

EXPOSURE CONTROL PLAN



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Annual Plan Review Log

Department/Designated Department Contact has reviewed and updated, if necessary, their ECP as documented below.

Name of Reviewer	Date of Review/Update
Linda Hicks, CPBCA Biosafety Officer	March 4, 2026

Policy

The University of Montana is committed to reducing the risks to individuals who have occupational exposure to Bloodborne Pathogens (BBP) and Other Potentially Infectious Material (OPIM). As defined in the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen Standard [29 CFR 1910.1030](#), BBP are pathogenic organisms that are present in human blood and can cause disease in humans, including, but not limited to, Hepatitis B virus (HBV) and Human Immunodeficiency Virus (HIV). OPIM are human bodily fluids (including cerebrospinal, synovial, pleural, pericardial, peritoneal, amniotic fluids, and semen, vaginal secretions, saliva during dental procedures, and any body fluid visibly contaminated with blood), unfixed human tissue or organ (other than skin), and HIV or HBV-containing biological materials (for example, blood and tissues from experimental animals infected with HIV, HBV or other bloodborne pathogens or cell lines or tissue cultures containing HIV or HBV).

This University of Montana Exposure Control Plan (ECP) includes an exposure determination for University employees and students, practices and procedures for minimizing risk of exposure, and appropriate post-exposure procedures and recordkeeping. This ECP will be reviewed and updated annually by the University of Montana Biosafety Officer.

While this document serves as the Campus-wide ECP for the University of Montana, the Institutional Biosafety Committee Office (IBC) has developed ECP templates that can be adapted and customized for individual laboratories or other settings or facilities. Templates can be found on the University of Montana Institutional Biosafety Committee website.

Scope

This plan applies to all University of Montana research, academic, and other activities performed on the main UM Campus, Missoula College, or at affiliated campuses and facilities where there is the potential for exposure to BBP, blood or OPIM, performed by faculty, staff, facility personnel, students, researchers, volunteers, and visitors. Exposures can occur through needlesticks, direct contact with non-intact skin, or splashes to the eyes, mouth, and nose.

This policy applies to the following:

- All paid employees (faculty, staff and students) with occupational exposure to human blood or other potentially infectious materials (OPIM).
- All non-paid personnel (students, interns, volunteers) who perform tasks in UM research laboratories with potential exposure to human blood or OPIM as part of their education, placement or training.

At the University of Montana, we consider all work with human and non-human primate cell lines to be applicable to this standard, due to the potential presence of infectious materials . Based on these requirements, the IBC has established policies for the injection of human cells and tissues into animals (see Guidelines for PIs Injecting Human Cells and Tissues into Animals).

Important note: All research use of human source materials, including well-established human cell lines and clinical samples, must be registered with the University of Montana Institutional Biosafety Committee (IBC).

Program Administration and Responsibilities

The President of UM has the ultimate responsibility for this ECP and all safety and health policies and procedures at the University of Montana. The Institutional Biosafety Committee (IBC), and Biosafety Officer (BSO) acting on behalf of the President are responsible for the Bloodborne Pathogens Program and have the responsibility to revise, amend and update these instructions as necessary. The Biosafety Officer is responsible for the administration and implementation of this program and has full authority to make any decisions to ensure its success. This includes authorization to halt any operation that is not in compliance with requirements outlined in this procedure. The Biosafety Officer may be reached at (406) 243-6395.

The UM ECP provided by the Biosafety Officer will be reviewed at least annually and updated, as needed by:

- Biosafety Officer
- Institutional Biosafety Committee
- Occupational Health and Safety Providers
- Environmental Health and Safety

Department Contact (DC)

Department Contact (supervisor, manager, director, and/or principal investigator) have a key role in the successful development, implementation and monitoring of the University of Montana's ECP. The responsibilities of each DC include, but may not be limited to, the following:

- Ensure full compliance with the OSHA Bloodborne Pathogen Standard in the facility under their direction, as well as to other local, state and federal regulations that apply to their work environment, including the ECP.
- Principal Investigators of research laboratories must register their work with the [Institutional Biosafety Committee \(IBC\)](#). Registration for laboratory-based research is conducted using an online system, [Cayuse](#).

- Clearly identify the use of blood, products made from human blood, plasma, products made from plasma, human or non-human primate cell lines or OPIM when registering or amending a protocol with the IBC.
- Conduct a risk assessment to identify potentially hazardous procedures involving blood or OPIM, develop facility-specific Standard Operating Procedures (SOPs), instruct and train all personnel and students working in the lab on safe work practices, document all training, keep the lab space clean and up-to-date, and follow regulations for disposal of infectious waste.
- Provide all personnel with a potential exposure to blood or OPIM (at the time of job assignment) access to this document which must be reviewed and documented at least annually. Provide training records relative to the ECP, annually.
- Ensure all affected personnel undertake and document initial (at the time of job assignment) and annual refresher bloodborne pathogen training.
- Ensure that universal precautions are understood and executed by employees/students with possible exposure to bloodborne pathogens.
- Promote practices, procedures, and methods that conform to the concept of universal precautions.
- Design and implement engineering controls and institute work-practice control procedures that will eliminate or minimize potential exposure to blood and OPIM.
- Provide appropriate PPE to employees/students that have potential exposure to bloodborne pathogens. Reusable PPE must be laundered at no cost to the employee.
- Ensure that employees wear PPE at all times when in the laboratory and remove PPE when leaving the lab.
- Maintain a clean and sanitary workplace environment.
- Post the universal biohazard symbol and appropriate Biological Safety Level (BSL) at the entrance of research laboratories. The facility BSL is set by the IBC.
- Post a laboratory warning sign with the universal biohazard symbol and appropriate Biological Safety Level (BSL) at the entrance of research laboratories. This sign must also have at least two current emergency contacts and the agents/materials used in the lab.
Work with human blood or OPIM must be performed using Biosafety Level 2 (BSL-2) practices; human samples obtained from patients with a known infectious disease may require additional containment and practices. Contact the Biosafety Office at 406-243-6395 or IBC@mso.umt.edu for help obtaining a sign.
- Develop and implement cleaning schedules as deemed appropriate for the types of activities and facilities involved.
- Comply with additional criteria established for HIV and HBV laboratories.
- Make confidential medical evaluation and follow-up immediately available to an exposed individual, following an exposure incident.
- Report exposure incidents to the Biological Safety Officer (406-243-6395).
- Encourage employees to report any changes in their health status to the Occupational Health and Safety Nurse, Biosafety Officer or supervisor.
- Perform and document an annual Safer Sharps Alternative Review.

- Affix appropriate labels to containers of regulated waste, refrigerators, freezers, and other equipment containing blood or OPIM, and other containers of blood or potentially infectious materials.
- Conduct periodic surveillance of activities within their respective areas to ensure compliance with the ECP.
- Comply with shipping requirements for blood or OPIM.

Individual Personnel

All employees and students have the right to a workplace free from recognized hazards that may cause injury or illness. Individuals identified as having occupational exposure to human blood or other potentially infectious materials (OPIM) are required to comply with the procedures and requirements outlined in this ECP. These individuals share responsibility for conducting their work in a safe manner, consulting with supervisors regarding the safe handling and proper disposal of blood and OPIM, completing required initial and annual bloodborne pathogen training, wearing appropriate personal protective equipment (PPE), and promptly reporting any job-related exposures to their Department Contact and Biosafety Officer.

Availability of the Exposure Control Plan for Employees and Students

The UM Bloodborne Pathogens ECP will be readily accessible to all employees and students through their Department Contact. Employees and students will be advised of the availability of the plan during their education/training sessions. Copies of the ECP will be provided by each supervisor in areas where exposure to bloodborne pathogens can be anticipated. The ECP can also be accessed on-line on the [UM IBC website](#).

Review and Update the Exposure Control Plan

The ECP will be reviewed, review documented and updated:

- Annually.
- When new or modified tasks and procedures are implemented which affect occupational exposure of employees and students.

Definitions

The following common terms and definitions are used in the Bloodborne Pathogens ECP.

Term	Definition
Blood	Human blood, blood components, and products made from human blood, including plasma, platelets, and wound exudates.

Term	Definition
Bloodborne Pathogens (BBPs)	pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).
Contaminated	The presence, or reasonably anticipated presence, of blood or other potentially infectious materials (OPIM) on any item or surface.
Decontamination	Use of physical or chemical methods to remove or inactivate bloodborne pathogens so surfaces or items are safe for handling and disposal.
Engineering Controls	Devices or equipment that isolate or remove bloodborne pathogen hazards, such as sharps containers, biosafety cabinets, autoclaves, and safer sharps devices.
Exposure Incident	Eye, mouth, mucous membrane, non-intact skin, or parenteral contact with blood or OPIM that occurs during an employee's work duties.
HBV (Hepatitis B Virus)	Virus causing liver inflammation and possible long-term liver damage, including cirrhosis and cancer.
HCV (Hepatitis C Virus)	Virus causing liver inflammation with potential progression to chronic liver disease, cirrhosis, and cancer.
HIV (Human Immunodeficiency Virus)	Virus that attacks the immune system and can lead to AIDS.
Needleless Systems	Devices that eliminate the use of needles in medical procedures, reducing risk of percutaneous injury.
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 duties.
Other Potentially Infectious Materials (OPIM)	1. The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that 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); and 3. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
Parenteral Exposure	Exposure through piercing of the skin or mucous membranes via needles, bites, cuts, or abrasions.
Personal Protective Equipment (PPE)	Specialized clothing or equipment used to protect employees from exposure hazards.
Post-Exposure Follow-Up	Required medical evaluation and follow-up after an exposure incident, including assessment, testing, vaccination, and counseling.

Term	Definition
Regulated Waste	Blood or OPIM in liquid/semi-liquid form; items that release fluids if compressed; items caked with dried OPIM; contaminated sharps; and pathological/microbiological wastes containing OPIM.
Sharps	Items capable of cutting or piercing the skin, such as needles, syringes, scalpels, razor blades, and capillary tubes.
Sharps with Engineered Sharps Injury Protection	Sharps with built-in safety features designed to reduce percutaneous injury risk.
Source Individual	Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.
Sterilize	Use of physical or chemical processes to destroy all microbial life, including bacterial spores.
Universal Precautions	An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.
Work Practice Controls	Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

Exposure Risk Determination

The Exposure Risk Determination List is a list of job titles with tasks where there is a reasonable anticipation of exposure to blood and/or OPIM in the course of their UM job duties.

OSHA defines Occupational Exposure as 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 duties.

Research and non-research settings should be considered as applicable:

- **Research settings:** laboratories, animal research facilities, and clinical research facilities.
- **Non-research settings:** facility services, athletics, student health services, campus police, and auxiliary services.

These types of jobs may have occupational exposure to bloodborne pathogens based on the nature of their work or as a result of specific duties that may be required as part of their job. Some employees and students in other job classifications may have specific required routine or non-routine job tasks that result in occupational exposure.

*Supervisors shall identify additional job clarifications in their area in which employees and students may be exposed if they are not already identified in the previous tables.

Job Classification / Setting	Research or Non-Research Setting	Examples of Job Duties with Potential Exposure	Type of Exposure Risk
Laboratory Research Personnel (Faculty, Staff, Postdocs, Students)	Research	Handling human blood, serum, plasma, tissues, primary human cell lines; performing injections, blood draws, or sample processing; cleaning contaminated equipment or work surfaces	Direct contact, needlestick, splash, aerosol
Animal Research Personnel (working with animals exposed to human materials)	Research	Handling animals inoculated with human blood or OPIM; collecting animal samples containing human-derived materials; cleaning animal housing or equipment	Direct contact, sharps injury
Teaching Laboratory Instructors and Teaching Assistants	Research / Instructional	Supervising instructional labs using human blood, blood products, or OPIM; responding to spills or student injuries	Direct contact, splash
Laboratory Support Staff (Lab Managers, Technicians)	Research	Cleaning or maintaining equipment contaminated with blood or OPIM; managing biohazardous waste; autoclaving materials	Direct contact, splash
Healthcare or Curry Health Center Staff <i>Note: The Curry Health Center has a separate Exposure Control Plan.</i>	Non-Research	Providing medical care; administering injections; performing phlebotomy; wound care; handling medical waste	Direct contact, needlestick, splash
Medical, Nursing and Allied Health Students	Non-Research	Providing medical care; administering injections; performing phlebotomy; wound care; handling medical waste	Direct contact, needlestick, splash
Athletic Trainers and Sports Medicine Staff	Non-Research	Treating injuries involving bleeding; providing first aid during practices or events; handling contaminated equipment	Direct contact, splash
Public Safety / Campus Police	Non-Research	Responding to medical emergencies, accidents, assaults; providing first aid or CPR; handling contaminated evidence	Direct contact, splash
Facilities, Custodial, or Housekeeping Staff	Non-Research	Cleaning areas contaminated with blood or OPIM; handling regulated waste; responding to spills	Direct contact, splash
Environmental Health & Safety (EHS) Personnel	Research / Non-Research	Responding to biohazard spills; conducting inspections in labs or clinical areas; managing exposure incidents	Direct contact, splash

Methods Of Implementation and Control

Compliance Methods

EXPOSURE CONTROL PLAN

The ECP outlines measures for evaluating potential exposure to blood and OPIM, as well as methods of eliminating or reducing the risk of exposure.

Persons covered by the OSHA bloodborne pathogen standard receive an explanation of the ECP during their initial training. Controls outlined within this plan will also be reviewed in the annual refresher training.

All persons can review this plan at any time during their work shifts by contacting their supervisor. A printed copy of the ECP is available, without charge, within 15 days of request through their supervisor. Additional assistance may be requested through Environmental Health and Safety (non-research settings) and/or the BSO (research settings).

UNIVERSAL PRECAUTIONS

Universal precautions will be observed by all employees and students at the University of Montana. All human blood, tissue and fluids and other potentially infectious materials (OPIM) will be treated as if they are known to be infectious for HBV, HCV, HIV and other bloodborne pathogens.



SAFE WORK PRACTICES

Safe work practices are designed to reduce the likelihood of occupational exposure, and include the following:

- Employees must wash their hands immediately or as soon as feasible after removing gloves or other personal protective equipment (PPE), before leaving the work area, and at the end of the work shift.
- Skin and mucous membranes are washed or flushed with water immediately or as soon as feasible following contact with blood or OPIM.
- Contaminated needles and sharps are not bent, broken, sheared, recapped, or removed from devices by hand.
- All procedures involving blood or OPIM are performed in a manner that minimizes splashing, spraying, spattering, and aerosol generation.
- Mouth pipetting or suctioning is strictly prohibited.
- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses is prohibited.

- Food and beverages are not stored in refrigerators, freezers, shelves, cabinets, or on work surfaces where blood or OPIM may be present.
- Work surfaces and equipment are cleaned and decontaminated using an appropriate disinfectant at the end of the workday and immediately following any visible contamination.
- Equipment or areas reasonably anticipated to be contaminated with blood or OPIM are cleaned and decontaminated prior to servicing or maintenance.
- Universal Precautions, as defined by OSHA, are used for all tasks involving potential exposure to blood or OPIM.

ENGINEERING CONTROLS

UM identifies needed updates to engineering controls and work practices through OSHA guidance, employee feedback, risk assessments, and committee discussions. New procedures and products are regularly evaluated using literature reviews, supplier information, and risk assessments, and individual laboratories and departments are responsible for implementing these recommendations.

Engineering controls—including hand-washing facilities, eyewash stations, sharps containers, biological safety cabinets, fume hoods, autoclaves, and safer sharps devices—must be used to prevent or minimize exposure to bloodborne pathogens. Principal Investigators and supervisors are responsible for ensuring personnel are trained in the proper use of these controls, and for ensuring that equipment is routinely examined and maintained, and the maintenance documented. Any contaminated equipment, such as biosafety cabinets, pipetting devices, and splash guards, must be decontaminated after spills and at the end of each workday.

These engineering and work practice controls will be used to prevent or minimize exposure to bloodborne pathogens:

- Sharps engineered for safer use (i.e., self-sheathing needles, needless systems)
- Sharps containers
- Eyewash stations
- Biosafety cabinets (BSCs must be certified when they are installed, whenever moved and at least annually)
- Centrifuge containment devices
- Autoclave or other effective decontaminating method for decontamination of waste
- HEPA filters or liquid disinfectant traps for vacuum lines
- Leak proof and appropriately labeled containers for transporting contaminated materials
- Handwashing sink
- Eyewash station

EXPOSURE CONTROL ITEMS

This table identifies engineering controls and work practices used to minimize occupational exposure to blood and other potentially infectious materials (OPIM). Controls are selected based on tasks identified in the Exposure Risk Determination, stated above.

Additional requirements apply to HIV and HBV research laboratories as specified in OSHA 29 CFR 1910.1030(e)(3).

Item / Work Practice	Description and Use
Tongs, forceps, broom and dustpan	Used to pick up broken glass or sharps contaminated with blood or OPIM. Hands must never be used to retrieve contaminated sharps or broken glass.
Sharps engineered for safer use (e.g., retractable needles, self-sheathing scalpel blades, needle guards, needleless systems)	Used when administering injectable materials to humans or animals and during necropsy procedures. The use of sharps with engineered safety features is standard practice where feasible. Employees who routinely use sharps are consulted in the selection and evaluation of these devices.
Retractable blood collection sets	Used for blood collection from human subjects to reduce needlestick injuries.
Blood collection tube holders	Used during human blood collection to stabilize collection tubes and reduce exposure risk.
Biosafety cabinets (BSCs)	Used to protect personnel from biological aerosols and droplets when working with human cells or bloodborne pathogens. BSCs must be functioning properly before use, disinfected before and after use, and certified at least annually and after relocation.
Leak-proof, non-breakable containers	Used to collect, store, and transport human blood, OPIM, or human-derived materials. Plasticware is substituted for glassware whenever possible. Containers are labeled with the biohazard symbol as required.
Centrifuge safety cups or sealed rotors	Used to contain aerosols in the event of tube breakage during centrifugation. Gaskets are inspected before use, maintained according to manufacturer instructions, and equipment is disinfected after use.
Sharps containers	Closable, puncture-resistant, leak-resistant, and biohazard-labeled containers are used for immediate disposal of sharps. Containers are sealed and disposed of according to institutional regulated medical waste procedures when the fill line is reached.
Handwashing sinks	Dedicated sinks with hot and cold running water, soap, and towels are provided for handwashing. Hands and any contaminated skin areas must be washed after glove removal or contact with blood or OPIM. When sinks are not immediately available, alcohol-based hand sanitizer (60–95%) may be used until handwashing is feasible.
Eyewash stations	Used in the event of ocular exposure to blood or OPIM. Stations are tested and documented at least weekly to ensure proper function.
Disinfection	Surfaces and equipment are disinfected using appropriate disinfectants (e.g., 70% ethanol or 10% bleach) after use or when contamination is suspected. Human cell cultures, blood, and OPIM may be chemically disinfected using a final concentration of 10% bleach for at least 30 minutes prior to disposal, followed by flushing with water, as permitted.
Sterilization	Potentially contaminated materials are autoclaved using a validated autoclave. Minimum cycle parameters are 121°C for 60 minutes, unless otherwise validated.

Item / Work Practice	Description and Use
Inactivation	Biological materials are inactivated using methods approved in the applicable IBC protocol and laboratory-specific standard operating procedures (SOPs).

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE is provided to employees at no cost and must be provided by individual laboratories or departments. Training in the use of the appropriate PPE for specific tasks or procedures is provided by the supervisors. Supervisors may contact EHS or the BSO for information or appropriate PPE assistance. PPE is provided by individual laboratories or departments and may be obtained through the supervisors.

All employees using PPE must observe the following precautions:

- Wash hands immediately after removing gloves and other PPE.
- Before leaving the work area, remove contaminated PPE and dispose of properly.
- Discard disposable PPE, including gloves, in biohazard bags, and autoclave non-disposable PPE before placing in dedicated laundry bags.
- Wear appropriate (latex or nitrile) gloves when contact with blood or OPIM is possible, and when handling or touching contaminated materials.
- Immediately replace gloves if their ability to function as a barrier is compromised; wash hands before putting on new pair.
- Face shields, safety glasses, and respirators may be decontaminated for reuse if their integrity is not compromised; discard utility gloves if they show signs of cracking, peeling, tearing, puncturing, or deterioration.
- Never reuse latex, nitrile, or other disposable gloves.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to eye nose, or mouth
- Remove any contaminated garments (street clothes and/or PPE) immediately or as soon as feasible.
- Reusable PPE, such as protective eyewear, face shields, or respirators are wiped down with an appropriate disinfectant following use.
- Reusable cloth PPE will follow the ECP Laundering section

PPE	When to use PPE
Disposable gloves (latex or nitrile)	When handling human materials
Lab coat (disposable or laundered)	When handling human materials
Safety glasses	When there is a splash hazard
Goggles, shoe covers, respiratory protection	When cleaning a spill, in addition to a lab coat and disposable gloves

Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin length face shields, are required to be worn whenever splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can reasonably be anticipated.

SHARPS

- Sharps include needles, syringes (with or without needles), scalpel blades, and similar items.
 - All sharps must be disposed of in an approved sharps container.
 - Sharps containers must be non-breakable, puncture-resistant, leak-proof, sealable, and labeled with the biohazard symbol.
 - Replace containers when they are **two-thirds full**.
 - To dispose of full sharps containers used for research or other activities, contact Environmental Health and Safety (EHS) at 406-243-4503 to schedule a pickup.
 - For housing and custodial services, report ANY found needles/syringes to supervisor or UMPD for disposal. **DO NOT handle sharps yourself.**
 - Do **not** place broken glass, empty vials, or regular trash in sharps containers.
 - Broken glassware must only be handled using mechanical means (e.g., brush and dustpan or tongs).
 - Work practices must be designed to minimize the risk of needlestick injuries and other sharps exposures.
 - Use sharps-injury-prevention devices whenever feasible (e.g., luer-lock syringes, self-sheathing needles, permanent needle–syringe combinations, or needleless systems).
 - Needles should not be recapped., except in rare cases. In those cases, the use of re-capping needles or mechanical re-capping devices are strongly recommended. If these alternatives are not feasible, then the one-handed scoop method for re-capping should be employed. These needles must also be disposed of in the sharps container.
- Place the cap on the counter top and “scoop” it up with the needle, keeping your free hand out of the way.



SPECIMEN HANDLING AND TRANSPORT:

- Blood or other potentially infectious materials will be placed in a container which prevents leakage during the collection, handling, processing, storage, and transport of the specimen.
- The container used for this purpose will be labeled or color coded in accordance with the requirements of the OSHA standard and will be closed prior to handling.
- Any specimens, which could puncture a primary container, will be placed within a secondary container that is puncture resistant. The Principal Investigator or supervisor shall specify how this will be carried out, i.e. which specimens, if any, could puncture a

primary container, which containers may be used as secondary containers and where the secondary containers are located in their area.

- If outside contamination of the primary container occurs, the primary container shall be placed within a secondary container that prevents leakage during the handling, processing, storage, transport, or shipping of the specimen.
- Specimens for shipping must meet DOT/USPS requirements. For more detailed information, call the Biosafety Officer at 406-243-6395. All outgoing shipments of biohazardous materials must be coordinated through the Biosafety Officer and specific training is required (umt.edu/research/compliance/IBC/shippingmanual.php)

Housekeeping

Regulated Waste

Regulated waste is placed in containers that are: closable, constructed to contain all contents and prevent leakage, appropriately labeled or color-coded, and closed before removal to prevent spillage or protrusion of contents during handling.

Waste Containers

Waste containers are conveniently located near the areas where work is being performed. If your job only sporadically involves potential contact with blood and/or OPIM, you may need to purchase these containers. For guidance and disposal of containers please contact Environmental Health and Safety at (406)-243-4508.

Waste section for additional information on:

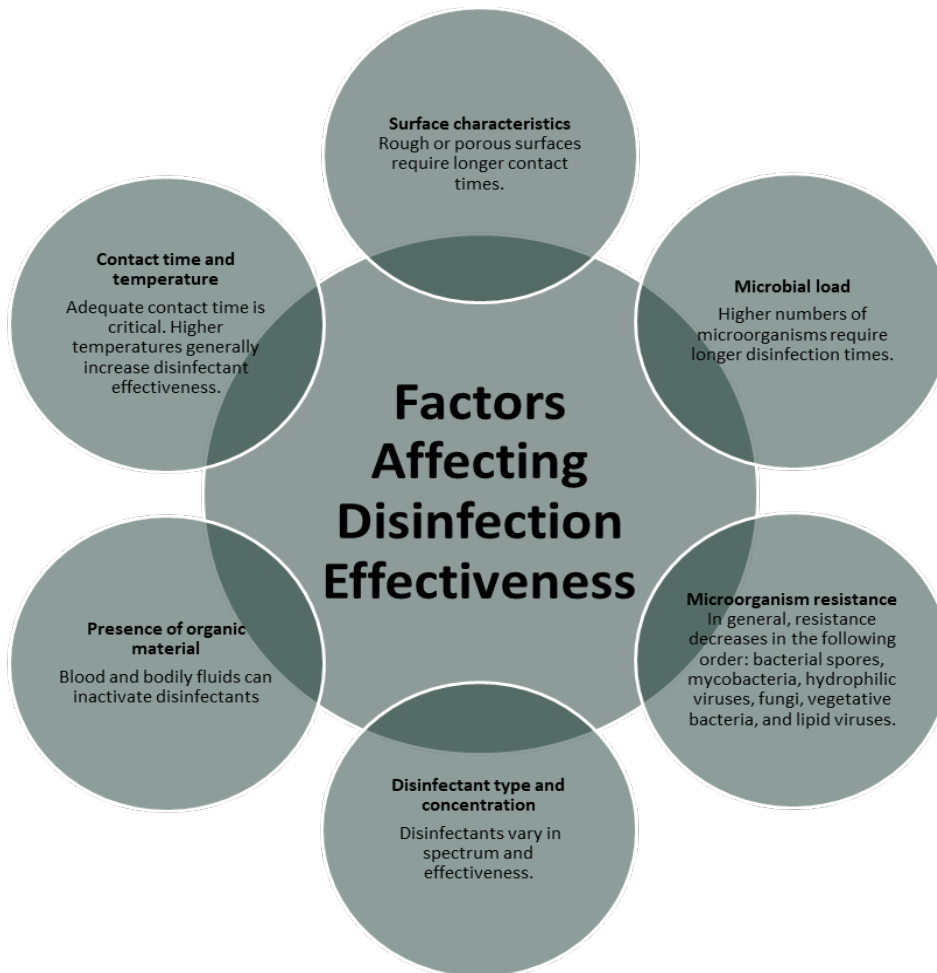
- Regulated waste.
- Sharps.
- Waste container/to request waste containers.
- To request a waste assessment and/or to request a waste pickup.

Decontamination

Disinfection, sterilization, and antisepsis are essential components of infection control in laboratory, clinical, and support settings. These terms are not interchangeable and are applied based on the nature of the material or surface being treated.

- **Sterilization** is the use of physical or chemical processes to destroy all forms of microbial life, including spores.
- **Disinfection** is the process of reducing the number of microorganisms on inanimate objects or surfaces to a level that is considered safe.

- **Antisepsis** is the application of antimicrobial agents to living tissue (e.g., skin). Chemicals used for antisepsis are not suitable for surface or equipment disinfection.



Chemical disinfection is the primary method used for routine surface decontamination and spill cleanup involving blood or other potentially infectious materials (OPIM).

Selection of disinfectants must be appropriate to the organism of concern and approved for use by the institution.

Employees should consult Environmental Health & Safety or the Biosafety Officer

when selecting or using disinfectants for specific applications.

Chemical Disinfectants		
Disinfectant	Working Solution	General Use
Bleach (Sodium Hypochlorite)	1:10 dilution of commercial bleach solution (0.5% sodium hypochlorite). Should be freshly prepared, each day or just prior to use.	Disinfects work areas, floors, walls, glassware. Good general all around disinfectant. Disinfects liquid cultures for disposal. *cleaning stainless steel surfaces with bleach should be followed by spraying the surface with 70% ethanol to remove residual bleach, to prevent corrosion.

Accelerated Hydrogen Peroxide	May come prepared at a working concentration or should be diluted per manufactures directions.	Disinfects work areas, work surfaces floors, walls, glassware. Great all around disinfectant.
Quaternary Ammonia (Commercial Grade)	10-100 ppm	Disinfects floors, work surfaces, glassware.
Phenolics (Commercial Grade)	2.8-3.0% Active Ingredient	Disinfects instruments and work surfaces.
Glutaraldehyde	2-3%	Disinfects instruments, including endoscopic tubes.
Iodophor	75-150 ppm	Disinfects instruments and surfaces, non-corrosive.

Disinfectant selection is based on:

- Spectrum of antimicrobial activity
- Compatibility with the surface or material
- Availability and cost
- Manufacturer instructions and institutional approval

Bleach is a commonly used, effective broad-spectrum disinfectant for spills and OPIM but should be prepared fresh daily or just prior to use. Alcohols are widely used for routine disinfection of clean surfaces. Disinfectants are not interchangeable and must be used as intended.

Disinfection must be performed:

- After spills or contamination with blood or OPIM
- After completion of procedures involving blood or OPIM
- On a routine schedule appropriate to the work area

Proper disinfection practices are essential to preventing occupational exposure and maintaining a safe work environment. The level of disinfection used should be appropriate to the hazard present.

Laundering

If reusable/cloth PPE is used when working with BBP/OPIM:

- Laundering service will be performed by trained personnel – on or off campus.
- All contaminated laundry is handled as little as possible with minimal agitation and placed in appropriately labeled, leak-proof containers before transporting for laundering.
- Appropriate PPE is used when handling and/or sorting contaminated laundry.

Potentially contaminated clothing, including lab coats or personal clothing (in the case of a spill getting on personal clothes), must be decontaminated prior to laundering. Handle contaminated laundry as little as possible, with minimal agitation. Place contaminated items in a biohazard bag and autoclave. Utilize either UM-owned washer/dryer, or use a local commercial laundry service. Use of personal washer/dryer (i.e., home, dorm) is strictly prohibited

Labels and Signs

Warning labels are affixed to containers of regulated waste, refrigerators and freezers containing blood/OPIM and other containers used to store, transport, or ship blood/OPIM.

- Labels and signs may be fluorescent orange or orange-red or predominantly with lettering and symbols in a contrasting color.
- Labels will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.
- Signs are posted at access doors when blood/OPIM or infected animals are present in the work area or containment module.

Signs include:

- Name of infectious agent.
- Special requirements for entering the area.
- Name and telephone number of the Department/Designated Department Contact or other responsible person.

A laboratory warning sign with the universal biohazard symbol and appropriate Biological Safety Level (BSL) must be placed at the entrance of research laboratories. This sign must also have at least two, current emergency contacts and the agents/materials used in the lab. **Work with human blood or OPIM must be performed using Biosafety Level 2 (BSL-2)**

practices; human samples obtained from patients with a known infectious disease may require additional containment and practices. Contact the Biosafety Office at 406-243-6395 or IBC@mso.umt.edu for help obtaining a sign or use the template found on the IBC website.



Hepatitis B Vaccination

In accordance with the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030), the University of Montana offers the Hepatitis B vaccination series to all employees with reasonably anticipated occupational exposure to human blood or other potentially infectious materials (OPIM), including human and non-human primate cell lines. The vaccination series is provided at no cost to the employee.

Employees are offered the Hepatitis B vaccine within 10 days of initial assignment to duties with occupational exposure, unless the employee has previously completed the vaccination series (with documentation), antibody testing demonstrates immunity, or a medical evaluation determines that vaccination is contraindicated.

Employees who initially decline the Hepatitis B vaccination may elect to receive the vaccine at a later date while still covered under the OSHA standard. Employees for whom vaccination is recommended by the Occupational Health and Safety Team must complete a Hepatitis B Vaccine Acceptance or Declination Form. Vaccination records and signed vaccine acceptance/declination forms are maintained in an electronic health care record system.

Students are not considered covered employees under OSHA; however, students who have potential exposure to blood or OPIM are strongly encouraged to receive the Hepatitis B vaccination. The University of Montana will work to ensure that cost is not a barrier to a student's decision to accept or decline vaccination. Students engaged in laboratory or clinical activities with potential exposure should complete the Hepatitis B vaccination series and, when applicable, antibody titer testing prior to beginning such activities.

Hepatitis B vaccination and/or titer testing may be obtained through Curry Health Center, Missoula County Public Health, or a personal health care provider.

Status	Hepatitis B Vaccine Provider
Employees	Curry Health Center
Students (paid and non-paid)	Curry Health Center
Non-UM employees (affiliates, volunteers)	UM Health Service Pharmancy, local health department or community provider
Montana Technological University or University of Montana Western (employees and students)	Local health department or community provider

Post-Exposure Incident Response, Evaluation and Follow-Up

For serious or life-threatening emergencies, **call 911 immediately**.

For all other exposure incidents involving blood or other potentially infectious materials (OPIM), the exposed individual must perform immediate first aid and report the incident as outlined below.

IMMEDIATE ACTIONS FOLLOWING AN EXPOSURE INCIDENT

- Stop the activity and notify those in the immediate area.
- Remove gloves and other personal protective equipment (PPE).
- Rinse affected areas with water for a minimum of **5 minutes**.
 - For ocular exposures, flush eyes for at least **15 minutes**. Remove contact lenses if worn. Hold eyelids open and flush from the inner corner outward to avoid recontamination.
- If skin integrity is compromised, encourage gentle outward bleeding of the wound.
- Wash all exposed skin thoroughly with soap and water as soon as feasible.
- Seek medical evaluation promptly:
 - **During business hours (Monday–Friday):** Curry Health Center or a local urgent care facility.
 - **After hours or for emergency care:** Providence St. Patrick Hospital Emergency Department.
- Record the time and location of the incident and, if known, the name and contact information of the source individual.
- Report the exposure as soon as possible to the Biosafety Officer, your Principal Investigator (PI) and/or supervisor.

REPORTING AND COORDINATION

The exposed individual must report the incident as soon as safely possible to their Designated Department Contact and the Biosafety Officer (BSO).

The University of Montana works with Curry Health Center to provide post-exposure triage, evaluation, and follow-up care. An immediate, confidential medical evaluation will be made available at no cost to the employee.

Biosafety Officer	406-243-6395
Curry Medical Center	406-243-2122
Environmental Health and Safety	406-243-4503

Within **24 hours** of an exposure incident:

- Paid employees (including paid students) must complete the [First Report of Injury](#) form.
- The Designated Department Contact may coordinate with the Occupational Health and Safety Team, Environmental Health and Safety (EHS), and the BSO to ensure all required steps are completed.
- The exposed employee and/or PI/supervisor will provide information to the BSO and Workers Compensation Manager, including:
 - Engineering controls in use at the time of exposure;
 - Work practices followed;
 - Description of the device involved (type and brand, if applicable);
 - PPE used at the time of exposure;
 - Location of the incident;
 - Procedure being performed; and
 - Relevant training documentation.
- The Biosafety Officer or Workers Compensation Manager will record percutaneous injuries involving contaminated sharps in the Sharps Injury Log. Any sharps injury processed through Curry Health Center will be documented on clinic specific Sharps Injury Log.
- The Department or Designated Department Contact will ensure that the departmental/ research lab ECP is reviewed and updated as needed, including evaluation of safer devices, modification of work practices, or updates to exposure determinations.

Status	Post Exposure Medical Care
Employees	Curry Health Center, local Emergency Department or Community Provider
Students (paid and non-paid)	Curry Health Center, local Emergency Department or Community Provider
Non-UM employees (affiliates, volunteers)	Local Emergency Department or Community Provider
Montana Technological University or University of Montana Western (employees and students)	Local Emergency Department or Community Provider

EXPOSURE INCIDENT DOCUMENTATION AND MEDICAL FOLLOW-UP

The following actions will be completed as part of the post-exposure evaluation and follow-up:

- Documentation of the exposure incident, including:
 - Route(s) of exposure (e.g., needlestick, mucous membrane, non-intact skin); and
 - Circumstances under which the exposure occurred.
- Identification and documentation of the source individual, unless identification is infeasible or prohibited by law.
- After obtaining consent, testing of the source individual as soon as feasible for HIV, HBV, and HCV infectivity. Results are provided to source individual.

- If the source individual is already known to be positive for HIV, HBV, or HCV, repeat testing is not required.
- Communication of source individual test results to the exposed employee, along with information on applicable confidentiality and disclosure laws.
- After obtaining consent, collection of the exposed employee's blood as soon as feasible for baseline HBV, HCV and HIV serological testing.

ADMINISTRATION OF POST-EXPOSURE EVALUATION

- The Biosafety Officer provides Curry Health Center with a current copy of the OSHA Bloodborne Pathogens Standard annually and when updates occur.
- Curry Health Center is responsible for administering occupational health services related to bloodborne pathogen exposures in accordance with OSHA requirements.
- The community provider will provide the exposed employee with a written opinion within **15 days** of completion of the evaluation, as required by OSHA.

Training

Department/Designated Department Contact is responsible to ensure employees who have occupational exposure to bloodborne pathogens receive bloodborne pathogens training. Training may be provided by Environmental Health and Safety, BSO, or other OSHA compliant method.

For UM research laboratories, in-person, instructor-led training or CITI Program online OSHA Bloodborne Pathogens training fulfills this requirement. See the [Biosafety Training](#) website.

All employees who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers at a minimum the following elements:

- An explanation of the ECP and how to obtain a copy.
- A copy and explanation of the standard.
- An explanation of methods to recognize tasks and other activities that may involve exposure to blood and OPIM, including what constitutes an exposure incident.
- An explanation of the use and limitations of engineering controls, work practices, and PPE which includes an explanation of the types, uses, locations, removal, handling, decontamination, and disposal of PPE.
- An explanation of the basis for PPE selection.
- Information on the hepatitis B vaccine including information on its efficacy, safety, method of administration, benefits of being vaccinated, and that the vaccine will be offered free of charge.
- Information on the appropriate actions to take/person to contact in an emergency involving blood and OPIM.

- An explanation of the procedure to follow if an exposure incident occurs including the method of reporting the incident and the medical follow-up that will be made available.
- Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
- An explanation of the signs and labels and/or color coding required by the standard and what is used at UM.
- An opportunity for interactive questions and answers with the person conducting the training is provided and/or may be provided upon request with the BSO or EHS.

Recordkeeping

All records related to the Bloodborne Pathogens Program are maintained in accordance with the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030), OSHA Access to Employee Exposure and Medical Records (29 CFR 1910.1020), applicable OSHA recordkeeping requirements (29 CFR 1904), and the University of Montana's record retention policies.

TRAINING RECORDS

- The Department or Designated Department Contact maintains bloodborne pathogen training records for employees with occupational exposure.
- Training records are retained in accordance with institutional record retention requirements and are made available upon request to regulatory agencies as required.

MEDICAL RECORDS

- Medical records are maintained by Curry Health Center or the Community provider (COMMUNITY PROVIDER) and are kept confidential.
- Medical records may include, but are not limited to:
 - Hepatitis B vaccination status and declination records;
 - Immunization records relevant to occupational exposure;
 - Results of post-exposure evaluations, medical examinations, testing, and follow-up procedures.
- Hepatitis B vaccination acceptance/declination forms are maintained by Occupational Health Services (OHS).
- Medical records for employees with occupational exposure are maintained for the duration of employment plus 30 years, in accordance with 29 CFR 1910.1020.
- Occupational Health Service team or COMMUNITY PROVIDER may provide medical surveillance information, as appropriate, to the Biosafety Officer (BSO), Environmental Health and Safety (EHS), or the Department/Designated Department Contact while maintaining confidentiality.

EXPOSURE INCIDENT RECORDS

- Bloodborne pathogen exposure records are maintained by University of Montana Workman's Compensation Manager for a minimum of 30 years.
- Exposure incidents are evaluated to determine whether they meet OSHA recordkeeping criteria under 29 CFR 1904.
- Determinations regarding OSHA recordability and related recording activities are completed by the University of Montana Workers' Compensation Manager.

SHARPS INJURY LOG

- All percutaneous injuries from contaminated sharps are recorded in the Sharps Injury Log, as required by 29 CFR 1910.1030(h)(5).
- Sharps injury records are maintained by the Biosafety Officer.
- Each sharps injury entry includes, at a minimum:
 - The date of the injury;
 - The type and brand of the device involved;
 - The department or work area where the incident occurred; and
 - A description of how the incident occurred.
- The Sharps Injury Log is reviewed at least annually as part of the Bloodborne Pathogens Program evaluation and is retained for a minimum of five years following the end of the calendar year covered.
- Copies of the Sharps Injury Log provided upon request will have all personal identifiers removed to protect employee confidentiality.

Appendix A: Forms and Additional Resource

Occupational Health and Safety Administration (OSHA)	
OSHA Bloodborne Pathogens Standard	
OSHA Quick Reference Guide to the Bloodborne Pathogens Standard	
OSHA fact sheet; includes the training elements	
OSHA Personal Protective Equipment	
Bloodborne Pathogens and Needle Stick Prevention	
University of Montana Occupational Health and Safety	
OHS Website	
Vaccine Acceptance/Declination Form	
Hepatitis B Vaccine Information Sheet	
Risk Assessment Form -required before work on a project can begin and triennially there after.	
Annual Medical Review Form -required if you have a change in your health status after you have completed an initial risk assessment and annually during the first two years there after.	
First Report of Injury Form	
University of Montana Institutional Biosafety Committee	
University of Montana Biosafety Website	
OSHA BBP Training	
Collaborative Institutional Training Initiative (CITI Program) OSHA BBP Training	
Research and academic classes may request BBP training with the BSO.	
OSHA Bloodborne Pathogen Training • OSHA PPT • CDC Fundamentals of Bloodborne Pathogens. It does require setting up a One Lab account; however, they also offer a variety of other training you may find useful: Reach CDC Training.	
Quick Reference Guide to the Bloodborne Pathogens Standard	

Non-research departments or personnel may request training with Environmental Health and Safety
Environmental Health and Safety
Workplace Injury
Hazardous waste and sharps training
Hazardous Waste
Waste Pickup (including Sharps)

Appendix B: Sharps Injury Log

In accordance with OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030) and OSHA recordkeeping requirements (29 CFR 1904), a Sharps Injury Log must be maintained to document all percutaneous injuries involving contaminated sharps. The purpose of this log is to identify injury trends, evaluate the effectiveness of engineering controls, and support continuous improvement in exposure prevention.

Each entry must include the type and brand of device involved, the department or work area where the incident occurred, and a brief description of how the exposure happened, including the procedure being performed and the body part affected. Employee names must not be recorded on the log; instead, a case or report number may be used to link to a separate confidential file if follow-up is required.

A new Sharps Injury Log must be created for each calendar year and retained for five years following the end of the year it covers. If an injury meets OSHA's general recording criteria (e.g., medical treatment beyond first aid), it must be recorded on both the Sharps Injury Log and the OSHA 300 Log. Supervisors are responsible for ensuring sharps injuries are recorded promptly and confidentially.

The Sharps Injury Log must be reviewed at least annually as part of the Exposure Control Plan to determine whether safer medical devices or additional controls are needed.

Date	Case #	Type/Brand of Device (e.g., syringe, needle, scalpel)	Work Area (e.g., research lab, teaching lab, field work)	Brief description of how incident occurred (i.e., procedure being done, action being performed (disposal, injection, etc.), body part injured)

Appendix C: Safer Sharps Annual Review Form

The Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens (BBP) Standard requires employers to identify, evaluate, and implement safer medical devices designed to reduce occupational exposure to blood and other potentially infectious materials (OPIM). As part of this requirement, institutions must annually review and document the use of engineering controls, including sharps engineered for safer use, and solicit input from non-managerial employees who are responsible for direct patient care, animal care, or laboratory procedures involving sharps.

This form documents the annual evaluation of sharps used in research and non-research settings at the University and supports continuous improvement of exposure prevention practices. Contact the Biosafety Office at (406) 243-6395 if you have questions or need further information.

Department/Laboratory Information	
Department / Unit	
Laboratory / Work Area	
Principal Investigator / Supervisor	
Designated Department Contact	
Date of Review	
Review Period (Year)	

Employee Participation

OSHA requires solicitation of input from **non-managerial employees** who routinely use sharps.

Were non-managerial employees involved in this review?

☐ Yes ☐ No

If yes, list roles (do not include names unless required locally):

- ☐ Research Staff
- ☐ Graduate Students
- ☐ Animal Care Personnel
- ☐ Clinical Staff
- ☐ Teaching Laboratory Staff
- ☐ Other: _____

Method of employee input (check all that apply):

- ☐ Meeting or discussion
- ☐ Survey or questionnaire
- ☐ Trial or pilot use of devices
- ☐ Informal feedback
- ☐ Other: _____

Sharps Inventory and Evaluation

List sharps currently in use or evaluated during this review period.

Examples of safer sharps features include: Retractable needles, Self-sheathing needles, Needleless systems, Blunt-tip needles, Safety-engineered scalpels

Sharps Device	Manufacturer / Brand	Task or Procedure	Safer Sharps Feature	Currently in Use? (Y/N)

Evaluation of Safer Sharps Devices

For each device evaluated, indicate findings:

Device Evaluated	Exposure Reduction	User Acceptance	Performance	Reason Accepted or Rejected
	☐ Improved ☐ No Change	☐ Acceptable ☐ Not Acceptable	☐ Satisfactory ☐ Unsatisfactory	
	☐ Improved ☐ No Change	☐ Acceptable ☐ Not Acceptable	☐ Satisfactory ☐ Unsatisfactory	

Sharps Injury Review

Were any sharps injuries reported in this department during the review period?

☐ Yes ☐ No

If yes:

- Injury data reviewed from Sharps Injury Log: ☐ Yes ☐ No
- Were devices involved evaluated for safer alternatives? ☐ Yes ☐ No

Summary of findings or corrective actions (if applicable):

Determination and Follow-Up Actions

Based on this review:

- ☐ Existing sharps devices remain appropriate
- ☐ Safer sharps devices will be implemented
- ☐ Further evaluation or trial is required
- ☐ No sharps are used in this work area

Actions to be taken (if any):

- ☐ Device replacement
- ☐ Additional employee training
- ☐ Procedure modification
- ☐ Update to Exposure Control Plan
- ☐ Other: _____

Target completion date: _____

I certify that this annual review of sharps engineered for safer use has been completed in accordance with OSHA requirements and institutional policy.

Name / Title	Signature	Date