

# EXPOSURE CONTROL PLAN TEMPLATE

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## PURPOSE

The purpose of this Exposure Control Plan is to identify hazards and describe ways to minimize the risks of laboratory exposure to human blood or other potentially infectious materials, in compliance with the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) and the Respiratory Protection Standard (29 CFR 1910.134).

## RESPONSIBILITIES

I, \_\_\_\_\_, as the Principal Investigator/Laboratory Director, recognize my responsibility to implement and monitor this exposure control plan.

The PI, Manager, and/or Supervisor will ensure that employees receive information and specific training on the laboratory procedures and techniques to be followed as well as information included in this document as required by the [Bloodborne Pathogens Standard](#). **Documented training must occur prior to the start of work with human or primate specimens, and at least annually thereafter and when new or modified tasks or procedures affect a worker's occupational exposure.** Records must be maintained by the PI or the department for at least 3 years.

## SCOPE

Each laboratory working with material of human origin must include an exposure control plan in the lab's safety manual. This manual should be available to for all employees who may have occupational exposure to human bloodborne pathogens.

The following plan may serve as a guide, but should be customized to identify specific hazards present in the lab.

The PI or designee must review and update this plan annually or whenever any significant changes in procedure or personnel occur. Each Dean, Department Chair, or supervisor is responsible for implementation of this plan.

## DEFINITIONS

- **Bloodborne Pathogens** – disease-causing organisms carried in the blood, and include organisms like HBV, HIV, HCV, malaria, Creutzfeld-Jacob agent, human T-lymphotropic virus type 1 and others.
- **Other Potentially Infectious Materials (OPIM)** – refers to semen or vaginal secretions; cerebrospinal, synovial, pleural, peritoneal, pericardial, or amniotic fluids, or tissue. 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) is considered OPIM. 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 are also included.
- **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, and other bloodborne pathogens.
- **Exposure Incident** – means 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.
- **Regulated Medical Waste** – any 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; and pathological and microbiological wastes containing blood or other potentially infectious material – including liquid, semi-liquid, or solid material.
- **Engineering Controls** – controls that isolate or remove the bloodborne pathogens hazard from the workplace (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered injury protections and needless systems)
- **Sharps with Engineered Sharps Injury Protections** – a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.
- **Needless Systems** – a device that does not use needles for the collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; the administration of medication or fluids; or any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

## EXPOSURE DETERMINATION

The Principal Investigator, laboratory supervisor and/or designated laboratory safety officer will identify laboratory employees and procedures in the laboratory that present the possibility of occupational exposure to bloodborne pathogens and/or OPIM. This determination is based on the risk of performing each procedure without the use of personal protective equipment.

**The material** used in this laboratory that may be associated with potential exposure to human or bloodborne pathogens include the items checked below:

- Human or primate blood, serum, plasma, blood products, components or cells
- Other potentially infectious materials (OPIM) which include: human or primate body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid visibly contaminated with blood, and all body fluids where it is difficult to differentiate between fluids.
- Any unfixed human or primate tissue or organ (other than intact skin).
- Cell, tissue or organ cultures containing HIV; culture medium or other solutions containing HIV, HBV, HCV; blood, organs or other tissues from experimental animals infected with HIV, HBV, or HCV.
- Contact with non-human primates
- Other(s), specify:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**The job classifications** in which laboratory employees may have occupational exposure to human pathogens in this work setting include the classifications checked below:

### Classification

- Professor
- Postdoctoral Researcher
- Med.Technologist/Technician
- Staff Research Associate
- Laboratory Assistant
- Graduate Student

Undergraduate Student

Other(s), specify:

**The tasks and procedures** used in this work setting that may pose risk of exposure to human or primate bloodborne pathogens may include: venipuncture of humans (including co-workers or students) or primates; injections using primate or human specimens, use of needles with human or primate specimens; preparing, dissecting, cutting, or otherwise handling human or primate tissue; pipetting, mixing, or vortexing human or primate blood, or OPIM; centrifuging human or primate blood, or OPIM; handling tubes or other containers of human or primate blood, or OPIM; handling contaminated sharps or other contaminated waste; cleaning up spills of human or primate blood or OPIM; preparing or handling primary human or primate cell cultures; working or caring for non-human primates.

## LABORATORY REQUIREMENTS

Each laboratory where human or primate blood or OPIM is used must prepare an Exposure Control Plan. Universal precautions and Biosafety Level 2 practices and procedures (see [Biosafety in Microbiological and Biomedical Laboratories BMBL 6th Edition](#)) will be followed to minimize exposure to bloodborne pathogens.

### *Engineering and Work Practice Controls*

**Primary barriers:** Engineering controls are devices or equipment designed as primary barriers to mitigate exposure risk. Biosafety cabinets (BSC) and centrifuge safety cups are classical examples, both of which are designed to provide protection from infectious aerosols and droplets.

**Secondary barriers:** The design and proper function of the facilities where infectious agent work will be conducted serve as secondary barriers for protecting personnel, the public, and the environment. The facility requirements vary, based on the procedures and transmission routes of the specific agents handled.

The laboratory should be maintained in a clean and sanitary condition. At a minimum, benches and biosafety cabinets are cleaned at the end of the day and after any spill using the appropriate disinfectant(s).

Employees must be made aware of signs and symptoms of latex sensitivity and provided with prevention strategies.

Hands are washed after removing gloves, before exiting the lab, and before eating, drinking, smoking, handling contact lenses or other activities that may result in hand contact to a mucous membrane.

Only approved sharps containers are to be used for sharps disposal (see [UAB Medical Waste Management Plan](#)).

Needles shall not be recapped, removed from disposable syringes, purposefully bent or otherwise manipulated. When there is no alternative for recapping or removal of needles, the recapping or removal will be accomplished by a mechanical device (e.g. a needle block or holder). Mechanical devices will be disinfected as they become contaminated.

Sharps disposal containers are inspected and maintained or replaced by \_\_\_\_\_ every \_\_\_\_\_ or whenever necessary to prevent overfilling.

Contaminated sharps are discarded immediately or as soon as possible in containers that are closable, puncture-resistant, leakproof on sides and bottoms, and labeled or colorcoded appropriately.

Protected needle devices or safety needle systems will be evaluated and used whenever possible. Disposal containers (bags, sharps containers, red barrels, etc.) are required to be closed during transport. If there is a chance of leakage, an additional labeled container will be used.

The specific engineering controls and work practice controls used in this lab are listed below:

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This facility identifies the need for changes in engineering control and work practices through:

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### *Personal Protective Equipment*

Personal protective equipment (PPE) and clothing is used in the laboratory to minimize or eliminate exposure to human bloodborne pathogens. The PI or department is responsible for supplying personal protective equipment and clothing and making arrangements for replacement or cleaning as needed. Appropriate gloves are to be worn when exposure to blood or OPIM is probable. PPE must be replaced frequently and immediately if they become contaminated or damaged in any way.

PPE is typically used in conjunction with engineering controls, but it can also serve as a primary barrier in cases where it may be impractical to work inside a BSC. The laboratory-specific biosafety manual should define the safety equipment needed for specific procedures or agents, including the PPE required.

PPE training is provided by \_\_\_\_\_ in the use of the appropriate PPE for the tasks or procedures employees will perform. The types of PPE available to employees are as follows:

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PPE is located \_\_\_\_\_ and may be obtained through responsible person \_\_\_\_\_.

PPE must be removed after it becomes contaminated, and before leaving the work area. Used PPE may be disposed of in \_\_\_\_\_.

Lab members must wear appropriate gloves when it can be reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated materials or surfaces; replace gloves if torn, punctured, contaminated, or if their ability to function as a barrier is compromised. Never wash or decontaminate disposable gloves for reuse. Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth. Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the outer surface. The procedure for handling used PPE is as follows:

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Laboratories using high volumes or concentrations of Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), or Hepatitis C Virus (HCV) must follow additional safety practices and procedures according to their laboratory specific safety manual.

### **OCCUPATIONAL MEDICINE PROGRAM**

The PI or department is responsible for arranging for occupational medicine services **before an exposure** event occurs.

**Hepatitis B Vaccination:** The PI/Manager will ensure that all persons in the laboratory/unit area who were determined to have occupational exposure to human bloodborne pathogens are offered Hepatitis B vaccination within ten days of starting work with human or primate specimens. The PI or department must maintain documentation of participation or declination. Medical records are confidential and are to be maintained by the UAB Occupational Medicine Program or healthcare provider for at least 30 years post-employment.

**Post-Exposure Evaluation and Follow-up:** A bloodborne pathogen exposure event is any situation, such as a spill, splash, needlestick, ingestion, or accident in which you have direct, unprotected contact with human or primate blood or OPIM. If this happens immediately flush the body part with water and notify your PI or supervisor **and...**

#### **If an exposure to human blood, body fluids, or unfixed tissue occurs after work hours or on holidays:**

- **Researchers** (not hospital/medical care associated exposures):
  - During work hours (Monday-Friday, 8-4:30):
    - The Workplace Clinic, 1201 11th Avenue South, Birmingham, AL 35205 (205) 930-7007
  - After hours or weekends: UAB ED, 1802 6th Ave S, Birmingham, Alabama 35233, (205) 934-4011
- **Hospital Employees** (hospital/medical care associated exposures):
  - Needle sticks and/or other exposures (including blood or body fluids), call the Rapid Response Team (RRT) at (205) 934-3675 or page 934-3411.

**If an exposure to material of primate origin occurs:** Follow your lab's agent specific plan for potential exposure to Herpes B virus. (Attach plan)

**If an exposure to concentrated virus, altered strains, exotic strains, or recombinants of bloodborne pathogens occurs:** During regular business hours (M-F 8am to 4:30pm) proceed directly to *The Workplace* (933-5300). Otherwise, proceed to UAB Hospital Emergency Room and tell them you have had an occupational exposure to bloodborne pathogens. Specify that the Occupational Medicine Physician on-call be contacted to assist in the evaluation.

Prior to receiving treatment for an exposure, an [UAB On-The-Job-Injury Initial Medical Evaluation Authorization](#) form must be completed. In all cases, an [Incident Report Form](#) must be completed. Your supervisor/colleagues can help to fill out OJI forms, and ensure spilled materials are contained and decontaminated. Additional information on UAB Instructions and Forms for OJI can be found on the [UAB HR](#) website.

Every individual handling material with potential bloodborne pathogens has the responsibility to report any exposure to these materials to their supervisor and the PI/Manager.

The PI/Manager is responsible for reporting the incident to UAB Environmental Health & Safety (4-2487). EH&S will investigate the circumstances surrounding the exposure, and work with the PI/Manager to modify work practices and/or develop additional prevention strategies.

## RESOURCES/REFERENCES

Centers for Disease Control and Prevention. Recommendations for prevention of HIV transmission in health-care settings. *MMWR* 1987; 369 (suppl no 2S).

McCunney, Robert J. ed. *Medical Center Occupational Health and Safety*. Philadelphia, PA: Lippencott Williams & Wilkins, 1999.

Risk and Management of Bloodborne Infections in Health Care Workers. *Clin. Micro. Rev.* July 2000.

UAB Medical Waste Management Plan, Appendix J, UAB Biosafety Manual 5<sup>th</sup> Edition, October 2000.

US Department of Labor/Occupational Safety and Health Administration. 1991. Occupational exposure to bloodborne pathogens; final rule. 29CFR part 1910.1030. *Federal Register*, 56:64175-64182.

US Department of Health and Human Services/Department of Labor. Respiratory Protective Devices; final rule, 1995. 42CFR Part 84 . *Federal Register*, 60:30336-30404.

US Department of Labor/Occupational Safety and Health Administration. 2006. Respiratory Protection 29 CFR 1910.134.

US Department of Health and Human Services, National Institute for Occupational Health and Safety *Latex Allergy A Prevention Guide*, 1999. DHHS (NIOSH) Publication No. 98-113.

For more information about the Bloodborne Pathogens Standard, the written Exposure Control Plan, and the Respiratory Protection Standard or for assistance in compliance, please contact your supervisor or PI or call EH&S Biosafety at 4-2487. Copies of the standards and guidelines are available from the EH&S website.



**REVIEW**

**SCHEDULE**

This plan was implemented on \_\_\_\_\_  
Date PI, Manager or Supervisor Signature

Reviewed (Circle Responses)		Updated		Date	PI, Manager or Supervisor Signature
Yes	No	Yes	No		
Yes	No	Yes	No		
Yes	No	Yes	No		
Yes	No	Yes	No		
Yes	No	Yes	No		
Yes	No	Yes	No		

