



Personnel Management

CLINICAL PRACTICE GUIDELINES FOR AN INFECTION CONTROL/EXPOSURE CONTROL PROGRAM IN THE ORAL HEALTHCARE SETTING

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Oral healthcare workers' (OHCWs) primary obligation and ultimate responsibility is the timely delivery of quality care, within the bounds of the clinical circumstances presented by the patient. The provision of quality care depends on (1) proper diagnosis, (2) treatment planning, and (3) implementation of preventive, therapeutic, or palliative and supportive strategies in the privacy of a comfortable and safe environment. While the transmission of pathogenic microorganisms in the oral healthcare setting is rare, cross-infection does present a potential hazard to OHCWs and patients alike. To prevent or minimize cross-infection among OHCWs and patients, oral healthcare facilities are mandated to develop a written infection control/exposure control protocol that extends to all aspects of the clinical process.

Historically, infection control/exposure control guidelines focused primarily on the risk of transmission of bloodborne pathogens among OHCWs and patients and the use of universal precautions to reduce the risk. Universal precautions were based on the concept that patients with bloodborne infections can be asymptomatic and unaware that they are infectious; therefore all blood and body fluids contaminated with blood were treated as

infectious. Subsequently, the CDC expanded universal precautions into the concept of standard precautions. Standard precautions apply not only to contact with blood and body fluids contaminated with blood but also to contact with all other potentially infectious material (OPIM). Today, standard precautions provide the fabric for a hierarchy of preventive strategies designed to protect OHCWs and patients alike (Table 1).

To assure quality, infection control/exposure control strategies should be appropriate for the oral healthcare setting. As these strategies deviate from optimal design and implementation, the quality (value, outcome) of infection control/exposure control program decreases at an accelerated rate. The information from which inferences can be drawn about the quality of infection control/exposure control practices may be classified under three headings: structure, process, and outcome.

- Structure refers to the attributes of the oral healthcare setting. This includes the (1) availability of material resources (e.g., sterilization area and equipment), (2) human resources (e.g., number and qualification of personnel), and (3) organizational resources

Table 1 - Standard precautions: a hierarchy of preventive strategies.

Hierarchy	Objective
Education and training	To establish the rationale for the policies and practices intended to prevent work-related infections
Immunization	To reduce the risk of vaccine preventable diseases
Personal protective equipment	To prevent or reduce the risk of occupational exposure
Engineering controls	To eliminate or isolate the hazard in the workplace
Work-practice controls	To promote safer behavior in the workplace
Environmental infection control	To provide a safer work environment
Post-exposure follow-up	To establish policies and practices to reduce the risk of post-exposure infection
Transmission-based precautions	To prevent the potential spread of specific diseases (e.g., tuberculosis)
Administrative controls	To establish exclusion policies from work and patient contact

(e.g., the timely availability of post-exposure evaluation and follow-up). Since structure affects the amenities of the oral healthcare setting, it can be inferred that structural conditions are either conducive or inimical to good infection control/exposure control practices.

- Process refers to what is actually being done to prevent or minimize cross-infection. It includes (1) the establishment of criteria, i.e., a hierarchy of preventive strategies, based on knowledge derived from well conducted trials, extensive observations, or in the absence of such data the criteria should reflect the best informed, most authoritative opinion available; (2) the development and execution of activities intended to meet those criteria; (3) and continuous monitoring of compliance.

Office Infection-Control Coordinator

- Responsible for the development and overall management of the office infection control/exposure control program.
 - However, the creation and maintenance of a safe work environment mandates the commitment and accountability of all OHCWs.
- Maintains a copy of the infection control/exposure control protocol.
 - Provides both access to and an explanation of its contents upon request.
- Monitors the effectiveness of the infection control/exposure control program on a day-to-day basis, and over time.
 - Ensures that the criteria are relevant, the procedures are efficient, and the practices are successful.
- Outcome refers to the impact that infection control/exposure control strategies have on (1) enhancing knowledge, (2) changing behavior, and ultimately, (3) improving the health of OHCWs and their patients. Because so many factors influence outcome, it is not possible to know with absolute certainty the extent to which an observed outcome is attributable to an antecedent structure or process. However, outcome assessment does provide a mechanism to monitor performance (compliance).

I. Education and training

OHCWs shall participate in a training program at the time of initial assignment to tasks in which exposure to blood and OPIM may occur and at least annually thereafter.

A. Background

1. Compliance with the exposure control/infection control protocol is significantly improved if OHCWs understand the rationale for the written policies and practices intended to prevent work-related infections. The objectives of the education and training program are to educate OHCWs regarding (1) work-related infection risks, (2) preventive strategies, and (3) post-exposure management and follow-up.
 - a) See Huber MA, Terezhalmay GT. [Hepatotropic viruses: infection control/exposure control issues for oral healthcare workers.](#)
 - b) See Huber MA, Terezhalmay GT. [HIV: infection control issues for oral healthcare personnel.](#)
 - c) See Porteous NB, Terezhalmay GT. [Tuberculosis: infection control/exposure control issues for oral healthcare workers.](#)
2. Infection
 - a) Invasion and multiplication of microorganisms in body tissues, resulting in local cellular injury
 - (1) Competitive metabolism
 - (2) Toxin production
 - (3) Immune-mediated reactions
3. Principle requisites for cross-infection
 - a) Exposure to a source or reservoir of pathogenic organisms of sufficient virulence and numbers
 - b) A mode of transmission and a portal of entry
 - (1) Direct contact with blood and OPIM (e.g., needlestick or cut with contaminated sharps)
 - (2) Contaminated instruments, equipment, and environmental surfaces coming in contact with skin and mucosal tissues

- (3) Splash and spatter of infectious body fluids coming in contact with skin, and conjunctival and oral mucosal tissues
- (4) Inhalation of airborne microorganisms suspended in aerosols
- c) A susceptible host, i.e., immune/vaccination status of OHCWs and patients
- 4. Pathogenic organisms of concern in the oral healthcare setting
 - a) HBV, HCV, and HIV
 - b) Measles, mumps, and rubella
 - c) Herpes simplex, varicella (chicken pox), and varicella zoster (shingles)
 - d) Influenza, syncytial viruses, group A streptococci
 - e) *Mycobacterium tuberculosis*

B. Execution/Compliance

- 1. An education and training program is completed by all OHCWs prior to initial assignment to tasks and procedures in which exposure to blood and OPIM may occur and at least annually thereafter.
 - a) The program is scheduled at an acceptable time for and at no cost to OHCWs
 - b) The presentation is appropriate in content and vocabulary for the educational level of participants
 - c) The program is conducted by person(s) knowledgeable about the subject
 - d) The speaker provides an opportunity for interactive questions and answers
- 2. Training record
 - a) An individual Training Record is

maintained on all OHCWs for the most recent 3-year period

II. Vaccinations

OHCWs shall be vaccinated against all vaccine preventable infections in accordance with current state and federal regulations as well as recommendations from the U.S. Public Health Service and professional organizations.

A. Background

- 1. The Occupational Safety and Health Administration’s final rule regarding blood borne pathogens requires that employers make hepatitis B vaccinations available without cost to their employees who may be exposed to blood or OPIM. In addition, the U.S. Public Health Service and the Centers for Disease Control and Prevention recommend that healthcare workers be vaccinated against measles, mumps, rubella, varicella, and influenza.
 - a) See Huber MA, Terezhalmay GT. [Mandated and highly recommended vaccines for oral healthcare workers.](#)

B. Execution/Compliance

- 1. Hepatitis B vaccination series
 - a) Hepatitis B vaccination is made available at no cost to OHCWs, without a history of prior immunization, at the time of initial assignment to tasks in which exposure may occur.
 - b) If the hepatitis B vaccination series is declined, the OHCW must sign a copy of the Mandatory Hepatitis B Vaccination Declination Form (Box 1).
 - (1) If subsequently the OHCW

Box 1 - Mandatory Hepatitis B Vaccination 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 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 series at no charge to me.

Employee Signature

Date

- decides to accept the vaccination, while still covered under the standard, the hepatitis B vaccination series is made available at that time.
- c) Post-vaccination seroconversion - 1st vaccination series
 - (1) Testing for anti-HBs is strongly recommended 1-2 months after the 3rd dose of the 1st vaccination series
 - (a) An anti-HBs titer of >10 mIU/mL is considered adequate
 - (i) OHCWs who do not develop an adequate antibody response to the 1st vaccination series will be offered a second 3-dose series
 - d) Post-vaccination seroconversion - 2nd vaccination series
 - (1) Testing for anti-HBs is strongly recommended 1-2 months after the 3rd dose of the 2nd vaccination series
 - (a) If no antibody response occurs, testing for HBsAg is strongly recommended
 - (i) HBsAg-negative OHCWs will be counseled about precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or probable parenteral exposure to HBsAg-positive blood.
 - (ii) HBsAg-positive OHCWs will be counseled about how to prevent the transmission of HBV to others and about the need for medical consultation.
 - e) If at a future date, the U.S. Public Health Service recommends routine booster doses of the hepatitis B vaccine, they will be made available at no cost to OHCWs.
2. Other vaccines
- a) It is highly recommended that OHCWs be also vaccinated against

measles, mumps, rubella, varicella, and influenza.

- (1) OHCWs unable or unwilling to be vaccinated as recommended will be educated regarding their exposure risk and the management of work-related illness and work restrictions (if applicable).
3. Documentation of vaccination status
- a) The vaccination status of OHCWs is documented in their individual Medical Record (See VI. Post-exposure evaluation and follow-up) and includes the following information:
 - (1) The dates of vaccination (where applicable or available)
 - (2) Evidence of immunity (where applicable or available)
 - (3) A signed copy of the mandatory hepatitis B vaccination declination form (where applicable)

III. Personal Protective Equipment

Personal protective equipment shall be worn by all OHCWs to prevent or reduce the risk of disease transmission.

A. Background

1. As mentioned earlier, exposure to a source or reservoir of pathogenic organisms includes direct contact with blood and other potentially infectious material (OPIM); contact with contaminated instruments, equipment, and environmental surfaces; splash and spatter of infectious body fluids coming in contact with skin, and conjunctival and oral mucosal tissues; and inhalation of airborne microorganisms suspended in aerosols. Personal protective equipment (PPE) is designed to protect the skin and mucous membranes (eyes, nose, and mouth) of OHCWs from exposure to blood and OPIM.
 - a) See Huber MA, Terezhalmay GT. [Adverse reactions to latex products: preventive and therapeutic strategies.](#)
 - b) See Porteous NB, Terezhalmay GT. [Tuberculosis: infection control/exposure control issues for oral healthcare workers.](#)

B. Execution/Compliance

1. Personal protective equipment, which does not permit blood or OPIM to pass through to or reach street clothes, undergarments, skin, or mucous membranes under normal conditions of use and for the duration of time that the protective equipment is used, is provided for and is routinely worn by all OHCWs.

a) Protective clothing

(1) Gowns or lab coats with long sleeves are worn to protect the forearms when splash, spatter or spray of blood or OPIM to the forearms is anticipated.

(a) Protective clothing is changed daily, when it becomes visibly soiled, and as soon as possible if penetrated by blood or OPIM.

(b) Protective clothing is removed before leaving the work area.

(c) Dirty protective clothing is placed in designated areas for disposal or washing.

b) Task-specific gloves

(1) Non-surgical, surgical, or heavy-duty utility gloves are worn by all OHCWs to prevent or reduce the risk of contaminating the hands with blood or OPIM and to prevent or reduce the risk of cross-infecting in the clinical process.

(a) To reduce the risk of latex-related allergies, only powder-free, low-allergen latex gloves; and non-latex, nitrile or vinyl gloves are available.

(2) Non-surgical and surgical gloves are single-use items, which are used for only one patient and are then discarded.

(a) When torn or punctured, gloves are changed as soon as possible.

(b) Gloves may not be washed because it can lead to wicking (penetration of liquids through undetectable holes in

the gloves) and subsequent hand contamination.

(c) Double gloving is acceptable for extensive oral surgical procedures.

(3) Heavy-duty utility gloves are worn for all instrument, equipment, and environmental surface cleaning and disinfection.

(4) Wearing gloves does not eliminate the need for hand hygiene. (See IV. Work-practice and engineering controls)

c) Surgical masks

(1) Surgical masks that cover both the nose and the mouth are worn by all OHCWs during clinical activities likely to generate splash, spatter, and aerosols.

(a) The surgical masks provided for routine use have filtration efficiency of 95% for microorganisms greater than 3 microns.

(i) When a mask becomes wet from exhaled air or contaminated with infectious droplets from spray or from touching the mask with contaminated fingers, it is changed as soon as possible (between patients or even during patient treatment).

(2) Particulate filter respirators

(a) When airborne infection isolation precautions are necessary (e.g., transmission-based precautions for patients with TB), a National Institute for Occupational Safety and Health (NIOSH)-certified particulate-filter respirator (N95, N99, or N100) is used, which have the ability to filter .3 μm particles with a filtering efficiency of 95, 99, and 99.7% respectively (See VII. Transmission-based precautions).

- d) Protective eyewear
 - (1) Protective eyewear with solid side shields or a face shield is worn by OHCWs during the clinical process likely to generate splash, splatter, and aerosols.
 - (2) Protective eyewear with solid side shields is also provided for the patients to protect their eyes from spatter and debris generated during the clinical process.
 - (3) Protective eyewear is cleaned with soap and water between patients.
- e) Ventilation devices
 - (1) Mouthpieces, pocket masks, and resuscitation bags are used when CPR is administered.

IV. Engineering and work-practice controls

Engineering and work-practice controls shall be implemented to prevent or reduce the risk of exposure to blood and OPIM.

A. Background

1. Engineering controls take advantage of available technology to eliminate, minimize, or isolate biohazards (blood or OPIM). When engineering controls are not available or are not practical, work-practice controls are implemented. Work-practice controls include the use of PPE and the incorporation of other strategies, which are predicated on or that promote safer behavior.

B. Execution/Compliance

1. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where blood or OPIM may be present.
2. Food and drink are not kept in refrigerators, freezers, or cabinets or on shelves, countertops, or benchtops in work areas where blood or OPIM may be present.
3. Hand hygiene
 - a) Wearing gloves (See III. Personal protective equipment) does not eliminate the need for hand hygiene.
 - b) Natural or artificial fingernails are kept

short to facilitate thorough cleaning underneath them and to prevent glove tears.

- c) All jewelry and ornaments are removed from the hands and wrists if they interfere with glove use.
- d) Sinks with electronic, foot, or knee action faucet controls are provided for asepsis and ease of function.
- e) Hand hygiene procedures are implemented
 - (1) At the beginning of each work cycle
 - (2) Before gloving, after degloving, and before regloving
 - (3) Before and after going to lunch, taking a break, using the bathroom
 - (4) Anytime the hands are contaminated by blood or OPIM
- f) The preferred method for hand hygiene depends on the type of procedure to be performed, the degree of contamination, and the desired persistence of antimicrobial action on the skin.
 - (1) Routine handwash
 - (a) Removes soil and transient microorganisms
 - (b) Acceptable method prior to performing physical examinations and nonsurgical procedures
 - (c) Technique and products
 - (i) Hands are wetted under warm running water
 - (ii) Nonantimicrobial (i.e., plain) soap is applied
 - (iii) Hands are rubbed together vigorously for 15 seconds to work-up lather
 - (iv) Fingernails are cleaned using the fingernails on the opposite hand
 - (v) Soap is rinsed off with the hands held under warm running water
 - (vi) Hands are dried with disposable paper towels
 - (2) Antiseptic handwash
 - (a) Removes or destroys transient microorganisms and reduces resident flora

- (b) Acceptable method prior to performing physical examinations and nonsurgical procedures
- (c) Technique and products
 - (i) Hands are wetted under warm running water
 - (ii) Antimicrobial soap (e.g., chlorhexidine, iodine and iodophors, chloroxylenol, triclosan) is applied
 - (iii) Hands are rubbed together vigorously for 15 seconds to work-up lather
 - (iv) Fingernails are cleaned using the fingernails on the opposite hand
 - (v) Soap is rinsed off with the hands held under warm running water
 - (vi) Hands are dried with disposable paper towels
- (3) Antiseptic hand rub
 - (a) To be used only when there is no visible soil on hands
 - (b) Removes or destroys transient microorganisms and reduces resident flora
 - (c) Acceptable method prior to performing physical examinations and nonsurgical procedures
 - (d) Technique and products
 - (i) Hands are rubbed together vigorously with an alcohol-based hand-rub product (containing 60 to 95% ethanol or isopropanol alcohol) until dry
- (4) Surgical antiseptics
 - (a) Removes or destroys transient microorganisms and reduces resident flora (persistent effect)
 - (b) Acceptable method prior to performing surgical procedures
 - (c) Opinion #1 - Technique and products
 - (i) Hands are wetted under warm running water
 - (ii) Antimicrobial soap (e.g., chlorhexidine, iodine and iodophors, chloroxylenol, triclosan) is applied
 - (iii) Hands are rubbed together vigorously for 2 to 6 minutes to work-up lather
 - (iv) Fingernails are cleaned using the fingernails on the opposite hand
 - (v) Soap is rinsed off with the hands held under warm running water
 - (vi) Hands are dried with sterile towels
 - (d) Opinion #2 - Technique and products
 - (i) Hands are wetted under warm running water
 - (ii) Nonantimicrobial (i.e., plain) soap is applied
 - (iii) Hands are rubbed together vigorously for 15 seconds to work-up lather
 - (iv) Fingernails are cleaned using the fingernails on the opposite hand
 - (v) Soap is rinsed off with the hands held under warm running water.
 - (vi) Hands are dried with disposable paper towels.
 - (vii) Hands and forearms are rubbed with an alcohol-based hand-rub product (containing 60 to 95% ethanol or isopropanol alcohol) until the hands and forearms are dry.
 - g) Hand hygiene products are stored and dispensed according to manufacturers' directions.
- 4. Preprocedural and intraprocedural precautions
 - a) All procedures that may reasonably be anticipated to contribute to cross-contamination are performed in such a manner as to minimize splashing, spraying, spattering, and the generation of droplets (aerosols).
 - (1) Prior to such dental procedures, patients may rinse with chlorhexidine gluconate-, essential oil-, or povidone iodine-containing mouthwash.

- (2) During such procedures a rubber dam and/or high-volume evacuation is used when possible.
- 5. Disposition of single use or disposable patient-care items
 - a) Unregulated waste
 - (1) Generally, blood and/or saliva-tinted items (e.g., clinic gowns, gloves, and patient bibs) are not considered regulated waste and are placed in the regular trash receptacle.
 - b) Regulated waste
 - (1) Regulated waste is disposed of according to the requirements established by local and state environmental agencies.
 - (a) Disposable sharps are removed from cassettes, tray sets, or packs; and are placed in a rigid, puncture-resistant, leak-proof container with a secure lid for storage and transportation.
 - (i) e.g., needles, local anesthetic cartridges, orthodontic wires, scalpel blades, suture needles, endodontic file, and broken instruments
 - (b) Other regulated waste are placed in small biohazard bag and are disposed of into a centralized Regulated Waste Receptacle after each appointment.
 - (i) i.e., items that drip when held vertically, release fluid when compressed, have dried on fluid that could flake off in transit
 - (2) Biohazard communication
 - (a) Biohazard labels (fluorescent orange or orange red, with lettering or symbols in a contrasting color) are affixed as close as feasible to containers of regulated waste by string, wire, adhesive, or other method to prevent their loss or unintentional removal.
 - (i) Red bags or red containers may be substituted for labels.
 - (b) Regulated waste that has been decontaminated is not labeled or color-coded and is placed in the regular trash receptacle.
- 6. Disposition of reusable patient-care items
 - a) Immediately, or as soon as possible after use, all cassettes, tray sets, or packs containing contaminated instruments and reusable sharps are transported to the central instrument processing area in a manner that minimizes the risk of exposure to persons and the environment.
 - (1) Receiving, cleaning, and decontamination
 - (a) Items are first cleaned with a hands-free process using an ultrasonic system with a strainer-type basket.
 - (b) Wearing heavy-duty gloves, protective eyewear, and protective clothing the instruments are visually inspected for residual debris and damage.
 - (i) Residual blood, OPIM, cement and other visible debris are removed using a long-handled brush
 - (ii) Damaged instruments are replaced
 - b) Noncritical items, i.e., items that contact only intact skin during their intended use
 - (1) Disinfected with an EPA-registered intermediate-level hospital disinfectant with tuberculocidal claim (e.g., products containing chlorine, quaternary ammonium compounds with alcohol, phenolics, or iodophors).
 - c) Semicritical items, i.e., items that touch, but do not penetrate, nonintact skin or mucous membranes; and critical items, i.e., items that penetrate soft tissues and bone during their intended use

- (1) Heat-sensitive items are sterilized with ethylene oxide or an FDA-registered sterilant (e.g., products containing glutaraldehyde, glutaraldehyde with phenol, hydrogen peroxide, or hydrogen peroxide with peracetic acid).
 - (a) After sterilization, all items are rinsed with sterile water to remove toxic or irritating residues.
 - (i) Handled using sterile gloves and dried with sterile towels.
 - (ii) Delivered to the point of use in an aseptic manner.
- (2) Heat-tolerant items are heat sterilized in an FDA cleared device
 - (a) Preparation and packaging
 - (i) The cleaned and inspected instruments are assembled into cassettes, tray sets, or packs with hinged instruments open and unlocked.
 - (ii) An internal chemical indicator is placed in each cassette, tray set, or pack.
 - [a] If the internal indicator is not visible from the outside of the wrapped and sealed package, an external chemical indicator is placed on each cassette, trays set, or pack to monitor sterilization process.
 - (b) Sterilization
 - (i) The sterilizer is loaded according to manufacturer's recommendation, in single layers or in racks to increase circulation around the instruments.
 - (ii) The cycle time, temperature, and pressure are set according to the manufacturer's recommendation.
 - (iii) Upon completion of the sterilization cycle, the packages are allowed to dry and cool before removing them from the sterilizer.
- (c) Storage
 - (i) Sterilized items are stored in a clean, enclosed, and dry environment
 - [a] Sterilized packages remain sterile indefinitely, unless an event causes it to become contaminated (e.g., torn or wet packages).
- (d) Monitoring of the sterilization process
 - (i) Mechanical
 - [a] Confirm cycle time, temperature, and pressure by observing the gauges or displays on the sterilizer for each load
 - (ii) Chemical
 - [a] Note color changes of time and temperature sensitive internal and external chemical indicators, which reflect physical conditions during the sterilization process
 - (iii) Biological
 - [a] Monitor weekly the sterilization process by an appropriate spore test (according to manufacturer's time, pressure, and temperature recommendation)
 - [i] Spore strip or vial is placed inside

- the cassette, tray set, or pack
 - [ii] Cassette, tray set, or pack containing the biological indicator is placed in the center of the load (hardest area to penetrate)
 - [iii] A control strip (which is not heat processed) is used as a control with each spore test
 - [iv] A record is maintained of the weekly spore testing results
 - [b] Additional biological monitoring is performed whenever there is a change in the packaging process, following equipment repair, and when training new employees.
 - (e) Quality assurance procedures following a positive mechanical, chemical, or biological monitoring test
 - (i) Secure sterilizer from further use
 - (ii) Make proper log entries
 - (iii) Review operating procedures
 - (iv) Take corrective action (repair or replacement)
 - (v) Retest sterilizer using biological monitors (CDC recommends to retest 3 times using an empty chamber)
 - (vi) Loads dating back to the last negative biological indicator should be recalled, rewrapped, and resterilized
7. Handpieces
- a) All handpieces (i.e., high- and low-speed motors, nose cones, contra-angles, motor-to-angle adapters and prophylaxis angles), unless disposable, are heat sterilized between patients.
 - (1) Cleaning, sterilization and maintenance procedures described by the handpiece manufacturer are followed to ensure proper sterilization and maximum longevity for the handpiece. For most handpieces, the following generic protocol is appropriate:
 - (a) Before removing handpiece from hose the lines are flushed for 20-30 seconds.
 - (b) Handpiece (with the bur removed) is scrubbed thoroughly under running water, rinsed thoroughly, and dried.
 - (c) Handpiece requiring pre-sterilization lubrication is lubricated.
 - (d) After lubrication, the handpiece is reattached to hose (with bur or blank reinserted) and the rheostat is activated to remove excess lubricant – CRITICAL
 - (e) Fiberoptics are cleaned with a cotton swab dampened with isopropyl alcohol to remove excess lubricant.
 - (f) Handpieces are packaged and sterilized in a steam autoclave.
8. Saliva ejectors
- a) Prevent backflow in low-volume suction lines
 - (1) Position the section of the suction tubing holding the tip below the patient's mouth
 - (2) Instruct patient not to create a seal around the suction tip
 - (3) Avoid the simultaneous use of other evacuation devices, i.e., high-volume suction
9. Dental radiography
- a) Preparing the operatory
 - (1) Cover clinical contact areas with a protective barrier before seating the patient (See V. Environmental infection control)
 - b) Exposing and processing films
 - (1) Hand hygiene and PPE before initiating the process (See IV. Engineering and work-practice

- controls and III. Personal protective equipment)
 - (2) Use disposable or heat-sterilized film-holding and positioning devices
 - (3) Use FDA-cleared film barrier pouches
 - (a) After exposure, remove the film packet from pouch and place in a clean container
 - (i) Transport/handle exposed radiographs in an aseptic manner to prevent contamination of developing equipment
 - c) Digital radiography sensors and other high-technology instruments are cleaned and heat-sterilized or high-level-disinfected according to manufacturer's recommendation.
 - d) Panoramic radiography
 - (1) Place disposable plastic cover over bite guide before the patient is positioned in the machine
 - (a) If no barrier is used, use a sterile bite guard
10. Oral surgical procedures
- a) Perform surgical hand asepsis (See IV. Engineering and work-practice controls)
 - b) Use appropriate PPE (See III. Personal protective equipment)
 - (1) When using laser or electrosurgical units, the thermal destruction of tissue creates laser plumes or surgical smoke, which may contain aerosolized infectious material
 - c) Use only sterile saline or sterile water as a coolant/irrigant
 - (1) Use specifically designed irrigating devices (e.g., bulb syringe, single-use disposable products, or sterilizable tubing)
11. Biopsy specimens
- a) Specimens are placed in leak-proof, puncture-resistant container with a secure lid for storage and transportation.
 - b) If the outside of the container becomes visibly contaminated, it is cleaned and disinfected or placed in an impervious bag
 - c) The container is labeled with the biohazard symbol
12. Extracted teeth
- a) Potentially infectious and are disposed as regulated waste
 - b) Teeth sent to the laboratory for shade and size comparisons
 - (1) Cleaned and disinfected with an EPA-registered, intermediate-level hospital disinfectant with tuberculocidal claim (e.g., products containing chlorine, quaternary ammonium compounds with alcohol, phenolics, or iodophors).
 - c) Teeth containing dental amalgam are disposed of according to local and state regulations
 - d) Extracted teeth can be disinfected and returned to patients upon request
 - e) Extracted teeth in an educational setting
 - (1) The teeth are cleaned of visible blood and gross debris and maintained in a hydrated state (e.g., water or saline) in a well-constructed closed container
 - (2) Before clinical exercises or study, the teeth are heat-sterilized (autoclave cycle for 40 minutes)
 - (a) Teeth with amalgam restorations are disinfected by immersion in 10% formalin solution for 2 weeks
 - (i) Review MSDS for occupational safety and health concerns
13. Laboratory asepsis
- a) Environmental surfaces are barrier-protected or cleaned and disinfected (See V. Environmental infection control)
 - b) Use PPE when handling items received in the laboratory until they have been decontaminated (See III. Personal protective equipment)
 - (1) Impressions, prostheses, and other devices
 - (a) Rinse under running tap water to remove blood and OPIM
 - (b) Disinfect with an EPA-registered intermediate-level hospital disinfectant with tuberculocidal claim (e.g.,

- B. Execution/Compliance
 - 1. Clinical contact surfaces
 - a) To prevent contamination, use materials impervious to moisture (e.g., plastic wrap, bags, sheets, tubing, plastic-backed paper)
 - (1) Coverings are removed and discarded between patients
 - (a) After removing the barrier, the surfaces are examined for visible soil
 - (i) Surfaces with visible soil are cleaned and disinfected with an EPA-registered intermediate-level hospital disinfectant with tuberculocidal claim,
 - (ii) e.g., products containing chlorine, quaternary ammonium compounds with alcohol, phenolics, or iodophors
 - (2) After removing gloves and performing hand hygiene, clean barriers are placed before the next patient
 - b) If barriers are not used, wearing appropriate PPE, the surfaces are cleaned and disinfected between patients using an EPA-registered intermediate-level hospital disinfectant with tuberculocidal claim, e.g., products containing chlorine, quaternary ammonium compounds with alcohol, phenolics, or iodophors.
 - c) At the end of each day, general cleaning and disinfection of clinical contact surfaces are performed regardless of barrier protection
 - (1) To facilitate daily cleaning, treatment areas are kept free of unnecessary equipment and supplies
 - 2. Housekeeping surfaces
 - a) Unless visibly contaminated, cleaning walls, window drapes, and other vertical surfaces is unnecessary
 - b) Floors and sinks are cleaned regularly with a detergent and water or an EPA-registered hospital disinfectant/detergent designed for general housekeeping purpose
 - 3. Carpeting and cloth furnishing cannot be reliably disinfected and are avoided in patient care, laboratory, or instruments processing areas.
 - 3. Cleaning and disinfection strategies for spills and spatter (blood or OPIM)
 - a) Wearing appropriate PPE, visible organic material is removed using disposable paper towels, which are then discarded in a leak-proof and appropriately labeled container
 - b) The contaminated surface is cleaned with a detergent and water and disinfected with an EPA-registered intermediate-level hospital disinfectant with a tuberculocidal claim

VI. Post-exposure evaluation and follow-up

Following an exposure to blood or OPIM, OHCWs shall immediately undergo a confidential medical evaluation and subsequent follow-up by a qualified health-care professional in accordance with current recommendations of the U.S. Public Health Service.

- A. Background
 - 1. Post-exposure evaluation and follow-up is a critical element of a comprehensive infection control/exposure control protocol. Exposure to blood or OPIM, including saliva (even when blood is not visible), must be considered potentially infectious.
 - a) See Huber MA, Terezhalmay GT. [Mandated and highly recommended vaccines for oral healthcare workers.](#)
 - b) See Huber MA, Terezhalmay GT. [Hepatotropic viruses: infection control/exposure control issues for oral healthcare workers.](#)
 - c) See Huber MA, Terezhalmay GT. [HIV: infection control issues for oral healthcare personnel.](#)
 - d) See Porteous NB, Terezhalmay GT. [Tuberculosis: infection control/exposure control issues for oral healthcare workers.](#)
- B. Execution/Compliance
 - 1. Immediately after an exposure incident

- a) Wash injuries with soap and water and apply an antiseptic agent (if available).
 - b) Report the exposure incident immediately to the Office Infection-Control Officer or other designated person.
 - c) Complete the Uniform Needlestick and Sharp Object Injury Report Form.
2. Within 2 hours of exposure and with the consent of the OHCW, arrangements are made for a post-exposure evaluation by a physician who will be provided with the following information:
- a) A copy of the completed Uniform Needlestick and Sharp Object Injury Report Form
 - b) A copy of the OHCWs Medical Record (see next page)
 - c) Any information available about the source individual
 - (1) If the source person is identified (unless it can be established that identification is infeasible or prohibited by state or local law)
 - (a) With the source person's consent, the source person's blood is tested as soon as feasible to determine hepatitis B and C virus, and HIV infectivity.
 - (i) Results of the source person's testing are made available to the OHCW
 - [a] The OHCW is informed of the applicable laws and regulations concerning the disclosure of the identity and infectious status of the source person.
3. Post-exposure management and prophylaxis
- a) After percutaneous, mucous membrane, or non-intact skin exposure to blood or OPIM the consulting physician will initiate post-exposure management (prophylaxis) according to the latest CDC recommendations.
 - b) The consulting physician's written report is obtained within 15 days of the post-exposure evaluation and is made available to the OHCW.
4. A medical record is maintained on every OHCW, which includes the following information:
- a) Vaccination status
 - (1) Dates of vaccinations (where appropriate or available)
 - (2) Evidence of immunity (where applicable or available)
 - (3) Documentation relative to the individual's inability to receive the vaccinations required or highly recommended.
 - (4) A signed copy of the mandatory hepatitis B vaccination declaration form (See II. Vaccinations)
 - b) A copy of all results of examinations, medical testing, and other post-exposure follow-up procedures.
 - c) The medical record is available for examination by the OHCW and a copy is provided upon request.
 - (1) The content is confidential and is not disclosed to anyone, without the OHCW's expressed written consent, except as require by law.

VII. Transmission-based precautions

To prevent the transmission of MBT, transmission-based precautions based on a three-level hierarchy of administrative, environmental, and respiratory-protection controls are to be implemented.

A. Background

1. The primary risk of exposure to MBT in the oral healthcare setting is contact with patients with undiagnosed or unsuspected infectious TB disease. A high index of suspicion and rapid implementation of precautions are essential to prevent and interrupt the transmission of MBT. Minimum requirements in a community-based oral healthcare setting is implementation and enforcement of a TB infection-control that provides prompt (1) identification of patients with suspected or confirmed TB disease, (2) isolation of

UNIFORM NEEDLESTICK AND SHARP OBJECT INJURY REPORT

Name: _____ Incident Report #: _____

Job Category:

- | | |
|---|---|
| <input type="checkbox"/> DDS/DMD (attending/staff) | <input type="checkbox"/> DH I |
| <input type="checkbox"/> DDS/DMD (intern/resident/fellow) | <input type="checkbox"/> DH II |
| <input type="checkbox"/> DS I | <input type="checkbox"/> DA |
| <input type="checkbox"/> DS II | <input type="checkbox"/> Dental technician |
| <input type="checkbox"/> DS III | <input type="checkbox"/> Sterilization personnel |
| <input type="checkbox"/> DS IV | <input type="checkbox"/> Housekeeper/laundry worker |
| <input type="checkbox"/> RDH (attending/staff) | <input type="checkbox"/> Other _____ |

Where did the injury occur? (Check one)

- | | |
|--|---|
| <input type="checkbox"/> Treatment room | <input type="checkbox"/> Procedure room (x-ray, sterilization, etc) |
| <input type="checkbox"/> Outside treatment room (hallway, etc) | <input type="checkbox"/> Dental laboratory |
| <input type="checkbox"/> Emergency clinic | <input type="checkbox"/> Pathology |
| <input type="checkbox"/> Operating room | <input type="checkbox"/> Other _____ |

Was the source patient identified? (Check one)

- Yes No

Was the injured person the original user of the sharp item? (Check one)

- Yes No

Was the sharp item: (Check one)

- Contaminated (known exposure to patient or contaminated equipment)
 Uncontaminated (no known exposure to patient or contaminated equipment)
 Unknown

For what purpose was the sharp item originally used? (Check one)

- Unknown
 Injection (syringe)
 To connect IV line (intermittent IV / piggyback / IV infusion)
 To start IV (IV catheter or butterfly-type needle)
 To draw a venous blood sample
 To obtain a body fluid or tissue sample
 Fingerstick
 Suturing
 Cutting (surgery)
 Electrocautery
 To contain a specimen or pharmaceutical (glass items, local anesthetic cartridge)
 Other _____

What device or item caused the injury?

When and how did the injury occur: (Check one)

- Before use of item (item broke or slipped, assembling device, etc.)
- During use of item (item slipped, patient jarred item, etc.)
- Between steps of a multistep procedure (between incremental injections, passing instruments, etc.)
- Disassembling device or equipment
- In preparation for reuse of reusable instrument (sorting, disinfection, sterilizing, etc.)
- While recapping a used needle
- Withdrawing a needle from rubber or other resistant material (rubber stopper, I.V. port, etc.)
- Other after use, before disposal (in transit to disposal, cleaning up, left on table, floor, or other inappropriate place)
- From item left on or near disposal container
- While putting the item into the disposal container
- After disposal, struck by item protruding from opening of disposal container
- Item pierced side of disposal container
- After disposal, item protruded from trash bag or inappropriate waste container
- Other, describe _____

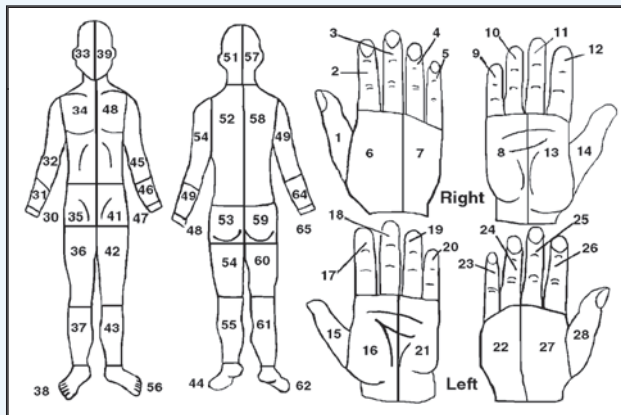
If the item causing the injury was a needle, was it a “safety design” with a shield, recessed, or retractable needle?

- Yes No

Was the injury: (Check one)

- Superficial (little or no bleeding)
- Moderate (skin punctured, some bleeding)
- Severe (deep stick/cut, or profuse bleeding)

Mark the location of the injury:



Describe the circumstances leading to this injury: _____

patients with suspected or confirmed TB disease from other patients and OHCWs, and (3) referral of patients with suspected and confirmed TB disease for medical evaluation and/or required oral healthcare procedures to a facility with appropriate environmental controls and respiratory-protection controls.

- a) See Porteous NB, Terezhalmay GT. [Tuberculosis: infection control/exposure control issues for oral healthcare workers.](#)

B. Execution/Compliance

1. Identification of patients with suspected or confirmed TB disease.
 - a) When reviewing the medical histories (initial and periodic), including a review of organ systems, all patients are routinely asked about a history of
 - (1) Exposure to TB
 - (2) Latent TB infection
 - (3) TB disease
 - (4) Medical conditions that increase the risk of TB disease (e.g., HIV infection)
 - (5) Signs and symptoms of TB disease
 - (a) Chronic ill health, coughing with hemoptysis, low-grade fever, weight loss, and night sweats.
2. Isolation of patients with suspected or confirmed TB disease from other patients and OHCWs
 - a) Patients are not kept in the office setting any longer than required
 - (1) While in the office, these patients are promptly isolated from other patients and OHCWs
 - (2) They are instructed to observe strict respiratory hygiene and cough etiquette procedures
3. Referral of patients with suspected or confirmed TB disease for medical evaluation and /or required urgent dental care
 - a) Routine dental care is postponed until a physician confirms that the patient does not have infectious TB or until it is confirmed that the patient is no longer infectious.

- b) Patients requiring urgent dental care are referred to an oral healthcare facility that meets the requirements for appropriate environmental and respiratory-protection controls
 - (1) Environmental control
 - (a) Airborne infection isolation (All) room
 - (2) Respiratory-protection control
 - (a) Disposable, nonpowered, air-purifying, particulate-filter respirators
 - (i) National Institute for Occupational Safety and Health (NIOSH)-certified particulate-filter respirators (N95, N99, or N100) are used, which have the ability to filter <.3 mm particles with a filtering efficiency of 95, 99, and 99.7% respectively.

VIII. Medical conditions and work restrictions

Oral health care facilities shall have written exclusion policies from work and patient contact to protect OHCWs with latex allergies or those susceptible to opportunistic infections and to protect patients from cross-infection.

A. Background

1. OHCWs may become susceptible to latex-related adverse reactions or develop acute or chronic conditions, which may predispose them to opportunistic infections. Such individuals should discuss the problem with their personal physician or other qualified authority to determine if the condition might affect their ability to safely perform their duties. Decisions of work restrictions related to infectious diseases are based on the mode of transmission and the period of infectivity of the disease.
 - a) See Huber MA, Terezhalmay GT. [Adverse Reactions to Latex Products: Preventive and Therapeutic Strategies.](#)
 - b) See Huber MA, Terezhalmay GT. [Mandated and highly recommended vaccines for oral healthcare workers.](#)

- c) See Huber MA, Terezhalmay GT. [Hepatotropic viruses: infection control/exposure control issues for oral healthcare workers.](#)
 - d) See Huber MA, Terezhalmay GT. [HIV: infection control issues for oral healthcare personnel.](#)
 - e) See Porteous NB, Terezhalmay GT. [Tuberculosis: infection control/exposure control issues for oral healthcare workers.](#)
- B. Execution/Compliance
1. The following procedures are in place to minimize latex allergy-related health problems among OHCWs and patients.
 - a) Reduced exposure to latex-containing materials by substituting non-latex products when appropriate and using appropriate work practice controls.
 - b) Training and education of OHCWs to recognize signs and symptoms of latex sensitivity.
 - c) Monitoring signs and symptoms of latex sensitivity among OHCWs and patients.
 - d) To confirm the diagnosis of latex allergy, a physician will evaluate OHCWs with signs and symptoms suggestive of latex allergy.
 2. Under certain circumstances, OHCWs will be excluded from work or patient-contact to prevent transmission of infection
 - a) From patient to susceptible OHCWs or from OHCWs with an acute or chronic infection to patients.
 - (1) Decisions concerning work restrictions are based on the mode of transmission and period of infectivity of the disease (Tables 2, 3, 4, 5).

Table 2. Work restrictions: HAV, HBV, HCV, and HIV infections

Infectious state		Restrictions
HAV	Acute infection	Restrict from duty for seven days after onset of jaundice
HBV	OHCWs with acute or chronic HBsAg who do not perform exposure-prone procedures	No restrictions
	OHCWs with acute or chronic HBeAg who perform exposure-prone procedures	Do not perform exposure-prone procedures until counsel from a review panel has been sought State Dental Board
HCV	Acute or chronic infection	No restrictions
HIV	HIV infection/AIDS	Do not perform exposure-prone procedures until counsel from a review panel has been sought State Dental Board

Table 3. Work restrictions: measles, mumps and rubella

Infectious state		Restrictions
Measles	Post-exposure Susceptible OHCP	Exclude from duty from the 5 th days after first exposure through the 21 st day after last exposure or for 4 days after rash appears
	Acute infection	Exclude from duty for 7 days after rash appears
Mumps	Post-exposure Susceptible OHCP	Exclude from duty from the 12 th day after first exposure through the 26 th day after last exposure or for 9 days after onset of parotitis
	Acute infection	Exclude from duty for 7 days after onset of parotitis
Rubella	Post-exposure Susceptible OHCP	Exclude from duty from the 7 th day after first exposure through the 21 st day after last exposure
	Acute infection	Exclude from duty for 5 days after rash appears

Table 4. Work restrictions: herpes simplex and varicella infections

Infectious state		Restrictions
Herpes simplex	Acute orofacial herpes	Evaluate the need to restrict from the care of patients at high-risk until lesions heal
	Acute herpetic whitlow	Exclude from duty until lesions heal
	Acute genital herpes	No restrictions
Varicella (chicken pox)	Post-exposure Susceptible OHCP	Exclude from duty from the 10 th day after first exposure through the 21 st day after last exposure
	Acute infection	Exclude from duty until all lesions dry and crust
Varicella zoster (shingles)	Post-exposure Susceptible OHCP	Exclude from patient care from the 5 th day after first exposure through the 21 st day after last exposure
	Acute infection Healthy OHCP	Cover lesions and restrict from the care of patients at high-risk until all lesions dry and crust
	Acute infection Immunocompromised OHCP	Restrict from patient care until all lesions dry and crust

Table 5. Work restrictions: respiratory tract infections

Infectious state		Restrictions
Influenza and syncytial viruses	Acute infection with fever	Exclude from the care of patients at high-risk until acute symptoms resolve
	Acute infection	Restrict from duty until 24 hours after treatment is initiated
Group A streptococci	PPD positive	No restrictions
	Acute infection	Exclude from duty until proven non-infectious

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