1. **Scope**
   Research Foundation

2. **Purpose**
   To provide employees with recommended practices in the performance of their duties in an effort to reduce their risk of occupational hazards and diseases.

3. **Background**
   Supersedes: 8/24/00

4. **Policy Body**

   Exposure and risk control at Marshfield Clinic Animal Research and Veterinary laboratory will be accomplished through a system of hierarchical structure in applying engineering controls, work practice controls and the use of personal protective equipment. This policy is based on hazard identification and risk assessment.

   **A. ENGINEERING CONTROLS**

   This is the preferred way to maintain safety, as they are not behavior dependent but safety is an integral part of that device/equipment.

   The following are examples of engineering controls at Marshfield Clinic Research Laboratories:

   1. Handwashing facilities which are readily accessible to all employees who have the potential for exposure.
   2. Chemical Fume Hoods
   3. Biological Safety Cabinets
   4. Isolation Cages
   5. Architecture barriers such as exhaust air ventilation systems and airlocks
   6. Needle containers which are closeable, puncture-resistant, and leakproof on the sides and bottom
   7. Room ventilation
**B. WORK PRACTICES**

Performing a task in a manner, which will reduce a safety risk, is called a work practice control. The following are work practice controls at Marshfield Clinic Research Laboratories:

1. Practices to reduce the number of employees at risk of exposure include:
   a. Restrict access to the work area
   b. Provide warnings of hazards and advice about special requirements

2. Practices to reduce exposures by direct and indirect contact.
   a. Keep hands away from mouth, nose, eyes and skin.
   b. Wash hands when contaminated and when work activity is completed.
   c. Decontaminate work surfaces before and after work and after spills of a hazardous agent, as per standard operating procedures or the individual research protocol.
   d. Use approved methods to decontaminated equipment, surfaces and wastes, as per standard operating procedures or the individual research protocol.
   e. Wear personal protective equipment.

3. Practices to reduce percutaneous exposures:
   a. Eliminate the use of sharp objects whenever possible.
   b. Use gloves to prevent cuts and skin exposure.
   c. Select products with puncture resistant features when possible.
   d. Handle animals with care and proper restraint to prevent scratches and bites.

4. Practices to reduce exposure by ingestion:
   a. Never pipette by mouth.
   b. Do not smoke, eat or drink in work area used for the care and use of research animals.
   c. Protect mouth from splash and spatter hazard.

5. Practices to reduce by inhalation:
   a. Use chemical fume hoods, biological safety cabinets and other containment equipment to control inhalation hazards.
b. Handle fluids carefully to prevent generation of droplets.

c. Follow directions of individual research protocols.

6. Handling and transport of animals.

a. Employees will wear PPE designed specifically to reduce exposure when handling animals, as per standard operating procedures or the individual research protocol.

7. Personal Hygiene.

a. Employees will wash hands before and after handling animals and whenever protective gloves are removed.

b. There will be no eating, drinking, smoking, application of cosmetics in animal use areas, or applying/adjusting contact lenses.

8. Housekeeping.

a. All animal care areas should be kept neat and clean.

b. Work surfaces should be wiped with a disinfectant before work begins, immediately after any spill, and at the end of the workday.

c. Floors will be decontaminated as needed.


a. Waste should be removed at regular intervals per federal, state and local regulations

10. Restraint of animals.

a. Specific safe techniques will be used to restrain animals, as per standard operating procedures or individual research protocol. Restraint can intensify excretions, secretions and aggressive behavior of animals; take precautions for this potential.

11. Cleaning cages.

a. Contaminated shavings, feces, urine and other potentially biohazardous, contaminated or allergenic materials should be removed per National Research Council, 1996 recommendations as follows:

i. For pens or runs, frequent flushing with water and periodic use of detergents or disinfectants will be used to maintain a clean surface.

ii. Enclosures and their accessories need to be sanitized at least once every 2 weeks. Solid bottom caging, bottles and sipper tubes usually require sanitation at least once a week.
iii. Cages that house rabbits, guinea pigs and hamsters should be treated with an acid solution to remove the urine-based minerals and organic compounds.

iv. Primary enclosures can be disinfected with chemicals, hot water or a combination of both.

v. Water bottles, sipper tubes, stoppers, feeders and other small pieces of equipment should be washed with detergents, hot water and, where appropriate, chemical agents to destroy microorganisms.

vi. Automatic watering systems should be periodically flushed with large volumes of water or appropriate chemical agents followed by a thorough rinsing.

vii. All components of the animal facility, including animal rooms and support spaces (such as storage areas, cage-washing facilities, corridors and procedure rooms) should be cleaned regularly and disinfected as appropriate to the circumstances and at a frequency based on the use of the area and the nature of likely contamination.

viii. Cleaning utensils should be assigned to specific areas and should not be transported between areas that pose different risks of contamination.

b. Use biological safety hoods and PPE to protect yourself when dealing with cages contaminated by Biosafety Level 2 or above agents.

**C. PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Provides a physical barrier to hazardous materials that might otherwise come into contact with the employees’ skin, eyes, mucous membranes and clothing. PPE includes but is not limited to gloves, gowns, aprons, face shields/masks, goggles, hoods and shoe covers.

1. Gloves should be worn for handling potentially contaminated animals or hazardous materials.

2. Gowns, lab coats and uniforms should be worn when contamination by animal urine or feces is anticipated.

3. Protective clothing should be selected so that it provides and adequate barrier against the type and extent of exposure expected.

4. Goggles, masks, face shields and safety glasses should be worn whenever splashes, sprays, spatters or droplets may be generated.

5. Respiratory protection is necessary when exposure to aerosols is anticipated.

**D. EDUCATION AND TRAINING**
1. The Occupational Health and Safety goals of the institution and how they will be achieved, including precise guidance on regulatory-compliance strategies, is clearly communicated to all employees.

2. Employees are fully apprised of all relevant hazards and control strategies pertaining to their general work assignments.

3. Managers will be responsible to ensure that their employees have acquired the necessary skills and attitudes to work safely.

**E. VACCINATIONS**

1. Rabies
   a. Will be made available to all employees at his/her request
   b. All animals brought into the lab should have histories that preclude their exposure to rabies.

2. Measles: All employees will have confirmation of a reactive titer to a Measles Ab test.


4. Hepatitis B Virus: Is required for all staff working with primates and Hepatitis B Virus testing.

5. Influenza: Is recommended for all staff working with ferrets.

6. All new studies, especially those that involve infectious agents, will be evaluated by the principal investigator for the need for additional vaccinations.

**F. DISEASES**

These are possible diseases, which can be transmitted by working with animals and what employees will do to reduce risk of exposure.

1. Q Fever: Anticipate potential exposure, i.e., splash, physical contact with skin or mucous membranes, and then use appropriate PPE.

2. Cat Scratch Fever: Use appropriate PPE when handling animals.

3. Tuberculosis: PPD is required annually; referral to EH physician will be made if a positive PPD develops for further evaluation and follow-up treatment.

4. Psittacosis: Use animal Biosafety Level 2 practices, containment equipment and facilities, and respiratory protection. Biosafety Level 2 practices include but are not limited to:
   a. Good personal hygiene
   b. Limited access
c. Biohazard safety signs

d. Sharps precautions

e. Personal protective equipment to include laboratory coats, gloves, face and respiratory protection

f. Decontamination of cages before washing

g. Decontamination of infectious waste

h. Hand washing sink in animal rooms

i. Autoclave availability

5. Rat-Bite Fever: Use proper handling techniques.

6. Plague: Can vaccinate but immunity is brief.

7. Brucellosis: Use Biosafety Level 3 practices. Biosafety Level 3 practices include but are not limited to:

   a. Good personal hygiene

   b. Controlled access

   c. Biohazard warning signs

   d. Sharps precautions

   e. Biosafety manual

   f. Decontamination of clothing before laundering

   g. Decontamination of cages before bedding is removed

   h. Decontamination of all wastes

   i. Wearing personal protective equipment to include laboratory gowns, gloves, face and respiratory protection as required, protective footwear as required

   j. Containment equipment used for all activities involving infectious materials or infected animals

   k. Physical separation from access corridors

   l. Self-closing double-door passage way

   m. No recirculation of exhaust air
n. Hand washing sink in animal rooms

o. Autoclave availability

8. Leptospirosis: Wear PPE.

9. Campylobacter: Use PPE, good personal hygiene and sanitation measures.

10. Salmonellosis: Use PPE, good personal hygiene and sanitation measures.

**G. ALLERGIC REACTIONS**

To prevent and reduce allergic reactions, these measures are in place:

1. Post Job Offer Screening Programs to identify persons at risk for development of lab-animal allergy or asthma. Employees are counselled on low to reduced exposure.

2. Use solid-bottom cages with bedding for mice and rats and use non-contact absorbent pads.

3. Persons with known risks will be assigned tasks of decreased exposure such as feeding and weighing; these persons will do no cage cleaning.

4. Staff should always wear PPE, should wash hands frequently, and shower after work.

5. For any staff with a known allergy, the Employee Health Department should be contacted.

**H. PHYSICAL HAZARDS**

Examples of these include animal bites, scratches, kicks and related hazards.

1. Educate all staff on safe animal handling techniques.

2. Bites

   a. Employee needs to be up-to-date on the Tetanus vaccination

   b. Provide prompt medical review of wound and refer to Urgent Care Department if needed.

   c. Initiate veterinary review of the animal involved.

3. Chemicals

   a. All employees will be aware of and trained in the safe use of all chemicals - Material Safety Data Sheets (MSDS) information is available through the clinic's Fax-on-Demand system. Read and follow directions and label information for all chemicals used.
5. **Revision History**
   3/1/05: Clarification on what the policy is based on.

6. **Keywords**
   Safety, Health, Occupational Health and Safety