

**HISTOLOGY LABORATORY**

**BLOODBORNE  
PATHOGENS**

**EXPOSURE CONTROL PLAN**

---

---

## CONTENTS

<b>1</b>	<b>Definitions</b>	<b>3</b>
<b>2</b>	<b>Exposure determination</b>	<b>6</b>
2.1	Job classification	
2.2	High risk	
2.3	Low risk	
2.4	Notification of exposure	
<b>3</b>	<b>Methods of compliance</b>	<b>8</b>
3.1	Universal precautions	
3.2	Engineering controls	
3.3	Work practice controls	
3.4	Personal protective equipment	
<b>4</b>	<b>Vaccinations and post-exposure evaluation</b>	<b>11</b>
4.1	Availability	
4.2	Procedure	
4.3	References	
	Hepatitis B vaccine declination	
<b>5</b>	<b>Training</b>	<b>14</b>
5.1	Provision	
5.2	Topics of instruction	
5.3	Documentation	
<b>6</b>	<b>Record keeping</b>	<b>14</b>
6.1	Required records	
6.2	Record maintenance	

---

---

## 1 Definitions

### 1.1 Blood

Human blood, human blood components, and products made from human blood

### 1.2 Bloodborne pathogen

Any pathogenic microorganism that is present in human blood and can cause disease in humans; these pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV)

### 1.3 Clinical laboratory

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

### 1.4 Contaminated

Having the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface

### 1.5 Contaminated laundry

Laundry which may contain sharps or has been soiled with blood or other potentially infectious material

### 1.6 Contaminated sharps

Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires

### 1.7 Decontamination

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

---

---

1.8 Engineering controls

Controls such as sharps disposal containers and self-sheathing needles that isolate or remove the hazard of bloodborne pathogens

1.9 Exposure incident

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

1.10 Handwashing facilities

A facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines

1.11 Licensed health care professional

One whose legally permitted scope of practice allows them to independently perform the activities required in administering the hepatitis B vaccination and performing post-exposure evaluation and follow-up; these services include ordering appropriate laboratory tests, determining contraindications to vaccination, and providing post-exposure prophylaxis and counseling.

1.12 Occupational exposure

Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties

1.13 Other potentially infectious materials

- 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
- Any unfixed tissue or organ (other than intact skin) from a human (living or dead)

- 
- 
- HIV-containing cell or tissue cultures, organ cultures, and HIV or HBV-containing culture medium or other solutions and blood, organs, or other tissues from experimental animals infected with HIV or HBV

#### 1.14 Parenteral

Piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions

#### 1.15 Personal protective equipment

Specialized clothing or equipment worn by an employee for protection against hazards; general work clothes such as uniforms, pants, shirts or blouses not intended to function as protection are not considered to be personal protective equipment

#### 1.16 Regulated waste

- Liquid or semi-liquid blood or other potentially infectious materials
- Contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed
- Items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological wastes containing blood or other potentially infectious materials

#### 1.17 Source individual

Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee; examples include, but are not limited to,

hospital and clinical patients  
clients in institutions for the developmentally disabled  
trauma victims  
clients of drug and alcohol treatment facilities  
residents of hospices and nursing homes

---

---

human remains  
individuals who donate or sell blood or blood components

#### 1.18 Sterilization

The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores

#### 1.19 Universal precautions

An approach to infection control in which all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens

#### 1.20 Work practice controls

Controls that reduce the likelihood of exposure by altering the manner in which a task is performed, for example, prohibiting recapping of needles by a two-handed technique.

#### 1.21 Reference

*Federal Register*. 58, no. 235 (6 December 1991), "Rules and Regulations." Microfiche.

## 2 Exposure determination

Laboratory regulations seek to limit employees' occupational exposure to blood and other potentially infectious materials as the result of performing their job duties. OSHA has not attempted to list all situations where exposures could occur. "Good Samaritan" acts such as assisting a co-worker with a nosebleed are not considered occupational exposure.

Caution must be used when working in the histology laboratory. One never knows if a surface or item has been contaminated. One cannot be positive that a tissue specimen has been completely fixed. Any incidents of unexpected exposure should be documented and reported in the quality assurance minutes.

### 2.1 Job classification

Exposure risk determination is made for histology and surgical pathology job classifications where occupational exposure to human blood and other potentially infectious materials such as

---

---

unfixed tissue specimens occurs. The determination is made without personal protective equipment.

## 2.2 High risk

The following duties, usually performed by the surgical pathology assistant or the grossing room attendant, are high risk:

- handling leaking or contaminated specimen containers
- working with frozen sections that involve handling fresh unfixed human tissue including
  - freezing specimens
  - sectioning in the cryostat
  - washing off freezing compound prior to fixation
- grossing specimens (cassetting, cutting in) that involve handling unfixed and fixed human tissue and organs
  - examining and handling specimens as when searching for lymph nodes
  - sectioning to obtain the proper size for processing
  - wrapping small specimens in paper prior to cassetting
  - sawing bone or calcified specimens with the band saw or Beuhler bone saw
  - using disposable needles—disposable needles should never be recapped; the syringe and needle combined should be disposed of in the sharps container
  - cleaning up and disinfecting counter tops, cryostats, and refrigerators.

## 2.3 Low risk

Low risk duties include those performed by the histology technicians, histology supervisor, and laboratory aides:

- picking up, grossing and cassetting kidney biopsies
- fixing, decalcifying, and cassetting bone marrow biopsies
- loading tissue processors and handling contaminated specimen containers such as with autopsy cases
- staining frozen sections and touch prep slides (smears)
- handling processed tissue sections (there is a slight risk in CJD infected brain cases)
- cleaning counters

- 
- 
- cleaning tissue processors
  - returning dirty specimen containers to autopsy

#### 2.4 Notification of exposure

Employees must report illness or exposure to possible infectious materials immediately to the supervisor and to employee health. Documentation should be maintained in employees personnel file.

### 3 Method of compliance

#### 3.1 Universal precautions

Universal precautions should be observed to prevent contact with blood and other potentially infectious materials. All body fluids and unfixed tissue from a human (living or dead) should be considered potentially infectious. Universal precautions are followed by environmental services as well as laboratory employees. All garbage is treated as infectious and disposed of in a specified landfill for hospital waste, in accordance with state regulations.

#### 3.2 Engineering controls

Engineering controls are a means of isolating or removing bloodborne pathogens from the workplace. These must be provided by the employer.

##### 3.2.1 Sharps containers

Sharps containers are closable, puncture resistant and leak-proof on the sides and bottom. They should be used to dispose of anything that could puncture or cut the skin such as razor and microtome blades, pipettes, needles, cover glasses and glass slides. Sharps containers should not be overfilled and should be kept closed. When containers are full, environmental services should be called for pick-up and replacement.

##### 3.2.2. Regulated waste

All waste in the laboratory is regulated. Garbage cans are provided by environmental services and are lined with brown plastic bags. Garbage cans are be emptied daily.

---

---

Specimen containers should be emptied before being disposed of in garbage cans. All contaminated paper towels and gloves should be disposed of in garbage cans. Glass bottles should be placed in a large yellow trash can labeled, "GLASS". Broken glassware should be disposed of in the sharps container.

### 3.2.3 Contaminated laundry

On site linen services follows universal precautions. Contaminated laundry should be placed in the bags provided by linen services. If laundry is wet, it should be placed in a leakproof bag.

### 3.2.4 Specimen containers

If specimen containers are to stay on site, universal precautions are followed and they do not need to be labeled as "biohazard"; containers that will be used outside of the hospital must show the "biohazard" label. Specimen containers must be closable and leakproof. If leakage does occur, the container should be placed in a secondary leakproof container with appropriate labeling.

### 3.2.5 Handwashing facilities

Sinks with soap and paper towel dispensers are located in each laboratory. Dispensers are filled by environmental services as needed.

## 3.3 Work practice controls

### 3.3.1 Handwashing

Wash hands immediately after any exposure to blood or other potentially infectious materials, immediately after removing gloves, and before leaving the laboratory.

### 3.3.2 Housekeeping

Countertops should be cleaned with either chlorine bleach (sodium hypochlorite), or cyclophene. Wipe down countertops as soon as possible after exposure. Replace protective coverings and absorbent materials as soon as feasible when they become contaminated.

---

---

### 3.3.3 Equipment

Equipment should be decontaminated if possible before being serviced. A “biohazard” label should be affixed to the portions which remain contaminated.

### 3.3.4 Eating, drinking, smoking, and cosmetics

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in the histology laboratory and in the surgical pathology laboratory. Food and drink should not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are kept.

### 3.3.5 Splashes

All procedures involving blood or other potentially infectious materials should be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

### 3.3.6 Mouth pipetting

Mouth pipetting and mouth suctioning of blood or other potentially infectious materials is prohibited.

## 3.4 Personal protective equipment

Personal protective equipment is ordered by the histology supervisor. Employees are responsible for requesting new orders when supplies are low.

### 3.4.1 Gloves

Small, medium, and large sizes of latex disposable gloves are kept in the lab. Gloves are to be worn when any possible contact with potentially infectious materials exists. Gloves should be changed as soon as feasible after contamination and should not be worn out of the laboratory.

### 3.4.2 Safety glasses, goggles, and face shields

Safety glasses, goggles and face shields should be worn when there is a possibility of a splash, spray, or spatter of blood or body fluids, such as when grossing specimens.

---

---

They should be disinfected after use with a 5% bleach solution.

#### 3.4.3 Aprons, gowns, lab coats, and sleeves

Whenever the possibility of occupational exposure exists, aprons, gowns, lab coats, and sleeves should be worn, as appropriate. Aprons and sleeves are disposable and lab coats and gowns should be placed in the laundry. These items should not be worn outside of the work area.

### 4 Immunizations

#### 4.1 Availability

Preventative immunizations including diphtheria/tetanus, MMR vaccine, and influenza are free to employees. The hepatitis B vaccine is available, free of charge, to employees who have had occupational exposure to blood or other potentially infectious materials.

The hepatitis B vaccination is advised for histology and surgical pathology laboratory personnel. If the vaccination is refused, a signed declination (see following page) must be kept in the employee's file. Employees may rescind the declination at any time and receive the hepatitis series at no charge. Immunization records are maintained in employees' personnel files and by employee health.

Employees hired after July 1, 1989, must show proof of vaccination or be immunized with the MMR vaccine.

#### 4.2 Procedure

Vaccinations will be administered by an occupational health nurse who will follow up with employees who have had direct contact with communicable disease or infectious materials. Antibody levels will be checked for all employees who have had exposure to infectious disease.

#### 4.3 References

*University of Utah Medical Center policy and procedure manual.*  
1:21, 1-35-38, 1:40-47.

---

---

Federal Registry, OSHA. *Occupational exposure to bloodborne pathogens*. Final rule, 29 CFR Part 1910.1030, 12-6-91.

---

---

## HEPATITIS B VACCINE DECLINATION

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of infection with the hepatitis B virus (HBV). 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 may receive the vaccination series at no charge to me.

Signed \_\_\_\_\_ Date \_\_\_\_\_

---

---

## 5 Training

### 5.1 Provision

An occupational health nurse will educate employees in hospital hazards and responsible health and safe work practices annually as scheduled by the laboratory supervisor. New employees receive initial training during orientation. For specific job procedures, the lab supervisor will train employees and provide written procedure descriptions.

### 5.2 Topics of instructions

Training should include

- protective equipment
- hand washing
- disinfection procedures
- disposal of contaminated and used supplies
- handling of contaminated laundry
- vaccinations
- accidental exposure procedures.

### 5.3 Documentation

Documentation of all training is retained in employee files under "Infection Control."

## 6 Record keeping

### 6.1 Required records

Records indicating incidents of occupational exposure should be kept for each employee. Employee files should include

- employee's social security number
- hepatitis B vaccination record
- any follow-up procedures relating to vaccinations
- any follow-up, professional written opinions, and other information provided in the event of accidental exposure
- record of training sessions

### 6.2 Record maintenance

This information should be kept confidential and not disclosed without the written consent of the employee. Upon termination, employees' files should be delivered to the

---

---

personnel resource department. This information will be retained for the duration of employment plus 30 years.