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Infection Prevention-2018-Refocusing on standard precautions and other non-pathogen-specific initiatives to prevent nosocomial transmission of bacterial pathogens in the acute healthcare settings- Francesca J Torriani- University of California

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Healthcare Associated Infections has been the focus of Infection Prevention and Quality Initiatives Prevention for more than two decades, and multidrug resistant organisms are responsible for many of these infections, further complicating their treatment.

In addition to strengthening antimicrobial stewardship practices, and improving adherence to standard precautions (including hand hygiene), contact precautions for patients colonized or infected with multidrug resistant organisms have been recommended and widely adopted to prevent horizontal transmission in the acute care healthcare setting. However, the data supporting these recommendations derives predominantly from epidemic rather than endemic settings, where the burden of transmission as well as the transmission rate is by definition high. Guidelines underscore the importance of a basic multiprong approach that includes education around epidemiologically important organisms, hand hygiene, contact precautions, environmental cleaning and antimicrobial stewardship. Additional measures recommended in the outbreak setting, such as active screening for MDR GNR, MRSA and VRE, alerts for previous positives with pre-emptive CP, and cohorting of patients and staff, etc have also been proposed on occasion. The presenter will discuss the strengths and weaknesses of these strategies when used alone or in conjunction, and will argue that the focus on the primacy of contact precautions in acute care settings is misplaced for most MDR organisms. Alternative focus and practices will be proposed. Hand hygiene is the most important measure to prevent the spread of infections among patients and DHCP. Education and training programs should thoroughly address indications and techniques for hand hygiene practices before performing routine and oral surgical procedures.

Hand hygiene

For routine dental examinations and nonsurgical procedures, use water and plain soap (hand washing) or antimicrobial soap (hand antisepsis) specific for health care settings or use an alcohol-based hand rub. Although alcohol-based hand rubs are effective for hand hygiene in health care settings, soap and water should be used when hands are visibly soiled (e.g., dirt, blood, body fluids). For surgical procedures,1 perform a surgical hand scrub before putting on sterile surgeon's gloves. For all types of hand hygiene products, follow the product manufacturer's label for instructions. Complete guidance on how and when hands hygiene should be performed, including recommendations regarding surgical hand antisepsis and artificial nails

Standard Precautions are the minimum infection prevention practices that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where health care is delivered. These practices are designed to both protect DHCP and prevent DHCP from spreading infections among patients. Standard Precautions include

Standard Precautions

Use of personal protective equipment (e.g., gloves, masks, eyewear).
Respiratory hygiene / cough etiquette.
Sharps safety (engineering and work practice

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controls).
Safe injection practices (i.e., aseptic technique for parenteral medications).
Sterile instruments and devices.
Clean and disinfected environmental surfaces.
Each element of Standard Precautions is described in the following sections. Education and training are critical elements of Standard Precautions, because they help DHCP make appropriate decisions and comply with recommended practices.

When Standard Precautions alone cannot prevent transmission, they are supplemented with Transmission-Based Precautions. This second tier of infection prevention is used when patients have diseases that can spread through contact, droplet or airborne routes (e.g., skin contact, sneezing, coughing) and are always used in addition to Standard Precautions. Dental settings are not typically designed to carry out all of the Transmission-Based Precautions (e.g., Airborne Precautions for patients with suspected tuberculosis, measles, or chickenpox) that are recommended for hospital and other ambulatory care settings. Patients, however, do not usually seek routine dental outpatient care when acutely ill with diseases requiring Transmission-Based Precautions. Nonetheless, DHCP should develop and carry out systems for early detection and management of potentially infectious patients at initial points of entry to the dental setting. To the extent possible, this includes rescheduling non-urgent dental care until the patient is no longer infectious or referral to a dental setting with appropriate infection prevention precautions when urgent dental treatment is needed.

Sharps Safety

Most percutaneous injuries (e.g., needlestick, cut with a sharp object) among DHCP involve burs, needles, and other sharp instruments. Implementation of the OSHA Bloodborne Pathogens Standard has helped to protect DHCP from blood exposure and sharps injuries. However, sharps injuries continue to occur and pose the risk of bloodborne pathogen transmission to DHCP and patients. Most exposures in dentistry are preventable; therefore, each dental practice should have policies and procedures available addressing sharps safety. DHCP should be aware of the risk of injury whenever sharps are exposed. When using or working around sharp devices, DHCP should take precautions while using sharps, during cleanup, and during disposal.

Engineering and work-practice controls are the primary methods to reduce exposures to blood and OPIM from sharp instruments and needles. Whenever possible, engineering controls should be used as the primary method to reduce exposures to bloodborne pathogens. Engineering controls remove or isolate a hazard in the workplace and are frequently technology-based (e.g., self-sheathing anesthetic needles, safety scalpels, and needleless IV ports). Employers should involve those DHCP who are directly responsible for patient care (e.g., dentists, hygienists, dental assistants) in identifying, evaluating and selecting devices with engineered safety features at least annually and as they become available. Other examples of engineering controls include sharps containers and needle recapping devices.

When engineering controls are not available or appropriate, work-practice controls should be used. Work-practice controls are behavior-based and are intended to reduce the risk of blood exposure by changing the way DHCP perform tasks, such as using a one-handed scoop technique for recapping needles between uses and before disposal. Other work-practice controls include not bending or breaking needles before disposal, not passing a syringe with an unsheathed needle by hand, removing burs before disassembling the handpiece from the dental unit, and using instruments in place of fingers for tissue retraction or palpation during suturing and administration of anesthesia.

Biography

Francesca J Torriani, is a Professor of Medicine in the Division of Infectious Diseases (ID) at the University of California, San Diego (UCSD). She received her M.D. in 1985 from the University Medical School in Lausanne, Switzerland and joined UCSD's faculty in 1995.In addition to her clinical work; she serves as the Medical Director of the UCSD Health IPCE. Dr. Torriani helped create the legislation on HAI and Antimicrobial Stewardship reporting in California. She continues on the Metrics Group for CA HAI Reporting, an independent group of experts on best standards and methods for HAI prevention. She is well published (>75).

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