KGI KECK GRADUATE INSTITUTE

Bloodborne Pathogens Exposure Control Plan

April 21, 2020

Contents

I. Introduction

Keck Graduate Institute is committed to providing a safe and healthy work environment for all staff, students and visitors. In pursuit of this goal, the following Exposure Control Plan (ECP) is provided to eliminate or minimize occupational exposure to bloodborne pathogens and other potentially infectious materials (OPIM) as required by the Bloodborne Pathogens California Code of Regulations, Title 8 (8 CCR), Section 5193. The ECP is also consistent with the requirements of the Cal/OSHA Injury and Illness Prevention Program (8 CCR 3203).

The Exposure Control Program shall be updated annually and whenever necessary to reflect new or modified tasks, etc. KGI is required to solicit input to the plan; this is achieved by requiring "determination of employee exposure" evaluations by all principal investigators, research staff and others where applicable.

KGI's exposure control plan is made available upon request, for examination and copying, to our employees, the Chief of Cal/OSHA, and NIOSH (or their respective designees) in accord with 8 CCR 3204, "Access to Employee Exposure and Medical Records." KGI's written exposure control plan contains the following elements:

1. Determination of employee exposure
2. Implementation of various methods of exposure control including:
    a. Universal precautions
    b. Engineering and work practice controls
    c. Personal protective equipment
    d. Administrative Controls (Housekeeping etc.)
3. Hepatitis B vaccination
4. Post-exposure evaluation and follow-up
5. Procedures for evaluating circumstances surrounding exposure incidents
6. Communication of hazards: Employee Training
7. Record keeping

Implementation methods for these elements of the standard are discussed in the subsequent sages of the ECP.

Program Administration and Responsibilities

Keck Graduate Institute and all personnel have the responsibility to be informed of hazards and preventive practices associated with Bloodborne Pathogens (BBP). Specific responsibilities include:

A. Chemical and Biological Safety (CABS)

Chemical and Biological Safety is a standing committee that is responsible for the management and administration of the ECP through activities delegated to laboratory safety including:

a. Overseeing implementation of the ECP.

b. Developing, in cooperation with administrators, principal investigators and research staff, any additional policies and practices needed to support the implementation of the ECP.

c. Revising, updating, and improving the ECP regularly, and whenever necessary to include new or modified tasks and procedures.

d. Training will be coordinated by Laboratory Safety Manager Jasmine Yu (Chair of CABS committee) to provide information and training to all employees who have an anticipated risk of exposure to bloodborne pathogens.

e. Working with principal investigators or supervisors in the evaluation of employee exposure potential.

f. Maintaining appropriate training records.

g. Periodically review and update training programs.

B. Principal Investigators

Each laboratory that has personnel at risk of coming in contact with a BBP will adopt this ECPand establish a program of compliance. This specific laboratory program will include processes for:

a. Ensuring compliance with the contents of the ECP.

b. The identification of laboratory personnel governed by the ECP.

c. Meeting training requirements.

d. Ensuring proper record maintenance

e. Completing an exposure determination made without regard for the use of personal protective equipment.

C. Lab Supervisory personnel and PI's are additionally responsible for:

Ensuring all research staff under their direction meet the appropriate requirements prior to assignment to duties by which occupational exposures could occur:

a. Are properly trained before working with blood or other potentially infectious materials, per training section below and the suggested checklist template in (Appendix 1).

b. Have declared their vaccination preference, and have initiated vaccination (if vaccination is desired), per Onboarding Medical Surveillance Memo and Checklist.

c. Maintaining records of all site-specific training and Declaration of Vaccination Preference with employee records, and submitting a copy to Human Resources.

d. Ensuring that guidelines established in this ECP are strictly followed by all persons under their jurisdiction.

e. Maintenance of all necessary personal protective equipment (PPE), engineering controls (e.g., sharps containers), and labels and clean up materials as required.

f. Ensuring that adequate supplies of the aforementioned equipment are available in appropriate sizes.

D. Administrative supervisors, managers or directors

Administrative personnel (managers, directors, or supervisors) are responsible for making appropriate workplace risk assessments and identifying job positions and personnel who are not lab personnel but who may have exposure to human blood, bloodborne pathogens, or other potentially infectious materials during the performance of their assigned duties. The exposure determination will be made without regard for the use of personal protective equipment.

E. Individual Personnel

Individuals who are determined to have occupational exposure to human blood or other potentially infectious material must comply with the procedures and requirements presented in this manual and in personnel training. Individual personnel must accept shared responsibility for acting in a safe manner. Individuals:

a. Should consult with their supervisors regarding the safe handling and proper disposal of human blood or other potentially infectious materials (OPIMs) used in their specific work areas.

b. Are responsible for following KGI safety guidelines, including Universal Precautions and standard microbiological practices.

c. Must complete required training and annual re-training and request information and training when unsure

d. Report job-related BBP exposure to CABS, PI or Supervisor.

e. Wear all necessary PPE

VI. Definitions

A. Occupational Exposure

Occupational exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious material (OPIM) that may result from the performance of an employee's duties. Parenteral contact means piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions. An exposure incident would involve contact with blood or other potentially infectious body fluid through:

a. Percutaneous (needle stick, puncture or cut through the skin)

b. Mucous membrane (contact with eyes, mouth, nasal passage)

c. Non-intact skin (contact through cuts, abrasions in the skin)

d. Inhalation (inhaling aerosols)

B. Bloodborne Pathogens

Bloodborne pathogens are pathogenic microorganisms (e.g. viruses, bacteria, or parasites) that may be present in human blood, tissue, or organs and which can cause disease in humans when transferred from an infected person to another person through blood or other potentially infected body fluids.

These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV), the virus that causes AIDS. Workers exposed to bloodborne pathogens are at risk for serious or life-threatening illnesses. While there are many bloodborne pathogens, the 3 specifically covered in this ECP are:

a. Human Immunodeficiency Virus (HIV) – causes Acquired Immunodeficiency Syndrome (AIDS)

b. Hepatitis B Virus (HBV)

c. Hepatitis C Virus (HCV)

C. Other Potentially Infectious Material (OPIM)

Materials that can contain bloodborne pathogens from OPIMs include:

a. Human blood and serum, plasma, blood products, or components

b. Semen or vaginal secretions

c. Internal human body fluids, including cerebrospinal fluid, and fluids from joints, chest cavity, heart sac or abdomen

d. Unfixed human tissues or organs (both living and dead)

e. Human cell lines not documented to be free of bloodborne pathogens

f. Blood, tissues, or cell lines from animals experimentally infected with bloodborne pathogens

g. Cultures or any liquid containing bloodborne pathogens (this includes culture media)

h. Equipment contaminated with human blood or OPIMs

i. Anybody fluid visibly contaminated with human blood

j. Anybody fluid that is difficult to differentiate from other fluids

k. Cell lines or tissue cultures containing HIV, HBV or HCV

l. Culture media or other solutions which contain HIV, HBV or HCV

m. Primary human cell and tissue cultures

n. Blood and tissues from experimental animals infected with HIV, HBV HCV

o. Animals that have been experimentally infected with HIV, HBV or HCV

NOTE: The following are not considered to be OPIMs unless they are visibly contaminated with blood, or it is difficult or impossible to distinguish:

a. Tears

b. Sweat

c. Saliva (except during dental procedures)

d. Vomit

e. Feces

f. Urine

g. Nose fluids

h. Intact human skin (from living or dead source)

IV. Employee Exposure Determination

A. Job classification

Based upon the employee's job duties, the Principal Investigator (PI) and CABS will identify personnel who have duties that include exposure or reasonably anticipated risk of exposure to blood or other potentially infectious material in the Exposure Control Plan. The Exposure Determination Form (Appendix 2) is located in Each job classification in this category includes, but not limited to:

1. Personnel working with or conducting research on human blood, other potentially infectious materials, unfixed human tissues and organs, and/or cultures derived from human cells or tissues
2. Emergency Responders, police officers, and personnel administering first aid
3. Personnel who has been assigned as part of their job duties to include clean-up of blood spills or other potentially infectious material.
4. Maintenance personnel, etc.

B. The materials

Based upon the employee's job duties, the Principal Investigator (PI) and CABS will identify the materials used in this work setting that may cause exposure to bloodborne pathogens including but not limited to the following:

1. Human blood, serum, plasma, blood products, components, or cells.
2. Human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid,pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and anybody fluid visibly contaminated with blood, and all body fluids in situations where it is difficult to differentiate between fluids such as emergency response
3. Any unfixed human tissue or organ (other than intact skin)
4. Cell, tissue, or organ cultures derived from humans.

C. Identify the personnel

Based upon the employee's job duties, the Principal Investigator (PI) and CABS will identify the personnel with occupational exposure to bloodborne pathogens (include those that work with human established cell lines).

D. Determine which tasks

Based upon the employee's job duties, the Principal Investigator (PI) and CABS will determine which tasks pose a risk to employees and are encouraged to develop specific exposure control methods to work in conjunction with the KGI Exposure Control Plan. (Appendix 2)

Methods of Implemetation and Control

Employees covered by the bloodborne pathogen standard (BBP) receive an explanation of this Exposure Control Plan (ECP) during their initial training session. This plan is also reviewed in the annual refresher training. All employees can review this plan at any time by going online at kgi.edu/faculty-and-research/lab-safety-support/lab-safety-plans/bloodborne-pathogen-program.

In addition the plan will be displayed in all research labs regulated by the BBP standard. Engineering and work practice controls shall be used to eliminate or minimize exposure. Where occupational exposure remains after implementation of these controls, personal protective equipment shall also be used. Personal protective equipment must prevent blood or other potentially infectious material from reaching their street clothes, skin,eyes, mouth, or other mucous membranes, under normal conditions or reasonably foreseeable accident.

The bloodborne pathogen exposure control at Keck Graduate Institute employs four major strategies:

1. Engineering controls
2. Universal precautions and safe work practices
3. Personal protective equipment
4. Administrative controls

A. Engineering Controls

Engineering controls are used to prevent or minimize exposure to bloodborne pathogens. Engineering controls are devices that reduce exposure risk by removing or isolating the worker from the hazards. Specific engineering controls include:

1. Eyewashes
2. Certified Biosafety cabinets (do not operate cabinets that have not been certified or that does not operate when turned on). Contact Laboratory Safety Manger Jasmine Yu for hood certifying or repair.
3. Ventilation
4. Sharps containers
5. Centrifuge containment devices to prevent aerosols
6. Autoclave or other effective decontaminating method for decontamination of waste
7. HEPA filters for vacuum lines
8. Use of leak-proof and appropriately labeled containers for transporting contaminated materials
9. Hand washing sink

KGI identifies the need for changes in engineering controls through review of OSHA recommendations, employee interviews and safety committee discussions. Individual research labs are responsible for ensuring that recommended engineering controls are implemented.

B. Universal Precautions and Safe Work Practices

A. UNIVERSAL PRECAUTIONS

All employees will utilize universal precautions, as an approach to infection control from occupational exposure to bloodborne pathogens. According to the concept of universal precautions, all human blood, tissue, and certain human body fluids are treated as if known to be infectious for human immunodeficiency virus, hepatitis B virus, hepatitis C virus, and other potential infectious material (OPIM).

B. SAFE WORK PRACTICES

Safe work practices are designed to reduce the likelihood of occupational exposure, and include the following:

1. When working in an area where human blood or OPIM are present, personnel must adhere to the following safe work practices:
    a. No eating, drinking, or chewing gum
    b. No applying cosmetics or handling contact lenses, or talking on cell phones
    c. No storage of food in refrigerators, freezers, cabinets, or any other area that may be contaminated with human blood or OPIM
2. Gloves (and other PPE, as needed) must be worn when there is a potential to come in contact with human blood or OPIM.
3. Gloves must be changed after becoming torn or contaminated
4. Hands must be washed after glove removal

Additionally, when working with human blood, conducting research or other human bloodborne pathogens, personnel MUST:

- Use a certified biosafety cabinet where feasible
- Conduct all procedures involving blood or OPIM in such a manner to minimize splashing, spraying, splattering and generating droplets.
- Use leak-proof and non-breakable containers to hold blood or OPIM
- Affix biohazard labels as appropriate to containers of blood or OPIM that have not been sterilized
- Keep waste containers near the work area

- Never overfill waste containers
- Examine equipment which may become contaminated with blood or OPIM prior to servicing or shipping, and decontaminate as necessary
- Use extreme caution when working with sharp objects such as needles, razor blades, scalpels, or broken glass and properly dispose of sharps in an appropriate sharps container.

C. Personal Protective Equipment

Required PPE will be provided to KGI employees at no cost. Training in the use of the appropriate PPE for specific tasks or procedures is to be provided by the PI or supervisors

TYPES OF PPE AVAILABLE TO EMPLOYEES ARE AS FOLLOWS:

- Safety glasses
- Gloves (Latex or nitrile)
- Eye protection
- Face Shields
- Protective clothing; regular or disposable lab coats.

PPE should also be located in the Bloodborne pathogen spill kits and may be obtained through Laboratory Safety Manger Jasmine Yu.

ALL EMPLOYEES USING PPE MUST:

1. Wear appropriate gloves when it is reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated items or surfaces.
    a. Replace gloves if torn, punctured, or contaminated, or if the ability to function as a barrier is compromised.
    b. Never wash or decontaminate disposable gloves for reuse.
    c. Utility gloves may be decontaminated for reuse if their integrity is not compromised; discard utility gloves if they show signs of cracking, peeling, tearing, puncturing or deterioration.
2. Wash hands immediately or as soon as feasible after removing gloves or other PPE.
3. Always wear appropriate face and eye protection when splashes, sprays, splatters or droplets of blood or OPIM pose a hazard to the eyes, nos,e or mouth.
4. Always wear full body protection (including disposable lab coat, gloves, eye protection) during procedures and activities likely to generate splashes, sprays, splatters or droplets of blood or OPIM.

5. Remove PPE after it becomes contaminated and before leaving the work area.

6. Each lab working with blood and other OPIM researchers should wear a disposable lab coat.

When soiled or dirty remove, immediately or as soon as feasible the disposable lab coats contaminated with foreign blood or OPIM, in such a way as to avoid contact with the outer surface. The soiled garment should be placed in the regular red biohazard bag and decontamination by autoclave waste procedures. Please talk with the Laboratory Safety Manager to make sure you have a supply of disposable lab coats ordered before beginning work.

D. Administrative controls

A. SHARPS DISPOSAL AND HANDLING PROCEDURE

1. Sharps must be handled and disposed of in accordance with the KGI Sharps disposal and handling procedures listed below:

- All sharps containers for contaminated sharps shall be rigid, puncture resistant, leakproof, portable, and correctly labeled.
- Containers for sharps shall be easily accessible to personnel and located as close as is feasible to where sharps are anticipated to be found.
- Contaminated sharps are to be placed into sharps containers immediately.
- Contents of the sharps container shall not be accessed unless properly reprocessed or decontaminated. Sharps containers shall not be opened, emptied, or cleaned manually or in any other manner that would expose employees to the risk of sharps injury.
- Containers shall be replaced when the container is ¾ full.

2. Extreme caution must be used when working with sharp objects such as needles, scalpels, razor blades, or broken glass and properly dispose of the sharps in appropriate sharps containers.

3. Needles shall be disposed of in labeled sharps containers.

4. Needles should not be re-sheathed.

5. Needles and other sharps should be handled as little as possible. Handling sharps for transport, cleanup or disposal must be done using a mechanical device or tool (forceps, pliers, broom and dust pan)

6. Controls should be used to prevent needle stick injuries, and include specially engineered sharps injury protection (e.g. leur-lock syringes, permanent needle and syringe combination, self-sheathing needles, needle-less systems, etc.)

7. Decontaminated sharps or glassware will be disposed of by KGI's waste management company.

8. Each Principal Investigator shall implement an effective procedure for identifying currently available engineering controls, and selecting such controls, where appropriate, for the procedures performed by employees in their respective work areas or departments in compliance with CCR T8 Section 5193.B.6.

B. LABELS

Supervisors and PIs are responsible for ensuring that the biohazard label and symbol is affixed on red bags as required if regulated waste or contaminated equipment is brought into or taken out of the facility. Employees are to notify CABS if they discover regulated waste containers, refrigerators containing blood or OPIM, contaminated equipment, etc., without proper labels.

The following labeling methods are used at KGI:

1. Biohazard label for all equipment used with or to store infectious material (sharps container, biohazardous trash).
2. Biohazard bag for spill clean-up materials and BBP waste that have not been disinfected. The bag must be bright red, and must have the biohazard symbol.

C. HOUSEKEEPING

1. PI's and lab supervisors must work together to ensure that the following conditions are met:

- Decontamination must be performed with disinfectants registered for destruction of HBV, HCV, and HIV
- Equipment and surfaces must be clean and decontaminated after contact with blood or OPIM.
- Bins/pails (e.g. wash basins) need to be cleaned and decontaminated as soon as feasible after visible contamination.
- Spills of blood or OPIM should be cleaned up as soon as possible by lab personnel specifically trained for bloodborne pathogen spill response.
- Regulated waste needs to be placed in containers which are closable, constructed to contain all contents and prevent leakage, appropriately labeled or color coded and closed prior to removal to prevent spillage or protrusion of contents during handling.
- Broken glassware must be picked up using mechanical means (e.g. tongs, dustpan and brush) and disposed of in an appropriate sharps container.
- Contaminated sharps are discarded as soon as possible into containers that are closable, puncture-resistant, leak proof on sides and bottoms and appropriately labeled or color coded. Sharps disposal containers are available through supervisors and must be located where sharps are being used.

2. When disposing of biohazardous waste:

- Supervisors must instruct employees in the proper disposal and procedures when using biohazard bags. Please read the Autoclaving Protocol posted near all autoclaves. KGI maintains a Medical Waste Generators license and is highly regulated by the Cal State Health Department.
- Biohazard bags MUST be autoclaved before they can be disposed of in the regular trash.
- Waste containers must be in an upright position and replaced routinely.
- Containers with blood or OPIM must be closed after use, for disposal or for transfer to an autoclave.
- Supervisors may request for certain biologicals to be picked up by Biological Waste Management where autoclaving is not feasible. Please contact Laboratory Safety Manger Jasmine Yu to arrange this service.

IV. HIV, HBV, and HCV Research Laboratories

Additional requirements apply to laboratories engaged in the culture, production, concentration, experimentation, and manipulation of HIV, HBV, or HCV. Currently, KGI has no laboratories that work HIV, HBV, or HCV at BSL-2 practices.

V. Hepatitis B Vaccination

The PI/Supervisor will ensure that all persons in the laboratory area who are determined to have occupational exposure to human bloodborne pathogens are offered Hepatitis B vaccination within 10 days of starting work. The form is located in Onboarding Medical Surveillance Memo and Checklist (Appendix 3).

The Hepatitis B vaccination series is available at no cost to all employees identified in the exposure determination section of this plan. Vaccination is encouraged unless: 1)documentation exists that the employee has previously received the series; 2) antibody testing reveals that the employee is immune; or 3) medical evaluation shows the vaccination is contraindicated. Information will be provided to employees during online training about hepatitis B vaccinations, addressing safety, benefits, efficacy, methods of administration and availability.

Specific information can be found at: cdc.gov/vaccines/hcp/vis/vis-statements/hep-b.html

Each employee must indicate whether they wish to be vaccinated or not by signing a Onboarding Medical Surveillance Memo and Checklist form. Employees who decline vaccination may request and obtain the vaccination at a later date at no cost. The Declaration of Vaccination Preference must be filed with Human Resources. To receive your vaccination, contact the Human Resources to request a referra

VI. Procedures: Post-Exposure Evaluation and Follow-up

Every individual handling material with potential BBP has the responsibility to report any exposure to their PI or supervisor, and CABS. Medical information will be held confidential and will not be released without permission of the employee.

A. Immediate Actions to be Taken After an Exposure

1. Stop all activity.
2. Rinse membranes with water (or eyewash solution) for a minimum of 3-5 minutes as soon as possible following an exposure incident.
3. Cleanse all exposed skin with soap and water as soon as possible following an exposure incident.
   a. Avoid introducing abrasions in skin – do not scrub or use abrasives.
   b. Rinse for a minimum of 3-5 minutes.
4. Notify your supervisor, PI and/or CABS, and Human Resources. All exposures must be reported to the supervisor and CABS, even if no treatment is required. CUC Disability Management may need to be contacted regarding potential Worker's Compensation reporting, and Cal/OSHA may need to be contacted regarding reporting of certain serious injuries or illnesses occurring at work.
5. Record the location and time of the incident.
6. The supervisor will work with CABS and Human Resources for reporting and follow up.

B. Supervisors and/or Human Resources ensure that the health care professional evaluating an employee after an exposure incident receives the following:

A description of the employee's job duties relevant to the exposure incident:

   a. Circumstances of exposure.
   b. Route(s) of exposure.
   c. Upon employee consent, relevant employee records, including vaccination status.

C. Medical Evaluation and Follow up

Medical evaluation and follow-up will be conducted by the treating physician and will include:

   a. Documentation of the routes of exposure, when, and how the exposure occurred.
   b. Obtaining consent and making arrangements to have the source individual tested as soon as possible to determine HIV, HCV and HBV infectivity, if possible; documenting that the source individual's test results were conveyed to the employee's health care provider

      Note: If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.

   c. Assuring that the exposed employee is provided with the source individual's test results and providing information about applicable disclosure laws and regulations concerning the identity and infectious state of the source individual (e.g. laws protecting confidentiality).

d. After obtaining consent, collecting exposed employee's blood as soon as feasible after an exposure incident and testing blood for baseline HBV, HCV and HIV serological status.

Note: If the employee does not give consent for HIV,HBV, or HCV serological testing during collection of blood for baseline testing, the baseline blood sample will be preserved for at least 90 days; if the exposed employee elects to have the baseline sample tested during this waiting period, testing will be performed as soon as feasible.

D. Procedures for Evaluating the Circumstances Surrounding an Exposure Incident

1. CABS will review the circumstances of all exposure incidents to determine:

   a. Engineering controls in use at the time

   b. Work practices followed

   c. A description of the device being used (including type and brand), if applicable

   d. Protective equipment or clothing that was used at the time of exposure incident

   e. Location of incident

   f. Procedure being performed when the incident occurred

   g. Employee training

2. All percutaneous injuries from contaminated sharps will be recorded in an incident file by Laboratory Safety Manager Jasmine Yu.

3. If revisions to this ECP are necessary, CABS will ensure that appropriate changes are made. (Changes may include an evaluation of safer devices, adding employees to the exposure determination list, etc.)

V. Communication Of Hazards: Employee Training

A. Site Specific Training

Principal Investigators or supervisors must provide lab specific training for researchers handling any cultures or other materials potentially containing human blood/bloodborne pathogens, OPIM or Human Derived Tissue Cultures. Training must include safety training specific for the duties, equipment, and protocols relative to each employee. Each participant must be trained for site specific spill clean-up for their area prior to assignment to tasks where occupational exposure may occur.

a. Proficiency is demonstrated: Training must ensure that employees have sufficient proficiency in working with human pathogens or tissue cultures prior to being allowed to work with any materials potentially containing human bloodborne pathogens. Appendix I resents suggested content and template.

b. Site Specific Training Documents: Trainings must be documented on ECP, kept in Laboratory Safety Files Binder and maintained by the PI or lab manager for at least three (3) years.

B. General training

The main elements of the Bloodborne Pathogens Standard training will be provided through Collaborative Institutional Training Initiative (CITI)—citiprogram.org.

Please make sure to use your kgi.edu email address. Navigate to the Biosafety & Biosecurity (BSS) modules, select "Lab Faculty and Staff", and complete all required trainings.

a. The first Bloodborne Pathogens training will occur within 10 days of starting work with human specimens, and annually thereafter. IBC will maintain safety training documents for at least (3) years.

C. Signs and Labels

All work areas and containers are labeled in accordance with the provisions of the Bloodborne Pathogens Standard. The Red Biohazard Symbol label will be used in KGI laboratories for human blood and other potentially infectious materials.

D. Bloodborne Pathogens Standards

At KGI, the California OSHA Bloodborne Pathogen Standard (8 CCR 5193), is available for review at dir.ca.gov/title8/5193.html and takes precedence over the Federal OSHA Bloodborne Pathogen Standard (29CFR 1910.1030), https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030.

Record Keeping

A. Training Records

Records of training conducted by Laboratory Safety Manager (LSM) are maintained by LSM for at least 3 years. PI's and Supervisors are responsible for maintaining records of training done on-site for at least 3 years.

1. The training records include:

a. The dates of the training sessions

b. The contents or a summary of the training sessions

c. The names and qualifications of the persons conducting the training

d. The names and job duties of all persons attending the training sessions

Employee training records will be provided upon request to the employee or the employee's authorized representative within 15 working days. Such requests should be addressed to the employee's supervisor.

B. Medical Records

Medical records are maintained for each employee with occupational exposure in accordance with California Code of Regulation, Title 8, Section 3204, “Access to Employee Exposure and Medical Records” All information is confidential. Information will not be disclosed without the employee’s written consent, except as required or permitted by law. Medical/vaccination Records shall be maintained by Human Resources for the duration of employment plus 30 years per Section 3204 regulations.

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

C. Sharps Injury Log

All percutaneous injuries from contaminated sharps are also recorded in an Incident Report file (Appendix 4).

All incident reports must include at least:

1. Date of the injury
2. Type and brand of the device involved (syringe, suture needle)
3. Department or work area where the incident occurred
4. Explanation of how the incident occurred
5. A Root Cause Analysis

This report is reviewed as part of the annual program evaluation and maintained for at least 5 years following the end of the calendar year covered. If a copy is requested by anyone, it must have any personal identifiers removed from the report. All sharps injuries must be entered on the Cal OSHA Log 300 as an injury. This also involves reporting to Human Resources so the incident may be recorded on the Cal/OSHA Log 300. Exposures of blood or contaminated material should recorded as an illness, sharps injuries/punctures should be recorded as an injury.

Verification Statement

I have read and understood the requirements of the KGI Bloodborne Pathogen Program and the Exposure Control Plan. The information I have been provided in this form is accurate and verifiable during audits of this work area and corresponding department records. A copy of this signed, completed form is on file with lab records maintained by the Supervisor or PI.

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Signature: Date:

Appendix I: Bloodborne Pathogens Site-Specific Training Checklist

In order to complete the training requirements please review the site-specific training items listed below with the employee. Check each item as it is reviewed or write N/A if it is not applicable to your work area.

The following items MUST be completed:

Administrative

- [ ] Ensure that online components have been completed (BBP training and quiz)
- [ ] Declaration of Vaccination Preference must be signed and submitted

Spill Kits and Personal Protective Equipment (PPE) (gloves, eye protection, ventilation devices, etc.)

- [ ] Location and availability of spill kits and review of kit contents
- [ ] Location of PPE, and maintenance of reusable PPE, if applicable (cleaning, storage and inspection)

Engineering Controls

- [ ] Location, operation, and use of eyewash facilities
- [ ] Explanation of engineering controls that are specific to the work environment (examples: sharps containers, biological safety cabinets, mechanical pipettes etc.).

Biohazardous Waste Handling

- [ ] Discussion and clarification of which wastes generated in the work area are considered biohazardous and how those items are to be segregated, stored, transported, treated and disposed of.
- [ ] Review of hazardous waste pick-up procedures if applicable to the work area

Disinfection & Spill Response/Exposure Incident Response/Exposure Control Plan

- [ ] Review of the procedure for handling spills of potentially infectious materials
- [ ] Reminder that non-disposable items that were touched with dirty gloves must be decontaminated before being put back into the spill cleanup kit
- [ ] Who to contact for spill cleanup supplies, and for reporting

Engineered sharps protection is required for all use of sharps with blood or other potentially infectious materials (Mark all that apply.)

- [ ] No work involves sharps and blood or other potentially infectious materials-or-select the appropriate material/s from the list below:
- [ ] Needle-free injectors
- [ ] Self-sheathing scalpels
- [ ] Self-sheathing hollow bore needles
- [ ] Self-sheathing injectable needles
- [ ] Plastic vacutainer tubes
- [ ] Plastic coated hematocrit tubes
- [ ] Other: please describe:

Name of Trainee:

Name of Trainer:

Date of Training:

Appendix 2: Exposure Determination Form

Please identify positions and task in the laboratory which present the possibility of occupational exposure to human blood or other potentially infectious materials.

The materials used in this laboratory which may cause exposure to human bloodborne pathogens include the following:

Mark all that apply

- ☐ Human blood, serum, plasma, blood products, components, or cells
- ☐ Human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and anybody fluid visibly contaminated with blood, and all body fluids in situations where it is difficult to differentiate between fluids such as emergency response
- ☐ Any unfixed human tissue or organ (other than intact skin)
- ☐ Cell, tissue, or organ cultures derived from humans.

Other Bloodborne pathogens may be present in blood, body fluids, tissues, and other potentially infectious materials (OPIM). Other potentially infectious materials include:

Mark all that apply

- ☐ Semen
- ☐ Vaginal secretions
- ☐ Cerebrospinal fluid
- ☐ Synovial fluid
- ☐ Pericardial fluids
- ☐ Pleural fluid
- ☐ Amniotic fluid
- ☐ Saliva in dental procedures
- ☐ Peritoneal fluids
- ☐ All body fluids where it is difficult to differentiate between fluids
- ☐ Body fluids visibly contaminated with blood or in situations where it is impossible to differentiate fluids

The job classifications in which all or some employees may have occupational exposure to human bloodborne pathogens include the following: (Check applicable groups and list the names of persons potentially at risk.)

Job Classification or Student Name	Name of Person with Occupational Exposure	Select Task (s) letter from Example list below and place next to the employee doing the task.

The tasks and procedures used in this laboratory which may pose risk of exposure to human bloodborne pathogens include the following: (Mark all that apply for example: if the employee will be doing task A, B, and C, place each letter by employees name. For “other” write in the task next to other, and place “other” next to the employee’s name.)

Examples of Tasks:

A. Injections (into humans or into animals using human specimens)

B. Manipulation of human-derived materials including cells, and items contaminated with such materials.

C. Handling lab ware and wastes that are contaminated with human-derived materials.

D. Maintenance/repair of lab-associated plumbing (as determined by lab risk assessment).

E. Spill response involving human blood or OPIM.

F. Other use of needles with human specimens

G. Preparing, dissecting, cutting, or otherwise handling human tissue

H. Pipetting, mixing, or vortexing human blood, fluid or tissue

I. Centrifuging human blood, fluid or tissue

J. Handling tubes or other containers of human blood, fluid or tissue

K. Handling contaminated sharps or other contaminated waste

L. Cleaning up spills of human blood or other body fluids

M. Preparing or handling primary human cell cultures

N. Handling lab ware and wastes that are contaminated with human-derived materials.

O. Maintenance/repair of lab-associated plumbing (as determined by lab risk assessment).

P. Spill response involving human blood or OPIM.

Q. Others

Appendix 3: Onboard Medical Surveillance Memo

To: All Existing and Incoming Laboratory Faculty, Staff, and Students

From: KGI Institutional Biosafety and Lab Safety Committees Larry Grill, Dean of Research

Re: Medical Surveillance and Occupational Health Programs

As an incoming faculty member, staff member, or student who will be working in one of KGI's laboratories, the Institute is required to take steps to evaluate hazards that may be a part of your job. As part of this preventative process, vaccinations must be offered to all incoming laboratory staff based on potential exposure, as determined by your supervisor. Vaccinations are optional, but are strongly recommended.

Please consult with your faculty laboratory supervisor, complete the risk assessment (attached), sign this form, have your faculty laboratory supervisor sign this form, and return it to Human Resources within ten days of hire (for incoming personnel) or within ten days of receipt (for existing personnel). You and your faculty laboratory supervisor may determine that no vaccines are needed, or you may opt out by checking the appropriate box, below.

If you have questions about job-related exposures or illnesses, or any of the vaccina tions listed, please contact Jay Brakensiek, Manager, Environmental Health & Safety for The Claremont Colleges Services (TCCS) at 909.621.8538 or via email at JayB@Claremont.edu.

- Hepatitis A Virus (HAV) vaccination is recommended for employees whose work activities potentially place them in contact with sewage or feces such as child care workers, plumbers, and those working with non-human primates. A 2-dose series of injections is recommended for pre-exposure prophylaxis to develop adequate antibodies to the HAV infection.
- Hepatitis B Virus (HBV) vaccination is highly recommended for employees whose work activities potentially expose them to infectious materials such as human or non-human primate blood, blood products, body fluids, cells, (established) cell lines, or tissues. This includes lab staff, health care workers, facilities, and custodial workers.
- Tetanus (lockjaw, painful spasms of all muscles) is a serious disease caused by the bacteria clostridium letani that enters the body through a cut, open wound, or puncture. Employees working in facilities management, health care or animal research environments should be knowledgeable of the date of their tetanus immunization- usually received in 3 doses during childhood. If one is unsure of the date, a booster dose is recommended as well as every 10 years thereafter to maintain protective antibodies against tetanus. Tetanus toxoid injection is often combined with Diptheria vaccine (Td).

Risk Assessment

	YES	NO
1. Are you working with any biological hazards?	☐ Complete 1a–1b	☐ Go to Q2
1a. What is the Biosafety Risk Group? **Indicate agent used:**	☐ Biosafety Risk Group 1 ☐ Biosafety Risk Group 2	☐
1b. Is there a splash or aerosol potential?	☐	☐
1c. Is there an airborne exposure hazard?	☐	☐
1d. Are respirators used?	☐	☐
1e. What is the Facility and Work Practices Biosafety level?	☐ BSL 1 ☐ BSL 2	☐
1d. What type of live animals are used?	☐ Birds ☐ Mice ☐ Rats ☐ Other (List)	☐
Are any carcinogens used?	☐	☐
Dusty/animal allergen environment	☐	☐
Physical hazards (e.g., high noise, other	☐	☐
Electrical hazards	☐	☐
Types of chemical used	☐ Organic Solvents ☐ Aqueous Reagents ☐ Common Cleaning ☐ Antineoplastic ☐ Respiratory Sensitizers ☐ Acute Poison ☐ Other (List)	☐ None
Additional safety programs required?	☐ Hearing Conservation ☐ Respiratory Protection	☐ None

I am a new: Faculty Staff Student

We have reviewed the foregoing list and have identified that (print name) should receive the following vaccinations: Hep A Hep B Tetanus

New Hire Name (Printed)

New Hire Signature: Date:

Faculty Lab Supervisor Name (Printed)

Faculty Lab Supervisor Signature: Date:

Training Requirements

At hire, each KGI employee who will be working in one of KGI's laboratories must take in-person and online Lab Safety training. Please contact Laboratory Safety Manager Jasmine Yu (jasmine_yu@KGI.edu or 909.607.8698) to arrange for a laboratory safety orientation and training.

For faculty, staff and students who will be working in a lab subject to an Institutional Biosafety Committee (IBC) protocol, you must complete mandatory online Biosafety training. Please check with your lab supervisor to determine whether the lab is subject to an IBC protocol. If so, please navigate to the Collaborative Institutional Training Initiative (CITI, citiprogram.org) website, choose "Log In Through My Institution" and use your KGI single sign-on credentials to affiliate yourself with KGI. Please make sure to use your "kgi.edu" email address. Navigate to the Biosafety & Biosecurity (BSS) modules, select "Lab Faculty and Staff", and complete all required trainings. For those labs using animal or human blood products, you will be required to take an annual refresher course on OSHA Bloodborne Pathogen safety via CITI.

PLEASE CONSENT TO OPTION 1, 2, OR 3 ONLY

Option 1 | Consent to be vaccinated or receive titer to confirm immunity

I have had an opportunity to ask questions and understand the benefits and risks of hepatitis B vaccination.

I understand that I must have three doses of vaccine to confer immunity. However, as with all medical treatment, there is no guarantee that I will become immune or that I will not experience an adverse side effect from the vaccine. I request that it be given to me.

Signature: Date:

Option 2 | History of vaccination/immunity

I have received the hepatitis B vaccine Date:

Signature: Date:

The employer shall ensure that employees who decline to accept a recommended vaccination offered by the employer sign and date the following statement as required by California Code of Regulations, Title 8, subchapter 7; Group 15, Article 109; section 5193, subsection (f)(2)(D):

Option 3 | Declination to be vaccinated

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine at no charge. I decline the hepatitis B vaccine, at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

I am declining the vaccination.

Signature: Date:

Appendix 4: Incident Report Form

A. Employee's Report of Injury Form

Instructions: Employees shall use this form to report all work related injuries, illnesses, or "near miss" events (which could have caused an injury or illness) – no matter how minor. This helps us to identify and correct hazards before they cause serious injuries. This form shall be completed by employees as soon as possible and given to a supervisor for further action.

I am reporting a work related: ☐ Injury ☐ Illness ☐ Near miss

YourName:

Jobtitle:

Supervisor:

Have you told your supervisor about this injury/near miss? ☐ Yes ☐ No

Date of injury/near miss: Time of injury/near miss:

Names of witnesses (if any):

Where, exactly, did it happen?

What were you doing at the time?

Describe step by step what led up to the injury/near miss. (continue on the back if necessary):

What could have been done to prevent this injury/near miss?

What parts of your body were injured? If a near miss, how could you have been hurt?

Did you see a doctor about this injury/illness? Yes No

If yes, whom did you see?

Doctor's phone number:

Date: Time:

Has this part of your body been injured before? Yes No

If yes, when? Supervisor:

Signature: Date:

B. Supervisor's Accident Investigation Form

Name of Injured Person

☐ Male ☐ Female

Date of Birth

Telephone Number

Address

City State Zip

What part of the body was injured? Describe in detail.

What was the nature of the injury? Describe in detail.

Describe fully how the accident happened? What was employee doing prior to the event? What equipment, tools being using?

Names of all witnesses:

Exact location of event: What caused the event?

Time of Event

Were safety regulations in place and used? If not, what was wrong?

Employee went to doctor/hospital? Yes No

Doctor's Name

Hospital Name

Recommended preventive action to take in the future to prevent reoccurrence.

Supervisor Signature: Date:

C. Incident Investigation Report

Instructions: CABS shall complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that could have resulted in a serious injury or illness.)

This is a report of a: ☐ Death ☐ Lost Time ☐ Dr. Visit Only ☐ First Aid Only ☐ Near Miss

Date of incident:

This report is made by: ☐ Employee ☐ Supervisor ☐ Team ☐ Other

STEP 1: INJURED EMPLOYEE (COMPLETE THIS PART FOR EACH INJURED EMPLOYEE)

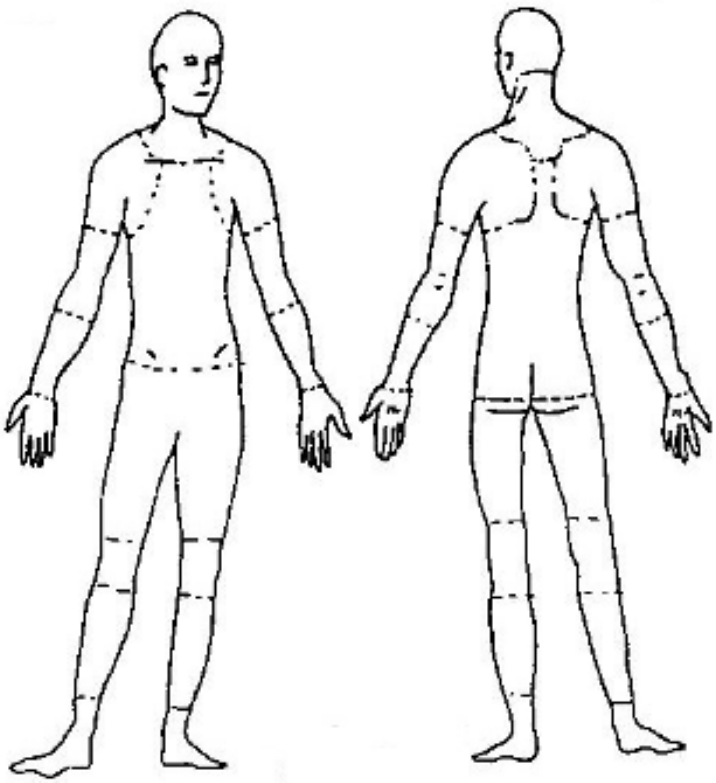
Name:

Sex: ☐ Male ☐ Female

Age:

Department: Job title at time of incident:

Part of body affected: (mark all that apply)



Nature of injury: (most serious one)

- ☐ Abrasion, scrapes
- ☐ Amputation
- ☐ Broken bone
- ☐ Bruise
- ☐ Burn (heat)
- ☐ Burn (chemical)
- ☐ Concussion (to the head)
- ☐ Crushing Injury
- ☐ Cut, laceration, puncture
- ☐ Hernia
- ☐ Illness
- ☐ Sprain, strain
- ☐ Damage to a body system:
- ☐ Other

This employee works:

- Regular full time
- Regular part time
- Seasonal
- Temporary

Months with this employer: Months doing this job:

STEP 2: DESCRIBE THE INCIDENT

Exact location of the incident:

Exact time:

What part of employee's workday?

- Entering or leaving work
- During break
- Doing normal work activities
- Working overtime
- During meal period
- Other

Names of witnesses (if any):

Number of attachments:
Written witness statements: Photographs: Maps / drawings:

What personal protective equipment was being used (if any)?

Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.

STEP 3: WHY DID THE INCIDENT HAPPEN?

Unsafe workplace conditions:
(Check all that apply)

- [ ] Inadequate guard
- [ ] Unguarded hazard
- [ ] Safety device is defective
- [ ] Tool or equipment defective
- [ ] Workstation layout is hazardous
- [ ] Unsafe lighting
- [ ] Unsafe ventilation
- [ ] Lack of needed personal protective equipment
- [ ] Lack of appropriate equipment / tools
- [ ] Unsafe clothing
- [ ] No training or insufficient training
- [ ] Other:

Unsafe acts by people: (Check all that apply)

- [ ] Operating without permission
- [ ] Operating at unsafe speed
- [ ] Servicing equipment that has power to it
- [ ] Making a safety device inoperative
- [ ] Using defective equipment
- [ ] Using equipment in an unapproved way
- [ ] Unsafe lifting
- [ ] Taking an unsafe position or posture
- [ ] Distraction, teasing, horseplay
- [ ] Failure to wear personal protective equipment
- [ ] Failure to use the available equipment/tools
- [ ] Other:

Why did the unsafe conditions exist?

Why did the unsafe acts occur?

Is there a reward (such as “the job can be done more quickly”, or “the product is less likely to be damaged”) that may have encouraged the unsafe conditions or acts? [ ] Yes [ ] No

If yes, describe:

Were the unsafe acts or conditions reported prior to the incident? ☐ Yes ☐ No

Have there been similar incidents or near misses prior to this one? ☐ Yes ☐ No

STEP 4: HOW CAN FUTURE INCIDENTS BE PREVENTED?

What changes do you suggest to prevent this incident/near miss from happening again?

- ☐ Stop this activity
- ☐ Guard the hazard
- ☐ Train the employee(s)
- ☐ Train the supervisor(s)
- ☐ Redesign task steps
- ☐ Redesign work station
- ☐ Write a new policy/rule
- ☐ Enforce existing policy
- ☐ Routinely inspect for the hazard
- ☐ Personal Protective Equipment
- ☐ Other:

What should be (or has been) done to carry out the suggestion(s) checked above?

STEP 5: WHO COMPLETED AND REVIEWED THIS FORM? (PLEASE PRINT)

Written by:

Department:

Title:

Date:

Names of investigation team members:

Reviewed by:

Title:

Date: