

Chapter 46: [Blood-borne Pathogens](#)

# General Requirements

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URL: <https://www-group.slac.stanford.edu/esh/eshmanual/references/pathogenReqGeneral.pdf>

## 1 Purpose

The purpose of these requirements is to protect workers from exposure to *blood-borne pathogens*. They cover identification of personnel *at risk* of exposure, hazard controls, and post-exposure evaluation. They apply to workers, supervisors, and the blood-borne pathogens program manager; subcontractors, Occupational Health, Human Resources Development and Services, and Stanford University.

## 2 Requirements

### 2.1 Organizational Responsibilities

SLAC and its subcontractors will each maintain for their own *at-risk* employees all necessary personal protective equipment (PPE), engineering controls (such as sharps containers), labels, and *red bags* as required and will ensure that adequate supplies of this equipment are available in the appropriate sizes. Each organization will also assume responsibility for ensuring that all medical actions required by the standard are performed and all appropriate employee health and Cal/OSHA records for its employees (except as noted below) are maintained.

Immediate exposure evaluation will be available to all parties from Occupational Health, as will emergency supplies of PPE and other control equipment.

Table 1 summarizes responsibilities by organization (SLAC, Stanford University, user institutions, and subcontractors) for providing services and equipment related to blood-borne pathogens.

**Table 1** Responsibilities by Organization

Personnel	PPE	PPE, Emergency	Training	Exposure Evaluation	Health Records	Cal/OSHA and Sharps Logs
SLAC employee	SLAC	SLAC	SLAC	SLAC	SLAC	Stanford
Stanford employee	SLAC	SLAC	Stanford	SLAC	Stanford	Stanford
User	SLAC	SLAC	Home	SLAC	Home	Home
Subcontracted employee,	Subcontractor	SLAC	SLAC	SLAC	Subcontractor	Subcontractor

Personnel	PPE	PPE, Emergency	Training	Exposure Evaluation	Health Records	Cal/OSHA and Sharps Logs
occupational health						
Subcontracted employee, custodial	Subcontractor	SLAC	Subcontractor	SLAC	Subcontractor	Subcontractor
Subcontracted employee, security	SLAC	SLAC	SLAC	SLAC	Subcontractor	Subcontractor
Subcontracted employee, other (supervised by own staff)	Subcontractor	SLAC	Subcontractor	SLAC	Subcontractor	Subcontractor

## 2.2 Exposure Determination

The following are all positions at SLAC in which workers are *at risk* of exposure.

### 2.2.1 Subcontractors

The following are subcontracted employees. As such, they are responsible for adhering to the requirements of this program, SLAC's *exposure control plan (ECP)*, in addition to complying with that of their own company.

- Occupational Health
  - Physician
  - Physician assistant
  - Registered nurse
  - Medical assistant
- Custodial services (contract employee, handling *regulated waste*)
- SLAC Site Security

### 2.2.2 SLAC Employees

The following are SLAC employee job classifications that may have occupational exposure:

- Emergency Response Team (ERT) member (SLAC employee, providing first aid)
- Custodial services (SLAC employee, handling regulated waste)
- Other employees who perform first aid and cardiopulmonary resuscitation (CPR) as part of their job duties and so may reasonably be expected to be exposed to blood-borne pathogens, such as

- Electricians working under the two-man rule (that is, performing high-voltage work, 600 volts or above, see [Chapter 8, “Electrical Safety”](#))
- Electricians working on direct current equipment
- Electrical Development and Maintenance (ED&M) staff
- SSRL Beamline Electronics staff

### 2.2.3 Users / Researchers

Users and researchers may, due to the nature of their work, be exposed to blood-borne pathogens. These may include employees of SLAC, Stanford University, or other institutions.

## 2.3 Hazard Controls

### 2.3.1 Universal Precautions

All workers will utilize *universal precautions*: all human blood and *other potentially infectious materials (OPIM)* will be treated as if known to be infectious for HIV, HBV, HCV, and other blood-borne pathogens.

### 2.3.2 Exposure Control Plan

This chapter constitutes SLAC’s *exposure control plan (ECP)* required by [8 CCR 5193](#).

- At-risk workers will receive an explanation of this ECP as part of their training ([ESH Course 258R](#)).
- All workers can review this plan at any time during their work shifts.

The blood-borne pathogens program manager is responsible for reviewing and updating the ECP annually or more frequently if necessary to reflect any new or modified tasks and procedures that affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

### 2.3.3 Engineering Controls and Work Practices

Engineering controls and work practice controls will be used to prevent or minimize exposure to blood-borne pathogens. The specific engineering controls and work practice controls used are these:

- *Sharps* containers
- Hand washing facilities
- Retractable needles
- Safety syringes/monojects

Custodial services (both in-house and contracted) and emergency response employees will obtain sharps containers as needed from Occupational Health and will return them to Occupational Health for disposal whenever necessary to prevent overfilling.

SLAC identifies the need for changes in engineering controls and work practices through review of Cal/OSHA records and incident investigations.

The program manager will evaluate new procedures and new products at least annually by literature review or information from vendors or discussion with peers in other facilities. If newer or safer products are discovered during this review, steps will be taken to purchase them. All employees are encouraged to make recommendations for changes, updates and improvements to products and procedures.

Subcontractors are responsible for ensuring that these recommendations are evaluated and implemented for their own programs when appropriate.

### 2.3.4 Personal Protective Equipment

Personal protective equipment is provided to SLAC employees, at no cost to them. SLAC also provides PPE to users/researchers and SLAC Site Security and emergency PPE for all personnel. Training in the use of the appropriate PPE for specific tasks or procedures is provided by Occupational Health.

The types of PPE available to employees are as follows:

- Latex or other approved exam gloves
- Splash goggles
- Face shield
- Lab coats
- Face masks

Employees may contact Occupational Health to obtain PPE for use in emergency situations and for spill cleanup. Subcontractors will supply their own PPE for routine use but may contact Occupational Health for emergency situations.

All employees using personal protective equipment (PPE) to protect from blood-borne pathogens must observe the following precautions:

- Wash hands immediately or as soon as feasible after removing gloves or other PPE.
- Remove PPE after it becomes contaminated and before leaving the work area.
- 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; replace gloves if torn, punctured or contaminated, or if their ability to function as a barrier is compromised.
- 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.
- Never wash or decontaminate disposable gloves for reuse.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
- Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the outer surface.

Used, disposable PPE that is potentially contaminated with blood or OPIM must be disposed of in *red bags* to be obtained from the Occupational Health Center or subcontractor as appropriate. Red bags must be secured by tying or with an adequate closure device and taken to the Occupational Health Center for disposal. (See Section 2.3.7.)

*Note For use of non-disposable PPE such as laboratory coats and face shields, contact your ESH coordinator.*

### 2.3.5 Laundry

Laundry services will not be needed as personnel will use disposable PPE when treating patients and performing tasks that may expose them to blood or OPIM. All contaminated items will be disposed of in red bags and appropriately handled through the medical waste disposal vendor. Red bags may be obtained from the Occupational Health Center. Contaminated items in red bags may be taken to the Occupational Health Center for disposal.

### 2.3.6 Housekeeping

- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
- Food and drink will not be kept in refrigerators, freezers, shelves, cabinets, or on countertops or bench tops where blood or other potentially infectious materials are present. Refrigerators, freezers, and areas where potentially infectious materials are present, should be labeled with wording to the effect that food is not allowed in those areas.
- All procedures involving blood or other potentially infectious materials will be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.
- Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.
- Anyone cleaning up blood or OPIM should clean the affected area with disinfectant materials as soon as practical. All materials used in the cleanup should be disposed of as medical waste.

### 2.3.7 Waste Disposal

*Regulated waste* will be placed in containers, to be obtained from the Occupational Health Center or subcontractor as appropriate, that are closable, constructed to contain all contents and prevent leakage, appropriately labeled or color-coded (see Section 2.3.9), and closed prior to removal to prevent spillage or protrusion of contents during handling.

### 2.3.8 Sharps Disposal

- Sharps containers will be inspected regularly and replaced when they are two-thirds full. Closed sharps containers are taken to the Occupational Health Center for disposal. Occupational Health maintains a contract with a vendor for disposal of all medical wastes.
- Contaminated sharps will be discarded immediately or as soon as possible in containers that are closable, puncture-resistant, leak proof on sides and bottoms, and appropriately labeled or color-coded.
- Sharps disposal containers will be available at the Occupational Health Center in the treatment, EKG, and examination rooms. Sharps containers will be made available to other SLAC employees for emergency use.
- Broken glassware that may be contaminated will only be picked up using mechanical means, such as a brush and dustpan.

- Contaminated needles and other contaminated sharps will not be bent, recapped, or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.
- Such bending, recapping, or needle removal must be accomplished using a mechanical device or a one-handed technique.

### 2.3.9 Labels

The following labeling methods are used in this facility:

- Red bags appropriately labeled from the manufacturer for contaminated PPE and spill cleanup material
- Biohazard labels for specimens in the Occupational Health Center

Custodial personnel, ERT members, and emergency responders are trained and responsible for placing all blood and OPIM items in red bags. Occupational Health is responsible for ensuring that warning labels are affixed or red bags are used as required if regulated waste or contaminated equipment is brought into the Occupational Health Center. Employees will notify Occupational Health if they discover regulated waste containers, refrigerators containing blood or OPIM, contaminated equipment, and such without proper labels.

### 2.3.10 Hepatitis B Vaccination

Occupational Health will provide information to its own and SLAC employees on HBV vaccinations, addressing safety, benefits, efficacy, methods of administration, and availability. Subcontractors will provide HBV vaccinations to their own employees.

The HBV vaccination series is available at no cost after initial employee training and within 10 days of initial assignment to all employees identified as being at risk. Vaccination is encouraged unless

1. Documentation exists that the employee has previously received the series
2. Antibody testing reveals that the employee is immune
3. Medical evaluation shows that vaccination is contraindicated

Employees who decline may request and obtain the vaccination at a later date at no cost.

The decision to accept or decline the vaccination is documented using the [Blood-borne Pathogens: SLAC Employee Hepatitis B Vaccine Offer and Declination Form](#)).

Documentation of declination of the vaccination is kept at the Occupational Health Center. Vaccination records will be provided by Occupational Health.

Following the medical evaluation, a copy of the health care professional's written opinion will be obtained and provided to the employee within 15 days of the completion of the evaluation. It will be limited to whether the employee requires the vaccine and whether the vaccine was administered.

## 2.4 Post-exposure Evaluation and Follow-up

Following a report of an exposure incident, SLAC will make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

1. Occupational Health will document the route(s) of exposure, and the circumstances under which the exposure incident occurred.
2. Occupational Health will identify and document the source individual, unless the identification is infeasible or prohibited by state or local law:
  1. The source individual's blood will be tested as soon as feasible and after consent is obtained in order to determine HBV, HCV and HIV infectivity.
  2. 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.
  3. Results of the source individual's testing will be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.
3. Occupational Health will provide for collection and testing of the employee's blood for HBV, HCV and HIV serological status:
  1. The exposed employee's blood is to 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 will 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 will be done as soon as feasible.
  3. Additional collection and testing will be made available as recommended by the US Public Health Service.
4. Occupational Health will provide for post-exposure prophylaxis, when medically indicated, as recommended by the US Public Health Service.
5. Occupational Health will provide counseling and evaluation of reported illnesses.

## 3 Forms

The following forms and systems are required by these requirements:

- [Blood-borne Pathogens: Hepatitis B Vaccine Offer and Declination Form](#) (SLAC-I-730-0A13J-005).  
Form for documenting decision of an at-risk worker to accept or decline SLAC's offer of a vaccination

## 4 Recordkeeping

The following recordkeeping requirements apply for these requirements.

## 4.1 Medical Records

Medical records are maintained for each at-risk employee in accordance with [8 CCR 3204](#). These confidential records are kept for at least the duration of employment plus 30 years.

Employee medical records will be provided upon request of the employee or to anyone having written consent of the employee within 15 working days.

Occupational Health is responsible for maintenance of the required medical records for its own and SLAC employees, subcontractors for their own employees.

## 4.2 Sharps Injury Log

In addition to the Cal/OSHA 300 ([8 CCR 14300–14348](#)) recordkeeping requirements, all percutaneous injuries from contaminated sharps are also recorded in a sharps injury log. All incidence entries must include at least

- Date of the injury
- Type and brand of the device involved (syringe, suture needle)
- Department or work area where the incident occurred
- Explanation of how the incident occurred

Occupational Health will contact Human Resources Development and Services to ensure these injuries from sharps are recorded in the sharps injury log kept by Stanford University. Subcontractors will maintain a separate log for their employees.

## 4.3 Cal/OSHA 300 Log

Exposure incidents will be evaluated to determine if they meet the Cal/OSHA 300 recordkeeping requirements ([8 CCR 14300–14348](#)). All exposure incidents will be reported, following the [Incident Reporting and Investigation Process](#). The Cal/OSHA 300 log will be maintained by Stanford University for SLAC employees, and by subcontractors for theirs.

## 5 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

- [Chapter 46, “Blood-borne Pathogens”](#)
- [Chapter 8, “Electrical Safety”](#)
- [Chapter 37, “Emergency Management”](#)

Other SLAC Documents

- ESH Course 258R, Bloodborne Pathogens (BBP) Training ([ESH Course 258R](#))
- [Incident Reporting and Investigation Process](#) (SLAC-I-701-003-006-00)

#### Other Documents

- Title 8, *California Code of Regulations*, “Industrial Relations”, Division 1, “Department of Industrial Relations”
  - Chapter 4, “Division of Industrial Safety”, Subchapter 7, “General Industry Safety Orders”, Group 16, “Control of Hazardous Substances”, Article 109, “Hazardous Substances and Processes”, Section 5193, “Bloodborne Pathogens” ([8 CCR 5193](#))
  - Chapter 3.2, “California Occupational Safety and Health Regulations (Cal/OSHA)”, Subchapter 2, “Regulations of the Division of Occupational Safety and Health”, Article 3, “Reporting Work-Connected Injuries”, Section 342, “Reporting Work-Connected Fatalities and Serious Injuries” ([8 CCR 342](#))
  - Chapter 7, “Division of Labor Statistics and Research”, Subchapter 7, “General Industry Safety Orders”, Group 1, “General Physical Conditions and Structures Orders Introduction”, Section 3204, “Access to Employee Exposure and Medical Records” ([8 CCR 3204](#))
  - Chapter 7, “Division of Labor Statistics and Research”, Subchapter 1, “Occupational Injury or Illness Reports and Records”, Article 2, “Employer Records of Occupational Injury or Illness” ([8 CCR 14300–14348](#))