TEAM HUDDLE: Understanding the Responsibility of Infection Prevention and Control

Dental infection prevention and control is a system of policies and procedures designed to ensure the use of best practices to reduce the risk of transmitting potentially dangerous microbes from the treatment environment and support areas. An effective infection control program hinges on the understanding of the WHAT, the WHY, and the HOW of the preventive policies and procedures as well as techniques that enhance compliance.

LEARNING OBJECTIVES

After reading this publication, the reader should be able to:

- describe how dental operatory surfaces become contaminated.
- describe how to clean and disinfect a contaminated surface.
- describe how to manage barrier-protected surfaces.
- describe the surface asepsis recommendations from the Centers for Disease Control and Prevention (CDC).
SCENARIO: The Incident

Dr. Cedar’s general dentistry practice consists of an associate dentist (Dr. M), and ICC (Mimi), two other dental assistants (Sheryl and Mandy), two hygienists (Joy and Markie) and two front office staff. Every three months Mimi is given time away from her chairside duties to review their infection control program. Her activities include observing the work of all of the staff, reviewing all of the infection control products and equipment, updating required documents, and encouraging the staff to suggest improvements.

In the recent review Mimi noticed that Sheryl and Mandy did not always clean operatory surfaces before disinfection. Sheryl used her latex exam gloves for operatory clean-up. Mandy touched the dental unit’s light handle with contaminated gloves while removing the barrier during operatory clean-up. Markie was seen leaving her patient to obtain a sharpening stone without removing her gloves. Dr. M placed a patient’s partial denture on the countertop that is not decontaminated between patients, microwaved dental instruments without removing the barrier and not cleaned and disinfected, and Mandy touched the dental unit’s light handle with contaminated gloves while removing the barrier during operatory clean-up.

Potential Consequences, and Prevention:

1. Sheryl and Mandy did not always clean contaminated operatory surfaces before disinfecting.

Mimi reminded them (at their individual meetings) that disinfection may not be effective on uncleaned surfaces.

2. Mandy touched the dental unit’s light handle with contaminated gloves while removing the barrier during operatory clean-up.

Mimi also noticed that the contaminated light handle was not cleaned and disinfected before placing a fresh barrier.

WHAT: These breaches violate two principles of infection control.

– “Make objects safe for use”; and
– “Limit the spread of contamination”.

WHY: If these surfaces are not properly decontaminated between patients, microbes can be spread from patient-to-patient or patient-to-dental team. The CDC recommends to “clean and disinfect clinical contact surfaces that are not barrier protected”. If a barrier protected surface is contaminated while removing the barrier and not cleaned and disinfected, that contamination may be spread to the fresh barrier applied later or to hands placing the fresh barrier.
HOW: Operatory surfaces should be initially cleaned and disinfected. Then they can be barrier protected from contamination before patient treatment and fresh barriers placed before the next patient. Alternatively, contaminated surfaces can be properly cleaned and disinfected between patients. If they are barrier protected, the used barriers must be removed carefully to prevent contaminating the surface. Clean and disinfect any barrier-protected surface that does become contaminated before placing a fresh barrier.

3. Markie left chairside during patient treatment without removing her contaminated gloves.

WHAT: This violates the infection control principle—“limit the spread of contamination”.3

WHY: Every surface touched by Markie’s contaminated gloves became contaminated. Also, her gloves became contaminated from all the surfaces she touched and brought those microbes back to the patient when she returned and continued treatment. The CDC states to “remove PPE before leaving the work area”.4

HOW: Remove all personal protective equipment (PPE) including gloves, masks, eyewear, and gowns before leaving the work areas like operatories, the lab, and the instrument processing area. Perform hand hygiene after removal of the PPE.

4. Sheryl used latex patient examination gloves for operatory clean-up.

WHAT: This action challenges the infection control principle—“take action to stay healthy”.3

WHY: When cleaning and disinfecting surfaces, fingertips can be accidentally “jammed” into corners or even contact sharp edges, and latex or nitrile examination gloves can easily become torn and compromised. The CDC recommends to “use PPE, as appropriate, when cleaning and disinfecting environmental surfaces. Such equipment might include gloves (e.g., puncture- and chemical-resistant utility), protective clothing (e.g., gown, jacket or lab coat), and protective eyewear/face shield, and mask.”5 Consider not sharing them with others.

5. Dr. M placed a patient’s removable appliance on the countertop that is not regularly cleaned and disinfected between patients.

WHAT: This action challenged the infection control principle—“limit the spread of contamination”.3

WHY: If a surface becomes contaminated with patient material, it must be cleaned and disinfected to prevent spread of the contamination to subsequent patients or other dental team members. Not only is the partial denture patient placed at risk, but also saliva from the partial will add to the bioburden on the counter.

HOW: Each practice must identify the clinical contact surfaces that need to be properly managed. If there is any potential that a surface may become contaminated with patient materials, then it must be included in Standard Operating Procedures to be barrier-protected or cleaned and disinfected between patients.

Strategies for Promoting Compliance with Surface Asepsis

HOW OPERATORY SURFACES BECOME CONTAMINATED

Dental operatory surfaces become contaminated during patient treatment by just about the same modes of transmission as does the dental team—droplet, direct, and indirect.

Droplet: 
Droplet spread to environmental surfaces occurs when small particles of patients’ oral fluids are generated and settle on nearby surfaces (e.g., during a prophylaxis).

Direct:
Direct spread to environmental surfaces occurs when hands (gloves) contaminated with oral fluids touch surfaces (e.g., when adjusting the dental unit light handle; “flipping” a switch on an x-ray view box; opening a drawer; handling a dispensing “gun” of polyvinylsiloxane impression material).

Indirect:
Indirect spread to environmental surfaces occurs when contaminated objects contact a surface (e.g., when removing a patient’s denture and placing it on a countertop; when laying down a contaminated scaler).

Different microorganisms survive for different times on environmental surfaces depending on ambient conditions. For example hepatitis C virus, methicillin-resistant Staphylococcus aureus (MRSA), and Mycobacterium tuberculosis may survive for several weeks while the herpes simplex virus dies in a matter of a few seconds to minutes.

Continued on page 4
Strategies for Promoting Compliance with Surface Asepsis

Continued from page 3

TYPES OF SURFACES

Clinical Contact Surfaces:
These are surfaces in the patient-care area that may be contaminated with patient materials from droplets of oral fluids or from contaminated hands, gloves, instruments, or devices (e.g., handpiece, air/water syringe, evacuator handles and hoses, light switches and handles, drawer handles, computer equipment, countertops, bracket tables). These surfaces can be barrier-protected or cleaned and disinfected for each patient.

Laboratory Contact Surfaces:
These surfaces (e.g., countertops, lathes and attachments) can be contaminated with patient materials from indirect contact with items such as dental prostheses, impressions, and bite registrations. These items need to be cleaned and disinfected before being taken into the dental laboratory or packaged for transfer to a commercial laboratory. This decontamination process is to be communicated to the commercial laboratory.

Housekeeping Surfaces:
These surfaces (e.g., floors, walls, sinks, furniture) carry less risk of disease transmission than clinical or laboratory contact surfaces and can be cleaned with soap and water or cleaned and disinfected if contaminated with blood or other body fluids.

APPROACHES TO SURFACE ASEPSIS

Barrier Protection:
The best way to manage surface asepsis from an infection control point of view is to prevent contamination of the surface. This can be accomplished by covering previously cleaned and disinfected surfaces with barriers impervious to moisture. It’s best to use barriers for electrical surfaces or those that are difficult to clean (e.g., switches, light handles, computer equipment). Fresh barriers are placed for each patient. When surface barriers are used, examination gloves need to be worn when removing contaminated barriers and clean hands used to apply fresh surface barriers.

The US Food and Drug Administration (FDA) considers barriers medical devices if they are to be used on medical devices such as dental chairs, lights, and handpieces. These barriers must go through the FDA clearance system before they can be legally marketed.

Cleaning and Disinfecting:
Clean and disinfect clinical contact surfaces that are not barrier-protected with an Environmental Protection Agency (EPA)-registered hospital disinfectant after each patient. Use an intermediate-level disinfectant (i.e., tuberculocidal) if visibly contaminated with blood. The CDC states that “cleaning removes large numbers of microorganisms and should always precede disinfection”.

The organic material in blood and saliva insulates the microbes from contact with the disinfecting chemical, and the organic material may inactivate some of the active chemical.

Gloves, mask, eye protection and protective clothing should be worn when contaminated surfaces are to be cleaned and disinfectant. These will protect against contact with microbes from patients and from the chemicals in the cleaners and disinfectants. Puncture-and chemical-resistant utility gloves should be worn during operatory clean-up to give better protection than the thinner patient examination gloves.

Procedures:
Many disinfecting products are disinfectant-cleaners (i.e., disinfectant-degents) and many are promoted as “one-step” agents. When these products (rather than soap and water) are used for the cleaning step, it starts the killing process early and reduces the chances of spreading contaminants to adjacent surfaces.

The spray-wipe-spray procedure involves two steps. For the cleaning step the cleaner/disinfectant is sprayed on the surface, and the surface wiped with paper towels. For the disinfecting step the surface is re-sprayed and left wet for the appropriate treatment time as indicated on the product label. The surface can then be wiped dry if still wet when ready for patient care. Currently, EPA-registered disinfectants are available with contact times of 1-4 minutes against most microbes shown to cause health-care associated infections and outbreaks.

The wipe-discard-wipe procedure also is a two-step process. A cleaner/disinfectant wipe is used to wipe the surface for the cleaning step. This wipe is discarded and a second wipe is used for the disinfecting step. Make sure the surface remains wet for the contact time indicated on the product label. If necessary, wipe dry before patient care.

Manufacturer Instructions for Use (IFU):
It’s very important to follow the IFU (e.g., amount, dilution, treatment/contact time, safe use, and disposal) for cleaning and disinfection. Disinfecting products have been registered by the EPA based on the specific procedures for use described on the product label. If not used according to those procedures (i.e., off-label use), the product may not provide sufficient cleaning or killing of microbes. By law, all applicable label instructions on EPA-registered products must be followed. If the user selects exposure conditions that differ from those on the EPA-registered product label, the user assumes liability for any injuries resulting from off-label use and is potentially subject to enforcement action under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Further details about surface asepsis are found elsewhere.
What’s Wrong With This Picture?
Can you identify the breach(es) in infection prevention and safety in this photo of a dental health-care personnel (DHCP) cleaning the operatory?

Educational Spotlight
Can You Take Safety Viral?
We’re ramping up for Dental Infection Control Awareness Month (DICAM) taking place this September and challenge you to join our movement to “Take Safety Viral”.

This year’s DICAM campaign aims to reach a broader digital audience to educate more dental teams, clinicians and infection control coordinators on the Safest Dental Visit™. This campaign is important to help advance patient safety and increase your patients’ confidence in your infection control practices.

OSAP is making it especially easy to access educational, marketing and patient-facing resources this September by offering a special digital membership for only $20.18. Visit OSAP.org/DICAM to take advantage of these high impact resources and social media toolkit.

Take Safety Viral!
Use hashtag #DICAM18.

We look forward to collaborating on this important conversation!

Thanks to our sponsors
OSAP thanks the following companies that help to underwrite each issue of this special series of Infection Control in Practice: Team Huddle™ in 2018.

Super Sponsors
Air Techniques  www.airtechniques.com
Coltene  www.coltene.com
Crosstex  www.crosstex.com
Dentsply Sirona  www.dentsplysirona.com
Henry Schein  www.henryscheindental.com
Hu-Friedy  www.hu-friedy.com
Kerr TotalCare  www.kerrdental.com
Midmark  www.midmark.com
Patterson Dental  www.pattersondental.com
SciCan  www.scican.com
Tuttnauer  www.tuttnauerusa.com

OSAP appreciates the commitment of our sponsors in supporting the safestdentalvisit™.
Take the Micro-Learning Silent Video Challenge!

Can you identify the actions in this short video that breach infection control or safety? Access the link below and challenge your knowledge.

https://youtu.be/--0BoeQKICw

The Scenario:
Donning Personal Protective Equipment

TEAM HUDDLE DISCUSSION GUIDE

1. Have you identified all the clinical contact surfaces that need to be managed between patients?

2. Are you using your disinfectant according to the label directions?

3. Are you limiting the spread of contamination in your facility?

Links to Resources


KEY TAKEAWAYS

1. Infection Control Coordinators need to ensure that contaminated surfaces are properly managed between patients.

2. It's very important to use products according to the manufacturer instructions for use.

QUESTIONS FOR ONLINE QUIZ

1. Leaving chairside during patient treatment without removing your contaminated gloves violates which infection control principle?
   a. Take action to stay healthy
   b. Limit the spread of contamination
   c. Make objects safe for use
   d. Avoid contacting blood/body fluids

2. What infection control principle is violated if you use latex patient examination gloves instead of heavy utility gloves for operative clean-up and instrument processing?
   a. Take action to stay healthy
   b. Limit the spread of contamination
   c. Make objects safe for use
   d. Avoid contacting blood/body fluids

3. What should be done first if a barrier-protected dental light handle is contaminated while removing the barrier?
   a. Quickly recover it with a fresh barrier
   b. Label it contaminated
   c. Disinfect it
   d. Clean it

4. What is a housekeeping surface?
   a. Drawer knobs at chairside
   b. Dental light handle
   c. Handpiece hose
   d. Sink

5. When should housekeeping surfaces be cleaned and disinfected?
   a. If contaminated with blood or body fluids
   b. At least four times a day
   c. One day each week
   d. Between patients

6. When are clinical contact surface barriers to be replaced?
   a. Immediately after the barrier is touched with contaminated hands
   b. After the morning patients and at the end of the day
   c. Between each patient
   d. At the end of the day

7. What does the CDC recommend to properly manage a saliva-contaminated clinical contact surface between patients?
   a. Wipe it with a dry paper towel
   b. Wash it with soap and water
   c. Clean and disinfect it
   d. Sterilize it

8. How may an environmental surface be contaminated by a direct mode?
   a. When salivary particles from a dental prophylaxis settle on the surface
   b. Putting a patient's maxillary denture on the bracket table
   c. Laying a used cotton roll on a nearby countertop
   d. By opening a drawer at chairside

9. How may an environmental surface be contaminated by an indirect mode?
   a. When salivary particles from a dental prophylaxis settle on the bracket table
   b. When flipping off the dental light switch with contaminated gloves
   c. When placing a patient's removable appliance on the countertop
   d. When opening a drawer at chairside with contaminated gloves

10. What governmental agency registers disinfectants?
    a. OSHA
    b. EPA
    c. CDC
    d. FDA
TEAM HUDDLE HIGHLIGHTS

1. Are you placing and removing surface barriers correctly?

2. Are you cleaning contaminated surfaces before disinfecting them?

3. Are you using products according to the manufacturer instructions for use?

Read on!