

4. Bloodborne Pathogens Exposure Control and Infectious Waste Management

WAC 296-823 Pierce Co. Code 8.38

1.0 Bloodborne Infectious Agents

A pathogen is a disease-causing agent. Bloodborne pathogens are organisms, such as viruses and bacteria that are carried in human blood. These organisms can cause illness, and in some cases death, after entering the blood stream of an individual.

Illnesses caused by most bloodborne pathogens is relatively rare: The human body uses a variety of defenses, including the skin, dense cellular material, the lymph system, and a complex disease-fighting network of cells within the blood itself to protect the bloodstream against any invasions from the outside. However, if the infected blood of one individual directly enters the bloodstream of another individual, the infection can be transmitted.

Potentially infectious human body fluids include blood, semen, vaginal secretions, urine, feces, vomit, saliva, and any body fluids containing or suspected of containing blood.

2.0 Affected Employees

2.1 High Risk Groups

The following groups have a higher risk of exposure to bloodborne pathogens in their work assignments and are responsible for proper disposal of infectious wastes.

- Health Center
- School of Nursing
- Campus Safety & Information
- Athletic Training Room

2.2 Other Employees

Other university employees may experience exposure to blood or other potentially infectious materials (OPIM) only as a collateral function of their job. However, many of these employees are primarily responsible for infectious waste management activities.

Tasks that are performed by these employees include collecting and treating infectious waste, clean up of potentially infectious spills, handling trash, and conducting Anatomy and Physiology Labs and disposing of samples. At Pacific Lutheran University the following job classifications are in this category:

- Some Maintenance Personnel
- Cleaning Services
- Environmental Services
- Biology Department

Persons in job classifications with very little or no potential exposure to bloodborne hazards should still understand the proper procedures to follow, if faced with an occupational exposure to a bloodborne pathogen.

The following are typical examples of this group:

- Non-laboratory classroom faculty
- Administrative services
- Office personnel

3.0 Responsibilities

3.1 Supervisors

- Identifying at-risk employees and arranging for employee exposure control training on an annual basis. Training can be coordinated through the university Environmental Health & Safety Manager.
- Maintain confidentiality for employees who have had an exposure incident, such as a needle stick.
- Annually evaluate, with the help of your employees, the medical equipment that you are currently using against what is available on the market

3.2 Employees

- Follow the specific procedures developed by their department, in addition to the procedures presented in this plan.
- Attend training.
- Schedule their own vaccination appointments.
- Report exposure incidents immediately.

3.3 Environmental Health & Safety Manager

- Work with supervisors to create training opportunities for employees.
- Review this program annually with input from affected departments.

4.0 Hazard Communication and Identification

4.1 Employee Training

All occupationally exposed employees will receive training by a person who is knowledgeable in the subject matter. Training will take place during working hours at the time of initial assignment to tasks where occupational exposure or infectious waste handling may take place, and annually thereafter. Training is also required whenever policies or procedures change or demonstrated behaviors indicate a need for re-training.

Employee training must include the following elements:

- An accessible copy of the regulatory text of WAC 296-823 and explanation of its contents.
- An explanation of the epidemiology and symptoms of bloodborne diseases.
- An explanation of the modes of transmission of bloodborne pathogens.
- An explanation of this Bloodborne Pathogen and Infectious Waste Management Program, and the means by which an employee can obtain a copy of the plan.
- An explanation of methods used to recognize tasks and other activities that may expose employees to blood or OPIM.
- An explanation of the use and limitations of methods that will prevent or reduce exposure.

- Information on the types, proper use, limitations, location, donning and removal, handling, decontamination and disposal of personal protective equipment.
- Information on the hepatitis B vaccine, including its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM.
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and medical follow-up that will be made available.
- Information on the post-exposure evaluation and follow-up that PLU provides for the employee following an exposure incident.
- An explanation of the signs and labels and/or color-coding required for communicating hazards.
- An opportunity for interactive questions and answers with the person conducting the training session.
- An explanation of the roles and responsibilities of various employees in the handling of infectious waste.
- A definition and identification of infectious waste generated at PLU, particularly as concerns the affected employee.

4.2 Hazard Signs & Labeling

Warning labels shall be used to identify all storage sites, containers, refrigerators, and/or freezers containing blood, OPIM, or infectious waste. Labels shall be fluorescent orange or orange-red in color. Red or orange bags or containers may be substituted for labels. The international symbol for biohazardous material is:



5.0 Hepatitis B Vaccination

All departments with occupationally exposed employees will provide hepatitis B vaccinations to those employees. The hepatitis B vaccination will be offered to occupationally exposed employees after exposure training is completed within 10 days of job assignment. If an employee initially declines the vaccination, but later chooses to accept it while still occupationally exposed, PLU will make it available to the employee.

All exposed employees must indicate their acceptance or declination of the Hepatitis B vaccine by completing the form in Appendix 3-A. The PLU department for which the employee works will pay for the vaccine and the vaccination.

5.1 On Campus Vaccination

An eligible employee may arrange for the vaccination by making an appointment with the PLU Health Center or Wellness Clinic. The employee must also provide a departmental account number at the time of the vaccination.

5.2 Off Campus Vaccination

If the employee goes to a different health care professional for this service, the supervisor must ensure that a copy of the regulation (WAC 296-823-080) is provided to or in the possession of the healthcare professional responsible for the employee's vaccination. The employee's department is responsible for making arrangements to pay for the employee's vaccination series.

5.3 Written Opinion of Health Care Provider

The health care professional must provide a written opinion stating that the vaccination is indicated and whether such vaccination was completed. This must follow an evaluation that occurs prior to administering the vaccination. The written opinion must be provided to the employee within 15 days of the employee's evaluation.

The supervisor must request that a written opinion be provided to the employee when a third party provider administers the evaluation and vaccine.

If the employee obtains the vaccination from their personal health care provider, a written opinion is not required.

It is suggested that Pacific Lutheran University Health Care Providers use the form developed by Labor and Industries for the written opinion. See Appendix 3-B

6.0 Exposure Incident

An "**exposure incident**" is defined as "*a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral (non-digestive) contact with blood or other potentially infectious materials that results from the performance of an employee's duties.*"

A "**source individual**" is "*any individual, living or dead, whose blood or other potentially infectious fluids may be a source of occupational exposure to the employee.*"

An "**occupational exposure**" is a "*reasonably anticipated skin, eye, mucous membrane, or parenteral (non-digestive) contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.*"

6.1 Injury Report and Needle stick Log

An exposure incident shall be documented by the injured employee on an injury report form and submitted to one's supervisor.

A needle stick injury will always be logged on the OSHA record keeping report. The safety committee will evaluate the circumstances of the exposure and recommend ways to decrease

future risk. The name of the exposed employee will remain confidential during this evaluation.

6.2 Post Exposure Evaluation and Follow-up

Immediate and confidential post-exposure evaluations and follow-up will be provided in the event of an exposure incident at no cost to the employee. It is recommended that the employee seek care from a hospital facility.

The follow up will include at minimum the following elements:

- Documentation of the routes of exposure and circumstances under which the exposure incident occurred.
- Identification and documentation of the source individual.
- Collection and testing of blood to detect the presence of HBV or HIV.
- Post-exposure preventive treatment, when medically indicated.
- Counseling.
- Evaluation of reported illnesses.

The employee's supervisor shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided with the following information:

- A copy of the regulation (WAC 296-823-160) or refer them to www.lni.wa.gov/rules/
- A description of the exposed employee's duties as they relate to the exposure incident.
- Documentation of the route(s) of exposure and circumstances under which exposure occurred.
- Results of the source individual's blood testing, if available.
- All medical records that PLU must maintain for the employee and are relevant to the appropriate treatment of the employee, including vaccination status.

6.3 Written Opinion of Medical Professional

PLU Human Resources must obtain a written opinion from the healthcare professional and provide a copy to the employee within 15 days of completion of the evaluation. The information provided to the employer must be limited to noting that the employee has been:

- Notified of the results of the evaluation
- Told about any medical conditions resulting from exposure to blood or other potentially infectious materials that need further evaluation or treatment.

It is recommended that the health care professional use the form developed by Labor and Industries and found in appendix 3-C.

6.4 Testing of Source Person's Blood

Arrange to test the source person's blood as soon as possible after getting their consent. See WAC 296-823-16010, 246-100-206 and 246-100-207 for guidance on seeking consent legally.

The results of the source person's blood must be provided to the exposed employee. The employee must be advised on the confidentiality issues surrounding this information.

7.0 Exposure Control Procedures

The term “**universal precautions**” refers to a system of infectious disease control that assumes that every direct contact with blood and “other potentially infectious materials” (OPIM) is infectious. The body fluids of all persons should be considered to contain potentially infectious agents and contact with all body fluids should be avoided to prevent the risk of infection. Bloodborne pathogens of primary concern are the human immunodeficiency (HIV) and hepatitis B & C viruses (HBV or HCV)].

Other potentially infectious materials include saliva, vaginal secretions, semen, cerebrospinal fluid, synovial fluid, pericardial fluid, peritoneal, fluid, amniotic fluid, saliva (in dental procedures), and any unfixed human tissue or organ.

Taking universal precautions, which are intended to supplement rather than replace recommendations for routine infection control, prevents transfer of blood and OPIM. The primary method is using protective barriers, such as gloves. Other methods include engineering controls, good work and housekeeping practices, and personal protective equipment.

The various exposures to infectious diseases may occur in any setting.

7.1 Universal Precaution

- Treat all blood and body fluids as contaminated.
- Avoid direct skin contact with body fluids whenever possible.
- Follow normal hygiene practices, including thorough hand washing.
Proper hand washing requires the use of soap, with vigorous scrubbing for approximately five seconds, followed by thorough rinsing under a running stream of water for another five seconds. Soap suspends easily removable soil and microorganisms, allowing them to be washed off. Running water is necessary to carry away the dirt and debris. (Where reasonable access to washing facilities cannot be provided, an antiseptic hand cleanser is a suitable substitute.)
- Wear gloves when touching blood or body fluids of another individual or a contaminated surface (e.g., treating nosebleeds and bleeding abrasions, handling clothes soiled by urine or feces, cleaning blood or other body fluids off of surfaces.)
- During administration of first aid, wear gloves (located in first aid kits or body fluid clean-up kits) to keep victim’s body fluids from coming in contact with you.
- During mouth-to-mouth resuscitation, use a CPR mouth protector (located in university first aid kits).
- Wash all skin surfaces that become contaminated after removal of protective equipment, such as gloves.

7.2 Engineering Controls

Engineering controls are tools and systems that are designed to reduce the employee’s risk of an exposure incident. These include devices to pick up contaminated broken glass, sharps collection containers, and mechanical pipettes.

Contaminated needles and other sharps shall not be bent, recapped, or broken. They shall be placed directly into an approved sharps collection receptacle immediately after use.

- The collection receptacle must be labeled or color-coded to indicate that the contents are infectious.
- The container shall not be filled more than $\frac{3}{4}$ full.

- The Health Center will provide sharps containers to appropriate medical patients who reside at PLU as a means of protecting PLU waste disposal employees.

Specimens of blood or OPIM shall be placed in a container that prevents leakage. If the primary container becomes contaminated on the outside, it shall be placed into a secondary container. If the specimen could puncture the primary container, the primary container shall be placed in a secondary container that is puncture resistant.

If a specimen-containing tube breaks during centrifugation, allow 15-20 minutes for aerosols to settle before opening the centrifuge lid. Use a mechanical device, such as forceps, to remove all pieces of glass. Do not pick up broken glass or any sharps with fingers.

Mechanical pipeting will be used for all blood or OPIM. Mouth pipeting or suctioning is never permitted. No food or beverages will be stored or consumed in areas where body fluids are present.

PERIODIC EVALUATION OF EQUIPMENT AND MEDICAL DEVICES

Supervisors in every department are responsible for annually evaluating the medical equipment used in practice. The evaluation shall include an assessment of the risk of using each type of device. A decision shall be made as to which device to use based on the risk assessment. You must demonstrate that you have completed this evaluation and have included employees in the decision-making process.

7.3 Work Practice Controls

Work practice controls are behaviors or policies that reduce exposure.

Care should be taken to prevent hair or long sleeves from coming in contact with work surfaces or individuals. Avoid contact with the mouth, eyes, ears, or nose while working. The types of behaviors to avoid include biting nails, eating, and smoking.

Equipment that may become contaminated with blood or OPIM shall be examined prior to servicing or shipping and shall be decontaminated with a hospital grade disinfectant as necessary. If it is not feasibly possible to decontaminate the equipment, a label must be attached to the equipment indicating which portions remain contaminated. The responsible employee will communicate the hazard to all other affected employees.

Labels will clearly identify all containers or areas where infectious materials may be generated or stored. Labels may communicate with text, biohazard symbol or standard color (red/orange).

7.4 Housekeeping

Each department that has occupationally exposed employees must develop a specific *written* schedule for cleaning and a method for decontamination relevant to the working conditions and hazards associated with the work.

All surfaces and tools will be decontaminated with an appropriate disinfectant or contained within a labeled infectious waste collection receptacle immediately or as soon as possible after any spill of blood or OPIM contamination. Potentially contaminated broken glassware shall not be picked up by hand. A mechanical device, such as a brush and dustpan or tongs, must be used to pick up the glass.

CLEANING/DECONTAMINATION PROCEDURES: BODY FLUID SPILLS

All departments that handle infectious materials shall maintain containment and cleanup equipment, including disposable absorbent material for spilled liquids, hospital grade disinfectant, infectious waste bags, personal protective equipment, and janitorial equipment.

If a body fluid spill occurs, contact Campus Safety at x7911 to have it cleaned up. If no one is available and the area cannot be cordoned off, please follow the guidelines below.

If an incident occurs in which a body fluid, such as vomit, blood, urine, or feces has contaminated a surface, cleaning and disinfecting must take place prior to allowing activity to continue. The surface should be cleaned of visible contamination and then disinfected with a hospital grade disinfectant. Please use the body fluid clean-up kits, which contain everything you need to accomplish this. The following are based on written instructions from a body fluid cleanup kit:

- Put on latex gloves (and other PPE as needed).
- Spread absorbent evenly over spill.
- Wait one minute for powder to absorb spill.
- Scoop spill with scraper into plastic bag.
- Spray area with disinfectant.
- Wait one minute for disinfectant to kill germs.
- Wipe area clean with paper towels.
- Place towels in plastic bag.
- Remove gloves and place in plastic bag.
- Place all contents in plastic bag and tie.
- Dispose of properly in red biohazard trashcans.
- Clean and disinfect non-disposable tools and equipment with a hospital grade disinfectant.
- Wash your hands.
- Report waste location to Environmental Services (x7385) for collection

If the infectious waste container becomes contaminated, the person who discovers the contamination shall decontaminate it using these same methods.

7.5 Personal Protective Equipment (PPE)

“Personal Protective Equipment” is specialized clothing or equipment that is worn by the employee for protection against a hazard. Equipment may include, but is not limited to, gloves, face shields, eye protection, laboratory coats, and CPR shields.

It is the supervisor’s responsibility to provide at-risk employees with the equipment they need to protect themselves from exposure and the training to correctly use the equipment. The supervisor must also implement procedures to ensure that all employees use the appropriate equipment. The university department will provide personal protective equipment at no cost to the employee.

It is the employee’s responsibility to check all PPE to make sure that it is in working order before using.

Clothing or other materials that have been contaminated with blood or OPIM must be removed immediately and placed carefully into a biohazard bag. They should not be rinsed or handled any more than necessary to contain the infectious material.

8.0 Infectious Waste

An **infectious waste** is an untreated solid or liquid waste capable of causing an infectious disease via an exposure to a pathogenic organism of sufficient virulence and dosage through a portal of entry in a susceptible host.

PLU generates about 34 cubic feet of infectious waste every year. Infectious wastes generated at Pacific Lutheran University include the following types of wastes.

- Sharps (i.e. needles with syringes, scalpel blades, glass slides, etc.). Cultures and stocks of infectious waste agents (i.e. blood specimen tubes, culture plates).
- Blood, blood saturated gauze, or bandages.
- Potentially infectious soiled items including, but not limited to, mops, brooms, towels, & other cleaning items.

A 4" x 4" gauze pad saturated with blood is the threshold for identifying the kind of materials that must be handled as infectious waste. Anything less than this, such as band aids, diabetic test strips, vomit, or tools that have less bodily fluid on them, are not considered an infectious waste.

8.1 Infectious Waste Procedures

Universal precautions shall be used when handling infectious waste materials. See Section Exposure Control Procedure for more guidance.

Sharps will be segregated and collected in closable, puncture-resistant, leak-proof sharps containers. Hypodermic needles, syringes with needles attached, and potentially contaminated broken glass and blades are all examples of sharps.

Sharps containers are found in the following locations: Health Services, Campus Safety, Biology Department, Facilities Management, the Athletic Training Room, Nursing Skills Lab, and residence rooms where needed.

Saturated dressings, gauze, plastic blood specimen tubes, culture plates, and potentially contaminated cleaning items will be segregated and contained in red or orange colored disposable plastic bags. Only use the bags provided by the Biology Department. Do not double bag materials as the heat from the autoclave cannot penetrate two layers of plastic.

Both sharps containers and bagged infectious waste shall be collected in properly labeled – with the words Infectious Waste or the international biohazard symbol – trash containers lined with a red or orange plastic bag. Infectious waste collection containers are located in Residence Halls, Health Services, Athletic Training Room, and Rieke Science Center. The central collection area is at the Health Center.

Infectious waste collection containers shall not be used for non-infectious wastes. They shall not be accessible to patients, the public, vectors, or exposed to the elements. In the event that the infectious waste container becomes contaminated, the container shall be decontaminated using a hospital grade disinfectant or sanitizer.

Filled infectious waste bags or sharps containers may be stored on site for only **7 days** prior to treatment or collection for treatment. **Additional requirements go into effect after the 7-day period has passed.** Please call Facilities Management for immediate, unscheduled disposal service.

Infectious waste handling and treatment procedures are a requirement of the university's permit and must be followed precisely to maintain our permit status.

8.2 Treatment of Infectious Waste

ONSITE TREATMENT

The Biology Department will treat infectious waste generated within the department by autoclaving. A written operating procedure shall be developed and maintained by the Chair of Biology for each autoclave. The autoclave operator shall observe the operating procedure. The procedure will include time, temperature, pressure, type of waste, type of container, closure on container, pattern of loading, water content, and maximum load capacity.

After the infectious waste bag or container has been autoclaved, the treated waste may be disposed of directly into the solid waste. Each treated container should be relabeled or wrapped in a regular trash bag prior to disposal.

Heat Sensitive Indicator tape or bags will be used to autoclave wastes. Infectious waste will be treated until the heat sensitive tape or bag indicates that the treatment process is complete.

A Biological Indicator shall be placed in the center of a representative load on a weekly basis to confirm that the treatment system is effective at decontaminating the waste.

Offsite Spore Testing. Spore samples shall be sent to a third party certified laboratory once every quarter. This will be administered under the direction of the Biology Lab Manger.

Thermometer Calibration. All autoclave thermometers used to treat infectious wastes will be calibrated annually. This will be administered under the direction of the Biology Lab Manger.

Results shall be documented for each of these procedures and maintained in RSC 159 to demonstrate compliance to Health Department inspectors.

OFFSITE TREATMENT

All other infectious waste generated on campus will be shipped by Stericycle, Inc. Stericycle, Inc is located in Kent, WA. Telephone number: 425-291-9322. This will be coordinated through the Environmental Services Office of Facilities Management.

9.0 Recordkeeping

9.1 Medical Records

PLU will maintain an accurate record for each employee with occupational exposure. These records will be kept confidential and maintained for the length of the employee's employment plus 30 years per WAC 296-62-052.

The record will include:

- The employee's name and social security number
- The employee's vaccination status and medical records relative to the employee's ability to receive vaccination

- A copy of all results, medical testing, and follow-up procedures
- A copy of a healthcare professional's written opinion
- A copy of information that was provided to the healthcare professional as required in Post Exposure and Follow up of this program

9.2 Training Records

The Supervisor and PLU Environmental Health & Safety manager will maintain training records for three years. The record will include:

- Date of training
- Contents of training
- Names and qualifications of person conducting the training
- Names and job titles of persons attending training

9.3 Spill Records

Please report all large spills of infectious waste to the Environmental Health & Safety Manager immediately. A large spill is more than **32 gallons** (residential trash can size) of infectious solid waste and **one liter** (½ the size of a large pop bottle) of free infectious liquid. These records must be maintained for a minimum of three years.

9.4 Treatment Records

The Biology Department will maintain records of results of weekly Biological Indicators, quarterly off-site spore testing, and annual thermometer calibration. These records must be maintained for a minimum of three years.