Jacksonville University
Bloodborne Pathogens Exposure Control Plan (ECP)

2800 UNIVERSITY BOULEVARD NORTH
JACKSONVILLE, FL 32211

Prepared:
August 18th, 2017

Revised:
NA

Originally Prepared By:
Blake Preston Doiron, B.S., AEP
Laboratory Manager/Chemical Hygiene Officer
Department of Biology and Marine Sciences
Division of Science and Mathematics

Acceptance and Authorization:
In witness thereof, the parties hereto have accepted and approved this memorandum to the Jacksonville University Biomedical Waste Operating Plan.

Signature: _____ Date: _____
Division Chair of Science and Math
Dr. Brian Lane

Signature: _____ Date: _____
Director of Campus Security
Kevin Bennett

Signature: _____ Date: _____
Associate Provost
Lee Ann J. Clements, Ph.D.

Signature: _____ Date: _____
Preparer of Revision
Blake Preston Doiron, B.S., AEP

Seal of Notarization:

Table of Contents

1.0 Introduction:

Jacksonville University (JU) is committed to providing and maintaining a safe teaching and working environment for all members of its community. The responsibility for ensuring a safe place of work at JU is a shared responsibility between employees, administrators, and laboratory personnel. Within laboratory work areas, the Chemical Hygiene Officer (CHO), Principal Investigators (PIs) and Laboratory Managers have the primary responsibility for ensuring compliance with applicable environmental health and safety regulations. The information provided within this plan is based Title 29 CFR Part 1910.1030 "Occupational Health and Safety Administration (OSHA) Bloodborne Pathogen Standard," and the Center for Disease Control's (CDC) Biosafety in Medical and Biomedical Laboratories, 5th Edition (BMBL).

The JU Bloodborne Pathogen Exposure Control Plan (ECP) applies to activities in all facilities owned, operated, or leased by JU where JU employees and students have the potential to be exposed to Bloodborne Pathogens (BBPs). The exposure determination in Section 5.0 highlights the various job classifications that are covered under this plan based on their potential for exposure to human blood, human blood components, bloodborne pathogens, or other potentially infectious materials (OPIM). This plan was established in an effort to minimize or eliminate the potential for exposure to bloodborne pathogens in the work place and includes the following elements:

- Employee exposure determination;
- Exposure control methods;
    - Universal Precautions,
    - Engineering controls,
    - Work practice controls,
    - Personal Protective Equipment (PPE), and
    - Housekeeping
- Hepatitis B vaccination recommendations;
- Post-Exposure evaluation and follow-up;
- Communication of Hazards and Training;
- Recordkeeping; and
- Incident Reporting.

The CHO and their designated appointees will review this program at least annually or whenever it is deemed necessary based on changes in procedures and practices that directly affect employee exposure. The PIs, and laboratory managers and/or technicians will supplement the ECP with task-specific instructions and guidance regarding procedures unique to specific laboratory work where potential exposure to bloodborne pathogens exist.

2.0 Contact Information:

Jacksonville University Personnel		
Title	**Name**	**Phone Number**
Jacksonville University Safety and Maintenance		
Associate Provost for Assessment & Academic Operations	Dr. Lee Ann J. Clements	904-256-7030
Director of Campus Security	Kevin Bennett	904-256-7585
Director of Physical Plant	Keri Schultheis	904-256-7550
Chemical Hygiene Officer (CHO)		
Laboratory Manager, Department of Biology and Marine Science	Blake Preston Doiron	904-256-7323
Division of Science & Mathematics		
Chair, Division of Science and Math	Dr. Brian Lane	904-256-7300
Chair, Department of Biology & Marine Sciences	Dr. Nisse Goldberg	904-256-7322
Laboratory Manager, Department of Biology and Marine Science	Blake Preston Doiron	904-256-7323
Chair, Department of Chemistry	Dr. Joe Cradlebaugh	904-256-7329
Laboratory Manager, Department of Chemistry	Alexandria Breshears	904-256-7330
Director, Marine Science Research Institute	Dr. Quinn White	904-256-7766
Research and Sponsored Programs		
Director	Renée Rossi	904-256 -7458

3.0 Roles and Responsibilities:

a. The University has an obligation to provide a workplace that is reasonably safe from all recognized hazards associated with an employee's job duties, including biological hazards that could cause illness in exposed individuals. Under the ECP, the University has the following responsibilities:
    1. Ensuring appropriate training is provided to personnel who have the potential to be exposed to BBPs while performing their job duties;
    2. Providing appropriate personal protective equipment (PPE) for employees;
    3. Making available the necessary vaccinations (specifically, the Hepatitis B vaccine) to all affected employees at no cost, and to obtain a declination form from all individuals who decline to receive the vaccine;
    4. Establishing and implementing policies for safe conduct during research activities involving work with materials of human origin and BBPs;
    5. Providing adequately designed facilities and containment devices for work with biological agents;
    6. Establishing and maintaining a health surveillance program for personnel exposed to BBPs; and
    7. Recording any significant problems, violations, or significant research-related accidents or illnesses.

b. Deans/Department Chairpersons
    1. Creating vision, enforcing policy, setting performance expectations, and ensuring timely availability of resources that support the ECP;
    2. Providing leadership to ensure effective implementation of the ECP within their respective units and laboratories;
    3. As appropriate, incorporating the ECP requirements and responsibilities into employee job descriptions and addressing performance related expectations to the ECP;
    4. Ensuring that individuals exposed to BBPs obtain required exposure control training;
    5. Ensuring prompt reporting and appropriate investigations of incidents/accidents;
    6. Ensuring that periodic safety inspections of work areas and/or facilities are completed and ensuring non-compliance items are corrected with follow-up and closure.

c. Biosafety Officer (BSO) or Chemical Hygiene Officer (CHO)
    1. Developing, implementing, and maintaining the ECP;
    2. Developing protocols and procedures to address exposure concerns;
    3. Providing training in the safe use and practices for those working with BBPs, materials of human origin, and OPIM;
    4. Providing technical advice to PIs, Laboratory Managers and/or Technicians, the Institutional Animal Care and Use Committee (IACUC), and Institutional Biosafety Committee (IBC) on research safety procedures;
    5. Consulting with researchers on issues of animal care, biosafety, and the safe use of biological materials in the laboratory;

6. Performing periodic inspections to ensure that standard operating procedures are being followed and regulatory requirements are being met;
7. Providing guidance to researchers on laboratory security;
8. Providing guidance to researchers on proper waste disposal methods in accordance with federal and state regulations;
9. Assisting in the development of emergency plans for handling accidental spills and personnel contamination; and
10. Investigating accidents involving BBPs, materials of human origin, and OPIM.

d. Principal Investigators (PIs)
    1. Obtaining the required approval for new research proposals as well as amended existing proposals prior to the commencement of such work with BBPs, materials of human origin, and OPIM;
    2. Completing and documenting risk assessments conducted for the purpose of determining level of risk and/or lowering the level of risk;
    3. Ensuring that laboratory employees who will work with these materials are:
        i. Properly trained and show proficiency in standard microbiological practices at the appropriate biosafety level(s),
        ii. Aware of biohazards and precautions to be taken in conducting research activities,
        iii. Advised of the nature recognized and potential hazards, and
        iv. Informed of the indicators of accidental infections;
    4. Establishing standard operating procedures (SOPs) for laboratory work;
    5. In collaboration with the BSO and/or appointed designee, ensuring that the appropriate immunizations, serologic monitoring, post exposure prophylaxis, and other medical monitoring are provided to personnel;
    6. In collaboration with the BSO and/or appointed designee, developing procedures for dealing with accidental spills and accidental exposures among personnel;
    7. Reporting to the BSO and/or appointed designee issues pertaining to:
        i. All accidents/incidents within the lab that may pose a risk,
        ii. Exposure of personnel to BBPs, materials of human origin, and OPIM,
        iii. Compromise of biological or physical barriers, and
        iv. Major equipment failure which could compromise safe operations in the laboratory;
    8. In conjunction with the BSO and/or appointed designee, correcting procedures, which may result in hazardous incidents or employee exposures.

e. Laboratory Managers/Laboratory Technicians
    1. Overseeing the activities of laboratory employees and students engaged in research involving BBPs, materials of human origin, and OPIM;
    2. In collaboration with the PI and BSO and/or appointed designee, ensuring that new staff and/or visiting scientists (e.g. – volunteer workers, high school students, etc.) are properly trained for their assigned tasks;
    3. Ensuring that lab personnel demonstrate proficiency in standard and special microbiological practices before beginning work;
    4. Training employees and students on the SOPs in the lab;
    5. In conjunction with the BSO and/or appointed designee, ensuring that physical containment systems, support equipment, waste disposal and operation meet the safety guidelines;
    6. Performing regular checks/assessments of containment devices, equipment, and PPE; and
    7. Notifying the BSO and/or appointed designee of any incident or problem that compromises the safety of the staff or the integrity of the lab.

f. Employees
    1. Completing BBP Awareness training, departmental training, and any other job specific training offered in a specific work area;
    2. Conducting all activities in accordance with the University's policies, procedures and guidelines, including the standards in this ECP;
    3. Familiarizing themselves with the SOPs and potential hazards associated with their work, and emergency procedures;
    4. Employing good housekeeping practices to help maintain the work area in good condition;
    5. Completing all medical surveillance requirements;
    6. Reporting any medical restrictions, reportable illnesses, and any event that may be the result of an exposure to the PI; and
    7. Reporting irregular workplace conditions or accidents to the PI and BSO and/or appointed designee immediately.

4.0 Employee Exposure Determination

This ECP applies to all JU laboratory employees and students who have the potential for occupational exposure to human blood or OPIM while performing their work responsibilities. In accordance with Title 29 CFR Part 1910.1030, an employee exposure determination has been completed and the following is a list of all job classifications in which occupational exposure may occur. Included are anticipated tasks and/or procedures by which occupational exposure may occur for these individuals:

Job Title	Department (s)	Task/Procedure
Principal Investigator/Faculty	Molecular/Cellular Biology; Chemistry and Biochemistry; Health Sciences; and Nursing	Research and/or manipulations involving materials of human origin, including blood, cells, tissues, DNA, BBPs, and etc.
Laboratory Personnel (managers, technicians, grad students, TAs, etc.)	Molecular/Cellular Biology; Chemistry and Biochemistry; Health Sciences; and Nursing	Research and/or manipulations involving materials of human origin, including blood, cells, tissues, DNA, BBPs, and etc.
Registered Nurses or Hygienist	Nursing and Orthodontics	Research and/or manipulations involving materials of human origin, including blood, cells, tissues, DNA, BBPs, and etc.
Biosafety Officer or Chemical Hygiene Officer	Biology and Marine Sciences	Biohazard spill response, laboratory inspections, etc.
Campus Security	Campus Safety	Assisting with or administering first aid
Custodial/Building Services Staff	Facilities	Cleaning of laboratory, clinical, or residential areas where human blood or OPIM may be found

5.0 Methods of Implementation and Control

a. Universal Precautions – all personnel who have the potential to be exposed to BBPs will observe Universal Precautions.
    1. Under Universal Precautions, all human blood, tissues, cells, cell lines, DNA, and OPIM are treated as if they are known to be infected with BBPs; and
    2. The appropriate administrative controls, engineering controls, work practices, and PPE should be used to eliminate or minimize potential exposure to all agents that are suspected to be infected with BBPs.

    Note: Saliva, nasal secretions, sweat, tears, urine, emesis, and feces are not assumed to be contaminated with BBPs unless the blood is visible. In circumstances where is it difficult to tell, universal precautions must be apply.

b. General Work Practices – all personnel who have the potential to be exposed to BBPs, materials of human origin, or OPIM must observe and follow General Work Practices.
    1. Only trained employees will clean up surfaces contaminated with human blood or OPIM;
    2. When decontaminating surfaces, appropriate disinfectant solution must be used (10 % bleach, or another EPA approved disinfectant);
    3. When decontaminating surfaces contaminated with human blood or BBP, minimize the formation of aerosols, splashes, and sprays;
    4. Task specific PPE must always be worn;
    5. If breaks in the skin (such as cuts, lacerations, or dermatitis) are present, additional waterproofing protection barriers must be worn under PPE;
    6. After completing decontamination procedures, discard all waste materials and PPEs used as biomedical waste;
    7. Never reach into areas where you cannot see and do not compress waste in a garbage can;
    8. Never pick up broken glass or sharp objects with your hands. Always use a broom/dustpan, tongs, respectively;
    9. Reusable containers must be inspected, cleaned, and decontaminated immediately after use, or as soon as possible upon visible contamination. Decontamination of reusable containers must be performed in a manner to minimize exposure to BBPs or OPIM;
    10. If there is a risk for percutaneous injury to employees, reusable containers must not be opened, emptied, or cleaned manually or in any other manner;
    11. Do not eat, drink, smoke, or apply cosmetics in laboratories;
    12. Never store food, drinks, containers meant for food and drinks, or eating utensils in areas where chemicals or potentially infectious agents are stored; and
    13. Always wash your hands thoroughly with warm water and soap after handling materials contaminated with human blood or OPIM.

c. Engineering Controls – are designed to prevent employee exposure to workplace hazards by either removing the hazard from the worker or limiting employee access to the hazard. Effective engineering controls must be employed to minimize or eliminate the potential for exposure to BBPs and materials infected with them. If engineering controls are proven to be ineffective or are not available, a hazard assessment will be conducted by BSO and/or PI to determine what controls are necessary, and that they are implemented accordingly. Under ECP, the following engineering controls must be used to minimize employee exposure to BBPs:
    1. Hand Washing Areas:
        i. Hand washing areas must be available for individuals who have the potential to be exposed to BBPs;
        ii. Each hand washing area must be maintained with clean potable water, soap, and paper towels;
        iii. Hand washing areas are located in all laboratories and restrooms.

    2. Sharps Containers - when working with sharps the potential exists for exposure to BBPs through puncture wounds, cuts, and lacerations. Sharps containers must be made available, and must meet the following criteria:
        i. Containers must be puncture resistant, leak proof, and closable when not in use;
        ii. Must be labeled with the universal biohazard symbol;
        iii. Must remain upright at all times;
        iv. Must not be overfilled; and
        v. Positioned as close to the point of use/disposal as feasible possible.

d. Personal Protective Equipment (PPE) Standards – all employees who are anticipated to have occupational exposure to infectious agents must be provided adequate PPEs. At a minimum, all personnel who have the potential to be exposed to infectious agents or BBPs must wear gloves and eye protection with side shields.
    1. Appropriate PPEs will be provided by the employer, and will be selected based on the task(s) being performed. The employer will ensure that the appropriate PPE is readily available in the work area;
    2. PPE requirements will vary depending on the work area, the type of work being performed, or the anticipated exposure;
    3. The PPE will be considered appropriate only if it prevents human blood or OPIM from reaching the employee's skin, eyes, mouth, or mucous membranes under normal condition, and for the entire time that the PPE is worn;
    4. The wearing of PPE by employees will be enforced by the responsible party in their respective work areas;
    5. PPE must be removed prior to leaving the work area to prevent possible contamination of other areas;
    6. Disposable PPE that has been contaminated with human blood or OPIM must be discarded as biomedical waste; and
    7. Reusable PPE must be immediately decontaminated after each use.

e. Types of Personal Protective Equipment (PPE):
    1. Gloves – must be worn by employees for hand protection against infectious materials.
        i. Gloves must be worn when handling or working with human blood or OPIM;
        ii. Gloves must be worn when handling or working with materials or on surfaces that may be potentially contaminated with human blood or OPIM;
        iii. Gloves must be worn when decontaminating surfaces or equipment that may be contaminated with human blood or OPIM;
        iv. Disposable gloves will not be used when visibly contaminated, torn, or the integrity is otherwise compromised;
        v. Disposable gloves will not be washed or decontaminated for reuse; and
        vi. Considerations must be made for individuals with latex allergies, and alternatives to latex gloves must be provided.

    2. Protective Clothing – must be worn when there is potential for contamination of employees' clothing or exposed skin by infectious materials.
        i. Lab coats, aprons, or disposable gowns will be worn when there is potential for gross contamination of employees' persons or clothing, or when there is the likelihood of the generation of aerosols or splashes of human blood or OPIM;
        ii. When appropriate, head covers, shoe covers, and/or rubber boots will be worn;
        iii. Protective clothing must be removed prior to leaving the work area; and
        iv. Disposable protective clothing and protective clothing must be discarded as hazardous waste.

    3. Eye and Face Protection – must be worn when there is potential for exposure to the eyes, mouth, or other mucous membranes through aerosols or splashes of human blood or OPIM.
        i. Safety glasses with side shields must be worn when working with infectious materials that may contain BBPs.
        ii. Splash proof goggles will be worn when there is potential for exposure to BBPS to ones' eyes through generation of splashes and/or aerosols.
        iii. Surgical masks and/or face shields should be worn in addition to eye protection when it is reasonably anticipated that an exposure could occur through splashes, sprays, aerosols, droplets, or splattering of human blood or OPIM.

f. Housekeeping – all employees who have the potential to be exposed to BBPs, OPIM, or any other infectious agents while performing work duties must adhere to the following general housekeeping requirements:
    1. All work surfaces and equipment that have the potential to be contaminated with infectious agents must be cleaned and disinfected regularly;
    2. Work surfaces where infectious agents will be used should be layered with a protective covering, such as bench paper or other absorbent materials to facilitate decontamination;
    3. After work with infectious agents has been completed, work surfaces and equipment must be decontaminated immediately afterwards;
    4. When visible contamination is present, it must be decontaminated immediately;
    5. All spills of infectious agents must be cleaned up and decontaminated immediately using an appropriate disinfectant (10% bleach solution, 70% ethanol, or other EPA approved disinfectants); and
    6. Individuals who decontaminate work surfaces and/or equipment contaminated with infectious agents must wear the appropriate PPEs at all times.

6.0 Methods of Implementation and Controls for Laboratories

The following controls and work practices must be in place for the protection of personnel who work in research, clinical, or teaching laboratories. Any specific hazards that are not addressed within the following work practices must be addressed by the development of departmental specific SOPs.

a. Laboratory Work Practice Controls
    1. General Laboratory Work Practices
        i. Mouth pipetting is strictly prohibited;
        ii. Eating, drinking, smoking, and the application of cosmetics within laboratories are strictly prohibited;
        iii. Storage of consumables (food, drinks, containers meant for food and drinks, or eating utensils) within refrigerators or areas where chemicals or potentially infectious agents are present are strictly prohibited;
        iv. Individuals must wear the appropriate lab attire and personal protective equipment (PPE) when working with infectious materials; and
        v. At all times, hazard signs and postings must be observed.

    2. Use of Sharps
        i. Where possible, avoid the use of sharps (needles, syringes, razor blades, scalpels, and etc.);
        ii. Sharps must never be recapped, bent, sheared, or discarded with regular trash;
        iii. After use, sharps must be immediately discarded into hard-walled sharps container that is closable and properly labeled with the universal biohazard symbol; and
        iv. Never reach into a sharps container to retrieve used sharps.

    3. Reusable Containers
        i. Reusable containers that have a potential for becoming contaminated with BBPs or OPIM must be inspected, cleaned, and decontaminated immediately after use, or as soon as possible upon visible contamination; and
        ii. Decontamination of reusable containers must be performed in a manner to minimize exposure to BBPs or OPIM.

    4. Biological Samples and Specimens
        i. As prescribed by the CDC, all processing or analyses of human blood, OPIM, or other infectious agents should be conducted under BSL2 containment;
        ii. Any procedure involving the use of human blood, OPIM, or other infectious agents should be performed in a manner that minimizes splashing and/or spraying;
        iii. Human materials (such as cell lines and DNA) must be treated as OPIM. Unless appropriate screening has been conducted and the materials have been certified as free of BBPs;
        iv. All samples of blood or OPIM must be placed in a container that prevents leaking during collection, handling, processing, storage, transport, or shipping;

v. Containers must be labeled with the standard biohazard symbol;
vi. Containers must be closed and sealed prior to being stored, transported, or shipped;
vii. When samples are being transported, primary containers (vials, collection tubes, etc.) must be packed into a secondary containers that are labeled with the standard biohazard symbol;
viii. If it is possible for the primary container to puncture the secondary container, then the secondary container must be puncture resistant; and
ix. Only JU employees who have received the appropriate Department of Transportation (DOT) training are authorized to ship infectious agents or hazardous materials.

b. Laboratory Equipment
    1. Emergency Eyewash Stations – must be made available in areas where there is a potential for eye exposure to hazardous agents. Eyewash stations are available in laboratory areas near exits and often coupled with emergency showers. Emergency eyewash stations must meet the following criteria:
        i. Double ocular so that both eyes can be rinsed simultaneously;
        ii. Hands-free operation;
        iii. Dust caps must be kept in place when not in use to prevent the settling of dust on the eye pieces;
        iv. Eyewash stations must be free of obstructions; and
        v. Eyewash stations and emergency showers must be tested monthly and each test must be documented.

    2. Biological Safety Cabinets (BSCs) – must be used when laboratory work results with the creation of aerosols, droplets, splashes, and/or spills of infectious materials including BBPs. Biosafety cabinets must meet the following criteria:
        i. Biosafety cabinets must be certified annually;
        ii. Front grills must be free of obstructions to allow adequate ventilation;
        iii. The use of Bunsen burners inside a BSC is strictly prohibited;
        iv. BSCs must be decontaminated after each use;
        v. All work in laboratories involving human blood, OPIM, or BBPs must be conducted at Biosafety Level 2 (BSL-2), as defined by the Centers for Disease Control and Prevention (CDC) in the Biosafety in Microbiological and Biomedical Laboratories publication;
        vi. All work with human blood, OPIM, or BBPs must be performed in a manner as to minimize the formation of aerosols, splashes, and sprays; and
        vii. Standard microbiological practices must be employed; and

3. Centrifuges – are used for separating materials according to size and density. If used inappropriately, they can cause exposure to hazardous materials, including BBPs and OPIM. Centrifuges used with infectious materials must meet the following criteria:
    i. Always follow the manufacture's SOPs for proper use;
    ii. Ensure that all tubes are compatible for use with the centrifuge;
    iii. When loading samples, use centrifuge safety caps or sealed rotors to prevent spills;
    iv. Do not attempt to operate the centrifuge while the door and/or lid is open;
    v. Before removing samples when possible (particularly those that are infectious or potentially infectious), wait 10 minutes before opening the centrifuge to allow any aerosols produced to settle;
    vi. Always wear appropriate PPE when loading and removing samples from the centrifuge; and
    vii. Decontaminate all spills immediately using an appropriate disinfectant.

4. Autoclaves – use steam, extreme heat, and pressure as a means of decontaminating and/or sterilizing materials. These materials may include but are not limited to metal instruments, liquids, and infectious waste materials. Autoclaves used with infectious materials must meet the following criteria:
    i. Only trained and authorized personnel may use an autoclave;
    ii. Always follow the manufacture's SOPs for proper use;
    iii. Wear appropriate PPE when loading or removing materials from the autoclave;
    iv. Prior to using an autoclave, remove any remaining items within the chamber;
    v. Never overload an autoclave;
    vi. Never attempt to open an autoclave while it is completing a run cycle because autoclaves are pressurized vessels. Forcing the door of the autoclave to open during a run cycle could result in the release of steam, the ejection of the components or contents of the autoclave, and the sudden release of the autoclave door. All could result in the severe injury or death. Again, never attempt to open an autoclave while it is completing a run cycle;
    vii. Preventative maintenance must be performed regularly on autoclave units to prevent mechanical failure. Always follow the manufacture's recommended schedule of maintenance;
    viii. A maintenance history should be kept to indicate all inspections, failures, and repairs; and
    ix. An individual trained in recognizing critical defects that could result in a mechanical failure must conduct autoclave maintenance.

7.0 Medical Waste and Decontamination Procedures

a. Biological/Infectious Waste – includes pathological waste, blood and blood products, cultures and stocks of infectious agents, contaminated animal carcasses, contaminated sharps, chemotherapy waste, and discarded medical equipment and parts. These materials must be handled and disposed of as follows:
    1. Biomedical/infectious waste must be collected in containers that are properly labeled, closeable, and leak proof;
    2. Containers must remain closed, unless waste is being added to prevent leaking or spillage;
    3. In the event that the waste container becomes contaminated, it must be placed in a secondary container that is also closable, leak proof, and properly labeled;
    4. Biomedical/infectious waste must be segregated from all other waste materials at the point of origin;
    5. Liquid biomedical/infectious waste should be discarded in accordance with the Biomedical Waste and Hazardous Waste Polices;
    6. Solid Biomedical/infectious waste should be discarded in accordance with the Biomedical Waste and Hazardous Waste Polices;
    7. Contaminated sharps must be contained in leak proof, rigid, puncture resistant containers. These containers will be tightly lidded or taped closed to prevent spilling of contents during storage, transportation, treatment, and/or disposal; and
    8. All biomedical/infectious waste must be decontaminated prior to disposal or shipped by a licensed professional to be incinerated.

b. Protection of Vacuum Lines – are used to aspirate tissue culture liquid laboratory waste. According to the recommendations of the Centers for Disease Control (CDC) and the National Institutes of Health (NIH), the vacuum lines of these systems should be protected as follows:
    1. Vacuum lines should be equipped with High Efficiency Particulate Air (HEPA) filters. The HEPA filter, installed at the inline, will isolate and confine infectious materials and prevent aerosol contamination of the vacuum pumps; and
    2. HEPA filters must be checked regularly and replaced as necessary.

c. Chemical Decontamination – work surfaces, reusable containers, and equipment used with human blood, OPIM, and other infectious agents must be decontaminated regularly to prevent the spread of contamination and infection. Certain chemicals can be used in the deactivation of infectious materials.
    1. Appropriate disinfectants such as bleach and other EPA registered disinfectants can be used for decontamination purposes;
        i. Household bleach (5% sodium hypochlorite) can be diluted to a 10% solution (1/10) with water, which is sufficient for the deactivation of BBPs.
        ii. Household bleach loses its effectiveness over time. It is important to make fresh 1/10 bleach solutions at least monthly to ensure effective decontamination of surfaces.
        iii. Preparing a fresh 1/10 solution is recommended to be used in the event of a spill of biohazardous materials.
    2. There are various EPA registered disinfectants that are effective against the most common pathogens.

d. Lab Attire and Laundry – lab coats or other protective attire such as gowns or aprons must be worn when working in laboratory areas where human blood, OPIM, and other infectious agents are manipulated/processed. Contaminated laboratory attire must be handled as follows:
    1. Disposable lab coats, lab coats, or other protective attire that become contaminated with human blood, OPIM, or other infectious agents, must be disposed of as regulated biomedical waste.

8.0 Medical Surveillance

a. Vaccinations – employees with potential for exposure to BBPs and/or OPIM will be afforded the opportunity to receive Hepatitis B vaccination. The following accommodations shall be made in accordance with Title 29 CFR Part 1910.1030:
    1. The Hepatitis B vaccination will be offered to each employee with potential occupational exposure, unless one of the following conditions exists:
        i. The employee has previously had the full series of the vaccination and documentation can be provided to confirm their vaccination record,
        ii. The employee cannot be administered the vaccination for medical reasons, or
        iii. The employee has been tested for antibodies and immunity is confirmed.
    2. In the event that an employee declines the vaccination for any reason, they must sign a written statement confirming their declination.
    3. In the event that an employee who has potential workplace exposure initially declines to have Hepatitis B vaccine, but later decides to accept the vaccination, the vaccination will be made available at that time.

b. Post Exposure Evaluation and Follow-Up – the following accommodations shall be provided for any employee after reported occupational exposure to human blood, or OPIM:
    1. JU will provide each exposed employee the opportunity to have a confidential medical evaluation and follow-up consultation which shall include, but not be limited to the following elements:
        i. The documentation of the routes of exposure and the circumstances under which the exposure incident occurred, and
        ii. Identification and documentation of the source individual, unless JU can establish that identification is not possible, or is prohibited by state or local law.
    2. After consent has been given by the source individual, their blood shall be tested as soon as possible to determine HBV and HIV infectivity. If consent cannot be obtained, JU shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, their blood, if available, shall be tested and the results shall be documented;
    3. If the source individual is already known to be infected with HBV or HIV, then testing of their blood will not be required;
    4. A sample of blood from the exposed individual will be collected as soon as possible after obtaining consent;
    5. The results of the source individual's test shall be made available to the exposed individual, and they shall be informed of the applicable laws and regulations concerning disclosure of the identity and infectious state of the source individual;
    6. Post-exposure prophylaxis, when medically indicated, will be provided as recommended by the United States Public Health Service (USPHS);
    7. Counseling shall be made available regarding reduction of risk and the risks and benefits of HIV testing in accordance with state law;
    8. JU will provide a copy of this ECP to the health care professional responsible for the Hepatitis B vaccination;

9. The health care professional who evaluates personnel after an exposure will be provided with the following:
    i. A description of the exposed employee's job responsibilities as they relate to the exposure event,
    ii. Documentation of the routes of exposure and the circumstances under which the event occurred,
    iii. The results of the source individuals blood tests (if available), and
    iv. All medical records relevant to the appropriate treatment of the employee, including vaccination status, maintained by JU.
10. For each exposure evaluation, JU will obtain and provide exposed individuals with a copy of the evaluating health care professional's written opinion within fifteen (15) working days. Healthcare professionals' written opinions shall be as follows:
    i. Regarding Hepatitis B vaccination, whether vaccination is indicated for an employee, and if the employee has received the vaccination,
    ii. For post exposure evaluation and follow-up, statements must include that the exposed employee has been informed of the results of the evaluation, and about any medical condition(s) that remain as a result of exposure to human blood or OPIM that require further evaluation or treatment, and
    iii. All other information shall be kept confidential, and not included in the statement, but will be available to the employee and/or his representative in accordance with HIPAA laws.

9.0 Training and Signage

a. Training – all employees who have the potential for occupational exposure to BBPs and OPIM will participate in the BBPs Training Program, and shall be trained in accordance with Title 29 CFR 1910.1030. Training shall be provided for each qualifying employee as follows:
    1. Training will be provided at the time of initial assignment of job duties that have the potential for exposure to human blood and OPIM,
    2. Refresher training is required annually and must be provided within one year after initial training,
    3. Additional training shall be provided as a result of modifications to work practices and/or addition of new work practices that may affect employees' exposure potential,
    4. Individuals who administer training on BBPs must be knowledgeable in all content presented in the training program as well as how it relates to the workplace environment,
    5. Trainers must allow all personnel attending the training course to ask interactive questions on the subject matter, and
    6. Training may be provided using the following methods:
        i. Personal instruction (classroom model)
        ii. Computer based training (online model)
        iii. Training manuals

b. Additional Training Requirements – for some work environments, such as clinical laboratories or research laboratories where personnel work with human blood, OPIM, or BBPs, additional laboratory specific training is required.
    1. The PI must ensure that all personnel who have occupational exposure potential have prior experience working with human pathogens or tissue cultures,
    2. Personnel must demonstrate proficiency in standard microbiological practices before working with HIV or HBV, and
    3. The employee must not participate in work involving infectious agents until proficiency is demonstrated. A training program must be provided to employees who have no prior experience in handling human pathogens. Initial work activities must not include the handling of infectious agents. The employer must assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

c. Signage and Postings – all work areas where biological agents are used or stored must be posted with the appropriate hazard/warning labels. These areas include, but are not limited to, research laboratories, teaching laboratories, clinical laboratories, animal facilities, HIV/HBV Research and Production facilities, autoclave rooms, and biomedical waste storage areas. The following criteria must be met for the hazard/warning labels:
    1. The universal biohazard symbol must be present. Labels must be mostly fluorescent orange or red with symbols and lettering in contrasting color (usually black).

2. Biohazard warning labels must be affixed to the following:
    i. Containers of infectious waste,
    ii. Equipment used to manipulate or process infectious materials,
    iii. Equipment used to store infectious materials,
    iv. Containers used to transport human blood, OPIM, and/or other infectious materials,
    v. Biohazard warning labels must be affixed to containers in a way that prevents loss or unintentional removal, either by adhesive, string, wire, or any other successful method, and
    vi. Access doors to areas where human blood, OPIM, and other infectious agents are used under biosafety containment must be labeled with the standard biohazard symbol and the appropriate Biosafety designation.

10.0 Recordkeeping

a. Sharps Injury Log – JU will maintain a sharps injury log of all percutaneous injuries associated with contaminated sharps in accordance with the OSHA Bloodborne Pathogens Standard Title 29 CFR 1910.1030. The sharps injury log shall include at least the following elements:
    1. The type and brand of the device involved in the incident.
    2. The department or work area where the exposure incident occurred.
    3. An explanation of how the incident occurred. All information recorded in the sharps injury log shall be kept in a manner as to maintain confidentiality.

b. Medical Records – In accordance with Title 29 CFR 1910.1020, JU will establish and maintain accurate records for all employees who have had occupational exposure to BBPs or other infectious agents. These medical records include at least the following elements:
    1. Employee name and a designated identification number.
    2. A copy of the employee's Hepatitis B vaccination status, including the dates of all Hepatitis B doses, and any medical records related to the employee's ability to receive the vaccination.
    3. A copy of all exam results, medical testing, and follow-up procedures.
    4. The employee's copy of the health care professional's written opinion.
    5. A copy of the employee's duties as they relate to the exposure incident, the route(s) of exposure and circumstances under which the exposure occurred, and the results of the source individual's blood tests.

    JU, in accordance with this same standard, shall ensure that all medical records are:

    1. Kept confidential,
    2. Not disclosed or reported without the employee's express written consent to any person outside the workplace except as required by the standard or by law, and
    3. Maintained for at least the duration of employment plus 30 years.

c. Training Records
    1. JU will maintain records of BBP training while the PIs/Instructors and Supervisors/Manager are responsible for maintain operation/procedure specific and continuing education training for employees and students under their supervision.
    2. Training records will be kept for 3 years from the date on which the training occurred.

d. Availability of Records
    1. Records required to be maintained under this program will be made available upon request in accordance with applicable policies, rules and regulations.