

OCCUPATIONAL EXPOSURE TO BLOODBORNE PATHOGENS (29 CFR 1910.1030)

I. Introduction

It is estimated that approximately 5.6 million workers in health care and other fields are exposed to bloodborne pathogens. Bloodborne pathogens (BBPs) are pathogenic microorganisms that are present in human blood and can infect and cause disease in humans. These pathogens include but are not limited to Hepatitis B Virus (HBV) which causes Hepatitis B, a serious liver disease and Human Immune Deficiency Virus (HIV) which causes Acquired Immunodeficiency Syndrome (AIDS).

OSHA has determined that certain employees (particularly health care workers) face a significant health risk as a result of occupational exposure to blood and other potentially infectious materials (OPIM), because they contain BBPs.

In order to minimize or eliminate the risk of occupational exposure to BBPs, OSHA issued the Occupational Exposure to Bloodborne Pathogens Standard. This Standard sets forth actions that employers must take to reduce the risk of exposure to BBPs in the work place. These actions include: the establishment of an exposure control plan; the use of engineering and work practice controls; personal protective equipment; housekeeping procedures; employee training; medical surveillance; Hepatitis B vaccinations; the use of warning labels and signs; and other provisions.

The following material provides a detailed overview of the various requirements of the OSHA Occupational Exposure to Bloodborne Pathogens Standard.

II. Scope of Coverage

The Standard applies to all employees who have occupational exposure to blood or OPIM.

- A. Occupational Exposure.** Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that may result from the performance of an employee's duties.

- B. Blood.** Human blood, human blood components, and products made from human blood.

- C. Other Potentially Infectious Material (OPIM).** Includes 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 body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

OPIM also includes any unfixated tissue or organ (other than intact skin) from a human (living or dead); HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solution; and blood, organs or other tissues from experimental animals infected with HIV or HBV.

D. Covered Employees. The BBP Standard covers many types of employees including those in healthcare, non-healthcare, and permanent and temporary work sites. Examples of employees who are likely to be covered include the following:

1. Housekeepers in health care facilities.
2. Personnel in hospital laundries or commercial laundries that service health care or public safety institutions.
3. Employees in first aid or medical clinics in industrial, educational, and correctional facilities (i.e., those who clean and dress wounds).
4. Employees assigned to provide first aid.
5. Physicians, physicians' assistants, nurses, and other health care employees in clinics and physicians' offices.
6. Employees of clinical and diagnostic laboratories.
7. Tissue bank personnel.
8. Employees in blood banks and plasma centers who collect, transport, and test blood.
9. Dentists, dental hygienists, dental assistants, and dental laboratory technicians.
10. Staff of institutions for the developmentally disabled.
11. Hospice employees.
12. Home health care workers.
13. Staff of nursing homes and long term care facilities.
14. Employees of funeral homes and mortuaries.

15. HIV and HBV research laboratory workers.
16. Employees handling infectious waste.
17. Medical equipment service and repair personnel.
18. Emergency medical technicians, paramedics, and other emergency medical service providers.
19. Firefighters, law enforcement personnel, and correctional officers.

E. Housekeepers/Janitors in Non-Health Care Settings. While OSHA does not generally consider maintenance personnel and janitorial staff employed in non-health care facilities to have occupational exposure to blood and OPIM, it is the employer's responsibility to determine which job classifications or specific tasks and procedures involve such occupational exposure. However, OSHA has issued opinions on certain maintenance practices as to whether they involve occupational exposure to blood or OPIM.

For example, OSHA generally does consider janitorial employees to be exposed to blood or OPIM when emptying waste containers containing discarded sanitary napkins. OSHA expects products such as discarded sanitary napkins to be discarded into waste containers that are lined in such a way as to prevent contact with the contents. Furthermore, OSHA does not generally consider discarded feminine hygiene products, used to absorb menstrual flow, to fall within the definition of blood or OPIM. The intended function of such products is to absorb and contain blood. The absorbent material of which they are composed would, under most circumstances, prevent the release of liquid or semi-liquid blood or the flaking off of dried blood.

Furthermore, OSHA does not consider employees who are exposed or handle feces, nasal secretions, sputum, sweat, tears, urine, vomit, or saliva (other than saliva from dental procedures) to be occupationally exposed because these substances are not defined by the standard as "other potentially infectious material" unless they are visibly contaminated with blood.

Regardless of the above, the burden is on the employers to determine if their employees have occupational exposure as defined by the standard. If OSHA determines, on a case by case basis, that sufficient evidence exists of reasonably anticipated exposure, the employer will be held responsible for providing the protections of the BBP standard to those employees with occupational exposure.

III. Exposure Control Plan

Each employer having an employee(s) with occupational exposure to blood or OPIM shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure. The Exposure Control Plan shall contain at least the following elements:

A. Contents.

1. Exposure Determination.
2. Schedule and Method of Implementation of Methods of Compliance.
3. Procedure for the Evaluation of Circumstances Surrounding Exposure Incidents.

B. Accessible. The Plan shall be accessible to employees.

C. Annual Review and Update. The Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect exposure and to reflect new or revised employee positions with exposure.

IV. Exposure Determination

Employers must prepare an exposure determination which includes the following:

- A. A list of all job classifications in which all employees have occupational exposure;
- B. A list of job classifications in which some employees have occupational exposure; and
- C. A list of all tasks and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed above.

V. Methods of Compliance

The standard describes various methods of compliance that the employer must take to protect their employees from exposure to BBPs and OPIM. These methods include universal precautions, engineering and work practice controls, personal protective equipment, and housekeeping.

A. Universal Precautions. Under this approach, all human blood and certain body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

B. Engineering and Work Practice Controls. Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall be used.

1. Handwashing facilities shall be provided by employer. If not feasible, employer shall provide antiseptic hand cleaners. When antiseptic hand cleaners are used, hands shall be washed with soap and running water as soon as possible.
2. Hands must be washed and any other skin, or flush membranes immediately or as soon as feasible following contact of such area with blood or OPIM.
3. Hands must be washed immediately or as soon as feasible after removal of gloves or other PPE.
4. Contaminated needles and other sharps shall not be bent, recapped, removed , sheared or broken.
5. Contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed.
6. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses is prohibited in work areas where there is reasonable likelihood of occupational exposure.
7. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or OPIM are present.
8. Procedures involving blood or OPIM shall be performed in such a manner so as to minimize splashing, spraying spattering and generation of droplets of these substances.
9. Mouth pipetting or suctioning of blood or OPIM is prohibited.
10. Specimens of blood or OPIM shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.
11. Equipment which may become contaminated with blood or OPIM shall be examined prior to servicing or shipping and shall be decontaminated as necessary.

C. Personal Protective Equipment (PPE). PPE must be used if occupational exposure remains after instituting engineering and work practice controls, or if those controls are not feasible.

1. Employer must provide appropriate personal protective equipment (PPE) such as gloves, gowns, laboratory coats, face shields, masks, and eye protection at no cost to

employees.

2. Employers shall ensure that employees use appropriate PPE.
3. Employer shall ensure that PPE is available in the appropriate sizes, and is readily accessible or issued to employees.
4. Employer shall clean, launder, dispose of, repair or replace PPE at no cost to employees.
5. Garments or other PPE penetrated by blood shall be removed immediately or as soon as feasible. All PPE shall be removed prior to leaving the work area.
6. Gloves must be worn when reasonably anticipated that employee may have hand contact with blood or OPIM when handling contaminated items or surfaces.

D. Housekeeping. In addition to other compliance methods, the standard requires that the employer maintain the work site in a clean and sanitary condition. Employers must follow certain procedures for cleaning and decontaminating the environment, equipment and work surfaces, and for handling contaminated laundry and regulated waste.

1. Employer shall determine and implement an appropriate written schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present and tasks or procedures being performed in the area.
2. Work surfaces contaminated with blood or OPIM shall be decontaminated with an *appropriate disinfectant* immediately or as soon as possible.
 - a) **Products with TB Claims**—Such products are considered “appropriate” for the purposes of decontaminating surfaces contaminated with blood or OPIM. .
 - b) **Products with HIV and/or HBV Claims**—Such products are considered “appropriate” disinfectants to clean contaminated surfaces provided such surfaces have not been contaminated with agents for which higher level disinfection is recommended.
 - c) **General Purpose Disinfectants**—Such products are considered appropriate for general housekeeping procedures which do not involve the clean up surfaces contaminated with blood or OPIM.
3. All bins, pails, trash cans and similar receptacles intended for reuse and which have a

reasonable likelihood for becoming contaminated with blood or OPIM shall be inspected and decontaminated on a regularly scheduled basis. They shall be cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

4. Broken glassware that may be contaminated shall not be picked up directly with the hands.

5. Contaminated sharps shall be discarded immediately or as soon as feasible in appropriate containers that are labeled or color coded.

6. Regulated waste shall be placed in appropriate containers that are labeled or color coded.

7. Contaminated laundry shall be bagged or containerized at the location where it was used in labeled or color coded bags or containers.

a) If wet, laundry shall be placed in bags/containers that prevent soak through and/or leakage.

b) Employees who have contact with contaminated laundry shall wear protective gloves and other appropriate PPE.

c) If shipped off site, laundry must be shipped in color coded or labeled bags or containers.

E. Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-Up. The employer is required to make available the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure. Employers must also provide post-exposure evaluation and follow-up to all employees who have an exposure incident. (An exposure incident is a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or OPIM.) All medical evaluations and procedures must be provided at no cost to the employee.

1. Employers must offer the Hepatitis B vaccine and vaccination series within 10 working days of initial assignment to employees who have occupational exposure to blood or OPIM.

2. Employees must sign a declination form if they choose not to be vaccinated, but may request and obtain the vaccination at a later date at no cost.

3. After an exposure incident, a confidential medical evaluation and follow-up must be made available to the exposed employee and shall include the following:

a) Documentation of the route(s) of exposure, and the circumstances under which the exposure occurred.

b) Identification and testing of the source individual if feasible.

c) Testing the exposed employee's blood if he/she consents.

d) Post-exposure prophylaxis.

e) Counseling.

f) Evaluation of reported illness.

4. Following the post-exposure evaluation, the health care professional must provide a written opinion to the employer. This opinion is limited to a statement that the employee has been informed of the need, if any, for further evaluation or treatment. All other findings are confidential. The employer must provide a copy of the written opinion to the employee within 15 days of the evaluation.

F. Communication of Hazards to Employees. The hazards of BBPs and OPIM must be communicated to employees through signs, labels and training.

1. **Labels.** Warning labels shall be affixed to containers of regulated waste, refrigerators, and freezers containing blood or OPIM.

a) Warning labels shall include the "biohazard" legend followed by the term "BIOHAZARD" and shall be fluorescent orange or orange-red with lettering and symbols in a contrasting color.

b) Labels shall be affixed as close as possible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

c) Individual containers of blood or OPIM that are placed in a labeled container during storage, transport, shipment or disposal are exempt from the labeling requirement.

d) Red bags or red containers may be substituted for labels.

2. **Signs.** Employers shall post the biohazard sign at the entrance to HIV and HBV research laboratories and production facilities work areas.

3. Information and Training. Employers shall ensure that all employees with occupational exposure participate in a training program that must be provided at no cost to the employee during work hours.

a) Training shall be provided at the time of initial assignment and at least annually thereafter.

b) Additional training shall be provided when changes such as modification of tasks or procedures affect the employee's occupational exposure.

c) The training materials and content must be appropriate in content, language, and vocabulary to the educational, literacy, and language background of the employee(s).

d) The person conducting the training shall be knowledgeable in the subject matter.

e) Some elements of the training program include providing: an accessible copy of the regulatory text and explanation of its contents; an explanation of the modes of transmitting and epidemiology of HBV and HIV; an explanation of the written exposure control plan and how to obtain a copy; an explanation of the use and limitations of engineering controls, work practices, and PPE.

G. Recordkeeping. Employers are required to maintain two types of employee related records: medical and training.

1. Medical Records. Employers must establish and maintain an accurate record for each employee with occupational exposure. Records are to be treated as confidential and shall only be disclosed with the employee's permission. Employers shall maintain the records for the duration of employment plus 30 years. Records must include:

a) Employee's name and SSN.

b) Employee's Hepatitis B vaccination status.

c) Copy of all results of examinations, medical testing, and follow-up procedures.

d) Employer's copy of the health care professional's written opinion.

e) Copy of information provided by the employer to the health care professional.

2. **Training Records.** Training records must be maintained for three years from the date on which training occurred, and shall include: date of the training session; contents/summary of the training session; names and qualifications of persons conducting the training; and names and job titles of persons attending the training session.

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