Empowerment is the development of confidence in one’s own capabilities. This confidence may be achieved by education and by learning various skills such as effective communication, leadership, motivation of others, and proactive attitude. Our series of topics this year will address empowerment of the dental professional with knowledge on how to reduce the spread of infectious agents in the dental setting. We’ll explore various incidents (scenarios) of improper infection prevention and safety that could occur in the dental care setting. Then we’ll describe how empowerment can help prevent such incidents, and we’ll present related regulations and recommendations. The first four issues this year will be based on the four basic principles of infection control (“Take Action to Stay Healthy”, “Limit the Spread of Contamination”, “Avoid Blood and Contaminated Fluids”, “Make and Keep Objects Safe for Use”). These will be followed by “Emerging Issues” and “Frequently Asked and Answered Questions”.

**Scenario 1**

**The incident:**
Nelda is the infection prevention coordinator for a group practice of three dentists, four assistants, two hygienists and three front office persons. One of the dentists (Dr. Fromden) had hired a new assistant (Papora) about three weeks ago, and Nelda was in the process of training her. Unfortunately, Nelda was sick last Friday and spent the day on her couch with aspirin, orange juice and previously taped shows of “The Young and the Restless”. So Papora was on her own for the day. She prepared the operatory for the first patient by placing surface covers on the light handles, headrest, handpiece and air/water syringe hoses, and bracket table, set out the instrument cassette and unit dosed supply pack. She seated the patient and placed the bib. Then she donned her eyewear, mask and gown, then washed her hands and put on gloves before inserting the plastic air/water syringe and the high-volume evacuator tips, connecting the handpieces, opening the cassette and preparing the anesthetic syringe. Everything went well with the first patient except Dr. F did need more cotton rolls. So Papora quickly reached around on the nearby counter top, opened the jar of cotton rolls with one hand and picked up three with the other.

After the patient was dismissed Papora replaced her patient care gloves with a new pair (after washing her hands), retrieved a batch of new surface covers, removed the old covers, sprayed and wiped down those surfaces and quickly put on the fresh covers. She then took the instruments back to the processing room, removed and discarded her gloves, washed her hands, and returned to the operatory to finish its preparation for the next patient.

When Nelda returned to work on Monday Dr. F told her that he thought Papora was a little slow in preparing the operatory and that he did notice a smear on the lid of the cotton roll jar at the end of the day. He suggested Nelda give Papora some remediation.

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**Learning Objectives**

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

- describe a way to empower staff with infection prevention information.
- describe the best way to determine how to use a disinfectant.
- describe a way to correct an infection prevention error without pointing fingers at the guilty party.
Limit the Spread of Contamination

Continued from page 1

Consequences:
It’s important to properly manage the contamination of operatory surfaces so subsequent patients will not be exposed to the previous patient’s microbes. Papora did not do well in limiting the spread of contamination. During operatory clean-up after each patient she used the same pair of gloves to remove the used surface covers and to place the new surface covers. Thus, microbes from each previous patient were potentially carried to all subsequent patients that day via hands touching the contaminated surface covers. Contaminated environmental surfaces clearly have been shown to be involved in the transmission of pathogens.\(^1,2\)

Dr. F was not aware of this for he saw that the surfaces were indeed covered for every patient. The gloves that Papora used for clean-up were patient care gloves. Utility gloves would have given her more protection. Also, she removed the old covers, cleaned the underlying surfaces and then placed the new covers. This was a waste of time and significantly delayed operatory turn-around. Papora also contributed to cross-contamination of patients by not using an aseptic retrieval procedure when obtaining cotton rolls from the bulk container at chairside. The top of the jar was contaminated along with surrounding cotton rolls left in the jar, and nothing was done to remove this contamination.

Prevention and Empowerment:
Contaminated gloves are not to be used to place fresh covers. Clean bare hands are fine for this. If a cover is placed properly, the underlying surface does not become contaminated and need not be cleaned and disinfected until the end of the work day. Either use surface covers OR clean and disinfect but not both on the same surface. However, check covered surfaces to see if they did become accidentally contaminated, and if so, clean and disinfect them before adding a fresh cover. Use an aseptic technique to retrieve items from a bulk container. This might include using a disposable (single patient use) cover for the top of a container and sterile cotton forceps (fresh ones distributed with each patient) to retrieve the contents of the container. Unit dosing helps with supply distribution, but the numbers of items in the dose pack may need to be adjusted from time to time.
Nelda definitely needs to empower Papora with additional information about operatory preparation and clean-up. Nelda can ask her to describe how she prepared the operatory last Friday. With this information Nelda can say to her: “I’m proud that you were able to get through the day on your own, and I’m sorry I wasn’t around to answer any of your questions. Let’s continue your training and give you some tips about this process”. This can also be discussed in team-building type staff meetings, not by pointing a finger at Papora, but by presenting a scenario to the entire staff asking for identification of problems and for solutions to those problems. Papora can give some of the solutions and likely feel better about now knowing the correct procedures. Let everyone agree on the final solutions so each can take part ownership in the outcome.

Some related recommendations from the Centers for Disease Control and Prevention (CDC):3

- “Use personal protective equipment, 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, lab coat), and protective eyewear/face shield, mask.”

- “Clean and disinfect clinical contact surfaces that are not barrier-protected, by using an Environmental Protection Agency (EPA)-registered hospital disinfectant with a low- (i.e., human immunodeficiency virus [HIV] and hepatitis B virus [HBV] label claims) to intermediate-level (i.e., tuberculocidial claim) activity after each patient. Use an intermediate-level disinfectant if visibly contaminated with blood.”

- “Use surface barriers to protect clinical contact surfaces, particularly those that are difficult to clean (e.g., switches on dental chairs) and change surface barriers between patients.”

- “After removing the barrier examine the surface to make sure it did not become soiled inadvertently. The surface needs to be cleaned and disinfected only if contamination is evident.”

Scenario 2

The incident:
Dr. Molder’s patient care staff consisted of two hygienists (Sally and Nula) and three dental assistants (Georgina - the infection prevention coordinator, Matilda, and Mark). During her most recent weekly monitoring Georgina noticed that Sally and Matilda were using the same disinfectant in different ways when cleaning up their respective operatories. So Georgina decided to select the topic of disinfection for the next staff meeting, and she prepared some related questions to ask the group. Her goal was not to point the finger at anyone but to motivate all the staff to get involved in the learning process of how to properly use disinfectants.

She asked the group:
“Should we try out a disinfectant towelette to replace our spray and if so, why?”

Matilda (who currently uses a spray-wipe technique) said:
“Yes, let’s try them because I heard you can use only one towelette and save a lot of time over spraying and wiping.”

Sally (who currently uses the spray-wipe-spray technique) said:
“No, you’re supposed to use two towelettes, one to clean and a second one to disinfect.”

Georgina asked:
“Would the procedure be the same for all types of towelettes? How would we know?”

Mark said:
“Read the labels.”

Georgina said:
“OK, I’ll check with our rep when she comes in on Wednesday to see if we can get a couple of towelette brands for trial runs. Who wants to participate in the trials?”

She then said:
“Well, how should we be using the current spray technique – let’s see what the label says?”

Nula got one of the spray bottles and read the label directions. They indicated to preclean the surface and then disinfect the surface (e.g., spray-wipe-spray).

Mark then asked:
“Why don’t we just disinfect our operatory with that glutaraldehyde sterilant we use for the plastic impressions trays? Then we wouldn’t have to buy a disinfectant.”

Georgina said:
“Let’s read that label.”

Continued on page 4
Limit the Spread of Contamination  Continued from page 3

Potential consequences:
It’s obvious that clinical contact surfaces in the operatory become contaminated with patients’ oral fluids. Every time we touch those surfaces with contaminated gloves the microbes on those gloves are transferred. Thus, if such surfaces are not covered or cleaned and disinfected before those surfaces are involved in the care of a subsequent patient, there is a potential for cross-contamination (patient > gloves > surface > gloves > patient).

Disinfectants may not do what their label states, if they are not used as directed on the label. Since we can’t easily test how a disinfectant is working as we use it in the office, it’s important to use it as described on the label to help ensure its effectiveness. Rules indicate that if a product is not used according to its label directions, it’s considered to be misused, and the manufacturer cannot be held responsible for related problems that may develop. Thus, it presents a risk when a product is not used according to its label directions.

Liquid sterilants/high-level disinfectants are too toxic to spread out on surfaces because that facilitates evaporation which increases exposure to the chemicals. They should be used only with submerged items in a closable container.

Prevention and Empowerment:
Georgina accomplished her goal of empowering all of the staff with information on how to properly use their current spray disinfectant. Her approach worked without embarrassing anyone who was not using the disinfectant correctly and motivated them all to use it correctly. She involved everyone in the learning process and gave them all an opportunity to help in the upcoming trials. Compliance with protocols might be enhanced when one is involved in the decision-making process on how to properly use a given product.

Some related regulations and recommendations:
• “Follow the manufacturers’ instructions for correct use of cleaning and EPA-registered hospital disinfecting products” (CDC).3
• “All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials” (Occupational Safety and Health Administration - OSHA).4
• “Use personal protective equipment, 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, lab coat), and protective eyewear/face shield, mask” (CDC).3
• “Do not use liquid chemical sterilants for surface disinfection or as holding solutions” (CDC).3

What’s Wrong With This Picture?
Can you identify any breach in infection control and safety procedures in this photo? Check your answers below.
Around the World 🌍

OSAP is presenting a program on infection control at the FDI meeting on September 14, 2011 in Mexico City. The speakers will be Enrique Acosta-Gio, Eve Cuny and Carmen Carrington Betts.

Enrique Acosta-Gio, DDS, PhD  
National University, Mexico

The Nigerian Association of Oral/Maxillofacial Pathology will be holding a 2-day scientific meeting at the University College Hospital, Ibadan, Nigeria July 26-27, 2011. The theme is Challenges of Oral Cancer in Nigeria. Other topics will include how to improve infection control and current trends in infection control methods.

Jonathan Lawoyin, DDS, MMSc  
College of Medicine, Nigeria, Africa

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Septodont, providing better dentistry through pain control, restoratives and infection control products.

SmartPractice  ► smartpractice.com  

Drilling Down With OSAP

OSAP provides a wealth of infection prevention and safety information on its web site http://www.osap.org.

For example, on the home page highlight the “Guidelines/Standards” on the left-hand menu; click on “Guidelines by Topic Areas”; and you’ll see the “Toolkit Index” which is an alphabetical search engine to link you to multiple sites on a variety of topics. Try it!

If you’re a blogger or tweeter check out the bottom left-hand menu on OSAP’s home page http://www.osap.org.
Join OSAP

If you have received this newsletter from a friend or associate, you can access other helpful resources and timely information on infection control and safety by becoming a member of the OSAP community.

**Member registration is easy.**

Online at [www.osap.org](http://www.osap.org) or by phone: 1-800-298-OSAP (6727) within the U.S. or 1-410-571-0003 outside the U.S.

**Current membership levels:**

- Individual member (within the U.S.) $110
- Web-only member (anywhere) $100
- Corporate memberships are welcome; please contact OSAP for more information.

(Note: The OSAP Board voted to maintain these rates through June 30, 2011.)

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**Glossary**

*Aseptic retrieval*: retrieving an item from a container without contaminating the container or other items in the container

*Clinical contact surfaces*: surfaces that are touched by contaminated hands, instruments, devices, or other items while providing dental or medical care or while performing activities that support dental or medical care

*Cross-contamination*: passage of microbes from one person or object/surface to another

*Disinfectant*: an antimicrobial chemical used on inanimate surfaces to kill virtually all pathogenic microbes but not necessarily bacterial spores

*Disinfectant towelettes*: towelettes containing a chemical disinfectant and commonly dispensed from a "pull-out" container

*Spray disinfectant*: a liquid chemical disinfectant contained in a spray bottle

*Spray-Wipe-Spray*: a technique for cleaning and disinfecting surfaces or objects – spray on the disinfectant cleaner; wipe the surface to clean it; then re-spray the disinfectant for disinfection

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**Links to Resources**


If you wish to obtain one (1) hour of continuing education (CE) credit, complete the following test by selecting the best answer and fax or mail it to the OSAP Central Office for grading. Please include a check or credit card to cover the handling charges. Pending satisfactory results (at least seven out of ten), you will be issued a letter for one (1) CE credit hour. OSAP is recognized by the American Dental Association as a CERP Provider.*

For each item, pick the best answer.

1. The spray-wipe-spray is a technique for:
   a. disinfecting surfaces or objects.  
   b. adding a rust inhibitor to instruments prior to sterilization.  
   c. washing your hands.  
   d. flushing out your eye after a chemical exposure.

2. A disinfectant is best defined as:
   a. an antimicrobial handwashing agent.  
   b. a liquid sterilant used in special chemical vapor sterilizers.  
   c. an antimicrobial chemical used on inanimate surfaces to kill virtually all pathogenic microbes but not necessarily bacterial spores.  
   d. an agent used to sterilize surfaces contaminated with bacterial spores.

3. Aseptic retrieval is best defined as:
   a. carefully retrieving a tooth fragment from a patient’s mouth.  
   b. removing a temporary crown from a patient’s mouth.  
   c. slowly retrieving x-ray films from the fixer.  
   d. retrieving an item from a container without contaminating the container or other items in the container.

4. What kinds of dental operatory surfaces best lend themselves to being covered with a surface barrier rather than being cleaned and disinfected between each patient?
   a. smooth.  
   b. flat.  
   c. difficult to clean.  
   d. wet.

5. The best way to determine how to properly use a disinfectant is to:
   a. read the disinfectant label.  
   b. ask a sales representative.  
   c. ask a colleague.  
   d. ask your boss.

6. What’s the best response to the question – At the beginning of the day after disinfecting the operatory surfaces do I need to wear gloves when placing surface barriers?
   a. Yes, sterile gloves  
   b. Yes, fresh patient exam gloves  
   c. No, use clean bare hands  
   d. No, but use cotton pliers to handle the barriers

7. Wear ______________ for operatory clean-up.
   a. sterile gloves  
   b. exam gloves  
   c. heavy-duty gloves  
   d. no gloves

8. Which of the following antimicrobial agents should never be used to disinfect operatory surfaces?
   a. Hospital disinfectant  
   b. Low-level disinfectant  
   c. Intermediate-level disinfectant  
   d. Sterilant/high-level disinfectant

9. What should be done to a clinical contact surface after its protective surface cover has been carefully removed at the end of a patient appointment?
   a. Clean and disinfect the surface with an intermediate-level disinfectant and then add a fresh cover for the next patient  
   b. Clean and disinfect the surface with a low-level disinfectant and then add a fresh cover for the next patient  
   c. Clean and disinfect the surface with a high-level disinfectant and then add a fresh cover for the next patient  
   d. Nothing – just add a fresh cover for the next patient

10. How often should a surface cover on a dental light handle or light switch be replaced?
    a. After every patient  
    b. After every 3 patients  
    c. When the cover is visibly soiled  
    d. Only after a high-speed handpiece is used on a patient

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After completing the information above:
mail to: OSAP CE, P.O. Box 6297, Annapolis, MD 21401, USA  or fax to: 1-410-571-0028
Please forward this issue of ICIP to other dental professionals involved in infection prevention and safety.

What’s It All About?

This issue presents one way to conduct a staff meeting on an infection prevention topic. It also suggests how to correct an error in an infection prevention procedure without pointing a finger at the guilty party.

Empower yourself with suggestions on:

• motivating the staff;
• promoting ownership among the staff on office procedures;
• involving all the staff in decision-making;
• some ways to limit the spread of contamination.

Read On!

In the next issue…..Avoid contact with blood and contaminated fluids