

Burrell College of Osteopathic Medicine



BLOOD-BORNE PATHOGEN EXPOSURE CONTROL PLAN

Contents

INTRODUCTION:	3
SCOPE:	3
DEFINITIONS:	3
RESPONSIBILITIES	5
EXPOSURE DETERMINATION	6
EXPOSURE PREVENTION	6
HEPATITIS B VACCINATION	10
POST-EXPOSURE EVALUATION AND FOLLOW-UP	11
ADMINISTRATION OF POST-EXPOSURE EVALUATION AND FOLLOW-UP	11
TRAINING	13
RECORDKEEPING	13
REVIEW OF EXPOSURE CONTROL PLAN	14
REFERENCE	14

INTRODUCTION:

The BCOM Bloodborne Pathogen Exposure Control Plan (ECP) has been developed in accordance with the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen (BBP) Standard, 29 CFR 1910.1030. This ECP serves as a broad-based exposure control plan for all BCOM students and employees whose occupational tasks or responsibilities include reasonable anticipated risk of exposure to human blood or other potentially infectious materials of human origin, as well as exposure to hazardous materials. The purpose of this ECP is to provide exposure determination, prevention, and management.

SCOPE:

The ECP applies to BCOM employees, including faculty, staff, students, volunteers, contractors, and any personnel who has a potential for occupational exposure to blood or other potentially infectious materials, who are conducting work on behalf of BCOM at BCOM owned or operated facilities located at 3501 Arrowhead Dr., Las Cruces, NM (i.e., Main campus) and 9035 Advancement Ave., Las Cruces, NM (i.e., BioScience Research Lab). This ECP does not apply to students, faculty or staff conducting work on behalf of BCOM at non-BCOM operated facilities (e.g., clinical affiliate hospitals); these individuals will adhere to the facility's ECP. A department, principle investigators or directors should conduct an individual risk assessment of their respective work areas and may enact specific control measures as needed, as long as they are compliant with this ECP and OSHA BBP Standard 29 CFR 1910.1030, and has been reviewed by the BCOM Institutional Biosafety Committee (IBC).

DEFINITIONS:

Blood

Blood refers to human blood, human blood components, and products made from human blood.

Bloodborne Pathogens

Bloodborne Pathogens are pathogenic microorganisms that are present in human blood and other human body fluids that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

Clinical Laboratory

A workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious/hazardous materials.

Contaminated

The presence or the reasonably anticipated presence of blood or other potentially infectious/hazardous materials on an item or surface.

Decontamination

Decontamination is the use of physical or chemical means to remove, inactivate or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles, and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls

Engineering controls are those controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident

An exposure incident is 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.

Needleless systems

A device that does not use needles for (A) the collection of bodily fluids or withdrawal of bodily fluids after initial venous or arterial access has been established, (B) the administration of medications or fluids, or (C) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

Occupational Exposure

Occupational exposure means **reasonably anticipated** skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Other Potentially Infectious Materials

Materials other than human blood that are potentially infectious for bloodborne pathogens. These include 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); 3) HIV, HBV, or HCV-containing cell or tissue cultures, organ cultures, culture medium or other solutions; and 4) blood, organs, or other tissues from experimental animals infected with HIV, HBV or HCV.

Parenteral

Parenteral means piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, or abrasions.

Personal Protective Equipment

Personal protective equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g. uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Sharps with Engineered Sharps Injury Protections

A non-needle sharp or needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with built-in safety or a mechanism that effectively reduces the risk of an exposure incident.

Standard Precautions

The Centers for Disease Control (CDC) **defines Standard Precautions as:** "A set of precautions designed to prevent transmission of HIV, Hepatitis B virus (HBV), and other bloodborne pathogens when providing first aid or health care. Under standard precautions, blood and certain body fluids of all patients are considered potentially infectious for HIV, HBV and other bloodborne pathogens."

Universal Precautions

Universal Precautions is 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, HCV and other bloodborne pathogens.

Work Practice Controls

Work Practice Controls are those practices that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles).

RESPONSIBILITIES

- **Department chairpersons and/or directors** are responsible for ensuring that all workers in departments and divisions are in compliance with the BBP standard.
- **Faculty members, principal investigators or laboratory supervisors** are responsible for ensuring that the requirements and procedures outlined in this ECP that are applicable to their individual work areas are carried out.
- **Employees** are responsible for reporting exposures to their supervisors and complying with all components of the ECP.
- **Institutional Biosafety Committee** is responsible for reviewing and overseeing the ECP. This includes coordinating compliance efforts for BCOM, acting as a consultant for departments regarding implementation and enforcement, evaluating work practices and personal protective equipment, providing educational materials to departments, tracking employee training, and tracking medical monitoring.

EXPOSURE DETERMINATION

In order to determine the potential for occupational exposures to bloodborne pathogens, specific tasks and procedures of the workers must be examined. The following table can be used as a guide for determining potential occupational exposure in the workplace.

Occupations	Potential Exposures
Research laboratory personnel	Infectious materials (BBP), cuts, needle-sticks, splashes, bites, biological spills, handling infectious waste, hazardous materials
Infectious waste handlers	Handling containers of infectious waste
Security Personnel	Crime scene, bitten by suspect, contact with sharp objects during a search or scuffle
Simulation Department Personnel	Needle-sticks, hazardous materials
Custodial Staff	Cleaning blood spills, dried blood, handling infectious materials, needle-sticks, hazardous materials
Facility Contractors	Working in areas where BBP contamination is present, hazardous materials
Anatomy Laboratories	Infectious materials, cuts, splashes, biological spills, hazardous materials

EXPOSURE PREVENTION

- Universal Precautions

Universal Precautions will be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

The following shall be practiced to control and prevent occupational exposure to BBP:

- o Hands must be washed before leaving the room where the work was conducted. If soap and water are not available immediately, hand sanitizer must be used as an interim measure.

- Gloves must be worn when there is contact with any potentially infectious material, including but not limited to blood, body fluids, tissues, mucous membranes or contaminated materials or surfaces.
- Protective clothing must be worn when there is a possibility of splatters.
- If any splash, splatter or aerosolization is a possibility, respiratory protective equipment must be worn at all times.
- Sharps must be handled carefully and properly sent out for disposal.

- Engineering Controls

Engineering controls will be in place to eliminate or minimize employee and student exposure. Proper personnel will examine and ensure effectiveness of these controls on a regular schedule.

- *Biological safety cabinets (BSC)* must be utilized for personnel, product, and environment protection for procedures that create aerosols. It is imperative that BSC certification takes place prior to use in the laboratory, whenever the BSC is moved, and at least annually to ensure that the BSC is working properly.
- *Hand washing sinks* will be provided and maintained in working order. Adequate supplies (e.g., soap, paper towels) will also be available. The sinks must be readily accessible to employees.
- *Eye wash and emergency shower stations* must be easily accessible and functional, as determined by regular checks.
- *Sharps containers* must be used and readily accessible where sharps are stored, handled, or reasonably anticipated to be encountered. These containers must meet the following criteria: 1) closable, 2) puncture resistant, 3) leak proof on sides and bottom, and 4) properly labeled.

- Work Practices

Employees, contractors and students will utilize work practice controls to eliminate or minimize employee exposure.

- Personnel will wash their hands after removal of gloves and after contact with blood or other potentially infectious materials.
- Eating, drinking, smoking, and applying cosmetics or handling contact lenses is strictly prohibited in areas where there is potential for occupational exposure to BBP. Food shall not be stored in refrigerators, cabinets, or in areas where there is a potential for BBP exposure.
- Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.
- All procedures will be conducted in a manner that will minimize splashing, spraying, splattering, and generation of droplets of blood or other potentially infectious materials.
- Safety-engineered sharp devices should be utilized whenever possible. Contaminated sharps and needles shall not be bent or recapped.
- Immediately after use, contaminated sharps shall be placed in appropriate, puncture-resistant, leak-

proof containers. These containers must be labeled with the biohazard symbol.

- Specimens of blood or other potentially infectious materials shall be placed in a container that prevents leakage during the collection, handling, processing, storage, and transport of the specimens. The container used for this purpose will be labeled or color-coded.
- Any specimens that could puncture a primary container will be placed within a secondary container that is puncture resistant. 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.

- Personal Protective Equipment (PPE)

Responsible departments must provide, at no cost to the employee, PPE when appropriate. This PPE must be readily available and accessible to users, and must include, but is not be limited to, the following:

- *Disposable gloves* must be worn to protect hands from contact with blood or other potentially infectious materials. The gloves must be replaced when contaminated, torn or punctured. Persons allergic to latex will be offered alternatives such as latex free or nitrile gloves. Non-disposable utility gloves can also be used when appropriate (these may be decontaminated for reuse as long as the integrity of the glove is not compromised). Vinyl gloves must not be used.
- *Protective clothing (gowns, laboratory coats, aprons, etc.)* will be appropriate to the task being performed and the degree of exposure anticipated. In situations when gross contamination can reasonably be anticipated, surgical caps and shoe covers must be provided and used. When other than disposable protective clothing is provided; cleaning and laundering must be performed according to the section on *Laundry* (see below) and must be provided by the responsible department at no cost to the employee.
- *Face protection* sufficient to shield the eyes, nose, and mouth from splashes, sprays, splatters, or droplets of potentially infectious materials, must be worn when contamination can be reasonably anticipated.

There must be a designated area in each work setting for the dispensing, storage, cleaning and disposal of PPE. Contaminated PPE that is not immediately decontaminated will be clearly designated and treated as biomedical waste. Personnel must remove all PPE before leaving the work area.

Closed-toe shoes and long pants shall be worn at all times in laboratory/clinical areas at BCOM.

- Housekeeping

- All contaminated work surfaces must be decontaminated after completion of procedures and immediately, or as soon as feasible, after any spill of blood or other potentially infectious materials, as well as at the end of the work shift if the surface may have become contaminated since the last cleaning. Disinfectants must be on the EPA's list of registered disinfectants, available here: <https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants> . A.
- Broken contaminated glassware must not be picked up directly with hands. Use dustpans and hand brooms or forceps/tongs to pick up broken glassware.
- Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

- Biomedical Waste

All biomedical waste will be disposed of according to the Biomedical Waste Disposal policy (in draft). Solid biomedical waste (pipettes, culture dishes, gowns, masks, or any other solid material potentially contaminated with biohazardous material) must be collected in a labeled biohazard bag and autoclaved at 121°C. Autoclaved waste may be disposed of as solid waste. Liquid biomedical waste (blood, tissue culture fluid, broth media) must be autoclaved at 121°C or chemically disinfected (final bleach concentration 10%) then disposed of down the sanitary sewer.

- Laundry

Disposable lab coats, gowns, towels or other garments that are contaminated or potentially contaminated with blood or other potentially infectious materials must be disposed of as biomedical waste. Contaminated laundry must be placed in a bag or a container that is labeled with the biohazard symbol. Contaminated laundry must not be sorted or rinsed at the location of use. Employees who have contact with contaminated laundry must wear protective gloves and other appropriate PPE.

- Labeling

Warning labels must be affixed to any containers used to store other potentially infectious materials including containers of regulated waste, refrigerators and freezers. Equipment contaminated with blood or other potentially infectious materials should be also labeled. The biohazard warning labels must consist of the international biohazard symbol in fluorescent orange or orange red with lettering or symbols in a contrasting color. In addition, the labels must be affixed by wire, adhesive or other methods that prevent their loss or unintentional removal.

- Spill Procedures

All surfaces, tools, equipment and other objects that come in contact with blood or other potentially infectious materials must be decontaminated and/or sterilized as soon as possible.

When cleaning a spill involving potentially infectious materials:

- Secure the area and notify other personnel in the immediate vicinity of the spill s
- Wear appropriate PPE including lab coat, disposable gloves and eye protection
- If the spill involves broken glass or sharps, **DO NOT** pick up the pieces up by hands. Use mechanical means such as forceps or a dustpan and a brush (which will be decontaminated later) to pick up pieces and then dispose appropriately.
- Cover the spill with absorbent materials such as paper towels and carefully pour an appropriate disinfectant to the spill working from the outer edges to the center.
 - ◆ A solution of fresh sodium hypochlorite (household bleach) diluted 1:10 with water (1 part bleach to 9 parts water) can be used.
- Allow 20 minutes contact time for bleach or as defined by the disinfectant's manufacturer.
- After the contact time, collect all the materials and dispose in a red biomedical waste bag.
- Clean the spill area again with the disinfectant, and place the paper towels into the red biomedical waste bag.
- Carefully remove contaminated PPE and discard into red biomedical waste bag.
- Wash hands with soap and water.
- Notify your supervisor of all biological spills and potential exposures.

HEPATITIS B VACCINATION

Employees will be provided with information on hepatitis B vaccinations, addressing the safety, benefits, efficacy, methods of administration, and availability. BCOM Students are required to show evidence of Hepatitis B vaccination in order to enroll at BCOM. Student vaccination records are maintained in the Office of Student Affairs.

The hepatitis B vaccination series is available at no cost after training and within 10 days of initial assignment to employees identified in the exposure determination section of this plan. Vaccination is required unless: 1) documentation exists that the employee has previously received the series, 2) antibody testing reveals that the employee is immune, or 3) medical evaluation shows that vaccination is contraindicated.

However, if an employee chooses to decline vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination is kept at the Human Resources Office.

Vaccination will be provided by WorkMed at 2525 S. Telshor Blvd., Suite 16-108, Las Cruces, NM 88001.

POST-EXPOSURE EVALUATION AND FOLLOW-UP

Should an exposure incident occur, employees and students should contact their immediate supervisor or individual responsible for the area where the exposure occurred (e.g., exposures in the BioScience Research Laboratory should report to the Laboratory Manager). Employees should also contact the Office of Human Resources at (575) 674-2284.

For students, an immediately available confidential medical evaluation and follow-up will be conducted by the NMSU Student Health Center located at 3080 Breland Dr., Las Cruces, NM 88003. Operating hours are Monday–Friday, 8:00am–5:00pm.

For employees, an immediately available confidential medical evaluation and follow-up will be conducted by WorkMed located at 2525 S. Telshor Blvd., Suite 16-108, Las Cruces, NM 88001. Operating hours are Monday–Friday, 8:00am–5:00pm.

For exposure incidents occurring outside of these normal operating hours, students/employees should report to the nearest Emergency Department. In the event of an emergency, students and employees should call 911.

Following the initial first aid (clean the wound, flush eyes or other mucous membrane, etc.), the following activities will be performed:

- Supervisor or HR Office completes 1st notice of Accident & worker's compensation paperwork.
- Document the routes of exposure and how the exposure occurred.
- Identify and document the source material or individual (unless identification is infeasible or prohibited by state or local law).
- When applicable, obtain consent and make arrangements to have the source individual or material tested as soon as possible to determine HIV, HCV, and HBV infectivity; document that the source material's test results were conveyed to the individual's health care provider.
- If the source material is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.
- When applicable, assure that the exposed employee is provided with the source material's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
- After obtaining consent, collect exposed employee's blood as soon as feasible after exposure incident, and test blood for HBV and HIV serological status
- If the employee does not give consent for HIV serological testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days; if the exposed employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.

ADMINISTRATION OF POST-EXPOSURE EVALUATION AND FOLLOW-UP

The Office of Human Resources ensures that health care professional(s) responsible for employee's hepatitis B vaccination and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard.

The supervisor or the Office of Human Resources ensures that the health care professional evaluating a student or employee after an exposure incident receives the following:

- a description of the student or employee's job duties relevant to the exposure incident
- route(s) of exposure
- circumstances of exposure
- if possible, results of the source individual's blood test
- relevant employee medical records, including vaccination status, with employee authorization

The evaluating health care professional provides the employee supervisor with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

1. Whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination;
2. That the employee has been informed of the results of the evaluation; and
3. 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.

PROCEDURES FOR EVALUATING THE CIRCUMSTANCES SURROUNDING AN EXPOSURE INCIDENT

The BCOM Institutional Biosafety Committee (IBC) will review the circumstances of all exposure incidents to determine:

- engineering controls in use at the time
- work practices followed
- a description of the device being used
- protective equipment or clothing that was used at the time of the exposure incident (gloves, eye shields, etc.)
- location of the incident (laboratory, patient room, etc.)
- procedure being performed when the incident occurred
- employee's training

If it is determined that revisions need to be made, the IBC will ensure that appropriate changes are made to this ECP. (Changes may include an evaluation of safer devices, adding employees to the exposure determination list, etc.)

TRAINING

All BCOM students and employees who have occupational exposure to bloodborne pathogens receive training conducted through the Collaborative Institutional Training Initiative (CITI, OSHA Bloodborne Pathogens) on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the following elements:

- Emergency Response Procedures
- Hepatitis B Virus Vaccination
- Labels and Engineering Controls
- OSHA Bloodborne Pathogens Standard
- Universal Precautions and Work Practices

Training materials are available via CITI (www.citiprogram.org) and from the Office of Human Resources.

RECORDKEEPING

Training Records

Training records are maintained through CITI.

Personnel training records are provided upon request to the employee/student or an authorized representative within 15 working days. Such requests should be addressed to Office of Human Resources or the Office of Student Affairs.

Medical Records

Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.20, "Access to Employee Exposure and Medical Records."

The Human Resources Office is responsible for ensuring maintenance of the required medical records through the College's Workers Compensation Insurance provider, Markle American Insurance. These confidential records are kept for at least the duration of employment plus 30 years.

Employee medical records are provided upon request of the employee or to anyone having written consent of the employee within 15 working days. Such requests should be sent to:

Markle American Insurance
Central Park Plaza
222 S. 15th St., Suite 1500N
Omaha, NE 68102-1680
888-500-3355

OSHA Recordkeeping

An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by **the BCOM Compliance Officer**.

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REVIEW OF EXPOSURE CONTROL PLAN

The Institutional Biosafety Committee is responsible for reviewing the ECP and updating it annually. The Exposure Control Plan must also be updated whenever a new or modified task or procedures that affect occupational exposures are identified, and to reflect new or revised employee positions with potential occupational exposure.

REFERENCE

OSHA BBP 29 CFR 1910.1030

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=1005

BURRELL COLLEGE OF OSTEOPATHIC MEDICINE

HEPATITIS B VACCINE DECLINATION (MANDATORY)

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.

Signed: _____

Date: _____