Introduction

The Organization for Safety, Asepsis and Prevention (OSAP) is the world’s leading membership association dedicated exclusively to preventing disease transmission and ensuring the safe delivery of oral healthcare for all. OSAP helps dental practitioners close the gap between policy and practice; and its members include dental and other healthcare practitioners, consultants, educators, researchers, nongovernmental organizations, manufacturing and distribution companies, and health policy makers.

OSAP’s premier educational symposium addresses emerging and current issues of concern to professionals engaged in preventing infection and promoting safety in dentistry. Educational objectives for the 2013 symposium were to:

- Identify current changes and emerging issues in science, technology, guidelines, regulations, policies, practices, and products;
- Explore connections, resources, and tools to optimize compliance; and
- Advance a culture of safety throughout healthcare.

These proceedings summarize three days of in-depth content, presented by many of the top minds engaged in preventing infection and promoting safety in dentistry. Each presentation includes key takeaways, suggestions on how to implement the topic into dental practice, reminders/cautions, and resources and references.

OSAP has designed the 2013 proceedings to be an open-source pdf document and encourages broad dissemination.

Readers of these proceedings are encouraged to attend the 2014 Symposium celebrating OSAP’s 30th anniversary June 5-8, 2014 in Minneapolis, MN. Topics, speakers and other pertinent information and updates will be posted at www.OSAP.org.

If you would like to be kept informed about next year’s Symposium, please send an email to office@osap.org with “2014 OSAP Symposium Updates” in the title line.
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Dr. John S. Zapp Memorial Lecture: The Early AIDS Epidemic in the US: Views from Hollywood & Atlanta

HAROLD W. JAFFE, MD

This talk summarized some of the key events during the early years of the human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) epidemic in the US, focusing on the role played by the Centers for Disease Control and Prevention (CDC). The first cases of *Pneumocystis pneumonia* were reported in homosexual men from Los Angeles in June 1981. Within a month, it became apparent that cases were also occurring in other American cities and also included men with other opportunistic infections and a malignancy, Kaposi’s sarcoma. Initially, both infectious and environmental exposures (especially the use of nitrite inhalants) were considered as possible causes, although a national case-control study strongly suggested it was a sexually transmitted disease (STD). The discovery of a cluster of cases linked by sexual contact also supported the STD hypothesis.

By the end of 1982, reports of cases in persons with hemophilia and in transfusion recipients also suggested that the “AIDS agent” was present in blood. Although blood bank officials were initially reluctant to accept this conclusion, they subsequently agreed to deferral of donors at risk for the disease. In March 1983, the US Public Health Service published the first guidelines for prevention of AIDS. Although the causative agent, HIV, had not yet been discovered, these guidelines were essentially correct and undoubtedly saved many lives.

Key Takeaways

1. **Epidemiologic Investigations Played a Key Role in Understanding the AIDS Epidemic in the United States.**
   The major transmission routes for the disease—sexual contact and receipt of blood and blood products—as well as some indications of its natural history were discovered before the identification of HIV.

2. **Findings from These Early Epidemiologic Investigations Were the Basis for the First AIDS Prevention Recommendations.**
   These recommendations, which included limiting sexual contacts and deferral of at-risk persons from blood donation, were essentially correct, even in the absence of knowing the cause of the disease.

3. **The Events of the Early 1980s Were Only the First Indications of the HIV Epidemic.**
   HIV/AIDS would kill more than half a million Americans and infect more than 30 million persons throughout the world. Most affected have been countries in sub-Saharan Africa, in which HIV/AIDS became the leading cause of death.

SPEAKER BIO

Dr. Jaffe received his undergraduate degree in genetics from the University of California, Berkeley, and his medical degree from the University of California, Los Angeles (UCLA). He trained in internal medicine at the UCLA Medical Center and in infectious diseases at the University of Chicago hospitals. He served as an Epidemic Intelligence Officer at the US Centers for Disease Control and Prevention (CDC). In 1981, he joined a CDC task force investigating a new disease, soon to become known as acquired immunodeficiency syndrome (AIDS). He led the first national case-control study to determine risk factors for the disease and the first natural history study of human immunodeficiency virus (HIV). Over the next two decades, he served in leadership positions in CDC’s expanding HIV/AIDS programs and in 2001 became Director of the National Center for HIV, STD, and TB Prevention. In 2004, Dr. Jaffe accepted a position as Fellow of St. Cross College and Head of the Department of Public Health at the University of Oxford, UK. In 2010, he returned to CDC to become the Associate Director of Science.

RESOURCES


Additional resources at www.osap.org
Investigation of Hepatitis C Virus Transmission in an Oral Surgical Clinic—Oklahoma, 2013

KRISTY BRADLEY, DVM, MPH

Overview

State or local health departments may become aware of healthcare-associated infection (HAI) transmission events through three primary mechanisms: 1) case cluster recognition following individual reportable disease case interviews; 2) notification by a private healthcare provider of an unusual increase in diagnoses of a particular infection; and 3) notification by a professional licensure board of suspected breaches in infection control, injection safety, or drug diversion. In early 2013, the Oklahoma State Department of Health identified oral surgery as a risk factor for a case-patient with acute hepatitis C virus (HCV) infection and began a public health investigation. A large-scale patient notification of nearly 6,000 persons, with recommendations for bloodborne pathogen testing, followed as part of the public health response and was highly publicized.

A joint site visit to the implicated oral surgical clinic with the Oklahoma Board of Dentistry on March 18 revealed numerous infection control breaches. These included, but were not limited to, complete lack of biological monitoring of the autoclave, continued usage of pitted and corroded dental instruments, ongoing storage and use of expired medications, and routine administration of intravenous (IV) sedative drugs by uncertified dental assistants. On March 20, the oral surgeon voluntarily surrendered his dental medical license pending a formal review. As of June 6, 2013, 4,018 former dental patients were tested through the Oklahoma Public Health Laboratory. Of those persons tested, 73 were found to be infected with HCV, five with hepatitis B virus (HBV), and three with human immunodeficiency virus (HIV). Although the majority of the infections were thought to be acquired through other exposure routes (intravenous recreational drug use, sexual contact, etc.), three potential HCV clusters were analyzed further for HAI transmission. In one procedure date cluster, patient-to-patient transmission of HCV was laboratory-confirmed through genetic analyses of patient specimens.

Key Takeaways

1. BLOODBORNE Pathogen TRANSMISSION EVENTS IN DENTAL SETTINGS HAVE RARELY BEEN RECOGNIZED IN THE US, BUT SEVERAL FACTORS MAY LEAD TO UNDER-DETECTION.

Previously documented HAI transmission events in dental settings have been limited to one report of dentist-to-patient transmission of HIV (Florida, 1991) and two reports of HBV transmission (NM-2001, WV-2009). Characteristics of HBV and HCV, such as the long incubation period and the number of asymptomatic infections, coupled with investigation barriers such as public health resource constraints for viral hepatitis surveillance and the under-recognition of oral healthcare as a risk factor, likely contribute to under-detection of sporadic transmission events or outbreaks associated with dental settings.

2. PATIENT-TO-PATIENT TRANSMISSION OF HCV, EITHER THROUGH REUSE OF CONTAMINATED INSTRUMENTS OR IV ADMINISTRATION OF MEDICATION FROM CONTAMINATED MULTI-DOSE VIALS, WAS CONFIRMED IN AN OKLAHOMA ORAL SURGICAL CLINIC IN 2013.

This presentation represents the first documented report of patient-to-patient transmission of HCV associated with a dental setting.

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Investigation of Hepatitis C Virus Transmission in an Oral Surgical Clinic—Oklahoma, 2013

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Key Takeaways

3. ENHANCED INFECTION CONTROL POLICIES FOR ORAL SURGICAL CLINICS SHOULD BE DELIBERATED BY STATE DENTAL LICENSING BOARDS TO IMPROVE PATIENT SAFETY.

Oklahoma’s public health investigation and a recent increase in patient notifications in other states related to serious lapses in infection control or injection safety in dental practices suggest increased oversight of these outpatient settings is needed. Some states have already adopted infection control training as a requirement of routine licensure renewal for dental professionals; this could be expanded to more states. Requiring regular unannounced inspections of oral surgical clinics to formally review infection control policies and procedures should be considered as well.

Implementation

1. INFECTIOUS DISEASE EPIDEMIOLOGISTS NEED TO INCREASE THEIR EVALUATION OF ORAL HEALTHCARE AS A POTENTIAL RISK FACTOR.

Infectious disease epidemiologists need to increase their evaluation of oral healthcare as a potential risk factor when conducting case investigations of HBV and HCV, particularly when the case-patient does not report any traditional risk factors for these infections.

2. CHECKLISTS ARE AVAILABLE.

CDC’s Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care contains a checklist that can easily be adapted to evaluate infection control practices in outpatient dental settings.

3. ADVOCACY IS IMPORTANT.

Advocates for patient safety and governmental public health agencies at multiple levels can promote awareness and policy ideas for enhancing infection control and injection practices in dental settings.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=LateBreakICintheNews
CDC’s Role in Outbreak Investigations in Dental Settings

JENNIFER CLEVELAND, DDS, MPH

Overview

The media has recently reported multiple episodes of transmission of hepatitis B virus (HBV) and hepatitis C virus (HCV) in dental settings. These outbreaks involved large temporary clinics and/or poor infection control practices among a few oral surgeons, and resulted in the need to notify thousands of patients about potential exposure to bloodborne pathogens and inform them of the need to be tested. This presentation focused on the importance of investigating outbreaks of bloodborne pathogens in dental healthcare settings, identified reasons why we may be underestimating the number of transmissions in dental healthcare settings, described how Centers for Disease Control and Prevention (CDC) becomes involved in these investigations, and identified resources available for conducting outbreak investigations.

Investigations can identify the source of the outbreak and, hopefully, eliminate it. They provide a means to identify contacts and prevent additional transmissions, help prevent future outbreaks from occurring, and present an opportunity to evaluate existing prevention strategies and identify gaps. Because of the long incubation period (up to six months) and typically asymptomatic course of acute HBV and HCV infection, it is likely that only a fraction of the outbreaks that occurred have been detected. In addition, asymptomatic infections frequently go undetected for many years, leading to under-reporting of cases and difficulty in identifying the healthcare encounter where transmission may have taken place. Therefore, the numbers reported likely greatly underestimate the number of outbreak-associated cases and the number of at-risk persons notified for screening.

At the request of state health departments, CDC often provides assistance in investigating outbreaks, particularly by providing laboratory assistance to find evidence that transmission may have occurred. CDC also has developed multiple resources for preventing outbreaks and checklists for evaluating infection control practices.

Key Takeaways

1. HBV AND HCV TRANSMISSION DURING THE DELIVERY OF HEALTHCARE SERVICES REMAINS A PREVENTABLE RISK.

Reports from dental settings are rare. In 2002, for the first time in the US, investigators documented patient-to-patient transmission of HBV in an oral surgery office despite no evidence of a breakdown in infection control procedures. In 2009, five cases of acute HBV infection were identified among individuals who had participated in a large temporary dental clinic in West Virginia. In 2012, HCV was transmitted in an oral surgeon’s practice where poor infection control practices.

2. CLUSTERS OF TRANSMISSION ARE USUALLY DETECTED BY A CLINICIAN REPORTING UNUSUAL CASES.

Detection can occur when the healthcare provider identifies a newly diagnosed infection in an individual who lacks traditional risk factors (e.g., injection drug use), or when multiple healthcare exposures occur in practices where infection control breaches have been identified.

3. CONTROL OF OUTBREAK EVENTS ARE FREQUENTLY MANAGED AS A COLLABORATION BETWEEN LOCAL/STATE HEALTH DEPARTMENTS AND CDC.

CDC usually does not get involved in these outbreaks until it receives a request from the state health department.

SPEAKER BIO

Dr. Cleveland is a Dental Officer and Epidemiologist in the Division of Oral Health, Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. Currently, she is the Division’s lead for surveillance of oral and oropharyngeal cancer, with a special focus on cancers associated with human papillomavirus infection. Dr. Cleveland has written numerous scientific articles for peer-reviewed journals and has presented both nationally and internationally.

RESOURCES

Centers for Disease Control and Prevention. Healthcare-associated infections (HAIs). (Checklist for infection control in outpatient settings.)

Centers for Disease Control and Prevention. Healthcare-associated infections (HAIs). (Resources for state health departments investigating healthcare-associated infection outbreaks and patient notifications.)
http://www.cdc.gov/hai/outbreaks/outbreak-resources.html

Centers for Disease Control and Prevention. Healthcare-associated infections (HAIs). (Resources for conducting outbreak investigations, including toolkits.)
http://www.cdc.gov/hepatitis/Outbreaks

One and Only Campaign website.
http://www.oneandonelycampaign.org

For download and complete resources please see
http://www.osap.org/?page=LateBreakICIntheNews
Setting a Course for Medical Screening in a Dental Setting
BARBARA GREENBERG, MSc, PhD

Overview
This presentation described the role of oral healthcare providers in identifying patients at risk for increasingly prevalent chronic diseases such as coronary heart disease, diabetes mellitus, HIV infection and hepatitis C (HCV) infection. Using simple, safe, inexpensive chairside testing, participants will learn how to evaluate a patient’s risk for these diseases. Participants will take-home guidelines for making referrals to a physician.

Key Takeaways
1. ORAL HEALTH CARE PROVIDERS COULD GET INVOLVED IN EFFORTS TO CONTROL DISEASES OF PUBLIC HEALTH IMPORTANCE.
With the Affordable Care Act and its emphasis on prevention and primary care, and the call for an improved healthcare delivery infrastructure, better integration among healthcare providers, early identification of patients at risk of developing diseases through screening is likely to become more important along with more integration of healthcare providers across disciplines.

2. THE DENTAL OFFICE PROVIDES A UNIQUE OPPORTUNITY TO OFFER MEDICAL SCREENINGS TO PATIENTS EITHER ON A TARGETED BASIS OR AS A ROUTINE PART OF PATIENT ASSESSMENT AND HEALTH HISTORY.
Up to 70% of adults see their dentists in a given year, and up to 20% of those have not seen a primary care provider in that same time period. A large percentage of individuals are at increased risk of developing or having conditions of interest, yet remain unaware of their increased risk and could benefit from early engagement with the medical system.

3. EARLY DETECTION OF DISEASE IS POSSIBLE IN A DENTAL SETTING.
Many patients have a dental visit in a given year yet have not seen a medical provider. Dental healthcare workers can offer screenings that patients may not have access to. Early detection and referral to care may increase the likelihood of better patient outcomes. Studies show that early prevention strategies can reduce the incidence of diabetes and heart disease in those with increased disease risk, based on the presence of well-recognized risk factors or disease-specific biomarkers. There is also evidence that knowing one’s HIV status lowers the risk of secondary transmission and that about 20% of those infected are unaware of their status. A high percentage of people with HCV are unaware of their status, especially those born between 1945 and 1965. Patients who screen positive should be referred to a primary care physician; patients who screen negative should be advised to continue annual screenings and engage in routine medical care.

4. DENTAL FACILITIES CAN EFFECTIVELY SCREEN FOR INCREASED RISK OF CORONARY HEART DISEASE OR DIABETES MELLITUS, AND FOR PRELIMINARY DETERMINATION OF HIV AND HCV INFECTION.
There are well-validated simple effective screening tools for each of these that can be used chairside in a dental setting and that yield immediate results. These tests/screenings are Clinical Laboratory Improvement Amendments (CLIA)-waived and have high sensitivity and specificity for the conditions identified.

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Setting a Course for Medical Screening in a Dental Setting

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Implementation

1. ENGAGE AND TRAIN STAFF.
Review the preferred screening tools and the instructions for use to assist in determining the most appropriate logistics for conducting the screenings. Those who actually conduct the screenings should have input in the review process and have appropriate training for each tool, including but not limited to the disease process, the method of detection for each tool, and the use and interpretation of results.

2. REVIEW THE MANUFACTURER’S INSTRUCTIONS FOR EACH SCREENING TOOL UNDER CONSIDERATION.
Knowledge of the method of testing, interpretation of results, and other considerations on using the test/screening is essential to ensure valid results and to help determine which screenings the office is prepared to offer.

3. CERTIFY THE DENTAL OFFICE AS A LAB.
Review state and federal requirements for CLIA waivers and obtain these prior to implementation. Conducting any of these screenings defines the dental office as a lab, and as such the appropriate waivers and other related documentation are necessary.

4. TRAIN ALL STAFF.
Staff who will conduct the screening should be trained in the proper application of the screening tool and how to present this to the patient. Each test has well-accepted guidelines to determine a positive screening.

5. CREATE POLICIES, PROCEDURES, AND FORMS.
Policies should include how to refer patients to primary care, who will conduct screenings, how they will be offered, and other considerations.

6. ADHERE TO RECOMMENDED INFECTION CONTROL PROCEDURES.
All staff should be trained on infection control and safety, use Standard Precautions, and be knowledgeable about the practice’s Infection Control Plan/Exposure Plan. Appropriate precautions should be used in screening when there is anticipated contact with blood or other body fluids.

Reminders/Cautions

- Obtain CLIA waiver
- Have appropriate forms
- Train staff

RESOURCES

American Diabetes Association website:

American Heart Association website:
http://www.heart.org/HEARTORG


Centers for Disease Control.
http://www.cdc.gov/diseasesconditions

Centers for Disease Control and Prevention (CDC) CDC’s HIV prevention progress in the US. http://www.cdc.gov/hiv/resources/factsheets/PDF/cdcprev.pdf

Diabetes clinical guidelines.
http://care.diabetesjournals.org/content/34/Supplement_1


Framingham Risk Score calculator:


For download and complete resources please see
http://www.osap.org/?page=SettingCourseMed
CDC’s Updated Recommendations for the Management of Hepatitis B Virus (HBV) in Health Care Workers and Students

SCOTT D. HOLMBERG, MD, MPH

Overview

This presentation addressed: the need for updated recommendations for the management of hepatitis B virus (HBV) infection in healthcare professionals and students, the background and data sources for the updated recommendations, trends in regards to healthcare workers and students with HBV, prevention strategies, technical issues in providing guidelines, the final recommendations, and outcomes following the recommendations.

Key Takeaways

1. CHRONIC HBV INFECTION SHOULD NOT IN ITSELF PRECLUDE THE PRACTICE OR STUDY OF MEDICINE OR DENTISTRY.
In the United States, there have been no transmissions of HBV to a patient from a student or nonsurgical healthcare professional ever, and none from a dentist or dental surgeon in the past 20 years. Two surgeons, unaware of their own HBV infections, transmitted to patients during “exposure-prone procedures” (EPPs) in the past 20 years. These rare events do not warrant excessive restrictions on those unlikely to transmit and suggest reasonable guidance for those who might.

2. HEALTHCARE PROVIDERS, RESIDENTS, AND MEDICAL AND DENTAL STUDENTS WITH ACTIVE HBV INFECTION WHO DO NOT PERFORM EPPS SHOULD NOT BE SUBJECT TO RESTRICTIONS OF THEIR ACTIVITIES OR STUDY.
Management of their infections should be under the direction of their own clinicians, which might be in the setting of student or occupational health.

3. HBV-INFECTED SURGEONS AND OTHERS PERFORMING EPPS SHOULD BE GUIDED AND OVERSEEN BY A DULY CONSTITUTED EXPERT INSTITUTIONAL PANEL THAT INCLUDES PERSONS KNOWLEDGEABLE ABOUT HBV INFECTIONS AND EPIDEMIOLOGY.
Guidelines for institutional panels include testing of those performing EPPs every six months for their HBV DNA levels, which should be maintained “undetectable” or under 1,000 IU/ml (5,000 GE/ml). Recommendations for management of spontaneous “blips” above 1,000 IU/ml are also provided.

4. THE US DEPARTMENTS OF JUSTICE (DOJ), EDUCATION (DOE), AND HEALTH AND HUMAN SERVICES (DHHS) ISSUED A LETTER IN MAY 2013 TO MEDICAL AND DENTAL SCHOOLS EMPHASIZING THEIR SUPPORT OF THE CDC GUIDELINES AND ACTIONS TAKEN AGAINST SCHOOLS NOT IN CONFORMANCE.
From that letter: “[T]he Department of Justice and the Department of Health and Human Services have received, and are currently investigating, complaints against medical and dental schools around the country for allegedly discriminating against students and applicants with hepatitis B virus in violation of the Americans with Disabilities Act (AwDA).” In fact, the Department of Justice recently entered into a settlement agreement with a medical school and a school of osteopathic medicine resolving allegations that the schools violated the AwDA by excluding previously accepted applicants with hepatitis B virus from their programs.

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SPEAKER BIO

Dr. Scott Holmberg is the Chief of the Epidemiology and Surveillance Branch, Division of Viral Hepatitis (DVH), Centers for Disease Control and Prevention (CDC). From 1986 to early 2005, Dr. Holmberg was Chief of the Clinical Epidemiology Section in the Division of HIV/AIDS Prevention, where he started and supervised many large studies of human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) including: the HIV Outpatient Study (HOPS), the HIV Epidemiology Research Study (HERS), the Antiretroviral Treatment Access Study (ARTAS), and the Study to Understand the Natural History of HIV/AIDS in the Era of Effective Therapy (SUN Study). Dr Holmberg’s training in internal medicine was at Roger Williams Hospital/Brown University, Providence, RI, following medical school at Columbia University, service in the Peace Corps (WHO Smallpox Eradication Programme/Ethiopia), and undergraduate studies at Harvard University. Dr. Holmberg has authored or coauthored over 200 journal articles and book chapters and is the recipient of several high US Public Health Service and CDC awards.
The settlement agreement requires the schools to undertake several actions, including the following: adopt a hepatitis B policy that is consistent with the CDC’s updated recommendations; provide AwDA training to their employees; permit the applicants to enroll in the schools; and provide the applicants with a total of $75,000 in compensation and tuition credits."

*American with Disabilities Act, which now includes HBV infection as a disability

**Implementation**

1. **ALL HEALTHCARE PROVIDERS SHOULD RECEIVE HEPATITIS B VACCINE ACCORDING TO CURRENT CDC AND AMERICAN COUNCIL OF IMMUNIZATION PRACTICES (ACIP) RECOMMENDATIONS.** These vaccination recommendations are being reconsidered in the light of rapidly declining HBV infections in the United States. Because of universal infant vaccination and markedly declining healthcare worker infections from inadvertent exposures (e.g., needle-stick injuries), the very low incidence has made cost-benefit considerations of vaccinating all healthcare professionals and students more expensive and problematic in terms of cost per infection averted. Still, currently, most hospitals and medical and dental schools do require hepatitis B vaccination of new employees and matriculating students.

2. **THESE CDC RECOMMENDATIONS SHOULD BE USED WHEN, AS FREQUENTLY HAPPENS, A HEALTHCARE WORKER OR STUDENT FAILS TO RESPOND TO VACCINATION OR IS OTHERWISE DISCOVERED TO BE HBV-INFECTED.** One-quarter or more of matriculating medical and dental students are of Asian or another regional origin (India, sub-Saharan Africa) that is associated with high HBV prevalence/endemicity. Such students may have been infected by mother-to-child transmission and may be unaware of their infection until late adolescence or early adulthood. It is important not to overreact to management of such students.

3. **THE MAJOR DECLINES IN HBV INCIDENCE OVER THE PAST 20 YEARS UNDERSCORES THE IMPORTANCE NOT ONLY OF VACCINATION BUT ALSO OF WORKPLACE MODIFICATIONS AND ADOPTION OF STANDARD PRECAUTIONS TO PREVENT INFECTION.** The continuing work of OSAP and other agencies reinforces the importance and good effect of: strict adherence to standard (universal) infection control precautions, the use of safer devices (engineering controls), and the implementation of work practice controls (e.g., double gloving in surgery, not recapping needles, etc.).

**RESOURCES**


For download and complete resources please see [http://www.osap.org/?CDCUpdateRecsHepB](http://www.osap.org/?CDCUpdateRecsHepB)
Update of CDC’s Infection Prevention Guidelines for Dental Healthcare Settings

JENNIFER CLEVELAND, DDS, MPH; SHELLIE GRAY, DMD, MPH

Overview

Centers for Disease Control and Prevention’s (CDC) Division of Oral Health is undertaking a limited revision and update of the Guidelines for Infection Control in Dental Health-Care Settings, 2003. Although 10 years have passed since the last update, there has been little change in the science and these guidelines are generally consistent with other current CDC hospital-based guidelines. The update will not be a total revision of the 2003 document, but will focus on critical issues that were identified by stakeholders and infection prevention experts.

CDC has a new process for developing evidence-based guidelines. This process follows a rigorous methodology that includes conducting systematic reviews, identifying conflicts of interest, and tying recommendations closely to the evidence. Critical topics were identified and research questions were developed for the systematic reviews. Selection of topics was based on stakeholder and expert input, unresolved issues or issues in need of clarification from the 2003 guidelines, and topics not included in the 2003 document. Additional topics may be considered if they can be developed into a research question from which a systemic review can be conducted. The topics fell into three general categories: risk, intervention, and equipment. The specific topics include:

**RISK**
- Surgical Smoke
  - What is the risk of occupational infection associated with surgical smoke or plumes produced during the use of lasers or electrosurgical devices?
- Reuse of Burs and Files
  - What is the risk of disease transmission through the reuse of dental handpiece burs and endodontic files and broaches?
- Prions
  - What is the risk of prion transmission through contact with oral tissues (such as pulpal tissue) or contaminated instruments associated with patients with Creutzfeldt-Jakob Disease or Variant Creutzfeldt-Jakob Disease?

**CONTACT PRECAUTIONS**
- Multi-drug Resistant Organisms
  - What is the risk of occupational infection from patients with methicillin-resistant *Staphylococcus aureus* and *Clostridium difficile*?

**INTERVENTION**
- Double Gloving
  - Does the use of double gloves during oral surgical procedures prevent percutaneous injury?

**EQUIPMENT**
- Sterilization/Monitoring
  - What is the optimal frequency for biological monitoring of heat-based, tabletop sterilizers?
  - What type of chemical indicators and integrators should be used for monitoring for sterility assurance of steam sterilization?

SPEAKER BIOS

Dr. Cleveland is a Dental Officer and Epidemiologist in the Division of Oral Health, Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia. Currently, she is the Division’s lead for surveillance of oral and oropharyngeal cancer, with a special focus on cancers associated with human papillomavirus infection. Dr. Cleveland has written numerous scientific articles for peer-reviewed journals and has presented both nationally and internationally.

Dr. Gray is employed by the Northrop Grumman Corporation’s Public Health Division and has supported the CDC’s Division of Oral Health on various projects since 2004. She is currently an epidemiologist with the Dental, Oral and Craniofacial Data Resource Center. She is a former CDC Epidemic Intelligence Service Officer and civilian epidemiologist supporting the Army Center for Health Promotion and Preventive Medicine.
Update of CDC’s Infection Prevention Guidelines for Dental Healthcare Settings

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Key Takeaways

1. Current Dental Guidelines Are Generally Consistent with Existing Hospital CDC Guidelines.
   A review of the current dental infection control recommendations found that the majority of
   them are still consistent with CDC hospital-based guidelines.

2. Topic Selection for Systematic Reviews Was Based on Several Criteria.
   Critical topics were identified and research questions were developed for systematic reviews
   based on stakeholder and expert input, unresolved issues or issues in need of clarification from
   the 2003 guidelines, and topics not included in the 2003 document.

3. CDC’s New Process for Developing Evidence-Based Guidelines Follows a Rigorous Methodology.
   CDC has a new process for developing evidence-based guidelines that includes systematic
   reviews, identification of conflicts of interest, and recommendations that are closely tied to the
   evidence.

RESOURCES

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm

For download and complete resources please see
Changes in OSHA Hazard Communication Standard

KAREN GREGORY, RN

Overview

Once billed “The Employee’s Right to Know,” the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard has been updated to align with the Global Harmonization System of classifying chemicals. Once the standard is fully implemented, employees should more readily understand how to protect themselves and appropriately use chemicals based on information provided on chemical labels and updated safety data sheets (SDSs).

Pictograms and signal words, which are required on labels, and consistent information provided in the SDSs will provide workers the tools they need to protect themselves when handling or disposing of hazardous chemicals.

Key Takeaways

1. HAZARDOUS CHEMICALS CREATE TWO TYPES OF RISKS.
   • Health hazard—based on significant evidence from at least one study, there are indications that acute or chronic health effects may occur in exposed employees.
   • Physical hazard—these chemicals are likely to burn or support fire, may explode or release high pressure that can inflict bodily injury, or can spontaneously react on their own or when exposed to water.

2. LABELS ON MOST CHEMICAL PRODUCTS WILL CHANGE.
   Chemicals received from manufacturers will include required information.
   Each label must provide the following:
   • Product identifier—how the hazardous chemical is identified.
   • Hazard pictograms—black symbol on a white background with red diamond border
   • Signal words—“Danger” or “Warning” if applicable
   • Hazard statements—nature of the hazard, which may include the degree of hazard
   • Precautionary statements
   • Supplier contact information—company name, address, phone number

3. MATERIAL SAFETY DATA SHEETS (MSDSs) WILL BE REPLACED BY SDSs
   SDSs must be in a uniform format in 16 sections that provide specific direction or information.
   Sections of interest
   • Section 2: Hazard(s) identification—may see pictogram
   • Section 4: First-aid measures
   • Section 6: Accidental release measures–spill clean-up
   • Section 8: Exposure controls/personal protection

4. AFFECTED EMPLOYEES MUST BE TRAINED ON LABELS, PICTOGRAMS, AND SDSs BY DECEMBER 1, 2013.

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Changes in OSHA Hazard Communication Standard

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Implementation

1. PLAN EMPLOYEE TRAINING NOW.
   Remember the training deadline is December 1, 2013 for all employees unless state regulations have indicated differently.

2. ENSURE YOU HAVE A CURRENT LIST OF HAZARDOUS CHEMICALS.
   A current list of chemicals is required by the Hazard Communication Standard. Additionally, this tool may be useful in determining which chemicals still need an SDS. SDSs will be provided by the manufacturer/distributor once they have been created.

3. SHARE THE PICTOGRAM POSTER PROVIDED WITH THE HANDOUT MATERIAL.
   Post the information in a central location to assist employees in recognizing pictograms as they begin to appear on chemical labels.

4. COMPARE ANY SDS RECEIVED WITH THE MSDS ON FILE.
   Compare the new SDS with the MSDS on file to ensure that any changes, especially in the areas of personal protective equipment or chemical classifications, are communicated to employees.

Reminders/Cautions

• While the compliance date is not until June 2015 for manufacturers and June 2016 for end users of chemicals, now is the time to begin the education process for all.

• Slow and steady should be the plan. Do NOT wait until the last moment to review SDSs and communicate changes. Review SDSs as they arrive and educate employees on any changes.

• Post the pictogram poster to reinforce education. Visuals are a great employee training tool.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=ChangesInOSHA
Dental Standards and Why You Need to Know About Them

NAPOLEON MONROE AND SHANNON E. MILLS, DDS

Overview

Voluntary consensus standards for infection control products used in dentistry are increasingly important to ensure the safety and health of consumers and to ensure the competitiveness of US dental manufacturers and distributors in domestic and international markets. This presentation discussed how national and international standards organizations impact product development and marketing for dental products. The discussion also centered on who the interested parties are and why industry participation in the standards-setting process could be beneficial to industry and all other stakeholders.

Key Takeaways

1. NATIONAL AND INTERNATIONAL STANDARDS ARE IMPORTANT.
   Standards are important to the US dental industry, the profession, and consumers.

2. ANSI STANDARDS ENHANCE BOTH US GLOBAL COMPETITIVENESS AND QUALITY OF LIFE.
   American National Standards Institute (ANSI) standards enhance competitiveness by promoting and facilitating voluntary consensus standards and conformity assessment systems. While standards are not mandatory by law in the US, they are effectively the only way to do business in foreign countries and can facilitate approvals in the US. New regulations requiring the use of standards are coming soon.

3. INDUSTRY HAS A SUPPORTING ROLE.
   Not-for-profits such as notified bodies and testing labs involved in standards have legitimate costs; industry involvement can help to keep these costs reasonable.

4. THE ADA OVERSEES DENTAL STANDARDS IN THE US.
   The American Dental Association (ADA) has responsibility under ANSI for overseeing the development of US standards for dental products and informatics systems through the Standards Committee for Dental Products (ADA/ANSI SCDP) and the Standards Committee for Dental Informatics (ADA/ANSI SCDI). OSAP is a voting member of both the SCDP and SCDI. The ADA is also a member of the Association for the Advancement of Medical Instrumentation (AAMI) which is responsible for US standards for sterilization equipment and related products.

5. THE ISO OVERSEES DENTAL STANDARDS GLOBALLY.

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SPEAKER BIOS

Napoleon Monroe’s areas of expertise include product development, licensing, regulatory processes, risk management, and international marketing, with experience managing business relationships in more than 30 countries. Formerly Vice President of Corporate Brand Development for Henry Schein, Inc., Mr. Monroe was responsible for all aspects of the company’s private brands. Before Henry Schein, Mr. Monroe spent more than 20 years at Survival Technology (now a part of Pfizer). While at Survival, he invented three medical devices that were patented and commercialized; two were for autoinjectors and one was for a transtelephonic peak-flow monitoring device. There, he also led teams that invented, prototyped, tested, commercialized, and scaled up other products such as the EpiPen, the leading product for treatment of anaphylactic shock, and the Antidote Treatment Nerve Agent Auto-Injector delivery system, which still protects US and allied military and civilian personnel.

Shannon E. Mills, DDS is Vice President for Professional Relations and Science at Northeast Delta Dental in Concord, New Hampshire. Prior to joining Delta Dental in 2007, Dr Mills was an associate professor and Assistant Director of the Dental General Practice Residency Program at the University Of Nevada School Of Medicine. In 2005 he retired from the US Air Force after 32 years of service. He served in military healthcare facilities in the US and overseas, gaining diverse experience in clinical dentistry, education, research and healthcare administration. He served as the Chairman of the Organization for Safety, Asepsis and Prevention (OSAP) and remains an active member. Dr. Mills is a consultant to the American Dental Association (ADA) Council on Scientific Affairs. He currently serves as Past-Chair of the ADA and American National Standards Institute (ANSI) Standards Committee for Dental Products.
Dental Standards and Why You Need to Know About Them

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Implementation

1. BE INFORMED.
Most industry standards address aspects of safety and/or effectiveness relevant to medical devices and these voluntary standards are often adopted by US regulatory agencies such as the Food and Drug Administration and the Environmental Protection Agency. Compliance with a standard may be the easiest route to product approval. Other national and regional regulatory bodies including the European Commission often view standards as mandatory.

2. GET INVOLVED.
The ADA convenes the ADA/ANSI Standards Committee for Dental Informatics (SCDI) and represents the interests of the dental profession and industry as a member of the Association for the Advancement of Medical Instrumentation (AAMI) Sterilization Standards Committee. OSAP currently has voting representation on both ADA/ANSI SCDP and SCDI.

3. TRADE ASSOCIATIONS CAN HELP WITH BROAD POLICY ISSUES AND HELP COMPANIES BEGIN TO PREPARE FOR IMPLEMENTATION, BUT ONLY MANUFACTURERS CAN DEAL WITH THE PRODUCT SPECIFICS.
   • Use the Internet to follow product standards-setting.
   • Follow your trade associations’ newsletters and updates. Please contribute your thoughts to their efforts.

Reminders/Cautions

• You can only make a difference by becoming involved early and often.

• As the voice of the US standards and conformity assessment system, ANSI empowers its members and constituents to strengthen the US marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment.

RESOURCES


For download and complete resources please see http://www.osap.org/?DentalStandards
Ethical and Legal Issues in Providing Care to Persons with Disabilities: A Case Study

HELENE BEDNARSH, BS, RDH, MPH

Overview

Persons with disabilities, including those with human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), are protected against discrimination by state and federal laws. The two pertinent major federal laws are the Rehabilitation Act (including Section 504, which was added in 1987) and the Americans with Disabilities Act (AwDA). Discrimination against persons living with HIV/AIDS (PLWHA) was a major problem in the first decade of the epidemic and still persists. The first discrimination cases under the AwDA, including the first case to be heard in the US Supreme Court, were against dental providers (the Court ruled in favor of a woman living with HIV/AIDS).

This presentation reviewed a case of refusal to treat by a dentist in the early 1990s in Southern California. A patient of record was denied the opportunity to receive dental services after he disclosed his HIV-positive status. His brother was also denied services, based on their relationship. This is prohibitive under the AwDA, which also says that it is illegal to deny services to someone known to have a relationship with a PLWHA. The case discussion focused on whether or not HIV/AIDS is a threat to the health and safety of dental healthcare workers (DHCWs), whether it was legal/ethical to deny services to the PLWHA or to his brother, and what members of the audience would do in a similar situation.

Key Takeaways

1. DISABILITY LAWS PROTECT PLWHA.
In 1990, Congress passed the AwDA to eliminate discrimination against persons with disabilities, including AIDS. Under Title III of the Act, a place of public accommodation cannot deny services based on a known or perceived disability. The private offices of dental providers are places of public accommodation and cannot refuse treatment.

2. DIRECT THREAT DEFENSE IS A LIMITATION.
A limitation to the AwDA is the direct threat defense section, which states that if an evidence-based threat to health and safety can be demonstrated by a public health authority, then consideration is due. This evidence must be based on the most current scientific knowledge and guidelines. Of importance is that the threat must be defined by its nature, risk, severity, and duration, and a determination must be made as to whether or not policies, practices, and procedures can be modified to abate the risk.

3. TREATING PLWHA IS NOT CONSIDERED A DIRECT THREAT.
In oral healthcare, treating PLWHA is not considered a direct threat (see Bragdon v. Abbott Supreme Court decision). The emphasis is on the availability of modifications to policies, practices, and procedures. With the use of Standard Precautions, risks to DHCWs are abated. Additionally, denying care to persons known to have a relationship with a PLWHA is considered discriminatory.

4. AwDA EXTENDS PROTECTIONS BEYOND THE REHABILITATION ACT.
The Rehabilitation Act only covered places of public accommodation that accepted public funding. Therefore, if a dental facility did not accept Medicaid, Medicare, or other public funding, it was exempt from the Act. However, the AwDA extended disability protection in all places of public accommodation regardless of the acceptance of public funding. Congress stated that the AwDA pick up where the Rehabilitation Act left off.

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Implementation

1. REVIEW YOUR STATE LAWS ON DISABILITY DISCRIMINATION.
2. REVIEW POLICIES RELEVANT TO REFUSAL TO TREAT OR REFERRAL FOR CARE.
3. TRAIN AND EDUCATE STAFF TO APPLY APPROPRIATE INFECTION CONTROL PRACTICES.
4. TRAIN STAFF ON PATIENT CONFIDENTIALITY AND PRIVACY.
5. ALWAYS USE PROCEDURALLY BASED INFECTION CONTROL.

DHCWs should not base treatment choices on the known or perceived infectious status of patients.

Reminders/Cautions

• Disability discrimination still persists, so take caution to adhere to state and federal laws.
• Ensure staff members understand how they are protected by the most current infection control guidelines.
• Review and update your policies in accordance with the law.

RESOURCES


Centers for Disease Control and Prevention. HIV/AIDS. http://www.cdc.gov/hiv


World Health Organization. HIV/AIDS. http://www.who.int/topics/hiv_aids/en

For download and complete resources please see http://www.osap.org/?page=EthLegalIssuesDisab
Best Practices for Journalists During Public Health Emergencies

MARY OTTO

Overview

Journalists and health officials are often thrown together in times of unfolding public health emergencies. Both groups have a mission to get important information to the public in a timely and accurate way, yet sometimes there is tension and confusion between them as events rapidly unfold. Reporters are under pressure to “get the story” while public health officials have important concerns such as protecting the privacy of victims. What can both groups do to best serve the public in times of emergencies?

During the H1N1 pandemic of 2009, differing approaches to the release of information about deaths became a distracting factor in news coverage of the outbreak. Some jurisdictions released specific details about the victims such as age, gender, and residence, while others released little or no information.

In October 2010, public health officials, healthcare journalists, and public health information officers held a meeting (co-sponsored by the Association of State and Territorial Health Officials, the National Association of County and City Health Officials, and the Association of Health Care Journalists) to discuss what happened and determine how to better handle such a challenge in the future. The group developed a set of voluntary guidelines that can be useful in releasing information during epidemics or health emergencies. This set of recommendations can help provide a consistent framework to protect individuals’ identities and fulfill the public’s need for information.

Key Takeaways

1. **DON’T LET THE PERCEPTION OF A “COVER UP” DISTRACT FROM THE REAL STORY.**
   The perception that government officials are hiding information about a public health emergency can deepen anxiety and erode trust at a time when the public should be taking informed and appropriate action.

2. **BE AS CANDID AS POSSIBLE.**
   When public health officials need to withhold information, it is important for them to explain why and for the media to report the reason, to avoid creating unwarranted distrust.

3. **MAKE THE MOST OF A TEACHABLE MOMENT.**
   Openness helps create an understanding of the role of public health agencies and provides a clearer picture of the real health risks that people face.

4. **STRIKE THE RIGHT BALANCE BETWEEN PROTECTING PRIVACY AND KEEPING THE PUBLIC FOCUSED AND INFORMED.**
   Public health officials have legitimate concerns—both legal and ethical—about giving out information that could lead to the identification of individuals. Reporters need to tell stories and seek as much detail as they can in order to keep the public engaged.

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Best Practices for Journalists During Public Health Emergencies

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Implementation

1. **BE AS OPEN AS POSSIBLE.**
   Openness is an essential component of protecting the public and communicating effectively. Public health officials should strive to release as much information as possible, within the limits of the law.

2. **AVOID WITHHOLDING INFORMATION.**
   Withhold information only when there is a clearly justified reason to keep it confidential. Explain the rationale for any decision to withhold information.

3. **DETERMINE WHEN TO DISCUSS AN EVENT OR EMERGENCY.**
   Consider publicizing an illness or death when people can use the information to protect themselves from harm or when there is an opportunity to communicate risks or advocate actions (“teachable moment”).

4. **DECIDE WHAT TO REVEAL ABOUT INDIVIDUAL VICTIMS.**
   Strive to provide information for each of the following categories: age, gender, residence, underlying condition, and time and place of death (see below). The level of specificity for each category will vary based on the risk of identifying an individual.

5. **TIME THE RELEASE OF INFORMATION.**
   A new or emerging outbreak may merit speedy and special announcements. As the event unfolds, provide updates on a regular predictable schedule. Announce the schedule to the media and public, and adjust it as circumstances dictate. Coordinate information release with all levels of government and with healthcare organizations.

6. **REMEMBER THE ROLE OF JOURNALISTS.**
   Journalists work to convey vital information from public health officials to the public in times of crisis. At the same time, the media must serve as watchdogs, monitoring the performance of public health officials and healthcare providers. Journalists need to question what they are told, while offering fair and balanced reports on what is revealed.

Reminders/Cautions

- Health officials can best serve the public by providing as much information as possible within the limits of the law and the need to protect privacy, because openness fosters trust.

- Journalists can best serve their readers by filing complete and accurate stories that explain the full context, and by respecting individuals’ desire for privacy.

RESOURCES

Association of Health Care Journalists. FOI. Guidance on the release of information concerning deaths, epidemics or emerging diseases.
http://healthjournalism.org/secondarypage-details.php?id=965#.UaTAWOJtoCc.email


For download and complete resources please see
Dental Radiation Safety

CINDY SAYLORS, MED, RT(R)(CT)(ARRT)
KATY WARREN, RDH, MED

Overview

This course focused on reviewing the principles of infection control and as low as reasonably achievable (ALARA) exposure with traditional film and digital sensors, hand-held devices, and cone beam computed tomography (CT). The goal of the presentation was to afford participants a better understanding of risk evaluation and safety precautions, with emphasis on infection control and radiation safety.

Key Takeaways

1. IDENTIFYING AREAS OF POSSIBLE CROSS-CONTAMINATION AND DESCRIBING CORRECT INFECTION CONTROL PROTOCOLS BEFORE, DURING, AND AFTER RADIOGRAPHIC PROCEDURES IS CRITICAL.

There are several areas of possible cross-contamination related to best practices in infection control with dental radiography equipment. Any surface that comes in contact with the patient, the patient’s saliva, or the dental imaging healthcare worker (HCW), such as lead aprons, door knobs, control buttons, and computer equipment, is considered an area of possible cross-contamination. Organization and use of a practice protocol is of utmost importance.

2. APPLYING THE ALARA PRINCIPLE, TO PROTECT THE PATIENT AND STAFF FROM EXCESSIVE RADIATION DOSE, IS IMPERATIVE FOR ASSURING RADIATION SAFETY FOR BOTH THE PATIENT AND THE HCW.

In order to apply this principle in the modern dental clinic, one must understand radiation concepts as they pertain to digital imaging, the handheld portable unit, and cone beam CT. Exposure techniques, source-to-image receptor distances, shielding, field of view, and proper patient positioning are all important considerations in achieving the best possible diagnostic image with the least possible radiation dose to the patient and the HCW.

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Dental Radiation Safety

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Implementation

1. PLACE BARRIERS ON ALL SURFACES THAT COME INTO CONTACT WITH THE PATIENT OR THE PATIENT’S SALIVA.
   Barriers reduce the need for the HCW to come into contact with disinfectants and are more time-efficient. Barriers are always changed between patients.

2. AVOID TOUCHING SURFACES WITH CONTAMINATED GLOVES.
   Be aware of situations that might lead to contamination, such as when placing and removing the lead apron and when laying the handheld unit or positioning devices on an unprotected countertop.

3. SET UP SUPPLIES AND EQUIPMENT BEFORE EXPOSURES AND PLAN WHICH SURFACES MAY BE TOUCHED BEFORE, DURING, AND AFTER EXPOSING IMAGES.
   Preparation aids in preventing cross-contamination.

4. ALWAYS USE THE LOWEST POSSIBLE EXPOSURE FACTORS FOR A PROCEDURE TO ATTAIN AN ACCEPTABLE DIAGNOSTIC IMAGE.
   The shortest exposure time will give the patient the least ionizing radiation. While digital imaging should afford lower dose, research shows that less attention is being given to exposure factors in digital, and therefore the patient doses are often higher.

5. ALWAYS USE LEADED THYROID COLLARS WHEN THEY DO NOT INTRUDE ON THE IMAGE OR DIAGNOSTIC INFORMATION.
   This is an important consideration with the panoramic and the cone beam CT units.

6. WHEN USING HANDHELD PORTABLE UNITS, PUT THE EXTENSION CONE IN PLACE.
   The extension cone assures mandated source-to-skin distances of 18cm are maintained.

7. HANDLE HANDHELD PORTABLE UNITS WITH CARE.
   Careful handling is necessary to prevent damage to the protective lead-lined casing.

8. USE THE SMALLEST FIELD OF VIEW IN CONE BEAM CT.
   A smaller field of view decreases the patient’s dose, analogous to decreasing position indicating device (PID) diameter in conventional radiography.

9. USE GOOD EXPOSURE TECHNIQUES AND PROPER PATIENT POSITIONING AND SOURCE-TO-IMAGE RECEPTOR ALIGNMENT.
   In every modality used in dental radiography, these practices are essential for safety.

Reminders/Cautions

- Thyroid collars should always be used in conjunction with lead aprons, especially with children. If a thyroid shield is not available, the corner of the lead apron can be placed over the thyroid gland.
- The HCW should NEVER hold the image receptor during the exposure.
- Overexposures in digital radiography can be corrected by the computer software but don’t use this fact as a reason to overexpose patients.

RESOURCES


For download and complete resources please see http://www.osap.org/?DentalSafetyColloquy
Laser Safety: A Brief Tutorial on Key Components for a Laser Safety Program

SHEILA A. STROCK, DMD, MPH

Overview

The use of laser systems in dentistry continues to expand. While laser systems are an important new technology for the dental profession, they can be potentially hazardous to the operator, bystanders, and patients, if not properly used. This presentation addressed the basic infection control and safety issues associated with the use of dental lasers. Lasers can be used safely in dental practices if established processes and protocols—and manufacturer’s instructions—are followed.

Key Takeaways

1. KNOW THE SPECIFIC INDICATIONS FOR USE FOR EACH LASER.
Lasers have been used in dentistry for many years and the use of laser systems in dentistry continues to expand. In recent years, with technological advances, lasers have provided dentists with alternative treatment options. Treatments can be shorter, bleeding is reduced, and postoperative recovery may be faster. There are currently more than 20 cleared indications for use for dental lasers in the US. Dental lasers obtaining 510(k) clearance may be labeled, promoted, and advertised by the manufacturer only for those specific indications for use for which the devices have been cleared for marketing.

2. DESIGNATE A LASER SAFETY OFFICER (LSO).
If not properly used, laser systems can be potentially hazardous to operators, bystanders, and patients. Therefore, it is recommended that an LSO be appointed to review the laser system in use and develop an Activity Hazard Document specific to the dental practice. The LSO is the person in the facility responsible for the laser safety program and the one who ensures that all persons who work in areas where lasers are used are provided with appropriate training and written safety instructions.

3. ESTABLISH A LASER SAFETY PROGRAM.
Laser accidents can be prevented through training of all personnel on standard operating procedures that include workplace controls to ensure safety. A laser safety program should include engineering controls, administrative controls, and protocols for personal protective equipment (PPE). The primary objective of engineering controls is to ensure that no laser radiation in excess of the maximum permissible exposure (MPE) limit reaches the human eye or skin. Safeguards are implemented to minimize the risk of collateral hazards, including electrical shock, fire hazard from a beam or from the use of dyes and solvents, and chemical/biological exposures from use of chemicals and vaporization of targets. Administrative controls include a written standard operating procedures (SOP) manual and training of designated personnel. Depending on laser wavelength, the choice of suitable shielding material may vary. Laser eye protection appropriate and matched to the laser and other PPE appropriate for dental procedures (mask, gloves, and over-gown) are required to meet Occupational Safety and Health Administration (OSHA) requirements for exposed employees, and to afford protection against potential tissue injury (skin) from laser exposure.

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Laser Safety: A Brief Tutorial on Key Components for a Laser Safety Program

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Implementation

1. READ THE OPERATING MANUAL FOR EACH LASER THAT WILL BE USED IN PRACTICE.
The operating manual will describe the cleared indications for clinical use. You may also contact your sales representative for additional information.

2. DESIGNATE AN LSO AND DEVELOP AN SOP MANUAL.
Prior to using a laser in clinical practice, it is critical to ensure the safety of your patients and personnel involved in the delivery of care. The LSO should conduct a hazard assessment and develop processes and protocols for the office.

3. DEVELOP REGULAR TRAINING SESSIONS FOR STAFF.
Initial training, along with updates, is critical to prevent adverse events. Laser accidents can be prevented through training of all personnel on SOPs that include workplace controls to ensure safety. All incidents involving actual or suspected overexposures should be documented, including actions taken to address the injury. Procedural changes necessary to avoid future injuries should be instituted if necessary.

4. ACCESS RESOURCES.
There are numerous resources available to assist the dental office in establishing a laser safety program and implementing the use of lasers into clinical practice.

Reminders/Cautions

• There are currently more than 20 cleared indications for the use of dental lasers in the US. Refer to the operating manual for each laser purchased to verify cleared indications for use.

• Eye protection devices specifically designed for protection against radiation from lasers should be required and their use enforced. These must be matched to the laser in use.

• Laser light can deposit a great deal of energy within a very small area. Lasers that are utilized in dental practice are classified as level 4 lasers (the highest rating). This rating indicates the laser has the potential to produce injury to the eye and tissues, poses a diffuse reflection or fire hazard, and produces laser-generated air contaminants and hazardous plasma radiation. Appropriate controls are therefore necessary to ensure patient and staff safety.

RESOURCES


Additional resources at www.osap.org

For download and complete resources please see http://www.osap.org/?DentalSafetyColloquy
Update on Dental Unit Waterline Contamination

NUALA PORTEOUS, DDS, MPH

Overview

Contact of the oral cavity or other routes of entry with contaminated patient treatment water is incompatible with dentistry’s standard of care. Case reports of patient morbidity and mortality due to dental unit waterline (DUWL) contamination have been reported in the literature. Therefore, it is widely accepted that DUWL contamination should be controlled to protect dental personnel and patients from aerosolized, inhaled, and ingested microbes. All dental personnel should have an awareness of the problem and an understanding of how to improve DUWL quality.

This presentation provided an overview of DUWL contamination. The complexity of the problem, the importance of monitoring microbial levels, and the current approaches used to control contamination were discussed.

Key Takeaways

1. THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) RECOMMENDS THAT WATER EMITTED FROM DUWLS SHOULD BE, AT A MINIMUM, THE SAME QUALITY AS DRINKING WATER.

   The Environmental Protection Agency regulatory standard for safe drinking water is <500CFU/mL of non-coliform, heterotrophic, mesophilic bacteria.

2. FLUSHING WATERLINES SHOULD BE DONE BETWEEN PATIENTS TO ELIMINATE ANY RETRACTED MATERIAL.

   Although flushing is recommended, flushing alone has little effect on biofilm and consequently the problem of DUWL contamination.

3. DENTAL PERSONNEL SHOULD CHECK WITH THE DENTAL UNIT MANUFACTURER BEFORE CHOOSING A WATERLINE ANTIMICROBIAL DEVICE/AGENT TO ENSURE THAT IT IS COMPATIBLE WITH EQUIPMENT.

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Update on Dental Unit Waterline Contamination

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Implementation

**DENTAL OFFICES SHOULD MAKE DUWL MONITORING A ROUTINE PART OF PRACTICE MANAGEMENT.**

DUWL monitoring can be done by using an in-office chairside kit or by using a service provided by a commercial laboratory.

**Reminders/Cautions**

- Microbial counts are underestimated with in-office chairside kits and should be used as screening tools only.
- The American Public Health Association Standard Method 9215C (R2A spread plate) yields the most accurate results when testing DUWL samples.

RESOURCES


For download and complete resources please see http://www.osap.org/?UpdateDentUnitWater
Dental Amalgam: Efficacy, Safety and Environmental Issues

FIONA M. COLLINS, BDS, MBA, MA

Overview

This session offered an overview of the evidence-based data on the use and patient safety of dental amalgam, addressing information recently heard in the public domain. Information concerning patient health and safety related to the use of amalgam was provided, including a review of clinical studies. Occupational health was also addressed.

The current positions of governmental and nongovernmental organizations as they relate to health and safety and to environmental mercury contamination were addressed. Lastly, best practices in amalgam handling were reviewed.

Key Takeaways

1. DENTAL AMALGAM REMAINS AN IMPORTANT OPTION FOR DENTAL CARE.
   Dental amalgam has been shown to be durable and resistant to wear. It offers relatively easy handling, some tolerance of moisture, and is a low-cost restorative material. The use of dental amalgam is supported by governmental and nongovernmental organizations, although phasing down of amalgam is recommended because of the associated potential for mercury pollution. In communities where a low-cost restorative material and restoration is essential, amalgam is still an important restorative option.

2. PROPER HANDLING OF DENTAL AMALGAM MINIMIZES EXPOSURE FOR DENTAL HEALTHCARE WORKERS.
   Occupational health studies have investigated the health of dental healthcare workers as it relates to exposure to mercury in amalgam. One long-term study found that less mercury is now present in healthcare workers due to changes in handling practices that include routine use of personal protective equipment (PPE) (including gloves), use of pre-capsulated amalgam, and proper handling. In studies, the longevity and health of dental healthcare workers, when compared to the general population, was found not to be impacted by the use of amalgam.

3. DENTAL AMALGAM IS AN IMPORTANT SOURCE OF ENVIRONMENTAL CONTAMINATION IN THE ENVIRONMENT.
   A number of organizations and studies have found substantial amounts of mercury reaching publicly owned treatment works (POTW) and sewers as a result of use of dental amalgam, and this highlights the importance of best practices. In the US, between three and four tons of mercury reach POTW from dental offices. In Canada, it was estimated in one study that more than one-third of the mercury load in sewers was from dental offices. Although governmental organizations and nongovernmental organizations do not endorse banning amalgam, they do endorse phasing down its use and minimizing mercury pollution through improved amalgam handling as well as education and collaboration.

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Key Takeaways

4. FOLLOWING BEST PRACTICES IN AMALGAM HANDLING MINIMIZES THE ENVIRONMENTAL IMPACT OF MERCURY DERIVED FROM DENTAL AMALGAM. Best practices such as using traps, filters, and amalgam separators substantially reduce the release of mercury-containing amalgam. All amalgam waste must be bagged separately and stored in air-tight containers with appropriate labeling for collection and disposal/recycling/reporting. Amalgam waste must not be red-bagged, even if it contains extracted teeth. These are only some of the best practices; a full list can be found on the American Dental Association (ADA) website.

Implementation

1. USE PPE ROUTINELY AND APPROPRIATELY FOR INFECTION CONTROL. Together with following best practices, PPE helps minimize exposure to mercury during use and handling of dental amalgam.

2. USE CAPSULE WITH SMALLEST AMOUNT OF AMALGAM NECESSARY. Always use a capsule containing an amount of amalgam that is sufficient for a given procedure but will not result in excessive waste.

3. USE AN AMALGAM SEPARATOR, FILTERS, AND TRAPS.

4. ALWAYS FOLLOW BEST PRACTICES FOR AMALGAM HANDLING TO MINIMIZE MERCURY POLLUTION ASSOCIATED WITH DENTAL AMALGAM.

Reminders/Cautions

- In the US, it was estimated that approximately half of the mercury entering POTW was from dental amalgam (2003) and that between three and four tons of mercury reach POTW annually from dental offices (2008).
- Amalgam continues to be important where low cost and affordability are critical in enabling communities to access dental care.
- Never use bleach or a chlorine-containing evacuation line cleaner or other cleaner that will be exposed to amalgam as this can result in the release of mercury.
- Amalgam is considered a hazardous waste. Disposal/recycling/retorting of dental amalgam must be in compliance with Environmental Protection Agency regulations as well as all state, local, and municipal regulations.

RESOURCES


Duncan, et al. Thirty-five year review of a mercury monitoring service for Scottish dental practices. BDJ. 2011;210(E2). DOI:10.1038

Environmental Protection Agency. Health Services Industry Detailed Study: Dental Amalgam. EPA-821-R-08-014, August 2008.


For download and complete resources please see http://www.osap.org/?DentalAmalgam
Managing Infection Control for Large Events

EVE CUNY, MS

Overview

With the increase in the number of large events that provide free dental care to underserved populations, there is a need to ensure the care is conducted in a manner that is safe for patients and volunteers. These events often take place in nontraditional settings such as auditoriums, and therefore require detailed planning. This presentation reviewed some of the preparations that help make the event safe and successful. Some of these strategies include good communication before and during the event, the development of standard operating procedures to assist volunteers, the laying out of equipment in advance, and ensuring there is a post-exposure protocol in place.

There are also challenges to overcome when providing care in alternative settings and these should be addressed as much as possible in advance. Typically, volunteers work long hours, the setting can become hectic, there can be problems with temporary or portable equipment, some of the volunteers may need a lot more coaching than others, and the throughput in sterilization is generally very large volume. Some of the strategies discussed in this presentation can help mitigate these challenges.

Key Takeaways

1. LARGE-VENUE FREE CLINICS REQUIRE DETAILED ADVANCE PLANNING.

Often, the services needed for sterilization, such as power and running water, are located only in a specific area. It is important to evaluate the venue and select a location that is as central as possible to all of the treatment areas and that also offers the necessary services.

2. MAINTAINING THE STANDARD OF CARE IS A CHALLENGE IN ALTERNATIVE SETTINGS.

The use of appropriate cleaning methods, sterility validation through spore testing and chemical indicators, aseptic handling of sterile instruments, proper use of personal protective equipment, hand hygiene, and other standards of infection control must continue to be met, even in these alternative settings.

3. CLEAR COMMUNICATION BEFORE AND DURING THE EVENT ARE CRITICAL FOR SUCCESS.

Individuals leading the efforts for infection control are a vital part of the organizing team for these events and should be involved in all aspects of the planning. Ensure that there is a clear understanding of what will be considered single-use (such as burs and endodontic files) ahead of time to alleviate confusion on the day(s) of the event. Having a way to communicate with other team leaders during the event is also important. Clinicians will need to know of any shortages or other issues related to instruments that arise during the event.

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Managing Infection Control for Large Events

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Implementation

1. REVIEW LAYOUT AND FLOW.
   Review the logistical flow of the clinic to determine the best location for clinicians to pick up sterile instruments and return used instruments, and where to place ultrasonic cleaners, sinks, handpiece lubrication stations, etc.

2. ASSIGN VOLUNTEERS TO SPECIFIC AREAS.
   Have individuals specialize in cleaning, packaging, sterilizing, and dispensing instruments so they become the activity expert. Assign volunteers to monitor infection control practices on the event floor and report back any problems to the team leaders so these issues can be addressed immediately.

3. DIVIDE AND CLEARLY MARK AREAS FOR DIFFERENT PROCESSES.
   A large sign that tells clinicians where to drop off used instruments and pick up clean is helpful to maintain separation of contaminated instruments from sterile items.

4. HAVE STERILIZATION VOLUNTEERS DISPENSE STERILE POUCHES.
   Sterilization volunteers should dispense sterile pouches to clinicians rather than allow everyone to reach into containers of instruments. This helps prevent cross-contamination. Have hand sanitizer at the dispensing stations and require clinicians to use it before handling sterile pouches.

Reminders/Cautions

- Provide orientation and training to all volunteers and have a plan for how to do this when volunteers start at different times throughout the day.
- Have a clear lead person in each area (e.g., sterilization) to provide a consistent message and ensure there is no miscommunication.
- Be sure everyone takes sufficient breaks. Tired workers are more likely to make mistakes or injure themselves.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=LateBreakIntheNews
Infection Prevention/OSHA Toolkit

KAY C. CARL, RN, BS, CIC

Overview

This presentation described a comprehensive infection prevention and Occupational Safety and Health Administration (OSHA) toolkit for dental professionals and trainers. The toolkit is paperless, so it can be placed on chairside computers for easy access. A training folder can be printed out for employee orientation. This toolkit can be used by beginners in dental infection prevention and seasoned practitioners alike in education and consulting.

Key Takeaways

1. ADULT LEARNERS MAY NEED MOTIVATION.

In the past, dentists have been motivated to be educated in dental infection control by OSHA mandates and, in many states, by additional laws and dental board continuing education requirements. As recent headlines citing poor dental practices have indicated, it is time to stress best practices to dentists to protect not only their patients and staff members but also their livelihoods.

2. TOOLKIT PROVIDES COMPLETELY FILLED OUT OSHA PLANS THAT CAN BE EASILY CUSTOMIZED FOR INDIVIDUAL PRACTICES.

The toolkit includes a Hazard Communication Standard Globally Harmonized System program along with an alphabetized folder that can store safety data sheets (SDSs). It also contains the necessary OSHA standards (with internet links), that each facility is required by law to make available to employees.

3. TOOLKIT INCLUDES THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) GUIDELINES.

Guidelines for Infection Control in Dental Health-Care Settings, 2003, and additional CDC guidelines that have been published since the latest dental recommendations are incorporated into the toolkit. This includes the Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005, Updated CDC Recommendations for the Management of Hepatitis B Virus—Infected Health-Care Providers and Students, and Immunization of Health-Care Personnel Recommendations of the Advisory Committee on Immunization Practices. An individual immunization form and an Excel spreadsheet for tracking staff immunizations are included. The American Dental Association/American Hospital Association Infective Endocarditis Guidelines are provided, as are dental facility procedures such as operatory setups with photos and sterilizer monitoring best practices.

4. ATTENDEES WERE ENCOURAGED TO SEEK OUT OTHER SOURCES THAT CAN BE USED FOR DENTAL INFECTION PREVENTION.

Recommended resources include membership in OSAP and the Association for Professionals in Infection Control and Epidemiology (APIC) for current medical infection prevention practices, and Society for Healthcare Epidemiology of America (SHEA) position papers related to dentistry, which can be found on their website. SHEA's current position paper, “Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures,” is an example.

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Infection Prevention/OSHA Toolkit

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Implementation

1. COPY THE FOLDERS TO YOUR COMPUTER AND EDIT THE OSHA PROGRAMS TO CUSTOMIZE THEM FOR YOUR FACILITY.
Place all three folders on the computer desktops in each operatory so that these folders are readily available to all personnel. Consider printing out a training folder for employee orientation. Keep scanned training records in designated folder for documentation.

2. USE POSTERS TO COMMUNICATE WITH EMPLOYEES AND PATIENTS.
“Cover Your Cough” posters can be printed out and posted in your facility during flu season. There are posters for both employees and patients in the Employee Health folder.

3. THE INFECTIVE ENDOCARDITIS GUIDELINES TABLES ARE PERFECT FOR THE BUSY DENTIST.
These tables succinctly explain the condition, the procedures that warrant prophylaxis, and the preferred antibiotic regimen. This is a great quick reference to put on computer desktops in the operatories.

Reminders/Cautions

- OSHA mandates that you follow both OSHA law and United States Public Health Service guidelines.
- Some state dental boards require dental facilities to follow both OSHA law and current CDC guidelines.
- All of the above are covered in the toolkit.
- This toolkit is specific to the state of Arizona.
- The requirements are the same in many states, while other state programs, such as Cal/OSHA, are more stringent, and are not covered in this toolkit.

RESOURCES

Association for Professionals in Infection Control and Epidemiology website. apic.org
Society for Healthcare Epidemiology of America website. http://www.shea-online.org

For download and complete resources please see
http://www.osap.org/?PracInfecControlCol
Making Infection Control Memorable

LESLEI CANHAM, CDA, RDA

Overview

This presentation discussed how to engage students and other audiences by making presentations memorable, which will help audience members retain the concepts of infection control and safety. It also described how to encourage audience participation through hands-on experiences, games, and demonstrations in order to drive home key points about infection control and safety.

Key Takeaways

1. USE HANDS-ON EXPERIENCES TO MAKE YOUR MESSAGE MEMORABLE AND REPEATABLE.

Teaching, training, and lecturing on infection control and safety should be a two-way conversation. When the presenter speaks without engaging the audience, participants are less likely to retain the information. When audience members are allowed to experience the message (hands-on) for themselves, they come up with appropriate solutions for best practices in infection control and safety. This helps audiences “own” the solution, rather than take your word for it.

2. CREATE A MANTRA.

The use of a catchy word or phrase helps bring attention to the point you are trying to make. The phrase used by the presenter can then be repeated responsively by the audience. People will be thinking about the information long after the presentation, especially if the word or phrase has a “jingle” quality.

3. DEBRIEF AFTER ACTIVITIES.

Help your audiences understand the message of the activities they experienced. If they can repeat the key points/concepts, they will retain the information longer and, more importantly, share what they learned with anyone who asks “what did you learn at the lecture you attended?”

Implementation

1. GIVE THE AUDIENCE MEMBERS PERSONAL PROTECTIVE ATTIRE SUCH AS MASKS AND EXAM GLOVES.

Once audience members have their materials, ask in what order they should be donned and removed. Then have audience members don gloves, then mask, and then ask them to remove the mask while wearing the gloves. By a show of hands, ask how many people touched their hair or skin with:

- Clean gloves (thereby contaminating the clean gloves)
- Contaminated gloves (thereby contaminating themselves with dirty gloves). Those who successfully removed their masks without touching themselves are instructed to twirl the mask with one finger above their head. (Fun)
- Before instructing audience members to remove their gloves, pass around a can of shaving cream. Ask each person to put a small amount of shaving cream (about the size of a marshmallow) into the palm of their gloved hands and rub it all around the gloves. The next task is to remove the glove without getting any of the shaving cream on their skin. Point out the areas where the shaving cream lands on skin to show how cross-contamination can occur during glove removal.

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Making Infection Control Memorable

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Implementation

2. CREATE A MANTRA TO BRING ATTENTION TO THE POINT YOU ARE TRYING TO MAKE.
I use “I see IC” which means “I see infection control.” I have an emoticon on my PowerPoint slide (a smiley face with a magnifying glass). Each time this slide comes up in my presentation, I ask the audience to call out “I see IC,” and then the next slide shows an infection control or safety infraction. The audience is asked to call out what is wrong with the picture. I ask my audiences to shout out “I see IC” several times during the presentation, and then after the presentation suggest they think about infection control not just for that day, but as they continue with the rest of their conference, and then for the next week and next month, as they return to their workplaces. If the phrase is catchy enough, they will remember it.

3. DEBRIEF AFTER EACH EXERCISE.
Debrief to help audience members understand your key takeaway points and encourage a new perspective as the audience draws their own conclusions. One way to debrief is to ask: “What did your experience with _____ exercise teach you?” Another way is to have a PowerPoint slide that poses a question about the activity and provides multiple choice answers. Have the audience call out the correct answer.

Reminders/Cautions

• Hands-on experiences may be difficult in large group settings. By having a few volunteers at the front of the room, the audience will experience the activity by observation.

• Activities can easily use up your lecture time, so be prepared to alter your presentation to fit your time allocated. Know how to bring your audience back to your attention; a run-away audience can ruin the presentation.

• Don’t be too quick to answer your own debrief questions—allow the audience to draw their own conclusions.

RESOURCES

Lioness Learning, Katherine Eitel presentations. http://www.katherineeitel.com
Glogerm website. www.glogerm.com

For download and complete resources please see
http://www.osap.org/?PracInfectControlCol
Infection Prevention and Safety Roles and Resources

KATHY EKLUND, RDH, MHP

Overview
The panel presentation “Infection Prevention and Safety Roles and Resources” reviewed recent events, causes, process improvement opportunities, and outbreak protocols. Following the presentation, the audience participated in a conversation on how to manage complex, rapidly-changing situations from a variety of stakeholder groups and how to better assure compliance with recommended infection control recommendations.

Ms. Eklund provided an overview of proactive strategies and resources designed to enhance compliance with current recommendations, standards, and regulations for infection prevention and control. Participants were encouraged to reflect on their personal and professional role(s) in compliance enhancement.

Key Takeaways

1. BREACHES CAN RESULT FROM A WIDE RANGE OF BEHAVIORS.
Infection prevention and control breaches can result from noncompliance with recommended standards and regulations, to mistakes, and human error.

2. THERE IS A PUBLIC TRUST AND EXPECTATION FOR SAFE ORAL HEALTHCARE.

3. MANY STAKEHOLDERS HOLD RESPONSIBILITY TO ENSURE THAT THE PUBLIC TRUST IS NOT BROKEN.
Key stakeholders in the delivery of oral healthcare include regulators, educators, professional organizations, and individual providers.

4. COLLaboration AND COORDINATION CAN ENHANCE COMPLIANCE.
Collaborating on infection prevention and control guidelines, standards, and regulations benefits public consumers and providers of oral healthcare. This collaboration is very beneficial in managing infection control breaches and even more so in the proactive prevention of breaches through compliance enhancement efforts.

5. EACH AGENCY, ORGANIZATION, AND INDIVIDUAL SHOULD CLEARLY DEFINE THEIR ROLE(S) IN INFECTION PREVENTION, CONTROL, AND SAFETY.
a. Federal agencies develop and publish evidence-based guidelines and recommendations (e.g. CDC Guidelines for Infection Control in Dental Health-Care Settings–2003 and others.)
b. State agencies provide guidance, oversight, and regulation through their departments of public health, state licensing boards, and other state agencies. Some state licensing boards require compliance with CDC guidelines for infection control or have state-specific infection control regulations. Enforcement of the regulations varies from state to state.
c. Professional education plays a vital role in providing the didactic and clinical education that promotes infection prevention and control. Schools should provide the role model for the student to learn and embrace the concepts and practices necessary to provide safe oral healthcare. Continuing professional education provides ongoing education, training, and reinforcement.
d. Professional organizations play a critical role in promoting infection prevention, control, and safety as a professional responsibility. They also disseminate credible information, guidelines, and best practices.

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Infection Prevention and Safety Roles and Resources

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- Providers of oral healthcare have the ethical and legal responsibility to provide safe care. This requires a commitment to ongoing monitoring and quality improvement.
- Consultants have the ability to help providers develop and implement effective infection prevention and safety policies and procedures. Consultants can also share their expertise and participate in local, state, and national patient safety policy development.
- Manufacturers and distributors of services and products play a key role in patient safety. These roles include providing clear directions for product use and aseptic management, assuring sales and distribution staff are knowledgeable in infection prevention and control, providing value-added services that promote infection prevention, control, and patient safety, and maintaining a commitment to the development and enhancement of products and devices that facilitate infection prevention and safety.
- The public has the right to expect infection prevention and control policies, procedures, and practices that ensure safe care. The public also has the right to demand action through regulation and statute when the trust is broken.
- OSAP membership represents all stakeholder categories in infection prevention, control, and safety in dentistry. OSAP is a recognized authority of, and voice for, ensuring safe, infection-free access to oral healthcare. The organization provides quality education, credible resources, and up-to-date information on key issues of infection prevention and safety relevant in the US and other countries. OSAP also is committed to identifying, developing, and supporting the leaders in dental infection prevention and patient safety.

Implementation

1. DEFINE YOUR ROLE(S) IN INFECTION PREVENTION, CONTROL, AND SAFETY COMPLIANCE.
2. IDENTIFY KEY STAKEHOLDERS AND COLLABORATORS IN INFECTION CONTROL AND SAFETY.
3. COLLABORATE AND SHARE EXPERTISE.

Collaboration is important in responding to infection control breaches and to proactively enhancing compliance to prevent further breaches.

Reminders/Cautions

- Always be accountable for the information and services you provide.
- Remember that we serve the public.
- Coordination and collaboration among stakeholders will enhance infection control and prevention policies, procedures, and practices.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=LateBreakIClntheNews
Infection Prevention and Safety Resource Drill Down

FIONA M. COLLINS, BDS, MBA, MA

Overview
The goal of this presentation was to provide participants with a list of websites with useful information in the infection control, safety, asepsis, and prevention disciplines. A list of websites was provided and demonstrations conducted to drill down into these websites to access the available information.

Websites visited during the presentation included the Organization for Safety, Asepsis and Prevention (OSAP), American Dental Association (ADA), US Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), US Food and Drug Administration (FDA), HIVDent, Pubmed (and associated), American Health Quality Association (AHQA), and Google scholar websites. A review of the use of Boolean language for web searches was also provided.

Key Takeaways
1. **SUBSTANTIAL INFORMATION IS AVAILABLE ON THESE WEBSITES.**
   Many of the documents we use for infection control, safety, asepsis, and prevention topics are readily available for download on the various websites, e.g., the Centers for Disease Control and Prevention 2003 Guidelines for Infection Control in Dental Health-care Settings.

2. **USE BOOLEAN LANGUAGE.**
   Boolean language makes web searches easier as well as better defined, more accurate, and more specific.

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SPEAKER BIO
Dr. Collins has authored and presented continuing education courses to dental professionals and students in the US and internationally. During her career she has worked in the US, the Middle East, the Netherlands, and the United Kingdom. In addition to her work in clinical dentistry, she has held positions in academia, marketing, professional relations, education and training, and general management. Dr. Collins is a past member of the Academy of General Dentistry Foundation Strategy Board, and has been a member of the British Dental Association, Dutch Dental Association, and the International Association for Dental Research. She is an active consultant in the dental industry, and is a national and international speaker, and is the continuing education editor for Dental Learning. Dr. Collins is a member of the American Dental Association (ADA) and the Organization for Safety, Asepsis and Prevention (OSAP), and is a Fellow of the Pierre Fauchard Academy.
Infection Prevention and Safety Resource Drill Down

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Implementation

1. START WITH WEBSITES IDENTIFIED.
The list of websites provided and the manner in which these can be accessed provides readers with information for practical and specific web searches related to infection control, safety, asepsis, and prevention.

2. BOOLEAN LANGUAGE HELPS NARROW SEARCHES.

Reminders/Cautions

• Use Boolean language to prevent overly broad and time-consuming searches.
• These are the main websites for information, not the only ones.
• Review links you already have to make sure they are still functioning if you are using these for reference purposes.

RESOURCES

American Dental Association website. www.ada.org
American Health Quality Association website. www.ahqa.org
Boolean language tutorial. http://www.patentlens.net/daisy/bios/1107
HIVDent website. http://www.hivdent.org
Organization for Safety, Asepsis and Prevention website. www.osap.org
Occupational Safety and Health Administration website. www.osha.gov
US Environmental Protection Agency website. www.epa.gov
US Food and Drug Administration website. www.fda.gov

For download and complete resources please see http://www.osap.org/?page=InfectionContDrill
50+ Tools and Apps to Make Your (Infection Control) Life Easier

BETH ZIESENIS

Overview

In this presentation, author Beth Ziesenis (also known as Your Nerdy Best Friend) helped take the mystery out of the cutting-edge technology and on-the-go apps that are available to increase productivity and to help people get organized and get things done. While not specifically targeted to infection control, the tools she shared are applicable to every profession, including those involved in advocating for the infection-free delivery of oral healthcare.

Key Takeaways

1. TECHNOLOGY DOESN’T HAVE TO BE EXPENSIVE.
   There are cheap and even free tech tools that are helpful for almost any industry. These tools can help you impress your friends and colleagues with professional quality videos and presentations.

2. YOU CAN IMPRESS YOUR COWORKERS AND FAMILY WITH NEW CUTTING-EDGE INFORMATION.
   It’s hard to keep up with the fast-moving world of online apps and tools. Staying current is difficult but worth the effort.

3. TECHNOLOGY CAN BE EASY AND FUN.
   Even if you’re not naturally tech savvy, you can find tools and programs that you didn’t even know you needed. Your creativity will be flowing with these newfound apps.

Implementation

1. IDENTIFY THE APPS.
   Identify the apps that will be most helpful to you—then go online and start using them.

2. USE THE SPECIFIC DROPBOX LINKS PROVIDED.
   There is a specific Dropbox link in each app in the OSAP Powerpoint that is unique to that session. Check this link if you need a refresher of the content at any time.

3. RECEIVE NOTIFICATION OF NEW APPS.
   You can become a member of Beth’s NerdWords group (sign up on her website) and receive a weekly newsletter that highlights new and upcoming apps she thinks everyone needs to know about.

Reminders/Cautions

- Password security is very important.
- There are many readily available free apps that can be helpful to almost anyone.

SPEAKER BIO

Ms. Ziesenis is an author, speaker, technology consultant, and self-proclaimed nerd. Since her first Commodore 64 computer, she has been fascinated with the technology and computer shortcuts that make people’s lives easier. From her home base in San Diego, California, Ms. Ziesenis helps computer users all over the country filter through thousands of apps, gadgets, widgets, and downloads to find the perfect free and bargain technology tools for business and personal use. Ms. Ziesenis keeps up with the new online applications and downloads that can help professionals look like they’re working with a team of marketing, computer, and productivity experts, even if they suffer from a shrinking staff and a disappearing budget. She is the author of Upgrade to Free: The Best Free & Low-Cost Online Tools and Apps and Release Your Inner Nerd (forthcoming, 2013), which is up to date on all the apps that you can use at work and at home.

RESOURCES

Beth Ziesenis website: www.yournerdybestfriend.com


For download and complete resources please see http://www.osap.org/50ToolsAndApps
From Good to Better—Towards a Patient Safety Initiative in Dentistry

ELSBETh KALENDERIAN, DDS, MPH

Overview

This presentation offered insights into Dr. Kalenderian’s team’s progress on identifying and developing resources to assess patient safety (PS) cultures and to track PS events. This was an important progress report on how dentistry can integrate the findings of the Institute of Medicine’s report “To Err is Human.” The report catalyzed a revolution in PS and quality in medicine. This presentation helped professionals understand how dentistry can reap the benefits.

Key Takeaways

1. PS RESEARCH IN DENTISTRY IS VERY IMPORTANT.
Without research into PS, it will not be possible to understand adverse events in dentistry and how to address them.

2. THE CURRENT SAFETY CULTURE IN DENTISTRY SHOULD BE IMPROVED.
Currently, the safety culture in dental offices lags behind outpatient medical offices, although there is room for improvement in both settings. Understanding the culture in the office regarding reporting adverse events is the first important step towards improving PS in dental settings.

3. PROGRESS IS BEING MADE IN INTEGRATING PS INTO THE DENTAL CURRICULUM.
Several dental schools have made progress in integrating PS into the curriculum. The advent of interdisciplinary curriculum mandates will also help in this aspect.

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SPEAKER BIO

Dr. Kalenderian is Associate Professor and Chair of the Oral Health Policy and Epidemiology Department at the Harvard School of Dental Medicine (HSDM), where she has focused on systematically changing the culture from one of quality assurance, in which standard work is done consistently, to one of quality improvement, thus moving the organization to positive change, and designing processes to be safer, more efficient, and more patient-centered. She is one of the lead researchers on a National Institutes of Health (NIH) grant project to develop practical surveillance tracking tools for patient safety (PS) in oral healthcare. She is also the principal investigator (PI) of a research project that is focused on dental diagnostic terminology in the electronic health record and is the main architect of EZCodes, a standardized dental diagnostic terminology.
From Good to Better—Towards a Patient Safety Initiative in Dentistry

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Implementation

1. DOWNLOAD THE MEDICAL OFFICE SURVEY.
Download the Medical Office Survey on Patient Safety Culture from the Agency for Healthcare Research and Quality website and measure the PS culture in your own office as a starting point for PS.

2. ANALYZE THE RESULTS.
Analyze the results and create a few realistic steps as a team to improve PS in your office.

Reminders/Cautions

• No PS improvement effort will “stick” if the culture in your office is not ready for to move from blaming to learning.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=TowardsPatientSafety
Culture of Safety for the Dental Profession—A General Practice Perspective

SHEILA A. STROCK, DMD, MPH

Overview
Recent infection control breaches that have gained national attention indicate systematic compliance problems. According to the American Dental Association (ADA) Code of Ethics, the dentist has a duty to refrain from harming the patient. And, one of OSAP’s guiding principles is that “all patients deserve access to oral healthcare that is delivered safely, and that the persons who are involved in delivering such care are protected from occupational injury or illness.” This presentation explored why we continue to hear of infection control breaches in our profession and offered a perspective on how general dental practice can embrace a paradigm shift towards a culture of safety.

Key Takeaways
1. **Dentistry Can Strive to Become a High-Reliability Healthcare Organization.**
   High-reliability industries or organizations (HROs) such as the airline industry are ones that are concerned with the possibility of failure, recognize the inherent fallibility in humans, and recognize the risks of systems failures. HROs strive to create systems and processes that prevent error or mitigate the impact. There is the potential for healthcare providers and, more specifically, the dental profession to aspire to this goal.

2. **Dental Practices Can Implement Patient Safety Initiatives and Adopt a Culture of Safety.**
   Essential change is required. This includes:
   - Commitment of leadership.
   - An organizational culture that supports high reliability; i.e., the practice values safety for workers and patients, commits resources towards safety initiatives, and promotes safe behaviors.
   - Tools to facilitate quality improvement are adopted.

3. **Barriers to Adopting a Culture of Safety Are Not Insurmountable.**
   How do we get to a state of mindfulness that infuses a culture of safety into each dental setting? We must go beyond the checklist; it is not just about processes and protocols, it is a cultural and behavioral shift to engage the capacity of each individual member of a team to learn, teach, communicate, reason, and think together.

4. **It Takes a Team.**
   Quality improvement is an ongoing process; key indicators unique to the organization must be developed to evaluate all the processes and protocols the organization has established in the delivery of patient care. In addition, it includes all persons involved in the patient care process.

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Culture of Safety for the Dental Profession—A General Practice Perspective

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Implementation

1. ASSESS THE CULTURE.
   What are the roles of the dental team members? Does everyone know what each team member is doing? Is it safe to communicate to one another when an error in process occurs? Is there a culture of safety?

2. CONSIDER IMPLEMENTATION OF PROTOCOLS.
   Consider practices such as appointing a safety officer, convening daily huddles, implementing processes and protocols and/or checklists developed by the team, and learn about root cause analysis to analyze adverse events and implement quality improvement and quality assurance activities.

Reminders/Cautions

• A culture of safety must be adopted by the leadership.
• It takes a team and team intelligence.
• Improving patient and worker safety is attainable.
• Remember: First, do no harm.

RESOURCES


Ramoni et al. From good to better: Toward a patient safety initiative in dentistry. JADA 2012;143(9):956-960.


For download and complete resources please see http://c.ymcdn.com/sites/www.osap.org/resource/resmgr/symposium_2013/present-strockculture.pdf
Quality Improvement: Fostering a Culture of Safety

NITA MAZURAT, DDS, MSC

Overview

This presentation was developed to provide a tool, tailored to their own environment, to assist educators and private practitioners in determining the root cause of gaps in compliance for infection control practices.

The discussion centered on listing and describing six key components or themes of a culture of safety. These six key components were then applied while performing a root cause analysis of a specific compliance problem (student disinfection of laboratory cases) in a Canadian faculty of dentistry. The results were enlightening in that root causes were revealed and strategies to amend these gaps have already been put in place.

Key Takeaways

1. DEFINE THE CULTURE OF SAFETY AND LIST THE SIX COMPONENTS THAT MAKE UP A WORKING DEFINITION OF THIS TERM.

The Centers for Disease Control and Prevention definition of “culture of safety” is the “shared commitment of management and employees to ensure the safety of the work environment.” The focus is on the improvement of systems, not individuals. No blame is assigned to individuals. The six themes that describe a culture of safety (adapted from Duke University website for culture of safety) are: assessing the culture, assessing the teamwork, collaboration & patient involvement, systems/protocols, resources, and transparency/accountability.

2. GAPS IN COMPLIANCE NEED TO BE IDENTIFIED AS A SPECIFIC QUESTION.

When attempting to identify gaps in compliance, analyze only one compliance issue at a time, using root cause analysis.

3. ROOT CAUSE ANALYSIS IS A CLASS OF PROBLEM-SOLVING METHODS USED TO IDENTIFY THE UNDERLYING PROBLEM IN ORDER TO CREATE EFFECTIVE CORRECTIVE ACTIONS THAT WILL PREVENT THAT PROBLEM FROM RECURRING.

A “fishbone” diagram was used to analyze the problem, and the culture of safety adapted themes were applied to the schematic. For example, under “assessing the culture,” the following statements described the culture: students perform most of their own laboratory work for patient cases; there is no role modeling of disinfection in preclinical courses when the laboratory work is being taught; as most of the clinical instructors do not disinfect their own cases in their own clinical practices (responsibility of their dental assistants), disinfection of cases is outside their personal clinical checklist; and dental assistants generally do not have time to disinfect student laboratory cases in this school setting. (Note that adding “disinfection” to the laboratory prescription checklist as a reminder for the instructors, is listed under “Systems/Protocols” not under “Assessing the Culture.”) Note also that simply stating the culture in this analysis uncovers reasons for this gap in compliance and strategies are a logical conclusion once the etiology of the problem has been identified.

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Quality Improvement: Fostering a Culture of Safety

Continued from previous page

Implementation

1. IDENTIFY ONE COMPLIANCE ISSUE TO ANALYZE AT A TIME.
In an office setting, whether private practice or institution, meet with the stakeholders to identify a finite set of problems. Time and time again, there are as many compliance issues identified as being problematic as there are people sitting at the table. Develop a plan for how to prioritize issues. A good way to approach this is to apply the “Dental Office Survey on Patient Safety” to your environment (see below for reference).

2. BE EXHAUSTIVE IN LISTING EVERYTHING THAT APPLIES TO THE SIX KEY THEMES.
No idea should be dismissed. As stakeholders become more comfortable with understanding the parameters, they will move their ideas to the appropriate themes. Watch for recurring causes as these may be root causes.

3. DETERMINE ROOT CAUSES.
When no further suggestions can be added to the themes, determine root causes. For example, in the illustration used to describe a specific problem in a dental school, the root cause was absence of role modeling in the preclinical setting (no development of a clinical “habit”) and disinfection missing from checklists for laboratory prescriptions in the clinical setting, especially as a reminder to clinical instructors to role model this behavior.

Reminders/Cautions

• Choose only one problem at a time for your environment but do so with consensus from stakeholders. Determine how the problem will be prioritized before starting the discussion.

• Ensure that everyone understands what is meant by the key components of culture of safety to ensure this is a working definition.

• Once the root causes are determined, strategies to correct the gaps in compliance become clearly evident.

RESOURCES


Acknowledgement to Dr. Sheila Strock for her assistance in this presentation and to Dr. Victoria Kaprielian for her role in the development of the Duke University website.

For download and complete resources please see http://www.osap.org/?page=CultureOfSafety
Latest Technology to Monitor Hand Hygiene Compliance

BARBARA ARNOLDUSSEN, RN, MBA, CPHQ

Overview

In the international healthcare community, clinicians, educators, and administrators are exploring innovative technological solutions to increase compliance with hand hygiene standards. This session described two such standards, one from the World Health Organization (WHO), and one from the Centers for Disease Control and Prevention (CDC).

Seven innovations were selected to represent the approaches that are currently available from companies around the world. Their features, both positive and negative, were compared to each other. Video demonstrations showed how the equipment worked. All products claim to have made a significant difference in compliance; however, these innovations are new and no long-term data are available to verify these claims.

Key Takeaways

1. ENTRANCE AND EXIT HAND HYGIENE MAY NOT BE ENOUGH TO PROVIDE SAFETY, ASEPSIS, AND PREVENTION.
   The Hospital Hand Hygiene Opportunities: Where & When (HOW2) Benchmark Study found that 21% of the opportunities for hand hygiene occurred before touching the client. Similarly, research discovered that 28% of the opportunities for hand hygiene occurred after touching the client. These situations add up to 49%, so the CDC focus on entrance and exit hand hygiene may not be sufficient to provide a clean setting for client care.

2. CONTACT FROM THE HANDS TO THE CLIENT ENVIRONMENT IS A MAJOR SOURCE OF CONTAMINATION.
   The HOW2 Benchmark Study found that 35% of the opportunities for hand hygiene occurred after touching the client’s environment or objects in that environment. The WHO focus on the “Five Moments for Hand Hygiene” is worth setting up as the guideline for providing safety, asepsis, and prevention.

3. MOST OF THE TECHNOLOGY INNOVATIONS TO MONITOR COMPLIANCE MEASURE DISPENSING, OR CONTACT WITH, CLEANSING PRODUCTS, NOT TECHNIQUE.
   With the compliance focus on the dispensing of, or contact with, soap or gel, the basic education about the seven-step procedure for hand hygiene does not get its proper due.

4. PEER-REVIEWED DATA HAVE NOT CAUGHT UP TO SOME RECENT INNOVATIONS.
   Some recent innovations, such as a wristband to measure hand hygiene activity, are so new that publication of peer-reviewed data and analysis has not yet occurred. The wristband, still in pilot studies, uses an accelerometer-equipped microprocessor to detect hand hygiene movement. Two companies have similar products that are coming into the clinical setting soon. The best question after the presentation was how to decontaminate the wristband. Those directions are not included with the current marketing efforts.

Continued on next page

SPEAKER BIO

Ms. Arnoldussen teaches Healthcare Management to MBA graduate students at International Technological University (ITU) in downtown San Jose, California.

Barbara is also a doctoral student at ITU, and plans to do her dissertation on public health and technology. She is blogging the foundation pieces of her dissertation at blogyourdissertation.com
Latest Technology to Monitor Hand Hygiene Compliance

Implementation

1. MAKE RESOURCES CONVENIENT.
Make it almost as fast and easy to cleanse hands as to skip that step!

2. PROVIDE ONGOING EDUCATION.
Use videos to show how people in other clinical settings are encouraging their staff.

3. OFFER OPTIONS AND SUPPORT FOR TIMING HAND HYGIENE.
To get the message out about the appropriate duration of time for hand hygiene, have a selection of 20-second song verses, to eliminate the “Happy Birthday to You” two-verse fatigue. Alternatively, place a clock within comfortable visibility of the cleansing products, so that staff can measure the correct duration of hand hygiene activity themselves, without singing.

4. EMPHASIZE PROPER TECHNIQUE.
In a visible spot, place a poster of the seven steps of effective hand hygiene: palm to palm, palm over palm, fingers interlaced, backs of fingers to palms, thumb rotating motion, nail rubbing on palms, wrist rotating motion.

5. REWARD COMPLIANCE.
On a regular basis, make an informal or formal comment of acknowledgement, so that people know their efforts are appreciated.

Reminders/Cautions

- Know that the CDC and WHO have different standards for “good” or “sufficient” hand hygiene activities.
- Decide if your ideal monitoring solutions would identify individuals or groups that are compliant/non-compliant.
- Think about the consequences of involving the patient or client in the awareness of proper hand hygiene in real time.

RESOURCES


For download and complete resources please see http://www.osap.org/?ComplianceTechCollo
Use of Mobile Devices to Develop and Strengthen Dental Students’ Competencies in Biosafety and Infection Control

ANA CECILIA TREVINO, DDS, MS

Overview
Handheld devices such as iPads and smartphones can be used in higher education to teach different topics and to achieve specific learning objectives. Mobile learning can be used to improve student awareness about occupational risks in dentistry, and to strengthen competencies regarding infection control guidelines and protocols. Dental educators could find in mobile learning a powerful tool to engage digital-native students to more effectively comply with biosafety.

Key Takeaways

1. MOBILE LEARNING IS A POWERFUL TOOL.
   Mobile learning can help improve dental students’ awareness of occupational risks in the dental practice. The general definition of mobile learning is “the use of mobile technology available for students to learn.”

2. THE MOBILE LEARNING NETWORK (MOLENET) IS COLLABORATIVE.
   MOLENET is a unique collaborative approach to encouraging, supporting, expanding, and promoting mobile learning.

3. OUR CURRENT STUDENTS ARE GEN-Y
   At our dental schools we are teaching to the Generation Y, so we should know what they are like. They enjoy activities using technology.

4. MOBILE LEARNING CAN BE USEFUL.
   Mobile learning encourages and facilitates creativity, improvisation, and short-term problem-solving competencies.

Continued on next page

SPEAKER BIO
Dr. Trevino earned her doctor of dental surgery degree in 1992, a periodontics specialty in 1998, and a master’s degree in dentistry sciences in 2000 from University of Nuevo Leon, in Monterrey, Mexico. In 2011 she joined a PhD program at the University of Nuevo Leon. In 2009 she became Associate Director of the Academic Dentistry Center, where she is in charge of biosafety and infection control protocols and works as a clinical instructor. At Tecnologico de Monterrey, Dr. Trevino is responsible for internationalization and continuing education in the Dentistry Department, where she is also a full-time professor. She has more than 18 years of teaching experience, and in the last five years has been working in specific areas such as vulnerable, high-risk, and special needs dentistry; infection control in dental settings; simulation in dental education; psychology and oral health; the psychology of dental infection control; and the incorporation of new technologies in dentistry.
Use of Mobile Devices to Develop and Strengthen Dental Students’ Competencies in Biosafety and Infection Control

Continued from previous page

Implementation

1. DESIGN A PROGRAM.
Design a program to support faculty educational initiatives related to innovation.

2. CREATE A VIRTUAL SPACE.
Create a virtual space to experience interchange and mobile learning best practices and success case-sharing.

3. DEVELOP MOBILE LEARNING STRATEGIES.
Develop specific strategies for the introduction of mobile learning in academic life (teachers and students).

4. ENSURE CORRECT TOOLS ARE AVAILABLE.
Provide or be sure the students and faculty have the tools needed for mobile learning (iPad, iPod, Blackberry, Android).

Reminders/Cautions

• Students enjoy activities using technology.
• Our students are Generation Y and are able to solve difficulties regarding the use of technology.
• Today’s students are motivated to be involved in an academic life full of challenges.

RESOURCES

Educational Technology and Mobile Learning website.
http://www.educatorstechnology.com


For download and complete resources please see
http://www.osap.org/?ComplianceTechCollo
IC Conundrums—Moving Toward New Solutions

MICHAEL JOSEPH, DDS, MSD

Overview

This presentation addressed several dental infection control (IC) issues for which there is neither consensus nor a consistent manner in which basic IC issues are practiced. These conundrums can make it challenging when trying to develop a policy that is best suited to one’s respective dental clinic. The rationale on how to handle these complex IC issues was addressed with a focus on both cost and safety.

Key Takeaways

1. UNDERSTAND THAT THERE IS A WIDE DISPARITY BETWEEN DENTAL CLINICS ON A NUMBER OF DENTAL IC ISSUES. Common disparities include:
   • How often should dental unit waterlines be tested
   • Should each dental unit waterline be tested independently or is a pooled sample acceptable
   • Should dental burs and endo files be considered single-patient use
   • Should dental evacuation instruments be sterilized after each patient use
   • How is the most practical method for monitoring the temperature and humidity of stored dental instruments and other sterile supplies
   • What are the definitions of a biological implant and a non-biological implant
   • What is the most practical method for tracking dental implants in case of a product recall
   • What is the most practical and safe routine for biological monitoring of sterilizers
   • Should gowns be changed after each patient
   • What personal protective equipment should be worn for which procedures/tasks
   • Should atomizers be sprayed directly into the oral cavity
   • Can air/water syringes be sterilized
   • Can digital x-ray sensors be immersed
   • What is the most practical and safe method for the evacuation of laser/electrosurgery “smoke”
   • What is the practicability of dental offices annually checking the safety of their lead aprons and x-ray machines

2. DESCRIBE WHY THERE ARE DISPARITIES IN IC PRACTICES FROM ONE DENTAL CLINIC TO THE NEXT.

   One of the reasons why there are so many disparities is the lack of routine clinic inspections. Most dental boards do not inspect dental clinics unless there is a complaint; however, most patients think that dental clinics are inspected, leading to a false sense of security. There will be a growing need for routine dental clinic inspections in the future. Also, dental IC is not emphasized in dental schools. In the future, an increased emphasis needs to be placed on formal dental IC training.

3. IDENTIFY A RATIONALE FOR DEVELOPING POLICIES IN THE MOST COST EFFECTIVE AND SAFE MANNER.

   An article by Cleveland JL, et al. highlighted that there are many dental clinics that do not follow basic Centers for Disease Control and Prevention (CDC) guidelines when it comes to using sterile water, having an office IC officer, and using sharps safety products. Cost can be a main reason why some dental clinics make a decision to cut corners. Costs can be contained by using many of the disposable products that are now on the market. The cost of having an IC lapse, both in terms of reputation and actual dollars, is enormous.

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IC Conundrums—Moving Toward New Solutions

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Implementation

1. REQUEST WRITTEN INSTRUCTIONS.
   Recommended that dental manufacturers write instructions according to the Association for the Advancement of Medical Instrumentation (AAMI) standards. Additionally, we recommend that manufacturers test their products more thoroughly before publishing reprocessing instructions. In the past, we have experienced shortcomings with manufacturers’ instructions stating that air/water syringes were autoclavable and that x-ray sensors were immersible. In practice, these items were not able to withstand repeated reprocessing under these conditions. Manufacturers have stated that oftentimes, the products had limited testing before the reprocessing instructions were published.

2. TEST DENTAL UNIT WATERLINES ROUTINELY.
   We recommend quarterly hetrotrophic testing of each dental unit waterline. If the line tests greater than 500 cfu/mL, then take it out of service until you get a reading of less than 500 cfu/mL. If the line tests 200-500 cfu/mL, then reshow the line, but keep it in service.

3. DISASSEMBLE, INSPECT, AND STERILIZE EVACUATION INSTRUMENTS AFTER EACH PATIENT USE.
   Evacuation instruments may not be effectively cleaned if they are not disassembled after each patient use. While the instruments are disassembled, they should be cleaned and sterilized, and the O-rings should be lubricated or replaced as needed, before the next patient use.

4. CONSIDER SWITCHING TO STERILE, SINGLE-PATIENT USE BURS AND ENDO FILES.
   Due to cost decreases in burs and endo files that come pre-sterilized from the manufacturer, and knowing the time and difficulty it takes to properly clean these items, you may want to consider making them single-patient use items.

Reminders/Cautions

• Beware of the disconnect between CDC Guidelines and what actually goes on in practice. Read the article by Cleveland JL, et al. to help ensure compliance for areas regularly missed.
• Conduct routine independent inspections.
• Interview staff and conduct competency training on an annual basis.

RESOURCES


Centers for Disease Control and Prevention. Guidelines for IC in Dental Health-Care Settings. MMWR. Dec 19 2003;52(RR-17).


Mann GL, Campbell TL, Crawford JJ. Backflow in low volume suction lines: the impact of pressure changes. JADA. 1996;127:611-615.


Watson CM, Whitehouse RL. Possibility of cross-contamination between dental patients by means of the saliva ejector. JADA. 1993;124:77-80.

For download and complete resources please see http://www.osap.org/?page=ICConundrums
Commission on Dental Accreditation: Infection Control Considerations for Accreditation

SHERIN TOOKS, EDD, MS

Overview

The accreditation standards mandate specific requirements for each discipline related to infection control, health and safety, and quality assurance within the academic environment. The standards require patient-centered care, evidence-based practice, compliance with local, state, and federal safety regulations, and the inclusion of a quality assurance program for patient care. While the commission is not the health and safety police, if an area of noncompliance with the accreditation standards is identified, a recommendation would be cited.

Key Takeaways

1. **COMPLIANCE MUST BE DOCUMENTED.**
   To demonstrate compliance, programs must provide written documentation to demonstrate that the requirements of the standard are met.

2. **COMPLIANCE MUST BE ONGOING.**
   Many of the infection control, health and safety, and quality assurance standards require ongoing review, assessment, and corrective action. Programs must be able to document that the cycle of “plan, do, check, act” occurs.

3. **COMPLIANCE WITH HEALTH AND SAFETY STANDARDS CAN OCCUR THROUGH MULTIPLE FORUMS.**
   Didactic, preclinical, laboratory, and clinical environments can be used to provide education, and assess and document compliance with health and safety standards.

Implementation

1. **REVIEW ACCREDITATION STANDARDS CAREFULLY.**
   Review the accreditation standards carefully, paying special attention to the multiple subparts and intent statements. Determine your program’s level of compliance based on the expectations of the standards and your institution.

2. **DOCUMENT, DOCUMENT, DOCUMENT.**
   It is important to document and maintain current and accurate records on all health and safety provisions required by the accreditation standards.

3. **BE FULLY INFORMED OF LOCAL, STATE, AND FEDERAL REQUIREMENTS.**
   Understanding the local, state and federal requirements as they relate to the standards for radiation hygiene and protection, ionizing radiation, hazardous materials, and bloodborne and infectious diseases is critical.

Reminders/Cautions

- Compliance must be documented in writing.
- Be aware of changes in the accreditation standards, and commission policies and procedures.

SPEAKER BIO

Dr. Tooks has been with the Commission on Dental Accreditation for 12 years and was appointed director in 2012. She oversees the general operations of the commission and serves as staff secretary of the standing committees on finance and communication and technology. Dr. Tooks holds a bachelor of science degree in dental hygiene and a master of science degree in dental hygiene education, both from the University of Missouri-Kansas City School of Dentistry. Additionally, Dr. Tooks holds a doctorate in education, with an emphasis in educational leadership.

RESOURCES


For download and complete resources please see http://www.osap.org/?page=CODA
Collecting and Using Data Real-Time to Improve Compliance
EVE CUNY, MS

Overview
Checklists can be combined with electronic media, such as the iPad and system networks, to monitor compliance, track trends in performance, and give immediate feedback for occupational and patient safety.

The data collected can enhance quality assurance, contribute to ongoing outcomes assessment, and provide accreditation documentation for Standard Five of the American Dental Association Commission of Dental Accreditation Standards for Dental Education Programs.

Key Takeaways
1. USE TECHNOLOGY TO IMPROVE DATA COLLECTION.
For example, fillable PDF forms can be incorporated into iPads to offer real-time data collection. The data can be uploaded to a PDF Expert application to monitor compliance and improve safety.

2. EMBRACING THESE TECHNOLOGIES IS NOT WITHOUT CHALLENGES.
One of the first challenges that came to light was that different people interpreted some of the questions in different ways. We undertook training sessions for the assigned observers and covered the use of the incident report forms at regular faculty orientations, which occur every quarter. The bloodborne exposure reports are only completed by trained responders and the sterilization inspection is done by the director of Environmental Health and Safety (EHS); work station evaluations are done by either the director or manager of EHS.

3. REAL-TIME DATA COLLECTION CAN INCREASE THE RAPIDITY OF PROBLEM IDENTIFICATION AND SOLUTION.
Using technology tools such as the iPad checklist, linking checklists to Axium, and then having the entered data go directly to a web-based database can help with early notification of incidents. This eliminates the waiting time for the paper form to be transferred.

Continued on next page

SPEAKER BIO
Ms. Cuny is the Director of Environmental Health and Safety and Associate Professor in the Department of Dental Practice at Pacific Dugoni School of Dentistry. She is a consultant to the American Dental Association Council on Scientific Affairs and the FDI World Dental Federation Education Committee. Ms. Cuny has served as an expert reviewer and advisor to the Centers for Disease Control and Prevention and is past chairperson of the Organization for Safety, Asepsis and Prevention. She received the James Crawford Award for lifetime achievement in dental infection control in 2009, and is an internationally recognized expert in infection control in dentistry.
Collecting and Using Data Real-Time to Improve Compliance

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**Implementation**

1. **CONDUCT INFECTION CONTROL ROUNDS.**
   One can use iFormBuilder or another application to develop a checklist loaded onto an Ipad. The application allows the user to upload the checklist information directly to a remote database, accessible later for analysis. Calibration of personnel conducting rounds ensures that the questions are interpreted the same way each time a form is completed. Reports generated from the database are produced for review by quality assurance and infection control committees.

2. **CREATE UNUSUAL OCCURRENCE (INCIDENT) REPORTS.**
   It is important to capture incidents involving unintended outcomes of care, issues related to patient behavior, and medical emergencies. A form was created to capture this information for review by the quality assurance committee. The form was placed as a link in Axium. When a user completed an incident report, the information automatically populated a network-based database that was only viewable by the director of EHS. The EHS director used these data to develop standard reports for monthly review by the quality assurance committee. These reports also help identify “sentinel events” that require additional review by a clinical outcomes review committee. This is not a part of the patient’s record and is protected from discovery in the event of a lawsuit.

3. **CREATE BLOODBORNE EXPOSURE REPORTS.**
   Use trained responders to collect data on a form that is a link in Axium. This form can be printed to take to the occupational health clinic. The data populates across the network-based Access database and the information is reviewed at monthly quality assurance and infection control committee meetings.

**Reminders/Cautions**

- Training of the data collectors is critical.
- Set a standard for the number of forms you will collect each month and stick to it.
- Develop standardized reports from the data sets to compare results over time.
- Record interventions made to improve services, protocols, or operations, and use the data to determine if the interventions result in favorable changes to the trends.

**RESOURCES**


For download and complete resources please see http://www.osap.org/?page=DataRealTime
Integrating WHO’s Patient Safety Curriculum into a Dental School

ENRIQUE ACOSTA-GIO, DDS, PHD

Overview
The World Health Organization (WHO) developed the Curricular Guide on Patient Safety (CPS) for faculty and students in all healthcare disciplines, including dentistry. This presentation described how the National University of Mexico (UNAM) School of Dentistry works to implement the WHO curriculum, including studying adverse events, identifying both high-risk procedures and potential patient safety (PS) champions, and conducting a train-the-trainer program.

The occurrence of adverse events in our school has been largely undetected and unrecorded. Teaching PS requires that study cases are recorded, documented, analyzed, and developed for training purposes. Clinical instructors respond positively when exposed to evidence of adverse events in their clinics.

Key Takeaways

1. CHALLENGES
The School of Dentistry at the National University of Mexico has 700 faculty members, 500 of whom are clinical instructors. The school has 3,000 undergraduate students and 300 graduate students. We receive 90,000 new patients each year and perform 5,000 dental procedures per day. In Mexico, dental schools operate without malpractice insurance.

Adverse events are not routinely reported, documented and analyzed. PS, as a curricular topic, is new to dentistry. PS instructors and other advocates must build the evidence base on patient safety in dentistry. Dental faculty must acquire specialized skills new to dental education, particularly for teaching the following topics from the Curricular Guide on Patient Safety:

- Why applying human factors is important for PS
- Learning from error
- Using quality improvement methods to improve care
- Being an effective team player
- Systems and the effect of complexity on patient care
- Understanding and managing clinical risk

2. OPPORTUNITIES
During this process we conducted numerous faculty meetings where we advocated for PS and identified champions for this initiative. Continuing education courses provide other venues where real-life adverse events are described and selected PS topics are presented.

3. STRATEGIES
- Faculty, particularly those who are clinical instructors, need to become aware of the occurrence of adverse events in their teaching clinics.
- Use faculty meetings, and continuing education courses where real-life adverse events are described and selected PS topics are presented, to convince participants of the value of PS practices.
- Identify PS champions among clinical instructors, train trainers, and recruit research students to report, document, and analyze adverse events.

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Integrating WHO’s Patient Safety Curriculum into a Dental School

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**Implementation**

A number of strategies were used to implement the curriculum. We conducted observational and questionnaire surveys to document adverse events and then presented the results in faculty meetings to help make the case for PS. After listening to the presentation, most faculty members declared that PS must be incorporated into the updated studies program. From the analysis of adverse events reported by students, high-risk procedures were identified that must be abandoned or modified immediately. To kick-start our PS initiative, the task force chose topics that are part of daily clinical practice in dentistry, which are easier to explain and integrate. These include:

- What is PS
- Infection prevention and control
- Improving medication safety
- Engaging with patients and carers
- Patient safety and invasive procedures

We now offer a train-the-trainer program on PS for faculty members and deliver talks on PS to undergraduate and graduate students.

**Reminders/Cautions**

- Most existing reports, guidelines, and other documents on adverse events and PS come from medicine and nursing practiced in hospitals. Relatively less information is available from/for ambulatory care, including dentistry.

- Published information must be revised and interpreted for use in a dental environment.

- Dentistry must start building its own evidence base, as well as a catalog of adverse events and study cases.

- We need to review our school’s procedures, establish evidence-based standard operating procedures, define roles, foster team work, and promote a culture for safety.

**RESOURCES**


For download and complete resources please see http://www.osap.org/?page=IntegrateWHOPatSafe
Know Local, Act Global: Brazil

LILIANA JUNQUEIRA DE PAIVA DONATELLI, BS, MPH

Overview

This session featured speakers from around the world who presented relevant statistics for their countries as well as common infection control infractions. After the presentations, the audience discussed the themes that seem to be repeated around the world as well some innovative lessons learned that can be shared by all. This one was presented for Brazil.

Key Takeaways

1. **Brazil is a Country of Many Contrasts.**
   Brazil has almost 200 million inhabitants with great contrasts, not only in dentistry, but also regarding income distribution, demographics, and cultural distribution. There are 256,398 dentists (57.4% are up to 40 years old, 56.3% are female, and over 60% are in the southeast region). There are 16,127 dental hygienists and 96,454 dental assistants. There are an average of 773 inhabitants for each dentist (from 467 in the federal district to 3,634 in Piauí state). There are 203 dental schools and each year there are 15,500 new dentists. Fifty percent of dentists are in public practice and 30-40 percent are in private practice. Fewer than 10% accept insurance.

2. **Legislation for Infection Control in Dentistry is Under State Jurisdiction.**
   Only a few states have their own legislation. There is a national guideline for dentistry, but it is not mandatory.

3. **The Most Common Method Used for Sterilization is the Downward Displacement Autoclave.**
   Biological indicators are gradually being incorporated into the routine, as is sterilization monitoring itself.

4. **The Hepatitis B Vaccine is Free for All Dental Workers.**
   The hepatitis B vaccine is free for dental workers and there is good vaccine coverage for dentists and academics.

5. **Sterilization of Handpieces Between Patients is Not Routinely Practiced.**

   **Continued on next page**

SPEAKER BIO

Ms. Donatelli is a biologist (Universidade de São Paulo), has a master’s degree in public health, and has specialized in health biosafety in Fundação Oswaldo Cruz (FIOCRUZ). She is also pursuing an MBA in infection control and health management. She is a member of the Organization for Safety, Asepsis and Prevention (OSAP) and represents Brazil on OSAP’s international webpage. She has been coordinating the biosafety project for Cristófoli for over 12 years. She has given more than 600 lectures on biosafety to more than 30,000 professionals such as dentists, dental assistants, dental hygienists, dentistry students, and sanitary surveillance department supervisors.
Know Local, Act Global: Brazil

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Implementation

1. WE RECOMMEND THAT DENTAL WORKERS WEAR CAPS.
   The use of caps to protect hair is one of those simple actions, which may not have an apparent impact but is quite logical. It prevents hair from falling into the oral cavity and prevents contamination of the hair (or bald head) during the procedure. Easily done, easily copied.

2. LEGISLATION SHOULD BE MORE AVAILABLE, CLEARER, AND IF POSSIBLE, SHOULD HAVE A SINGLE BASIS.
   For example the Agência Nacional de Vigilância Sanitária (Anvisa) manual provides sound guidance. The states could eventually incorporate it.

3. HEALTH INSPECTOR TRAINING IS CRITICAL.
   Training of health inspectors is critical not only to fulfill their role as police, but also to perform the inspections in a more homogeneous way.

4. MAKING PROFESSIONALLY SUCCESSFUL DENTISTS INTO INFECTION CONTROL LEADERS WILL HELP RAISE STANDARDS.

5. INCLUDING IC CURRICULUM IN DENTAL SCHOOLS IS IMPORTANT.
   Implementing the theory and practice of infection control and biosecurity in dental schools will help new dentists learn good practices. It is essential that teachers are in harmony on these issues so students see infection control being carried out naturally and know what to do on a daily basis.

Reminders/Cautions

• Use a medical cap during all dental procedures.
• Use a sterile handpiece for each patient in all dental procedures.
• Be an example to your staff.

RESOURCES


Anvisa website. http://www.anvisa.gov.br

Conselho Federal de Odontologia website. www.cfo.org.br


For download and complete resources please see http://www.osap.org/?KnowLocalActGlobal
**Know Local, Act Global: Mexico**

**ANA CECILIA TREVINO, DDS, MS**

**Overview**

This session featured speakers from around the world who presented relevant statistics for their countries, as well as the common infection control infractions. After this part of the presentation, the audience was given relevant information regarding the dental infection control guidelines and biosafety protocols in Mexico.

**Key Takeaways**

1. **MEXICO’S POPULATION IS 116,901,761 PEOPLE.**
2. **THERE ARE ALMOST 90,000 DENTAL PROFESSIONALS IN MEXICO.**
   Dental practitioners are concentrated in cities and urban areas.
3. **IN MEXICO, THERE ARE 107 PRIVATE AND 44 PUBLIC DENTAL SCHOOLS.**
4. **MEXICO HAS GUIDELINES SIMILAR TO CDC.**
   Protocols and guidelines for dentistry similar to those developed by the US Centers for Disease Control and Prevention regulate infection control and biosafety in Mexico.

**Reminders/Cautions**

• Infection control guidelines in dentistry must be followed worldwide.
• Sharing best practices regarding infection control could motivate compliance and co-responsibility in different contexts (universities, private practice, public services, oral healthcare missions, etc.)

**SPEAKER BIO**

Dr. Trevino earned her doctor of dental surgery degree in 1992, a periodontics specialty in 1998, and a master’s degree in dentistry sciences in 2000 from University of Nuevo Leon, in Monterrey, Mexico. In 2011 she joined a PhD program at the University of Nuevo Leon. In 2009 she became Associate Director of the Academic Dentistry Center, where she is in charge of biosafety and infection control protocols and works as a clinical instructor. At Tecnologico de Monterrey, Dr. Trevino is responsible for internationalization and continuing education in the Dentistry Department, where she is also a full-time professor. She has more than 18 years of teaching experience, and in the last 5 years has been working in specific areas such as vulnerable, high-risk, and special needs dentistry; infection control in dental settings; simulation in dental education; psychology and oral health; the psychology of dental infection control; and the incorporation of new technologies in dentistry.

**RESOURCES**

Secretaría de Salud website.
http://www.salud.gob.mx.


For download and complete resources please see
http://www.osap.org/?KnowLocalActGlobal
Know Local, Act Global: Panama
CARMEN CARRINGTON BETTS, DMD, MPH, AND CLAUDE BETTS, MD

Overview
Panama has developed a strong leadership and advocacy for biosafety and infection control among dental professionals across the country. Key to this success has been the active participation and commitment of provider institutions (MOH and Social Security), academic institutions (with leadership from the Dental School of the University of Panama), and the Panamanian Dental Association.

Community involvement and awareness have also contributed to making biosafety a socially accepted and expected behavior in the dental office. In spite of many achievements, such as published comprehensive guidelines, well-attended yearly biosafety symposiums, and systematic on-site evaluations of compliance with guidelines, there is still plenty of room for improvement.

In order to quantify progress and identify gaps, a qualitative survey was conducted using two simple and easily measurable indicators: use of a sterile handpiece for each patient, and use of cell phones during clinical procedures. The study revealed that an average of 78% of clinicians use sterile handpieces for each patient. Only 30% did not use cell phones during clinical procedures. Lack of administrative support in public institutions and cost constraints among private providers were important factors in determining sterile handpiece use.

The study concluded that in order to ensure sustainability of compliance with biosafety and infection control measures, there is need for continued and systematic measurement of indicators that can be immediately linked to corrective measures.

Key Takeaways
1. BUILDING A CULTURE OF SAFETY REQUIRES PARTICIPATION BY MANY STAKEHOLDERS.
Building a culture of biosafety and infection control among dental professionals and support staff entails active participation and involvement of academic institutions, provider institutions, and professional and guild associations. Community and patient awareness and empowerment are critical.

2. SUSTAINABILITY REQUIRES SUPERVISION AND MONITORING.
Gains in biosafety and infection control practices requires continued supervision and monitoring. Information obtained using observational and key informant data can keep biosafety awareness on the radar, identify gaps, and focus implementation of improvements where need is greatest.

3. QUALITY INDICATORS SHOULD FOCUS ON CRITICAL NODES OF THE INFECTION CONTROL PROCESS.
In addition to being simple and easy to obtain, indicators should focus on critical nodes of the infection control process. In this case, use of a sterile handpiece for each patient is essential to infection control in the dental practice, since all other control measures are useless if the handpiece puts the saliva of one patient into the mouth of another. The cell phone becomes a vehicle that transports body fluids in a cycle from mouth of patient A, to hands of provider, to cell phone, to hands of provider, to mouth of patient B.

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Know Local, Act Global: Panama

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Key Takeaways

4. INCORPORATE CRITICAL INDICATORS INTO A SURVEILLANCE SYSTEM.
The incorporation of simple yet critical indicators into a systematic biosafety surveillance system will allow, over time, evaluation of the effectiveness of implemented control measures.

5. MONITORING AND SURVEILLANCE ARE IMPORTANT.
Monitoring and surveillance can help build support for starting a comprehensive control program, and can help build broad-based involvement and commitment to biosafety and infection control.

Implementation

1. BUILD PARTNERSHIPS.
Build partnerships with key provider institutions, academic institutions, and professional and guild associations, to encourage participation and commitment to biosafety and infection control.

2. GET BIOSAFETY AND INFECTION CONTROL BUY-IN.
Get biosafety and infection control buy-in from key partners through their participation in seminars, conferences, and training programs. Review existing guidelines and adapt guidelines to local or institutional scenarios. Involve key partners in activities of supervision, monitoring, surveillance and evaluation to build commitment to biosafety and infection control practices.

3. DESIGN AND IMPLEMENT QUICK AND DIRTY ASSESSMENTS OF COMPLIANCE.
Design and implement quick and dirty assessments of compliance with biosafety and infection control practices, using simple and easily obtainable indicators, as a tool to build awareness and to focus on critical nodes of the biosafety and infection control process.

Reminders/Cautions

• While identifying weaknesses, focus on strengths, which will be key to overcoming weaknesses.

• Build an environment of trust, where gaps in biosafety and infection control can be identified, discussed, and ultimately resolved within a nonthreatening context for all parties involved.

• When it comes to monitoring and surveillance, keep it simple, and make it useful

RESOURCES


Organization for Safety, Asepsis and Prevention. Activities, conferences, reports, flyers and other resources from Panama.
http://www.osap.org/?Int_Panama_Main

http://www.osap.org/?page=ISWR1

For download and complete resources please see
http://www.osap.org/?KnowLocalActGlobal