



Infection Prevention and Safety in FQHC Dental Programs

March 29, 2022

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Dental Officer, Office of Quality Improvement (OQI)

Health Resources and Services Administration (HRSA), Bureau of Primary Health Care (BPHC)

Vision: Healthy Communities, Healthy People



Health Resources and Services Administration (HRSA)

Overview



- Supports more than 90 programs that provide health care to people who are geographically isolated, economically or medically challenged
- HRSA does this through grants and cooperative agreements to more than
 3,000 awardees, including community and faith-based organizations, colleges and universities, hospitals, state, local, and tribal governments, and private entities
- Every year, HRSA programs serve tens of millions of people, including people living with HIV/AIDS, pregnant women, mothers and their families, and those otherwise unable to access quality health care



Health Center Program Fundamentals



Serve High Need Areas

 Must serve a high need community or population (e.g., HPSA, MUA/P)



Patient Directed

 Private non-profit or public agency that is governed by a patient-majority community board



Comprehensive

 Provide comprehensive primary care and enabling services (e.g., education, outreach, and transportation services)



No One is Turned Away

 Services are available to all, with fees adjusted based upon ability to pay



Collaborative

 Collaborate with other community providers to maximize resources and efficiencies in service delivery



Accountable

 Meet performance and accountability requirements regarding administrative, clinical, and financial operations



The Health Center Program is authorized under Section 330 of the Public Health Service (PHS) Act.



Overview - Health Center Program

HEALTH CENTER GRANTEES

- 1,375 health center grantees
- 28.6 million total patients served

DENTAL PROGRAMS

- 1,090 health centers (79%)
- 5.2 million dental patients served
- 11.3 million dental visits







Speaker and Disclosure (1-3)



Michele Neuburger, DDS, MPH

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https://www.cdc.gov/oralhealth/infectioncontrol/index.html

Neither I nor members of my immediate family have any financial interests to disclose relating to the content of this presentation.





Speaker and Disclosure (2-3)



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Learning Objectives

- Provide background about the roles of CDC, Joint Commission, and OSAP
- Identify common breaches in infection prevention and control practices found in dental settings that place patients, staff and organizations at risk
- Use scenarios to identify:
 - High risk issues
 - Why these issues create a risk
 - How to mitigate the risk



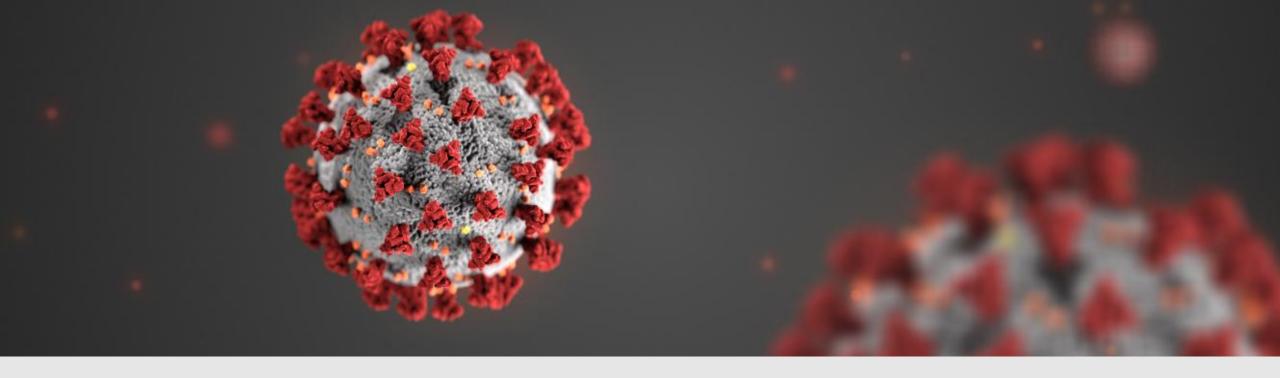


Centers for Disease Control and Prevention

Risk in Dentistry







For more information, contact CDC 1-800-CDC-INFO (232-4636)

TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



1. Poll Question

What is your current primary role in the dental clinic?

- a. Administrative/non-clinical
- b. Dental Assistant
- c. Dental Hygienist
- d. Dentist
- e. Infection Preventionist





2. Poll Question

Does your clinic have a person designated who is responsible for infection prevention and control?

- a. Yes
- b. No
- c. I don't know





CDC's Role in Infection Prevention and Control (IPC) for Dental Settings

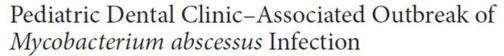
- Develop guidelines, recommendations and resources.
- Investigate outbreaks and breaches in infection prevention and control (IPC) procedures

Journal of the Pediatric Infectious Diseases Society

ORIGINAL ARTICLE







Lindsay A. Hatzenbuehler,^{1,2,3} Melissa Tobin-D'Angelo,⁴ Cherie Drenzek,⁴ Gianna Peralta,⁴ Lisa C. Cranmer,^{1,2,5,6} Evan J. Anderson,^{1,2,5,6,7,8} Sarah S. Milla,^{5,6,9} Shelly Abramowicz,^{5,6,10} Jumi Yi,^{1,2,5,6} Joseph Hilinski,^{2,11} Roy Rajan,^{5,6,12} Matthew K. Whitley,^{6,13} Verlia Gower,^{6,13} Frank Berkowitz,^{1,2,5,6} Craig A. Shapiro,^{1,2,5,6} Joseph K. Williams,^{6,14} Paula Harmon,^{6,13} and Andi L. Shane^{1,2,5,6}

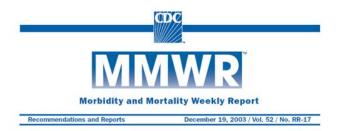
'Division of Pediatric Infectious Diseases, 'Department of Pediatrics, and 'Baylor Coilege of Medicine, Houston, Texas; 'Georgia Department of Public Health, Atlanta; 'Emory School of Medicine, Atlanta; 'Children's Healthcare of Atlanta, Georgia; 'Division of Infectious Diseases, 'Department of Medicine, 'Department of Pediatric Radiology,

"Department of Pediatric Oral and Maxillofacial Surgery, and "St. Luke's Children's Hospital, Boise, Idaho; "Department of Pediatric Otolaryngology-Head & Neck Surgery,

"Pediatric Ear, Nose and Throat of Atlanta, "Department of Pediatric Plastic and Reconstructive Surgery

Background. Mycobacterium abscessus is an uncommon cause of invasive odontogenic infection.

Methods. M abscessus—associated odontogenic infections occurred in a group of children after they each underwent a pulpot-



Guidelines for Infection Control in Dental Health-Care Settings — 2003



INSIDE: Continuing Education Examination

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION





Importance of IPC in Dental Settings

- Both patients and dental health care personnel (DHCP) can be exposed to disease-causing organisms.
- Contact with blood, oral and respiratory secretions, and contaminated equipment occurs.
- Proper procedures can prevent transmission of infections among patients and DHCP.



Healthcare-Associated Infections (HIAs)





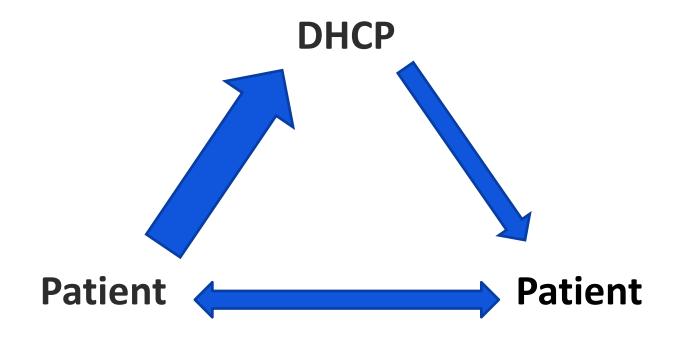
Healthcare Associated Infections



https://www.cdc.gov/hai/organisms/organisms.html



Potential Routes of Disease Transmission in Dental Settings





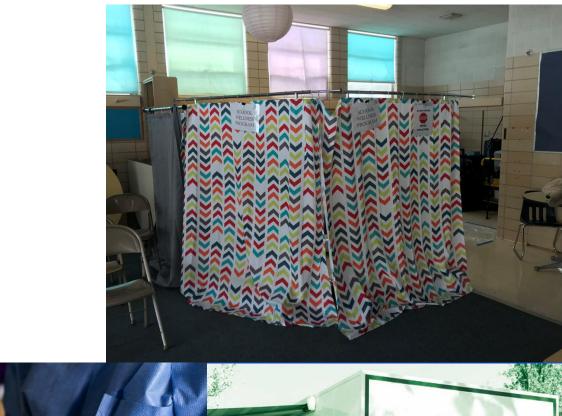
Potential Outcomes from a Healthcare Associated Infection (HAI) Outbreak Investigation

- Adverse patient outcomes
- Patient notification and testing
- Worker safety concerns
- Remediation
- Training and education
- Clinic closure
- License suspension
- Legal action
- Policy changes



Dental Challenges

- Lack of source control for patients
- Unique equipment
- Alternative settings mobile, school-based programs
- Typically perform all their own reprocessing
- Limited regulatory oversight
- Lack of a surveillance system







Selected Examples of Disease Transmissions in Dental Settings, 1 of 2

Setting	Year	Pathogen	# Infected	Comments
Pediatric Dental Practice ¹	2016	Mycobacterium abscessus	71	California; children, all had pulpotomies. Potentially linked to untreated waterlines.
Pediatric Dental Practice ²	2015	Mycobacterium abscessus	24	Georgia; children, all had pulpotomies. Potentially linked to untreated waterlines.
Oral Maxillofacial Surgery Practice ³	2014	Enterococcus faecalis	15	New Jersey; one patient died of complications from endocarditis. Multiple infection control breaches identified.
Oral Maxillofacial Surgery Practice ⁴	2013	Hepatitis C	1	Oklahoma; patient to patient. Multiple breaches in injection safety documented.

Selected Examples of Disease Transmissions in Dental Settings, 2 of 2

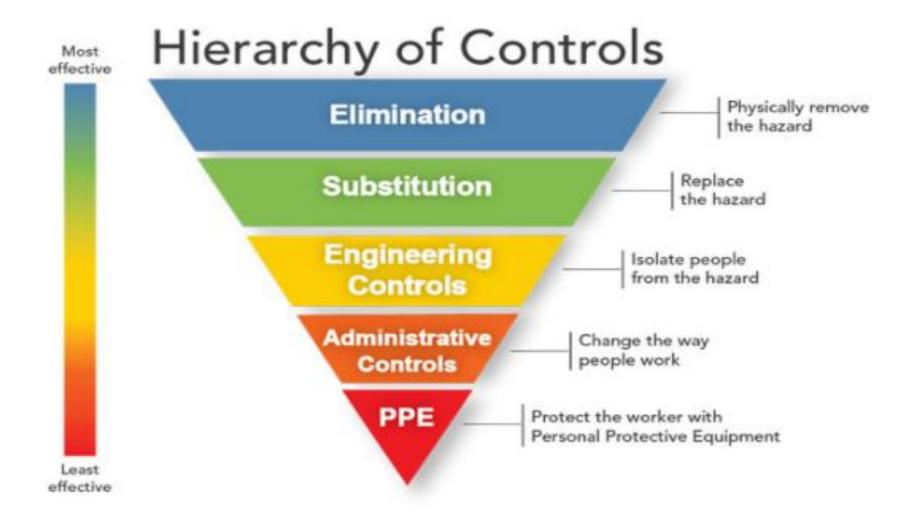
Setting	Year	Pathogen	# Infected	Comments
General Dental Practice ⁵	2011	L. pneumophila	1	Italy; 82 yr. woman. Unknown if waterlines treated.
General Dental Practice ⁶	2010	M. tuberculosis	1	Washington; personnel-to-personnel. TB was misdiagnosed.
Portable dental clinic in school gymnasium ⁷	2009	Hepatitis B	5	West Virginia; 5 cases: 3 patients and 2 volunteers. Multiple procedural and infection control breaches identified.
Oral Maxillofacial Surgery Practice ⁸	2002	Hepatitis B	1	US; patient-to-patient. No infection control breaches identified.

References

- 1. Singh J, et. Al. Open Forum Infect Dis. 2021 Apr 15;8(6):ofab165.
- 2. Hatzenbuehler LA, et al. J Pediatric Infect Dis Soc. 2017 Sep 1;6(3):e116-e122
- 3. Ross, et al. J Am Dent Assoc. 2018 Mar;149(3):191-201.
- Bradley, OK State Department of Health, <u>www.ok.gov/health2/documents/Dental%20Healthcare Final%20Report 2 1</u> <u>7 15.pdf</u>.
- 5. Ricci ML, et al. Lancet. 2012;379(9816):684.
- 6. Merte JL, et al. J Am Dent Assoc. 2014;145(5):464-471.
- 7. Radcliffe, et al. J Am Dent Assoc. 2013;144(10):1110-1118.
- 8. Redd, et al. J Infect Dis. 2007;195(9): 1311-1314.



Hierarchy of Controls





The Joint Commission





The Joint Commission Disclaimer

These slides are current as of March 28, 2022. The Joint Commission reserves the right to change the content of the information, as appropriate.

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3. Poll Question

I have the manufacturers sterilization instructions for:

- a. None of my instruments
- b. Less than 50% of my instruments
- c. Greater than 50% but less than 100% of my instruments
- d. 100% of my instruments
- e. I don't know or am not sure





4. Poll Question

My organization currently sterilizes:

- a. Dental handpieces but not motors between patients
- b. Dental handpieces and motors between patients
- c. I am not sure or don't know





The Joint Commission (TJC)

Accrediting Organization that accredits and certifies more than 22,000 health care organizations and programs in the United States

Hospitals

Ambulatory

Laboratory

Critical access hospitals

Nursing Care Centers

Behavioral Health

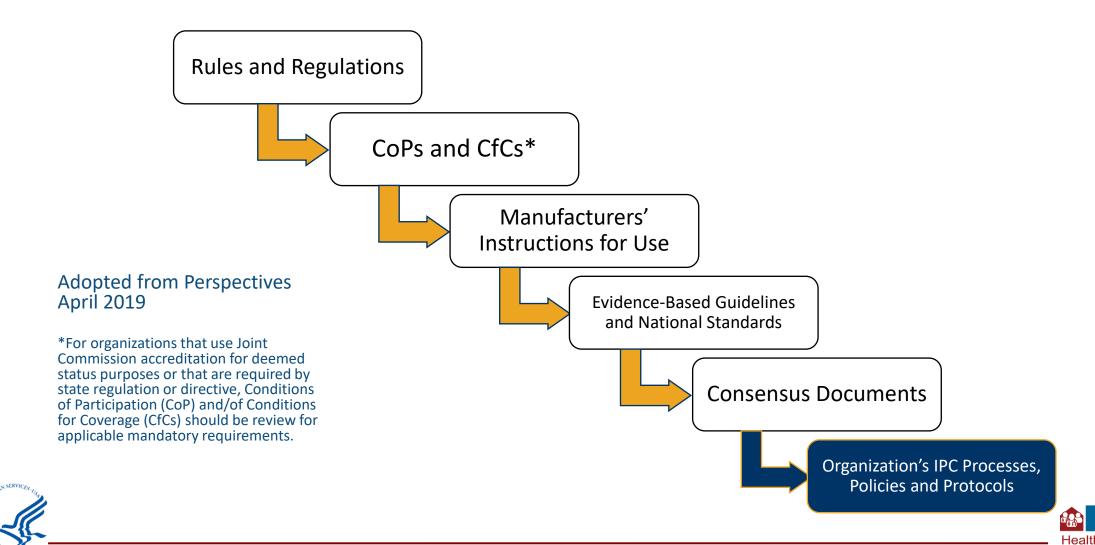
Home Care

Office Based Surgery Centers



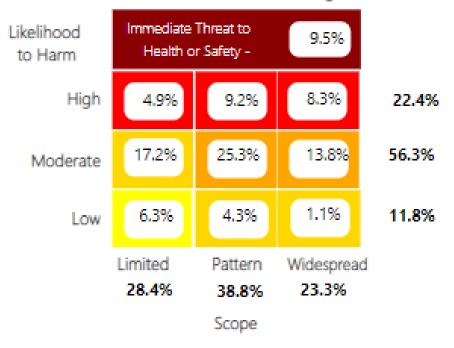


Hierarchical Approach Used by The Joint Commission



Infection Control Related Findings

SAFER Matrix Scoring



Total For Time Period and Program					
Surveys	Average RFI's Per Survey	Number of RFIs			
302	3.42	1,033			

Statistic	s for Selection S	tandards
Surveys	Average RFI's Per Survey	Number of RFIs
212	1.64	348

- 70% had an IC Finding
- 31.9% posed an immediate threat or were high risk to patients





Scenario

The surveyor asked for the manufacturer instructions for use for the three dental handpiece models, one motor, and two burrs in use. She observed reprocessing from point of use through removal from the tabletop sterilizer. The following observations were made:

- Manufacturer instructions were not immediately available to staff for 2 of the 3 handpieces and 1 of the burs
- Several steps in the cleaning process were modified or omitted
 - Did not use compatible cleaning product
 - Placed burrs in ultrasonic but did not follow time specified in available manufacturer instructions
 - Did not perform lubrication of handpieces as required
 - Did not inspect after cleaning
- Handpieces and burs were not dry or inspected before being placed in pouches



Scenario (1 of 2)

- Internal chemical indicators were not placed in each pouch, instead one indicator was placed in an empty pouch and placed in the loaded sterilizer
- Items were sterilized in an overloaded sterilizer on the handpiece (pre-vacuum) cycle: 132°C (270°F), 6 minutes, 30-minute dry
 - Instructions for one of the burs stated
 - ✓ 134°C, 5 minutes with drying required but time not specified
 - The instructions for one bur stated it was single use
 - Instructions for handpieces stated
 - ✓ 135°C, 18 minutes minimum with drying required but time not specified
 - ✓ 135°C -1°C / +4°C (275°F -1.6°F / +7.4°F), 3 min, no dry time specified
- Air motor was not sterilized between patients
 - Instructions stated sterilize between patients to prevent infection transmission
 - ✓ 135°C (275 °F) at least 3 minutes, 16 min dry time or
 - √ 132°C (270 °F) at least 4 minutes, 20 min dry time





Scenario (2 of 2)

- Items were removed immediately after the cycle and placed in a basket to further dry and cool without verification of cycle parameters
- Staff performing reprocessing wore
 - a disposable paper gown (not fluid resistant) and hung it up for re-use
 - "rubber" gloves intended for use when cleaning dishes in the home setting
 - prescription eyeglasses without solid sides





Three Key Areas of Infection Control Risk

- Not following manufacturer instructions for instrument processing
- Inadequate quality control of the sterilization process
- Selection and use of personal protective equipment





Multiple related issues...

Availability of resources: space, people, equipment and supplies

Human resources: education, training and competency of staff and persons having oversight **Equipment**: use routine and preventative maintenance of equipment

Leadership: awareness and oversight





Joint Commission: Potential Outcomes

Recommendations for Improvement

- Not following manufacturer instructions for cleaning instruments
- Not assessing risk of exposure and providing appropriate personal protective equipment (OSHA)
- Not enforcing use of appropriate personal protective equipment (OSHA)
- Not ensuring competency of staff performing reprocessing

Evaluate for Immediate Threat to Health and Safety

- Devices were not sterilized in accordance with device manufacturer parameters
- Sterilization of single use devices
- An item was not sterilized when instructions stated harm to patient could occur (motor)
- Sterility may have been compromised by removing items from sterilizer before dry
- Overloaded sterilizer could result in sterilization failure





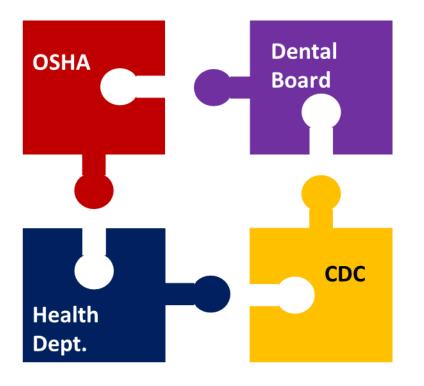
Organization for Safety, Asepsis, and Prevention (OSAP)

How to ensure compliance and implementation of best practices: Using an integrated approach





Putting the Pieces Together

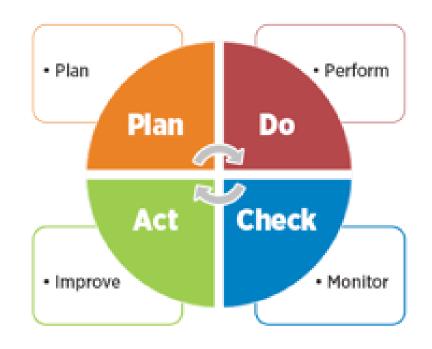






PDCA Cycle of Continuous Quality Improvement

- Plan
 - Recognize an opportunity and plan a change
- Do
 - Test the change
- Check
 - Review
- Act
 - Take action based on the above steps







Instrument Processing and Sterility Assurance

- Sterilization and disinfection of patient care items is critically important to patient safety
- Errors in process or skipping steps can result in improperly or incompletely sterilized or disinfected items
- Standard operating procedures for each step of the process, training and monitoring can reduce the chance of errors, improving patient safety and personnel safety





Education and Training of Personnel

Ensure competency

Monitor processes

Evaluate compliance





Instrument Processing and Sterility Assurance

Sterilization Area Workflow





5. Poll Question

Our organization has a sterile processing area

- a. For the dental department only
- b. That is shared with other departments





CDC Training Module

MODULE 7 — Sterilization and Disinfection of Patient-Care Items and Devices

Instrument Processing

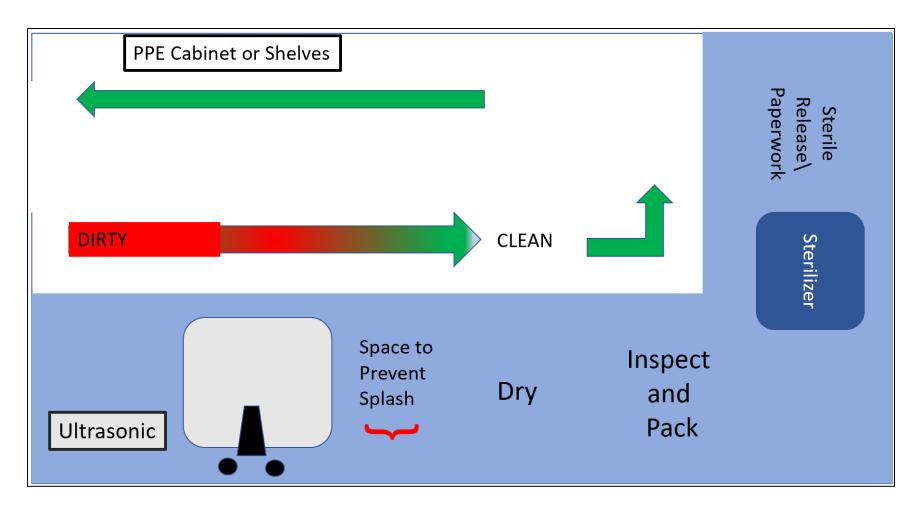
- Follow manufacturer's instructions for reprocessing (i.e., cleaning, packaging, disinfecting, sterilizing) reusable dental instruments and equipment.
 - Maintain manufacturer's instructions (ideally) in or near the reprocessing area.
- Use FDA-cleared devices and supplies for cleaning, packaging, and heat sterilization.
- Should be assigned to DHCP with training in the required reprocessing steps.

Slide 10





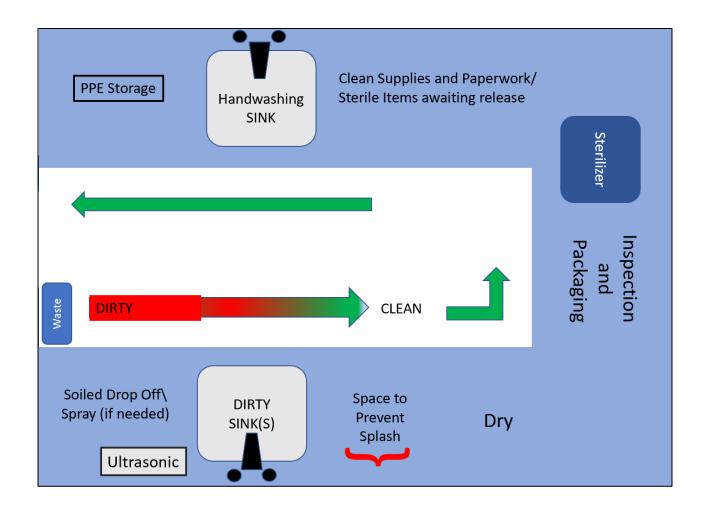
Example (1 of 3)







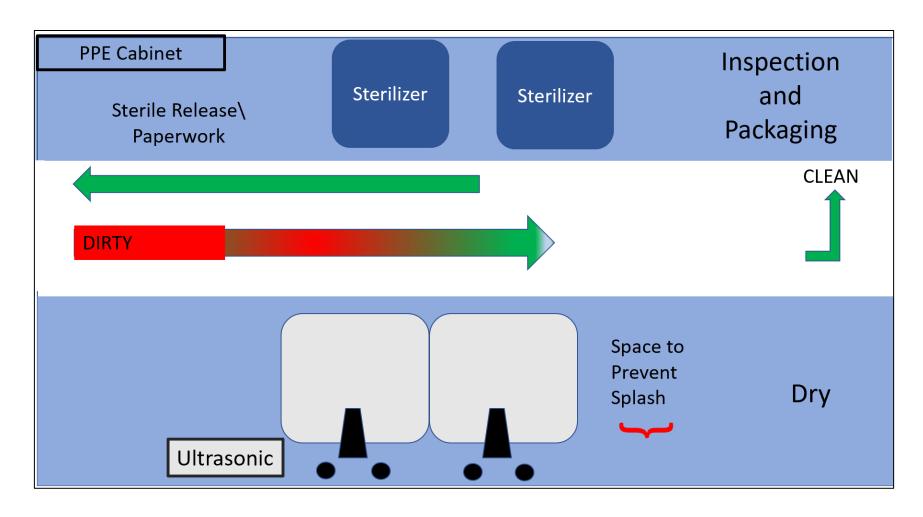
Example (2 of 3)







Example (3 of 3)







Personal Protective Equipment (PPE)

- Protective attire should be worn to protect the personal clothing and skin from exposure to saliva, blood, aerosol, and other contaminants.
- Puncture-resistant, medical-grade heavy duty gloves should be worn when cleaning contaminated instruments.
- Reusable PPE should be cleaned, disinfected and discarded in accordance with manufacturer's instructions.



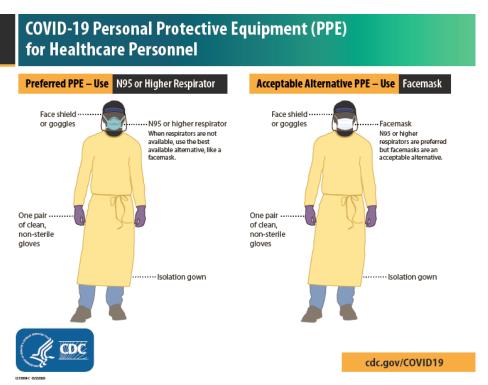


<u>Medical Gloves | FDA</u>; <u>Personal Protective Equipment - Overview | Occupational Safety and Health Administration (osha.gov)</u>



Train DHCP in use of PPE

 Follow recommended sequences for PPE donning and removal.

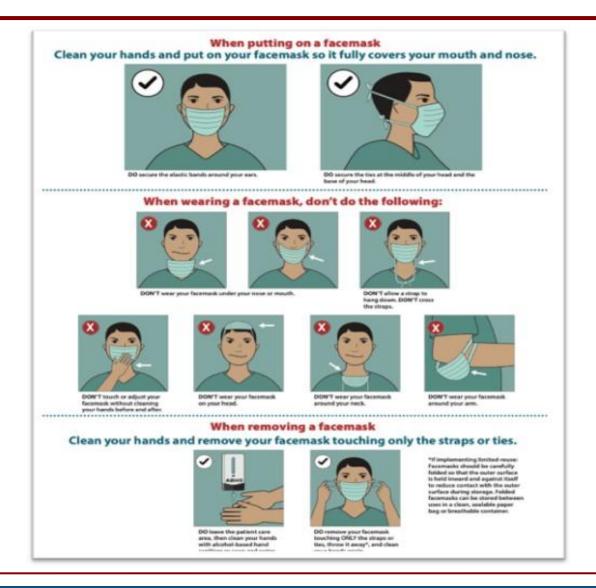








When Putting on a Facemask





Instrument Processing and Sterility Assurance

Quality assurance and monitoring





Manufacturer's IFU

- Device manufacturers are responsible for validating a processing IFU that includes;
 cleaning, packaging and sterilization procedures.
- CMS audit regulations state..." If manufacturer's instructions are not followed, then the outcome of the sterilizer cycle is guesswork, and the practice should be citied as a violation of 42 CFR 416.44(b)(5)."

DEPARTMENT OF HEALTH & HUMAN SERVICES Centers for Medicare & Medicaid Services

Room 352-G

200 Independence Avenue, SW

Washington, DC 20201







CDC Training Module (ex 1-3)

MODULE 7 — Sterilization and Disinfection of Patient-Care Items and Devices

Record Keeping

- Sterilization monitoring (e.g., biological, mechanical, chemical) and equipment maintenance records are important components of a dental infection prevention program.
- Ensures cycle parameters have been met and establishes accountability.
- If there is a problem with a sterilizer, documentation helps to determine if an instrument recall is necessary.

Slide 23





CDC Training Module (ex 2-3)

MODULE 7 — Sterilization and Disinfection of Patient-Care Items and Devices

Sterilization Monitoring: Types of Indicators

- Mechanical:
 - Measures time, temperature, and pressure.
- Chemical:
 - Change in color when physical parameter is reached.
- Biological (spore tests):
 - Uses biological spores to asses the sterilization process directly.
- Indicators are specific to the type of sterilization used.

Slide 19





6. Poll Question

We use internal chemical indicators inside sterilization pouches and cassettes

- a. Always
- b. Most of the time
- c. Never





CDC Training Module (ex 3-3)

MODULE 7 — Sterilization and Disinfection of Patient-Care Items and Devices

Chemical Monitoring

- Use an internal chemical indicator in every package. If the internal indicator is not visible from the outside, then also use an external indicator.
 - Chemical indicators may be integrated into the package design.
- Inspect indicator(s) after sterilization and at time of use.
- If the appropriate color change did not occur, do not use the instruments.





Slide 21





Summary/Takeaways

- Develop a written program of policies and standard operating procedures.
- Ensure adequate education and training to facilitate effective implementation.
- Conduct ongoing monitoring and evaluation to ensure compliance.
- Make indicated modifications in policies, procedures, training and practices.
- Be committed to continuing quality improvement.





RESOURCES





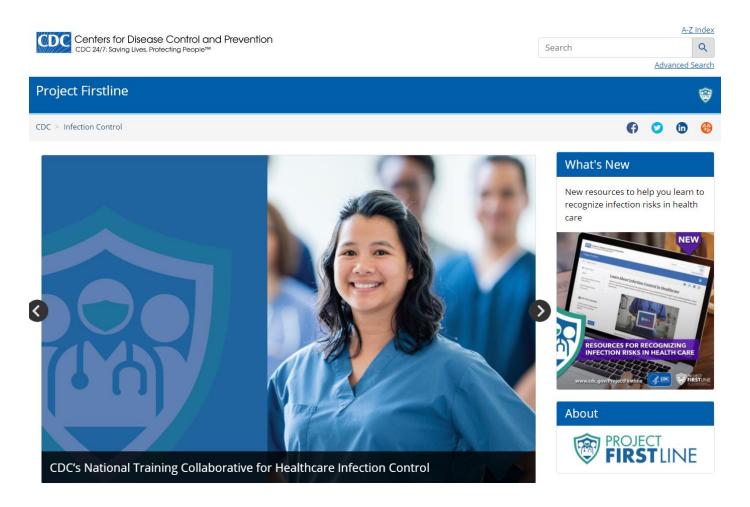
Relevant CDC Guidance and Guidelines

- <u>Interim Infection Prevention and Control Recommendations for Healthcare</u> <u>Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic</u>
- Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care
- Guidelines for Infection Control in Dental Health-Care Settings—2003
- Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008
- Guidance & Guidelines Library





CDC Project Firstline







CDC - Foundations: Building the Safest Dental Visit

- Web-based, interactive, self-paced training designed to help increase adherence with established infection prevention and control guidelines among dental healthcare personnel.
- Training provides an overview of the basic expectations for safe care—the principles of infection prevention and control that form the basis for CDC recommendations for dental healthcare settings.
- Learners who complete the training are eligible for 3 Continuing Education (CE) credits, provided by the <u>Organization for Safety, Asepsis, and Prevention</u> (OSAP).

https://www.cdc.gov/oralhealth/infectioncontrol/foundations-building-the-safest-dental-visit.html



Building the Safest Dental Visit





CDC Basic Expectations for Safe Care Modules

Basic Expectations for Safe Care Modules

Current COVID-19 Interim Guidance

Find the most up-to-date information about infection prevention and control practices on <u>CDC's COVID-19 page</u>, including CDC's <u>Infection Control Guidance for Healthcare Professionals about Coronavirus (COVID-19)</u>, which is applicable to all U.S. settings where healthcare is delivered, including <u>dental settings</u>. For more information, see <u>CDC Updates COVID-19 Infection Prevention and Control Guidance</u>.

This training series covers the basic principles of infection prevention and control that form the basis for CDC recommendations for dental health care settings. It complements CDC's Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care, and was developed to increase adherence to established infection prevention practices. This material is an information source, but it is not currently a course for professional credit.

The slide series is divided into 10 modules including an introduction, seven elements of standard precautions, as well as dental unit water quality and program evaluation. Each module includes a slide set and speaker notes that can be used to educate and train infection prevention coordinators, educators, consultants, and other dental health care personnel.



Module 1 - Introduction

- Introduction Presentation [PDF 753KB]

Module 2 - Hand Hygiene





Joint Commission Resources

Dental Survey Process Video





Credentialling in Sterile Processing

HSPA - https://myhspa.org/about/who-we-are.html

- Certified Registered Central Service Technician (CRCST)
 - Preparation via online course, distance learning course, self-study preparation, work experience.

CBSPD - https://www.cbspd.net/

- Five levels of certification
 - Technician
 - Surgical instrument specialist
 - Flexible endoscope reprocessor
 - Ambulatory surgery technician
 - Management





OSAP-DALE Foundation Dental Infection Prevention and Control Certificate ProgramTM

Step*	Component	CE Credits
1	OSAP-DALE Foundation CDEA® module <u>Understanding CDC's Summary of Infection Prevention</u> <u>Practices in Dental Settings</u>	2
2	OSAP-DALE Foundation Dental Infection Prevention and Control eHandbook™	10
3	OSAP-DALE Foundation eHandbook Assessment™	0

*Steps 1 and 2 may be completed in either order. Successful completion of Steps 1 and 2 is required before Step 3 can be purchased.







OSAP Dental Infection Control Boot CampTM

On-Demand Option available through: May 15, 2022

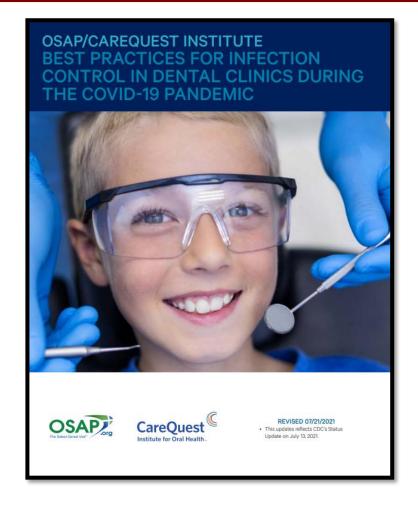


Feature	In-Person Plus	On-Demand Only
22+ hours of live educational sessions	✓	
22+ hours of on-demand recordings for 60 days (starting Feb 14)	✓	✓
One copy of the OSHA & CDC Guidelines: OSAP Interact Training System - 6th Edition workbook (\$175 value)*	✓	*Must pay shipping fee
Checklists and tools	✓	✓
Round table topic sessions	✓	
Networking opportunities with board members, speakers, participants, and vendors	✓	
Vendor fair and lunch on Tuesday	✓	
22+ hours of CE**	**Live or self-study	**Only self-study





OSAP/CareQuest Institute Best Practices





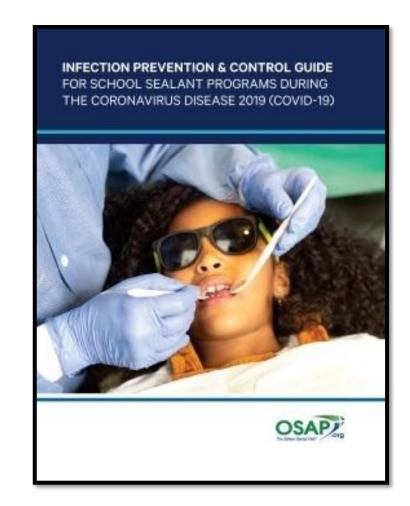


School Sealant Programs During COVID-19

- Guide: <u>Infection Prevention & Control Guide for School Sealant Programs</u>

 During the Coronavirus Disease 2019 (COVID-19)
- PowerPoint Slides and Presenter Script: <u>Infection Prevention & Control</u>
 <u>Guide for School Sealant Programs During the Coronavirus Disease 2019</u>

 (COVID-19)
- On-Demand Webinar: <u>Infection Prevention & Control Guidance and Considerations for School Sealant Programs During the COVID-19</u>
 <u>Pandemic</u> (1 CE credit)
- Interactive Article: <u>Infection Prevention & Control in School Sealant</u>
 <u>Programs During COVID-19 Learning Tool</u> (1 CE credit)







Questions







Thank You!

Sayo Adunola, D.D.S., M.P.H.

Dental Officer, Office of Quality Improvement (OQI)

Bureau of Primary Health Care (BPHC)

Health Resources and Services Administration (HRSA)



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OSAP is an ADA CERP Recognized Provider.

ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.

OSAP designates this activity for 1.25 continuing education credit.

Concerns or complaints about a CE provider may be directed to the provider or to the Commission for Continuing Education Provider Recognition at ADA.org/CERP.



CE Credit

To claim CE visit:

https://osap.memberclicks.net/fqhc

Please email OSAP at office@osap.org with any questions.