This is the sixth and final part in our series to help you with infection control by compartmentalizing the issues and procedures. We began with “Before You Walk in the Door”, and then proceeded to “The Reception Area”, “The Operatory”, “The Instrument Processing Room” and “Support Equipment”. We’ll finish up with the current issue “Ending the Day”.

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Learning Objectives

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

- identify critical tasks to be performed at the end of the day to prepare for the next day’s work.
- identify non-clinical care tasks related to infection control.
- list paperwork needed to maintain proper infection control and safety and comply with OSHA rules.
- locate OSHA standards for bloodborne pathogens, hazard communication and emergency action plans.

NEW Guideline!

A new infection control guideline (“Guideline for Disinfection and Sterilization in Healthcare Facilities-2008”) has just been published. This document will also be published in Morbidity and Mortality Weekly Report - the official publication of the CDC. This guideline is very detailed (158 pages and 1,035 references) and it applies to all healthcare facilities including dental facilities. See page 6 for more information.

They are mainly items or procedures directly involved with patient care. For example, the dental unit water and water lines must be managed. Contaminated chairside surfaces need to be cleaned and disinfected. Management of the contaminated instruments must begin to assure their timely reuse. Sufficient sterile instrument set-ups must be available. Unit dosed clinical supply packages must be ready. There must be adequate infection control supplies available (e.g., gloves, masks, surface barriers). The other tasks can be performed on a more relaxed timeframe but need to be scheduled to assure timely completion.

— OSAP

Ending the Day

There are several important things that go on in a dental office behind the scenes in regard to office safety and asepsis procedures. While some of these tasks are performed throughout the day, many are taken care of at the end of the day as you get ready for the next day’s activities. Examples of these tasks are listed on page 2 and they are further discussed under Putting It All Together (pages 4-5).

Of course it’s not possible or necessary to perform all of these tasks every night, so they need to be prioritized and properly scheduled. Things that must be ready for tomorrow may vary from day-to-day, but they take priority.

Prioritize your safety and asepsis tasks for tomorrow’s patient.

— OSAP

continued on page 2
Ending the Day

Use this checklist to help you prioritize your daily, weekly and monthly safety and asepsis tasks.

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As mentioned in other issues, some patients may have questions about safety issues in the office. Here’s what can be said about general safety aspects of the office. We:

- have an emergency evacuation plan in place.
- check or certify our equipment to ensure proper functioning.
- maintain a good quality of water used in your treatment.

Inform the boss of:

- any problems with OSHA infection control and safety documents.
- sterilizer spore testing results.
- equipment maintenance problems.
- waste or laundry management problems.
- the need for re-certification of x-ray equipment.

Communicate with the other staff about ending the day procedures. Make sure everyone knows about:

- emergency evacuation routes.
- where the fire extinguishers and alarms are located.
- the presence of any new hazardous chemicals in the office and the corresponding MSDSs.

Have them report to you any problems with:

- their equipment.
- availability of sufficient instrument set-ups for the next day.
- supply needs.
- completion of any ending the day tasks they have performed.

As mentioned in other issues, some patients may have questions about safety issues in the office. Here’s what can be said about general safety aspects of the office. We:

- have an emergency evacuation plan in place.
- check or certify our equipment to ensure proper functioning.
- maintain a good quality of water used in your treatment.
Final decontamination
Contaminated operatory surfaces should be cleaned and disinfected at the end of the day. Appropriate surfaces can be covered with environmental barriers the next morning.

Confirm that sufficient instrument set-ups are available for the next day
Begin to process contaminated instruments as time permits at the end of the day. If instruments are left dry overnight, presoak in the morning to facilitate final cleaning. If they are soaked overnight make sure the solution used contains a rust inhibitor.

Dental unit water asepsis
A variety of systems are available to help maintain good quality dental unit water. Some require attention every evening and others are managed at different intervals. A general approach, if disconnected from city water, is to flush out the lines at the end of the day and leave them “dry” overnight to slow down microbial multiplication.

Waste management
The key to safe waste management is to make sure that all sharps are handled carefully and that the waste is properly contained during handling. Regulated waste as defined by OSHA² consists of:

- contaminated sharps (including the used glass anesthetic carpules).
  - For disposal place in leakproof, puncture-resistant, color-coded, closable, non-glass containers.
- non-sharp solid waste that would release blood or saliva in liquid or semi-liquid form if compressed (e.g., dripping wet cotton rolls).
  - For disposal place in leakproof, color-coded bags.
- non-sharp items that are caked with dried blood or saliva and are capable of releasing these materials during handling (e.g., a 2 x 2 caked with dried blood).
  - For disposal place in leakproof, color-coded bags.
- pathological materials (e.g., extracted teeth that are not disinfected and returned to the patient).
  - For disposal place teeth in the sharps container unless they contain amalgam. These need to be chemically disinfected and picked up by a medical waste hauler or disposed of by other means depending upon local laws.
- liquid blood or saliva.
  - For disposal carefully pour (without splashing) down a drain (installed according to the local building codes) and rinse with water.

Check the sharps containers and replace if ¾ or more full. If waste is transported by a medical waste hauler, make sure appropriate manifests have been received from the hauler. Make sure the sharps containers are closed when moving them so their contents will not spill if dropped. If local laws allow sterilization of the waste before disposal in regular trash, be sure the lids of the sharps containers are open during sterilization and then process through an autoclave for 60 minutes (either one long cycle or two 30-min cycles). Close the lid after processing. Also be sure that the plastic sharps containers used will not melt inside the sterilizer.

continued on page 5
Removal of protective clothing and final hand hygiene
Protective clothing (the outer layer of clothes) should not be worn out of the clinical area.

Hand hygiene at the end of the day should be handwashing with soap and water. Handwashing is important at this time, particularly if alcohol hand rubs have been used throughout the day. Since there is no rinsing with the hand rubs, materials can build up on the skin, and this is removed by handwashing and rinsing.

Laundry management
If disposable gowns are used they can be discarded in the regular trash. If washable protective clothing is used, it can be laundered in the office or sent out to a medical laundry service. If sent out, the contaminated laundry must be “red-bagged” unless the laundry service handles all laundry as contaminated.

Unit dosing
Unit dosing is preparing and setting out clinical supplies in the quantity needed before seating the patient. It’s an approach to supplies distribution that provides everything that is needed before the appointment begins. This helps to eliminate obtaining supplies after patient treatment has begun thus reducing the chances of spreading contamination away from chairside. Those unit dosed supply items that are not used are considered contaminated and are discarded at the end of the appointment.

Perform any necessary infection control/safety equipment maintenance according to manufacturer’s directions
- Check the proper functioning of eye-wash stations.
- Make sure emergency showers (if present) work.
- Flush the autoclave drain and clean the chamber.
- Disinfect and rinse the ultrasonic cleaner chamber.
- Make sure routine sterilizer spore testing records are up to date.
- Check the dates of certification on fire extinguishers and x-ray equipment.
- Cleanse the vacuum lines and replace the disposable trap.

Management of infection control and safety documents and records
- Make sure the required OSHA Infection Control Plan is updated with any new infection control procedures or products used or any evaluations of safety devices that have been conducted. The contents of this plan are described in the OSHA Bloodborne Pathogens Standard.
- Update the collection of Material Safety Data Sheets (MSDS), hazardous chemicals list and Hazard Communication Plan when new chemicals are purchased;
- Make sure the required OSHA poster (Job Safety and Health: It’s the Law) is properly displayed where employees and applicants for employment can see it. Dental facilities are required to display a poster prepared by the Department of Labor informing employees of the protections of the 1970 Occupational Safety and Health Act. OSHA developed a new OSHA poster in 2007 that can be downloaded and printed in English or Spanish. Previous versions of the poster do not need to be replaced.

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- If recent initial or annual OSHA bloodborne pathogens training has been provided to the staff, make sure training records have been updated with the date of the training, the names and job classification of all those who received the training, the general content of the training and the qualifications of the trainer. The training records are to be kept for 3 years.
- Make sure the emergency action plan as required by OSHA is up to date and that the emergency exit routes are appropriately identified and marked.
More details on the new infection control guideline

One of the many great things about this guideline is its comprehensive text section that gives explanations and referenced scientific justifications for the recommendations given. The guideline was prepared by Drs. Rutala and Weber (infection control experts from the University of North Carolina) and the Healthcare Infection Control Practices Advisory Committee (HICPAC). HICPAC is a federal advisory committee made up of 14 external infection control experts who provide advice and guidance to the CDC and the Secretary of the Department of Health and Human Services.

In addition to recommendations updated from the 1980s, new topics addressed in this guideline include: 1) inactivation of antibiotic-resistant bacteria, bioterrorist agents, emerging pathogens, and bloodborne pathogens; 2) toxicologic, environmental, and occupational concerns associated with disinfection and sterilization practices; 3) disinfection of patient-care equipment used in ambulatory settings and home care; 4) new sterilization processes, such as hydrogen peroxide gas plasma and liquid peracetic acid; and 5) disinfection of complex medical instruments (e.g., endoscopes).

There is a section in the new guideline about “Management of equipment and surfaces in dentistry” that is consistent with the 2003 CDC recommendations for dentistry. A new recommendation that applies to dentistry is “Do not use flash sterilization (short cycle time with unwrapped instruments) for convenience, as an alternative to purchasing additional instrument sets, or to save time.” Check out this document. It’s a major resource.

Links to Resources


Questions and answers:

Q: Have there been any major changes in OSHA’s bloodborne pathogens standard since it first came out in the early 1990s?

A: Yes, two. In 2001 the needlestick prevention act was added to the standard requiring evaluation of safety devices for possible use in the office. The evaluations and the decision to accept or reject the device need to be explained in the Exposure Control Plan. Also, as of 2002, “offices and clinics of dentists” are no longer required to keep injury and illness records. But incidents causing a fatality or hospitalization of two or more employees are to be reported to OSHA.

Do you have a question or challenge about infection or safety issues that you put into practice? Send your question to editor@OSAP.org. Dr. Miller will incorporate the answer into the upcoming ICIP issue.

Glossary

Bloodborne pathogens standard: A law developed by OSHA that directs employers to protect employees from occupational exposure to blood and other potentially infectious materials (e.g., saliva in dentistry).

Emergency action plan (EAP): An EAP is required by OSHA and facilitates and organizes employer and employee actions during workplace emergencies.

Hazard communication standard: A standard from OSHA that has the goal of preventing employee exposure to hazardous chemicals. It includes training, collecting MSDSs and lists of hazardous chemicals, proper labeling of chemicals and providing protective devices.

Material safety data sheet (MSDS): This document is supplied by the manufacturer with the first order of a hazardous chemical. It describes properties of and procedures for handling the chemical including physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures. OSHA’s Hazard Communication Standard requires that an MSDS be maintained in the office for each hazardous chemical present.

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If you wish to obtain one (1) hour of continuing education (CE) credit, complete the following test and fax or mail it to the OSAP Central Office for grading. Please include a check or credit card to cover the appropriate fee as indicated below. 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 more information, call OSAP at 800-298-6727 (410-571-0003).

For each question, pick the best answer.

1. How many major changes in OSHA’s Bloodborne Pathogens Standard have occurred since it was first published in 1991?
   a. 2   b. 3   c. 4   d. 5

2. Which of the following is the best example of regulated waste as defined by OSHA?
   a. Patient bib   b. Disposable clinic gown
   c. A cotton roll dripping wet with saliva   d. A used disinfectant wipe

3. Unit dosing means to:
   a. provide only one dose of antibiotic to a patient.
   b. expose a patient to the lowest dose possible when taking an x-ray.
   c. prepare and set out clinical supplies in the quantity needed before seating the patient.
   d. disinfect the entire dental unit with a single disinfectant wipe.

4. How many years do the OSHA-required training records have to be kept?
   a. 3   b. 5   c. 15   d. 30

5. Which of the following describes a change in the original OSHA Bloodborne Pathogens Standard?
   a. Dental personnel no longer need to wear long sleeved protective clothing.
   b. Employees must now pay for their own hepatitis B vaccination.
   c. OSHA training on bloodborne diseases needs to be updated every 3 years rather than annually.
   d. Dental offices no longer need to keep illness and injury records.

6. Material Safety Data Sheets are required by which OSHA standard?
   a. Occupational Health and Environmental Control
   b. Bloodborne Pathogens
   c. Hazard Communication
   d. Emergency Action

7. How long should sharps containers be processed through an autoclave for final sterilization?
   a. 60 minutes   b. 30 minutes   c. 10 minutes   d. 3.5 minutes

8. Why is handwashing rather than using a hand-rub important at the end of the day?
   a. Handwashing is always more antimicrobial.
   b. Handwashing removes materials that may have built up throughout the day.
   c. Hand-rubs are too irritating to the skin.
   d. Hand-rubs cause more allergic reactions.

9. Which of the following must be displayed in the office?
   a. OSAP’s “Infection Control in Practice” publication
   b. CDC’s 2003 Infection Control Guidelines
   c. ADA’s Infection Control Guidelines
   d. OSHA’s “Job Safety and Health: It’s the Law” poster

10. The Practice Tip relates to:
    a. how to sterilize high-speed handpieces.
    b. conducting literature searches.
    c. disinfecting dental units.
    d. properly disposing of sharps containers.

Mail or Fax completed test with the appropriate payment to receive one (1) hour of continuing education credit.

Your Name: _______________________________ OSAP Member Name: _______________________________ (if different)

Address: __________________________________________________________________________________

☐ VISA  ☐ MASTERCARD  ☐ CHECK ENCLOSED  Fee:  ☐ OSAP MEMBER, $15  ☐ NONMEMBER, $20
Name on Card: _______________________________ Card Number: _______________________________
Expiration Date: ____________________________ Signature: ________________________________
Asking the right questions to find evidence-based answers

Best practices for infection control are those supported by scientific research and guidance from credible sources. It is essential to ask well-designed questions in order to find the relevant research and guidance literature to develop best practices. Here are some tips on forming the right type of question when searching for literature.

• Background questions ask for general knowledge about a condition or thing. When formulating a background question include:
  ✓ A question root (who, what, when, etc.) with a verb, followed by:
  ✓ A procedure, or other aspect of infection control.
  ✓ Example: What is the best method to clean instruments?

• Foreground questions ask for specific knowledge to inform decisions or actions. PICO is a mnemonic used to describe the four elements of a good clinical foreground question.
  ✓ Problem or condition
  ✓ Intervention
  ✓ Comparative intervention (optional, include if relevant)
  ✓ Clinical outcome

The next step is to search the guidance literature to find evidence-based answers to questions such as:

• Are there guidelines?
  ✓ http://www.guidelines.gov
• Is there a Cochrane Review?
  ✓ http://www.cochrane.org
• Is there a DARE report?
  ✓ http://www.york.ac.uk/inst/crd/
• Is there a systematic review on PubMed?
  ✓ http://www.pubmed.gov

References: