Infection control in an era of emerging infectious diseases

**It’s critical to remain vigilant in ensuring an infection-free environment**

By Eve Cuny  
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More than three decades have passed since the emergence of human immunodeficiency virus (HIV) as a global pandemic. More than any other infection, it is possible to single out HIV as the primary stimulus for changing infection control practices in dentistry. Prior to the mid-1980s, it was uncommon for dentists and allied professionals to wear gloves during routine dental procedures. Many dental clinics did not use heat sterilization, and disinfection of surfaces was limited to a cursory wipe with an alcohol-soaked gauze sponge. This was despite our knowledge that hepatitis B virus (HBV) had been spread in clusters in the offices and clinics of infected dentists and that dentists were clearly at occupational risk for acquiring HBV.

Plenty of reasons to remain vigilant

Today, many take safe dental care for granted, but there is still reason to remain vigilant in ensuring an infection-free environment for providers and patients. HIV has fortunately proven to be easily controlled in a clinical environment using the same precautions as those effective for preventing the transmission of HBV and hepatitis C virus. These standard precautions include the use of personal protective attire, such as gloves, surgical masks, gowns and protective eyewear, in combination with surface cleaning and disinfection, instrument sterilization, hand hygiene, immunizations and other basic infection control precautions. Sporadic reports of transmission of blood-borne diseases associated with dental care continue, but are most often linked to breaches in the practice of standard precautions.

Once-rare viruses now in headlines

Emerging and re-emerging infectious diseases present a real challenge to all health care providers. Three of the more than 50 emerging and re-emerging infectious diseases identified by the Centers for Disease Control and Prevention and the World Health Organization (WHO) include Ebola virus disease (EVD), pandemic influenza and severe acute respiratory syndrome. These previously rare or unidentified infectious diseases burst into the headlines in the past several years when they exhibited novel or uncharacteristic transmission patterns.

Concern about emerging infectious diseases arises for several reasons. When faced with a particularly deadly infectious disease such as EVD, which can be spread through contact with an ill patient’s body fluids, health care workers are naturally concerned about how to protect themselves if an ill patient presents to the dental clinic. With diseases such as pandemic influenza and severe acute respiratory syndrome, which may be spread via inhalation of aerosolized respiratory fluids when a patient coughs or sneezes, the concern is whether standard precautions will be adequate.

In addition to standard precautions, treating patients with these diseases requires the use of transmission-based precautions. These encompass what are referred to as contact, droplet and airborne precautions for diseases with those specific routes of transmission.

Transmission-based precautions may include patient isolation, placing a surgical mask on the patient when he or she is around other people, additional protective attire for care providers, and in some cases, the use of respirators and negative air pressure in a treatment room. In most cases, patients who are contagious for infections requiring droplet or airborne precautions should not be treated in a traditional dental clinic setting.

Treatment delay can be best policy

Updating a patient’s medical history at each visit will assist dental health professionals in identifying patients who are symptomatic for infectious diseases. Patients with respiratory symptoms, including productive cough and fever, should have their dental treatment delayed until they are no longer symptomatic. Additionally, health care professionals who are symptomatic should refrain from coming to work until they have been free of fever without taking fever-reducing medication for 24 hours.

In most cases, a patient with symptoms as severe as those experienced with EVD will not present for dental care and therefore extraordinary screening and protection protocols are not recommended. If a patient is suspected of having a highly contagious disease, he or she should be referred to a physician, hospital or public health clinic.

Protect yourself and patients with vaccinations, proper hand hygiene

Dental professionals should take action to remain healthy by being vaccinated according to accepted public health guidelines, understanding that the recommendations may differ according to country of residence. Performing hand hygiene procedures at the beginning of the day, before placing and after removing gloves, changing gloves for each patient, wearing a clean mask and gown or laboratory coat, and wearing protective eyewear are all positive actions that help prevent occupational infections.

‘Sporadic reports of transmission of blood-borne diseases associated with dental care continue but are most often linked to breaches in the practice of standard precautions.’

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**Photos/Kimberly Smith, CDC**

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**Figs 1-7.** below: Steps from the Centers for Disease Control and Prevention for disposable-glove removal. Latex, vinyl or nitrile gloves reduce hand contamination, prevent cross-contamination and protect against infection. Gloves shouldn’t restrict movement, must accommodate individuals (i.e., allergies) and meet the requirements of the task performed.

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References


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Cuny is past chairperson of the Organization for Safety, Asepsis and Prevention (OSAP) and is a member of the National Occupational Research Agenda Council with the U.S. Department of Health and Human Services. She has published articles and textbook chapters on safety and infection control and presented numerous continuing education programs domestically and internationally.

Health care providers should practice hand hygiene at key points to disrupt transmission of microorganisms to patients, including:

- before patient contact;
- after contact with blood, body fluids or contaminated surfaces (even if gloves are worn);
- before invasive procedures; and
- after removing gloves (gloves are not enough to prevent transmission of pathogens).

Photo/Amanda Mills, CDC
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As shown on the EPA’s list, Palmero Health Care’s DisCide Ultra Disinfecting Towelettes and DisCide Ultra Disinfecting Spray ACHIEVED the Agency’s stringent efficacy performance standards against Staphylococcus aureus, Pseudomonas aeruginosa, and Mycobacterium BCG (tuberculosis bacteria) and are confirmed as efficacious hospital disinfectants. In accordance to EPA’s guidelines: DisCide Ultra Liquids and Towelettes have been found effective against Ebola virus and EnterovirusD68.

HOW DOES YOUR DISINFECTANT RATE?
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http://www.epa.gov/oppad001/atp-product-list.pdf
http://www.epa.gov/oppad001/list-l-ebola-virus.html

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Palmero’s 2-step Vacuum Shock and Vacuum Clean system can keep vacuum lines functioning at peak efficiency.

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Effectiveness:
Manufacturer Description: Vacuum Shock and Vacuum Clean provide consistent suction and asepsis while extending pump life. Vacuum Shock keeps vacuum lines clean while Vacuum Clean restores pressure and maintains cleanliness.

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Palmero Health Care carries several types of disinfectants. When considering such products for your dental practice, ask yourself the following questions:

As a potential purchaser, what are the key talking points I should know about Palmero’s DisCide line?

DisCide disinfectant effective against Ebola and EnterovirusD68

The products are available as a spray, foam, aerosol or towelette. And Palmero Health Care’s DisCide Ultra liquid comes in one-gallon refills. Palmero’s DisCide disinfectants offer ready-to-use, fast-acting, hospital-level products that are designed to expedite operatory turnover. All of the DisCide disinfectant products are also suitable for use in your practice’s central sterilization room and office areas, according to the company.

How can DisCide help streamline a dental practice’s infection control processing?

DisCide ULTRA is a one-step, quaternary ammonium, high-level, alcohol-based disinfectant that’s laboratory-proven to kill deadly pathogens in one minute.1,2

Offered in a towelette and spray, DisCide ULTRA is noncorrosive and nonstaining, and leaves behind a pleasant herbal scent with no unsightly residue.

The product is registered with the U.S. Food and Drug Administration and Environmental Protection Agency, and it meets the disinfection requirements of the federal Occupational Safety and Health Administration’s (OSHA) bloodborne pathogens standard.

As shown on the EPA’s list, Palmero Health Care’s DisCide Ultra Disinfecting Towelettes and DisCide Ultra Disinfecting Spray achieved the agency’s stringent efficacy performance standards against staphylococcus aureus, pseudomonas aeruginosa and mycobacterium BCG (tuberculosis bacteria). The products are confirmed as efficacious hospital disinfectants.

How did your disinfectant rate?

You can go to the EPA website for additional details on this at www.epa.gov/oppad001/atp-product-list.pdf.

Per EPA’s guidelines, DisCide Ultra liquids and towelettes have been found effective against Ebola virus and EnterovirusD68. For more details, you can go to registration number 10492-4 and 10492-5, www.epa.gov/oppad001/list-l-ebola-virus.html.

So what’s the final takeaway?

Palmero’s DisCide line offers a choice of ready-to-use, hospital-level disinfectants that are easy to use. The products are ideal for dental offices. From fast-acting DisCide ULTRA spray to every other product in the line, clinicians will find these products to be economical and effective choices to meet all of their infection-control needs, according to the company.

Free samples

Request a free sample at www.palmerohealth.com/requestSamples and be sure to mention “MENTOR” as how you heard about it. Call the company at (800) 344-6424, or visit www.palmerohealth.com.

References

1. Kills tuberculosis (Mycobacterium bovis or TB), methicillin-resistant Staphylococcus aureus (MRSA), HIV-1, AIDS virus, H1N1-Pandemic 2009 influenza A virus, hepatitis B virus (HBV), hepatitis C virus (HCV), vancomycin-resistant Enterococcus faecalis (VRE), respiratory syncytial (RSV), H1N2 avian influenza A virus, influenza A virus (Hong Kong), adenovi- rus, herpes simplex virus type.
2. (HSV-2), coronavirus, Pseudomonas aerugino- 

(S. pneumoniae, Streptococcus pneumoniae, Escherichia coli [E. coli], athlete’s foot fungus and more.

(Source: Palmero Healthcare)
Designs for Vision is excited to be presenting several new products at the 2015 Thomas P. Hinman Dental Meeting.

"Designs for Vision was started by my father, Dr. William Feinbloom, as an optical company, and during the 1970s our magnification and illumination products found applications in operating rooms and in operatories," said company President Richard Feinbloom. "The Hinman Dental Meeting has always provided that comfortable space where industry and professional can interact and exchange ideas. This year we are featuring our ULTRA Mini 2.5x Telescopes, Nike® Retro and DVI Sport frames, and the NanoCamHD™ loupe-mounted video camera. This is a unique opportunity to reach an important target market to introduce a major optical innovation."

Designs for Vision's new NanoCamHD records digitally at 1080 high-definition resolution. The NanoCamHD records magnified HD images from the user's perspective. The complete system includes 2.5x, 3.5x and 4.5x lens systems to match the typical magnifications, providing a true user's point of view.

As an added feature, still photographs can be taken from live video feed or during playback mode. The video or still images can be uploaded into a patient file, included in a presentation or course, or shared with a colleague or laboratory for collaborative consultations.

The NanoCamHD complete system includes a color corrected ULTRA Mini LED DayLite® headlight. The combination headlight/NanoCamHD can be attached to loupes or can be worn on a lightweight headband.

The system also includes a foot pedal to enable hands-free operation of the NanoCamHD. Record/pause, mute/unmute and still photography are controlled by the operator hands-free via the pedal.

For best results, combine the NanoCamHD with Designs for Vision's dental telescopes. Matching true magnification levels of 2.5x, 3.5x or 4.5x can produce realistic simulation from the user's perspective. The NanoCam can also be attached to the new Nike Retro frames or the new DVI Sport frames.

The Nike Retro frames are exclusive to Designs for Vision. Available in tortoise shell, black and translucent gray, the Nike Retro has a classic look. The DVI Sport frames can be used for all magnifications and can incorporate eyeglass prescriptions — providing the protective wrap without any distortion.

Also featured at Hinman, a pair of ULTRA Mini Telescopes weigh as little as 34 grams (1.2 ounces) and are 40 percent smaller than regular telescopes, thus allowing for easier peripheral vision.

"The ULTRA Mini Telescopes," Feinbloom said, "like our world renowned Dental Telescopes, provide 2.5x magnification that is fully customized to the individual user, providing ergonomic advantages to our customers. Designs for Vision matches the focal length of each telescope to the ideal working distance of our customers. This way the depth of focus surrounds their ideal working distance, instead of adapting to a pre-set focal length."

"We have been working with dentists and hygienists who required true 2.5x magnification, but desired a lighter, smaller device for all-day use. Designs for Vision wanted to design and engineer a full feature system that offered all of the features our customers expect of a Designs for Vision product. The lens system uses the same precision-coated optics as our traditional magnification systems. We can also accommodate eyeglass prescriptions into the ULTRA Mini Telescopes."

Visit Designs for Vision at the Thomas P. Hinman Dental Meeting at booths No. 828 or No. 1937 to See the Visible Difference® yourself.

(Source: Designs for Vision)
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