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Infection control guidelines—An update for the optometric practice

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This report provides recommendations to optometrists for the prevention of in-office disease transmission. It is an update of "Infection Control: Guidelines for the Optometric Practice" that was published in the December 1993 issue of *Journal of the American Optometric Association*.[1]

Optometrists are now providing an expanded scope of service in the treatment and management of eye diseases and eye injuries. Some aspects of optometric practice may include the use of techniques and procedures that pose an increased risk for transmission of blood-borne and airborne infectious diseases. Although considerable attention has been directed toward the transmission of the human immunodeficiency virus (HIV) and the hepatitis B and C viruses (HBV and HCV), these are certainly not the only pathogens for which precautions need to be taken. Other associated pathogens include adenovirus, herpes simplex virus, and bacterial infections such as tuberculosis, pseudomonas, and staphylococcus. Transmission of pathogens can be prevented through the use of universal precautions and standard disinfection procedures in health care practice within optometric practices. Therefore, this report focuses on the use of appropriate office hygiene procedures and universal precautions to prevent exposure to and/or transmission of disease.

Most optometric procedures are considered to be extremely low risk for the transmission of disease. To place this in perspective, after nearly 25 years of surveillance by the Centers for Disease Control and Prevention (CDC), no scientific evidence or documented cases exist of HIV, HBV, or HCV transmission resulting from optometric care, from either patient to doctor or doctor to patient.[2,3] Furthermore, although HBV is considered far more transmissible than HIV, there is no scientific evidence that either HBV or HIV can be contracted from tears, contact lenses, or routine patient contact. However, under some circumstances, e.g., when instruments come in direct contact with an infected patient, when exposure to blood occurs, or when cultures are taken, there is the potential for the transmission of disease. Thus, there is a need to treat all patient encounters in a uniform manner, including the use of universal infection control precautions.

This report is divided into 2 sections. Section One applies to all optometric practices. It provides basic recommendations for infection control to protect patients and optometric staff. Section Two applies to optometric practices in which there is risk of exposure to bloodborne pathogens. It provides a review of the requirements of the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard and a sample exposure control plan for use in optometric practices. A copy of the complete OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030, Directive number 02-02-069) is available at the OSHA Web site at *www.osha.gov* or from the American Optometric Association (AOA). Based on procedures in a particular practice setting, determination should be made as to whether only Section One (Universal Precautions) applies or if both Section One and Section Two (OSHA Standards) are applicable. If both sections apply, all aspects of this report including the OSHA Standard must be met.

Section One

With the increased prevalence of acquired immune deficiency syndrome, hepatitis, and other bacterial and viral

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diseases in the United States, eventually some patients carrying these diseases will be encountered in the wide variety of settings in which optometry is practiced. It is impractical to try to identify all patients or health care providers who may be carrying infectious agents. As a result, the following universal protection control procedures should be used routinely by optometrists and their staff for all patients seen at each visit. These guidelines, known as "universal precautions," have been developed based on the recommendations of the CDC to prevent the transmission of disease within health care practices.[2,4,5]

Hand washing

Proper hand washing represents one of the most effective means of preventing the transmission of disease. Many eye diseases are manually transmissible, and it is the responsibility of optometrists and their staff to practice effective hand washing before and after examinations and procedures.

Hands should be thoroughly washed with soap and water and thoroughly dried with disposable paper towels or cleaned with an alcohol-based handrub. When using an alcohol-based handrub, the CDC recommends that the hands should be rubbed until dry, being careful to cover the entire skin surface of the hands and fingers. If the hands are visibly soiled, an alcohol-based handrub is not indicated, and the hands must be washed with soap and water.[6]

Fingernails should be of reasonable length and clean; wearing artificial nails is not recommended because they are a reservoir of gram-negative bacteria even after hand washing. Hands should be inspected frequently for cuts, abrasions, or breaks in the skin.

Disposable medical gloves

All health care workers should routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when in contact with blood or other potentially infectious materials (this does not include tears, unless they contain visible blood). If an open wound or weeping lesion is present on the patient or the hands of optometrists or their staff, disposable gloves should be worn. Disposable gloves are available in latex or latex-free varieties as well as powdered or powder-free.

Disposable gloves should be readily available for use by optometrists and their staff when needed. All staff members should be instructed as to their proper use, particularly noting that:

1. Gloves are not a substitute for hand washing.
2. Gloves are for single-use only and are discarded after each patient use.
3. Hands should be washed after gloves are removed.

When choosing gloves, it must be remembered that both health care workers and patients may be allergic to latex. In those sensitive to latex allergens, either a type 1 or type 4 allergic reaction may occur, including an anaphylactic reaction that can be fatal.[7-9] Additionally, the powder used in powdered examination gloves can be toxic to body tissue and is a documented carrier of latex allergen particles.[9] Many hospitals no longer allow the use of powdered gloves and instead mandate that all medical gloves are powder-free.[7,10]

Gowns and masks

Gowns and masks are normally unnecessary for routine optometric procedures. In those cases in which optometrists or their staff may be in close contact with a patient with a known or suspected pathogen that may be transmitted by airborne means, masks should be used. If an optometrist or a staff member is infected with a pulmonary or other disease that is transmittable via airborne means, masking is necessary to protect the patient.

Gowns and masks should be used as a barrier precaution whenever the possibility of splattering or splashes of blood or other body fluids contaminated with blood or other infectious materials may occur.

Protective eyewear

Protective eyewear is normally unnecessary except in situations or procedures in which blood or contaminated fluids may be splashed into the eyes of optometrists or their staff. Either goggles or eyeglasses with solid side shields may be used for protection.

Handling of tissue

In the course of a patient evaluation, it may be necessary to handle the eyelids or surrounding facial tissue, thus bringing the examiner into contact with potentially infected surfaces. Effort should be made to minimize contact with these tissues, by using gloves, finger cots, or "no touch" techniques involving the use of cotton-tipped applicators.

Handling of sharp instruments

Precautions must be taken to prevent injuries caused by needles, syringes, or other sharp instruments. To prevent needle-stick injuries, used needles should not be bent, broken or recapped by hand. After they are used, disposable syringes, needles, and other sharp items must be placed in appropriate infectious waste containers for disposal. Non-disposable sharps should be placed in puncture-resistant containers for sterilization. These containers must be readily accessible.

Instrument disinfection

All instruments that come in contact with the ocular adnexa of a patient, such as gonioscopy and fundus contact lenses,

should be wiped clean and thoroughly disinfected and/or sterilized as appropriate after each use per manufacturer guidelines. Most ophthalmic instruments can be disinfected by immersion for 10 minutes in one of the following solutions:

1. 3% hydrogen peroxide
2. 0.5% sodium hypochlorite solution (1:10 dilution of common household bleach)
3. 70% ethanol or isopropyl alcohol

They may also be soaked in any commercial germicidal solution that is registered with the Environmental Protection Agency (EPA) as a "sterilant" and is compatible with the instrument.[11-15] The device should be rinsed thoroughly with sterile saline and air dried before reuse.

Special care may need to be taken to protect tonometer tips from damage. Two reports have noted isopropyl alcohol, although effective in removal of viruses, may damage Goldmann applanation tonometer tips over time.[11,17] One study comparing all 3 primary disinfection solution procedures has recommended the use of 3% hydrogen peroxide as the method of choice for Goldmann tonometers.[12] Recently, Haag Streit has updated their recommendations for tonometer tip disinfection. These new instructions may be found at *www.haag-streit-usa.com/pdf/disinfect.pdf*.[18]

The tip of a digital pneumotonometer or tonopen should be covered with a disposable latex cover that is discarded after use.

Although rarely used, the Schiötz tonometer must be disassembled between uses to clean and effectively disinfect the barrel.

Because the noncontact tonometer does not make contact with the cornea or tears, it does not require routine disinfection. However, the front surface may be wiped with an alcohol swab if it should accidentally touch the eye.

Instrument sterilization

Any instruments used for procedures on sterile tissue or that come into contact with the vascular system must be sterilized. Instruments used for lid procedures, for example, must be properly sterilized.

The most efficient and cost-effective method of sterilization for the optometric office is via a small tabletop steam autoclave unit. Items sterilized should be properly prepared by wrapping in peel pouches before sterilization to maintain instrument sterility after processing. Manufacturer guidelines must be followed to properly maintain each system.

Recommendations for steam sterilization require a minimum of 15 minutes at 121°C. Instruments should be cleaned before sterilization and should be dry upon removal from the autoclave. Weekly monitoring of sterilization with a known biologic indicator is advised to ensure proper sterilization.[19]

Needles are disposed of after use, and as such, are purchased sterile. To prevent infection, an injection site should be disinfected before injection with an alcohol wipe. Although recommendations vary, the consensus for hospital or clinical injection protocol is that the injection site should be cleaned for 30 seconds with an alcohol wipe and allowed to air dry for another 30 seconds. Not allowing the injection site to air dry completely can contaminate the needle and will increase pain upon injection.[13]

Contact lens disinfection

Optometrists and their staffs involved in the fitting and dispensing of contact lenses should be familiar with proper disinfection techniques for in-office use. Lenses should be applied or removed only after proper hand washing. All trial lenses must be disinfected after each patient use, using one of the following CDC recommended procedures.[12]

1. Gas-permeable (GP) lenses can be disinfected using a commercially available hydrogen peroxide system approved for use with soft contact lenses. GP lenses should not be heat disinfected because the lenses may warp.
2. Soft contact lenses can be disinfected with an approved hydrogen peroxide system. Some soft lenses have also been approved for heat disinfection.
3. Hard lenses (PMMA) can be disinfected with a commercially available hydrogen peroxide system currently approved for use with soft contact lenses. Additionally, most hard lenses can be disinfected using the standard heat treatment regimen used for soft lenses (78° to 80°C) for 10 minutes.

Hydrogen peroxide is the only disinfection system approved by the CDC for the disinfection of HIV.[2] A literature review found no studies that evaluate the ability of multi-purpose solutions to kill HIV. *Acanthamoeba* can be difficult to kill for both multipurpose (MPS) systems as well as hydrogen peroxide, but resistance to disinfection varies depending on the strain.[14]

Infectious waste disposal

The EPA and CDC, as well as many state, county and city governments have developed guidelines that govern the disposal of hazardous or infectious waste. Optometrists should be familiar with the requirements they may need to meet.

Infectious waste has been defined by the EPA as "wastes that in all probability contain pathogenic agents that because of their type, concentration, and quantity, may cause disease in persons exposed to the waste."

Although a number of categories of infectious waste exists, optometric practices would most likely need to be concerned with the following items:

1. All used disposable gloves need to be discarded as hazardous waste.
2. All sharp instruments used in patient care should be considered potentially infectious waste and placed

in appropriate infection control containers for disinfection or disposal.
3. All disposable items (e.g., tissues, gauze) contaminated with blood or other infectious materials should be disposed of using clearly marked infectious waste receptacles.
4. All infectious waste must be placed in appropriate containers and disposed of according to federal, state, and local regulations.

Infection control guidelines checklist

To assist in review of the universal precautions discussed above, Appendix B contains an infection control guidelines checklist. This can be a helpful guide for staff training and for delineating appropriate office procedures.

Section Two

OSHA Bloodborne Pathogens Standard

The infection control guidelines in Section One relate to general precautions that should be taken in the care of all patients within optometric practices. However, OSHA has also developed specific regulations that relate to the prevention of the transmission of bloodborne diseases to health care workers. The Bloodborne Pathogens Standard requires employers to ensure that any of their employees who may be at risk for exposure to blood and other potentially infectious materials are appropriately protected.[4,15,20]

The likelihood of exposure to bloodborne diseases in most optometric practices is limited. OSHA does not consider contact with tears an occupational exposure unless the tears contain visible blood. However, before dismissing these requirements as not relating to a practice, all staff duties and procedures should be assessed. If it can be reasonably anticipated that any employees may come into contact with blood or other potentially infectious materials (as defined in this regulation) as part of routine duties, then one must comply with all aspects of this standard.

Exposure control plan

The standard requires that all employers whose employees may experience occupational exposure must develop and implement a written Exposure Control Plan. A copy of the plan should be accessible to employees, reviewed at least annually, and updated when needed. The following sections list the elements that must be included in the plan.

Exposure determination

A list of all job classifications, tasks, and procedures having potential exposure must be developed.

Methods of compliance

1. The use of universal precautions (as described in Section One) shall be observed to prevent contact with blood or other potentially infectious materials. Precautions include hand washing, wearing gloves (as appropriate) and sterilizing instruments.
2. Engineering and workplace controls shall be used to eliminate or minimize employee exposure. This may include:
   a. Providing hand-washing facilities that are readily accessible to employees.
   b. Ensuring that employees wash their hands immediately after removal of gloves or other personal protective equipment or come in contact with blood or other potentially infectious materials.
   c. Ensuring that needles or other contaminated sharps shall not be bent or recapped except as allowed by the standard.
   d. Prohibiting eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses in work areas where there is a reasonable likelihood of occupational exposure.
   e. Ensuring that engineering controls and "safer medical devices" must be used if they can decrease employee exposure to potential infectious hazards through isolating, removing, or eliminating the hazard.
   f. Documenting annually the consideration and implementation of "safer medical devices" where applicable in the workplace as required by federal law. OSHA requires the adaptation of new "safer medical technology" that would decrease the chance of a bloodborne pathogen exposure.
3. Personal protective equipment shall be used where occupational exposure remains after institution of engineering and workplace controls. Masks in combination with eye protection devices such as goggles or glasses with solid 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, particularly when eye, nose, or mouth contamination can be reasonably expected. Gowns should be worn during procedures that are likely to generate splashes of blood or other potentially infectious materials.
4. Employers shall ensure that the worksite is maintained in a clean and sanitary condition. All equipment and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials. Waste materials containing liquid or semiliquid blood or other potentially infectious materials shall be placed in containers that are closeable, constructed to prevent leakage, and labeled and color coded for identification.
5. Employers shall gather data to identify, evaluate, and select workplace-engineering controls that improve safety

in the workplace from nonmanagement employees who provide patient care services. This must be documented in the employer exposure control plan.

Hepatitis B vaccination

Employers shall make available hepatitis B vaccinations to all employees who have occupational exposure. These must be provided at no cost to the employee. The vaccination must be started within 10 working days of the employee's initial assignment. Should an employee refuse the vaccine, a declination form using specific language requested by OSHA must be signed.

Postexposure follow-up

Postexposure follow-up and evaluation must be made available to all employees who have had an exposure incident.

The evaluation and follow up should include:

1. Documentation of the route of exposure and circumstances under which the exposure occurred.
2. Testing of the individual's blood after consent to determine HBV, HCV, and HIV infectivity.
3. The prompt initiation of postexposure prophylaxis (PEP) as appropriate for HBV, HCV, and HIV.[3]

Information and training

Employers shall ensure that all employees with occupational exposure participate in a training program that must be provided at the time of initial assignment to tasks where occupational exposure may take place and at least annually thereafter. The training shall include:

1. A copy of the OSHA standard and an explanation of its contents.
2. A general explanation of bloodborne diseases and their mode of transmission.
3. An explanation of the practice's exposure control plan.
4. An explanation of the appropriate methods of recognizing tasks that may involve exposure and the use and limitations of methods to prevent exposure.
5. Information on the selection and use of personal protective equipment.
6. Information on the hepatitis B vaccine.
7. An explanation of procedures to follow if an exposure incident occurs and for postexposure evaluation.

Records of training sessions need to be maintained for 3 years and shall include dates provided, summary of training, and names of person(s) conducting the training.

Medical records

Employers shall establish and maintain confidential medical records for each employee with occupational exposure to include name and Social Security number, employer hepatitis vaccination status, and results of any medical examinations or testing.

The methods by which an office will comply with these requirements must be included in a written Exposure Control Plan that should be available for all employees to review. A sample Exposure Control Plan is included in Appendix C. Before finalizing the Exposure Control Plan, the practitioner should review and understand the complete OSHA Bloodborne Pathogen Standard (29 CFR 1910.1030). The complete standard along with the enforcement procedures are available on the OSHA Web site at *www.osha.gov*.

Responsibility to patients

Optometrists have a moral and ethical responsibility to care for all patients.[21] It is also a legal and ethical responsibility of health care providers to be knowledgeable about effective techniques to prevent disease transmission. By adopting universal infection control precautions as a routine aspect of eye care, optometrists, patients and staff are at extremely low risk of contracting bloodborne or air-borne infections.

An infection control plan to address the specific needs of an optometric practice, including staff education, should be developed and implemented. The OSHA Bloodborne Pathogen regulation is a crucial component of disease prevention for an optometric practice.

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Appendix A. Definition of key terms

Bloodborne pathogens—a pathogenic micro-organism that is present in human blood and can cause disease in humans.

Exposure incident—a specific eye, mouth, other mucous membrane, nonintact skin, or parenteral contact with blood or other potentially infectious materials.

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.

Personal protective equipment—specialized clothing or equipment such as gloves, gowns, masks, and eye protection worn by an employee for protection.

Potentially infectious materials—includes blood, semen, vaginal secretion, cerebrospinal fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and any bodily fluid visibly contaminated with blood. (Tears are not considered to be potentially infectious materials under the OSHA Standard unless they contain visible blood.)

Universal precautions—an approach to infection control that treats all blood and body fluids as if they are infectious. Precautions include hand washing, the wearing of gloves (as appropriate) and the sterilizing of instruments.

Appendix B. Infection control guidelines checklist

The following universal precautions should be followed for the care of all patients in an optometric practice.

Hand Washing

- Wash hands and other skin surfaces before every patient contact and immediately after contact with blood or other potentially infectious materials.
- Wash hands immediately after gloves are removed.
- Note that alcohol-based handrubs are an equivalent substitute to hand washing in most instances.

Protective Equipment

- Use appropriate barrier precautions to prevent exposure to blood or other potentially infectious materials.
- Use disposable latex gloves for touching blood, mucous membranes, or non-intact or infected skin of patients.
- Wear gloves if there are any open wounds or cuts on the hands.
- Dispose of gloves after contact with each patient.
- Wear protective eyewear during procedures that are likely to generate splattering of blood or other potentially infectious materials.
- Wear masks during procedures when the transmission of airborne diseases exists.
- Wear gowns during procedures that are likely to generate splashes of blood or other potentially infectious materials.

Handling of Sharp Instruments

- Properly handle and dispose of all disposable needles, syringes, and other sharps to prevent injuries. Never try to bend, break, or recap a used needle by hand.
- Place all nondisposable sharps in puncture-proof containers and disinfect or sterilize after each use.

Note that proper puncture resistant containers must be available for use in disposal of sharps.

Instrument Disinfection

- Wipe clean all instruments that come in contact with the patient, and disinfect or sterilize after each use.

Contact Lens Disinfection

- Disinfect all trial contact lenses after each use by either a chemical (hydrogen peroxide) or heat disinfection system.

Infectious Waste Disposal

- Place all infectious waste in appropriate containers and dispose of according to federal, state, and local regulations.

Appendix C. Infection Control Guidelines Checklist

Practice Name:_____
Date:_____

In compliance with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030, the following Exposure Control Plan has been developed. This plan shall be reviewed and updated annually or whenever necessary to accommodate new tasks or procedures or to reflect new OSHA standards.

A. PURPOSE

The purpose of this Exposure Control Plan is to:

1. Minimize or eliminate occupational exposure to blood or other potentially infectious body fluids; and
2. Comply with 29 CFR 1910.1030 OSHA Bloodborne Pathogen Standard.

B. EXPOSURE

OSHA requires each employer to develop a listing of all job classifications in which employees may incur occupational exposure to blood or other potentially infectious materials. This listing is to identify all at-risk employees so proper training in safe work practices and procedures can be completed. In this office, the following job classifications may incur occupational exposure to blood or other potentially infectious materials:

_____
_____
_____
_____

Tasks and procedures that might cause employees to have occupational exposure include:

Job Classification	Tasks/Procedures

C. METHODS OF COMPLIANCE

The following procedures will be followed in this office to minimize or eliminate occupational exposure to blood or other potentially infectious materials:

1. *Universal Precautions*

Because not all individuals with infectious diseases can be identified, all human blood and certain human body fluids shall be treated as if infectious for HBV, HCV, HIV, and other bloodborne pathogens; therefore, the same infection control procedures and practices will be used with all individuals.

2. *Engineering and Workplace Controls*

Engineering and work practice controls will be utilized to eliminate or reduce exposure to infectious materials. If occupational exposure remains after institution of these controls, personal protective equipment shall be provided and used.

The following engineering and workplace controls will be used:

_____
_____
_____
_____

The above-mentioned controls will be examined and maintained on a regular schedule. In work areas in which there is reasonable likelihood of exposure to blood or other potentially infectious materials, employees will not eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages will not be kept where blood or other infectious materials are present.

3. *Personal Protective Equipment (PPE)*

All personal protective equipment used will be provided without cost to employees. PPE will be chosen based on reasonably anticipated exposure to blood or other potentially infectious materials.

The following procedures will require the use of PPE:

_____
_____
_____
_____

All PPE will be cleaned, laundered, and/or disposed of without cost to the employee. Repairs and replacements will also be made at no cost to the employee. Any garments penetrated by blood or other infectious material shall be removed immediately or as soon as feasible. All PPE will be removed prior to leaving the work area. After removal PPE shall be placed in a designated and appropriate area or container for storage, washing, decontamination or disposal.

Gloves will be worn when it is reasonably anticipated that the employee will have contact with blood or other potentially infectious materials or when handling or touching contaminated items or surfaces. Disposable gloves are not to be washed or decontaminated for reuse and are to be replaced as soon as practical when their function as a barrier to exposure is compromised.

Masks, eye protection or combination face shields are required whenever splashes, splatters, or droplets of blood or other potentially infectious materials may be anticipated and contamination may occur.

4. *Housekeeping*

All contaminated disposable equipment and/or supplies shall be discarded in appropriate containers that are labeled and color coded (fluorescent orange or orange-red). These containers shall be easily accessible and located as close as possible to the work area.

When moving regulated waste containers, the containers shall be closed prior to removal or replacement to prevent

spillage during handling, storage, transport or shipping. If leakage is possible, the container shall be placed in a properly color coded second container with a label attached to identify its contents. Reusable containers shall not be opened, emptied or cleaned in any manner which would expose the employee to the risk of injury or contamination.

D. HEPATITIS B VACCINE

Hepatitis B vaccinations shall be made available to all employees who may have occupational exposure, and post-exposure follow-up will be provided to employees who have had an exposure incident. All medical evaluations and procedures including the Hepatitis B vaccinations and post-exposure follow-up will be:

1. Available at no cost to the employee;
2. Available 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 U.S. Public Health Service recommendations.

Hepatitis B vaccination shall be made available after the employee has received training in occupational exposure and within 10 working days of initial assignment for all employees who have had occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed immunity, or a medical contraindication is indicated.

If an employee initially declines a Hepatitis B vaccination but at a later date decides to accept the vaccination, the vaccination shall then be made available. All employees declining the Hepatitis B vaccination shall sign the OSHA required waiver indicating refusal.

If a routine Hepatitis B vaccine booster is recommended by the U.S. Public Health Service at a future date, such booster injections shall be made available at no expense.

E. POSTEXPOSURE EVALUATION AND FOLLOW-UP

All exposure incidents shall be reported, investigated, and documented. When an employee incurs an exposure incident, it shall be reported to

_____

Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and follow-up including at least the following elements:

1. Route of exposure documentation;
2. Circumstances under which the exposure incident occurred;
3. Identification and documentation of source individual, unless identification is infeasible or impossible.

If the source individual is known, then a blood test shall be done as soon as feasible to determine HIV, HBV, or HCV infectivity.

Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Collections and testing of blood for HBV, HCV, and HIV serological status will comply with the following:

1. Exposed employee's blood shall be collected and tested as soon as feasible after consent is obtained.

Employee will be offered the option of having blood tested for HIV, HBV, or HCV serological status.

All employees who incur an exposure incident will be offered post-exposure evaluation and follow-up PEP in accordance with the OSHA standard.

F. INFORMATION AND TRAINING

Training will be provided at the time of initial assignment to tasks for which occupational exposure may occur and shall be repeated within 12 months. It should include:

1. A copy and explanation of the OSHA standard;
2. Discussion of the epidemiology and symptoms of bloodborne diseases;
3. Explanation of the modes of transmission of bloodborne pathogens;
4. Explanation of the Bloodborne Pathogen Exposure Control Plan and method for obtaining a copy;
5. Identification of tasks that may involve exposure;
6. Explanation of use and limitations of methods to reduce exposure, for example, work practices, engineering controls and PPEs;
7. Information on types, use, location, removal, handling, decontamination and disposal of PPE;
8. Information of the Hepatitis B vaccination, including efficiency, safety, administration and benefits;
9. Information and explanation for appropriate action if exposure incident occurs; and
10. Explanation and identification of appropriate signs, labels and color-coding systems. Additional training shall be provided when there is a change of tasks or procedures.

G. EVALUATION AND REVIEW

_____shall be responsible for annually reviewing this program and its effectiveness and updating it as needed.

Editor's note

- This document is an example only. Consult the complete OSHA Bloodborne Pathogens Standard to assure compliance.