Common Barriers to Infection Prevention

This tool presents real life scenarios encountered in the dental care community. Along with the scenarios, reference material is listed to ensure appropriate recommendations are provided for the dental health care provider.

The following sources provide the foundation for guidance outlined.

Key:

B. Guidelines for Infection Control in Dental Health-Care Settings — 2003

Each recommendation is categorized on the basis of existing scientific data, theoretical rationale, and applicability. Rankings are based on the system used by CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC) to categorize recommendations:

Category IA. Strongly recommended for implementation and strongly supported by well-designed experimental, clinical, or epidemiologic studies.
Category IB. Strongly recommended for implementation and supported by experimental, clinical, or epidemiologic studies and a strong theoretical rationale.
Category IC. Required for implementation as mandated by federal or state regulation or standard. When IC is used, a second rating can be included to provide the basis of existing scientific data, theoretical rationale, and applicability. Because of state differences, the reader should not assume that the absence of a IC implies the absence of state regulations.
Category II. Suggested for implementation and supported by suggestive clinical or epidemiologic studies or a theoretical rationale.

C. Bloodborne Pathogen Standard 1910.1030
D. Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens
E. Various Letters of Interpretation - Bloodborne Pathogen Standards
F. Manufacturer’s Recommendation
G. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis – September 30, 2005

Instructions for Use:

Column one provides real life examples of situations or questions asked from workers in the dental community.

Column two lists sources for regulation or recommendations which ensure a safe environment for both patients and workers.

Column three provides the actual standard, enforcement guidance, or recommendations which can be implemented to create a culture of safety.

* Specific State laws are not outlined in this document.

Note: Employers must comply with OSHA regulations such as the Bloodborne Pathogen Standard. The CDC provides guidance and sets standards for safe care. Some state Dental Boards will adopt CDC recommendations as the accepted standard for delivery of safe care which in effect makes these recommendations enforceable as law.
## Common Barriers to Infection Prevention

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<tr>
<th>Statement</th>
<th>Resource</th>
<th>Regulation/Recommendation/Interpretation*</th>
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<tr>
<td>What do you think of using Lysol on your hands instead of soap and water?</td>
<td></td>
<td>Rule of thumb: always follow the manufacturer's recommendations for use of the product.</td>
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<tr>
<td>To save money we put our impression trays in Cidex. I know it says single use, but what can it hurt really?</td>
<td>CDC</td>
<td>(B) Use single-use devices for one patient only and dispose of them appropriately (IC)</td>
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<td>The doctor said the Toomey syringe states on the package that it can be sterilized. Once we are finished with the procedure we just clean it with soap and water put it in a peel pack and pop it in the autoclave.</td>
<td>CDC</td>
<td>(F) Label states - Single-use, sterile 70cc irrigation syringe</td>
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<td>Botox costs a lot of money so every morning we draw up three doses each in sterile syringes from the vial. These will be used to inject patients we have scheduled. Patients couldn't afford the procedure any other way.</td>
<td>CDC</td>
<td>(A) Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use. Category IA</td>
</tr>
<tr>
<td>We require the use of heavy duty utility gloves once the contaminated instruments reach the disinfection area.</td>
<td>CDC</td>
<td>(B) Wear puncture- and chemical-resistant/heavy duty utility gloves for instrument cleaning and decontamination procedures (IB).</td>
</tr>
<tr>
<td>When transporting our dirty instruments from the operatory to be prepared for sterilization we just wrap them in the plastic barrier material we use. Is this acceptable protection for the worker?</td>
<td>CDC</td>
<td>(B) Minimize handling of loose contaminated instruments during transport to the instrument processing area. Use work-practice controls (e.g., carry instruments in a covered container) to minimize exposure potential (II).</td>
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<td>We change our ultrasonic fluid every three weeks; it is really cloudy though. Do you think that impacts instrument cleaning?</td>
<td></td>
<td>(F) Changing of solutions used in the ultrasonic cleaner should be based on manufacturer’s instruction. An example of such instruction: Change the solution in the tank daily or sooner if it appears soiled or discolored.</td>
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<td>We run our instruments through the sterilizer first and then bag them afterwards because the doctor doesn’t like the crunchy sound of the processed bags. My hygienist just pulled an unwrapped instrument from the drawer. She reports the instruments are sterilized in peel packs but opened and placed in the drawers chair side for ease of access.</td>
<td>CDC</td>
<td>(B) Before sterilization of critical and semi-critical instruments, inspect instruments for cleanliness, then wrap or place them in containers designed to maintain sterility during storage (e.g., cassettes and organizing trays) (IA)</td>
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<td>For instrument packs that are wet and handled we just put them back into the sterilizer and rerun them. That is acceptable since they were never used on patients correct?</td>
<td>CDC</td>
<td>(B) Allow packages to dry in the sterilizer before they are handled to avoid contamination (IB).</td>
</tr>
<tr>
<td>The external indicator had changed color so we thought it was fine to use the instruments even though the indicator inside had not changed colors.</td>
<td>CDC</td>
<td>(B) Do not use instrument packs if mechanical or chemical indicators indicate inadequate processing (IB).</td>
</tr>
<tr>
<td>Our peel packs have an indicator on the outside of the package and we use the sterilization tape on the outside of wrapped packages. As long as we have one of these indicators we know the instruments are processed.</td>
<td>CDC</td>
<td>(B) Use an internal chemical indicator in each package. If the internal indicator cannot be seen from outside the package, also use an external indicator (II).</td>
</tr>
<tr>
<td><strong>Our spore test was good for a month so we just quit doing them. That’s ok isn’t it?</strong></td>
<td><strong>CDC</strong></td>
<td>(B) Monitor sterilizers at least weekly by using a biological indicator with a matching control (i.e., biological indicator and control from same lot number) (IB)</td>
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| **We had a positive spore test and were not certain what to do. We just quit running the spore test.** | **CDC** | (B) The following are recommended in the case of a positive spore test:  
  a. Remove the sterilizer from service and review sterilization procedures (e.g., work practices and use of mechanical and chemical indicators) to determine whether operator error could be responsible (II) (B).  
  b. Retest the sterilizer by using biological, mechanical, and chemical indicators after correcting any identified procedural problems (II).  
  c. If the repeat spore test is negative, and mechanical and chemical indicators are within normal limits, put the sterilizer back in service (II)  
  (B) The following are recommended if the repeat spore test is positive:  
  a. Do not use the sterilizer until it has been inspected or repaired or the exact reason for the positive test has been determined (II).  
  b. Recall, to the extent possible, and reprocess all items processed since the last negative spore test (II).  
  c. Before placing the sterilizer back in service, rechallenge the sterilizer with biological indicator tests in three consecutive empty chamber sterilization cycles after the cause of the sterilizer failure has been determined and corrected (II). |
| **Do you know how many sterilizer loads we run on a daily basis? What do you mean we should document every load?** | **CDC** | (B) Maintain each load with mechanical (e.g., time, temperature, and pressure) and chemical indicators (II).  
  (B) Use appropriate gloves (e.g., puncture- and chemical-resistant utility gloves) when cleaning instruments and performing housekeeping tasks involving contact with blood or OPIM (IB, IC).  
  (B) PPE, as appropriate, when cleaning and disinfecting environmental surfaces. Such equipment might include gloves (e.g., puncture- and chemical-resistant), protective clothing (e.g., gown, jacket, or lab coat), and protective eyewear/face shield, and mask (IC).  
  (D) Officers should also interview employees to ensure that the disinfectants are being used according to the manufacturer’s instructions. If employees have not been trained in the proper use of the disinfectant, a violation of the appropriate paragraph in (g)(2)(vii) should be cited. |
| **I don’t particularly care for that surface disinfectant. When I clean the operatory my fingertips get numb.** | **CDC BBP** | (B) Use appropriate gloves (e.g., puncture- and chemical-resistant utility gloves) when cleaning instruments and performing housekeeping tasks involving contact with blood or OPIM (IB, IC).  
  (B) PPE, as appropriate, when cleaning and disinfecting environmental surfaces. Such equipment might include gloves (e.g., puncture- and chemical-resistant, protective clothing (e.g., gown, jacket, or lab coat), and protective eyewear/face shield, and mask (IC).  
  (D) Officers should also interview employees to ensure that the disinfectants are being used according to the manufacturer’s instructions. If employees have not been trained in the proper use of the disinfectant, a violation of the appropriate paragraph in (g)(2)(vii) should be cited. |
| **We barrier protect the handpieces during procedures and then surface disinfect when done. We follow the same process with our mirror. They are just touching the inside of the patient’s mouth.** | **CDC** | (B) Clean and heat-sterilize critical dental instruments before each use (IA).  
  Clean and heat-sterilize semi-critical items before each use (IB).  
  (B) Clean and heat-sterilize handpieces and other intraoral instruments that can be removed from the air and waterlines of dental units between patients (IB, IC). |
| **A baseline TST (tuberculin skin test) for new employees? Is that a law or recommendation?** | **CDC** | Recommendations are provided by the CDC  
  (B) DHCP who have contact with patients should have a baseline TST, preferably by using a two-step test at the beginning of employment. The facility’s level of TB risk will determine the need for routine follow-up TST.  
  (B) While taking patients’ initial medical histories and at periodic updates, dental DHCP should routinely ask all patients whether they have a history of TB disease or symptoms indicative of TB.  
  (B) Patients with a medical history or symptoms indicative of undiagnosed active TB should be referred promptly for medical evaluation to determine possible infectiousness. Such patients should not remain in the dental-care facility any longer than required to evaluate their dental condition and arrange a referral. |
| **We always double glove when we have a hepatitis C patient. Shouldn’t we wear double gloves for any of our patients with hep c or HIV?** | **BBP** | (C) Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.  
  (D) Universal Precautions - Paragraph (d)(1). Universal precautions are OSHA’s required methods of control to protect employees from exposure to all human blood and OPIM. The term “universal precautions” refers to a concept of bloodborne disease control which requires that all human blood and OPIM be treated as if known to be infectious for HIV, HBV, HCV or other bloodborne pathogens, regardless of the perceived “low risk” status of a patient or patient population. |
My doctor told me he would just write me a note and I didn’t have to wear a long sleeve jacket when I assist because they make me hot. He said OSHA would be ok with that.

We can’t figure out how to provide a rapid HIV for the source patient so we are just going to put the exposed worker on HIV post exposure medication until we get the HIV test results back.

Sharps containers are ugly so we don’t have them in the operatory.

| CDC BBP (B) | Wear protective clothing (e.g., reusable or disposable gown, laboratory coat, or uniform) that covers personal clothing and skin (e.g., forearms) likely to be soiled with blood, saliva, or OPIM (IB, IC).  
  (C) 1910.1030 (3)(i) Personal Protective Equipment Provision. When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment. (ii) Use. The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee’s professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. (D) Paragraph (d)(3)(i). The type and amount of PPE must be chosen to protect against contact with blood or OPIM based upon the type of exposure and quantity of these substances reasonably anticipated to be encountered during the performance of a task or procedure. (D) Paragraph (d)(3)(ii). This paragraph requires the use of PPE. It also provides for a limited exemption from the use of PPE, based on situations in which use of PPE would prevent the proper delivery of healthcare or public safety services, or would pose an increased hazard to the personal safety of the worker or coworker. (D) An employee’s decision not to use PPE is to be made on a case-by-case basis and must have been prompted by legitimate and truly extenuating circumstances. In such cases, no citation should be issued when the employee temporarily and briefly abandons use of PPE. This does not relieve the employer of the responsibility to ensure that PPE is readily accessible at all times. The employer must investigate and document why PPE was not used in each case and evaluate the circumstances surrounding the incident to reduce the likelihood of a future (unprotected) incident. |
  | CDC BBP (C) 1910.1030(f)(3)(ii)(A) | The source individual’s blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. (G) Rapid HIV testing of source patients can facilitate making timely decisions regarding use of HIV PEP after occupational exposures to sources of unknown HIV status. PEP should be initiated as soon as possible, preferably within hours rather than days of exposure. (E) OSHA Letter of Interpretation 01.08.07 You may know, the bloodborne pathogens standard provides that “the source individual’s blood shall be tested as soon as feasible” after an exposure incident and after consent is obtained [29 CFR 1910.1030(f)(3)(ii)(A)]. Therefore, an employer’s failure to use rapid HIV antibody testing when testing as required by paragraph 1910.1030(f)(3)(ii)(A) would usually be considered a violation of that provision. |
  | CDC BBP (C) 1910.1030 (d)(4)(iii)(A)(2)(i) | Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries); (D) The Compliance Officer should ensure that the sharps container is as close as feasible to where sharps are used or can be reasonably anticipated to be found. If an employee must travel to a remote location to discard a sharp, it will increase the possibility of an accidental needlestick and increase the chances that needles and sharps will be improperly discarded and create potential hazards for other staff members. |
Our new employees are asked to go to the Health Department to obtain the hepatitis B series if they need it. We will reimburse them for the cost.

When we have a bloodborne exposure incident, I file the employees insurance for the cost of baseline lab work.

All new employees have a hepatitis B titer drawn upon hire. Even if they had the vaccine 20 years ago we still draw the titers.

The CDC has said that vaccine-induced antibodies to HBV decline gradually over time, and less than or equal to 60 percent of persons who initially respond to vaccination will lose detectable antibodies over 12 years. Studies among adults have demonstrated that, despite declining serum levels of antibody, vaccine-induced immunity continues to prevent clinical disease or detectable viremic HBV infection. Therefore, booster doses are not considered necessary. Periodic serologic testing to monitor antibody concentrations after completion of the three-dose series is not recommended.

Periodic antibody tests thereafter are not currently recommended.
- Test for antibody to Hepatitis B surface antigen, one to two months after the completion of the three-dose vaccination series. Employees who do not respond to the primary vaccination series must be revaccinated with a second three-dose vaccine series and retested, unless they are HbsAg-positive (infected).