

The Cal/OSHA Bloodborne Pathogens Standard

Preventing HIV/AIDS and Other Bloodborne Diseases

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Bloodborne pathogens are disease-causing microorganisms that are carried and transmitted through human blood. The pathogens of primary concern are the human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV).

Occupational exposure to bloodborne pathogens means reasonably anticipated contact with blood or other potentially infectious materials (OPIM). Contact may be expected to occur to the skin, eyes, nose, or mouth. It may also occur through accidental punctures from contaminated needles or other sharps. Unbroken skin forms a barrier against bloodborne pathogens. However, bloodborne pathogens can be transmitted through any type of damaged or broken skin such as open sores, cuts, abrasions, acne, blisters, or even hangnails.

The Bloodborne Pathogens standard (T8 CCR §5193) applies whenever employees have occupational exposure to blood or OPIM as a result of their job. The construction industry is exempt from this standard; however, workers providing first aid may be exposed to bloodborne pathogens. Therefore, construction employers would need to provide training, personal protective equipment, and hygiene facilities as required by the Injury and Illness Prevention Program and other standards.

Some facilities and operations where the standard would typically apply include hospitals, physicians' offices, dental offices, paramedic services, medical laboratories, home healthcare services, police and fire services, lifeguards, correctional facilities, facilities for the developmentally disabled, nursing and hospice facilities, and funeral homes. In some circumstances, housekeepers, laundry attendants, janitorial workers, and others may also be occupationally exposed.

A written Exposure Control Plan must be established and implemented whenever an employer has exposed employees. Some of the elements that must be covered by the plan include:

- An exposure determination
- Universal precautions
- Engineering controls
- Work practice controls
- Personal protective equipment (PPE)
- Hygiene
- Cleaning and decontamination of the worksite
- Laundry
- Regulated waste
- Signs and labels
- Training
- Hepatitis B vaccination
- Post-exposure follow-up

- A Sharps Injury Log
- Record keeping

For HIV, HBV, and HCV research laboratories and production facilities, there are additional requirements.

The exposure determination must list the job classifications in which employees are occupationally exposed. For job classifications where only some of the employees may be exposed, the tasks and procedures during which exposure might occur must also be listed.

Universal precautions is an approach to infection control in which all human blood and OPIM are treated as if infectious for bloodborne pathogens. Saliva in dentistry is always considered OPIM. Generally, however, the bloodborne pathogens standard does not treat saliva, urine, or feces as OPIM unless it is visibly contaminated with blood or in situations where it is difficult or impossible to differentiate between body fluids such as emergency response. These substances, however, can transmit other diseases, so proper precautions should be taken when handling them.

Engineering controls are devices that isolate or remove the bloodborne pathogen hazard from the workplace. They must be used, wherever appropriate, to eliminate or minimize employee exposure. Examples include sharps containers, the use of plastic containers for blood specimens instead of glass, needleless systems, and engineered sharps injury protection (ESIP).

Needleless systems are devices that eliminate the need of a needle. Sharps with ESIP have built-in features (such as protective shields) that reduce the risk of an exposure incident. These types of devices must be used except during specific circumstances related to: (1) market availability, (2) patient safety, (3) safety performance, and (4) availability of safety performance information. The employer must demonstrate the applicability of an exception to the workplace.

Work practices controls are also important. Used needles and other sharps must be placed in a sharps container as soon as possible. Contaminated needles and other sharps cannot be bent, recapped, or removed from a device except under certain circumstances. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where exposure is likely. Food and drink must not be stored in refrigerators or other areas where blood or OPIM are stored or present.

Appropriate personal protective equipment (PPE) is essential. PPE must be selected so that it does not permit blood or OPIM to pass through to employees' underlying garments, or to reach the skin, eyes, mouth, or other mucous membranes under normal conditions of use. Gloves, gowns, lab coats, goggles, facemasks, face shields, and shoe covers are some of the items that may be needed, depending upon the task being performed and the anticipated exposure. PPE must not be worn outside the work area.

Hygiene is important when working with blood or OPIM. Employees must wash their hands as soon as they remove their gloves or other PPE. To facilitate this, hand washing facilities must be readily available. When this is not possible (e.g., in emergency response situations), the use of antiseptic towelettes is an acceptable alternative. However, employees must then wash with soap and running water as

soon as feasible. Proper hygiene is especially important following contact of the skin or mucous membranes with blood or OPIM. Skin needs to be washed with soap and water as soon as possible. Splashes to the eyes, nose, or mouth must be flushed with water.

Contaminated surfaces must be cleaned and decontaminated with an appropriate disinfectant. Products registered with the Environmental Protection Agency (EPA) as tuberculocides or as effective against HIV and HBV are appropriate. A diluted bleach solution can also be used. In order to be effective, it is important that disinfectants be used according to all label instructions. Protective coverings can be used on surfaces, but they must be replaced when they become contaminated.

Contaminated laundry must be bagged or placed in containers in the area of use. Leakage of the bags or containers must be prevented. Workers handling the laundry must wear gloves and other appropriate PPE. Containers must be appropriately labeled or color-coded. Employees must not bring PPE home to launder.

Regulated waste must be handled, stored, treated, and disposed of in accordance with the Health and Safety Code. Regulated waste includes the following:

- Liquid or semi-liquid blood or OPIM
- Contaminated items that contain liquid or semi-liquid blood, or are caked with dried blood or OPIM, and are capable of releasing these materials when handled or compressed
- Contaminated sharps
- Pathological and microbiological wastes containing blood or OPIM
- "Medical waste" regulated by the Health and Safety Code

Not all contaminated waste is regulated waste. However, it all needs to be handled and discarded so as to prevent exposures.

Warning labels, signs, and/or color-coding are required to identify refrigerators, freezers, and other containers that might hold blood, OPIM, regulated waste, and contaminated laundry. The specific requirements depend upon the container, the contents, and whether the item is being shipped off-site.

Hepatitis B vaccination must be made available to employees who have occupational exposure within 10 days of initial assignment (with the exception of certain first-aid providers). Vaccination consists of a 3-dose series. The second and third doses are typically given 1 and 6 months after the initial dose. Employees may refuse the hepatitis B vaccine, but they need to be properly informed of its benefits through appropriate training. If the employee refuses the vaccine, he/she must sign a declination form. One to 2 months after completion of the series, Cal/OSHA expects employees to be offered post-vaccination serologic testing for the hepatitis B antibody, as recommended by the U.S. Public Health Service for healthcare workers.

Following an exposure incident, the employer must make immediately available to the exposed individual a confidential medical evaluation and follow-up. This includes determining, if possible, the individual that is the source of the occupational exposure. The source individual's blood must be tested as soon as feasible after consent is obtained in order to determine the HIV, HBV, and HCV infectivity. The

employee should also have their blood collected as soon as possible after exposure to establish a baseline and at periodic intervals for at least 6 months after the exposure. Depending upon the circumstances of the exposure, post-exposure prophylaxis may be recommended to reduce the risk of infection from HIV or HBV. However, this type of treatment should be started as soon as possible, preferably within hours of exposure.

A Sharps Injury Log, which is a record of each exposure incident involving a sharp, must be maintained by the employer. Specific information about the incident must be recorded within 14 days after being reported. The purpose of the log is to prevent future incidents from occurring. No personal employee identifiers are allowed in the log.

Training must be provided initially and at least annually for all employees who are occupationally exposed. A number of specific topics must be covered in the training. The person conducting the training must be knowledgeable in the subject matter, and an opportunity for interactive questions and answers must be provided.

The standard also has record keeping requirements. Medical records relating to employees' hepatitis B vaccination status and post-exposure evaluation and follow-up must be kept for 30 years plus the duration of employment. Training records must be maintained for 3 years from the date of training. The Sharps Injury Log must be maintained for 5 years from the date of the exposure incident.

First-aid workers are covered by the bloodborne pathogens standard if they are designated to provide first aid or medical assistance as part of their job duties. However, if administering first aid is only a collateral duty (such as an office worker that has been designated to provide first aid), and not their primary duty, workers do not need to be offered a hepatitis B vaccination until they have actually provided assistance in a situation where blood or OPIM was present. Then a vaccination must be offered as soon as possible, but not more than 24 hours after the incident. This exception would not apply to lifeguards or other public safety personnel who are expected to offer first aid.

For more information, and many useful links, go to the Cal/OSHA website at www.dir.ca.gov/dosh/BloodborneFAQ.html. This site contains frequently asked questions about the Bloodborne Pathogens standard. Cal/OSHA also has publications to help employers develop a written program at www.dir.ca.gov/dosh/PubOrder.asp.