Infection control in an era of emerging infectious diseases

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

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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:

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.

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ten linked to breaches in the practice of standard precautions.6

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.7

These previously rare or unidenti-
ed 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 aerosolised 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 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.

In addition, cleaning and heat sterilization of all instruments and disinfection of clinical surfaces ensure a safe environment for patients.

There is solid evidence that dental care is safe for patients and providers when standard precautions are followed, but patients and dental health-care workers are placed at risk when precautions are compromised and breaches occur.

References