

TENNESSEE DEPARTMENT OF HEALTH

INFECTION CONTROL MANUAL



2015

INFECTION CONTROL
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I. OSHA REGULATIONS

OSHA Regulations

1. Definitions:

Antiseptic - a substance that will inhibit the growth and development of microorganisms without necessarily destroying them.

Blood - human blood, human blood components and products made from human blood.

Bloodborne pathogens - pathogenic microorganisms present in human blood that can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), human immunodeficiency virus (HIV) and hepatitis C virus (HCV).

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 bloodborne 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.

Disinfectant - a chemical that kills infectious agents outside the body by direct exposure to chemical or physical agents.

Engineering Controls - controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne 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.

Germicide - an agent that kills pathogenic microorganisms.

Handwashing Facilities - a facility providing an adequate supply of running potable water, soap, and single use towels

Microorganisms - a minute living microscopic organism such as bacteria, viruses, molds, yeast, and protozoa.

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, HBV or HCV.

Parenteral - piercing mucous membrane or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

Pathogenic microorganism - a microorganism that can cause disease.

Percutaneous - through the skin. Infectious materials may enter the body through compromised skin surfaces (i.e. needle sticks, acne, cuts, lesions, etc.)

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. 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.

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.

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, HCV, and other bloodborne pathogens. Universal precautions apply to blood and other potentially infectious material defined above. Impervious barrier clothing, gloves, face shields, eyewear, must be worn for procedures or with clinical contacts in which blood or potentially infectious materials are present.

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).

2. Exposure Control Plan

PURPOSE:

A written Exposure Control Plan shall be established to eliminate or minimize employee exposure. The following elements shall be included:

- A. **EXPOSURE DETERMINATION:** means the identification of those individuals whose classification includes tasks which may include skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious materials.

Employees whose activities place them at risk are:

Physicians - routine patient assessment - taking of specimens

Nurses - patient assessment, blood tests, family planning and prenatal assessment, home health medical procedures (i.e. infusion or changing dressing, etc.) and specimen gathering.

Nurse Assistants - nurse assistants who bathe persons with non-intact skin (open skin lesions) or medical devices used in the home (catheters, etc.) and those who provide laboratory services in clinics.

Dental Healthcare Professionals (Dentists/Dental Assistants/Dental Hygienists) - saliva (all saliva during dental procedures is considered infectious) during invasive procedures (which nearly always contains blood). Any personnel who cleans equipment, supplies after health assessments.

Housekeeping or custodians - who clean or decontaminate bins or cans in which regulated wastes are gathered in health departments.

Laboratory Workers - any employees who collect, process or perform testing on human specimens in laboratories including the local health department laboratories.

Sexually Transmitted Diseases and Tuberculosis Representatives – who must provide services for and take specimens from individuals with HIV, HBV, HCV or Tuberculosis.

Employees of any classification - performing tasks with an exposure risk (e.g. clerk performing nurse assistant duties).

B. METHODS OF COMPLIANCE -

The written Exposure Control Plan shall include a description of how protection will be achieved.

1. General, universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. (See Section III) **UNDER CIRCUMSTANCES IN WHICH DIFFERENTIATION BETWEEN BODY FLUID TYPES IS DIFFICULT OR IMPOSSIBLE, ALL BODY FLUIDS SHALL BE CONSIDERED POTENTIALLY INFECTIOUS MATERIALS.** Employees shall be trained in Universal Precautions.
2. **In accordance with TCA 50-3-203 (e) (1) (e) (4) evaluate on a continuing basis available sharps injury prevention devices and use those that are more effective in preventing exposure. To facilitate this effort, each region has appointed a Safer Sharps Work Group to meet on a continuing basis and evaluate the newer devices as they become available. The work group is made up of medical, dental and nursing professionals. This group is charged with obtaining information on the newer protective devices and deciding those that will be evaluated by means of pilot projects in the local health department clinics. An evaluation form will be filled out by the clinic providers performing the evaluation, and these evaluations will be used by the Safer Sharps Work Group and central office infection control nurse in determining which devices will be used in state-wide clinics and subsequently placed on the state contract. These reports will be kept on file.**

Locations making use of the newer sharps will provide onsite training for the health care providers who will be expected to utilize the devices.

3. Work practice controls used to prevent exposure shall be described.
A schedule for infection control maintenance of engineering and work place controls shall be established in each clinic.
 - a. Handwashing facilities shall be readily accessible in clinical settings. Where this is not feasible (such as in a home visit), other handwashing cleansers and towels must be made available. The employees will wash hands with soap under running potable water as soon as possible after leaving the home.
 - Handwashing is to take place following removal of protective clothing or gloves.
 - Hands and any other exposed areas must be washed with soap and water after exposure to body areas with blood or other infectious body fluids.

*If a mucous membrane is splashed or sprayed by an infectious material, the mucous membrane must be flushed with running water immediately.
 - b. Contaminated needles and other used sharps must not be bent, broken, sheared, recapped or removed from syringes. The only exception will be dental procedures requiring multiple

injections of an anesthetic. In this case resheathing instruments, self-sheathing needles, or forceps are to be used to prevent recapping by hand.

Contaminated sharps (needles, scalpels, lancets, lancet platforms, microglass tubes, etc.) shall be discarded immediately into biohazard containers.

CONTAINERS ARE NOT TO BE FILLED ABOVE THE FULL LINE.

These waste containers shall be placed out of reach of children.

- ❖ Containers of used sharps will be closed before removing from the clinic site to prevent spillage or protrusion of contents during handling, storage, transport or shipping.
 - ❖ Filled sharps containers are to be stored in the designated biohazardous area.
 - ❖ Patients who use syringes and needles in the home may use hard plastic containers such as liquid detergent or fabric softener for disposal. Lids are to be taped and container labeled as biohazard before disposing into garbage.
 - ❖ **Note:** No food container shall be used for hazardous wastes.
- c. Contaminated laundry shall be handled as little as possible with minimal agitation. Contaminated laundry shall be placed in biohazard bags. All employees handling contaminated laundry must wear protective clothing. An impervious apron and gloves are appropriate. (See Appendix E for further instructions.)
- d. Blood or other potentially infectious specimen shall be placed in a container, which prevents leakage during collection, handling, processing, storage, transport or shipping. After labeling properly (color-coded or biohazard sticker), all specimen are to be placed in the appropriate, hard impervious containers. If the outside of the specimen container becomes contaminated, the specimen must be placed within a second hard, impervious container with the color-coded or biohazard label before transporting or mailing.
- e. Eating, drinking, applying cosmetics, and handling contact lenses are prohibited in areas where there is reasonable likelihood of occupational exposure.
- f. Food and drink must not be kept in refrigerators, freezers, shelves, and cabinets, nor on countertops or benches where blood or other potentially infectious materials are present. These freezers, refrigerators, cabinets, etc. must be labeled with biohazard labels. No food, drink or personal items are to be kept in the clinic or laboratory areas.
- g. All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing or spraying of these substances.
4. Protective devices or barrier protection will be provided for staff to prevent exposure to contamination during exposure prone procedures.
- a. Disposable gloves, latex or nitrile, shall be worn (vinyl gloves are too porous to protect from bloodborne pathogens):
- *Whenever a blood or other potentially infectious specimen is taken, or an invasive procedure is performed,
 - *Whenever the HCW has cuts, dermatitis or open skin lesions.
 - *If a HCW has seeping skin lesions or multiple open wounds they should not participate in invasion prone procedures until healed
 - *Whenever the patient has open skin lesions to clean
 - *To handle specimen containers.

Wash hands under running water with detergent soap before putting on gloves and wash carefully after removal of gloves.

Disposable gloves shall be used only once and disposed of in waste containers.

Gloves shall be changed after each patient contact.

Utility gloves may be worn when cleaning instruments, examining tables, cans, bins or other receptacles used for wastes.

These gloves may be washed with soap under running water and thoroughly rinsed in 10% bleach solution. They must be carefully inspected each time used to assure their integrity. Gloves are to be discarded if contaminated with blood or other infectious waste.

- b. Masks, Eye Protection, Face Shields, and impervious clothing must be worn whenever the possibility of splashes, spray or splatter of infectious materials is possible.

Contaminated face shields, goggles and other devices must be cleaned after use with 10% bleach solution or equivalent decontaminate.

Disposable masks or barriers must be disposed of in contaminated waste.

- c. Laboratory coats or aprons made of impervious material must be worn over clothing whenever occupational exposure is possible. The apron or lab coat is not to be worn outside the risk area. Ex. Bathroom, breakroom.

Disposable coats or aprons contaminated by infectious materials must be disposed of into biohazard waste containers.

- d. Dental engineering and work practice controls: Examples of engineering controls that might be used in a dental clinic are needleless devices, shielded needle devices, self-sheathing anesthetic needles, and dental units designed to shield burs in handpieces. Work practice control examples are needles, scalers, laboratory utility knives, burs, explorers, and endodontic files. These controls can include removing burs before disassembling the handpiece from the dental unity, restricting use of fingers in tissue retraction or palpation during suturing, administration of anesthesia and minimizing uncontrolled movements of such instruments as scalers or laboratory knives. Work-practice controls for needles and other sharps including placing used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers located as close to possible to where the items were used.

- 5. Employees must ensure that the worksite is maintained in a clean and sanitary condition and must establish a schedule for cleaning and decontamination necessary in clinical work areas.

- a. Equipment and work surfaces must be decontaminated with an appropriate decontaminant following spillage of infectious material and at the end of each work shift. *(Freshly made bleach solution shall be used. Always make fresh daily as it loses strength if it sits too long.) A commercial product that meets bactericidal criteria may be used.

**To make a 10% disinfecting Bleach Solution:*

Mix one part commercially available straight bleach to nine parts water.

- b. 1. Clinical examination tables will be covered with a clean paper barrier between each patient. If the paper becomes wet or otherwise contaminated, the table must be washed with a germicidal detergent and a decontaminant (10% bleach solution). Paper visibly contaminated with potentially infectious materials must be disposed of as biohazard waste. Otherwise paper may be put into regular waste containers.
- 2. Reusable receptacles which may become contaminated, must be inspected and

decontaminated as often as necessary (at least once a week) with a 10% bleach solution.

3. Broken glass must be picked up with forceps, tongs, or a dustpan with brush.
4. Filled sharps containers must be closed, removed and replaced with new disposable containers. Used sharps containers must be disposed of as infectious waste. **These containers must not be overfilled.**

C. HEPATITIS B VACCINATION:

Hepatitis B vaccination series will be made available, at no cost to the employees, to every employee who may have occupational exposure to blood or other potentially infectious material. For new at risk employees the vaccine should be made available within 10 working days of initial assignment. Post vaccination testing for HB titers shall be performed 1-2 months after completion of the series.

Non-responders shall have the 3 series vaccine repeated. The employee shall then be retested and if found again to be a non-responder no further vaccine is administered. For an exposure incident to a source known to be infected with HBV, follow the most current recommendations of CDC. Employees, who decline to accept the Hepatitis B vaccination series, must sign the PH form indicating their refusal. (See Appendix E) Should a routine booster dose(s) be recommend by the U.S. Public Health Service at a future date, such booster(s) will be made available to the employee at no cost.

Also see Appendix A for **other** indications for post exposure vaccine and/or HBIG administration.

D. COMMUNICATION OF HAZARDS:

Warning labels and biohazard stickers or signs must be affixed to all regulated wastes, refrigerators and freezers containing blood or other infectious or hazardous waste materials. Containers used to store, transport or ship blood or other potentially infectious materials must also be labeled.

The biohazard label may be fluorescent orange or orange-red or predominately red with lettering symbols in a contrasting color.

Labels should be affixed in such a manner that they will not be lost or removed.

Red bags or red containers may be substituted for labels.

Containers of blood or other potentially infectious materials must be placed in a biohazard labeled container during storage, transport, shipment or disposal.

Equipment that may become contaminated shall be labeled with a biohazard label.

Regulated wastes that have been decontaminated do not need to be labeled or color-coded and may be disposed of in regular wastes.

All employees will be made aware of hazardous chemicals, the Safety Data Sheets (SDS), and how to clean up or contain spills without jeopardizing themselves.

E. ORIENTATION AND TRAINING WILL BE PROVIDED FOR ALL STAFF:

1. Who may be exposed to biohazardous materials at no cost to them during work hours.
 - ❖ As soon as assigned to risk taking tasks
 - ❖ At least annually thereafter
 - ❖ Whenever significant changes in practice or procedural updates are made.

2. Training must include
 - ❖ Copy of the Federal OSHA Bloodborne Pathogen Standard with explanation of its contents.
 - ❖ General explanation of the epidemiology and symptoms of bloodborne diseases Modes of transmission
 - ❖ An explanation and a copy of the Exposure Control Plan for each employee
 - ❖ Explanation of those tasks or activities which may put the employee at risk
 - ❖ Explanation of engineering controls, work practices and personal protective devices (barriers) that will prevent or reduce exposure
 - ❖ Proper handling, use, location, removal decontamination and disposal
 - ❖ An explanation of when and what protective device should be used.
 - ❖ Information on Hepatitis B (HBV) vaccine to include "efficacy, safety, how administered and the benefits and that HBV vaccine will be given free of charge to the employee
 - ❖ Information on what to do and who to notify in an emergency in which an incident involving bloodborne pathogens occurs
 - ❖ Clear explanation of procedure and follow-up of an exposure incident, including forms to complete.
 - ❖ Post exposure follow-up evaluation and counseling to be provided by employer
 - ❖ Explanations of signs, labels and color-coding required
 - ❖ Time for questions and answers allowed
 - ❖ The instructor should be efficient and demonstrate proficiency in infection control practice
 - ❖ Employers will assure that employees are able to demonstrate proficiency in standard microbiological practices before working with HIV, HBV or HCV.

F. RECORD KEEPING SHALL BE MAINTAINED ON EACH EMPLOYEE WHO IS AT RISK FOR OCCUPATIONAL EXPOSURE AND SHOULD INCLUDE:

1. Name
Hepatitis B vaccination status
Copies of all results of examinations, medical testing and follow-up procedures.
A copy of the incident report.
2. All medical records are kept confidential and are not divulged without written consent by the employee.
3. Employee records shall be kept while employee remains in the system plus 30 years.
4. Training records shall be kept to include:

- ❖ Dates of training
- ❖ Content summary
- ❖ Names and qualifications of instructor(s)
- ❖ Records shall be kept for 3 years from time of first training
- ❖ Annual training plus update when new procedures or preventive input becomes available

II. Universal Precautions

1. Assume ALL human blood, plasma, serum, body fluids (semen, saliva in dental procedures, cerebrospinal and amniotic fluid, breast milk, vaginal secretions and any fluid contaminated with blood) and tissues to be contaminated with Human Immunodeficiency Virus (HIV) Hepatitis B Viruses (e.g., HBV), or Hepatitis C (HCV). Handle them with appropriate care!
2. All employees with occupational exposure to blood and other potentially infectious body fluids are to be offered Hepatitis B vaccine at no cost to the employee.
3. Remember: The most susceptible route of laboratory infection for HIV, HBV, and HCV is by accidental needle sticks, contamination of the mucous membranes, or through broken, abraded or irritated skin. Use appropriate caution and maximum protection to prevent such contact.
4. Avoid spilling, splashing or open aerosolization of human blood or body fluids. Wear latex or nitrile gloves and protective garments when handling human materials. If danger of splash or spills exists, use a face shield.
5. Understand the principles of good microbiological practice before working with biohazardous materials. Examples include use of aseptic technique, proper decontamination procedure, emergency biohazard spill management and proper use of biosafety equipment. Develop proficiency before beginning work.
6. Use aseptic technique. Thorough hand washing is essential after patient contact and after handling blood and body fluids and after wearing gloves and prior to exiting the clinic area. Handwashing facilities must be readily accessible to employees.
7. Use great care and caution when handling syringes and needles, sharps or glassware. Never attempt to recap or remove a used needle. Dispose of syringe-needle assemblies in sharp proof, autoclavable containers or disposable biohazard containers.
8. All contaminated liquid or solid wastes are decontaminated before disposal or disposed of in regulated color coded, labeled waste containers.
9. A spill kit (Bleach, leak proof container, paper towels, gloves, forceps, spray bottle) is to be used to clean up infectious material spills. Large spills are cleaned up by donning gloves and lab coats or aprons then pouring 10% bleach solution around edges of spill or alternately paper towels soaked in bleach can be placed over the spill area. Approximately 20 minutes of contact time should be allowed to ensure germicidal action. All materials are then gathered into containers and soaked in bleach for 30 minutes further and then discarded. Small spills can be wiped up with paper towels and sprayed with freshly made 10% bleach solution (1 part bleach, 9 parts water).
10. Clean all work areas and equipment used in handling human biohazardous materials with proven disinfectant (e.g., 10% bleach solution) when concluding work to protect personnel from accidental infection.

11. Mechanical pipetting devices are used; mouth pipetting is prohibited.
12. Eating, drinking, smoking, and applying cosmetics are not permitted in the clinic or laboratory. Food may be stored in cabinets or refrigerators designated and used for this purpose only. Food storage cabinets or refrigerators should be located outside of the work area.
13. All procedures are performed carefully to minimize the creation of aerosols.
14. Laboratory coats, gowns, or uniforms are to be worn to prevent contamination of clothing that will be worn on the street.
15. Report all accidents, untoward occurrences and unexplained illness to your supervisor and the work physician immediately.
16. Caution must be exercised to prevent used, contaminated gloves from cross-contaminating lab surfaces, lab coats, doorknobs, wall switches, phones or lab notebooks. Remove contaminated gloves after each operation and dispose of them as biohazardous waste.
17. Understand the department's post exposure follow-up program and be familiar with the appropriate standard operating procedures for accidental exposure to human materials. The specimens involved must be identified and tested for HIV, HBV, and HCV, and proper procedures followed.

III. Occupational Exposure/Post-Exposure Management

<http://www.cdc.gov/mmwr/PDF/rr/rr5011.pdf>

I. Definition of Occupational Exposure

An *occupational exposure* is defined as 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. For the purposes of this section occupational exposure is specifically defined as:

- A. Percutaneous or parenteral exposures (i.e. needlestick or other penetrating sharps-related injury).
- B. Mucous membrane exposures.
- C. Non-intact skin exposures.
- D. Direct contact with concentrated virus in a research laboratory.
- E. Human bites resulting in blood exposure to either person involved.

Note: The exposure should be evaluated for potential to transmit HIV based on the type of body substance involved and the route and severity of the exposure. See the CDC, [“Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post exposure Prophylaxis,” MMWR, Sept. 2005.](#)

In this section these guidelines will be referred to as the CDC Occupational Exposure Management Guidelines.

II. Immediate Treatment of the Exposure Site

An employee who has had an occupational exposure must immediately:

- A. Wash exposed areas, needle stick sites, and cuts, with soap and water.
- B. Flush the nose, mouth or skin with water, if exposed.
- C. Irrigate exposed eyes with clean water, saline, or sterile solutions for 15-30 minutes
- D. Report exposure to supervisor or designee **as soon as possible.**

III. Exposure Report/Sharps Injury Log

Region/County must ensure that:

- A. When an occupational exposure occurs, the following information is recorded on an Incident/Accident Report (see Appendices F for report form) and maintained as a Sharps Injury Log.
 - 1. Date and time of exposure.
 - 2. Details about the exposed person.
 - a. Job classification of the exposed employee.
 - b. Hepatitis B vaccination and vaccine-response status.
 - 3. Details about the exposure source.
 - a. Whether or not the source person is infected with HBV, HCV, and/or HIV.
 - b. If the source person is HIV-infected, the stage of disease, history of antiretroviral therapy, viral load and antiretroviral resistance information, if known.
 - 4. Description of the exposure incident including the following:
 - a. Type and amount of fluid or material, and the severity of the exposure.
 - b. Body part involved in the incident.
 - c. Use of relevant personal protective equipment.
 - d. Procedure that the exposed worker was performing at the time of the incident.
 - e. Where (i.e., work area where the incident occurred) and how the incident happened including any unusual situation (e.g., violent client).
 - 5. Type and brand of the device (i.e., sharp) involved in the exposure incident.
 - 6. If the sharp had engineered sharps injury protection (ESIP):
 - a. Whether the protective mechanism was activated.
 - b. Whether the injury occurred before the protective mechanism was activated, during activation of the mechanism or after activation of the mechanism, if applicable.
 - 7. If the sharp had no ESIP, the injured employee's opinion as to whether and how such a mechanism could have prevented the injury, as well as the basis for the opinion.
 - 8. The employees' opinion about whether any other engineering, administrative, or work practice control could have prevented the injury, as well as the basis for the opinion.
 - 9. Details about counseling, post exposure management and follow-up, which must be kept in the employee's medical file, not personnel file.

Completion of the Incident/Accident Form (PH-1765)

- 1. The employee and/or supervisor must complete the report as soon as possible following the exposure incident Notify Workman's Compensation by telephone or complete the Workman's Compensation form (TR-0231) if incident involves a state employee. If county or DGA employee,

the county director would file with the appropriate claims person in the county executive's office.

3. The original completed Incident/Accident Form must be kept locally.
4. The Personnel Officer must receive a copy of the completed report within 72 hours of incident. (Reference Policy 3.4)
5. The report shall be recorded and maintained in such a manner as to protect the confidentiality of the injured employee and kept on file for 30 years after termination of employment.

- C. The Tennessee Workers' Compensation and Special Injury Policy is followed. After ensuring proper medical care for the employee, the supervisor or designee must report the exposure to workers compensation.

IV. Evaluation of Exposure and Exposure Source

Region/County must ensure that:

- A. The exposure is evaluated for potential to transmit HBV, HCV, and HIV based on the type of body substance involved and the route and severity of the exposure. The following exposures to blood or other potentially infectious body fluids require further evaluation:
1. Percutaneous or parenteral exposures (i.e. needlestick or other penetrating sharps-related injury).
 2. Mucous membrane exposures.
 3. Non-intact skin exposures.
 4. Direct contact with concentrated virus in a research laboratory.
 5. Human bites resulting in blood exposure to either person involved.
- B. The exposure source is evaluated for evidence of HBV, HCV, and HIV infections.
1. Review information available in the source client's medical record at the time of exposure to determine HBV, HCV, and/or HIV status.
 2. Inform the source client or his/her legal guardian/authorized representative of the incident.
 3. Interview the source client or his/her legal guardian/authorized representative for information that might confirm or exclude HBV, HCV, and HIV infections.
 4. If the HBV, HCV, and/or HIV status of the source client is unknown, ensure that the source client or his/her legal guardian/authorized representative is:
 - a. Given the opportunity to voluntarily consent to test(s).
 - b. Provided pretest counseling.
 - c. Informed that his/her test result(s) will be disclosed to the exposed health care worker and, if positive, will be placed in his/her medical file.

- d. Tested, with consent, for HBs-Ag, anti-HCV, and HIV antibody.
- e. Provided post-test counseling when test results are available.

Note: According to the CDC occupational exposure management guidelines, an FDA-approved rapid HIV antibody test kit should be considered for use in the HIV antibody testing of an exposure source, particularly if the testing of enzyme immunoassay (EIA) cannot be completed within 24-48 hours. Repeatedly reactive results by EIA or rapid HIV-antibody tests are considered to be highly suggestive of infection, whereas a negative result is an excellent indicator of the absence of HIV antibody. Confirmation of a reactive result is not necessary for making initial decisions about post-exposure management, but should be done to complete the testing process and before informing the source client.

5. The source client is not charged for testing.
6. The client's care is not discontinued or adversely affected, even if the client refuses to cooperate.
7. If the exposure source is unknown or cannot be tested, information about where and under what circumstances the exposure occurred should be assessed for the likelihood of transmission of HBV, HCV, or HIV. Consider the source client's medical diagnoses, clinical symptoms, and history of risk behaviors.

Note: If the source client is not infected with a bloodborne pathogen, baseline testing or further follow-up of the exposed person is not necessary.

V. Post-Exposure Management

A. General Management

Region/County must ensure that:

1. The latest CDC occupational exposure management guidelines are followed.
2. A confidential medical evaluation and follow-up is immediately available to the exposed employee. A plan for medical evaluation must be established and well known to employees. **Note:** According to the CDC, to assure timely access to HIV post-exposure prophylaxis, an occupational exposure should be regarded as an urgent medical concern and PEP started as soon as possible after the exposure (i.e., **preferably within one to two hours post-exposure**).
3. A medical file is established for the exposed employee.
 - a. Medical files must include:
 - 1) A copy of the exposure report.
 - 2) Laboratory results.
 - 3) Post-exposure counseling/education.
 - 4) Medical evaluation(s).
 - 5) Follow-up plans.
 - 6) Immunizations and PEP provided.
 - 7) Other records related to the exposure.

- b. Confidentiality of all employee medical files must be maintained.
- c. Medical files must be kept in a locked cabinet and separated from personnel files. **Note:** OSHA requires employers to maintain employee medical records for at least the duration of employment plus 30 years.
- 4. All hepatitis B unvaccinated employees exposed to any blood or body fluid must be encouraged to initiate the hepatitis B vaccine series.
- 5. The physician evaluating the employee after an exposure is provided with the following information:
 - a. A copy of the exposure control plan.
 - b. A copy of the exposure report as soon as available.
 - c. HBV, HCV, and HIV status of the source client and other relevant health information about the source when available.
 - d. If the source client is known to have HIV infection, information about the person's stage of infection, CD4 count, HIV viral load results, current and previous antiretroviral therapy, and results of any genotypic or phenotypic viral resistance testing if/when available.
 - e. All medical records relevant to the appropriate treatment of the employee including hepatitis vaccination and anti-HBs response status, any current or underlying medical conditions or circumstances, and pregnancy status, which may influence post-exposure prophylaxis and counseling.
- 6. The prophylactic treatment or immunizations ordered by the physician are provided to the employee at no charge.

B. Management of Exposures or Potential Exposures to HBV

Regions must ensure that:

- 1. The source client's hepatitis B surface antigen (HBsAg) status is evaluated.
- 2. The hepatitis B vaccination and vaccine-response status of the exposed employee is reviewed.
- 3. The employee is tested for antibodies to hepatitis B surface antigen (anti-HBs), if indicated, with consent.
- 4. Employees who refuse HBV testing, must sign a refusal to consent form (see Appendix E for form).
- 5. The prophylactic treatment or immunizations ordered by the physician are provided to the employee.
 - a. If indicated, Hepatitis B Immune Globulin (HBIG) and/or Hepatitis B vaccine should be administered as soon as possible after exposure (i.e., preferably within 24 hours, but no later than 7 days). Contact Regional Office for obtaining HBIG.
 - b. If the employee refuses post-exposure treatments or immunizations, have him/her sign a refusal of treatment form.

6. Follow-up anti-HBs testing of employees who receive hepatitis B vaccine is performed within 1-2 months after the last dose of vaccine. **Note:** If HBIG was given in the previous 3-4 months, anti-HBs response cannot be determined.
7. Employees exposed to HBV are counseled on measures to reduce potential secondary transmission during the follow-up period. According to the CDC occupational exposure management guidelines, healthcare workers exposed to viral hepatitis:
 - a. Do not need to take special precautions to prevent secondary transmission during the follow-up period.
 - b. Should refrain from donating blood, plasma, organs, tissue or semen.
 - c. Do not need to modify sexual practices.
 - d. Do not need to refrain from becoming pregnant.
 - e. Do not need to discontinue breastfeeding. **Note:** If a pregnant woman is HBV infected, she can begin breastfeeding immediately after birth, with the caveat that her infant receives both hepatitis B immune globulin, and the first dose of hepatitis B vaccine within 12 hours of birth.
 - f. Do not need to modify patient-care responsibilities. Continue to follow standard precautions and strict aseptic technique.

C. Management of Exposures or Potential Exposures to HCV

Region/County must ensure that:

1. The source client is tested for antibodies to hepatitis C virus (anti-HCV) as indicated.
2. After percutaneous or mucosal exposures to an anti-HCV positive source client, employees are monitored, with consent, for HCV infection through:
 - a. Baseline serologic testing.
 - b. Follow-up in six weeks, twelve weeks and six months.**Note:** If the employee refuses monitoring, have him/her sign a refusal of treatment form.
3. Confirmational tests are available through LabCorp.
4. Employees exposed to HCV are counseled on measures to reduce potential secondary transmission during the follow-up period. According to the CDC occupational exposure management guidelines, healthcare workers exposed to viral hepatitis:
 - a. Do not need to take special precautions to prevent secondary transmission during the follow-up period.
 - b. Should refrain from donating blood, plasma, organs, tissue or semen.
 - c. Do not need to modify sexual practices.
 - d. Do not need to refrain from becoming pregnant.

- e. Do not need to discontinue breastfeeding. **Note:** According to CDC, HCV infected women do not need to avoid breastfeeding. However, they should consider abstaining from breastfeeding if nipples are cracked or bleeding.
- f. Do not modify patient-care responsibilities. Continue to follow standard precautions and strict aseptic technique.

Note: Immune globulin and antiviral agents are not recommended for PEP after exposure to HCV-positive blood. In addition, currently there are no guidelines for administration of therapy during the acute phase of HCV infection.

D. **Management of Exposures or Potential Exposures to HIV**

Regions/Counties must ensure that employees exposed to HIV are:

1. Encouraged to have a medical evaluation and follow-up immediately.
2. Provided initial HIV counseling and education.
3. Offered baseline blood collection for HIV antibody testing or for storage.
 - a. If the baseline HIV antibody test is negative, offer to repeat the test at six weeks, twelve weeks and six months, if test continues to be negative. Do appropriate pre-test and post-test counseling for each test.
 - b. If the employee refuses the HIV antibody test, a declination form must be signed by the employee and placed in the employee's medical record.
4. Provided post-test counseling when test results are available
5. Informed that the source client's care and confidentiality must be maintained.
6. Evaluated for PEP. **Note:** Recommendations for PEP are based on the risk for HIV infection after different types of exposures and on data regarding the efficacy and toxicity of PEP.
7. Provided PEP as ordered by the physician. ([See current recommendations for 2 drug and 3 drug treatment in Table 1.](#))
 - a. Regions should have drugs for initial management of an HIV exposure readily available.
 - b. PEP should be initiated as soon as possible (i.e., within hours).
 - c. Prior to initiation of PEP, the employee should have the following baseline labs drawn: complete blood count (CBC), and hepatic and renal function.
 - d. Offer pregnancy testing to all women of childbearing age not known to be pregnant.
 - e. Expert consultation is advised in the following situations:
 - 1) Delayed (i.e., later than 24-36 hours) exposure report.
 - 2) Unknown source.
 - 3) Resistance of the source virus to antiretroviral agents.
 - 4) Employee experiences toxicity of the initial PEP regimen.

Note: If a local expert is not available, contact the National Clinicians' Post-exposure Prophylaxis Hotline (PEpline) at 1-888-448-4911.
 - f. PEP should be administered for 4 weeks, if tolerated.
 - g. The HIV-exposed employee taking PEP should be reevaluated within 72 hours after exposure.

- h. If the source client is determined to be negative, PEP should be discontinued.
 - i. All dental exposures are to be reported to the Regional Dental Director.
 - j. Regional Dental Director is to review all incident/accident reports involving dental staff.
8. Monitored for drug toxicity, if taking PEP, as ordered by the physician. Minimally, laboratory monitoring for drug toxicity should include a CBC, and renal and hepatic function tests at baseline and every 2 weeks during PEP.
9. Provided the following counseling, if the employee chooses to take PEP:
- a. Stress the importance of completing the prescribed regimen.
 - b. Provide information about the potential drug-drug or drug-food interactions, drugs that should not be taken with PEP, the side effects of the drugs that have been prescribed, measures to minimize these effects, and the methods of clinical monitoring for toxicity during the follow-up period.
 - c. Advise that the evaluation of certain symptoms should not be delayed (e.g., rash, fever, back or abdominal pain, pain on urination or blood in the urine or symptoms of hyperglycemia [i.e., increased thirst and/or frequent urination]).

Recommended PEP Regimen

2 drug:

Tenofovir 300 mg PO qd + Emtricitabine 200 mg PO daily (or the combination drug Truvada)

3rd drug:

Raltegravir 400 mg PO bid

Timing of Initiation of PEP

When a potential occupational exposure* to HIV occurs, every effort should be made to initiate PEP as soon as possible, **ideally within 2 hours**. A first dose of PEP should be offered to the exposed worker while the evaluation is underway. In addition, PEP should not be delayed while awaiting information about the source or results of the exposed individual's baseline HIV test. Decisions regarding initiation of PEP beyond 36 hours post exposure should be made on a case-by-case basis with the realization of diminished efficacy when timing of initiation is prolonged.

Duration of PEP: 4 weeks

HIV Testing:

Source Client

When the source patient's rapid test result is negative, and the clinician has ascertained that the source patient could have possibly been exposed to HIV in the previous 6 weeks, a plasma HIV RNA assay should be used in conjunction with the rapid HIV antibody test. In these situations, PEP should be initiated and continued until results of the plasma HIV RNA assay are available.

Exposed Health Care Worker

Baseline

6 weeks post-exposure

12 weeks post-exposure

6 months post-exposure

*See Table 1 for Recommended HIV PEP for Percutaneous Exposures

*See Table 2 for Recommended HIV PEP for Mucous Membrane & Non-Intact Skin Exposure

Resources

- Updated USPHS Guidelines for the Management of Occupational Exposures to HIV and Recommendations for PEP (MMWR, Sept 2005)
<http://aidsinfo.nih.gov/contentfiles/HealthCareOccupExpoGL.pdf>
- Updated Info Regarding ARVs Used as HIV PEP for Occupational HIV Exposures (Dec 2007)
http://www.nccc.ucsf.edu/docs/OccPEP_Update121407.pdf
- NYSDOH Updated Guidelines for HIV Prophylaxis Following Occupational Exposure, October 2012
<http://www.hivguidelines.org/wp-content/uploads/2012/12/hiv-prophylaxis-following-occupational-exposure-12-04-2012.pdf>
- AIDS Education and Training Centers National Resource Center (<http://www.aidsetc.org>)

Table 1. Recommended HIV PEP for Percutaneous Occupational Exposures

Exposure type	Unknown Source	Known Source			
		HIV (-)	HIV (?)	HIV (+)	
				No symptoms or VL <1,500	Symptoms, AIDS, Acute Infection or VL ≥1,500
Less Severe	Generally no PEP ..but... Consider 2-drug PEP in settings where exposure to HIV (+) persons is likely	No PEP	Generally no PEP ..but... Consider 2-drug PEP for source with HIV risk factors*	2-drug PEP	≥ 3-drug PEP
More Severe	Generally no PEP ..but... Consider 2-drug PEP in settings where exposure to HIV (+) persons is likely	No PEP	Generally no PEP ..but... Consider 2-drug PEP for source with HIV risk factors*	3-drug PEP	≥ 3-drug PEP

*If PEP is initiated and the source is later determined to HIV (-), PEP should be discontinued.

Table 2. Recommended HIV PEP for Mucous Membrane and Non-Intact Skin Occupational Exposures

Exposure type	Unknown Source	Known Source			
		HIV (-)	HIV (?)	HIV (+)	
				No symptoms or VL <1,500	Symptoms, AIDS, Acute Infection or VL ≥1,500
Small Volume	Generally no PEP	No PEP	Generally no PEP	Consider 2-drug PEP	2-drug PEP
Large Volume	Generally no PEP ..but... Consider 2-drug PEP in settings where exposure to HIV (+) persons is likely	No PEP	Generally no PEP ..but... Consider 2-drug PEP for source with HIV risk factors*	2-drug PEP	≥ 3-drug PEP

*If PEP is initiated and the source is later determined to HIV (-), PEP should be discontinued.

IV. Cleaning, Disinfecting, and Sterilizing

http://www.cdc.gov/hicpac/pdf/guidelines/Disinfection_Nov_2008.pdf

Cleaning, Disinfecting, & Sterilizing

Introduction

FDA recommends that facilities using liquid chemical sterilants should:

- ❖ Adhere to the label instructions regarding concentrations and application times when soaking devices for disinfection.
- ❖ Use disposable sterile equipment and supplies when possible.
- ❖ Do not reuse equipment and supplies intended for single use since these products have not been manufactured to withstand additional sterilization.
- ❖ Use heat sterilization methods for heat-stable instruments and supplies.

For quality control of autoclaves used for steam sterilizer, spore tests should be performed. Frequency of spore testing should be based on the number of loads run, from once a week to once a month.

UNDERSTANDING THE LABELS OF GERMICIDES

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) is responsible for the registration and regulation of germicides. In exercising this responsibility, the EPA requires that label claims be truthful, meaningful and practical for safe and effective use of the product.

When a germicide is being considered for purchase, the label should be checked for:

1. The EPA registration number
2. An ingredient statement
3. Direction for use
4. Adequate safety and precautionary information
5. The name and address of the manufacturer or distributor

Additionally, examine the label for the tabulation of benefits. The claims that appear on the label are established by testing the product against a uniform set of official standards of the Association of Official Analytical Chemists, which are used by the EPA. Under these standards a HOSPITAL DISINFECTANT must be effective against the test organisms *Staphylococcus aureus*, *Salmonella cholerasuis* and *Pseudomonas aeruginosa*. A TUBERCULOCIDAL LABEL means the chemical has been tested against *Mycobacterium tuberculosis var bovia*. Labels may also include a fungicidal, virucidal and sporocidal claims.

The label on a germicide is a legal document and is a guarantee that the product will perform as stated on the label. An informed examination of the label will result in purchase of a germicide that will perform the desired functions effectively.

For general disinfecting procedures in health department clinics and laboratories, a chemical should have an EPA registration number cited on the label and also a tuberculocidal claim on the label. The only exception to this is household bleach, as described throughout this manual. *

See the following pages and Appendix F for Cleaning, Disinfecting, and Disposal of Equipment and Supplies, and Appendix G for General Housekeeping. Please note that custodial employees handling or cleaning contaminated equipment, material, or rooms come under OSHA regulations and must be offered Hepatitis B vaccine and receive training as specified in the OSHA Bloodborne Pathogen standard. Also, a cleaning schedule should be posted for each individual facility. Any disinfectant used in cleaning should bear a label showing EPA approval and tuberculocidal activity.

STERILIZATION OR DISINFECTION OF DENTAL INSTRUMENTS

Dental instruments are classified into three categories – critical, semicritical, or noncritical – depending on their potential risk for infection associated with their intended use. Each dental clinic should classify all instruments as follows:

- **Critical.** Instruments which penetrate soft tissue, contact bone, enters into or contacts the bloodstream or other normally sterile tissue. Examples of these instruments are surgical instruments, periodontal scalers, scalpel blades, and surgical dental burs. These instruments must be sterilized by heat.
- **Semicritical.** Instruments which contact mucous membranes or non-intact skin; will not penetrate soft tissue, contact bone, enter into or contact the bloodstream or other normally sterile tissue. Examples of these instruments are dental mouth mirrors, amalgam condensers, reusable impression trays and dental handpieces. These instruments that are heat stable should be sterilized routinely between uses. *Although dental handpieces are considered semicritical, they should **always** be heat-sterilized between uses and not disinfected, this includes low speed motors and attachments.
- **Noncritical.** Instruments which contact intact skin. Examples of these instruments are radiograph head/cones, BP cuff, facebow and pulse oximeter. Because these noncritical surfaces pose the least risk of transmission of infection, cleaning followed by disinfection with an EPA-registered hospital disinfectant is adequate. If the item is visibly contaminated with blood or OPIM, an EPA-registered hospital disinfectant with a tuberculocidal claim (intermediate-level disinfectant) should be used. Cleaning or disinfecting of these surfaces can be difficult or cause damage to the surfaces, the use of disposable barrier protection is recommended.

Methods of Sterilization or Disinfection of Dental Instruments

All instruments should be processed in a designated central processing area to control quality and ensure safety. It should be divided into sections for cleaning, preparation & packaging, sterilization and storage.

Before sterilization or high-level disinfection, instruments should be cleaned thoroughly to remove debris. Persons involved in cleaning and reprocessing instruments should wear heavy-duty (reusable utility) gloves to lessen the risk of hand injuries. Employees should not reach into trays or containers holding sharp instruments that cannot be seen. Cleaning may be accomplished with a mechanical device (e.g., an ultrasonic cleaner). The use of **covered** ultrasonic cleaners does not require presoaking or scrubbing of instruments and is recommended to increase productivity, improve effectiveness of cleaning and to reduce exposure to blood and bodily fluids. After cleaning, instruments should be rinsed with water

to remove chemical or detergent residue.

All critical and semicritical dental instruments that are heat stable should be sterilized routinely between uses by steam under pressure (autoclaving). An internal chemical indicator should be placed in every package. Critical and semicritical instruments that will not be used immediately should be packaged before sterilization.

Single-use disposable instruments (e.g., prophylaxis angles, prophylaxis cups and brushes, tips for high-speed air evacuators, saliva ejectors, and air/water syringes) should be used for one patient only and discarded appropriately. These items are neither designed nor intended to be cleaned, disinfected, or sterilized for reuse.

Proper functioning of sterilization cycles should be verified by the period use (at least weekly) of biologic indicators (i.e., spore tests). Results of tests should be kept in a log at each clinic site. Heat-sensitive chemical indicators (e.g., those that change color after exposure to heat) do not ensure adequacy of a sterilization cycle but may be used on the outside of each pack to identify packs that have been processed through the heating cycle. A simple and inexpensive method to confirm heat penetration to all instruments during each cycle is the use of a chemical indicator inside the packages of wrapped instruments or in the center of the load of unwrapped dental instruments, all sterilization methods should be followed closely.

Use of liquid chemical germicides, (Cold Sterile), for sterilization is not recommended due to the amount of time required for sterilization (immersion for 12 hours) and the fact that the sterilization process cannot be verified with biological indicators.

Disinfection of Laboratory Materials

Laboratory materials and other items that have been used in the mouth (i.e., impressions, bit registrations, fixed and removable prostheses, orthodontic appliances) should be cleaned and disinfected before being manipulated in the laboratory, whether the laboratory is on-site or a remote location.

When a laboratory case is sent off-site, the Dental Healthcare Professional (DHCP) should provide written information regarding the methods (i.e. type of disinfectant and exposure time) used to clean and disinfect the material, such as impression, stone model or appliance. If the dental laboratory provides the final disinfection, an EPA-registered hospital disinfectant (low to intermediate) should be used, written documentation of the disinfection method is provided, and the item is placed in a tamper-evident container before returning to the dental office.

Because of the increasing variety of dental materials used intraorally, DHCPs are advised to consult with manufacturers regarding the stability of specific materials relative to disinfection procedures. A chemical germicide having at least an intermediate level of activity (i.e., “tuberculocidal hospital disinfectant”) is appropriate for such disinfection. Communication between dental office and dental laboratory personnel regarding the handling and decontamination of supplies and materials is important.

DIAPHRAGM FITTING RINGS

PURPOSE

To provide diaphragm fitting rings free of pathogenic microorganisms.

SUPPLIES

Gloves
Liquid soap and water
Clean, dry, closed container
Autoclave towel

*PROCEDURE

1. Autoclave Method
Autoclave at 121 degrees C/15 psi for between 20 and 30 minutes. The time variation is dependent on whether the articles are wrapped or unwrapped.
Allow to air dry and then place in container until ready for use.
2. Bleach Method
Soak in a 10% bleach solution for 30 minutes at room temperature.
Rinse thoroughly with tap water.
Soak in 70% ethyl or isopropyl alcohol for 15 minutes.
Allow to air dry and then place in container until ready for use.
3. CIDEX® Glutaraldehyde **Method (Method not preferred by TDH because of stringent hazardous chemical standards with use. OSHA Standard 1910.1200.)**
Note: This method requires adequate ventilation and running water.
Immerse in 2% CIDEX® solution for 20 minutes at room temperature.
Rinse thoroughly and place in boiling water for 30 minutes.
Allow to air dry and then place in container until ready for use.

*Methods are per product insert.

CLEANING AND STERILIZING Reusable Instruments

PURPOSE

To provide clinical equipment that is free of pathogenic organisms.

SUPPLIES

Gloves
Paper towels
Detergent
Running water
10% bleach solution or EPA approved disinfectant
Autoclave wrapping
Autoclave

PROCEDURE

Instruments that must be sterile for reuse will be autoclaved.

Observe handwashing and glove procedure
Clean used instruments with a detergent making certain that all secretions and/or debris are removed.
Wrap cleaned, dried instruments and autoclave following manufacturer's recommendations regarding proper temperature, length of cycle, loading and use.
Date package with **Expiration Date**

All disposable devices that have been used in such a manner that they become contaminated with blood or other potentially infectious body fluids must be disposed of into contaminated waste bins.

* Note: Forceps, tongs, pick-ups, etc. shall not be stored in containers with liquid soap or alcohol.

CLEANING AND STERILIZING

Metal Vaginal Speculums

PURPOSE

To provide vaginal speculums free of pathogenic organisms.

SUPPLIES

Utility gloves
Detergent
Running water
10% bleach solution or EPA approved disinfectant
Paper towels
Autoclave
Autoclave wrappers
Timer

PROCEDURE

Metal Speculum:

Observe handwashing and glove procedure
Immediately after use, place speculums in a leakproof container containing an EPA approved disinfectant or bleach solution, timed according to the manufacturer's instructions. (30 minutes for 10% bleach solution)
Discard soaking solution
Wash in soapy water
Dry with paper towels
Wrap speculums individually or by number needed in an examining room and date.
Autoclave according to manufacturer's directions.
Store in a clean dry cabinet in an examining table.
Utility gloves should be washed under running water with soap. Rinse in freshly made 10% bleach solution. Dry and put away.

Disposable Speculum:

Used disposable vaginal speculums shall be disposed of in contaminated waste container, or disinfected as above by soaking in bleach solution or other EPA approved disinfectant and discarding in regular waste.

NEEDLES, SYRINGES, CAPILLARY TUBES AND SHARPS

PURPOSE

To prevent needle stick and/or sharp injuries to HCW or patient. The most common cause of HIV, HBV, and HCV infection in HCW's without risk behaviors is needle stick injuries.

SUPPLIES

Hard plastic puncture-proof containers in every clinic room or worksite, placed conveniently near HCW using needles, syringes or sharps. Sharps containers must be kept out of reach of children.

PROCEDURE

After use and activation of safety device, sharps are to be dropped immediately into biohazard sharps container.

Vacutainer holders, lancets, scalpel blades, capillary tubes and all other sharps shall be dropped into the sharps container.

PRECAUTIONS

Needles shall not be clipped, bent, broken or removed from the syringe.

Sharps, lancets, scalpel blades, capillary tubes put directly into sharps container prevents injury and possible contamination of the HCW.

Sharps containers **must not be overfilled**.

Filled sharps containers shall be securely closed and stored in designated area for biohazard waste pickup. These containers will be picked up and transported by the state contracted biohazard waste company. Sharps containers shall be placed out of the reach of children.

BLOOD AND INFECTIOUS MATERIAL SPILLS PRECAUTIONS

PURPOSE

To prevent transmission of pathogenic microorganisms by appropriate cleaning of any spill of blood or body fluids contaminated with blood or other potentially infectious body fluids.

SUPPLIES

A spill kit should be available in each clinic or laboratory setting.

Bleach – 10% solution
Bucket or other leak proof container
Paper towels
Utility, latex or nitrile gloves
Forceps or tongs
Spray bottle

PROCEDURE

Don gloves and lab coat or apron.

Small spills:

Wipe up with paper towels, spray with freshly made 10% bleach solution.

Large spills:

Pour 10% bleach solution around edges of spill and over spill or use paper towels soaked in the bleach solution.

If feasible allow 20 minutes of contact time to ensure germicidal action.

Gather all materials into bucket and soak in bleach for 30 minutes further and then discard.

Disinfect all materials to be placed back in spill kit with 10% bleach solution for 30 minutes.

STERILIZATION: AUTOCLAVES

DEFINITION

Sterilization is a process with the objective of removal and destruction of all living microorganisms including spores that may exist on the surface of an article or in a fluid.

PURPOSE

To assure the sterility of instruments and supplies.

PROCEDURE

All autoclaves should be inspected annually by manufacturer's representative or other individual trained to service and/or inspect autoclave.

Follow manufacturer's recommendations regarding proper temperature, length of cycle, loading and use.

All employees operating the autoclave must be instructed in the correct operating procedures.

Place a spore capsule in the center of a package to determine if autoclave is reaching the required temperature. Keep a log to record findings. Spore testing should be done based on number of load runs (once a week to once a month). Follow the directions specific to spore test used.

If spores are not killed in routine spore tests, the sterilizer should immediately be checked for proper use and function and the spore test repeated. Instruments autoclaved during this cycle should be re-autoclaved once the repeat spore test is negative. **IF SPORE TEST REMAINS POSITIVE**, use of the sterilizer should be discontinued until it is serviced.

ANY POSITIVE SPORE TEST RESULTS SHOULD BE REPORTED TO THE IMMEDIATE SUPERVISOR.

STORAGE OF SUPPLIES

PURPOSE

To maintain the integrity of the sterile or non-sterile supplies.

EQUIPMENT/SUPPLIES

A dry, clean shelf, drawer or cabinet

Wrapped supplies clearly labeled with content and expiration date

PROCEDURE

All sterile supplies should be kept wrapped, labeled, dated with expiration date and stored on the shelf or in a drawer.

Non-sterile supplies and sterile supplies should be separated.

All supplies should be checked for package integrity and expiration dates before use.

Muslin and paper wrapped sterile supplies have an expiration date of 30 days if kept dry and the integrity of the package is maintained.

Heat-sealed supplies are considered sterile for one year from the date sterilized.

Commercially prepared sterile supplies may have an expiration date for more than one year.

If a sterile package is punctured, torn or wet, the sterility is questioned. The package should be considered non-sterile, re-cleaned, re-wrapped and re-autoclaved, if not a commercially prepared, disposable item.

V. Infection Control Training Plan

Infection Control Training Plan Tennessee Department of Health

Federal Register Vol. 56 No. 235, December 6, 1991
Biohazard B(2)

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

- Purpose:
- (1) To provide all employees who during their routine work assignment, are subject to contact with blood and body fluids, with the information necessary to protect themselves against exposure to disease, injury or other hazardous materials.
 - (2) To provide the above stated employees with the information necessary to take appropriate action in the event exposure does occur.

- Activities:
- (1) Provide initial training in accordance with Federal regulations.
 - (2) Provide training at least annually consisting of review and update of pertinent information.
 - (3) Provide all new employees who are at risk of occupational exposure with an orientation consisting of information contained in these guidelines before the employee enters the clinical setting.
 - (4) Conduct an evaluation or testing to ascertain the employees understanding of the information given during the training or orientation session.

All employees must be able to answer the following questions.

These five basic questions will be asked to employees by a TOSHA inspector when determining if a facility is in compliance with the training section of the Bloodborne Pathogen Standard, 29 CFR 1910.1030.

- Q. (a.) What does "Universal Precautions" mean?
- Q. (b.) What do you do when there is a blood spill?
 - a. personal protection
 - b. clean-up and disposal
 - c. disinfection (apply hazard communication standard)
- Q. (c.) What do you do with contaminated sharps and laundry?
- Q. (d.) Have you been offered the hepatitis vaccination free of charge?
- Q. (e.) Where is the "Exposure Control Plan" and has it been explained to you, and have you been trained?

- (5) Provide additional training when changes involving occupational exposure such as modification of task, adding new procedures or, adding new tasks.

Training material must be of appropriate content, vocabulary and literary level and language.

Persons conducting the training shall be knowledgeable of the training content as it relates to the workplace that is being addressed.

A. Training Content

The training program shall contain the following:

1. Provide accessible copy of the regulatory text and explanation of its contents.
2. General explanation of the epidemiology and symptoms of bloodborne diseases.
3. Explanation of mode of transmission for bloodborne pathogens.
4. Explanation of the employers Infection Control Plan and written statement of how the employee can obtain a copy.
5. Explanation regarding the recognition of tasks that may involve the employee with blood and other potentially infectious or hazardous materials.
6. Explanation of universal precautions; the use and limitation of methods that will prevent or reduce exposure. These methods include engineering controls, work practice and personal protection equipment. (See Section III)
7. Provide information on the types, proper use, location, handling, removal, decontamination and disposal of personal protective equipment.
8. Explanation of basis for selection of personal equipment: i.e. what equipment, when.
9. Provide information on Hepatitis B vaccine including:
 - (a.) efficacy
 - (b.) safety
 - (c.) method of administration
 - (d.) benefitsThe vaccine is to be offered by the employer to the employee free of charge.
10. Explain guidelines regarding appropriate action to take and the person to call in the event of an emergency involving blood and other potentially infectious waste.
11. Explain guidelines to be followed in case of an exposure incident. Discuss the medical follow-up that will be available.
12. Discuss post exposure evaluation and follow-up that the employer is required to provide for the employee following exposure.
13. Explanation of signs, labels or color codes required by TOSHA.
14. Offer opportunity during training session for participant participation, i.e. questions during the training session

B. Record Keeping - Training

Training records shall include the following information:

1. Dates of the training sessions.

2. Contents or summary of material presented.
3. Name and qualifications of person conducting the training.
4. Name and job title of persons attending the training.

Training records shall be maintained for 3 years from the date that the training occurred.

C. Availability of Records

The employer shall ensure that all records required by this section records be made available upon the request to the Assistant Secretary of Labor and the Director of OSHA for examination and copying.

D. Training

Employee training records shall be made available upon request for examinations and copying to the employee, the employee's representative, Director of OSHA and the Assistant Secretary of Labor.

E. Transfer of Records

The employer shall comply with requirements involving transfers of record as set forth in 29 CSR. If employee ceases business and there is no successor for a prescribed period the employers shall notify the Director of OSHA at least 3 months prior to their disposal and transmit them to the Director.

F. Evaluation of Training

An evaluation of the employee's training and understanding of infection control and hazardous waste management will include the following:

1. Documentation of appropriate orientation and training on file including an update at least annually.
2. Evidence that employees have been given the opportunity to ask questions.
3. Documented evidence that the employee demonstrated understanding of material that was presented during the training.
4. Upon observation, the employee demonstrates appropriate understanding of infection control and hazardous waste management.

VI. Appendices

Appendix A Table 3

22

MMWR

June 29, 2001

TABLE 3. Recommended postexposure prophylaxis for exposure to hepatitis B virus

Vaccination and antibody response status of exposed workers*	Treatment		
	Source HBsAg [†] positive	Source HBsAg [†] negative	Source unknown or not available for testing
Unvaccinated	HBIG [‡] x 1 and initiate HB vaccine series [¶]	Initiate HB vaccine series	Initiate HB vaccine series
Previously vaccinated			
Known responder**	No treatment	No treatment	No treatment
Known nonresponder ^{††}	HBIG x 1 and initiate revaccination or HBIG x 2 ^{§§}	No treatment	If known high risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-HBs ^{¶¶} 1. If adequate,** no treatment is necessary 2. If inadequate, ^{††} administer HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1. If adequate, [¶] no treatment is necessary 2. If inadequate, [¶] administer vaccine booster and recheck titer in 1–2 months

* Persons who have previously been infected with HBV are immune to reinfection and do not require postexposure prophylaxis.

† Hepatitis B surface antigen.

‡ Hepatitis B immune globulin; dose is 0.06 mL/kg intramuscularly.

¶ Hepatitis B vaccine.

** A responder is a person with adequate levels of serum antibody to HBsAg (i.e., anti-HBs ≥ 10 mIU/mL).

†† A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBs < 10 mIU/mL).

§§ The option of giving one dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred.

¶¶ Antibody to HBsAg.

Appendix B

TENNESSEE DEPARTMENT OF HEALTH OCCUPATIONAL EXPOSURE FORM SOURCE PATIENT CONSENT

TESTING for HIV, HEPATITIS B AND HEPATITIS C

I am being tested for antibodies to Human Immunodeficiency Virus (HIV), the virus that causes AIDS, and for antibodies to Hepatitis B, the virus that causes Hepatitis B, and for antibodies to Hepatitis C, the virus that causes Hepatitis C. These tests are being run because a health care employee received an exposure to my blood or other potentially infectious material.

INFORMATION ON HIV:

I understand that a true positive test result indicates infection with the HIV virus, but it does not predict when or if a person will become ill with AIDS. I have been told that if I have a positive HIV test, the process of notifying my sex and/or needle sharing partner(s) should begin.

It has been explained to me that a negative test does NOT guarantee that a person is not infected with the virus. A period of time (6 weeks to 6 months) is required between infection and when antibodies appear. If I have been infected recently, antibodies may not be present yet and the test may show negative.

I have received recommendations on how to avoid the spread of the virus. I further understand that the medical records with my test results are kept confidential. These results will not be released, except with a court order or as outlined in the accompanying consent for release of medical information. In the consent for release of medical information, information is provided only to physician who is treating the person who sustained exposure to my blood or other infectious material and will be maintained in a completely confidential manner.

I hereby consent to have a HIV test performed. I UNDERSTAND THAT I WILL BE GIVEN MY TEST RESULTS ONLY IN PERSON AND THAT FURTHER COUNSELING WILL BE AVAILABLE AT THAT TIME. The results of my test will be made available to the exposed employee above. This employee has been informed of laws concerning disclosure of this information.

Signature

Date

INFORMATION ON HEPATITIS B:

Hepatitis B is a virus associated with several different types of liver disease, the most common being acute hepatitis. This disorder can produce either no symptoms at all (carrier state) or minor flu-like symptoms to severe liver disease with dark urine and jaundice or in some cases death. Spread of the virus can be by exposure to blood or other human material, by sexual contact, or through needle sharing. The presence of the virus in the blood can be detected by blood tests for both the virus itself or for antibodies produced by the virus.

I hereby give consent to have a Hepatitis B test performed. I UNDERSTAND THAT I WILL BE GIVEN MY TEST RESULTS ONLY IN PERSON AND THAT FURTHER COUNSELING WILL BE AVAILABLE AT THAT TIME.

Signature

Date

INFORMATION ON HEPATITIS C:

Hepatitis C is a virus associated with liver disease, either acute or chronic liver disease. Hepatitis C (HCV) is transmitted primarily through large or repeated direct percutaneous exposure to blood, often by intravenous drug use. Other methods of transmission are by sexual contact. The presence of the virus in the blood can be detected by blood tests for an antibody to hepatitis C virus.

I hereby give consent to have a Hepatitis C test or tests performed. I UNDERSTAND THAT I WILL BE GIVEN MY TEST RESULTS ONLY IN PERSON AND THAT FURTHER COUNSELING WILL BE AVAILABLE AT THAT TIME.

Signature

Date

Appendix C

TENNESSEE DEPARTMENT OF HEALTH OCCUPATIONAL EXPOSURE FORM

EMPLOYEE CONSENT

TESTING for HIV, HEPATITIS B, and HEPATITIS C

I am being tested for antibodies to Human Immunodeficiency Virus (HIV), the virus that causes AIDS, and for Hepatitis B, the virus that causes Hepatitis B and for Hepatitis C, the virus that causes Hepatitis C. These tests are being run because of my occupational exposure to material possibly infected with these viruses. If I am found to be infected with any of these viruses, I will be referred for proper and confidential medical care.

INFORMATION ON HIV

I understand that a true positive test result indicates infection with the HIV virus, but it does not predict when or if a person will become ill with AIDS. I have been told that if I have a positive HIV test, the process of notifying my sex and/or needle sharing partner(s) should begin.

It has been explained to me that a negative test does NOT guarantee that a person is not infected with the virus. A period of time (6 weeks to 6 months) is required between infection and when antibodies appear.

I have received recommendations on how to avoid the spread of the virus. I further understand that I should report to the physician managing my post exposure follow-up if I develop any illness associated with fever or flu-like symptoms, swollen glands, and fatigue or sore throat.

I further understand that the medical records with my test results are kept confidential.

INFORMATION ON HEPATITIS B

The virus causing Hepatitis B can cause anything from no symptoms to mild flu-like illness to severe liver disease with jaundice and death. Some persons can be carriers of the disease and not be aware they have the virus. Hepatitis B can be spread by contact with blood or other human infectious material, by sexual contact, and by needle sharing. The presence of the virus in the blood can be detected by blood test for the virus and for antibodies to the virus.

INFORMATION ON HEPATITIS C

Hepatitis C is a virus associated with either acute or chronic liver disease. Hepatitis C virus (HCV) is transmitted primarily through large or repeated direct percutaneous exposure to blood, often by intravenous drug use. Other methods of transmission are sexual contacts.

I hereby consent to have tests for HIV, Hepatitis B, and Hepatitis C. I understand that I will be given my test results only in person and that further counseling will be available at that time. The results of my tests will be kept strictly confidential and will be limited to the physician managing my post exposure follow-up, to the CDC representative, and to the supervisory nurse. The records of any test results and other medical information will be kept in a confidential file in a sealed envelope in my personnel file.

Signature

Date

Appendix D



STATE OF TENNESSEE
DEPARTMENT OF HEALTH

Hepatitis B Vaccine Declination Form

I, _____, understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination serious at no charge to me.

Signature

Witness

Date

APPENDIX E



**TENNESSEE DEPARTMENT OF HEALTH
Incident/Accident Investigation Report**

Date Report Initiated: _____ Region: _____ County: _____	<input type="checkbox"/> Incident <input type="checkbox"/> Accident <input type="checkbox"/> Hazardous/Infectious Substance (e.g., Needle Sticks)	<input type="checkbox"/> Employee, Title _____ <input type="checkbox"/> Patient <input type="checkbox"/> Visitor		
Date and Time of Occurrence:	Exact Location of Occurrence:			
Name of Involved Individual:	Address:	Phone #:	Date of Birth:	Sex: <input type="checkbox"/> M <input type="checkbox"/> F
Name of Parent or Guardian (if Child):	Address:	Phone #:		
Detailed description of occurrence - include influencing factors, e.g., people, equipment, objects, physical and social environment, extent of damage, names of persons involved (use additional paper if needed): _____ _____ _____ _____ _____				
Name of Other People Present:	Address:	Phone #		
1.				
2.				
3.				
Was the involved person informed of the occurrence? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A If No or N/A, explain _____				
Was involved person referred for evaluation, treatment, etc.? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, provide the following information				
Referred to:	Date/Time:	Address:	Phone #	
If exposed to blood/other potential infectious material: Type/brand of device _____ Source tested? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Current Status - Include Hepatitis B vaccine status and date series completed: _____				
What action was necessary? (include return date if any): _____ _____				

Signature of Person Completing Form, Title, Date

Signature of Supervisor, Title, Date

The following section is to be completed by First Line Supervisor:

Report of Investigation:

Follow-up Plan:

Plan of Correction (if applicable):

Supervisor's Signature, Title, and Date

Signature of RO Reviewer, Title, and Date

The following section is to be completed at the time of each follow-up:

Record of follow-up - include signature, title and date of each entry

1. _____

2. _____

3. _____

**APPENDIX F
CLEANING, DISINFECTING AND DISPOSAL
EQUIPMENT AND SUPPLIES**

Personal Protective Equipment	Use	Maintenance	Disposal
Gloves* - latex or nitrile disposable *HCWs allergic to gloves must report to supervisor who can order non allergenic gloves from local procurement person.	During any invasive procedure - dental care, phlebotomy, changing dressings, assessments involving potentially infectious body fluids	Use only once, discard	Gloves used during invasive procedures should be put into contaminated wastes. Gloves not contaminated by blood or other infectious body fluids may be put into regular wastes.
Gloves utility	For cleaning instruments, housekeeping (blood or other possibly infectious spills) and during handling of contaminated laundry.	May be cleaned under running water using a liquid detergent. Rinse in 10% freshly made bleach solution. Dry and put away.	Gloves should be inspected before and after use. Those with holes, cracking, peeling must be discarded. If contaminated with possible infectious waste, discard in biohazard container.
Plastic eye wear (wrap around goggles) Face shields	Worn when aerosolization, splatter or spray of potentially infectious body fluids is possible (dental procedures, irrigation of wounds, etc.)	Clean under running water with detergent. Rinse in 10% freshly made bleach solution. Dry and put away.	May be reused. May be disposed of in regular waste (after careful cleaning) if discolored or broken.
Disposable impervious laboratory coats or aprons.	To be worn over uniforms or lab coats to protect from exposure to blood or infectious fluids are possible.	Use only once	Disposed of in contaminated waste when blood or body fluids have gotten on surface of coats or aprons.
Disposable foot and head covers may also be (rarely) necessary.	Used in home care where infectious fluids may contaminate clothing especially when blood or body fluids may be projectile. During patient care, assessments, securing specimens.	Use only once	Place in plastic bag, Pour 1 cup 10% bleach solution into bag, Seal and place into another plastic bag. Put into patient's garbage.
Laundry (Sheets cover for sterile supplies, towels, etc.)		Washable laundry should be placed into leakproof bags for laundering. When visibly contaminated with blood etc. do not agitate before or during bagging. Individuals who do laundry shall be oriented to handling contaminated laundry (i.e. laundry workers will wear utility gloves and impervious aprons to handle contaminated laundry.	
		Hot soapy water plus drying in a dryer is usually sufficient.	The laundry may wish to presoak.
Ambu bags	To assist with emergency resuscitation.	To be kept in a plastic or protective cover. After use, wash outside of bag with soap and water, rinse, dry and put away.	Plastic facemasks of ambu bags shall be thrown away after each use.
Pocket masks	To assist with emergency resuscitation.	Use only once.	Discard in regular waste.

**APPENDIX G
GENERAL HOUSEKEEPING**

To provide a biosafe environment for HCW's and their patients, a cleaning schedule shall be established.

Items to be cleaned	Barriers to be used	Solutions Necessary	Procedural Activities	Time Line
Patient assessment tables	Utility, latex or nitrile gloves		A new paper barrier shall be used for each patient. Dispose in regular waste.	Replace after each patient.
		10% bleach solution	When paper becomes wet with <u>blood</u> or other infectious body fluids the paper should be removed to contaminated wastes.	Whenever visibly soiled.
			The table shall be washed with soapy water, rinsed with 10% bleach solution, dried and fresh paper barrier applied.	At the end of each clinic day.
Work tables, counter top	Utility, latex or nitrile gloves	10% bleach solution Wash with detergent first if visibly soiled	Clean surfaces with detergent solutions if visibly soiled. Rinse with 10% bleach solution and allow to dry	Daily after clinic day.
Autoclave	Utility, latex or nitrile gloves	Follow manufacturer's instructions	Follow manufacturer's instructions. Rinse with 10% bleach solution.	Follow manufacturer's instructions.
Centrifuges	Utility, latex or nitrile gloves	10% bleach solution	Whenever soiled or when there is a spill or breakage. Rinse with 10% bleach solution and allow to dry.	Whenever visibly soiled.
Hemocue	Utility, latex or nitrile gloves	Follow manufacturer's instructions	Whenever there is a spill or breakage and at the end of the day. Rinse with 10% bleach solution.	Following manufacturer's instructions.
Regulated waste	Utility, latex or nitrile gloves	Soapy water Bleach Red bags or biohazard label for can and plastic bag.	Empty regulated waste can, securing bag carefully. Place bags into regulated waste pick up area. Wash and rinse can with 10% bleach solution as needed. Replace red plastic bag in can. Replace red plastic bag.	When visibly soiled.
Sharps containers			Check sharps containers. Must not be overfilled. When full, closed container shall be stored in biohazard area for pickup.	Check at end of each clinic day. Transport whenever full.
Broken glassware	Utility gloves, Tongs or pick ups	Blood or body fluid spills must be cleaned according to Section IV cleaning, disinfecting, and sterilizing.	Pick up glassware with tongs or pick up device. Place in regular waste, if contaminated put into biohazard waste.	Whenever glass is broken.

APPENDIX H

LABELING REQUIREMENTS

Item	No Label Needed if Universal Precautions Are Used and Specific Use of Container or Item is Known to All Employees	Biohazard Label	Red Container	Date Implemented
Regulated waste container (e.g. contaminated sharps containers)		Yes or biohazard container	Yes	
Reusable contaminated sharps container (e.g. surgical instruments soaking in tray)		Yes or biohazard container	Yes	
Refrigerator/freezer holding blood or other potentially infectious material		Yes		
Containers used in storage, transport or shipping of blood		Yes	Yes	
Blood products for clinical use	No labels required			
Individual specimen containers of blood or other potentially infectious materials remaining in health center	Yes or biohazard container	Yes or biohazard container	Yes	
Contaminated equipment needing service (e.g. dialysis equipment, suction apparatus)		Yes plus a label specifying where the contamination exists		
Specimens and regulated waste shipped from the primary facility to another facility for service or disposal		Yes	Yes	
Contaminated laundry	Yes or biohazard bag	Yes	Yes	
Contaminated laundry sent to another facility that does not use Universal Precautions		Yes	yes	

Appendix I

SAFETY FEATURE EVALUATION FORM SAMPLE SYRINGES, LANCETS, BLOOD COLLECTION SETS

Date: _____ Name: _____ Occupation: _____

Product: Name, brand, company: _____

Number of times used: _____

Please circle the most appropriate answer for each question.

Criteria	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The safety feature can be activated using a one-handed technique	1	2	3	4	5
2. The weight of the device was similar to that of a conventional syringe	1	2	3	4	5
3. Use of this product requires you to use the safety feature.	1	2	3	4	5
4. This product does not require more time to use than a non-safety device.	1	2	3	4	5
5. The device is easy to handle while wearing gloves.	1	2	3	4	5
6. The device is easy to handle when wet.	1	2	3	4	5
7. The device performed reliably.	1	2	3	4	5
8. I used the device for all the same purposes for which I use the conventional device.	1	2	3	4	5
9. Activating the safety feature was easy.	1	2	3	4	5
10. The safety feature functioned as intended.	1	2	3	4	5
11. The safety feature operates reliably	1	2	3	4	5
12. There is a clear and unmistakable change (either visible or audible) that occurs when the safety feature is activated.	1	2	3	4	5
13. The user does not need extensive training to operate the product correctly.	1	2	3	4	5

Appendix J

SAFETY FEATURE EVALUATION FORM DENTAL SAFETY SYRINGES

Date: _____ Name: _____ Occupation: _____

Product: Name, brand, company: _____

Number of times used: _____

Please circle the most appropriate answer for each question.

Criteria	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The safety feature can be activated using a one-handed technique	1	2	3	4	5
2. The weight of the device was similar to that of a conventional dental syringe	1	2	3	4	5
3. Use of this product requires you to use the safety feature.	1	2	3	4	5
4. This product does not require more time to use than a non-safety device.	1	2	3	4	5
5. The device is easy to handle while wearing gloves.	1	2	3	4	5
6. The device is easy to handle when wet.	1	2	3	4	5
7. The device accepts standard anesthetic cartridges were easy to change	1	2	3	4	5
8. Aspiration of blood into the anesthetic cartridge was clearly visible.	1	2	3	4	5
9. The device accepts standard dental needles of all common lengths and gauges, and does not interfere with needle changing.	1	2	3	4	5
10. The device performed reliably.	1	2	3	4	5
11. I was able to give injections in all mouth sizes and all areas of the mouth.	1	2	3	4	5
12. I used the device for all the same purposes for which I use the conventional device.	1	2	3	4	5
13. Activating the safety feature was easy.	1	2	3	4	5
14. The safety feature functioned as intended.	1	2	3	4	5
15. Sterilization of this device is as easy as a standard dental syringe.	1	2	3	4	5
16. The device is no more difficult to break down after use for sterilization than a standard dental syringe.	1	2	3	4	5

Criteria	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
17. The safety feature operates reliably	1	2	3	4	5
18. The exposed sharp is permanently blunted or covered after use and prior to disposal.	1	2	3	4	5
19. There is a clear and unmistakable change (either visible or audible) that occurs when the safety feature is activated.	1	2	3	4	5
20. The user does not need extensive training to operate the product correctly.	1	2	3	4	5
21. The design of the device allows for easy removal of the needle and carpule from the syringe.	1	2	3	4	5
22. The device provides a better alternative than traditional recapping.	1	2	3	4	5

Appendix K
WEBSITES

Exposure Control Plan - Occupational Safety and Health ...

<https://www.osha.gov/SLTC/etools/hospital/hazards/tb/sampleexposurecontrolplan.html>

Policies and Program Administration (company name) maintains, reviews and updates the Exposure Control Plan (ECP) at least annually, and whenever ...

[PDF][OSHA publishes a model exposure control plan for ...](#)

<https://www.osha.gov/Publications/osha3186.pdf>

Part 1 Bloodborne Pathogens Standard The following model for an Exposure Control Plan includes all elements required by the OSHA bloodborne pathogens ...

[PDF][APPENDIX D MODEL EXPOSURE CONTROL PLAN](#)

https://www.osha.gov/OshDoc/Directive_pdf/CPL_2-2_69_APPD.pdf

D-1 APPENDIX D MODEL EXPOSURE CONTROL PLAN The Model Exposure Control Plan is intended to serve employers as an example exposure control plan which is ...

[CPL 02-02-060 - CPL 2-2.60 - Exposure Control Plan for ...](#)

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES...

CPL 02-02-060 - CPL 2-2.60 - Exposure Control Plan for OSHA Personnel with Occupational Exposure to Bloodborne Pathogens

[Bloodborne pathogens. - 1910.1030](#)

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards...

The Exposure Control Plan shall be reviewed and updated at least ... Reflect changes in technology that eliminate or reduce exposure to bloodborne ...

[03/25/1992 - Sample Bloodborne Pathogens Exposure Control Plan](#)

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS...

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