Health Nurse, in addition to confidential counseling and/or risk assessment from their Primary Care Provider, COEM, and/or ACCES.

**Resources:**

Biosafety Officer, Brenda Wong  
Environment Health and Safety  
Phone: 858-534-6059  bwong@ucsd.edu

Occupational Health Nurse, Bobbi Sawtelle  
Environment Health and Safety  
Phone: 858-534-8225  bsawtelle@ucsd.edu

UCSD Center for Occupational and Environmental Medicine (COEM)  
La Jolla Clinic:  858-657-1600  
Hillcrest Clinic:  619-471-9210  

UCSD Accommodation and Consulting Services (ACCES)  
Phone: 858-534-6744  
[http://blink.ucsd.edu/sponsor/hr/org-chart/accom-counseling-consulting.html](http://blink.ucsd.edu/sponsor/hr/org-chart/accom-counseling-consulting.html)
Information for Immune Compromised Personnel in the Research Setting

What is immune compromise?

Immune compromise, also referred to as immunocompromise or immunosuppression, is a condition in which the immune system does not work as well as it does in normal healthy workers. Immune compromised personnel are at higher risk of illness and/or more serious side effects of illness caused by an infectious disease.

What conditions cause immune compromise?

There are many medical conditions that cause immune compromise. In general, if you have a medical condition that causes problems with your immune system, your primary physician will have informed you. Some examples include:

- Infection with Human Immunodeficiency Virus (HIV)
- Prolonged use of corticosteroid (cortisone) medications by mouth or by injection. These drugs are given for a variety of diseases including asthma, allergies, and autoimmune disorders such as lupus and rheumatoid arthritis.
- Monoclonal antibody therapy
- Medications used by people who have received organ transplants
- Long term diabetes mellitus, kidney or liver disease
- Blood diseases (diseases that affect the bone marrow or white blood cells, for example leukemia or lymphoma)
- Certain forms of cancer, leukemia, and lymphoma.
- Cancer chemotherapy and radiation therapy
- Chronic under nutrition (malnutrition)
- Pregnancy will cause some degree of immune compromise (i.e., Listeria, LCMV)
- Spleen removal

If I am immune compromised, what infections am I at increased risk for?

- Almost any of the infectious disease agents that can infect healthy people pose more of a risk of infection for people who are immune compromised. Bacterial, viral, parasitic, and fungal agents may be present in research labs. A few examples include:
  - Tuberculosis (TB)
  - Human Immunodeficiency Virus (HIV)
  - Streptococcus pneumonia
  - Herpes viruses
  - Leishmania
  - Enteric infections such as salmonella, campylobacter and cryptosporidium

- Many infectious agents that do not normally cause serious health problems in healthy people can cause problems in immune compromised individuals. A few examples include:
  - Mycobacterium marinum (found in fish tanks)
  - Mycobacterium avium (found in birds)
  - Cryptosporidium (found in many animals in the research laboratory)
  - Giardia (found in cats, dogs, and sheep)
  - Salmonella (found in many different research animals, especially reptiles/rodents)
Shigella and campylobacter (found in many mammalian research animals)
- Ectoparasites such as mites (found in many research animals including birds, rodents and other mammals)
- Bordetella species (dogs, cats, pigs and other mammals)
- Bartonella species (cats and cat fleas)

Which vaccines are safe for immune compromised people?

- Before receiving any live bacterial or viral vaccines, your personal physician/provider should be consulted since these medications may pose risks of severe side effects:
  - MMR (mumps, measles and rubella)
  - Yellow fever vaccine
  - Varicella (chicken pox and shingles vaccines)

- In general, other vaccines that do not contain live bacteria or viruses are safe, but may be less effective and supply less protection in the case of laboratory exposure:
  - Hepatitis vaccines
  - Inactivated polio vaccine
  - Tetanus, diphtheria and pertussis vaccines

- In general, the tuberculin skin test is considered safe for individuals with immune compromise but may be less accurate than in a healthy individual.

If I am immune compromised, what can I do to reduce my risk of infection?

It is important to ask for help in evaluating your risks. The following resources are available:

- **Know your workplace:** UCSD Environment Health and Safety (EH&S) in conjunction with the Institutional Biosafety Committee (IBC) conduct risk assessments of research projects and procedures to identify and minimize the potential risk of exposure to research-related hazards for all employees. In addition to identifying possible hazards in the workplace, EH&S/Research Safety can help to evaluate engineering controls and safety practices which minimize your risk of exposure. In general, safety practices in the research setting are designed to minimize all personnel’s exposure to hazards. For specific information about animal research settings, refer to Appendix A.

- **Talk to your Provider:** A primary care physician/provider who is aware of your medical condition and has a list of infectious agents present at work can help you make important decisions regarding whether you should ask for work place accommodation. In addition to discussing the infectious agents present in your workplace with your doctor, you should also discuss with the doctor your work activity, frequency and duration of contact with infectious agents, and the normal safety practices and equipment present in your workplace.

- **Consult with the EHS Occupational Health Nurse:** After talking to your physician to discuss infectious agents present in your workplace and your health condition, if medical recommendations or restrictions are necessary to minimize exposure, the EHS Occupational Health Nurse can assist in documenting medical recommendations.
• Contact UCSD Accommodation and Consulting Services (ACCES): If job modifications or accommodations are needed to avoid possible workplace exposures, contact ACCES for assistance.

What else can I do to reduce my risk?

• Always use the recommended engineering controls (such as biosafety cabinets)
• Always wear the recommended personal protective equipment
• Always wash your hands after contact with animals, potential hazards, and after taking off gloves.
• Ask for help in requesting accommodations in the workplace to avoid possible exposures

What should I do if I have symptoms that suggest a work related infection, illness or injury?

If you have any symptoms suggestive of infection from your workplace, you should seek medical evaluation as soon as possible.

• If your condition requires emergency treatment, you should go to the closest Emergency Department for evaluation.
• Notify your supervisor and follow the UCSD incident reporting process per the BLINK webpage: http://blink.ucsd.edu/safety/occupational/reporting.html.
• UCSD employees should contact COEM to schedule an appointment for evaluation and treatment.

Where can I get more information?

• For a personalized evaluation of workplace hazards, contact EHS/Research Safety:
  o Biosafety Officer, Brenda Wong, bwong@ucsd.edu, 858-534-6059
  o Occupational Health Nurse, Bobbi Sawtelle, bsawtelle@ucsd.edu, 858-534-8225
• For respirator evaluation, contact EHS:
  o Occupational Health & Hygiene Services (OHHS), ehsi@ucsd.edu, 858-534-1075
• For Confidential Medical Assessment or Medical Treatment of Suspected Occupational Infectious Disease, contact:
  o EHS/Occupational Health Nurse, Bobbi Sawtelle, bsawtelle@ucsd.edu, 858-534-8225
  o Center for Occupational and Environmental Medicine (COEM)
    ▪ La Jolla location:  858-657-1600
    ▪ Hillcrest location:  619-471-9210
• For Confidential Counseling and Accommodation Assistance, contact UCSD Accommodation and Consulting Services (ACCES):
  o 858-534-6744
  o http://blink.ucsd.edu/sponsor/hr/org-chart/accom-counseling-consulting.html
Appendix A

Animal Care Program Risk Assessment Information for Immune Compromised Individuals

UCSD Environment Health and Safety (EH&S) in conjunction with the Institutional Animal Care and Use Committee (IACUC) and the Animal Care Program (ACP) conduct risk assessments of research protocols and procedures to identify risk modifications that will minimize the potential risk of exposure to hazards for all employees. Safety consideration meetings are held with essential personnel prior to the start of animal research work involving BSL2 agents to review all safety practices, engineering controls, personal protective equipment, and biomedical waste practices.

In the animal care facilities, this risk assessment has resulted in implementation of the following safety practices and risk modifications:

Engineering Controls

- Use of Biosafety Cabinets, Fume Hoods, Downdraft tables, and/or other engineering controls are the primary method in use to minimize potential for exposure to animal allergens, infectious agents, and chemicals.
- Disposable cages to minimize handling of contaminated bedding/waste.
- When engineering controls are not an option, appropriate work practices or personal protective equipment are required to protect all workers from potential exposure.

Administrative Controls/Work Practices

- Hand hygiene: washing hands after glove removal
- No food, beverage, smoking, handling of contacts, applying cosmetics, or taking medications in research work areas
- Prompt sanitation of biosafety cabinets or work surfaces after completion of procedures or if spills occur.
- When high risk infectious agents (e.g., risk group 2) are used in a project, a safety considerations meeting is held with essential personnel to review safe work practices and equipment use.

Personal Protective Equipment

- Personal protective equipment in animal facilities includes: Scrubs, gown, gloves, hair and shoe covers. Additional personal protective equipment may be available upon request (e.g., sleeve covers, aprons, masks, safety glasses/goggles).
- If risk of aerosolization or other airborne exposure is present when engineering controls are not available, appropriate respiratory protection is required, including medical clearance, training and fit testing. As in the health care setting, an N95 mask is generally appropriate for protection from aerosolized or airborne infectious agents in the animal use areas. However, it should be noted that despite fit testing, the N95 mask may not provide 100% protective factor in the actual work setting due to multiple factors, such as employee technique in donning and/or adjusting the mask and type of work activity or level of exertion. Alternate respirator options such as half and full-face cartridge respirators and powered-air purifying respirators (PAPR) may be discussed with EHS/OHHS.
General Vivarium Hazards and Risks for immune compromised individuals:

Research involving experimentally or naturally infected research animals does present recognized risks of occupationally acquired infection. In the largest survey of laboratory-acquired infections conducted to date, research animals or their ectoparasites were associated with about 17% of the reported infections. However, it is important to note that the National Research Council reports “Transmission of zoonotic disease in an animal facility that is not involved with infectious disease research is rare”.

Zoonotic disease risk is variable, depending upon the species, source of the animal, and the duration and type of contact. Risk from infectious agents used in research animals also varies depending on the species, infectious agent, dosage, route of administration, and the duration and type of contact.

Research animals in use at UCSD are primarily laboratory-raised colonies specifically bred for research purposes and are received from vendors who breed disease-free animals. These colonies of lab research animals pose a very minimal zoonotic disease risk because they undergo regular health monitoring, including a sentinel program to detect early signs of infection within the research animal colonies. There is limited work with large animals or wild animals that pose zoonotic disease risks, but for this type of research the risk assessment process identifies appropriate safety practices and procedures to minimize risk of exposure.

When infectious agents are in use for the research, animal care personnel generally have minimal direct contact with the infectious agents. They do not directly handle or administer the infectious agents, as this is done by trained lab researchers. Direct handling of animals involved in research using infectious disease agents is generally limited to very short duration tasks, such as:

- moving the animal into a clean cage
- placing dirty cages into biohazard bags (reusable and disposable)
- autoclaving bagged dirty cages, when appropriate
- dumping dirty bedding
- sanitizing equipment and room

These tasks are done using appropriate engineering controls (e.g., biosafety cabinet, bedding dump station), administrative/work practices, and/or personal protective equipment.

To minimize the potential for animal bites or scratches, personnel are trained in handling techniques to reduce animal stress. Additional protective equipment such as sleeve covers, double gloving or gauntlet gloves may be required for certain animals posing more risk of biting or scratching. For small animals, other transfer options may be available.

Personnel are trained in prompt reporting of any work-related injuries or exposures so that appropriate medical evaluation can be provided immediately, if needed.

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