

Blood-borne Pathogens Part 1

Occupational Safety and Health Standards - Toxic and Hazardous Substances

Scope and Application

This applies to all occupational exposure to blood or other potentially infectious materials.



Definitions

Assistant Secretary: the Assistant Secretary of Labor for Occupational Safety and Health, or a designated representative.

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) and human immunodeficiency virus (HIV).

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 an item or surface

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

Contaminated Sharps: any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires

Decontamination: the use of physical or chemical means to remove, inactivate, or destroy blood-borne 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

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

Engineering Controls: controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needle-less systems) that isolate or remove the blood-borne pathogens hazard from the workplace

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

Hand-washing Facilities: a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines

Licensed Healthcare Professional: a person whose legally permitted scope of practice allows him or her to independently perform the required activities B Vaccination and Post-exposure Evaluation and Follow-up

HBV: hepatitis B virus

HIV: human immunodeficiency virus

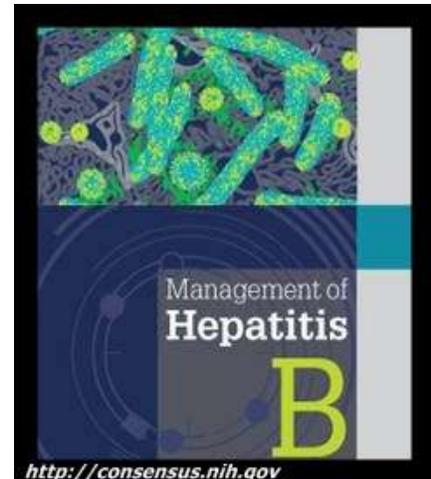
Needle-less systems: a device that does not use needles for:

- (1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established;
- (2) The administration of medication or fluids; or
- (3) Any other procedure involving the potential for occupational exposure to blood-borne pathogens due to percutaneous injuries from contaminated sharps.

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.

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



(3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

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

Personal Protective Equipment: specialized clothing or equipment worn 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 or HBV.

Regulated Waste: liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

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

Sharps with engineered sharps injury protections: a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Source Individual: any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic 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.

Sterilize: the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions: 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, and other blood-borne pathogens.

Work Practice Controls: controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

Exposure Control -- Exposure Control Plan

Each employer having an employee(s) with occupational exposure 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:

- The exposure determination,
- The schedule and method of implementation for Methods of Compliance, HIV and HBV Research Laboratories and Production Facilities, Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, Communication of Hazards to Employees, and Recordkeeping, of this standard, and
- The procedure for the evaluation of circumstances surrounding exposure incidents.

Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees.

The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures that affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans shall also:

- Reflect changes in technology that eliminate or reduce exposure to blood-borne pathogens; and
- Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

An employer, who is required to establish an Exposure Control Plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.



Exposure Determination

Each employer who has an employee(s) with occupational exposure shall prepare an exposure determination. This exposure determination shall contain the following:

- A list of all job classifications in which all employees in those job classifications have occupational exposure;
- A list of job classifications in which some employees have occupational exposure, and
- A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed.

This exposure determination shall be made without regard to the use of personal protective equipment.

Methods of Compliance

General. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

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 also be used.

Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

Employers shall provide hand-washing facilities that are readily accessible to employees.

When provision of hand-washing facilities is not feasible, the employer shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.

Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

Employers shall ensure that employees 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 other potentially infectious materials.

Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as otherwise noted. Shearing or breaking of contaminated needles is prohibited.

Contaminated needles and other contaminated sharps shall 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 through the use of a mechanical device or a one-handed technique.



Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:

- Puncture resistant;
- Labeled or color-coded in accordance with this standard;
- Leak-proof on the sides and bottom; and
- In accordance with the requirements for reusable sharps.

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 shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench-tops where blood or other potentially infectious materials are present.

All procedures involving blood or other potentially infectious materials shall 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.

Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

The container for storage, transport, or shipping shall be labeled or color-coded and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding is required when such specimens/containers leave the facility.

If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless

the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

A readily observable label shall be attached to the equipment stating which portions remain contaminated.

The employer shall ensure that this information is conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate prior to handling, servicing, or shipping so that appropriate precautions will be taken.



Personal Protective Equipment

Provision. When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered “appropriate” only if it does not permit blood or other potentially infectious materials to pass through to or reach the employee’s work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Use. The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the

employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

Accessibility. The employer shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powder-less gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.

Cleaning, Laundering, and Disposal. The employer shall clean, launder, and dispose of personal protective equipment at no cost to the employee.

Repair and Replacement. The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.

All personal protective equipment shall be removed prior to leaving the work area.

When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

Gloves. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-

intact skin; when performing vascular access procedures except as otherwise specified and when handling or touching contaminated items or surfaces.

Disposable (single use) gloves such as surgical or examination gloves, shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

Disposable (single use) gloves shall not be washed or decontaminated for re-use.



Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

- Periodically reevaluate this policy;
- Make gloves available to all employees who wish to use them for phlebotomy;
- Not discourage the use of gloves for phlebotomy; and
- Require that gloves be used for phlebotomy in the following circumstances:
 - When the employee has cuts, scratches, or other breaks in his or her skin;

- When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and
- When the employee is receiving training in phlebotomy.

Masks, Eye Protection, and Face Shields

Masks in combination with eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

Gowns, Aprons, and Other Protective Body Clothing

Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.

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).

Housekeeping

General. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The 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.

All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.



Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced 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.

All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dust pan, tongs, or forceps.

Reusable sharps that are contaminated with blood or other potentially infectious materials 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.

Regulated Waste

Contaminated Sharps Discarding and Containment

Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

- Closable;
- Puncture resistant;
- Leak proof on sides and bottom; and
- Labeled or color-coded.

During use, containers for contaminated sharps shall be:

- Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries);
- Maintained upright throughout use; and
- Replaced routinely and not be allowed to overfill.

When moving containers of contaminated sharps from the area of use, the containers shall be:

- Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

- Placed in a secondary container if leakage is possible. The second container shall be:
- Closable;
- Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
- Labeled or color-coded.

Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.



Other Regulated Waste Containment

Regulated waste shall be placed in containers which are:

- Closable;
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
- Labeled or color-coded; and
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:

- Closable;
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;
- Labeled or color-coded; and
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

Laundry

Contaminated laundry shall be handled as little as possible with a minimum of agitation.

Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded. When a 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.

Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

The employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

When a facility ships 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.

