

# Cal Poly Bloodborne Pathogen Program and Exposure Control Plan

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## 1. SCOPE and APPLICATION

This program applies to employees, (staff, faculty and paid student workers) who may be exposed to human blood or other infectious materials (OPIM) as part of their job function.

## 2. ROLES AND RESPONSIBILITIES

### 2.1 EHS is responsible for:

- A. Reviewing program document as needed to maintain compliance with current regulation and executive order.
- B. Establishing the Campus Exposure Control Plan
- C. Assigning training to identified employees who this program applies to
- D. Reviewing training content identified in this program to verify compliance with current regulation
- E. Conduct program reviews
- F. Communicate any changes related to the written program, training content or program review to stakeholders.

### 2.2 VP/Deans are responsible for:

- A. Communicating, promoting and enforcing the policy and the program guidelines in areas under their control.
- B. Provide the resources necessary to obtain the appropriate safety equipment to reduce the risk of exposure to affected employees.

### 2.3 Directors/Department Chairs are responsible for:

- A. Responsible for providing a list of employees covered by this program to EH&S.
- B. Make available Hepatitis B vaccinations at no charge to employee in accordance with this program.

**2.4 Supervisors/leads are responsible for:**

- A. Reporting employees with potential exposure to human blood or other potentially infectious materials (OPIM) to EH&S utilizing Appendix A: Exposure Determination
- B. Reporting changes in technology that eliminate or reduce exposure to bloodborne pathogens to EH&S for inclusion in the campus Exposure Control Plan
- C. Verifying their employees complete blood borne pathogen training prior to working with human blood or OPIM.
- D. Completing self-inspections of work areas with. potential exposure to human blood or OPIM to verify compliance with this program
- E. Report employee exposure to human blood or OPIM utilizing the Work Related Injury/Illness Form on EHS website and reporting to EH&S immediately.

**2.5 Staff are responsible for:**

- A. Completing blood borne pathogen training prior to working with human blood or OPIM.
- B. Reading the Exposure Control Plan .
- C. Adhere to the work practices and procedures of universal precautions and this program.
- D. Report exposure to human blood or OPIM to supervisor immediately.
- E. In addition to the requirements above, staff involved in direct patient care who are potentially exposed to injuries from contaminated sharps shall advise EH&S in the identification, evaluation, and selection of effective engineering and work practice controls,

**3. GENERAL REQUIREMENTS**

**3.1 Exposure Determination**

- A. Cal Poly shall complete occupational exposures determinations based upon an employee's reasonable potential for exposure to blood or any other infectious materials they may contact during their job duties.
- B. Exposure evaluations are required based on the potential for job-related tasks leading to exposure without regard to the use of personal protective equipment.
- C. The program at Cal Poly is designed to cover those who are at a higher risk of exposure by establishing high, moderate, or low risk exposure categories identified in Appendix A: A1.1 Exposure Determination.
- D. Employees not identified in Appendix A: A1.1, shall complete Appendix A2. Table 1 and return to EH&S for review and inclusion in Appendix A1: Exposure Determination.

**3.2 Exposure Control Plan:**

- A. Cal Poly shall establish, implement and maintain an effective exposure control plan. The exposure control plan contains the following elements:

1. tasks and procedures were faculty staff or student workers have the potential to be exposed to human blood or OPIM
2. Technology that eliminates or reduces exposure to human blood or OPIM
3. Document consideration and implementation of appropriate commercially available needleless systems and needle devices and sharps with engineered sharps injury protection;
4. employee positions with exposure to human blood or OPIM;
5. Injury/Illness or near miss investigations completed for exposures to human blood or OPIM
6. Self-inspection summary with any identified gaps and follow up corrective actions.
7. Shall be reviewed and updated at least annually.

### **3.3 Sharps Injury Log**

- A. Cal Poly shall establish and maintain a Sharps Injury Log with the following information recorded on the Exposure Report Form (Attachment 2) and Sharps Injury Log (Attachment 3).
- B. Each exposure incident shall be recorded on the Sharps Injury Log within 14 working days of the date the incident is reported to the employer.
- C. The information in the Sharps Injury Log shall be recorded and maintained in such a manner as to protect the confidentiality of the injured employee.

### **3.4 Work Practice Controls**

- A. Universal precautions shall be observed to prevent contact with blood or OPIM.
- B. Engineering and Work Practice Controls:
  1. shall be used to eliminate or minimize employee exposure.
  2. shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness;
  3. shall be evaluated and updated on a regular schedule to ensure their effectiveness;
- C. All procedures involving blood or OPIM shall be performed in a manner to minimize splashing, spraying, spattering, and generation of droplets of these substances.
- D. Needleless Systems, Needle Devices and non-Needle Sharps- Specific Requirements:
  1. Needleless systems shall be used for:
    - a. Withdrawal of body fluids after initial venous or arterial access is established;
    - b. Administration of medications or fluids; and
    - c. Any other procedure involving the potential for an exposure incident for which a needleless system is available as an alternative.
  2. Needles with engineered sharps injury protection shall be used for:
    - a. Withdrawal of body fluids;
    - b. Accessing a vein or artery;
    - c. Administration of medications or fluids; and

- d. Any other procedure involving the potential for an exposure incident for which a needle device with engineered sharps injury protection is available.
- 3. Non-Needle Sharps shall include engineered sharps injury protection.
- 4. Exceptions: The engineering control is not required if:
  - a. it is not available in the marketplace
  - b. a licensed healthcare professional directly involved in a patient's care determines, that use of the engineering control will jeopardize the patient's safety or the success of a medical, dental or nursing procedure involving the patient..
  - c. the supervisor or employee can demonstrate by means of objective product evaluation criteria that the engineering control is not more effective in preventing exposure incidents than the alternative used by the employer.
  - d. the supervisor or employee can demonstrate that specific and reliable information is not available on the safety performance of the engineering control, and that the supervisor or employee is actively determining by product evaluation criteria whether use of the engineering control will reduce the risk of exposure incidents occurring in the employer's workplace.
  - e. All exceptions must be documented by the supervisor.
- E. Prohibited Work Practices:
  - 1. Shearing or breaking of contaminated needles and other contaminated sharps.
  - 2. Contaminated sharps shall not be bent, recapped, or removed from devices, except as follows:
    - a. The supervisor can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure; and
    - b. The procedure is performed using a mechanical device or a one-handed technique.
  - 3. Sharps that are contaminated with blood or OPIM 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.
  - 4. Disposable sharps shall not be reused.
  - 5. Clean up will be performed using mechanical means, such as a brush and dust pan, tongs, or forceps, not hands.
  - 6. Contents of sharps containers shall not be accessed unless properly reprocessed or decontaminated.
  - 7. Sharps containers shall not be opened, emptied, or cleaned manually or in any manner which may lead to risk of sharps injury.
  - 8. No pipetting/suctioning by mouth of blood or OPIM is prohibited.
  - 9. No eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses in work areas where there is a reasonable likelihood of occupational exposure.

10. No food and drink shall be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or OPIM are present.
- F. Requirements for Handling Contaminated Sharps:
  1. Perform all procedures involving the use of sharps in connection with patient care using methods designed to minimize the risk of a sharps injury.
  2. Immediately after use, contaminated sharps shall be placed in containers meeting the requirements in Section 3.4.G.
  3. Containers for contaminated sharps shall be:
    - a. Easily accessible to personnel and located close to the area where sharps are used or can be reasonably anticipated to be found;
    - b. Maintained upright throughout use, where feasible; and
    - c. Replaced when before or when fill line is reached.
- G. Requirements for Sharps Containers: All sharps containers for contaminated sharps shall be:
  1. Rigid;
  2. Puncture resistant;
  3. Leakproof on the sides and bottom;
  4. Portable, if portability is necessary to ensure easy access by the user, and
  5. Labeled in accordance Section 3.11 of this document.
  6. Closeable and sealable so that when sealed, the container is leak resistant and incapable of being reopened without great difficulty.
- H. Handling Specimens of Blood or OPIM
  1. Specimens of blood or OPIM shall be placed in a container, which prevents leakage during collection, handling, processing, storage, transport, or shipping.
  2. Container for storage, transport, or shipping shall be labeled or color-coded according to Section 3.11 , and closed prior to being stored, transported, or shipped, except when:
    - a. Universal Precautions are utilized in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens.
    - b. This exemption only applies while such specimens/containers remain within the facility.
  3. Placed in a second container if outside contamination of a container of regulated waste occurs, that is leak-proof and labeled or color-coded to the requirements of this standard.
  4. Placed within a puncture resistant secondary container if the specimen could puncture the primary container.
- I. Servicing or Shipping Contaminated Equipment.
  1. Decontaminate equipment that may become contaminated with blood or OPIM and examine prior to servicing or shipping, unless it can be demonstrated that decontamination of such equipment or portions of such

equipment is not feasible or will interfere with a manufacturer's ability to evaluate failure of the device.

2. A readily observable label in accordance with Section 3.11 shall be attached to the equipment stating which portions remain contaminated.
3. Information concerning all remaining contamination shall be conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping.

J. Cleaning and Decontamination of the Worksite

1. Supervisors/Employees shall ensure that the worksite is maintained in a clean and sanitary condition.
2. Supervisors/Employees shall implement appropriate written methods and schedules for cleaning and decontamination of the worksite.
3. The method of cleaning or decontamination used shall be effective and shall be appropriate for the:
  - a. Location within the facility;
  - b. Type of surface or equipment to be treated;
  - c. Type of soil or contamination present; and
  - d. Tasks or procedures being performed in the area.
4. Clean and decontaminate all equipment and environmental and work surfaces after contact with blood or OPIM no later than at the end of the shift unless required more often as specified below.
5. Clean and decontaminate contaminated work surfaces with an appropriate disinfectant immediately or as soon as feasible when:
  - a. surfaces become overtly contaminated
  - b. there is a spill of blood or OPIM;
  - c. procedures are completed.
6. Clean and decontaminate all bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or OPIM on a regularly scheduled basis and cleaned and decontaminated or as soon as feasible upon visible contamination.
7. Remove and replace protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, as soon as feasible when they become overtly contaminated or at the end of the work shift if they may have become contaminated during the shift.

K. Hygiene in areas working with blood, or OPIM

1. Departments must provide handwashing facilities, which are readily accessible to employees.
2. If provision of handwashing facilities is not feasible, an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes must be provided. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
3. All employees must wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

4. Employees must wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or OPIM.
- L. Laundry
  1. Contaminated laundry shall be handled:
    - a. as little as possible with a minimum of agitation,
    - b. shall be bagged or containerized at the location where it was used and not sorted or rinsed in the location of use,
    - c. shall be placed and transported in bags or containers labeled or color-coded in accordance with Section 3.11 unless the facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.
    - d. placed and transported in bags or containers that prevent soak-through and/or leakage of fluids to the exterior.
  2. All employees who have contact with contaminated laundry must wear protective gloves and other appropriate personal protective equipment.
  3. If shipping contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with Section 3.11.

### **3.5 Personal Protective Equipment**

- A. The employer shall provide, at no cost to the employee, appropriate personal protective equipment
- B. Personal protective equipment that is appropriate is determined by the Assess module (laboratory hazard assessment) in the Risk and Safety Solution (RSS) software.
- C. The laboratory hazard assessment must be certified by all employees and recertified annually,
- D. The supervisors shall ensure that the employee uses appropriate personal protective equipment unless:
  1. it can be shown that patient care or public safety services would have been impacted,
  2. this rare occurrence (3.5.C.1) shall be documented by the supervisor.
- E. Department shall clean, launder, and dispose of personal protective equipment of this standard, at no cost to the employee
- F. Removal:
  1. If a garment(s) is penetrated by blood or OPIM, the garment(s) shall be removed immediately or as soon as feasible.
  2. All personal protective equipment shall be removed prior to leaving the work area.



3. After removal of personal protective equipment, place in an appropriately designated area or container for storage, washing, decontamination or disposal.
- G. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, OPIM
  1. Disposable (single use) gloves shall be replaced as soon as practical when contaminated or as soon as feasible when their ability to function as a barrier is compromised.
  2. Disposable (single use) gloves shall not be washed or decontaminated for re-use.
  3. Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. They must be discarded when their ability to function as a barrier is compromised.
  4. If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:
    - a. Periodically reevaluate this policy;
    - b. Make gloves available to all employees who wish to use them for phlebotomy;
    - c. Not discourage the use of gloves for phlebotomy; and
    - d. Require that gloves be used for phlebotomy in the following circumstances:
      1. the employee has cuts, scratches, or other breaks in his or her skin;
      2. the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and
      3. the employee is receiving training in phlebotomy
- H. Masks, Eye Protection, Face Shields, and Respirators
  1. Masks in combination with eye protection devices shall be worn whenever splashes, spray, spatter, or droplets of blood or OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated.
  2. Where respiratory protection is used, the provisions of the Respirator Program must be in place. NOTE: Surgical masks are not respirators.
- I. Gowns, Aprons, and Other Protective Body Clothing
  1. Gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations.
  2. The type and characteristics will depend upon the task and degree of exposure anticipated and noted in the laboratory hazard assessment on RSS (see Sec. 3.5.B). .
  3. Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopedic surgery).

### **3.6. Post-exposure Evaluation and Follow-up**

- A. The department shall make available to all employees who have had an occupational exposure to blood or OPIM the following:
  1. hepatitis B vaccine



2. vaccination series
  3. post-exposure evaluation
  4. Follow-up for bloodborne pathogens exposure to all employees who have had an exposure incident.
- B. If a department is also acting as the evaluating health care professional, the employee may refuse to consent to post-exposure evaluation and follow-up from the employer-healthcare professional. The department shall make immediately available to exposed employees a confidential medical evaluation and follow-up from a healthcare professional other than the exposed employee's employer
- C. Designated first aid providers who have occupational exposure are not required to be offered pre-exposure hepatitis B vaccine if the following conditions exist:
1. The primary job assignment of such designated first aid providers is not the rendering of first aid.
  2. Any first aid rendered by such persons is rendered only as a collateral duty responding solely to injuries resulting from workplace incidents, generally at the location where the incident occurred.
  3. This exception does not apply to designated first aid providers who render assistance on a regular basis, where injured employees routinely go for such assistance, and emergency or public safety personnel who are expected to render first aid in the course of their work.
- D. All unvaccinated first aid providers who have rendered assistance in any situation involving the presence of blood or OPIM, regardless of whether an actual exposure incident occurred, will be provided all provisions of follow-up care of this section.
1. All first aid incidents involving the presence of blood or OPIM shall be reported to the employer before the end of work shift during which the first aid incident occurred.
  2. Report following the provisions in Section 3.8 below.
  3. Provide bloodborne pathogens training program that includes the specifics of the reporting requirements and of this exception.
  4. The full hepatitis B vaccination series will be made available as soon as possible, but in no event later than 24 hours, to all unvaccinated first aid providers who rendered assistance in any situation involving the presence of blood or OPIM.
- E. The department must implement a procedure to ensure that all of the provisions of this exception are complied with if pre-exposure hepatitis B vaccine is not to be offered to employees meeting the conditions of of this exception.
- F. The department shall ensure that all medical evaluations and procedures, including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:
1. Made available at no cost to the employee;
  2. Made available to the employee at a reasonable time and place;
  3. Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and
  4. Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place.

- G. The department shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

### **3.7 Hepatitis B Vaccination**

- A. Hepatitis B vaccination shall be made available after the employee has received the training required in this program and within 10 working days of initial assignment to all employees who have occupational exposure unless
1. the employee has previously received the complete hepatitis B vaccination series,
  2. antibody testing has revealed that the employee is immune,
  3. or the vaccine is contraindicated for medical reasons.
- B. Participation in a prescreening program is not a prerequisite for receiving hepatitis B vaccination.
- C. If employee initially declines hepatitis B vaccination but later decides to accept the vaccination; the department shall make available hepatitis B vaccination at that time.
- D. The department shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement in Attachment 1: Hepatitis B Declination Form.
- E. If a routine booster dose(s) of hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available.

### **3.8 Post-exposure Evaluation and Follow-up**

- A. Following a report of an exposure incident, the department shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including the following elements:
1. Report the injury to Worker's Compensation using the [Work Related Injury/Illness Form](#) and if applicable, the [Claim Form DWC 1](#) within 24 hours.
  2. In addition, the supervisor must document the route(s) of exposure using the Exposure Report Form, (Attachment 2).
  3. The supervisor shall identify and document the source individual, unless they can establish that identification is infeasible or prohibited by state or local law;
  4. The source individual's blood shall be tested as soon as feasible after consent is obtained in order to determine HBV, HCV and HIV infectivity.
  5. If consent is not obtained, the supervisor shall establish that legally required consent cannot be obtained.
  6. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.
- B. When the source individual is already known to be infected with HBV, HCV or HIV, testing for the source individual's known HBV, HCV or HIV status need not be repeated.

- C. Source individual's testing results shall be made available to the exposed employee, and the employee shall be informed that this is confidential information.
- D. The department shall provide for collection and testing of the employee's blood for HBV, HCV and HIV serological status as follows;
  - 1. Exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.
  - 2. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.
  - 3. Additional collection and testing shall be made available as recommended by the U.S. Public Health Service.
  - 4. The employer shall provide for post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;
- E. The employer shall provide for counseling and evaluation of reported illnesses.

### **3.9 Information Provided to the Healthcare Professional**

- A. The supervisor shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:
  - 1. copy of this regulation;
  - 2. description of the exposed employee's duties as they relate to the exposure incident;
  - 3. documentation of the route(s) of exposure and circumstances under which exposure occurred;
  - 4. results of the source individual's blood testing, if available; and
  - 5. all medical records relevant to the appropriate treatment of the employee including vaccination status, which are the employer's responsibility to maintain.

### **3.10 Healthcare Professional's Written Opinion**

- A. The supervisor shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion:
  - 1. within 15 days of the completion of the evaluation.
  - 2. It shall include whether hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.
- B. The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:
  - 1. That the employee has been informed of the results of the evaluation; and
  - 2. That the employee has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment.
- C. All other findings or diagnoses shall remain confidential and shall not be included in the written report.

### **3.11. Communication of Hazards to Employees**

- A. Labels

1. Warning labels shall be affixed to
  - a. containers of regulated waste,
  - b. refrigerators and freezers containing blood or OPIM;
  - c. other containers used to store, transport or ship blood or OPIM..
2. Labels shall include the following:
  - a. Biohazard legend below in fluorescent orange or orange-red
  - b. Labels shall be with lettering and symbols in a contrasting color.
  - c. Labels shall be an integral part of the container or affixed to the container by any method that prevents their loss or unintentional removal.



**BIOHAZARD**

BIOHAZARDOUS WASTE or SHARPS WASTE

3. Red bags or red containers may be substituted for labels except for sharp containers or regulated waste red bags.
4. Bags used to contain regulated waste shall be color-coded red and shall be labeled as biohazard.
5. Labels required for contaminated equipment shall be labeled as a biohazard and must state which portions of the equipment remain contaminated.
6. Exemptions from this labeling requirement:
  - a. Containers of blood, blood components, or products that are labeled as to their contents and have been released for transfusion or other clinical use
  - b. Individual containers of blood or OPIM that are placed in a labeled container during storage, transport, shipment or disposal
  - c. Regulated waste that has been decontaminated need not be labeled or color-coded.

### **3.12 Information and Training**

- A. Departments shall ensure that all employees with occupational exposure participate in a training program provided at no cost to the employee and during working hours.

- B. Material appropriate in content and vocabulary to educational level, and literacy of employees shall be used.
- C. Training shall be provided as follows:
  - 1. At the time of initial assignment to tasks where occupational exposure may take place;
  - 2. At least annually thereafter
  - 3. The training program shall contain at a minimum the following elements:
    - 1. Copy and Explanation of Standard;
    - 2. Epidemiology and Symptoms;
    - 3. Modes of Transmission;
    - 4. Employer's Exposure Control Plan;
    - 5. Risk Identification;
    - 6. Methods of Compliance;
    - 7. Decontamination and Disposal;
    - 8. Personal Protective Equipment;
    - 9. Hepatitis B Vaccination information;
    - 10. Emergency. Information;
    - 11. Exposure Incident and reporting information for Sharps Injury Log;
    - 12. Post-Exposure Evaluation and Follow-Up;
    - 13. Signs and Labels;
    - 14. An opportunity for Questions and Answers.
  - 4. The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace.

### **3.13 Recordkeeping**

- A. Medical Records
  - 1. The department shall establish and maintain an accurate record for each employee with occupational exposure.
  - 2. This record shall include:
    - a. Name and employee identification number of the employee;
    - b. Copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination;
    - c. Copy of all results of examinations, medical testing, and follow-up procedures as required;
    - d. Department's copy of the healthcare professional's written opinion as required; and
    - e. Copy of the information provided to the healthcare professional
  - 3. Confidentiality. The department shall ensure that employee medical records are:
    - a. Kept confidential;
    - b. Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

4. The department shall maintain the records required by this section for at least the duration of employment plus 30 years.
- B. Training Records
  1. Training records shall include the following information:
    - a. dates of the training sessions;
    - b. contents or summary of training session
    - c. names and qualifications of persons conducting the training; and
    - d. names and job titles of all persons attending the training sessions.
  2. Training records shall be maintained for 3 years from the date on which the training occurred.
- C. Sharps Injury Log
  1. Sharps Injury Log shall be maintained 5 years from date of exposure incident.
- D. Availability
  1. The department shall ensure that all required records shall be made available upon request to the employee upon request and to the Chief and NIOSH for examination and copying.
- E. Transfer of Records
  1. Cal Poly shall comply with the requirements involving transfer of records set forth in Section 3204: Access to Employee Records.
  2. If Cal Poly ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, Cal Poly will notify NIOSH, at least three months prior to their disposal and transmit them to the NIOSH, if required by the NIOSH to do so, within that three month period.

### **3.14 Regulated Waste (biohazard waste)**

- A. When any container of contaminated sharps is moved from the area of use for the purpose of disposal, the container shall be:
  1. Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping; and
  2. Placed in a secondary container if leakage is possible. The second container shall be:
    - a. Closable;
    - b. Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
    - c. labeled in accordance with Section 3.11 of this document.
- B. Disposal of Other Regulated Waste- Regulated waste not consisting of sharps shall be disposed of in containers that are:
  1. Closable;
  2. Contain all contents and prevent leakage during handling, storage, transport, or shipping;
  3. Labeled and color-coded in accordance with 3.11 of this program
  4. Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

5. Placed in a second container if outside contamination of a container of regulated waste occurs. The second container shall be:
  - a. Closable;
  - b. Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
  - c. Labeled and color-coded in accordance with Section 3.11,
  - d. Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

### END of Requirements

#### 4. DEFINITIONS:

**Biological Cabinet**:- a device enclosed except for necessary exhaust purposes on three sides and top and bottom, designed to draw air inward by means of mechanical ventilation, operated with insertion of only the hands and arms of the user, and in which virulent pathogens are used. Biological cabinets are classified as:

- (1) Class I: A ventilated cabinet for personnel protection with an unrecirculated inward airflow away from the operator and high-efficiency particulate air (HEPA) filtered exhaust air for environmental protection.
- (2) Class II: A ventilated cabinet for personnel, product, and environmental protection having an open front with inward airflow for personnel protection, HEPA filtered laminar airflow for product protection, and HEPA filtered exhaust air for environmental protection.
- (3) Class III: A total enclosed, ventilated cabinet of gas-tight construction. Operations in the cabinet are conducted through attached protective gloves.

**Blood**: human blood, human blood components, and products made from human blood.

**Bloodborne Pathogens**: pathogenic microorganisms that are present in human blood and 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).

**Chief**: the Chief of the Division of Occupational Safety and Health of the California Department of Industrial Relations or designated representative.

**Clinical Laboratory**: a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

**Contaminated**: the presence or the reasonably anticipated presence of blood or other potentially infectious materials on a surface or in or on an item.

**Contaminated Laundry**: laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

**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. Decontamination includes procedures regulated by Health and Safety Code Section 118275.

**Employees:** faculty, staff and student (paid) employees.

**Engineering Controls:** controls (e.g., sharps disposal containers, needleless systems and sharps with engineered sharps injury protection, biosafety cabinets, etc.) that isolate or remove the bloodborne pathogens hazard from the workplace.

**Engineered Sharps Injury Protection:** either:

- (1) A physical attribute built into a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, which effectively reduces the risk of an exposure incident by a mechanism such as barrier creation, blunting, encapsulation, withdrawal or other effective mechanisms; or
- (2) A physical attribute built into any other type of needle device, or into a non-needle sharp, which effectively reduces the risk of an exposure incident.

**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.

**Handwashing Facilities:** a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

**HBV:** hepatitis B virus.

**HCV:** hepatitis C virus.

**HIV:** human immunodeficiency virus.

**Licensed Healthcare Professional:** is a person whose licensed scope of practice includes an activity which this section requires to be performed by a licensed healthcare professional.

**Needle or Needle Device:** a needle of any type, including, but not limited to, solid and hollow-bore needles.

**Needleless System:** a device that does not utilize needles for:

- (1) The withdrawal of body fluids after initial venous or arterial access is established;
- (2) The administration of medication or fluids; and
- (3) Any other procedure involving the potential for an exposure incident.

**NIOSH:** the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

**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.

**One-Hand Technique:** a procedure wherein the needle of a reusable syringe is capped in a sterile manner during use. The technique employed shall require the use of only the hand holding the syringe so that the free hand is not exposed to the uncapped needle.

**OPIM:** other potentially infectious materials.

**Other Potentially Infectious Materials:**

(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 other body fluid that is visibly contaminated with blood such as saliva or vomitus, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids such as emergency response;

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

(3) Any of the following, if known or reasonably likely to contain or be infected with HIV, HBV, or HCV:

(A) Cell, tissue, or organ cultures from humans or experimental animals;

(B) Blood, organs, or other tissues from experimental animals; or

(C) Culture medium or other solutions.

**Parenteral Contact:** piercing mucous membranes or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

**Personal Protective Equipment:** is specialized clothing or equipment worn or used 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.

**Production Facility:** a facility engaged in industrial-scale, large-volume or high concentration production of HIV, HBV or HCV.

**Regulated Waste:** waste that is any of the following:

(1) Liquid or semi-liquid blood or OPIM;

(2) Contaminated items that:

(A) Contain liquid or semi-liquid blood, or are caked with dried blood or OPIM; and

(B) Are capable of releasing these materials when handled or compressed.

(3) Contaminated sharps.

(4) Pathological and microbiological wastes containing blood or OPIM.

(5) Regulated Waste includes "medical waste" regulated by Health and Safety Code Sections 117600 through 118360.

**Research Laboratory:** a laboratory producing or using research-laboratory-scale amounts of HIV, HBV or HCV. Research laboratories may produce high concentrations of HIV, HBV or HCV but not in the volume found in production facilities.

**Sharp:** any object used or encountered in the industries covered by subsection (a) that can be reasonably anticipated to penetrate the skin or any other part of the body, and to result in an exposure incident, including, but not limited to, needle devices, scalpels, lancets, broken glass, broken capillary tubes, exposed ends of dental wires and dental knives, drills and burs.

**Sharps Injury:** any injury caused by a sharp, including, but not limited to, cuts, abrasions, or needlesticks.

**Sharps Injury Log:** a written or electronic record satisfying the requirements of Section 1.2 of this program.

**Source Individual:** any individual, living or dead, whose blood or OPIM 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; and individuals who donate or sell blood or blood components.

**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:** controls that reduce the likelihood of exposure by defining the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique and use of patient-handling techniques)

## **5. IMPLEMENTATION RESPONSIBILITIES:**

EH&S will communicate the requirements of this program to the impacted VP/Deans.

Directors and Department Chairs are responsible for providing a list of employees covered by this program to EHS.

## **6. GOVERNING DOCUMENT: N/A**

## **7. COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT**

California Code of Regulations, Title 8, Section 5193. Bloodborne Pathogens

Health and Safety Code Chapter 6.1, Sections 117600 through 118360,

California Code of Regulations, Title 8, Section 3204. Access to Employee Exposure and Medical Records

## **8. REFERENCE DOCUMENTS: N/A**

**Developmental References: N/A**

**Supplemental References: NA**

**APPENDICES**

Appendix A: Exposure Determination

Appendix B: HIV, HBV, and HCV Research Laboratories

**ATTACHMENTS**

Attachment 1: Hepatitis B Declination form

Attachment 2: Exposure Report Form

Attachment 3: Sharps Injury Log

**DOCUMENT REVISION**

NA

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**REVISION NOTES** This is a revision to the Campus Exposure Control Plan now referred to as Cal Poly Bloodborne Pathogen Program and Exposure Control Plan

## **Appendix A: Exposure Determination**

### **A1. EMPLOYEE JOB CLASSIFICATION LIST FOR EXPOSURE DETERMINATION**

- A. The program at Cal Poly is designed to cover those who are at a higher risk of exposure by establishing high, moderate, or low risk exposure categories identified. The three categories and job classifications are as follows:

#### **A1.1 Category 1 – High Risk**

Procedures or jobs that involve inherent potential for contact with blood, body fluids, tissues, mucous membranes, or skin contact that could possibly transmit the HBV, HIV, or other bloodborne pathogen.

##### Job Classifications:

- a. Physician
- b. Radiological Technologist
- c. Registered Nurse
- d. Nurse Practitioner
- e. Clinical Laboratory Tech
- f. Clinical Aids
- g. Phlebotomists
- h. Research and Instructional Personnel working with blood, body fluids or OPIM

#### **A1.2 Category 2 – Moderate Risk**

This category has been established for those employees who do not work in situations that routinely (day-to-day) do not involve contact with infectious materials. There is, however, a potential for exposure to these mediums.

##### Job Classifications:

- a. Custodians (assigned to Health Center)
- b. University Police Officers & Investigators
- c. Athletic Trainers (Students & Coaches)
- d. EH&S personnel working in laboratories where bloodborne pathogens or OPIM is ongoing

#### **A1.3 Category 3 – Minimal Risk**

This category involves no exposure to blood, body fluids or tissues such as are described in category 1. Exposure is possible under certain circumstance.

##### Job Classifications:

- a. First Aid and CPR Responders
- b. Housing Personnel
- c. All other custodial staff
- d. Plumbers

e. Building Service Engineers

**A2. Criteria for Determining the Risk of Occupational Exposure to Bloodborne Pathogens**

- A. Supervisors of job categories not listed in Section 1 above shall to work with EH&S to determine exposure risk classification using Table 1 below.
- B. Supervisors must report any additional risk factors not listed in Table 1 to EH&S for inclusion in Table 1..
- C. If the answer to any of the following questions is 'yes,' the worker is considered to be at occupational risk of contracting hepatitis b virus or other bloodborne pathogens.
- D. Actual exposure determination will depend on frequency of activities, direct or non-direct involvement and department of employment.

Table 1:

Yes	No	Does the person?
		a) Handle human blood products (e.g., whole blood, plasma, serum, platelets, or white cells
		b) Handle primary and established cell lines of human origin that have not been screened against all human bloodborne pathogens
		c) Handle human body fluids such as semen, cerebrospinal fluid, vaginal secretions, joint fluid, pleural fluid, peritoneal fluid, pericardial fluid, or amniotic fluid
		d) Handle unfixed human tissue or organs (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 of animals infected with the Hepatitis B Virus or other bloodborne pathogens
		f) Perform tasks which may potentially result in the 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.
		g) Work with Hepatitis B virus or other bloodborne pathogens or with preparations, such as liquid solutions or powders containing the Hepatitis B virus
		h) 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 unfixed human organs, tissues 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
		i) Work with animals, such as primates, that are infected with Hepatitis B or other bloodborne pathogens OR perform tasks where such animals are housed
		j) 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 any of the aforementioned body substances may come into contact with the worker's unbroken skin, broken skin, or mucous membranes.
		k) Handle lentiviral vectors (HIV-1), human cell lines known to harbor and propagate HIV or human cells likely to support the replication of HIV and which have not been tested or verified to be free of HIV.

		l) Handle medical or biohazardous (regulated) waste receptacles in areas where work duties listed above are performed.
		m) Clean-up of spills of blood, or OPIM.
		n) Responding to waste-line repairs and cleaning wastewater floods.
		o) Repairing/servicing drains used for the disposal of blood or body fluids
		p) Perform first aid response procedures



## **APPENDIX B:**

### **B1. HIV, HBV and HCV Research Laboratories**

- A. This section applies in addition to the other requirements of this program to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV, HBV and HCV.

#### **B1.1 Research laboratories and production facilities shall meet the following criteria:**

- A. Standard Microbiological Practices. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
- B. Special Work Practices:
- C. Laboratory doors shall be kept closed when work involving HIV, HBV or HCV is in progress.
- D. Contaminated materials that are to be decontaminated away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.
- E. Access to the work area shall be limited to authorized persons: Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard meet any specific entry requirements, and comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.
- F. When OPIM or infected animals are present in the work area or containment module, a hazard warning sign as listed in Section 3.11 shall be posted on all access doors.
- G. All activities involving OPIM shall be conducted in biological safety cabinets or other physical-containment devices within the containment module.
- H. No work with these OPIM shall be conducted on the open bench.
- I. Appropriate protective clothing shall be used in the work area and animal rooms.
- J. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.
- K. Gloves shall be worn when handling infected animals and when making hand contact with OPIM is unavoidable.
- L. Before disposal, all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
- M. Vacuum lines shall be protected with liquid disinfectant traps and HEPA filters or filters of equivalent or superior efficiency, checked routinely and maintained or replaced as necessary.
- N. Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.
- O. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of OPIM.

- P. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use.
- Q. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.
- R. All spills shall be immediately contained and cleaned up by properly trained staff equipped to work with potentially concentrated infectious materials.
- S. A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director and the Biosafety Officer at EH&S.
- T. Written biosafety procedures in the Biosafety Program will be adopted
- U. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.
- V. Containment Equipment
- W. Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols.
- X. Biological safety cabinets shall be certified by the department or research group that they meet manufacturers' specifications when installed, whenever they are moved and at least annually.
- Y. Signs
- Z. Signs shall be posted at the entrance to work areas specified as HIV, HBV and HCV Research Laboratory and Production Facilities, which shall bear the following legend:



**BIOHAZARD**

(Name of the Infectious Agent)

(Special requirements for entering the area)

(Name, telephone number of the laboratory director or other responsible person.)

**B1.2 HIV, HBV and HCV research laboratories shall meet the following criteria:**

- A. Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.
- B. An autoclave for decontamination of regulated waste shall be available.

### **B1.3 Training Requirements**

- A. Training requirements for employees in HIV, HBV and HCV research laboratories and HIV, HBV and HCV production facilities are specified in Section 3.12 of this program.
- B. They shall receive in addition the following initial training:
- C. The employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV, HBV or HCV.
- D. The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV, HBV or HCV.
- E. The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

## ATTACHMENT 1:

### HEPATITIS B IMMUNIZATION CONSENT/WAIVER FORM

Employee Name (please print): \_\_\_\_\_

Department: \_\_\_\_\_ Job Title: \_\_\_\_\_

I understand that as part of my work at Cal Poly, I may become exposed to blood or other potentially infectious items or materials that put me at risk for acquiring the Hepatitis B virus (HBV). Therefore, at no charge to myself, I have been offered the Hepatitis B vaccine, which is intended to render me immune to the HBV. At least three separate intramuscular injections are necessary to produce the desired immunity (sometimes additional injections are necessary to reach immunity), and all three doses are necessary in order for the vaccine to be effective. After the initial dose is given, repeat doses are given one month and six months later. There is a strong likelihood the vaccine will be successful if I receive all three doses, but there is a potential that even when administered properly the vaccine will not result in the desired immunity, such that there is a chance I may become infected with HBV even if I complete the full series.

If the vaccine does not lead to the desired immunity (because I do not complete the three-dose series, or I choose not to receive supplemental injections if the first series does not develop immunity), or if I choose not to receive the vaccine at this time, I understand that I will need post-exposure treatment if I have a direct contact with blood, other body fluids, or other actually or potentially infected items, in order to address potential exposure concerns.

☐ I have read and understand the above information and **wish to receive** the hepatitis B vaccine series (three doses). I have no known sensitivity to yeast and I am unaware of any reason why the vaccine may cause me harm or lead to an adverse reaction.

☐ I have read and understand the information above. However, **I decline** hepatitis B vaccination at this time. I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. 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.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT 2:**

**EXPOSURE INCIDENT REPORTING FORM**

Please fill this form out when reporting an exposure to blood, body fluids or other potentially infectious material (OPIM), in addition to the required [Work Related Injury/Illness Report](#) and if applicable [Claim Form DWC 1](#)

*For more information on Workers' Compensation reporting procedures click [here](#).*

Employee's Name: \_\_\_\_\_ Employee ID #: \_\_\_\_\_  
First Last

Department: \_\_\_\_\_ Extension: \_\_\_\_\_

Position Title: \_\_\_\_\_ Supervisor's Full Name: \_\_\_\_\_

Date of Accident: \_\_\_\_\_ Time: \_\_\_\_\_ Accident Location (Bldg./Room): \_\_\_\_\_

Was the exposed employee rendering first aid in this incident? Circle one YES NO

Body part(s) involved in exposure: \_\_\_\_\_

Did the exposure incident involve a sharp? Circle one YES NO

Is the source individual known (person who the blood, OPIM came from)? Circle one: Yes No

If yes, please provide the name of source individual: First \_\_\_\_\_ Last \_\_\_\_\_

Provide a description of exposed employee's duties as they relate to the exposure incident:

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How did the accident occur? Please provide an explanation of the route(s) of exposure and the circumstances under which the exposure incident occurred:

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\_\_\_\_\_  
EMPLOYEE SIGNATURE

\_\_\_\_\_  
DATE

**Please submit completed form within 24 hours of exposure related incident to EH&S via fax at 805-756-1602 or deliver to Bldg. 80 of the Cal Poly campus. Follow-up by EH&S will occur.**

### ATTACHMENT 3:

#### SHARPS INJURY LOG-

##### SUPPLEMENTAL INFORMATION TO EXPOSURE INCIDENT REPORTING FORM

The following information, if known or reasonably available, will be documented by EH&S within 14 working days of the date on which each exposure incident was reported.

1. Employee Name: \_\_\_\_\_
2. Date of exposure incident report: \_\_\_\_\_ Report written by: \_\_\_\_\_
3. Type and brand of sharp involved: \_\_\_\_\_
4. Procedure being performed by the exposed employee at the time of the incident:  
\_\_\_\_\_  
\_\_\_\_\_
5. Did the device involved have engineered sharps injury protection? Yes (✓) \_\_\_\_\_ No (✓) \_\_\_\_\_
6. Was engineered sharps injury protection on the sharp involved? Yes (✓) \_\_\_\_\_ No (✓) \_\_\_\_\_
7. Does the injured employee believe that if activated at the time of the exposure a protective mechanism could have prevented the incident? Yes \_\_\_\_\_ No \_\_\_\_\_  
Or prevented the injury? Yes \_\_\_\_\_ No \_\_\_\_\_
8. Did the injury occur \_\_\_\_\_ before, \_\_\_\_\_ during, \_\_\_\_\_ or after the mechanism was activated?
- Comments: \_\_\_\_\_
9. Does the exposed employee believe that any controls (e.g., engineering, administrative, or work practice) could have prevented the injury? Yes (✓) \_\_\_\_\_ No (✓) \_\_\_\_\_
- Employee's opinion:  
\_\_\_\_\_  
\_\_\_\_\_
10. Comments on the exposure incident (e.g., additional relevant factors involved):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
11. Employee interview summary:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
12. Picture(s) of the sharp(s) involved (please attach if available)