

STANDARD OPERATING PROCEDURE
TUSKEGEE UNIVERSITY ANIMAL CARE AND USE COMMITTEE

**MEDICAL MONITORING AND OCCUPATIONAL HEALTH
AND SAFETY PROGRAM FOR ANIMAL USERS AND SUPPORT STAFF**

I. Introduction

The National Institutes of Health (NIH) requires each university receiving federal support for research involving vertebrate animals to establish a medical monitoring and occupational health and safety program (MMOHSP) for personnel with animal contact. Following the guidelines of the NIH and working in conjunction with a medical services provider (Student Health), Tuskegee University developed a MMOHSP. The purpose of the program is to provide guidance on the diagnosis, treatment, and prevention of diseases transmitted from animals to man (zoonotic diseases). Additionally, a comprehensive educational program was established to inform personnel about zoonosis, personal hygiene, and other important safety issues related to animal use.

This manual was developed to provide a description of the Medical Monitoring and Occupational Health and Safety Program being implemented by Tuskegee University. The program is intended to meet or exceed health and safety requirements established by the NIH and is designed to protect individuals working with vertebrate animals.

II. Risk Assessment for Animal Users

Supervisors providing oversight for employees required to perform animal care or use duties must perform a job risk assessment. Within this context, animal care supervisors and principal investigators using animals must provide special occupational programs for those individuals.

The assessment must identify employee job-related hazards and institute means to eliminate or minimize such hazards or risk using engineering practices, personal protective equipment, preventative vaccination, and training. Occupational exposure is defined as reasonably anticipated risks of injury or illness that may result from the performance of an employee's duties.

- 1) Individuals at risk while performing veterinary care, husbandry and related animal use duties.
 - a. Veterinarians working in the animal care and use program
 - b. Animal care technicians
 - c. Students working on animal related training or research protocols
 - d. Research support staff with animal contact
 - e. Veterinary Students

- 2) Occupational risks and prevention for individuals performing animal care husbandry and animal use related duties:

- a. Diseases transmission hazards associated with working with animal resulting in mild to fatal illness:
 - i. Zoonotic agents:
 - 1. Viral: Rabies, Lymphocytic choriomeningitis
 - 2. Bacterial: *Campylobacter* sp. *Pasteurella Multocida*, *Tetanus* sp., *Tuberculosis*, *Salmmella Brucella* sp.
 - 3. Fungal: *Microsporium* sp. *Trichophyton* spp
- b. Use appropriate personal protective equipment (PPE)
 - i. Gloves, masks, respirators, and head covers
 - ii. Goggles and face shields, ear plugs
 - iii. Laboratory coats and work uniforms
 - iv. Shoe covers, booties and boots
- c. Observe risk reduction work practices
 - i. Wear designated laboratory apparel at all times when working with animals.
 - ii. Do not drink, eat, smoke or apply lipstick in laboratory animal use or housing space.
 - iii. Wash hands after handling animals or animal specimens.
- d. Means of minimizing disease transmission risks
 - i. Employee engineering controls to minimize exposure:
 - 1. Make use of sharps disposal containers
 - 2. Assure comprehensive implementation of pest and vermin control program
 - 3. Assure proper waste segregation, decontamination and disposal as is applicable for non-clinical biohazardous waste.
 - 4. Assure cages are washed properly and rinsed at 180° Fahrenheit.
 - 5. Assure properly operating containment equipment as well as environmental support to minimize airborne hazard when applicable.
 - 6. Assure compliance with appropriate biosafety level recommendation for agents in use.
 - 7. Reassign immune-compromised individuals to areas "out-of-risk" if applicable.
 - 8. Post appropriate signage for hazardous areas.
- e. Observe proper hygiene
 - i. Shower after removing work clothes and before departing work area.
- f. Maintain animal use space in good husbandry status
- g. Remove contaminated clothing as is appropriate to prevent infection or infestation
- h. Do not take uniforms home for laundering.
- i. Maintain animals in good health status with a preventative medicine program and treat or euthanize sick animals as is appropriate.
- j. Utilize diagnostic technologies to routinely sample and survey animals for disease as is appropriate.
- k. Properly restrain animals and use proper animal use techniques in order to reduce potential for needle stick injury, bites, and scratches.

- l. Participate in preventative medicine program
 - i. Receive a physical examination as required to complete work assignment
 - ii. Receive tetanus booster or immunization as required.
 - m. Response to an exposure, accident or emergency:
 - i. If scratched or bitten follow first aid procedures
 - ii. Report all possible exposures or injuries to supervisor and seek medical treatment as appropriate.
- 3) Allergies and Other allergic responses associated with animal care and use:
- a. Agents causing allergies:
 - i. Animal dander, fur and urine
 - ii. Latex gloves
 - iii. Chemical allergy
 - b. Means of minimizing risk of injury:
 - i. Employ engineering controls to minimize exposure
 1. Reassign individuals for whom allergic agents have been identified to duties that minimize or avoid exposure.
 2. Alert supervisor to allergic conditions caused or suspected to be caused by animals or other agents
 - ii. Use appropriate personal protective equipment
 1. Gloves, masks, respirators and head covers
 2. Goggles and face shields
 3. Lab coats and work uniforms
 4. Shoe covers, booties and boots
 - iii. Observe risk reduction work practices
 1. Wear designated laboratory apparel at all times when working
 2. Observe proper hygiene: Shower after removing work clothing and departing the work area.
 - iv. Participate in preventative medicine program
 1. Receive physical examination as required.
 2. Inform medical treatment in instances where allergies to animals or other agents are suspected or present.
 - v. Response to allergic reactions:
- 4) Bite and Scratch Wounds:
- a. Nature of risk:
 - i. Superficial wound with no notable infection or subsequent scarring.
 - ii. Painful, infected wound of an acute or chronic nature.
 - iii. Nerve damage resulting in minor or major disability.
 - iv. Serious life threatening injury or infection
 - b. Means of Minimizing Risk of Injury:
 - i. Engineering Controls:
 1. Assure appropriate animal restraint aids are on hand in an in good working order.
 2. Assure animal transports and housing have proper working latches and are escape proof.

- ii. Personal protective equipment
 - 1. Wear proper personal protective equipment when working with animals
 - 2. Use specialized gloves and other gear when needed to handle fractious animals
- iii. Employ good work practices:
 - 1. Employ appropriate animal handling and restraint techniques for species.
 - 2. Be alert of signs of fear or aggression in animals
- iv. Participate in the medical monitoring program
 - 1. Assure tetanus vaccination is current
- v. Response to an exposure, accident or emergency:
 - 1. If scratched or bitten, follow first aid procedures
 - 2. Report all possible exposures or injuries to your supervisor and seek medical treatment as is appropriate.

5) Contaminated Needle Puncture, Cut:

- a. Nature of Risk:
 - i. Superficial wound
 - ii. Painful infected wound of an acute or chronic nature.
 - iii. Serious life threatening injury or infection
 - iv. Injection of drug, chemical agent, or biological agent with consequences based on agent and amount received.
- b. Means of Minimizing Risk or Injury:
 - i. Engineering Controls:
 - 1. Use sharp containers to dispose of needles, syringes and other sharp objects
 - ii. Work Practices:
 - 1. Employ appropriate animal handling and restraint techniques for animal/species.
 - 2. Get appropriate assistance when required in handling and uncontrollable animal.
 - iii. Participate in preventative medical monitoring program:
 - 1. Receive annual physical as specified as substantial animal user.
 - 2. Assure tetanus immunization is Response to an accident or emergency:
 - a. Seek emergency treatment if required.
 - b. Clean would immediately with soap and water.
 - c. Report to supervisor for further action.
- c. Ergonomic Injury:
 - i. Nature of Risk:
 - 1. Repetitive motion stress, strain of an acute or chronic nature as seen in work such as sweeping, mopping, cleaning and other procedures including computer use.
 - 2. Muscle, tendon, or ligament injury brought about by improper lifting, pushing, pulling, or turning, etc.
 - 3. Injury may be acute or chronic or result in short-term or long-term disability back pain/injury
 - ii. Means of minimizing risk of injury
 - 1. Engineering controls:
 - a. Assure personnel using computers have proper ergonomically designed chairs, work stations, and glare reduction aids.

- b. Provide lift aids needed as well as flat beds for use with animals feed, trash etc.
Maintain all equipment in good working order
- 2. Personnel protective equipment:
 - a. Use appropriate work gloves for handling loads
 - b. Use footwear with good traction when lifting, pushing, or pulling.
- 3. Work Practices:
 - a. Use lift assistance devices as is appropriate to prevent back strain
 - b. Employ proper ergonomic techniques to assure a proper lift
 - c. Contact supervisor for personnel assistance when needed.
- 4. Response to accidents or emergencies:
 - a. Employ appropriate first aid measures
 - b. Report injury to supervisor. Seek medical attention as needed.
- d. Slips and Fall Accidents:
 - i. Nature of risk.
 - 1. Acute or chronic injury
 - 2. Short or long term disability
- e. Means of minimizing risk of injury:
 - i. Engineering controls:
 - 1. Obtain sufficient "Wet Floor" signs to post on wet surfaces as needed.
 - 2. Post areas where trip hazards exist
 - ii. Work practices:
 - 1. Wear proper footwear to decrease possibility of slippage.
 - 2. Post "wet floor" signs at all times when surfaces are wet.
 - 3. Remove items from routine pathways that may promote slipping or falling.
 - 4. Clean up spills as soon as possible to prevent accidents.
 - iii. Response to accident or emergency:
 - 1. Employ appropriate first aid measures
 - 2. Report injury to supervisor
 - 3. Seek medical attention if needed.
- 6) Noise:
 - a. Nature of risk
 - i. Minor or severe hearing loss
 - ii. Sources of excess noise. High noise output equipment such as cage washers.
 - b. Means of Minimizing Risk of Injury
 - i. Engineering controls
 - ii. Sound attenuate areas if possible to reduce noise exposure by personnel.
 - iii. Assure high noise generating areas are posted for ear protection if they equal or exceed 85 decibels (dB).
 - c. Personnel protective equipment:
 - i. Use ear plugs or other sound reduction aids
 - d. Work practices
 - i. Use ear protection aids when appropriate
 - ii. Protect hearing at all times on and off the job

- e. Response to accident or injury
 - i. Practice preventive measure by having hearing tested on an annual basis if noise level equals or exceeds 85 dB.
 - ii. Use medically prescribed hearing aids if required.

III. VERTEBRATE ANIMAL USERS INCLUDED IN THE PROGRAM

The Medical Monitoring and Occupational Health and Safety Program (MMOHSP) will be offered to faculty, staff, students or volunteers who work with a University program.

1) **SERVICE PROVIDERS:**

- a. **MMOHSP Coordinator** (Dr. James E. Webster and Assistant Coordinator Dr. Benjamin C. Datiri)

The MMOHSP Coordinator will administer the MMOHSP. This person provides technical support and addresses questions concerning administration of the MMOHSP. When necessary, questions will be referred to the Medical Services Provider or other subject matter experts at Tuskegee University.

- b. **Medical Services Provider/Occupational Health Nurse** (Dr. Janice Hooks and her staff)

To provide professional medical support services for the MMOHSP, the University will use the services of a nurse in Student Health designated as the occupational health nurse. The occupational health nurse will determine risks associated with animal contact for each individual. The occupational health nurse will provide the initial physical examination, appropriate immunizations, follow-up services, and treatment for animal related illnesses or injuries, when authorized by the University.

2) **ADMINISTRATIVE PROCEDURES**

- a. **Identification of Individuals with Laboratory or Agricultural Animal Contact**

When an individual becomes associated with an investigator and will have direct physical contact with laboratory or agricultural animals, the investigator must notify the MMOHSP Coordinator (Dr. Webster or Dr. Datiri) of the individual's name, address, and phone number. It is the investigator's responsibility to ensure that all individuals working with animals are enrolled in the program. The investigator shall assist the individual in completing the Risk Assessment survey. It is important that all information on the form is completed accurately, because the animal species and frequency of animal contact are the prime factors influencing which test or procedures are to be administered for each participant. The completed form must be given to the MMOSHSP Coordinator within two weeks of the determination that the individual will handle animals. Whenever a participant plans to work with a different species, a new animal contact form must be completed and given to the MMOSHSP Coordinator.

- b. **Acquisition of Initial Medical Screening**

Upon receipt of the Risk Assessment Survey from the employee or student, the MMOSHSP Coordinator will provide a letter outlining the program and provide an Authorization for Medical Screening Form. The authorization form will permit the

Medical Services Provider to perform certain medical procedures and will confirm the days and times for medical screening. The subject individual must report to the Medical Services Provider. The University will be billed directly for the services rendered, so there is no cost to the individual.

c. Waiver of Medical Screening

The waiver statement listed below must be reviewed and signed by vertebrate animal users *refusing* the opportunity to participate in the medical screening program. The statement reads as follows:

Wavier of medical monitoring procedures

I have been offered the opportunity to my exposure to animals, and I have declined the service. I understand that in the future if I continue to have vertebrate animal exposure at Tuskegee University, and I wish to participate in the medical monitoring program, I can do so by contacting the MMOSHP Coordinator.

Check and initial _____

Signature _____ Date _____

If an individual waives some medical procedures, but later decides that she/he wants to participate in medical services, she/he may do so at any time. The individual should notify the MMOSHP Coordinator and an authorization form will be issued.

d. Termination of a Participant

The Investigator must contact the MMOSHP Coordinator whenever an individual is about to terminate his/her association on a project or ceases vertebrate animal contact.

e. Tetanus Vaccination

A tetanus vaccination will be administered to all vertebrate animal users at approximate ten-year intervals or when determined by the medical services provider after an accident or injury.

f. Tuberculin Skin Test

Individuals who have contact with and species of animals housed at the Tuskegee University with significant potential for tuberculosis shall receive a Tuberculin Skin Test annually and/or a chest X-ray. Individuals testing positive will receive a physician referral.

g. Rabies Pre-exposure Vaccination

Individuals who have contact with dogs, cats, and certain wild mammals will receive a rabies pre- exposure vaccination as directed by the medical services provider or a referral

physician. Individuals electing not to take the rabies pre-exposure vaccination must sign a waiver.

h. Q-Fever

Q-fever is a Rickettsial zoonosis caused by *Coxiella burnetti*. Domestic ungulates such as sheep, cattle and goats usually serve as the reservoir of infection for humans and shed the organism in their urine, feces, milk and especially their birth products. Humans can acquire the infection by inhalation of infectious aerosols and dusts in which only a single inhaled organism can cause infection. The clinical features of Q-fever are diverse and vary from subclinical infection to pneumonia, hepatitis or endocarditis. Enclosed sheep holding and care facilities should be designated biohazard areas for Q-fever. No unauthorized personnel should be permitted in this restricted area.

3) PREVENTIVE MEASURES

a. Personal Hygiene

There are a number of personal hygiene issues, which apply to all workers exposed to animals. There should be no eating, drinking, or application of cosmetics in areas where animals are used. All work surfaces shall be decontaminated daily and after any animal related spills. Laboratory coats must be worn over street clothes when working with animals. Personal protective devices or equipment must be used appropriately. Thorough hand washing must be performed after handling animals and prior to leaving the laboratory.

b. Health Education Information

Periodic instruction concerning zoonotic diseases (those diseases transmitted from animal to man) will be provided on an annual basis, or more frequently if needed. Instruction will include, but is not limited to, precautionary procedures available to prevent accidents or contraction of an illness, the proper handling of animals, and review of administrative procedures for the MMOHSP, using handouts, video/audio tapes and lectures.

IV. SUMMARY OF PROPOSED PROGRAM

Each individual participant in the MMOSHSP program shall be responsible on a daily basis for his/her own actions, and strict adherence to the practices and procedures established by the Departments to minimize occupational hazards. This can be accomplished by following safety and operational instructions, wearing appropriate personal protective equipment, attending departmental educational programs, and participation in the Medical Monitoring and Occupational Health and Safety Program.

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