

Burrell College of Health Sciences



BLOOD-BORNE PATHOGEN EXPOSURE CONTROL PLAN

Contents

INTRODUCTION:	3
SCOPE:	3
DEFINITIONS:	3
RESPONSIBILITIES	5
EXPOSURE DETERMINATION	5
EXPOSURE PREVENTION	5
HEPATITIS B VACCINATION	9
POST-EXPOSURE EVALUATION AND FOLLOW-UP	9
ADMINISTRATION OF POST-EXPOSURE EVALUATION AND FOLLOW-UP	10
PROCEDURES FOR EVALUATING THE CIRCUMSTANCES SURROUNDING AN EXPOSURE INCIDENT	11
TRAINING	11
RECORDKEEPING	11
REVIEW OF EXPOSURE CONTROL PLAN	12
REFERENCES	12
APPENDICES A: CDC Vaccine Information Sheet (VIS) Hepatitis B	12
APPENDICES B: OSHA Fact Sheet Hepatitis B Vaccination Protection	12
APPENDICES C: Hepatitis B Vaccine Declination Form	12

INTRODUCTION:

The Burrell 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 Burrell 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 Burrell 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 Burrell at Burrell owned or operated facilities. This ECP does not apply to students, faculty or staff conducting work on behalf of Burrell at non-Burrell operated facilities (e.g., clinical affiliate hospitals); these individuals will adhere to the facility's ECP. A department, principal 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 have been reviewed by the Burrell 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 (OPMI)

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 Burrell, 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.
- **Human Resources** is responsible for ensuring compliance with College Policy B7525.

EXPOSURE DETERMINATION

OSHA requires employers to perform an exposure determination to determine which employees may reasonably be expected to have work exposure to blood or other potentially infectious materials (OPMI). To do this, specific tasks and procedures of the workers must be examined. The exposure determination is made without regard to exposure frequency or the use of personal protective equipment (i.e., employees are considered to be exposed even if they wear personal protective equipment).

OSHA requires a listing of job classifications in which ALL employees may have occupational exposure. The following job classifications are in this category:

None

In addition, OSHA requires a listing of job classifications in which employees may have occupational exposure. Since not all the employees in these classifications would be expected to have exposure to blood or other potentially infectious materials, tasks or procedures that would cause these employees to have occupational exposure are also required to be listed in order to clearly understand which employees in these categories are considered to have occupational exposure. The job classifications and associated tasks for these categories are as follows:

<u>Job Category</u>	<u>Task/procedure</u>
Research Lab	Blood clean-up or disinfection, protocols involving blood or OPMI
Simulation Lab	Blood clean-up or disinfection
Anatomy Lab	Blood clean-up or disinfection

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:

- 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 splattering.
- 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 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 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. People who are 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 where 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.

- 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>.
- 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 state and federal regulations. Solid biomedical waste (pipettes, culture dishes, gowns, masks, or any other solid material potentially contaminated with biohazardous material) must be placed in a labeled biohazard bag or container and collected in the central biohazard disposal container. Solid waste disposal at Burrell College is performed via contractor. Liquid biomedical waste (blood, tissue culture fluid, broth media) must be 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 also be 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 spills.
- Wear appropriate PPE including a lab coat, disposable gloves and eye protection.
- If the spill involves broken glass or sharps, **DO NOT** pick up the pieces up by hand. 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 into 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 of them 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 it 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 who have exposure determination will be provided with information (APPENDIX A and B) on hepatitis B vaccinations, addressing safety, benefits, efficacy, methods of administration, and availability.

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 encouraged. However, if an employee chooses to decline vaccination, the employee must sign a declination form (APPENDIX C). 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.

The Office of Human Resources will provide employees with provider locations available for vaccinations.

Burrell students are required to show evidence of hepatitis B vaccination to enroll at Burrell. Student vaccination records are maintained in the Office of Student Affairs.

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 Director; exposures in the Anatomy Laboratory should report to the Anatomy Lab Director; all other College-owned/controlled facilities should report to Security or Facilities Manager). An incident report must be filed as soon as possible (within 24 hours of the incident) utilizing the following link: <https://burrell.edu/campus-safety-and-security/incident-reports/>

The Office of Human Resources will provide employees with information regarding provider locations for confidential medical evaluation and follow-up.

Students should follow up with their primary care provider.

For exposure incidents occurring outside of these normal operating hours, 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:

- Incident Report Filed which documents the routes of exposure and how the exposure occurred.
- Incident reports are appropriately routed:
 - Employee and contractor related incident reports are sent to the Office of Human Resources.
 - For student-related incident reports, the Office of Student Affairs or Office of Clinical Education will be copied, as necessary. Students are directed to follow-up with their primary care provider.
- 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, make arrangements for exposed employee's blood to be collected as soon as feasible after exposure incident, and test blood for HBV and HIV serological status.

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 an 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 Burrell 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 Burrell students and employees who have occupational exposure to bloodborne pathogens receive training conducted through the Collaborative Institutional Training Initiative, NeoEd, or SafeColleges on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases.

Training materials are available via Office of Research, Office of Human Resources, or Office of Student Affairs.

RECORDKEEPING

Training Records

Training records are maintained through the Office of Research, the Office of Human Affairs, or the Office of Student Affairs

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 the Office of Research or 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. 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 who has written consent of the employee within 15 working days. Such requests should be sent to the College's Workers Compensation Insurance provider. The Human Resources Office can provide their contact information.

OSHA Recordkeeping

An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). The College's safety officer does this determination and the recording activities.

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.

REFERENCES

OSHA BBP 29 CFR 1910.1030

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030>

APPENDICES A: CDC Vaccine Information Sheet (VIS) Hepatitis B

[Vaccine Information Statement: Hepatitis B Vaccine - What you need to know](#)

APPENDICES B: OSHA Fact Sheet Hepatitis B Vaccination Protection

[OSHA Hepatitis B Vaccination Protection Fact Sheet](#)

APPENDICES C: Hepatitis B Vaccine Declaration Form

HEPATITIS B VACCINE DECLARATION FORM (Employee)

Please submit this completed form to the Office of HR or fax below

Name	Employee #	Email	
Daytime/work phone	Job Title	Department	Supervisor/PI Name
Work Location (check all that apply)		Employment Status (select applicable box)	
<input type="checkbox"/> NM Main Campus	<input type="checkbox"/> Research Lab	<input type="checkbox"/> Faculty/Staff	<input type="checkbox"/>
<input type="checkbox"/> FL Campus	<input type="checkbox"/> Other: _____	<input type="checkbox"/> Medical Student*	

STEP 1, SUPERVISOR/PI:	PLEASE COMPLETE TO CONFIRM EMPLOYEE HEPATITIS B VACCINATION ELIGIBILITY
"I certify that the above--named employee shall be offered Hepatitis B vaccination based upon potential workplace exposure to Bloodborne Pathogens" as listed on the next page.	
Name	Phone:
Signature	Date:

STEP 2, EMPLOYEE:	PLEASE SELECT AND COMPLETE ONE OF THE APPLICABLE SECTIONS BELOW
I. "I WOULD LIKE TO RECEIVE THE HEPATITIS B VACCINE SERIES"	
"Please contact me at the above phone number or email to schedule."	
<input type="checkbox"/>	Employee Signature
	Date:

II. "I DECLINE HEPATITIS B VACCINATION"	
"I understand that due to my occupational exposure to blood or other potentially infectious materials (OPIM) that I may be at risk of acquiring hepatitis B virus (HBV) infection, a serious disease. Although I have been provided the opportunity to be vaccinated with hepatitis B vaccine at no charge* to myself, I decline vaccination at this time. If in the future I continue to have occupational exposure to blood or OPIM at Burrell College and wish to be vaccinated, I can receive the Hepatitis B vaccination series at no charge to myself."	
I have read and understood the above statement and am declining the hepatitis B vaccine series for the following reasons (<i>please check all which apply</i>):	
<input type="checkbox"/>	<input type="checkbox"/> To the best of my knowledge, I have completed the full Hepatitis B vaccine series (three shots).
	<input type="checkbox"/> I have undergone blood testing showing that I am immune to Hepatitis B.
	<input type="checkbox"/> I will send medical proof of vaccination and/or immunity along with this form
	<input type="checkbox"/> None of the above apply. I do not want to receive Hepatitis B vaccination.
<i>Please fax your Hepatitis B immunization records to Office of Human Resources at 575-674-2289</i>	
Employee Signature	Date:

HEPATITIS B VACCINE DECLARATION FORM

To determine if an individual must be included in the Bloodborne Pathogens Program, simply answer the following questions:

If the answer to **ANY** of the following questions is **YES**, then the worker is considered to be at occupational risk of contracting Hepatitis B virus or other bloodborne pathogens (e.g. pathogens present in blood or tissue specimens in a clinical or laboratory setting which can cause disease in humans.)

Does the worker ever:

(a) handle human blood or blood products, such as whole blood, plasma, serum, platelets, or white cells?

(b) handle human body fluids such as semen, cerebrospinal fluid, vaginal secretions, joint fluid, pleural fluid, peritoneal fluid, pericardial fluid, or amniotic fluid?

(c) work with animals, such as primates, that are infected with hepatitis B or other bloodborne pathogens OR perform tasks where such animals are housed?

(d) handle unfixed* human tissue or organs, including tissue culture cells and cell lines?

*Tissues and organs soaked in chemical preservatives such as alcohol or formaldehyde are "fixed"

(e) handle blood, blood products, body fluids or unfixed tissues or organs (including tissue culture cells and cell lines) of animals infected with the hepatitis B virus or other bloodborne pathogens?

(f) work with hepatitis B virus or other bloodborne pathogens or with preparations, such as liquid solutions or powders, containing the hepatitis B virus?

(g) handle sharp instruments such as knives, needles, scalpels, or scissors which have been used by others working with human blood or other potentially infectious materials to include human organs, tissue or body fluids OR used by others working with similar body parts and fluids from animals infected with the hepatitis B virus or other bloodborne pathogens?

(h) enter areas where other individuals work with human or animal blood, body fluid, tissues or organs which are infected with the hepatitis B virus or other bloodborne pathogens AND perform tasks where these body substances may come into contact with the laboratory worker's unbroken skin, broken skin, or mucous membranes?

(i) perform tasks which may potentially result in the lab worker's exposed skin or mucous membranes coming in contact with human or animal blood, body fluids, organs, or tissues which are infected with the hepatitis B virus or other bloodborne pathogens?