

1.0 Purpose

The University of Delaware is committed to provide its employees with a safe work environment, and to ensure that safe work practices are followed. This commitment includes reducing the occupational exposure to HBV, HIV, and other bloodborne pathogens. In accordance with the OSHA Bloodborne Pathogen Standard 29 CFR 1910.1030, the following Exposure Control Plan has been developed. This Exposure Control Plan shall be reviewed by the Biosafety Officer or Environmental Health & Safety Specialist annually and updated as needed.

2.0 Definitions

- 2.1 **Blood-** human blood, human blood components, products made from human blood and animal blood contaminated with bloodborne pathogens or other potentially infectious materials (OPIM).
- 2.2 **Bloodborne Pathogens (BBP)** - pathogenic microorganisms that may be present in human or animal blood and can cause disease in humans, including Human Immunodeficiency Virus (HIV), and Hepatitis B Virus (HBV).
- 2.3 **Contaminated-** presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
- 2.4 **Contaminated Sharps-** any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, razor blades, broken glass, broken capillary tubes, and exposed ends of dental wires.
- 2.5 **Decontamination-** the use of physical or chemical means to remove, inactivate, or destroy BBP on a surface or item to the point where they are no longer infectious and the surface or item is rendered safe for handling, use, or disposal.
- 2.6 **Engineering Controls-** controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the BBP hazard from the workplace.
- 2.7 **Exposure Incident-** a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.
- 2.8 **Needleless systems-** a device that does not use needles for:
- (1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established;
 - (2) The administration of medication or fluids; or
 - (3) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.
- 2.9 **Occupational Exposure-** reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's required duties.

- 2.10 **Other Potentially Infectious Materials-**
- (1) Body fluids including semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid which is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
 - (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead).
 - (3) HIV- or HBV- containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture media or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
 - (4) Non-human blood or body fluids known or having the potential to contain BBP capable of causing disease in humans.
- 2.11 **Parenteral-** piercing mucous membranes or the skin barrier through such events as needlesticks, human or animal bites, cuts, and abrasions.
- 2.12 **Personal Protective Equipment (PPE)-** specialized clothing and/or equipment such as lab coats, safety goggles and gloves worn by an employee for protection against a hazard.
- 2.13 **Regulated Waste-** liquid or semi-liquid blood or other potentially infectious materials; items contaminated with blood or other potentially infectious materials; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials. For further definition, see Section 5.5.
- 2.14 **Sharps with engineered injury protections-** a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.
- 2.15 **Source Individual-** any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure.
- 2.16 **Universal Precautions-** a method of exposure control in which all human blood and certain human body fluids are treated as if known to be infected with HIV, HBV, and other BBP.
- 2.17 **Work Practice Controls-** controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

3.0 Exposure Determination

- 3.1 Determining Risk for Exposure
- 3.1.1 Job classifications for potential coverage inclusion will be identified by the Department of Environmental Health and Safety (EHS) and provided to the departments for their consideration.
 - 3.1.2 The department is responsible for providing job descriptions or otherwise providing detailed information to EHS regarding job functions and responsibilities to be used as the basis for determining exposure risk if there is a conflict in regards to the inclusion of a job classification under the standard.

- 3.1.3 EHS shall make the final decisions regarding coverage of employees.
- 3.2 Job classifications and tasks covered by the standard
 - 3.2.1 Appendix A lists all identified job classifications and job descriptions which are occupationally exposed to blood or other potentially infectious materials.
- 4.0 Procedures for the Use of BBP at the University of Delaware
 - 4.1 Anyone working with or exposed to BBP at the University of Delaware must have a permit or be working under a permit supervisor.
 - 4.2 Permit Approval Procedure
 - 4.2.1 The lead investigator, or designated individual of non-research organizations, shall contact EHS when it is decided that work with potentially infectious materials shall occur.
 - 4.2.2 The lead investigator or designated individual shall submit a permit application for review by EHS.
 - 4.2.3 The application is reviewed for protocol (or job description where applicable); locations of BBP use, storage, and waste; equipment to be used; personal protective equipment; materials to be used; and potential pathogens.
 - 4.2.4 Following permit approval, all individuals listed on the permit shall attend BBP training prior to receiving the option of hepatitis B vaccination.
 - 4.2.5 The work area for BBP use shall be designated and any necessary posting of hazards shall occur.
 - 4.2.6 Permits are granted for one year. Failure to renew on a timely basis may result in the suspension of all work allowed under the permit.
 - 4.2.7 Any changes to the procedures or protocols following approval of the permit must be submitted for approval and amendment to the permit.
 - 4.2.8 EHS will contact the permit supervisor concerning renewal. An annual review will be scheduled to discuss any changes to the Exposure Control Plan and the permit itself. Any revisions to the permit will be reviewed and will be subject to approval by EHS.
 - 4.3 Facility Audits
 - 4.3.1 EHS reserves the right to perform audits in any location where there is a potential for occupational exposure to BBP.
 - 4.3.2 Regularly scheduled and/or unannounced audits shall be performed by the Biosafety Officer and/or other members appointed by the Biosafety Officer.
 - 4.4 Responsibilities of the Director of EHS or their designee
 - 4.4.1 Determine covered job classifications

- 4.4.2 Review and approve the Exposure Control Plan
- 4.4.3 Review and approve Permits
- 4.5 Responsibilities of the Biosafety Officer or their designee
 - 4.5.1 Maintain and update the Exposure Control Plan
 - 4.5.2 Confirm when handwashing facilities are not feasible
 - 4.5.3 Confirm when recapping of needles is necessary
 - 4.5.4 Confirm personal protective equipment choices
 - 4.5.5 Approve housekeeping schedules/methods
 - 4.5.6 Manage infectious waste program
 - 4.5.7 Coordinate hepatitis B vaccine program
 - 4.5.8 Maintain vaccination records
 - 4.5.9 Perform post-exposure follow-ups
 - 4.5.10 Perform training
 - 4.5.11 Maintain training records
 - 4.5.12 Perform inspections of facilities
 - 4.5.13 Meet with permit supervisors to review their programs and prepare permit applications for approval
- 4.6 Responsibilities of Permit Supervisors
 - 4.6.1 Notify EHS of new employees that should be covered and employees exiting the program
 - 4.6.2 Ensure compliance with the Exposure Control Plan
 - 4.6.3 Provide EHS with job classifications that involve exposure
 - 4.6.4 Assure handwashing facilities are available
 - 4.6.5 Provide and maintain personal protective equipment
 - 4.6.6 Determine housekeeping schedule/methods
 - 4.6.7 Complete Exposure Report Form
 - 4.6.8 Provide task-specific training to students, employees, and other exposed individuals

- 4.6.9 Meet with Biosafety Officer or designee to review all aspects of the permit
- 4.6.10 Inform EHS of new protocols prior to the commencement of the project
- 4.6.11 Evaluate and, when appropriate, implement safer medical devices to minimize occupational exposure within the department or group
- 4.7 Responsibilities of Approved Personnel
 - 4.7.1 Follow all guidelines in the Exposure Control Plan
 - 4.7.2 Attend training sessions annually
 - 4.7.3 Provide Hepatitis B vaccination information
 - 4.7.4 Report any spills or potential exposures to EHS
 - 4.7.5 Work with the permit supervisor to evaluate safer medical devices for tasks performed by the department or group
- 4.8 Procurement
 - 4.8.1 Procurement shall notify EHS of any purchases of materials containing known or potential BBP. Purchases made without going through Procurement require prior approval by EHS.
- 4.9 Contractors
 - 4.9.1 It is the responsibility of the contracting department to assure that contractors or maintenance personnel working in any facilities are aware of potential BBP hazards and follow all requirements for that work area.
 - 4.9.2 The permit supervisor or approved personnel shall notify EHS if a contractor or maintenance personnel is not following the Exposure Control Plan requirements.

5.0 Methods of Compliance

Due to the difficulty in determining which blood and body fluids are actually infected with HIV, HBV, or other BBP, all such specimens will be handled as if known to be infected. This procedure is known as universal precautions, and it must be observed at all times. The procedures to follow in observing universal precautions are outlined within this section.

- 5.1 Engineering and Work Practice Controls
 - 5.1.1 Hands must be washed immediately or as soon as feasible after removal of gloves or after exposure to blood or other potentially infectious materials.
 - 5.1.2 Departments are responsible for assuring that handwashing facilities are readily accessible in the areas where exposures are likely to occur so as to minimize the spread of contamination.
 - 5.1.3 If handwashing facilities are not feasible, antiseptic towelettes or antiseptic hand cleanser

and clean paper towels shall be provided for use until it is feasible to get to a handwashing facility. EHS shall determine when handwashing facilities are not feasible.

- 5.1.4 Contaminated needles and other sharps shall not be bent, recapped, or removed unless there is no feasible alternative. If recapping or needle removal is required, it shall be approved by EHS and accomplished through the use of a mechanical device or a one-handed technique.
- 5.1.5 Eating, drinking, smoking, food preparation, applying of cosmetics or lip balm, handling of contact lenses, and food or cosmetic storage shall not be permitted in work areas where there is a reasonable likelihood of occupational exposure to blood or other potentially infectious materials.
- 5.1.6 All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and aerosolization of these substances.
- 5.1.7 Mouth pipetting or suctioning of blood or other potentially infectious materials is prohibited.

5.2 General Personal Protective Equipment Requirements

- 5.2.1 Individuals are required to wear personal protective equipment appropriate to the tasks being performed. This equipment shall be provided at no cost to the employee and may include, but shall not be limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Departments shall make this equipment available in the appropriate sizes and readily accessible. Hypoallergenic gloves, glove liners, powder less gloves, or other alternatives will be available to employees who are allergic to the normal gloves provided. (Reference Environmental Health and Safety Protocol G-06).
- 5.2.2 Departments shall be responsible for cleaning, laundering, repairing, replacing, and disposing of personal protective equipment. If an outside laundry service is contracted, it must be aware that the laundry is a potential biohazard and must therefore be capable of handling such laundry.
- 5.2.3 Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations.
- 5.2.4 All personal protective equipment shall be removed prior to leaving the work area.
- 5.2.5 If a garment is penetrated by blood or other potentially infectious material the garment shall be removed immediately or as soon as feasible.
- 5.2.6 Gloves shall be worn when hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin can be reasonably expected, and when handling or touching contaminated items or surfaces.
- 5.2.7 Disposable gloves shall be replaced or changed as soon as practical when contaminated, torn, or punctured. They must not be washed or decontaminated for reuse.
- 5.2.8 Utility gloves may be decontaminated for reuse if the integrity of the glove is not compromised. They must be discarded if they are cracked, peeling, torn, punctured, or

exhibits other signs of deterioration or when their ability to function as a barrier is compromised.

- 5.2.9 Masks or face shields in combination with primary eye protection devices, such as goggles or safety glasses with solid side shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose or mouth contamination can be reasonably anticipated. Safety glasses shall be worn at all times in those university laboratories where eye hazards exist (Reference University Policy 7-23).
- 5.2.10 Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopedic surgery).
- 5.2.11 Specific personal protective equipment requirements will be determined between EHS and the permit supervisor. All selections shall be subject to EHS approval as outlined in the permit application.

5.3 Housekeeping

- 5.3.1 The worksites shall be maintained in a clean and sanitary condition. The department shall determine an appropriate schedule and method for cleaning and decontamination that shall be subject to EHS approval.
- 5.3.2 All equipment, environmental, and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials and at the end of a work shift using an appropriate disinfectant.
- 5.3.3 Broken glassware and sharps that may be contaminated shall be cleaned up using mechanical means, such as brush and dust pan, tongs, or forceps. Broken glass should not be picked up by hand.
- 5.3.4 Reusable sharps such as scalpels and razor blades that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires individuals to reach by hand into the containers where these sharps have been placed. Instead, remote handling devices such as tongs or forceps shall be used.
- 5.3.5 Contaminated laundry shall be handled as little as possible with a minimum of agitation. It shall be placed and transported in bags labeled or color-coded as described in Section 5.4. Whenever a reasonable likelihood of soak-through or leakage exists, the laundry should be placed in bags or containers that prevent leakage to the exterior.

5.4 Warning Labels

- 5.4.1 Warning labels shall be affixed to containers of regulated waste, refrigerators, freezers, and cabinets containing blood or other potentially infectious materials, and other containers used to store, transport or ship blood or other potentially infectious materials.
- 5.4.2 These labels shall be fluorescent orange or orange-red with lettering and symbols in a contrasting color. These labels shall include the following legend:



BIOHAZARD

- 5.4.3 Contaminated equipment shall be labeled in accordance with this section. The label shall also state which portions of the equipment remain contaminated following decontamination prior to maintenance. Labeling is required whether the equipment is to be sent out for the maintenance, or it is to be performed on site by a visiting technician.

5.5 Infectious Waste Collection and Disposal

- 5.5.1 Introduction--The following guidelines are to be used for the safe handling and disposal of infectious waste generated at the University of Delaware. No radioactive or hazardous waste will be handled through these guidelines. Consult the Radiation Safety Manual and your Department Chemical Hygiene Plan for the proper disposal of those respective wastes. For additional information regarding the Infectious Waste Disposal Program contact EHS at 302-831-8475.

- 5.5.2 Infectious Waste Management Guidelines--The responsibility for infectious waste identification, segregation, and packaging rests with the principal investigator or permit supervisor. The principal investigator or permit supervisor shall follow all of the procedures in the guidelines and provide proper instruction to personnel under their supervision.

All infectious waste generated at the University must be properly segregated from all other wastes. EHS will supply the appropriate boxes, bags, and sharps containers for segregation and disposal. A waste is infectious if it meets the following definition of infectious waste as defined by the State of Delaware's Regulations Governing Solid Waste, Section 11, Part 1:

Infectious Waste- means those solid wastes which may cause human disease and may reasonably be suspected of harboring human pathogenic organisms, or may pose a substantial threat or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Types of solid waste designated as infectious include, but are not necessarily limited to, the following:

1. **Biological Wastes:**
 - a. **Biological liquid wastes** mean blood and blood products, excretions, exudates, secretions, suctionings, and other body fluids including liquid wastes from renal dialysis.
 - b. **Pathological wastes** mean all human tissues and anatomical remains, including human fetal remains, which emanate from surgery, obstetrical procedures, autopsy and laboratory procedures.
 - c. **Culture and stocks** of etiologic agents and associated biological wastes means, but is not limited to, specimen cultures and stocks of etiologic agents, and wastes from production of biologicals and serums.
 - d. **Laboratory wastes** means those wastes that have come in contact with pathogenic organisms or blood or body fluids. Such wastes include, but are not limited to, disposable

materials; culture dishes; devices used to transfer, inoculate, and mix cultures; paper and cloth which has come in contact with specimens or cultures which have not been sterilized or rendered noninfectious; or laboratory wastes, including cultures of etiologic agents, which pose a substantial threat to health due to their volume and virulence.

- e. **Animal tissue, bedding and other wastes from animals** known or suspected to be infected with a pathogen which also causes human disease, provided that prevailing evidence indicates that such tissue, bedding or other waste may act as a vehicle of transmission to humans.
 - f. **Human dialysis waste** materials including blood lines and dialysate membranes.
2. **Sharps** mean any discarded article that may cause punctures or cuts. Such wastes include, but are not limited to, needles, intravenous (IV) tubing with needles attached, scalpel blades, glass slides, glassware, and syringes that have been removed from their original sterile containers.
 3. **Discarded Biologicals** means serums and vaccines produced by pharmaceutical companies for human or veterinary use. These products may be discarded because of a bad manufacturing lot (i.e., off-specification material that does not pass quality control or that is recalled), out-dating or removal of the product from the market or other reasons. Because of the possible presence of etiologic agents in these products, the discarded material constitutes infectious waste.
 4. **Other infectious wastes** mean any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any infectious waste.
 5. **Infectious waste** that has been sterilized or disinfected by autoclaving or chemical treatment must still be disposed of following the procedures outlined in these guidelines.

Note: Liquid infectious waste may be discarded into the sanitary sewer system, if appropriate, following treatment with an appropriate disinfectant. Do not place large quantities (greater than 20 ml) of liquid infectious waste into the boxes supplied by EHS.

5.5.3 Segregation and Packaging Requirements

All waste, except sharps (see definition) and infectious animal carcasses and/or tissues that is determined to be infectious should be placed into an infectious waste box which is lined with two red infectious waste bags. Make sure the bottom of the box is secured with packing tape. The bags and boxes for the Newark campus are supplied by EHS.

All BSL3 waste must be autoclaved prior to disposal in the infectious waste container. Waste at a lower biosafety level should be autoclaved prior to placing in an infectious waste container if it presents a risk to individuals handling it or if it could harm animals or the environment if it is accidentally released prior to incineration. Some departments may require that all infectious waste be autoclaved prior to disposal in the infectious waste containers.

When the infectious waste box is full or has reached the maximum weight of 45 lb, seal each of the red infectious waste bags individually. Each bag is to be sealed by twisting the top of the bag into a gooseneck and wrapping with a sufficient amount of strong tape (ex. duct tape, packaging tape). **NOTE:** Do not overfill the box. The flaps to the top of the box must be able to close without obstruction.

If exterior contamination of the infectious waste container occurs, it shall be placed in a second container meeting the same requirements as the original container.

Sharps are to be placed into rigid, puncture-resistant containers supplied by EHS. Clipping, breaking and recapping of needles and resheathing of scalpels is not permitted in order to prevent aerosol generation and accidental punctures or cuts. Under no circumstances shall a discarded sharp (used or unused) be removed from a sharps container. Do not overfill the container. The container should be discarded when it is 3/4 full. When the sharps container is 3/4 full, tightly seal the container and place into a properly lined infectious waste disposal box. Please use the following guidelines for disposal of sharps:

- Syringes with or without a needle attached will all go into a sharps container.

- Contaminated micropipettes, pipette tips, and Pasteur pipettes must be treated as sharps. They shall be discarded in a puncture-resistant container or a sharps container for disposal through the infectious waste program. Large (5ml or greater) contaminated pipettes may go into an infectious waste box if care is used to prevent them from puncturing the box and bags, or they may be discarded into the original cardboard or fiberboard box after the original container has been lined with plastic to contain any liquid. This container is then discarded through the infectious waste program.

**Please note that if large amounts of micropipettes and pipette tips are being used at one time, they may be placed directly into the biowaste box so long as they will not puncture the box.

- Razor blades, lancets, scalpels, broken contaminated glassware and any other contaminated items that could cut or pierce the skin will go into a sharps container.

When the infectious waste box is full and the red bags have been sealed, contact EHS for a pick-up if your facility is on the Newark campus. The EHS website has a form to request an infectious waste pickup (<http://www.udel.edu/ehs/waste/infectious-waste-pick-up.html>), or you may call the department. Infectious waste will be picked up on a weekly basis. The following information will be required at the time of your request for service:

- a. Name
- b. Building
- c. Laboratory room number
- d. Number of boxes to be picked up
- e. Packaging supplies needed (number of boxes and/or sharps containers)

Departments may be authorized by EHS to establish a local storage area for waste prior to collection by the disposal contractor.

Containers for sharps disposal and for infectious waste at any satellite campus or research facility shall be available from a vendor approved by EHS. Collection of filled containers for disposal shall also be done by a vendor approved by EHS.

5.5.4 Infectious Spill Management

See the University of Delaware Biosafety Manual, Chapter 14 for procedures to follow for

handling a potentially infectious spill.

5.6 Implementation of Safer Medical Devices

5.6.1 Permit supervisors must annually review the changes in technology which may eliminate or reduce the risk of exposure to BBP for their employees. Non-managerial employees who will actually use the devices must be included in the evaluation process. This must be documented on the permit.

5.6.2 Devices that have been considered and/or evaluated for use must be listed, including justification of the decision to accept or reject the devices.

6.0 Hepatitis B Vaccine

6.1 The hepatitis B vaccine shall be offered to all individuals subject to the standard. It shall be made available at no cost to employees at risk for occupational exposure within 10 working days of initial assignment. Individuals shall be educated with respect to the vaccine prior to the vaccine being offered.

6.2 An individual may decline to accept the hepatitis B vaccine but must sign a declination statement. If, at a later date, an employee who continues to have occupational exposure decides to accept the vaccine it shall be made available. See Appendix B for a copy of the Declination Statement.

7.0 Post-Exposure Evaluation and Follow-Up Procedure

7.1 If an exposure occurs, first determine if emergency medical help is required. Examples of when emergency medical help would be required are: excessive bleeding, loss of consciousness, and broken bones. If emergency medical help is required, call 911 for police or ambulance.

7.2 For a non-life-threatening emergency, administer first aid. Allow a penetrating injury to bleed. Wash the injury site thoroughly with soap and water or rinse the exposed mucous membrane thoroughly with water. If anyone assists with first aid they should wear gloves. An apron or gown and eye protection may be necessary if a potential for splashing exists. It is the University's policy that personal protective equipment appropriate for the potential hazard is worn, but it is recognized that in certain emergency situations this may not be possible.

7.3 The source of the exposure should be attained if possible, without causing further injury to anyone else. This could simply mean identifying the patient from whom the specimen came.

7.4 Contact EHS with information regarding the incident as soon as possible. The employee will be referred to a medical provider approved by EHS. If the employee desires, they may go to their own personal physician rather than the provider designated by EHS. It is the responsibility of the employee to provide EHS with the name and address of the personal physician prior to the first visit so EHS can provide the physician with the necessary information prior to the treatment of the employee.

7.5 See Appendix C for what to do in the event of an exposure incident.

7.6 As soon as feasible, report to Nurse Managed Primary Care Center and fill out the Exposure Report Form. More information can be found by going to the NMPCC website:

<http://sites.udel.edu/nmhc/our-services/student-needle-sticks-blood-borne-pathogen-exposures/>

- 7.7 The source individual's blood, or material an emergency medical provider was exposed to, may be tested to determine HBV and HIV status. This shall be done in accordance with the Delaware Annotated Code, title 16, Sections 1202 and 1203.
- 7.8 The exposed individual will be evaluated by the medical provider, possible including testing for HBV and HIV serological status if the individual consents.
- 7.9 Post-exposure prophylaxis, when medically indicated, counseling, and evaluation of reported illnesses will be performed by the medical provider. The medical provider shall inform the exposed individual of any test results, including those performed on the source individual, if such tests were run.
- 7.10 The medical provider will furnish EHS with a written opinion for hepatitis B vaccination limited to whether hepatitis B vaccination is indicated for the employee, and if the employee has received the vaccination. The written opinion will also include that the employee has been informed of the results of the evaluation, and that the employee has been told about any medical conditions resulting from the exposure which require further evaluation or treatment.
- 7.11 Any follow-up care will be provided by the approved medical provider or the employee's personal physician if they so elect. Any treatment or follow-up care resulting from the exposure shall be at no cost to the employee. All exposure follow-ups shall remain confidential.

8.0 Medical Records

- 8.1 An accurate medical record for each employee with occupational exposure shall be kept. It shall include:
 - 8.1.1 The name and unique identification of the employee.
 - 8.1.2 The employee provided hepatitis B vaccine status including the dates of the vaccinations and any medical records relative to the employee's ability to receive vaccination.
 - 8.1.3 A copy of the information provided to the healthcare professional.
 - 8.1.4 A copy of all results of examinations, medical testing, and follow-up procedures.
 - 8.1.5 A copy of the healthcare professional's written opinion including whether the hepatitis B vaccine is indicated for the employee and if the employee received said vaccine. The written opinion shall also include that the employee has been informed of the results of the evaluation and that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- 8.2 The medical provider approved by EHS will keep all confidential medical records. Information will not be disclosed or reported without express written consent of the individual.
- 8.3 All medical records will be maintained for a minimum of the duration of the individual's employment plus 30 years. EHS or the approved medical provider will keep them.

9.0 Training

- 9.1 All individuals with reasonably anticipated occupational exposure shall participate in a training program, during work hours, at the time of initial assignment to tasks where occupational exposure may occur and annually thereafter.
 - 9.1.1 The program shall be given by a qualified individual as defined by the Standard and approved by EHS. It shall cover the contents listed in Appendix D.
 - 9.1.2 The permit supervisor shall cover information specific to the tasks to be performed by the employee, for example personal protective equipment to be worn, location of personal protective equipment and handwashing facilities, and methods to use to perform specific tasks safely.
- 9.2 EHS can arrange for awareness training for individuals or groups who are not covered by the standard but might encounter incidental exposure while at work.
- 9.3 Training Records
 - 9.3.1 Web training records shall be recorded for each individual through EHS's online database, BioRAFT. Training dates as well as certificates can be accessed through the website: <https://delaware.bioraft.com/>
 - 9.3.2 Live training records shall be kept by EHS on each training session held. These training records shall include the date of the session, a content summary, name of the instructor, and names of all persons attending the session. (Individuals may be required to sign training certificates to verify receipt of training. The forms are available at EHS.)
 - 9.3.3 EHS shall maintain training records for a minimum of 3 years from the date of the training session.
- 10.0 HIV/HBV Research Laboratories and Production Facilities
 - 10.1 If anyone at the University of Delaware wishes at some point to begin working with HIV or HBV they shall notify EHS at the planning stage. The OSHA standard 29 CFR Section 1910.1030 has specific guidelines to be followed when working with HIV and HBV beyond the scope of the Exposure Control Plan at this time.
- 11.0 BBP Enforcement Policy

The Bloodborne Pathogens Exposure Control Plan (ECP) states the permit supervisors are responsible for compliance with the ECP within their groups. Personnel who work with bloodborne pathogens must comply with the ECP.

 - 11.1 Administrative Group Permits
 - 11.1.1 The Biosafety Officer or their designee will send a notification to the permit supervisor describing the violation. The notifications will include the date by which correction of the infraction must occur, typically 7-10 days.
 - 11.1.2 If the infraction has not been corrected by the appointed date, the Director of Environmental Health & Safety or their designee will send a letter to the permit supervisor and his or her supervisor will be copied on this letter. A written response will be required from the permit supervisor outlining how the problem will be addressed and

prevented in the future.

11.2 Academic Group Permits

- 11.2.1 The Biosafety Officer or their designee will send a notification to the permit supervisor describing the violation. The notification will include the date by which correction of the infraction must occur, typically 7-10 days.
- 11.2.2 If the infraction has not been corrected by the appointed date, the Director of Environmental Health & Safety or their designee will send a letter to the permit supervisor. The department chair will be copied on this letter. A written response will be required from the permit supervisor outlining how the problem will be addressed and prevented in the future. The University Biosafety Committee (UBC) may be notified of the situation.
- 11.2.3 If the issue is still not rectified, the UBC and/or the Biosafety Officer may notify the Provost. If the infraction poses an imminent or serious hazard the UBC and/or the Biosafety Officer may recommend to the Provost that research and work with material containing bloodborne pathogens be curtailed until the infractions are corrected.

12.0 References

Occupational Safety and Health Administration. (2001, January 18). 29 CFR Part 1910.1030 Occupational exposure to bloodborne pathogens; Needlestick and Other Sharps Injuries; Final rule. Federal Register, 66, 5317-5325.

State of Delaware's Regulations Governing Solid Waste. Section 11: Special Waste Management. Part 1- Infectious Waste.

Appendix A

Job Classifications with Reasonably Anticipated Occupational Exposure:

Academic Custodial- Permit 24

- Custodial Technicians, Custodial Managers- clean up spills containing blood or other potentially infectious material

Animal & Food Sciences- Permit 115, 120

- Principal Investigator, PhD student, Graduate Student- research and analysis of human materials/cell lines

Athletic Equipment Services- Permit 15

- Equipment Managers, Laundry Aides (including work study laundry aides), Event Supervisors, Service Coordinators- handling potentially contaminated laundry and equipment

Athletic Trainers- Permit 05

- Certified Athletic Trainers, Athletic Trainer students- Provide first aid, dress wounds

Behavior Health and Nutrition- Permit 13, 110, 126

- Principal Investigator, Graduate Student- research and analysis of human material/cell lines

Biological Sciences- Permits 34, 46, 49, 57, 72, 78, 88, 104, 106, 117, 124, 129, 130

- Principal Investigators, Professors, Associate Professors, Graduate Students, Undergraduate Students, Research Associates/Assistants, Lab Coordinators/Managers, Visiting Scientist, Post Doc Candidates- research and analysis of human materials/cell lines

Biomedical Engineering- Permits 87, 101, 102, 114, 123

- Principal Investigators, Professors, Associate Professors, Graduate Students, Undergraduate Students, Research Associates/Assistants, Lab Coordinators/Managers, Visiting Scientist, Post Doc Candidates- research and analysis of human materials/cell lines

Chemical Engineering- Permits 63, 64, 84, 119

- Principal Investigators, Professors, Associate Professors, Graduate Students, Undergraduate Students, Research Associates/Assistants, Lab Coordinators/Managers, Visiting Scientist, Post Doc Candidates- research and analysis of human materials/cell lines

Chemistry/Biochemistry- Permits 40, 55, 91, 97, 116, 132

- Principal Investigators, Professors, Associate Professors, Graduate Students, Undergraduate Students, Research Associates/Assistants, Lab Coordinators/Managers, Visiting Scientist, Post Doc Candidates- research and analysis of human materials/cell lines

College of Agriculture and Natural Resources- Ag Utility Workers- Permit 70

- Utility Workers- clean up potentially infectious blood/body fluid spills

College of Anatomy Lab (KAAP 420)- Permit 09

- Students involved in Functional Human Anatomy lab- human cadaver dissection

Communication Sciences and Disorders (Speech Clinic)- Permit 111, 127

- Speech Language Pathologists, Audiologists, Clinicians, Administrative Assistants, Assistant/Associate/Adjunct Professors, Clinical Operations Manager, Director of Research and Clinical Services, Director of Clinical Education, Office staff, Students- provide basic first aid, clean up potentially infectious blood/body fluid spills

Cooperative Extension- Permit 71

- Youth Development Staff, Extension Agents, Site Mentors, Afterschool Director- provide basic first aid, clean up potentially infectious blood/body fluid spills

Custodial-Lewes campus- Permit 30

- Utility Workers- clean up potentially infectious spills

Delaware Biotechnology Institute- Permit 52

- Director of Bioimaging, Research Associate I/II, Associate Scientist, Post-doc, Graduate Students- handle human blood and OPIM in a research setting

Early Head Start- Permit 28

- Child and Family Specialists, Graduate Assistants, Program Supervisors, Family Advocates, Research Assistants- provide first aid and clean up spills containing blood and OPIM

Early Learning Center- Permit 45

- Teachers, classroom assistants and administrative staff- perform basic first aid, clean up potentially infectious blood/body fluid spills

Employee Wellness- Permit 36

- Director, Wellbeing Coordinator, Grant Program Coordinator- perform cholesterol and glucose screenings

Environmental Health and Safety- Permit 01

- Director, Assistant Director, Specialists, Technicians- waste handling, emergency and spill response where blood or OPIM may be present

Facilities-Building and Maintenance Operations- Permit 27

- Structural Technician (Glass/Carpenter/Roofer/Lock Smith), Painter, Plumber, Insulator, Maintenance Mechanic, Electricians- repair broken contaminated glass, plumbing waste repairs, structural repairs, repair sanitary waste and storm drainage lines, access sanitary lines for repairs

Facilities-Ground Services- Permit 74

- Refuse Collectors, Refuse Equipment Operators- handle infectious waste that may be improperly disposed of via the municipal waste stream

Health Sciences Dean's Office- Permit 82

- Research Associate- research and analysis of human materials/cell lines

Housing Custodial- Permit 23

- Custodial Technicians, Custodial Managers- clean up spills containing blood or other potentially infectious materials

Ice Arena/Pool- Permit 20

- Ice Arena Assistant Director, Building supervisor, service supervisor, skate guards, service representatives, lifeguards (outdoor pool)- administer first aid and clean up blood/body fluid spills

Kinesiology and Applied Physiology/ Human Performance Lab- Permits 38, 42, 92, 113, 122, 128

- Principal Investigators, Graduate Students, Research Assistants/Technicians, PhD students/postdoc fellows, Exercise Technician- conduct research on human subjects, provide first aid

Materials Science and Engineering- Permits 60, 61, 98

- Principal Investigators, Professors, Associate Professors, Graduate Students, Undergraduate Students, Research Associates/Assistants, Lab Coordinators/Managers, Visiting Scientist, Post Doc Candidates- research and analysis of human materials/cell lines

Mechanical Engineering- Permits 107, 131

- Principal Investigators, Professors, Graduate Students, Post Doc Candidates- research and analysis of human materials/cell lines

Medical Lab Sciences- Permit 11, 118

- Students involved in Medical Technology (Med Lab Sciences) Labs and clinical rotations- handling human blood, tissue and OPIM

Nursing- Permit 21, 125

- Professors, Associate professors, Assistant professors, instructors, students taking NURS classes/labs/clinical- patient care, venipuncture, blood/OPIM analysis, cleaning up spills

Office of Laboratory Animal Management- Permit 75

- Principal Investigators, Technicians- research/handling animals that contain human derived materials

Physical Therapy- Permit 35

- Physical Therapy students taking PHYT labs and clinicals- teaching labs involving cadaver dissection and handling human materials

Physical Therapy Clinic- Permit 18

- Physical Therapists- change dressing on wounds, suture removal, cleaning up spills or contaminated equipment

Psychology and Brain Sciences- Permits 103

- Principal Investigators, Research Assistants (Graduate and Undergraduate level), Lab Managers, students taking NSCI/PSYC lab classes- research and analysis of human materials/cell lines, human brain dissections

Public Safety-UDPD- Permit 03

- Public Safety Officers, Police Officers, Security, Dispatcher, Service Supervisors, Investigators, Managers- First Aid/CPR, Physical Confrontations, Crime Scene Investigations, Evidence Collection

Recreation Services- Permit 08

- Carpenter Sports Building supervisors, lifeguards, Intramural programs supervisors, fitness specialists, fitness supervisors and coordinators, aquatics director, aquatics assistant director and coordinators, maintenance specialist, assistant directors, associate director- provide first aid/emergency medical services, clean up infectious spills

Ships' Crew- Permit 16

- Marine Operations crew- administering emergency medical services, cleaning up spills or contaminated equipment

Student Health Services- Permit 99

- Physician, University Nurse, Medical Service Reps, Administrative Assistants, Lab and X-ray Coordinators, Clinical Student Workers- possible exposure to blood while treating patients, cleaning blood, or touching blood

Theatre- Permit 33

- Assistant Master Electrician and Audio Engineer, Assistant Technical Director, Associate Production Manager, Audience Services Manager, Costume Director, Costumer, Director of Marketing and Communication, House Manager, Master Electrician, Patron Services Assistant, Production manager, Prop Master/Artisan, Stage Manager/Supervisor, Technical Director, Theatre Technician, Wardrobe Supervisor- provide first aid and clean up potentially infectious spills containing blood and OPIM

Transportation Services- Permit 68

- Bus Drivers, Motor Pool Coordinators, Transportation Supervisors, Medical Transport Drivers- clean up blood/body fluid in buses/vans

University of Delaware Emergency Care Unit- Permit 06

- Emergency Medical Technicians- provide emergency medical services

University Lab Preschool- Permit 93

- Master Teacher, Administrators- provide basic first aid, clean up potentially infectious blood/body fluid spills

Appendix B

**University of Delaware
Hepatitis B Vaccination Declination Form**

Name (print): _____	
Signature: _____	
Date: _____	Department: _____

Option I

I have been vaccinated for hepatitis B virus at a previous time.

The dates of vaccination, to the best of my knowledge, are:

Vaccine 1: _____

Vaccine 2: _____

Vaccine 3: _____

Please attach a copy of any vaccination verification if possible.

Option II

Hepatitis B Vaccine Declination

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Option III (For Employees, Teaching Assistants, Resident Assistants and Graduate Assistants only)

I would like to be vaccinated for Hepatitis B

Return to: Environmental Health and Safety, 132 General Services Building

Appendix C

IF AN EXPOSURE OCCURS:

1. **Administer immediate first aid**
 - a. Wash needlesticks and cuts with soap and water
 - b. Flush splashes to the nose, mouth, or skin with water
 - c. Irrigate eyes with clean water, saline, or sterile irrigant for 10-15 min.

2. **Seek evaluation by a clinician** familiar with post-exposure assessment and treatment within two hours of the exposure. As time is of the utmost importance to maximize the effects of various medical treatments, it is essential to communicate to supervision and clinicians that a bloodborne exposure has occurred and identify the source of the exposure. Contact EHS at 302-831-8475 for guidance during regular business hours. For after-hours exposures, please call UDPD at 302-831-2222 and they will contact us.

For more information, please go to the Nurse Managed Primary Care Center website:

<http://sites.udel.edu/nmhc/our-services/student-needle-sticks-blood-borne-pathogen-exposures/>

3. **Report the exposure** to EHS, Supervisor, or Instructor.

Appendix D

Training Certification
University of Delaware
Bloodborne Pathogen Program

This is to certify that I, (please print) _____, have received training in, and understand, all the topics below:

1. An accessible copy of the standard and an explanation of its content.
2. Exposure control plan and where copies are available.
3. General epidemiology and symptoms of bloodborne diseases.
4. Modes of transmission of bloodborne diseases.
5. Appropriate methods for recognizing tasks that involve exposure.
6. Explanation of labels and color-coding.
7. Use and limitations of methods to minimize or prevent exposure.
8. Basis for selection of personal protective equipment.
9. Types, use, location, removal, handling, and disposal of personal protective equipment.
10. Guidelines for disposal of contaminated materials.
11. Hepatitis B vaccine: efficacy, safety, methods of administration, benefits.
12. Procedure to follow concerning clean-up of a body fluid spill.
13. Procedure to follow if exposure occurs- method of reporting and medical follow-up.

Employee signature _____ Date _____

Department _____ Job title _____

=====

Instructor's name _____

Instructor's signature _____

Send to: Environmental Health and Safety @ 132 General Services Building

EHS 5/2021