

OCCUPATIONAL HEALTH PROGRAM FOR ANIMAL CAREGIVERS AND USERS

PURPOSE

The Occupational Health Program for Animal Caregivers and Users is intended to establish an occupational safety program to protect employees performing animal care and use duties in a manner which promotes and protects their safety and health and protects the environment in compliance with local and federal regulations.

RISK ASSESSMENT FOR ANIMAL CAREGIVERS AND USERS

All Supervisors overseeing employees required to perform animal care or use duties must perform job risk assessment. Within this context, animal care supervisors and research study directors who utilize animals must provide directives for those under their supervision who have substantial animal contact in order to provide special occupational programs for those individuals.

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

Individuals at Risk While Performing Veterinary Care, Husbandry and Related Duties or Animal Use:

- Veterinarians
- Animal Care Technicians
- Animal Surgical Technicians
- Veterinary Laboratory Technicians
- Animal Care Veterinarians or Technicians with known exposure to BIOHAZARDOUS agents used in research.
- Research Support Staff with Substantial Animal Contact
- Research Support Staff Who Use Random-Source Cats or Dogs

Occupational Risks and Prevention for Individuals Performing Animal Care Husbandry and Related Duties or Animal Use:

Biological Hazards (Biohazardous Risks):

Disease Transmission Hazards Associated with Working with Animals resulting in mild to fatal illness:

Nature of Risk (See Appendix for symptoms of illness):

Zoonotic agents:

Viral: Rabies, Lymphocytic choriomeningitis.

Bacterial: Campylobacter sp., Pasteurella

multocida, Tetanus sp.

Rickettsial: Psittacosis, Q-fever

Fungal: Microsporum sp.

Parasites: worms (Dipylidium caninum, hookworms and cutaneous larval migrans, ascarids and visceral larval migrans) and insects (Lyme disease tick, other ticks, mites and fleas, etc.).

Human Bloodborne Pathogens [(BBP) such as Human Immunodeficiency Virus or Hepatitis B Virus (HBV)] or nonbloodborne pathogens used in research animals via direct injection or present in xenografts placed in animals.

Means of Minimizing Disease Transmission Risks

Employ Engineering Controls to minimize exposure:

Make use of sharps disposal containers

Use self-sheathing needles

Use needleless systems for IV lines

Assure comprehensive implementation of pest and vermin control program,

Assure proper waste segregation, decontamination and disposal as is applicable for nonclinical biohazardous waste.

Assure that cages are washed properly and rinsed at 180° F.

Assure properly operating containment equipment as well as environmental support to minimize airborne hazard when applicable.

Establish special procedures protocols for studies posing disease transmission hazard.

Assure compliance to Biosafety Level recommended for agents in question.

Reassign immunocompromised individuals to areas Aout-of-risk@ if applicable.

Post areas for hazard if appropriate.

Use Appropriate Personal Protective Equipment

Gloves, masks and head covers

Goggles and face shields

Lab coats, work uniforms and (if appropriate) Tyvek Suits

Shoe covers, booties and boots.

Observe Risk Reduction Work Practices

Strictly follow the Bloodborne Pathogens Standards

and Universal Precautions when working with human pathogens.

Wear designated laboratory apparel at all times when working with animals

Do not drink, eat, smoke or apply lip stick in laboratory animal use or housing space.

Wash hands after handling animals or animal specimens or anytime that gloves tear or exposure occurs.

Observe proper hygiene: Shower after removing work clothes and before going home

Maintain animal use space in good husbandry status.

Remove contaminated clothing as is appropriate to prevent infection or infestation. Do not take uniforms home for laundering.

Maintain animals in good health status with a preventive medicine program and treat or euthanize sick animals as is appropriate.

Utilize diagnostic technologies to routinely sample and survey animals for diseases as is appropriate.

Employ procedures for BIOHAZARDOUS Waste Management

Attend Biosafety Classes annually.

Properly restrain animals and use proper animal use techniques in order to reduce potential for needle stick injury or to be scratched or bitten.

Participate in preventive medicine program

Get annual physical examination by Employee Health

Obtain rabies prophylactic vaccination if duties require use or management of random source cats and dogs

Obtain HBV vaccination if duties require contact with materials of human BBP origin.

Get tetanus booster or immunization if required.

Response to an Exposure, Accident or Emergency:

If scratched or bitten follow first aid procedures

Report all possible exposures or injury to supervisor and seek medical treatment as is appropriate.

Allergies and Other Allergic Responses Associated with Working with Animals:

Exposure of sensitive individuals to allergens to which they are allergic resulting from mild symptoms such as sneezing, watery eyes or dermatitis to serious illness or anaphylactic reactions and death.

Agents causing Allergy:

Animal dander and fur

Latex glove allergy

Chemical allergy

Means of Minimizing Risk of Injury:

Employ Engineering Controls to minimize exposure:

Reassign individuals for whom allergic agents have been identified to duties that minimize or avoid exposure to the agent

Alert Supervisor to allergic conditions caused or suspected to be caused by animals or other agents in order that a reassignment may be considered or arranged or so that other means can be devised to minimize exposure

Use Appropriate Personal Protective Equipment

Gloves, masks and head covers

Goggles and face shields

Lab coats, work uniforms and (if appropriate) Tyvek Suits

Shoe covers, booties and boots.

Observe Risk Reduction Work Practices

Wear designated laboratory apparel at all times when working

Observe proper hygiene: Shower after removing work clothes and going home

Participate in preventive medicine program:

Get annual physical examination by Employee Health.

Apprise medical staff of allergies if known or of suspected allergic reactions.

Response in Instances of Allergic Reactions: Seek medical treatment in instances where allergies to animals or other agents are suspected or present.

Bite and Scratch Wounds:

Nature of risk:

Superficial wound with no notable infection or subsequent scarring.

Painful, infected wound of an acute (short duration) or chronic (long duration) nature. Note: Pasteurella multocida is frequently cultured from such wounds.

Nerve damage resulting in minor or major disability.

Serious life threatening injury or infection (loss of function, significant loss of blood, rabies, cat scratch fever).

Means of Minimizing Risk of Injury:

Engineering Controls:

Assure that appropriate animal restraint aids including leashes, cat and rabbit bags, muzzles, collars, snares, and species holders are on hand and in good working order.

Assure that animal transports and housing (cages or enclosures) have properly working latches and are escape proof.

Personal Protective Equipment

Wear proper personal protective equipment (see above when working with animals)

Use specialized gloves and other gear when needed to afford protection against fractious animals.

Employ good work practices:

Employ appropriate animal handling and (chemical or physical) restraint techniques for animal/species

Be competent in sample acquisition procedures with species used.

Be alert to signs of fear or aggression in animals and get assistance if needed.

Get appropriate assistance when required in handling an intractable or uncontrollable animal.

Assure that all animals are properly immunized and socialized.

Participate in Preventive medicine program

Get an annual physical examination by Employee Health

Get rabies immunization at frequency recommended by Employee Health (every 2 to 5 years);

Assure that tetanus immunization is current (every 10 years).

Response to an Accident or Emergency:

Cleanse scratch or bite wound immediately with soap and water.

After cleansing wound, pour 43% - 70% ethanol on wound.

Employ appropriate first aid measures if appropriate to stop bleeding and bandage wound.

Report immediately to Supervisor and to Employee Health for evaluation and treatment of injury.

Contaminated Needle Puncture, Cut:

Nature of risk:

Superficial wound.

Painful, infected wound of an acute (short duration) or chronic (long duration) nature.

Serious life threatening injury or infection

Injection of drug, chemical agent or biological agent with consequences based on agent and amount received.

Means of Minimizing Risk of Injury:

Engineering Controls:

Use Sharps Container to dispose of needles and syringes and other sharps.

Use self-sheathing needles

Use needleless systems for IV lines.

Work Practices

Employ appropriate animal handling and restraint techniques for animal/species when making injections and administering drugs, etc.

Get appropriate assistance when required in handling an intractable or uncontrollable animal.

Participate in Preventive medicine program

Get an annual physical examination by Employee Health

Get rabies immunization at frequency recommended by Employee Health (every 2 to 5 years);

Assure that tetanus immunization is current (every 10 years).

Response to an Accident or Emergency:

Seek emergency treatment if required.

Cleanse wound immediately with soap and water.

After cleansing wound, apply antiseptic if appropriate

Employ appropriate first aid measures.

Report to Supervisor and proceed to Employee Health for evaluation and additional treatment of injury or antidotal treatment if injected with drug or chemical.

Chemical Exposure, Accident and Related Hazards:

Nature of risk:

Acute chemical injury based on chemical identity and incident

Chemicals used in cleaning animal equipment, waste receptacles housing, rooms and hallways.

Chemicals used to bathe animals and to prevent pest infestation.

Drugs used to treat animals

Drugs and chemicals used in research.

Gas tank used for surgical support and in research.

Chronic chemical reaction based on chemical and incident.

Chemicals used in cleaning animal equipment, waste receptacles housing, rooms and hallways.

Chemicals used to bathe animals and to prevent pest infestation.

Drugs used to treat animals

Drugs and chemicals used in research.

Exposure may occur by skin absorption or contact, by injection, by spill or splash or aerosol with exposure on skin, in eyes or inhaled, by ingestion or explosion such as might occur in flammable chemical fire ignition.

Chemical may cause burns, dermatitis, loss of vision, physical disability, acute mild or severe injury, chronic toxicity including cancer and death.

Engineering Controls:

Provide appropriate safety showers and eye wash stations and spill response aids

Use automatic chemical dispensing devices to dispense cage wash detergents and other chemicals so as to minimize or reduce personnel exposure to same.

Provide chemical spill kits in areas of chemical use.

Properly store large quantities of chemical and post warnings.

Place fire extinguishers where needed.

Place chemical absorption pillows and dykes around chemical barrels in case of spill.

Assure adequate number of gas tank brackets or gas transport units are available for all gas tanks.

Assure that all gas tanks pressure regulators or gauges are in proper working order.

Cap all gas cylinders when they are being moved.

Provide employee access to Material Safety Data Sheets (MSDS) for chemical in use.

Systematically review research protocols and establish procedures to protect animal care and use personnel from exposure to hazardous drugs or chemicals if applicable (in cooperation with researcher). Post areas if required.

Personal Protective Equipment:

Wear designated laboratory attire to minimize chemical exposure.

Wear appropriate chemical safety attire including goggles, face shields, laboratory coats, gloves, aprons, shoes and boots based on chemical and exposure risks.

Work Practices:

Observe College Chemical Hygiene Plan for all chemicals, including but

not limited to, acquisition, labeling, use, storage, disposal and employee training.

Know how to safely use gas tanks and assure that they are secured at all times.

Be familiar with information provided on Material Safety Data Sheets for all chemical in use. Know where to go to find MSDS information. Be informed and aware of risks and prevention of hazardous chemicals and drugs used in research if such agents pose a hazard to animal care personnel or animal users

Response to an Accident or Emergency:

Follow recommendation of Material Safety Data Sheet including appropriate first aid measures.

Report to Supervisor and to Employee Health for evaluation and treatment of injury.

Ergonomic Injury

Nature of risk:

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.

Muscle, tendon or ligament injury brought about by improper lifting, pushing, pulling or turning, etc.

Injury may be acute or chronic or result in short-term or long-term disability, back pain/injury.

Means of Minimizing Risk of Injury:

Engineering Controls:

Assure that personnel using computers have proper ergonomically designed chairs, work stations and glare reduction aids.

Provide hydraulic lift aids as needed as well as weight toting aids (for use with animals, feed, trash, etc.,) in good working condition (i.e., smooth working flat beds, etc.).

Personal Protective Equipment:

Eye strain reduction eyewear (optional)

Appropriate work gloves for handling loads.

Footwear for good traction when performing lifting, pushing or pulling, etc.

Work Practices:

Use lift assistance devices as is appropriate to prevent back strain (lift tables, transport cages).

Employ good ergonomic techniques to assure a proper lift.

Utilization of a medically prescribed back brace if appropriate.
Contact supervisor in order to get personnel assistance when needed.

Response to an Accident or Emergency:

Employ appropriate first aid measures.

Report injury to Supervisor. Proceed to Employee Health for evaluation and treatment as is appropriate.

Slip & fall accidents:

Nature of risk:

Acute or chronic injury.

Short or long term disability.

Means of Minimizing Risk of Injury:

Engineering Controls:

Assure proper traction is installed on cage washer ramps and on other surfaces where extra traction is needed.

Obtain sufficient Wet Floor signs to post wet surfaces as needed.

Repair floor drains to eliminate trip hazards.

Post areas where trip hazards exist (i.e., any area of floor that is structurally not flush to normal floor surface).

Work Practices:

Wear appropriate wet surface foot wear to decrease possibility of slippage; wear the appropriate foot wear for the job.

Post "wet floor" signs at all times when surfaces are wet.

Remove items from routine pathways which may promote stripping, slipping or falling.

Clean up spills (or slip-promoting soilage - urine, feces, saliva) as soon as possible to prevent accidents.

Response to Accident or Emergency:

Employ appropriate first aid measures.

Report injury to Supervisor. Proceed to Employee Health for evaluation and treatment.

Burns:

Nature of risk:

Minor or severe burns

Burn Sequelae: Minor or serious infection; scarring or disfigurement.

Sources of excess heat or steam: Cage washer and autoclave

Means of Minimizing Risk of Injury:

Engineering Controls:

Assure proper operation and safe venting of heat emitting

equipment such as cage washers, autoclaves and other devices.
Assure proper insulation of hot water pipes.
Assure that hot water faucets and showers do not pose scold hazard.

Personal Protective Equipment: Use hot mitts and other aids when loading and unloading cage washer and autoclaves and handling hot materials.

Work Practices:

Employ safe cage wash and autoclave use practices
Report malfunctioning units that pose burn hazards and put them out of use if required.

Response to Accident or Emergency:

Employ appropriate first aid measures.
Report injury to Supervisor. Proceed to Employee Health for evaluation and treatment.

Electrocution hazards

Nature of risk:

Minor shocks or serious shock and death.

Sources of electrical hazard: Large and small equipment

Electrical equipment use in wet use areas (dog runs) and conditions (surgery suite use of fluid while using cautery, etc).

Means of Minimizing Risk of Injury:

Engineering Controls:

Assure proper operation and condition of all electrical equipment.

Remove unsafe equipment (ex.:frayed wired) from use.

Properly ground circuits where needed.

Assure that all lights, light switches and other electrical lighting equipment is in good repair and free of electrical hazards.

Work Practices:

Employ safe (Underwriters Laboratories (UP)) practices when using electrical equipment.

Report malfunctioning electrical equipment malfunctions or other unsafe electrical conditions.

Response to Injury:

Employ appropriate first aid measures in a manner which avoids injury to self (from electrocution).

Report injury to Supervisor. Proceed to Employee Health for evaluation and treatment.

Noise:

Nature of risk:

Minor or severe hearing loss

Sources of excess noise: High noise output equipment such as cage washers; animals with high noise output such as dogs.

Means of Minimizing Risk of Injury:

Engineering Controls:

Sound attenuate area if possible to reduce noise exposure by personnel.

Assure that high noise generating areas are posted for ear protection if they equal or exceed 85 decibels (dB).

Reassign those with hearing impairment to duties that lower further impairment if possible.

Personal Protective Equipment: Use ear plugs or other sound reduction aids.

Work Practices:

Use ear protection aids when at risk of excess noise exposure.

Protect hearing at all times on or off the job.

Response to Accident or Emergency:

Practice preventive measures by having hearing tested on an annual basis if noise level equals or exceeds 85 dB.

Use medically prescribed hearing aids if required.

TRAINING

Occupational safety training is required for all new employees. All other employees must also be provided with continuing education on relevant occupational safety issues or more frequently if required.

Written training records are required (identifying topic, training date(s) and name and signature of trainees). Retraining must be carried out more frequently if required.

Training Course objectives must include the following:

Hazard and risk identification and prevention and related tasks for which the employee is at risk in the performance of work.

Preventive medical options such as Hepatitis B and Rabies vaccination.

Description of tasks which pose risks and means of avoiding hazard.

Description of signs and symbols used to identify hazards.

Spill and accident response and procedures.

MEDICAL SERVICES

The following individuals must be provided with Employee Health support services:

Veterinarians

Animal Care Technicians

Animal Surgical Technicians

Veterinary Laboratory Technicians

Animal Care Veterinarians or Technicians with known exposure to biohazardous agents used in research.

Research Support Staff with Substantial Animal Contact

Research Support Staff Who Use Random-Source Cats or Dogs

All Veterinary Services Personnel performing animal care and related duties as well as research personnel with substantial animal contact or who perform research support procedures on random-source dogs and cats must receive the following:

Annual physical examination by Employee Health

Evaluation of specific risk factors previously diagnosed by Employee Health as job-related risk factors.

Rabies prophylaxis (or signed waiver if subject refuses vaccination)

Hearing testing if duty includes exposure to noise level of 85 dB or greater.

EMERGENCY RESPONSE

All animal care personnel and research personnel who routinely work within the animal facility must know where exits are located and be prepared to use such exits in the case of an emergency.

All personnel must know where alarms are located. All personnel must know where fire extinguishers are located and the type of fire for which it can be used.

Fire Alarm:

Immediately evacuate building by the nearest exit route.

Do not use elevators.

Do not re-enter building unless authorized to do so by the fire officer.

Keep clear of the building.

Fire emergency procedures for mobility-impaired personnel:

If on the ground floor exit by nearest safe exit.

If above ground floor, call campus emergency and give your location (building, room and floor) and telephone number

When NOT to try to put out a fire:

If the fire might block one's escape route.

If you are not sure how to operate a fire extinguisher.
If you are not sure the fire extinguisher is correct for the type of fire.

Fire Extinguisher Operation: PASS

PULL the pin:

Hold extinguisher neck by one hand.

Pull the pin with the other hand.

AIM the nozzle at the base of the fire.

SQUEEZE the handle to activate the extinguisher and release fire agent.

SWEEP side to side while aiming at the base of the fire.

Giving Medical Aid:

In instances of major Injury, call 911 and University Security.

Give first aid if safe to do so.

Major injury includes:

Injury which threatens loss of life.

Loss of consciousness.

Fracture, substantial blood loss, amputation of limb, burn to large area of body or eye or vision loss.

Bomb Threat: Immediately call Campus Police. DO NOT IGNORE IT.

Laboratory Fire: BEFORE DOING ANYTHING, ACTIVATE THE NEAREST FIRE ALARM.

If fire is small and it is safe and appropriate (correct fire extinguisher for type of fire and fire is not spreading) to do so, use in-lab or nearest obtainable fire extinguisher to put out the fire.

If fire can not be safely handled by use of the laboratory or nearest obtainable fire extinguisher or is unmanageable after attempting to put it out (using one fire extinguisher), close and lock room and activate nearest wall mounted fire alarm (if not already done so).

Go to nearest phone and call 911 for Fire Emergency. State exact location of fire.

Evaluate building by the nearest exit route.

Do not use elevators.

If known, report any building occupants not accounted for.

Do not re-enter building unless authorized to do so by the fire officer.

Keep clear of the building.

Clothing on fire: DO NOT USE FIRE EXTINGUISHERS ON PEOPLE.

Stop where you are.

Drop to the and roll to put out the flames.
Go to nearest safety shower and drench clothing.

DISASTER PLAN

DISASTER PREPARATION:

Types of Disasters and Scope and Duration:

Hurricanes and severe storms (including blizzards):

Large geographic impact

Duration of response may be short (day) or long (weeks to months)

Power outage resulting in a hot or cold emergency:

Large or small geographic impact

Duration of response is generally short (day(s))

Fire (the most common disaster):

Local or immediate vicinity

Duration of response may be short (day) or long (weeks)

Hazardous material release emergency:

Local or immediate vicinity

Duration of response may be short (day) or long (weeks)

Explosion: Local or immediate vicinity

Local or immediate vicinity

Duration of response may be short (day) or long (weeks)

Any other major disaster identified in consultation with local disaster relief and response agencies (fire department, FEMA).

Structural damage based on structure:

Hurricanes, severe storms:

Minimal structural damage expected to brick walls of buildings in which animals are housed (All facilities) unless there is a complicating secondary event such as fire or explosion as a result of hurricane or storm damage.

Roof and window damage may occur with possible flooding of roof-top facility (Veterinary Services) and to a lesser extent, basement facilities..

Back up of sewer system with resultant flooding of animal rooms on basement levels (Biology and Psychology).

Service disruption(electrical, water, HVAC) may occur requiring need for emergency lighting and electrical support for auxiliary heaters or air conditioners. and sources of clean potable water.

Power Outage: Service disruption(electrical, water, HVAC) may occur requiring need for emergency lighting and electrical support for auxiliary heaters or air conditioners. and sources of clean potable water.

Fire (the most common disaster)

Minimal to severe structural damage expected to buildings (and their interiors) in which animals are housed (All facilities).. Direct damage or indirect damage due to smoke or water damage may also make animal rooms or support space unusable.

Service disruption(electrical, water, HVAC) may occur requiring need for emergency lighting and electrical support for auxiliary heaters or air conditioners. and sources of clean potable water.

Hazardous material incident and or release emergency.

No or minimal to severe structural damage to buildings in which animals are housed (All facilities). Secondary complicating events such as fire or explosion, etc.

Service disruption(electrical, water, HVAC) may occur requiring need for emergency lighting and electrical support for auxiliary heaters or air conditioners. and sources of clean potable water.

Explosion

Minimal to severe structural damage to buildings in which animals are housed (All facilities). Secondary complicating events such as fire or explosion, etc.

Service disruption(electrical, water, HVAC) may occur requiring need for emergency lighting and electrical support for auxiliary heaters or air conditioners. and sources of clean potable water.

Insurance Coverage: Assure coverage is adequate for restoration of physical structure.

Establish Disaster Response Team to include representatives from the animal care committee, facility directors and veterinarians, safety officers, physical facilities management engineers/ architects, security and other personnel.

Establish outside contacts to critique and fine tune plan and to aid in disaster response to include such organizations as local emergency response (Police, Fire, Disaster Emergency Management Agencies), Civil Defense, the National Guard, Animal Control, etc.

Establish links with Volunteer Groups (including ham radio operators, snow-mobile drivers, four-wheel drivers, etc.) and individuals who can be trained to assist in providing animal care or support.

Request advice and resource support from local military installations on setting up support systems (to include such topics as emergency generator capacity set up and use, military emergency rations stocks, etc.).

Coordinate activities between facilities in order to develop an interdependent plan designed to share resources and personnel.

Contact veterinary hospitals in area to aid in the event of a disaster.

Assure that the public relations office critiques plan for its public relations perspective.

Set Priorities:

The first responsibility of a disaster response plan is to assure the safety of

human beings. Immediately evacuate building if required.

After preservation of human life, the human care and treatment of at risk or injured animals is the second most important objective.

Identify the most expensive or irreplaceable animals and create plans to preserve or replace them.

Identify items which are necessary for resumption of or to continue operating (records and equipment).

Locate animal transport vehicles in a safe and accessible place for use in an emergency. Make sure that they are fully fueled and operational.

Move important inside equipment to the center of rooms and upstairs if possible.

Board up windows to prevent breakage where reachable and feasible.

Contact the District of Columbia Fire Department (DCFD) to evaluate the Disaster Plan and to familiarize them with the animal facilitate response and to assess additional emergency preparedness needs. Request that a fire alarm system be installed that routes directly to the DCFD.

Assure compliance with the Chemical Hygiene Plan:

Label all chemicals (identification and warnings) so that they can be properly cleaned up or avoided in case of a spill.

Store incompatible chemicals separately.

Keep an updated copy of the chemical inventory in a separate location.

Shut down the valves of all tanks before leaving.

Floor Plan: Post the animal facility floor plan.

Assure that all essential equipment in on hand:

Flashlights and batteries; flood lights if available.

Cellular phones and chargers (keep in charged state).

Portable radio and batteries and portable television and police scanner if possible..

Properly charged fire extinguishers.

Tarps and /or plastic sheeting

Rope or cord

Tape

Capture nets

Noninjury box traps

Tool kit and specialized tools needed to shut down tanks, etc.

First aid kits for people and animals.

Adequate stock of latex and/or other protective disposable gloves for routine use and as necessitated by disruption of water supply.

Stock of hand-cleaning disinfectant lotion.

Stock of paper towels.

Stock of heavy-gauge plastic bags to be used as necessitated by disruption of

water supply.

Stock of disposable laboratory wear.

Set up of sleeping cot for use by personnel who must spend extended hours on premises.

A one to two week supply of food and water for people and animals.

Portable cages and collapsible cages and crates.

Collars, leashes, leads, leashes and muzzles.

Medicinals including analgesics, anesthetics, tranquilizing agents and euthanasia agents.

Train employees in CPR, first aid (for man and animals). Perform mock disaster preparedness drills and other emergency response procedures (fire drills, location and use of fire extinguishers, etc.).

Annually review and update Disaster Plan.

Records:

Make duplicate copies of vital records or electronically transfer them to a location outside of the anticipated disaster area.

For paper records, place them securely in plastic bags, box them in boxes and secure the latter closed in plastic bags. Label bag with contents. Take records to a department or university specified secure location outside of the disaster zone.

Refrigerators:

To extend the shelf-life of stored drugs and other perishables, set refrigerators to lowest (coldest) setting. Assume that stored items remain useable for 48 hours.

Empty freezers of animal carcasses, before an anticipated disaster; assuring proper disposal. Turn unit to coldest setting after a disaster in readiness for storing animal carcasses.

Nonessential Electrical Equipment: Unplug all nonessential electrical equipment.

Establish an Emergency Employee Release and Response Policy

Release non-essential personnel as soon as possible.

Release essential personnel as soon as they have completed their assigned disaster preparation duties or sooner if conditions so dictate in order to preserve life (employees or their families). In instances of hurricanes, release personnel before sustained winds reach 45 mph.

Following a disaster, essential personnel response may be requested but not demanded with a full disclosure of risks and hazards if known.

Establish a list of volunteers who may be called on if essential personnel can not respond. Train them in carrying out required duties. Make sure that they sign off as volunteers and for training. Retrain them on a regular basis. Provide them with identification needed to gain entry when needed.

Assure that all personnel are current in regard to immunizations for rabies,

tetanus and hepatitis, etc.

Establish a plan for noncommunication crises (phone systems down or cellular airways down or clogged with traffic): Identify several meeting places (in order) and meet to retrieve assignments. Identify several ham radio operators who agree to help. Set up a CB for short range communication.

Monitor potential weather conditions by radio or television broadcast and base action on information given:

Watch: Usually issued 72 hours prior to event. Begin preparedness.

Warning: Usually issued 24 hours prior to event. Complete preparedness.

May require calling in essential personnel.

Maintain a cellular phone and assure its charge or back-up charge. Assure that key personnel are also provided with a cellular phone and supply.

RESPONDING AFTER A DISASTER

Obtain assessment from Emergency Response personnel including whether the disaster is short or long-term and whether the post-disaster Animal Disaster Response Plan can be initiated based on structural integrity, environmental safety, etc.

Advise all personnel and volunteers only to return to work if notified to do so.

Notify national and local animal control of your status and ask for help if needed. Remember that it is easier for agencies located outside of the disaster area to respond than for those inside.

Identify such organizations and establish contacts during the planning stage.

Assure that all personnel observe safety precautions:

Alert Security of intent to enter building.

Use the buddy system. Never enter the building alone.

Use caution when entering building. Be alert for hazards.

Wear rubber boots and gloves.

Avoid all metal as the latter may be electrified.

Use flash lights and never strike a match (flammable vapors or liquids may have been released and may ignite).

In instances of flooding or water damage, have an electrician inspect premises and turn on breakers.

Eliminate hazards to personnel as the first order of repair

In all cases, work through established channels to get repairs carried out. (Ex: Do not reconnect disconnected emergency generators: This may endanger the lives of unsuspecting work crews).

Portable generators must only be used with the units **outside** due to the latter's production of carbon monoxide. Hook up equipment directly to the generators for use. Back-up generators may require cooling water supply: Rig up a recirculating system.

Remember that water may be contaminated and serve as a source of disease transmission.

Animal Disaster Response Plan: Identify levels of support which may be delivered if safe to do so to include the following:

Recapture escaped animals if required.

Relocate valuable breeding stock to identified location if the situation so dictates.

Habitat Categorization: Can animals remain on location or must they be moved or euthanized.

No change of habitat is needed; proceed with next assessment.

No change of habitat is feasible but animals can not be sustained:

Proceed with the following :

Transfer ownership of animals based on prearranged agreement with second party (Can be another researcher, original vender or outside research facility) sanctioned by the IACUC..

Humanely euthanasia animals if no relocation or transfer is possible..

New habitat is needed and is available but can not be used because of animal species or study risk. Euthanasia animals and perform appropriate disposal.

Move animals to previously identified habitat using transport vehicle or aids and by predetermined route..

Animal Health and Injury Assessment: Were any animals made ill or does any animal need ongoing treatment or support?

No illness or injury or ongoing treatment needed; proceed with next assessment.

Few animals need treatment or ongoing support: Provide necessary support if able to so do; otherwise perform selective euthanasia..

Few or many animals with severe injury or illness: Provide necessary support if able to so do; otherwise perform selective euthanasia..

Identify Response Plan Responders and Duties:

Provide them with written Standard Operating Procedures and duties.

Identify personnel who might volunteer to deliver support.

Assure that selected personnel undergo training in procedures to be carried out.

If duties require use of a self sustained breathing apparatus (SBA), obtain Employee Health Assessment to assure that respiratory function is adequate for SBA use and have individual undergo annual training in SBA use..

APPENDIX

WASTE DISPOSAL (Refer to document of ANonclinical Biohazardous Waste Disposal Procedures@)

GENERAL PRINCIPLES

All animal facilities and animal use spaces (including laboratories) are responsible for the separation, packaging, and treatment of their waste prior to its removal and disposal. All biohazardous waste must be packaged, contained and stored so as to prevent the release of waste at any time at the site of production through the process of disposal.

The federal Bloodborne Pathogens Standard (BBP) and Universal Precautions (UP) must be employed when applicable. Employees must be familiar with university documents for nonclinical biohazardous waste disposal.

Hazardous chemical waste that also contains viable biohazardous agents must undergo biohazardous decontamination prior to disposal unless such procedures are contraindicated (i.e., might result in exposure to the chemical agent or dangerous chemical reaction). In such instances, strict disposal procedures must be established as approved by the Biohazard Committee and Chemical Hygiene Committees. Biohazardous waste that is also radioactive must be handled in strict compliance with the Radiation Safety Office.

Autoclaving is the preferred method of decontamination of biohazardous agents. Chemical disinfectants serve the purpose in many instances but should not be considered under most instances.

Animal Waste:

ANIMAL BEDDING

Animal bedding or pan papers with urine and feces is considered nonhazardous if it does not contain an infectious agent, radioisotope or hazardous chemical and can be double-bagged for disposal as solid waste in the regular trash.

SPECIAL PROCEDURES FOR DISPOSAL OF ANIMAL CARCASSES:

Uninfected animals and their tissues which contain no radioisotopes or harmful chemicals should be placed in an appropriate size heavy gauged opaque trash bag and held under refrigeration or freezer for special pick-up by a licensed dead animal pick-up service.

If radioisotopes were used in the animal or its tissues or cells the latter must be handled as

RADIOACTIVE WASTE and as prescribed by Radiation Safety.

Animals infected with human or animal pathogens: Treat as BIOHAZARDOUS NONSHARPS WASTE and place in red biohazardous waste bags and follow biohazardous waste procedures and store separately from NONHAZARDOUS ANIMAL WASTE BAGS:

Affix completed identification tags to bag with Supervisor, Location, Infectious Agent and Date of Disposal.

Animal blood in tubes or other blood-derived specimens, whether NONHAZARDOUS or BIOHAZARDOUS, should be treated as biohazardous waste.

Training Note: Supervisor of animal caregivers is required to inform caretakers and technicians of risks associated with each project to which they are assigned and to prescribe means of minimizing risks. THIS MUST INCLUDE INSTRUCTION IN BIOHAZARDOUS WASTE MANAGEMENT AS PRESCRIBED IN THIS DOCUMENT.

WASTE SPILLS

Medical waste spills must be cleaned up immediately unless unsafe to do so. Clean -up and decontamination must be carried out in accordance with the written operating procedures of the laboratory and in accordance with Howard University, local and federal regulations.laboratory

Biohazards spill kits must be in place before any work is done with biohazardous agents. Kits can be commercially obtained or assembled and labeled by the laboratory supervisor. Spill kit components include an open back protective cover gown (such as a surgical gown), shoe covers, an eye shield and mask, red BIOHAZARDOUS bags, latex gloves, liquid absorbent, a scoop or shovel, antimicrobial hand wipes and germicidal surface cleaner and wipes (paper towels, etc.). All staff must know where the kit is stored and how to properly use it.

In instances where spills resulted in/ or suspected to have resulted in exposure to an infectious agent, an accident report is required to be filled out with notification to one=s Department Chairman, University Security and the Biosafety Committee. In the latter case, medical advise or treatment must also be sought with Employee Health.

AUTOCLAVE TESTING PROGRAM

For any autoclave used for biohazard decontamination, an autoclave testing program must be routinely administered according to the manufacturer >s recommendations. Such tests may consist of culture, tape color change or other recommended procedure. Autoclave testing, repair and use records must be properly maintained. Autoclaves designated for decontamination are required to undergo annual testing by Environmental Services designated personnel.

GLOSSARY

Autoclave - To sterilize using super heated steam under pressure.

Autoclavable bag - A red or orange bag or a clear bag with red or orange lettering bearing a printed sterilization indicator.

Biohazardous - An agent or biological origin which is capable of replication and may harm man, animals or the environment.

Biohazardous Glassware or Plastics - Glassware or Plasticware such as flasks or beakers which has been contaminated with biohazardous material.

Bloodborne Pathogens - Defined by the Bloodborne Pathogens (BBP) Standard as pathogenic microorganisms that are present in human blood and can cause disease in humans.

Contaminated - The presence of reasonably anticipated presence of blood or other potentially infectious materials within material or on an item or a surface.

Decontaminate - To use physical or chemical means to remove, inactivate, or destroy bloodborne pathogens in material, on surfaces or on items so that they are no longer capable of transmitting disease.

Disinfect - To inactivate nearly all recognized pathogens on inanimate objects.

Exposure Control Plan - A plan with procedures to be used to minimize on the job risks posed by pathogenic agents.

Impervious Container - A rigid, leak resistant and puncture proof container.

Regulated Sharps - any metal object capable of penetrating the skin, including, but not limited to needles, scalpels, razor blades, dental wires and other similar items.

Segregation of Waste - Separating waste into hazard categories and material type.

Sterilize - To use physical or chemical means to destroy microbial organisms.

Uncontaminated or Noncontaminated - With reference to this document, means the absence of biological hazard.

SCHEMATIC OF WASTE DISPOSAL PROCEDURES (Refer to document of ANonclinical Biohazardous Waste Disposal Procedures@)