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 addressed empowerment of the dental professional with knowledge on how to reduce the spread of infectious agents in the dental setting. We’ve explored various incidents (scenarios) of improper infection prevention and safety that could occur in the dental care setting. Then we’ve described how empowerment can help prevent such incidents and presented related regulations and recommendations. The first four issues this year were based on the four basic principles of infection control (“Take Action to Stay Healthy”, “Limit the Spread of Contamination”, “Avoid Contact with Blood and Other Body Fluids”, “Make and Keep Objects Safe for Use”). The fifth issue dealt with “Frequently Asked and Answered Questions”. The current issue presents some important issues to review at least annually in infection prevention and safety.

Complacency

Complacency is being satisfied about things and usually unaware of any related deficiencies. We must take care that complacency does not occur in regard to infection prevention.

It’s a good thing when proper infection prevention procedures become routine, but we must not relax that routine - thinking that a few short-cuts here and there will make life easier and will not really matter. IT WILL MATTER! Every nasty microbe you’ve ever heard of is still around (except maybe the smallpox virus) waiting in the wings ready to raise their ugly heads if given a chance. We don’t often hear about some of these because we have two major systems in place to help control them.

One is infection prevention procedures that kill microbes, prevent exposure to microbes, or remove them from appropriate clinical surfaces.

The second system involves the health of dental healthcare personnel using immunizations against specific infectious microbes. Since vaccines or toxoids are not available for all microbes, and since some persons do not receive all available immunizations, infection prevention procedures continue to be of prime importance.

Infection prevention is as important today as it ever was! Visit www.osap.org and empower yourself with resources to help prevent complacency.

Continued on page 2

Learning Objectives

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

► describe how complacency can interfere with infection prevention;
► list the immunizations recommended by the Advisory Committee on Immunization Practices and the Centers for Disease Control and Prevention (CDC) for healthcare workers;
► describe some ways to prevent methacillin-resistant *Staphylococcus aureus* transmission in the office;
► describe some ways to prepare for disease prevention in the office;
► list some dental operatory fomites;
► describe the proper uses of personal protective equipment.
Important / Emerging Issues

Immunizations for Dental Healthcare Workers

For 2011 the Advisory Committee on Immunization Practices and the CDC recommends the following immunizations for healthcare workers.1,2

Hepatitis B (HB): Give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give intramuscularly. Obtain anti-HBs (antibody to hepatitis B surface antigen) serologic testing 1–2 months after dose #3.

Influenza: Give 1 dose of influenza vaccine annually. Give inactivated injectable influenza vaccine intramuscularly or live attenuated influenza vaccine (LAIV) intranasally.

Measles, mumps, rubella (MMR): For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below*. Give subcutaneously.

Varicella: For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease (chickenpox), give 2 doses of varicella vaccine, 4 weeks apart. Give subcutaneously.

Tetanus, diphtheria, pertussis (Tdap): Give a one-time dose of Tdap as soon as feasible to all HCP who have not received Tdap previously. Give Td (tetanus and diphtheria) boosters every 10 years thereafter. Give intramuscularly.

Meningococcal: Give 1 dose to microbiologists who are routinely exposed to isolates of N. meningitidis. Give intramuscularly or subcutaneously.

Visit osap.org and download the CDC immunization chart at “Charts and Checklists” under “Resources”.

MRSA

Fortunately there is no evidence that the problems with hospital associated infections including those from Clostridium difficile, methicillin-resistant Staphylococcus aureus (MRSA) and others have become prominent in dentistry. However, MRSA has been shown to be present on dental operatory surfaces, student laptops and in dental personnel.3,4 Thus, we cannot let our guard down. MRSA infections are usually spread by having contact with someone’s skin infection or personal items they have used. Factors that have been associated with the spread of MRSA skin infections include: close skin-to-skin contact, openings in the skin such as cuts or abrasions, contaminated items and surfaces, crowded living conditions, and poor hygiene. Procedures that help prevent the spread of MRSA and other microbes include hand hygiene, wearing appropriate personal protective equipment, cleaning and disinfecting or using surface barriers on clinical contact surfaces and cleaning and sterilization of contaminated reusable items.8

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*Although birth before 1957 generally is considered acceptable evidence of measles, mumps, and rubella immunity, healthcare facilities should consider recommend-
Preparedness

Be prepared! It’s becoming more and more important to document procedures and activities to protect patients and office staff. This information is used when managing accidental injuries, exposures to patients’ body fluids, patients’ complaints to authorities, or diseases claimed to be acquired in the office—all of which could invoke investigations.

Preparedness includes making sure:

- the office is in compliance with applicable federal, state, and local regulations;
- the office has a written exposure control plan required by OSHA that is readily available to the staff, followed by the staff and updated at least annually;
- post-exposure medical evaluation procedures are established and operative;
- the hazard communication program required by OSHA is documented and utilized;
- the tuberculosis (TB) control plan should be developed, reviewed periodically, and evaluated for effectiveness to determine the actions necessary to minimize the risk for transmission of *M. tuberculosis* as recommended by the CDC;
- the staff has received appropriate and annual training on bloodborne pathogens, standard precautions, and the hazard communication program;
- the OSHA’s “Job Safety and Health” poster (form #3165) is properly displayed;
- the office is in compliance with the Americans with Disabilities Act (ADA) including the ADA Amendments Act of 2008;
- equipment and medicines for medical emergencies are available and not expired;
- the emergency action plan is in place and staff is aware of at least the:
  - possible types of emergencies;
  - any specific responsibilities during an emergency;
  - evacuation routes;
  - emergency contacts;
  - the meeting place outside the office after evacuation.
- appropriate records are in order including:
  - bloodborne pathogen employee training records;
  - bloodborne pathogen employee medical records;
  - sterilization monitoring records;
  - a current list of hazardous chemicals in the office as well as the corresponding Material Safety Data Sheets;
  - radiographic equipment and fire extinguisher certifications up to date;
  - manifests from regulated medical waste haulers;
  - verification of any on-site treatment of regulated wastes;
  - disinfection records before sending dental appliance to a laboratory.

Have Confidence in What You’re Doing

Unfortunately we cannot readily prove the effectiveness of all infection prevention procedures as they are performed in the office. We can document the results of sterilization procedures by mechanical, chemical and biological monitoring, but we can’t immediately show that disinfection, barrier protection, hand hygiene, waterline treatment, or personal barriers are working in the office. So what do we implement?

First, use appropriately FDA-cleared or EPA-registered products and equipment. Then learn how to perform the procedures or use the equipment correctly based upon research studies, documented training, common sense and most importantly manufacturer’s instructions. Continue to perform the procedures and use the equipment correctly every time. This requires proper training of all those who perform the procedures as well as periodic monitoring to ensure they continue to perform the procedures correctly. With these efforts in place you can have confidence in what you’re doing.

Continued on page 4
Important / Emerging Issues Continued from page 3

Overlooked Fomites

Fomites are inanimate surfaces/objects that may be involved in the spread of infectious agents. It’s quite clear that we cannot sterilize the operatory, but we do need to be cognizant of the surfaces that become contaminated during patient treatment and may be involved in the treatment of the next patient. These surfaces are called clinical contact surfaces or fomites, and they need to be properly managed so as not to be involved in the spread of infectious agents. The exact surfaces can vary from one operatory to another depending upon the treatment procedure. Disposable fomites such as air/water syringe tips, saliva ejector tips, high volume evacuator tips, needles and scalpels are easily managed. They’re discarded after use on a patient. There are three ways to manage reusable fomites: 1) prevent them from becoming contaminated by covering with water-impervious surface barriers and replacing with fresh barriers before the next patient; 2) if heat stable, after contamination, clean, package and sterilize them; 3) if heat labile, clean and disinfect them before they’re involved with another patient.

Examples of reusable dental operatory fomites and their suggested management

<table>
<thead>
<tr>
<th>Fomite</th>
<th>Management Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair headrest</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>Chair, light, dental unit, view box, curing light, electrical switches, instruments</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>Light, drawer and cart handles</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>X-ray unit</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>Digital x-ray sensors</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>High- and low-speed handpieces, air/water syringe tips, slow/high volume evacuator tips</td>
<td>Clean and heat sterilize</td>
</tr>
<tr>
<td>Holders and hoses for high- and low-speed handpieces and air/water syringe</td>
<td>Barrier protect</td>
</tr>
<tr>
<td>Bracket table trays</td>
<td>Clean and disinfect</td>
</tr>
<tr>
<td>Countertops</td>
<td>Clean and disinfect</td>
</tr>
</tbody>
</table>

Proper use of Personal Protective Equipment (PPE)

PPE is considered appropriate if it does not permit patients’ body fluids to pass through or reach a person’s work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes. This equipment is to be provided, cleaned, laundered, repaired, and replaced by the employer of workers who may be exposed to patients’ body fluids. PPE needs to fit and be used properly to prevent direct contact with contaminated materials or to prevent contamination of other surfaces. Here are some suggestions for use.

Surgeons and examination (procedure) gloves:
These are to be discarded when leaving chairside and replaced with fresh ones when returning to chairside. Fresh gloves are to be used with each new patient. Patient treatment gloves should not be washed with soap and water or treated with any chemical disinfection or heat sterilization process. Gloves need to be discarded as soon as possible if torn or punctured.

Utility gloves:
These are used for cleaning and disinfecting surfaces and for instrument processing. These gloves should not be shared among staff. They need to be periodically checked for tears, punctures, peeling and cracking. They can be washed with antimicrobial soap and water between uses.

Face masks:
Face masks need to cover the nostrils and mouth and be replaced when wet. A fresh mask is to be used with each patient. Remember the outside of a used mask is contaminated with the patient’s microbes and should not be touched with bare hands.

Protective eyewear:
These need to contain solid side shields and be large enough to give good protection to the eyes. Clip-on side shields are available for prescription glasses. Glasses may be washed with antimicrobial soap and water and rinsed well between uses. Eye protection should be provided to patients and they should be decontaminated between uses. Disposable eye protectors for patients are available. Eye protection may be achieved using a combination mask with attached protective eye shield. Instead of protective eyewear, a full-face shield can be used with a mask beneath.

Protective clothing:
This is the outer layer of clothing to be worn when exposed to patient blood and body fluids. It should be long sleeved and should cover the lap when sitting at chairside. It is to be replaced when visibly soiled with patient materials, and is not to be worn out of the work area.
What’s Wrong With This Picture?

Can you identify any breach in infection prevention and safety procedures in this photo? Check your answers below.

**Answers:**
- Dr. Enrique Acosta Gio, National University of Mexico

Around the World

On September 14, OSAP offered a session on Patient Safety at the Federation Dentaire International (FDI) meeting in Mexico City. On October 16, the World Health Organization (WHO) announced the publication of the Curricular Guide on Patient Safety: Multi-Professional edition. OSAP contributed to the preparation of this important educational tool. The School of Dentistry at the National University of Mexico (UNAM) was selected by the WHO’s Patient Safety Program to participate as a Pilot Site to evaluate the Curricular Guide on Patient Safety. UNAM’s experience in integrating this Curricular Guide in the school’s efforts on Patient Safety will be shared with similar educational institutions.

— Dr. Enrique Acosta Gio, National University of Mexico

Drilling Down With OSAP

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

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- Patterson Dental [► patterson dental.com](http://patterson dental.com)
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- PDI, The healthcare division of Nice-Pak [► pdipdi.com](http://pdipdi.com)
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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.

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- Academic $150/$250
- Corporate memberships are welcome; please contact OSAP.

**Glossary**

- **Attenuated**: to weaken. For example, an attenuated vaccine contains a microbe with weakened disease-producing properties.
- **Intramuscularly**: within a muscle. For example, an intramuscular (IM) injection involves inserting the needle through the skin into muscle tissue.
- **Isolate**: microbial cells that have been separated from other types of microbial cells.
- **Labile**: unstable.
- **Subcutaneously**: below the skin.
- **Toxoid**: an inactivated toxin. Used for immunization against diseases caused by bacterial toxins (poisons).

**Links to Resources**


2. CDC. Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Accessed November 2011 at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm?s_cid=rr6007a1_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm?s_cid=rr6007a1_e)


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For each item, pick the best answer.

1. What is the recommended time to get serologically tested for antibody response after receiving the 3-dose series of hepatitis B vaccination?  
   a. 1-2 days  b. 1-2 weeks  c. 1-2 months  d. 1-2 years

2. Healthcare personnel born in _______ or later without serologic evidence of immunity or prior vaccination should receive two doses of MMR, 4 weeks apart.  

3. How often should one receive the influenza vaccine?  
   a. Every year  b. Every two years  c. Every three years  d. Every ten years

4. MRSA is resistant to:  
   a. methanol.  b. myconizole.  c. metronidizole.  d. methacillin.

5. What poster does OSHA require to be posted in every workplace?  
   c. “Job Safety and Health Protection”  d. “Fire Protection System”

6. What method of decontamination is recommended for high- and low-speed handpieces?  
   a. Cleaning and disinfection  b. Barrier protection  
   c. Ultrasonic cleaning  d. Cleaning and heat sterilization

7. What method of decontamination is recommended for contaminated electrical switches?  
   a. Cleaning and disinfection  b. Barrier protection  
   c. Ultrasonic cleaning  d. Cleaning and heat sterilization

8. How many doses of the varicella (chickenpox) vaccine should one receive?  
   a. One  b. Two  c. Three  d. Four

9. Who is required by OHSA to purchase and provide the PPE used in a dental office?  
   a. The employer  b. The manufacturer of the specific PPE  
   c. The distributor of the specific PPE  d. The employees who will use them

10. When should a torn or punctured examination glove be replaced?  
    a. Right after the patient leaves  
    b. At the end of the day  
    c. After the operatory is set up for the next patient  
    d. As soon as possible after the defect is noticed

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Infection Control In Practice  Volume 10, No. 6  December 2011  www.OSAP.org
What’s It All About?

This issue re-emphasizes some important current and emerging issues in the realm of infection prevention and safety in dental care settings.

Have you experienced challenges or expressed concerns about any of these topics?

- Complacency
- Immunization for healthcare workers
- MRSA
- Fomites
- Confidence in your work
- Preparedness
- Proper use of PPE

Read On!

Coming in 2012: Empowerment through Connections!