

Bloodborne Pathogen Exposure Control Plan

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I. Purpose

- A. To define formal infection control procedures to protect Western Michigan University employees, students, and other designated persons from occupational and classroom exposure to blood, bodily fluids, or other potentially infectious material.
- B. To ensure Western Michigan University's compliance with State and Federal rules protecting all persons against occupational and classroom exposure to blood-borne pathogens.
- C. To define the appropriate evaluation and follow-up procedures to handle accidental injury/exposure for faculty, staff, and students.

II. Exposure Determination

- A. The potential for occupational exposure to blood-borne pathogens has been classified into the following two categories based on OSHA guidelines.
 - 1. Category A consists of occupations that require procedures or other occupation related tasks that involve exposure or reasonably anticipated exposure to blood or other potentially infectious material or that involve likelihood for spills or splashes of

blood. This includes procedures or tasks conducted in non-routine situations as a condition of employment.

- a. The following are some job classifications or duties that fall into category A.
 - 1) Child care providers
 - 2) Custodial Services staff
 - 3) Direct Health Care Providers
 - 4) Environmental Safety and Emergency Management(ESEM) Staff
 - 5) First Aid/CPR/AED providers
 - 6) Glaziers
 - 7) Plumbers/Pipefitters
 - 8) Public Safety Police Officers
 - 9) Others, as reviewed by ESEM
 - b. Environmental Safety and Emergency Management has a complete listing of the specific departments that have job classifications with exposure and the departmental standard operating procedures (SOP's) for category A occupations.
2. Category B consists of occupations that do not require tasks that involve exposure to blood or other potentially infectious material on a routine or non-routine basis as a condition of employment. Employees in occupations in this category do not perform or assist in emergency medical care or first aid and are not reasonably anticipated to be exposed in any other way. The areas not listed as Category A above are considered to have job classifications in the B category.

III. Methods of Compliance

A. Universal Precaution

1. The term "Universal Precautions" refers to an approach to infection control developed by the Centers for Disease Control and the National Institutes of Health in which blood and bodily fluids of all people are handled as if they contain bloodborne pathogens.
 - a. Infectious materials to which Universal Precautions apply:
 - 1) Blood and other bodily fluids containing visible blood (Blood is the single most important source of HIV, HBV, and other blood-borne pathogens in the occupational setting.)
 - 2) Other potentially infectious materials (OPIM)
 - i. Semen and vaginal secretions. (These have been implicated in sexual transmission but have not been implicated in occupational transmission.)
 - ii. Bodily fluids. (Spinal fluid, joint fluid, fluid surrounding the heart and lungs, or amniotic fluid.)
 - iii. Any undetermined bodily fluid.
 - iv. Any unfixed tissue or organ from a living or dead human
 - v. Cell or tissue culture that contains HIV etc.

- b. Body fluids to which Universal Precautions may not apply unless any contain visible blood. All standard infection control procedures regarding these body fluids still apply and must be followed:
 - 1) Urine
 - 2) Nasal Secretions
 - 3) Feces
 - 4) Sputum, Phlegm, (Lung Secretions)
 - 5) Sweat
 - 6) Tears
 - 7) Vomitus
 - 8) Saliva

B. Engineering Control

- 1. Engineering controls, with work practice controls and personal protective equipment, function together to minimize exposure incidents. The use of all three controls is mandated by MIOSHA.
- 2. Engineering controls are items designed to isolate or keep infectious materials away from staff and others. Where engineering controls will reduce employee exposure, either by removing, eliminating, or isolating the hazards, they must be used. All engineering controls must be well maintained. The following are examples of engineering controls.
 - a. Hand-washing facilities must be readily accessible to staff wherever occupational exposure may occur, or approved alternative hand-washing methods i.e., antiseptic towelettes and clean paper or cloth towels followed by soap and water washing as soon as possible must be made available.
 - b. Containers for used sharps must be puncture resistant, leak-proof, labeled or color-coded, and located as close as possible to the places where sharps are used.
 - c. Specimen containers must be leak-proof, properly labeled or color-coded.
 - d. Appropriate containers for other regulated waste.
 - e. Mechanical pipettes. Pipetting by mouth is specifically prohibited by OSHA.
 - f. Laboratory equipment specific to the type of work involved.
 - g. It is recommended that all departments shall have a first aid kit easily accessible. All departmental first aid kits shall contain a disinfectant.
 - h. Controls (e.g. self-sheathing devices, such as sharps with engineered sharps injury protections and needleless systems).
- 3. Input from non-managerial employees will be solicited and documented regarding consideration of safer medical devices.

C. Work Practice Controls

- 1. Eating, drinking, smoking, applying cosmetics, and handling contact lenses are prohibited in work areas and/or work surfaces that carry an inherent potential for contamination. Food and drink must not be stored in refrigerators, freezers, or cabinets where blood or other potentially infectious materials are stored. Such storage equipment must be clearly labeled to prevent this possibility.

2. Hands and other skin surfaces contaminated with blood or other potentially infectious materials shall be washed immediately and thoroughly with soap and water. Mucous membranes, if contaminated, must be washed thoroughly with water. Hands must be washed immediately after gloves are removed, even if the gloves appear to be intact.
3. Precautions shall be taken to prevent injuries caused by contaminated sharps such as razor blades, broken glass, needles, scalpels, or other sharp instruments. Used needles shall not be bent, broken, reinserted into their original sheaths, removed from disposable syringes, or otherwise manipulated by hand. After they are used, disposable syringes, needles, scalpel blades, and other sharp items shall be placed in a puncture resistant container. Puncture resistant containers shall be located as close as practical to the use area and shall be available to all persons using needles (including diabetic students on campus) and other sharps as indicated above. These containers will not be located in areas open to the public. These containers are to be labeled "Biohazard."
4. New protective device use will be implemented, with employee training as appropriate.
5. All persons who have open wounds or weeping skin rashes shall refrain from all direct patient/client care, potentially hazardous laboratory procedures, and from handling patient-care equipment until the condition resolves. Cuts or abrasions shall be protected with a dressing and gloves prior to performing any procedure involving contact with blood and other potentially infectious materials.
6. Pregnant persons shall be especially familiar with and strictly adhere to Universal Precautions. Infection in the mother places the fetus at risk of acquiring the infection.
7. Blood spills shall be cleaned up promptly with an approved hospital disinfectant. ESEM must be contacted regarding approved hospital disinfectants. Germicides vary in their activity against infectious agents and in the time needed for disinfection. Manufacturer's guidelines shall be followed.
8. Large work areas contaminated by blood or bodily fluids must be thoroughly cleaned, flooded with a liquid germicide, cleaned again, and de-contaminated with fresh germicide.
9. Medical equipment that requires sterilization or disinfection shall be thoroughly cleaned before disinfecting and care must be taken to follow manufacturer's guidelines for compatibility with the germicides. This also applies to non-medical equipment.
10. Contaminated laundry, including employee's uniforms, shall be placed in labeled or color-coded, leak-proof containers at the location where it was used. The employer shall ensure that employees who have contact with contaminated laundry wear appropriate personal protective equipment.
11. HBV vaccine shall be offered at Department expense, to all persons whose occupational tasks place them at risk of exposure to blood or other potentially infectious materials.
12. All supervisors/instructors shall be responsible for informing persons of any special precautions pertinent to their area.

13. No Human Immunodeficiency Virus shall be used for research purposes on this campus, without prior approval of the Recombinant DNA Bio-Safety Committee under the auspices of the Vice President for Research. All NIH and CDC guidelines shall be followed.

D. Personal Protective Equipment

1. Protective barriers reduce the risk of exposure of a person's skin or mucous membranes to fluids that require Universal Precautions. The following are required protective barriers:
 - a. Gloves shall be worn for touching human blood, bodily fluids, mucous membranes, or skin with open wounds or weeping rashes; for touching items or surfaces soiled with blood or bodily fluids; for performing venipuncture or other procedures that enter blood vessels.
 - b. Latex, hypoallergic, or vinyl disposable exam gloves, in suitable sizes, shall be used for all medical and laboratory procedures. Hands shall be washed and gloves changed between patient contacts. Gloves shall not be washed in lieu of changing. Use of soaps will compromise their ability to be an effective barrier. Employees with a latex allergy are to notify their supervisor. Appropriate accommodations will be made for those persons.
 - c. General-purpose utility gloves shall be used for housekeeping chores involving possible blood and other potentially infectious material contact and for instrument and equipment cleanup and decontamination procedures. Gloves extending beyond the wrist are preferable. Gloves must be compatible with cleaning and disinfecting chemicals.
 - d. Masks, protective goggles, and face shields shall be worn if aerosolization or splattering of blood or other potentially infectious material is likely to occur.
 - e. Gowns, fluid-proof aprons, laboratory coats, tyvek suits, or other protective clothing shall be worn if blood splattering or spattering of other potentially infectious material is likely.
 - f. Resuscitation devices, including mouth-pieces, masks, resuscitation bags, or other ventilation devices shall be strategically located and available for use in areas where the need for resuscitation is predictable. All appropriate personnel shall be trained in their use.
 - g. Disposable personal protective equipment shall be disposed of properly and not reused.
 - h. Reusable equipment shall be cleaned and de-contaminated properly soon after use (see Work Practice Controls C.9).

E. Standard Operating Procedure (SOP)

1. Task specific operating procedures shall be written and updated annually by the departments that have employees that are indicated in the Category A definition. These SOPs shall be reviewed with employees at least annually.

F. Regulated Waste Disposal

1. Regulated waste is defined as the following:
 - a. Cultures and stocks of infectious agents and associated biologicals, including laboratory waste, biological production wastes, discarded live and attenuated vaccines, culture dishes, and related devices.

- b. Liquid human and animal waste, including blood and blood products and other potentially infectious materials (as defined under Universal Precautions). This includes materials crusted or soaked with blood or bodily fluids, but does not include urine or materials stained with blood or bodily fluids.
 - c. Pathological waste (human organs, tissues, body parts, fluids).
 - d. Sharps (needles, scalpels, syringes).
 - e. Contaminated wastes from animals that have been exposed to agents infectious to humans, these being primarily research animals.
- 2. The Division of Environmental Safety and Emergency Management monitors the disposal of all regulated waste in accordance with applicable federal, state, and local regulations.
- 3. Medical, biological, and other infectious wastes must be disposed of in designated containers or bags that are color-coded, labeled, or tagged as "Biohazard." Sharps containers may be obtained through the Sindecuse Health Center. Biohazard bags may be obtained from Maintenance Stores. Questions regarding safe disposal shall be directed to ESEM.
- 4. WMU students can purchase sharps containers from the Sindecuse Pharmacy.
- 5. All areas shall contact ESEM for disposal of infectious waste containers.

IV. Responsibilities of Employees and Other Designated Persons

- A. All persons are expected to be knowledgeable about specific operating procedures pertinent to their work area or laboratory.
- B. All persons are expected to use universal precautions, engineering controls, to follow work practice controls, and wear appropriate personal protective equipment when performing a task with potential exposure.
- C. All persons are to immediately report an incident of contact with blood or other potentially infectious materials sustained during the course of occupational or classroom duties, according to the Exposure Incident Protocol which follows. Supervisors are responsible for posting this procedure.
- D. To update policies and operating procedures reflecting changes in technology reducing/eliminating exposure to blood, body fluids, or other potentially infectious material. Adapted from R325.7004(d)

V. Exposure Incident Protocol

- A. The person who receives a potential exposure shall observe the following procedures:
 - 1. Immediately begin thorough cleansing of the exposed body site with soap and water or approved alternative hand-washing method. (See Methods of Compliance B.1)
 - 2. Remove personal protective equipment and wash exposed site again with soap and water. The exposed site shall be thoroughly disinfected with

appropriate skin disinfectant if immediately available (Betadine solution, Hibiclens). Follow precautions to minimize exposure of other persons to blood, blood products, or other potentially infectious material, e.g., inform co-workers to use protective barriers, remove an exposed sharp and place in a sharps container, and isolate the contaminated area.

3. Notify Supervisor.
 4. Immediately report to Sindecuse Health Center (387-3287) for evaluation, treatment, and follow-up care (Monday-Friday, 8:00a.m.-5:00p.m.) After hours report to the Bronson Methodist Hospital Emergency Room (341-6386).
- B. The supervisor of a potentially exposed person shall observe the following procedures:
1. Ensure the individual receives medical attention as per 1.d. above.
 2. Ensure that other persons remain out of the area to minimize potential exposure to blood, blood products or OPIM.
 3. Barricade any heavily contaminated area until disinfected.
 4. Notify Custodial Services when clean up of a contaminated area is required. Ensure that custodians are aware of the potential for contamination and take every precaution to prevent contamination of themselves or other persons by using appropriate personal protective equipment and decontamination procedures.
 5. Ensure that the contaminated area is adequately disinfected.
 6. Complete an WC 210 Form and provide the physician with:
 - a. A description of the exposed employee's duties as they relate to the exposure incident;
 - b. Documentation of the route of exposure and circumstances under which exposure occurred;
 - c. Identity of the source individual, if available; and
 - d. Complete an EHS 311 Form.
- C. The Sindecuse Health Center shall observe the following procedures:
1. Following the CDC guidelines, make a rapid initial determination if the person presented with exposure to blood or OPIM.
 2. If immediate referral is not made, perform medical evaluation and treatment
 3. Record the circumstances of the injury/exposure in the person's confidential medical record. Relevant information shall include the following:
 - a. date and time of exposure
 - b. job duty being performed by the person at time of exposure
 - c. details of exposure including the amount and type of fluid or material, severity of exposure, and whether or not the person was using personal protective equipment
 - d. description of source of exposure including whether the source material contains HIV, HBV or HCV if known.
 - e. details about counseling, post exposure management and follow-up.

4. Perform blood analysis for HIV (with informed consent), HBV or HCV on exposed person as soon as feasible. If the employee consents to baseline testing, but not HIV testing, the specimen shall be saved for at least 90 days. If, within 90 days of exposure, the employee elects to have the specimen tested for HIV, it shall be done as soon as possible.
 5. Follow the CDC guidelines for post-exposure treatment if unknown source.
 6. Reevaluate the exposed person at 6 weeks, 12 weeks, and 6 months after exposure to determine whether HIV infection has occurred if source individual is unknown, refuses HIV testing, or is HIV positive. If source individual is HIV negative, no further testing is necessary unless past personal history suggests that the individual may have recently been exposed to HIV.
 7. All exposed employees, whether seen in the community or Sindecuse, will be asked to return to Sindecuse for Hepatitis B test results for follow up testing and evaluation.
 8. Provide a copy of the written opinion to the employee at the time of evaluation.
 9. Ensure that person's medical information and records are kept confidential except as required by law.
 10. Complete WC 210 form by the WMU Occupational Medicine physician.
- D. The Division of Environmental Safety and Emergency Management shall observe the following procedure:
1. ESEM maintains a file of all EHS 311 and WC 210 forms as well as the physician opinion regarding an employee occupational exposure to blood or other potentially infectious materials.
 2. ESEM maintains a sharps injury log separate from the OSHA 300 Log. The sharps injury log will record percutaneous injuries from contaminated sharps. The information in the log is recorded so that it protects in confidentiality of the injured employee.

VI. Hepatitis B Vaccination Program

- A. Western Michigan University provides an HBV vaccination program at the Sindecuse Health Center for the employees in Category A occupations at no cost to the employee.
- B. ESEM maintains files of the Hepatitis B declination forms and the confirmation of completion of the vaccination series.

VII. Training and Education

- A. Western Michigan University shall provide initial and annual formal training and education program for employees with potential exposure to blood or other potentially infectious material (Category A occupations) at no cost to the employee and during working hours. Material appropriate in content and

vocabulary to the education level, literacy, and language background of persons shall be used

- B. The training program shall contain the following elements:
 - 1. Discuss the basis of the standard.
 - 2. A general explanation of the epidemiology of HBV, HIV and HCV and symptoms associated with clinical illness from these two viruses.
 - 3. An explanation of the modes of transmission of HBV, HIV and HCV.
 - 4. An explanation of Western Michigan University's Bloodborne Pathogen Exposure Control Plan. This will include an explanation of Universal Precautions, Engineering and Work Practice Controls, and the use of Personal Protective Equipment.
 - 5. A detailed explanation of protective barriers and other personal protective equipment, the basis of which these are selected, and the limitations of these methods of control in preventing exposure.
 - 6. An explanation of the signs, labels, tags, and color-coding used to denote biohazards.
 - 7. Information on the HBV vaccine, including the indications, safety, efficacy, and benefits.
 - 8. An explanation of the procedure to follow if potential exposure occurs and the medical follow-up that will be made available.
 - 9. Question and answer period.
- C. The Division of Environmental Safety and Emergency Management shall maintain files documenting employee training on the Bloodborne Pathogen Standard and the Western Michigan University Exposure Control Plan.

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