Infection prevention and safety is a discipline that requires constant attention. We need to chart a course to success by steering around obstacles and pitfalls, managing changes in regulations and recommendations and evaluating new products and procedures. So this year Infection Control in Practice is helping you navigate a course to infection prevention and safety by presenting issues titled “Set Your Course for Safe Dental Care”, “Continuing Your Journey to Safe Dental Care”, “Microbes That Challenge the Journey to Safe Dental Care”, “Plotting a Course Around Infection Prevention Pitfalls”, “Plotting a Course to Prevention Through Immunization” and “Steering Toward Patient Safety”.

**Steering Toward Patient Safety**

OSAP’s Symposium last June in San Diego included several presentations on patient safety by Drs. Kalenderian, Strock, Mazurat and Acosta-Gio. Summaries of these presentations can be found in the symposium proceedings at http://www.osap.org/?page=ContEdCE (click on Knowledge Center; Continuing Education; 2013 Symposium Proceedings).

Patient safety (PS) in dentistry is the delivery of safe dental care to patients. PS is rooted in establishing an overall Culture of Safety in the dental facility. This reflects the shared commitment of the employer and employees/students toward ensuring safety for patients and dental personnel. The Centers for Disease Control and Prevention (CDC) lists specific actions that can be taken by employers to help ensure a safety culture in the workplace.

- Openly supporting safety culture through supply of resources
- Engaging worker participation in safety planning
- Having written safety guidelines and policies
- Making available appropriate safety devices and protective equipment
- Influencing work-group norms regarding acceptable safety practices
- Introducing workers to a safety culture when they are first hired

The CDC also has developed a survey to assess workplace safety for healthcare employees that relates to PS. In addition, a survey to measure PS culture in medical offices has been adapted for use in dental offices. These tools may help in identifying problems and improving PS in your facility.

**Learning Objectives**

After reading this publication, the reader should be able to:
- describe what employers can do to foster a culture of safety in the office.
- describe how to access surveys to measure patient safety in the office.
- list five examples of infection prevention procedures that benefit patients.
So, Ember could have come stay with Mona. Ember went back to work on Tuesday after going to a pharmacy to get the flu shot. At work she assisted with eight patients that day - two of which needed to come back for further treatment on Friday even though the office was normally closed on Fridays. On Wednesday Ember called in sick having the same symptoms as Mona. On Friday Dr. Hilfer’s receptionist received phone calls from both patients scheduled that day cancelling their appointments because they said they had developed colds.

**Potential Consequences**

Admittedly, determining where one “caught” a specific disease is usually difficult, and different respiratory illnesses are difficult to distinguish based on signs and symptoms alone. However, one plausible explanation of this scenario is that Ember became infected with the influenza virus from her daughter and spread the agent to at least two of her patients when she returned to work. Ember had never been immunized against the flu, and she was apparently already infected when she did get the shot.

Other considerations are that influenza can be spread to others up to about six feet away. Influenza has a short incubation time of one to four days with an average of two days. So, Ember could have been infected by Mona over the weekend. Also, influenza is characterized by an abrupt onset of symptoms, and a person who is infected is usually contagious one day before the symptoms appear to five to ten days after the onset of illness.

Ember felt fine on Tuesday at work but was symptomatic on Wednesday. The two patients scheduled to return on Friday likely became infected by Ember on Tuesday and by Friday they had developed respiratory symptoms. All of these events are within the common contagious and incubation periods for influenza. While the two “Friday patients” may indeed have developed colds, the early symptoms of influenza are often confused with those of the common cold or other respiratory diseases.
**Prevention and Related Recommendations**
Influenza is mainly spread by the larger droplets of respiratory fluids generated when an infected person coughs, sneezes or maybe even talks. Less often a person also may get influenza by touching a surface contaminated with the influenza virus and then touching their own mouth or nose. It’s not known how Ember interacted with her patients. For example did she talk to them while not wearing her mask? Did she perform proper gloving and surface asepsis? Did she sneeze or clear her throat near patients? Prevention includes staying home when sick and recognizing that one can be contagious without having symptoms of a disease. It is likely that asymptomatic carriers are more important in spreading diseases than those who are obviously ill – the latter are recognizable and can be avoided. Proper hand hygiene and surface asepsis of touch surfaces in healthcare facilities is important in preventing the spread of a variety of disease agents.

If Ember had been immunized against influenza, there would not be a concern for her spreading influenza directly to her patients. This is recognized by the CDC, which recommends annual immunization against influenza of all persons (with few exceptions) ages six months and older, and this obviously includes all healthcare workers.

**Patient Benefits from Infection Prevention**
The vast majority of infection prevention procedures performed in dental offices relate to patient safety. Some procedures benefit both patients and dental personnel and a few (protective eyewear for the staff and some aspects of waste disposal) benefit only the dental personnel.

Infection prevention training of dental personnel also is of great benefit to patients. Infection prevention procedures must be performed properly and equipment, such as ultrasonic cleaners and sterilizers, must be used correctly or patient cross-contamination can occur. Also, having a clear office policy on work restrictions and exclusions when dental personnel are ill will help prevent the spread of pathogens to patients. The following chart lists some examples of infection prevention procedures that benefit patients. Some may be more obvious than others.

### Infection Prevention Procedures That Benefit Patients

<table>
<thead>
<tr>
<th>Correctly Performed Infection Prevention Procedure</th>
<th>Benefit to the Patient*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERSONAL PROTECTION</strong></td>
<td></td>
</tr>
<tr>
<td>Immunizations</td>
<td>Dental staff immunized against a specific disease will not spread that disease to patients.</td>
</tr>
<tr>
<td>Hand hygiene</td>
<td>Removes or kills transient microbes and may reduce resident microbes on the hands of dental personnel that otherwise could contaminate patients upon direct contact or when a glove tears.</td>
</tr>
<tr>
<td>Gloving</td>
<td>Reduces the chance of microbes on the hands of dental personnel from directly contaminating patients.</td>
</tr>
<tr>
<td>Facemask</td>
<td>May reduce dental personnel’s respiratory droplets from contaminating patients.</td>
</tr>
<tr>
<td>Protective clothing</td>
<td>Prevents microbes on the clothing or skin of dental personnel from contaminating patients.</td>
</tr>
<tr>
<td><strong>INSTRUMENT PROCESSING</strong></td>
<td></td>
</tr>
<tr>
<td>Divide instrument processing area into defined sites for decontamination, packaging, sterilization, and storage</td>
<td>Reduces the chance for the intermingling of non-sterile with sterile instruments, preventing cross-contamination of patients.</td>
</tr>
<tr>
<td>Instrument/handpiece cleaning</td>
<td>Removes debris and microbes to facilitate the subsequent sterilization process, which prevents cross-contamination.</td>
</tr>
<tr>
<td>Instrument/handpiece packaging</td>
<td>Protects patients from coming in contact with microbes that could re-contaminate unpackaged instruments ready for use on patients.</td>
</tr>
<tr>
<td>Instrument/handpiece sterilization</td>
<td>Kills remaining microbes on instruments used with previous patients to prevent cross-contamination of subsequent patients.</td>
</tr>
<tr>
<td>Sterilization monitoring</td>
<td>Assesses the quality of the sterilization process to help ensure that processed instruments are safe to use on patients.</td>
</tr>
<tr>
<td>Examine wrapped packages of sterilized instruments before opening</td>
<td>Ensures that the packaging material has not been breached during sterilization, storage and handling and that the instruments have remained safe for use on patients.</td>
</tr>
<tr>
<td><strong>ENVIRONMENT</strong></td>
<td></td>
</tr>
<tr>
<td>Surface cleaning &amp; disinfection</td>
<td>Prevents cross-contamination from one patient to another from touch (clinical contact) surfaces.</td>
</tr>
<tr>
<td>Surface barriers</td>
<td>Prevents cross-contamination from one patient to another from touch surfaces.</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Reduces the airborne dust levels in the office which helps prevent surface contamination of items used for patient care.</td>
</tr>
<tr>
<td>Respiratory hygiene/cough etiquette (posters, tissues, masks, alcohol hand-rubs in the waiting room)</td>
<td>May reduce chances of cross-contamination between patients.</td>
</tr>
</tbody>
</table>

*Many of these procedures also benefit the office personnel © 2013 OSAP All Rights Reserved

**chart continued on page 4**
Faculty calibration in the area of infection control was one of the main reasons we decided to become involved in OSAP. Calibrating clinical faculty and providing annual training for students as well as faculty in the areas of infection control, exposure control, environmental and workplace safety, and hazard communication are priorities for Cuyahoga Community College. OSAP provided the resources required to answer questions with evidence-based information, assisting our facility with compliance issues and established standards.

The annual OSAP meeting introduced a variety of resources, services and products that are available to assist in an effort toward total compliance. It was most beneficial to be able to network with other educators, marketing resource individuals and dental professionals who struggle with similar issues. Excellent speakers gave presentations covering a wide range of topics in the area of infection control and beyond.

We would strongly recommend becoming a member of OSAP to others. It is a wonderful organization, always willing to provide guidance in its areas of expertise.

After the weekend spent at the June Symposium, we came back to our educational facility energized and full of very useful information that was integrated into our clinical policies and procedures for the Fall semester.

Michelle Florencki, RDH, MEd
Joan M. Tischler, RDH, MS
Cuyahoga Community College,
Cleveland, OH

**Correctly Performed Infection Prevention Procedure**

<table>
<thead>
<tr>
<th>Benefit to the Patient*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporarily reduces the level of microbes in patients’ mouths so fewer are present to contaminate any open tissue in the mouth. Also reduces spatter contamination of operatory surfaces, minimizing possible cross-contamination.</td>
</tr>
<tr>
<td>Discarding disposable items after use on a single patient prevents cross-contamination.</td>
</tr>
<tr>
<td>Makes sure supplies that may be contaminated during the treatment of one patient are not used for treatment of a subsequent patient; also minimizes possible contamination of operatory surfaces during patient treatment.</td>
</tr>
<tr>
<td>Prevents cross-contamination of patients by avoiding contamination of unused items in a container, drawer or cabinet.</td>
</tr>
<tr>
<td>Using an anesthetic needle on only one patient prevents cross-contamination of other patients. Preventing sharps injuries while hands are in the patient’s mouth protects the patient from contamination with blood from the injured dental personnel.</td>
</tr>
<tr>
<td>May reduce the chance of patients noticing used needles or bloody sharps, which can be upsetting. Also secures the sharps so patients cannot tamper with the container.</td>
</tr>
<tr>
<td>Reduces exposure of patients to microbes in dental unit water, and reduces the chance of microbes entering root canals during endodontia.</td>
</tr>
<tr>
<td>Temporarily reduces the number of microbes in the patient’s mouth and removes debris.</td>
</tr>
<tr>
<td>May prevent backflow of material in the vacuum line toward patients’ mouths.</td>
</tr>
<tr>
<td>Prevents cross-contamination between patients.</td>
</tr>
<tr>
<td>Prevents contamination of the patient’s open tissue with microbes present in dental unit water.</td>
</tr>
</tbody>
</table>

*Many of these procedures also benefit the office personnel © 2013 OSAP All Rights Reserved

Reminder!

December 1, 2013 was the deadline for providing training to office employees on the new elements of chemical labels and on the new format of safety data sheets. This is part of the revised Hazard Communication Standard from the Occupational Safety and Health Administration. Further details are available at OSAP [http://www.osap.org/?page=OSAHHazCom](http://www.osap.org/?page=OSAHHazCom) and from OSHA.8,9
Around the World

As this issue of ICIP goes to press, the World Health Organization (WHO) is convening the fourth regional launch of the Multi-professional Patient Safety Curriculum Guide in Mexico on November 21-22, 2013. It is being hosted by the School of Dentistry at the National Autonomous University of Mexico (UNAM) which is one of the pilot sites of the curriculum guide global evaluation. Previous launches were in the Philippines, Oman and Argentina.

The WHO Patient Safety Education Program is working in partnership with healthcare and educational authorities to ensure that patient safety curricula become part of the national and regional health and education agendas.

The organizers welcome the participation of OSAP members, and WHO will be happy to send an invitation letter to a group or individual in advance of its next meeting.

If interested contact Dr. Enrique Acosta-Gio at: acostag@unam.mx

What’s Wrong With This Picture?

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

Answer: The operator’s overgown does not sufficiently protect skin and face from splatter. Skin and face of dental assistant is exposed. Body of dental assistant is exposed. Assistant is not wearing a mask. Assistant is not wearing gloves. Assistant is not wearing a lab coat. Assistant is not wearing lab coat and mask.

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OSAP Membership

EVERYONE has a role to play in ensuring safe, infection-free access to oral healthcare. If you know someone who can benefit from OSAP membership please encourage them to visit OSAP.org to learn more about the benefits of membership. OSAP offers ways to stay current, informed and connected through several membership categories.

<table>
<thead>
<tr>
<th>OSAP member categories are designed to meet the needs of dental health care professionals in a variety of job roles:</th>
</tr>
</thead>
</table>
| Professional Practice | I: All member benefits* for up to 10 employees or practices: $150  
                         II: All member benefits* for up to 300 employees or practices: $1500  
                         III: All member benefits* for more than 300 employees or practices: $3000 |
| Academic | I: All member benefits* for up to 10 faculty: $150  
              II: All member benefits* for up to 25 faculty: $250 |
| Associate | Nonprofit organizations serving dental or other healthcare professions. Includes up to 25 individual email address log-ins: $250 |
| Individual | Anyone interested in or involved with infection prevention in oral healthcare: $115 |
| Web-only | Anyone who wishes to receive member benefits electronically: $100 |
| Student | Must provide proof of full-time enrollment: $25 |

*Electronic

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.

Contact us at www.osap.org, or by phone: +1-800-298-OSAP (6727) within the U.S. or +1-410-571-0003 outside the U.S.

Glossary

Cross-contamination: Spreading of microbes between persons and/or surfaces.

Culture of safety: Reflects the shared commitment of the employer and employees towards ensuring the safety of the work environment, the office personnel and the patients.

Touch (clinical contact) surface: An operatory surface that is touched with contaminated hands of dental personnel during patient treatment.

Unit dosing: Preparing and setting out supplies in the quantity needed before seating the patient; can minimize possible contamination of operatory surfaces during patient treatment.

Links to Resources

For each item, select the best answer.

1. What is not a CDC recommended action that can be taken by employers to ensure a culture of safety in the office?
   a. Openly supporting safety culture through supply of resources
   b. Engaging worker participation in safety planning
   c. Having written safety guidelines and policies
   d. Requiring patients to evaluate the office safety procedures

2. How long is the average incubation period for influenza?
   a. One day       b. Two days       c. Three days       d. Four days

3. How soon can a person infected with an influenza virus spread the disease to others?
   a. One day before symptoms appear       b. The day that symptoms appear
   c. Two days after symptoms appear       d. Four days after symptoms appear

4. What has OSHA indicated as the deadline for providing training to office employees on the new elements of chemical labels and on the new format of safety data sheets?

5. A touch surface is an operatory surface that:
   a. is always touched by patients before their treatment begins.
   b. is touched with contaminated hands of dental personnel during patient treatment.
   c. must be covered with a disposable surface barrier.
   d. has been shown to serve as a fomite for the transmission of hepatitis B to patients.

6. What infection prevention procedure benefits patients by reducing the number of their oral microbes?
   a. Unit dosing       b. Preprocedure mouthrinsing
   c. Using sterilized handpieces       d. Applying a rubber dam

7. Which infection prevention procedure reduces the chance for the intermingling of non-sterile with sterile instruments preventing cross-contamination of patients?
   a. Cleaning of contaminated instruments before sterilization
   b. Packaging cleaned instruments prior to sterilization
   c. Dividing instrument processing area into defined sites for decontamination, packaging, sterilization, and storage
   d. Examining wrapped packages of sterilized instruments before opening

8. Which infection prevention procedure prevents cross-contamination of patients by avoiding contamination of unused items in a container?

9. Which infection prevention procedure is least important in benefiting patients?
   a. Gloving by dental personnel       b. When dental personnel wear protective eyewear
   c. Using preprocedure mouthrinsing       d. Packaging instruments before sterilization

10. What statement is true about influenza?
    a. It has an abrupt onset of symptoms
    b. It is caused by a bacterium carried in the nose and throat of children
    c. Must be covered with a disposable surface barrier
    d. Has been shown to serve as a fomite for the transmission of hepatitis B to patients

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Infection Control In Practice Volume 12, No. 6 December 2013 www.OSAP.org
What’s It All About?

This issue emphasizes the importance of developing a culture of safety in the office for the benefit of patients and office staff.

*Do you know how dental staff immunizations benefit patients?*

*Do you know how needle/sharps safety benefits patients?*

*Do you know how gloving benefits patients?*

*Read On!*

*In the next issue: The Safety Culture*