EXPOSURE CONTROL PLAN FOR BLOODBORNE AND OTHER PATHOGENS IN NMHU TEACHING AND RESEARCH LABORATORIES

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The purpose of the Exposure Control Plan for this facility is to implement the requirements of OSHA Standard 29 CFR 1910.1030 for Bloodborne Pathogens, and thereby reduce the risk of student and/or employee infection with bloodborne pathogens such as, but not limited to, Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV) which results in AIDS. Furthermore, this plan implements certain aspects of RCRA Medical Waste regulations (40 CFR 259; URL: EPA website)

This policy is designed for employees and students to adhere to Universal Precaution practices. Universal Precaution is an approach to infection control that assumes that all human blood and certain human body fluids, and, any cultures obtained from humans or animals infected with human pathogens, are treated as infectious materials. Any material shall be considered infectious materials when derived from humans, microbiological cultures from humans or animals that potentially contain human pathogens, or environmental samples that potentially contain human pathogens (e.g., Giardia in water and sediments, sewerage materials, etc.).

Section 1: Responsibilities of Personnel

1.a. Research Laboratory Supervisor

Each research laboratory has a single faculty member who is responsible for ensuring that students, visitors, and employees adhere to the bloodborne pathogen exposure control plan. Responsibilities include:

1. Proper identification of infectious materials;
2. Containers of infectious materials are clearly and properly labelled;
3. Waste infectious materials are properly labelled and disposed of as medical infectious wastes (see EPA Basic Information and NM Regulated Medical Waste);
4. Appropriate engineering controls on exposure are present and functional (laminar flow hoods, biocabinets, etc.);
5. Proper personal protective equipment (PPE) is selected;
6. Students, visitors, and employees are provided with proper training prior to entering the laboratory; and
7. Training, engineering controls, and personal protective equipment utilization is documented.
8. The preparation and annual review of an exposure control plan for the laboratory.

1.b. Teaching Laboratory Instructor

A teaching laboratory instructor is any NMHU employee who is responsible for a laboratory section of a course. In most cases, this will be the instructor of record. However, when an instructor has turned over a laboratory section to another employee (student, staff, faculty) then that employee is reponsible for ensuring that Universal Precaution practices are followed in the laboratory class. The responsibilities of a teaching laboratory instructor are:

1. Minimize the number of laboratory class activities that involve potential exposure to infectious materials;
2. Inform all people in the classroom of the hazards associated with the laboratory activity, and, personal exposure prevention practices and hygiene;
3. Ensure engineering controls on exposure are operational and used correctly by students;
4. Ensure personal protective equipment (PPE) is appropriate to the activity, and, students are utilizing the PPE correctly;
5. Report any exposure incidents and accidents to the Chemical/Biological Hygiene Officer;
6. Ensure there are written warnings about infectious materials in each laboratory assignment, and the use of engineered control and PPE;

7. Infectious materials are properly labelled; and
8. Infectious materials are disposed of properly.

1.c. Chemical/Biological Hygiene Officer

The Chemical/Biological Hygiene Officer has the following responsibilities:

1. Providing information to employees on infectious materials management, personal protective equipment, engineering controls, and pertinent regulations
2. Reviews exposure control plans for complicance
3. Periodically inspects laboratories to ensure that the policies and procedures described in the plan are being followed.

1.d. Employees

Employees have the following responsibilities:

1. Follow instructions provided by the supervisor for universal precautions in handling infectious materials.
2. Report all exposure incidents to the immediate supervisor.
3. Pvide directions and corrections when incorrect or inappropriate precaution practices are being performed by a student or another employee.
4. Dispose of infectious or medical wastes properly.
5. Report the development of illness that might be related to exposure to the immediate supervisor.

1.e. Students

Students have the following responsibilities:

1. Follow all laboratory instructions exactly as described by the instructor/supervisor.
2. Report all exposure incidents to the instructor/supervisor.
3. Dispose of infectious and medical wastes as instructed by the instructor/supervisor.

Section 2: Exposure Determination

All students, graduate teaching assistants, or faculty who may come in contact with blood, or infectious agents through classroom activities are at risk for possible exposure.

All faculty, graduate students, or undergraduate research assistants who may be conducting research projects using human blood or human body fluids, experiments with infected animals that involve blood, body fluid contact, infectious agent cultures, or possible infected animal bites are at risk of possible infectious disease exposure.

Employees who are responsible for first response to medical emergencies, such as cuts or wounds from a laboratory accident, are considered potentially exposed to pathogens.

Employees who are responsible for disposing of wastes from teaching or research laboratory with blood borne pathogens or other infectious agents

Section 3: Methods of Compliance

3.a. General

1. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials.

2. Under circumstances in which differentiation between body fluid types are difficult or impossible, all body fluids shall be considered potentially infectious materials.

3. Contaminated instruments and other materials shall all be considered potentially infectious materials.

4. Students and employees shall wash their hands immediately after removal of gloves or other personal protective equipment, and, after direct skin/hand contact with blood or other potentially infectious materials. Hands and contaminated skin surfaces shall be washed with soap and water by lathering the skin and vigorously rubbing together all lathered surface for at least 10 seconds, followed by thorough rinsing under running water. Avoid touching surfaces (e.g., doorknobs, countertops, etc.) before washing hands.

5. Eating, drinking, smoking, applying cosmetics or lip balm,and handling contact lenses are prohibited in work areas where there is a reasonable likelihood for occupational exposure.

6. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on counters or benchtops where blood or other potentially infectious materials are present.

3.b. Engineering and Work Practice Controls

1. Used hypodermic needles (syringes, etc.) shall ***not*** be sheared, bent, broken, recapped, or removed by hand. Any exception must comply with 29 CFR 1910.1030 (d)(2)(vii). Syringes and other sharps (e.g., scalpels, forceps) shall be disposed in containers clearly labeled “Infectious Sharps” (see NM Regulated Medical Waste);

2. All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, splattering, and generation of droplets.

3. Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

4. Specimens of blood, or other potentially infectious materials, shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport or shipping. The container shall be clearly labeled “Infectious Materials” and bear a universal biohazard symbol.

    a. The container for storage, transport or shipping shall be closed and labeled or color coded according to Department of Transportation regulations.

    b. If outside contamination of the primary container occurs, it shall be placed within a second container which prevents leakage during handling, processing, storage, transport or shipping. The second container shall be labeled or color coded.

    c. If the specimen could puncture the primary container, it shall be placed in a puncture resistant second container meeting the characteristics of the above.

5. Equipment that may become contaminated with blood or other potentially infectious material shall be decontaminated as necessary unless decontamination is not feasible.

    a. Contaminated equipment shall be labeled according to requirements in paragraph F of this plan and shall state which portions remain contaminated.

    b. It is the responsibility of NMHU Chemical/Biological Hygiene Officer to notify all affected employees, the servicing representative and/or manufacturer as appropriate prior to handling, servicing or shipping of contaminated equipment so that appropriate precautions can be taken.

6. Laminar flow hoods and biosafety cabinets will be selected by the laboratory supervisor as appropriate to the level of biohazard associated with infectious materials. The Chemical/Biological Hygiene Officer will annually inspect laminar flow hoods and biosafety cabinets for proper operation and servicing. Hoods and cabinets must bear a universal biohazard symbol.

3.c. Personal Protective Equipment

1. Personal protective equipment (PPE) shall be selected according to the NMHU Personal Protective Equipment Plan**.** It is the responsibility of the laboratory supervisor to select appropriate PPE for a potential set of pathogens.

   All PPE shall be removed before leaving the work area.

   Equipment shall be placed in an appropriately labeled container for storage, washing, decontamination or disposal. The label must clearly bear the legend "Infectious Waste", or, "Infectious Contaminated Equipment" and bear the universal biohazard symbol.

2. When exposure to infectious materials is possible, employees shall use appropriate personal protective equipment such as: gloves, aprons, disposable lab gown, head and foot coverings, face shields.

3. The appropriate personal protective equipment shall be discussed with each employee and shall be required based upon the tasks involved and the hazards of the job duty.

4. The supervisor shall provide appropriate PPE to employees for the tasks in the workspace. If deemed appropriate, non-disposable multi-use equipment may be assigned to individual employees.

5. The employer shall provide facilities and equipment for cleaning or disposal of personal protective equipment. Small stains from body fluids on PPE may be initially cleaned with a mild detergent and water. PPE contaminated with small or large amounts of body fluids shall be placed in leak proof bags, sealed, labeled, and transported for proper cleaning, disinfecting or disposal.

6. Gloves shall be worn whenever it can reasonably be anticipated that hands may make contact with blood, other potentially infectious materials, mucous membranes, wounded skin, and when touching or handling contaminated items or surfaces.

   a. Only disposable (single use) medical gloves, such as surgical or examination gloves shall be used. They must be replaced as soon as possible when contaminated, torn punctured, or when their ability to function as a barrier is compromised. Disposable gloves shall not be washed or disinfected for re-use. Personnel engaging in any emergency care shall put on medical gloves prior to initiating such care. Medical gloves shall be a standard component of the first aid kit.

7. Masks and eye protection or chin length face shields shall be worn whenever splashes, spray, spatter, droplets, or aerosols of blood or other

potentially infectious materials may be generated. This policy applies whenever eye, nose, or mouth contamination can be reasonably anticipated.

8. Gowns, aprons and other protective body clothing (e.g., gowns, aprons, lab coats, clinic jackets or similar outer garments) shall be required whenever exposure to infectious materials can reasonably be anticipated.

9. It is strongly recommended that disposable lab gowns be used.

3.d. Housekeeping

The work site is to be maintained in clean and sanitary condition. The employer shall designate the method of decontamination to be based in the location within this facility, the type of surface to be cleaned, the type of infectious material likely to be present, and the tasks and procedures being performed in the area.

A designated cleaning and disinfecting area shall be provided for the cleaning and disinfecting of PPE, portable equipment, and contaminated articles. This cleaning area shall have proper ventilation, lighting and drainage connected to a sanitary sewer system.

1. Registering. All disinfectants utilized in research and teaching laboratories shall be registered with the U.S. Environmental Protection Agency. The disinfectant must be registered as *tuberculocidal*. Care shall be taken in the use of all disinfectants. Disinfectants are a form of pesticide. Disinfectants must be included in Chemical Hygiene Plans for laboratories (see **NMHU Chemical Hygiene Plan**). Employees and students shall wear cleaning gloves while disinfecting equipment and environmental surfaces.

2. Cleaning and Disinfecting: All equipment and environmental working surfaces shall be properly cleaned and decontaminated after contact with blood or other potentially infectious materials.

a . Decontaminating. Work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible after any spill of blood or other potentially infectious materials; and at the end of the work shift.

b. Reuse. All bins, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials, shall be inspected and decontaminated regularly or upon visible contamination.

c. Broken Glassware. Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using

mechanical means such as a brush and a dust pan, thongs or forceps. Fine slivers of glass can be picked up with dampened paper towels. All should be decontaminated.

d. Sharps. Contaminated reusable sharps shall be decontaminated immediately.

3.e. Regulated Infectious Wastes (Medwastes)

1. Contaminated Sharps

   a. Contaminated sharps shall be discarded immediately or as soon as feasible in closeable, puncture resistant, leak-proof containers and labeled properly. The label must say "Sharps – Infectious Waste" and bear a universal biohazard symbol.

   b. Contaminated sharps containers shall be easily accessible to employees and students; and, located as close as feasible to the immediate area where sharps are used.

   c. Contaminated sharps containers shall be kept upright throughout use and not allowed to overfill.

   d. If leakage is possible, contaminated sharps containers shall be placed in a closeable, appropriately labeled container constructed to contain all contents and prevent leakage.

   e. Sharps containers shall not be reused.

   f. Additional information on disposing contaminated sharps can be found at Selecting, Evaluating, and Using Sharps Disposal Containers (U.S. Department of Health and Human Services).

2. Other Regulated Waste

   a. Regulated waste shall be placed in containers which are closable, constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping and labeled properly.

   b. If outside contamination of the regulated waste' container should occur, it shall be placed in a second container meeting the same requirements.

c. Regulated waste shall be disposed of in accordance with New Mexico Environment Department Solid Waste Regulations. Contact may be made with Solid Waste Bureau, Outreach Department at (505) 827-2853.

3.f. Immunizations

The university shall offer vaccinations free to all employees who are exposed to blood or other infectious materials as part of their duties. Vaccinations are primarily targeted at Hepatitis B.

Vaccination will be offered within 10 days of initial employment in a job where exposure to blood or other potentially infectious materials can be "reasonably anticipated".

Employees who choose not to accept the vaccine must sign a declaration form but can request to be vaccinated at a later date if they change their mind.

Section 4: Training and Hazard Communication

4.1. Information

It is essential that laboratory employees and students have access to information on the hazards of infectious agents and procedures for working safely. Supervisors must ensure that laboratory and studio employees are informed about, and, have access to the following information sources:

- The contents of the OSHA Bloodborne Pathogen Standard, **Occupational Exposure to Bloodborne Pathogens**, and its appendices (29 CFR 1910.1030).
- The NMHU Exposure Control Plan For Bloodborne And Other Pathogens In NMHU Teaching And Research Laboratories
- The **NMHU Chemical Hygiene Plan** and local laboratory Standard Operating Procedures (SOPs)
- The **NMHU Hazard Communication Plan**

4.2. Training

Each laboratory supervisor is responsible for ensuring that laboratory employees are provided with training about the hazards of infectious agents present in their laboratory work area, and methods to control exposure to potential pathogens. Each employee shall receive training at the time of their initial assignment to the laboratory, prior to assignments involving new exposure situations, and at a regular frequency.

A. Availability

Training is available in the form of:

- Literature describing proper lab practices.
- Group and individual training, conducted by lab personnel, or EHS staff.

B. Content

Employee training programs shall include, at a minimum, the following subjects:

- Methods of **detecting the presence** of infectious agents (observation, signage and labeling, culturing, air sampling, etc.)
- **Symptoms** associated with exposure to infectious agents.
- **Good laboratory practice**, including general techniques designed to reduce personal exposure, as well as specific protective mechanisms and warning systems used in individual laboratories.
- **Emergency response actions** appropriate to individual laboratories.
- Applicable details of the Bloodborne Pathogen and Infectious Agent Plan, including general and laboratory-specific **Standard Operating Procedures.**
- An introduction to **Infectious Waste Management** procedures at NMHU.

Section 5: Emergency Response

5.1. Emergency Response

Telephone numbers of emergency personnel, supervisors, and other workers as deemed appropriate are posted on the lab or studio entrance. These signs will be checked quarterly for accuracy.

5.2. In Case of Fire

NMHU's policy is that the first reaction to a fire is to evacuate the occupants of the building. Fire extinguishers are available in labs and studios. Extinguishers can be used by trained personnel to fight small fires (size of wastebasket or less). Fire extinguisher training is available from the Campus Safety Officer.

5.3. In Case of Spills

In the event of a spill, release, or other accident where infectiouns agents may be present lab workers will respond as outlined in the NMHU Emergency Response Plan. The size of the spill and its hazards will guide the appropriate response. If there is any doubt about the lab worker's ability to safely clean up the spill, call Campus Security (5555). Note that proper emergency response depends upon knowledge of the hazards present in the lab.

5.4. In Case of Personnel Exposures

All employees shall be instructed in the location and proper usage of emergency showers and eyewashes. Furthermore, training shall include information on proper decontamination procedures. In case of a medical emergency phone Campus Security at 5555. A person can seek a medical consultation after an exposure at NMHU expense (See Section 8).

5.5. Emergency Phone Numbers

- NMHU Campus Security (24 hours) 5555 (on-campus) or 454-3278
- Campus Safety Officer 454-3392
- Chemical/Biological Hygiene Officer (454-2035)
- Poison Control Center 9-1-800-222-1222

In the event of a life threatening illness or injury dial 5555 and request an ambulance.

Section 6: Medical Consultations and Examinations

6.1. Availability

All employees who work with infectious agents or are potentially exposed to bloodborne pathogens will have an opportunity to receive medical attention, including any follow-up examinations that the examining physician deems necessary under the following circumstances:

- Whenever an employee develops symptoms associated with an infectious agent to which the employee may have been exposed in the laboratory or studio.
- Whenever an event takes place in the work area, such as spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure.

The Campus Safety Officer will be contacted whenever the need for medical consultation or examination occurs, or when there is uncertainty as to whether any of the above criteria have been met.

6.2. Arranging for Medical Exams

All medical examinations and consultations will be performed by or under the direct supervision of a licensed physician and will be provided through the NMHU Environmental Health and Safety Program, without loss of pay, and at a reasonable time and place.

In the event of a life threatening illness or injury dial 5555 and request an ambulance.

6.3. Information

NMHU will provide the examining physician with the following information.

- The identity of the infectious agent(s) to which the employee may have been exposed.
- A description of the conditions under which exposure occurred including quantitative exposure data, if available.
- A description of the symptoms of exposure an employee is experiencing, if any.

The information listed above in this section will be collected and transmitted by the lab supervisor and will be submitted to the NMHU Environmental Health and Safety Program, as well as to the examining physician.

6.4. Report

The examining physician will provide to the lab supervisor and NMHU Environmental Health and Safety Program a written report including the following information.

- Any recommendation for further medical follow-up.
- The results of the medical examination and any associated tests.
- Any medical condition which may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a infectious agent found in the workplace.
- A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The written opinion will not reveal specific findings or diagnoses unrelated to occupational exposure.

6.5. Confidentiality

The Federal Health Information Portability and Accountability Act of 2002 requires that any medical information remain confidential. Information from medical examinations will not be released either in print or verbally to anyone other than NMHU employees that are authorized to review the information. An employee can file a written request to receive a copy of records of consultations or medical examinations from NMHU. Records will be held for periods described in Section 7.

Section 7: Recordkeeping

NMHU policy is to maintain safety records as required by OSHA. Records shall be stored in fireproof lockable filing cabinets.

7.1 Accident Reports

Accident investigations will be conducted by the lab supervisor with assistance from the NMHU Environmental Health and Safety Program as deemed necessary. Accident reports will be written and retained for 5 years by the NMHU EHS program.

7.2 Exposure Evaluations

Any records of exposure evaluation carried out by NMHU Environmental Health and Safety Program will be filed. Raw data will be kept for one year. Summary data will be kept for the term of employment plus 30 years.

7.3 Medical Consultation and Examinations

The NMHU Environmental Health and Safety Program will keep results of medical consultation and examinations for a length of time specified for the appropriate medical records standard. This period will be at least the term of employment plus 30 years.

7.4 Training

Individual employee training will be recorded. The record will be kept in the individual's departmental file for 5 years.

7.5 Equipment Inspection

Records of inspections of equipment will be maintained for 5 years. NMHU Environmental Health and Safety Program will keep data on annual fume hood monitoring. Fume hood monitoring data are considered maintenance records; as such, raw data will be kept for one year, and summary data for 5 years.