Infection Control
IN PRACTICE

Dentistry’s Newsletter for Infection Control and Safety

Special Series on Empowerment

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 in 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”.

Take Action to Stay Healthy

Scenario 1

The incident:
A state health inspector visited Dr. Vollar's practice to follow up on patient complaints on office practices that could contribute to possible disease spread. Dr. V’s staff consisted of two hygienists, three assistants, and three office workers. As recommended by the health inspector, Dr. V promoted one of his dental assistants (Brock) to the position of infection prevention and safety coordinator. Brock was charged with helping Dr. V update the office’s infection control and safety program and making sure the office was in compliance with health regulations. The main problem was that one of the long-time assistants (Olive) with excellent clinical skills had become complacent about infection prevention, thinking nothing bad would happen if a few small corners were cut here and there. These included not always changing her gloves between patients, poor hand hygiene, and coming to work once with an eye infection. The latter two caused a patient to complain to the state board of health.

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Learning Objectives

After reading this article, the reader should be able to:
► describe procedures for promoting infection prevention among the dental team.
► describe the importance of proper management of skin reactions.
► describe the importance of receiving the hepatitis B vaccine.
► list various actions important for staying healthy at work.

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Take Action to Stay Healthy

Consequences:
When one person doesn’t follow the rules (and gets away with it) the compliance atmosphere of the office quickly deteriorates. Spreading disease from patient to staff, from staff to patient and from patient to patient certainly can happen if proper procedures are not followed. Noncompliance with regulations also can result in actions from health authorities and dental boards that jeopardize the existence of the practice.

Prevention and Empowerment:
Brock can help empower himself in his new position by brushing up on the principles of infection prevention and safety. He should access OSAP’s web site http://www.osap.org for written and video materials, guidelines, regulations, and opportunities to blog or tweet with others with common interest.

Brock needs to be an effective leader and motivate Olive and the other staff to realize that infection prevention and safety measures are just as important as they ever were in protecting patients and the office team. Complacency can be battled by frequent reminders about infection prevention procedures. Devote a portion of each staff meeting to an infection control procedure. Then reinforce the topic (e.g., with posters, office photos, training videos) for the coming week. Hand hygiene is a good one to start with, and the Centers for Disease Control and Prevention (CDC) offer posters that can help. Special communications to the staff may help Brock fight complacency. He should be positive and try to give each staff person the feeling of ownership in how the office operates. Brock might say to Olive and the staff: “working in an office that is compliant with regulations and that really cares about patient safety will make you proud. You will know that you are doing your best to protect your patients”. Brock could also privately say to Olive: “our office appreciates your loyalty in coming to work while being under the weather; however, if you stay home and take care of yourself, you can probably give even better care to the patients when you are well, and you will prevent others from catching what you have.” This sounds better than “don’t come to work with an infection that might make our patients sick” – even though it’s true!

Brock needs to remind Olive that hand hygiene and wearing gloves indeed protects patients as well as the dental staff. He also should tell her that: “patients feel reassured when they know that you have made special efforts to protect them, so let them see you wash your hands and put on fresh gloves”.

Brock needs to be proactive in working with Dr. V to develop documents dealing with personnel health protocols, immunization procedures, work restrictions, hand hygiene, aseptic practices and other infection prevention and safety policies for the office.

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Some related regulations and recommendations:

- “Develop a written personnel health program for dental health-care personnel (DHCP) that includes policies, procedures, and guidelines for education and training; immunizations; exposure prevention and post-exposure management; medical conditions, work-related illness, and associated work restrictions; contact dermatitis and latex hypersensitivity; and maintenance of records, data management, and confidentiality” (CDC).²

- Develop and have readily available to all DHCP comprehensive written policies regarding work restriction and exclusion that include a statement of authority defining who may implement such policies (CDC).²

- Wear a new pair of gloves for each patient, remove them promptly after use, and wash hands immediately to avoid transfer of microorganisms to other patients or environments (CDC).²

- Indications for hand hygiene include: when hands are visibly soiled; after barehanded touching of inanimate objects likely to be contaminated by blood, saliva, or respiratory secretions; before and after treating each patient; before donning gloves; and immediately after removing gloves (CDC).²

- Each employer having an employee(s) with occupational exposure shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure to bloodborne pathogens (Occupational Safety and Health Administration [OSHA]).³

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Scenario 2

The incident:

Jenna was a new dental assistant at Dr. Daviddio's office. When being interviewed for the job Jenna misled Dr. D when she told him she had gotten the hepatitis B vaccination series when she was in dental assisting school. She actually refused the vaccinations but the school still allowed her to complete the one-year training program. Jenna was enjoying her new job even though she had developed dry, cracked skin on her fingers after working for about a month. She did not tell Dr. D about her skin reaction for fear of repercussions that might affect her job. She did rub lotion on her hands between patients, but this did not help.

On Friday Jenna dismissed the last patient of the day (Miss Meadnap) and was gathering up the instruments from the bracket table when she punctured her thumb with a contaminated explorer. She informed Dr. D, and the well organized post-exposure medical follow-up procedures in Dr. D’s office were instituted. Jenna was referred to the occupational health physician listed in the office’s post-exposure document and informed the evaluating physician that she had not been vaccinated for hepatitis B. The medical evaluation confirmed that Jenna was not immune to hepatitis B and that Ms. Meadnap was a hepatitis B carrier (positive for the hepatitis B surface antigen [HBsAg] but was negative for the hepatitis B e antigen [HBeAg]). Jenna was pretty shook-up when she learned of these results. She received the hepatitis B immune globulin and began the hepatitis B vaccination series but remained anxious about the situation for quite a while.

Potential consequences:

Hepatitis B is an occupational hazard of non-immune health-care personnel who have a potential for exposure to human body fluids. Unvaccinated members of the dental team are about 2-5 times more likely to become infected with the hepatitis B virus than the general population. Hepatitis B virus carriers who are also positive for HBeAg are more highly infectious than carriers who are HBeAg-negative.⁴ The risk of acquiring clinical hepatitis from a needle contaminated with HBsAg-positive but HBeAg-negative blood was found to be 1% to 6%. With both HBsAg-positive and HBeAg-positive blood the risk jumped to 22% to 31%. It’s not clear why Jenna originally refused the hepatitis B vaccination when in school. Hopefully the school had Jenna sign the required OSHA Vaccine Declination form for their protection. Also, hopefully, the school greatly emphasized to Jenna the importance of avoiding exposure to potentially infective body fluids since she had not been immunized against hepatitis B. A sometimes unrecognized consequence of being exposed to a patient’s body fluid is the anxiety related to waiting for the results of blood tests.

Jenna was also still concerned that her cracked skin condition was not going away by itself. If it was an allergic reaction it would continue until the allergen (e.g., detergent; latex component, glove manufacturing chemical) was identified and eliminated from her environment. The occupational health physician helped her understand that non-intact skin conditions on the hands can give an additional risk of contact transmission of pathogens. Using oil/petroleum-based hand lotions before gloving may lead to a weakening of latex gloves.

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Take Action to Stay Healthy

Prevention and Empowerment:

Jenna needed to take action to stay healthy. There are two approaches to preventing viral diseases. One is to become immunized against the disease (if the appropriate vaccine exists), and the other is to avoid exposure. Sometimes we simply cannot avoid exposure, for example when we interact with an asymptomatic carrier of a disease. Fortunately there is a vaccine for the prevention of hepatitis B. Maybe if Dr. D had asked for proof of Jenna’s immunization at the time of hiring, he could have provided her with training that would have helped her make an informed decision about the vaccination. Of course hindsight is always more clear. Jenna could have told Dr. D that she had not been immunized but would like to receive the vaccination series so she would not become infected and possibly pass on the disease to his patients. This type of language would be more positive than saying yes I want to be protected from getting hepatitis from your patients. If Jenna had accessed OSAP’s web site about the CDC guidelines (www.osap.org; “Resources”; “Ask Lilly about CDC Guidelines”; “Menu”; “Take action to stay healthy”; “Immunization”), she would have empowered herself with knowledge about how important it is for dental healthcare professionals to be immunized against hepatitis B. At this same web page for “Take action to stay healthy” she also could have learned about dermatitis.

Diagnosing and resolving chronic skin reactions should involve the help of a dermatologist/allergist. Use water-based hand lotions during the work day. If oil-based lotions are used, consider using them at the end of the day to avoid any reaction with patient treatment gloves.

PS: Thank goodness Jenna did not develop hepatitis B. She apologized to Dr. D for being untruthful about her vaccination history, and she told Dr. D about her skin reaction which greatly improved after she saw a dermatologist upon Dr. D’s insistence.

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

• Hepatitis B vaccination shall be made available after the employee has received the required training and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons (OSHA).

• The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the Vaccine Declination statement (OSHA).

• “Develop a written comprehensive policy on immunizing dental health-care personnel (DHCP), including a list of all required and recommended immunizations” (CDC).

• “Develop policies for work restriction and exclusion that encourage personnel to seek appropriate preventive and curative care and report their illnesses, medical conditions, or treatments that may render them more susceptible to opportunistic infection or exposures; do not penalize DHCP with loss of wages, benefits, or job status” (CDC).

• “Seek definitive diagnosis by a qualified health-care professional for any DHCP with suspected latex allergy to carefully determine its specific etiology and appropriate treatment as well as work restrictions and accommodations” (CDC).

• “Use hand lotions to prevent skin dryness associated with handwashing. Consider the compatibility of lotion and antiseptic products and the effect of petroleum or other oil emollients on the integrity of gloves during product selection and glove use” (CDC).
What’s Wrong With This Picture?

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

1. The patient is not wearing protective eyewear.
2. The operator’s eyeglasses do not have protective shields.
3. The operator is not wearing an overgown that covers forearms to below the elbows.
4. The existing smock is open and not adequately protecting clothing.
5. The operator’s mask is not covering his nose.
6. There is no barrier protection on the overhead light handles, although cleaning and disinfection of these surfaces could have occurred.

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Immunization for Dental Healthcare Providers in Canada

The Canadian Dental Association guidelines for suggested immunizations include the following: hepatitis B, measles, mumps, rubella, poliomyelitis, tetanus, diphtheria, TB testing, and annual influenza. In most Universities (Faculties of Dentistry and Dental Hygiene), community colleges (Dental Hygiene and Dental Assisting), and private colleges (Dental Hygiene and Dental Assisting), immunization is required for entrance and/or prior to provision of clinical care for patients.

Additionally, for hepatitis B, following immunization, demonstration of sufficient antibody titer is required. Because immunization for hepatitis B is now provided as a preventive public health measure in most of the ten provinces at or before grade six, most applicants to dental-related programs have already been immunized. This has been welcomed as it has reduced the logistical problems associated with delaying clinical experience of our students until hepatitis B immunity has been established.

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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.

Member registration is easy.

Online 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.

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.)

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.

Glossary

Hepatitis B Immune Globulin: a product prepared from plasma containing high titers of hepatitis B antibodies that provides short-term protection (3-6 mos.) against hepatitis B infection; may be used in post-exposure prophylaxis

HBsAg: Hepatitis B surface antigen; indicates an acute or chronic infection with hepatitis B virus

HBeAg: Hepatitis B soluble antigen; indicates replication of the virus and increased infectivity

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. According to OSHA, unvaccinated healthcare workers who refuse to accept the offer of hepatitis B vaccination from their employer are required to:
   a. report to the local or regional OSHA office.   b. quit their job.
   c. inform their patients that they are not immune to hepatitis B.   d. read and sign a Vaccine Declination Statement.

2. The presence of the HBeAg in the blood of a patient means that the patient is:
   a. going to die in a matter of days.   b. highly infectious.
   c. showing symptoms of jaundice.   d. immune to hepatitis B.

3. Presence of the HBsAg in the blood of a patient means that the patient:
   a. is going to die in a matter of days.   b. is highly infectious.
   c. has acute or chronic hepatitis B.   d. is immune to hepatitis B.

4. A written Exposure Control Plan is:
   a. required by OSHA and should be designed to eliminate or minimize exposure to bloodborne pathogens.
   b. required by CDC and should be designed to eliminate or minimize exposure to bloodborne pathogens.
   c. required by OSHA and should be designed to eliminate or minimize exposure to hazardous chemicals.
   d. required by FDA and should be designed to eliminate or minimize exposure to bloodborne pathogens.

5. The best way to think about the infection control value of dental assistants wearing exam gloves is that the gloves help protect:
   a. chairside staff.   b. patients.   c. chairside staff and patients.   d. housekeeping staff.

6. Which of the following is not one of the four basic principles of infection control?
   a. Take Action to Stay Healthy.   b. Limit the Spread of Contamination.

7. What is hepatitis B immune globulin?
   a. A plasma product that contains high levels of hepatitis B antibodies
   b. The antigen present in persons who are acutely infected with hepatitis B virus
   c. The material present in the blood of those who are highly infective for hepatitis B
   d. The main component of the hepatitis B vaccine

8. Who offers free posters about hand hygiene?
   a. OSHA   b. CDC   c. FDA   d. EPA

9. Unvaccinated members of the dental team are about 2-5 times more likely to become infected with the hepatitis B virus than:
   a. the general population.   b. lawyers.   c. bakers.   d. pharmacists.

10. OSAP’s web site can be accessed at:

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What’s It All About?

This issue presents scenarios describing various breaches of infection control and safety protocol in the dental setting that may lead to the development of an infectious disease or unnecessary personal contamination. Tips to empower yourself to promote or practice better infection control and safety are given. Always remember that you must take action to stay healthy.

► Do you know the importance of being immunized against hepatitis B?
► Do you know how to best manage chronic skin reactions?
► How are your motivation skills?
► Are you aware of all the information available to you on OSAP’s web site?

TAKE ACTION to STAY HEALTHY!

Read On!

In the next issue... Limit the Spread of Contamination