Vol. 22, No. 2 April 2023

#### FREE CE for members!

#### IN EACH ISSUE

Infection Control in Practice focuses on infection prevention and control basics, strategies, and tools to:

- maintain a safe work environment
- limit the spread of contamination
- promote compliance with infection prevention guidelines in dental facilities.

This will help the Infection Control Coordinator (ICC) communicate the importance of the safestdentalvisit™

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## **TEAM HUDDLE:** Aerosol Management: Part 2 Engineering Control Options To Reduce Risk Of Airborne Diseases

Dental facilities are considered moderate to high risk for exposure to airborne diseases due to inherent patient care conditions while working closely with possibly infectious patients. Workers should recognize the risks of asymptomatic transmission, enclosed spaces with inadequate ventilation or air, increased exhalation or projection of respiratory droplets, prolonged exposure, especially when community disease activity is high and for those with high personal susceptibility to infection. 1,2,3,4,5

#### LEARNING OBJECTIVES

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

- 1. Understand the importance of managing indoor air quality using air ventilation and filtration equipment to reduce exposure to Airborne Transmissible Diseases (ATDs).
- 2. Compare options for managing indoor air quality (AIQ) using separate air ventilation and filtration equipment.
- 3. Plan ongoing monitoring and maintenance of indoor air handling systems.

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## **TEAM HUDDLE:** Aerosol Management: Part 2 Engineering Control Options To Reduce Risk Of Airborne Disease Transmission

COVID-19 is a contact, droplet, and airborne disease that changed respiratory safety protocols in dentistry by requiring the practice of both Standard and Transmission-Based Precautions.<sup>1</sup> Transmission-Based Precautions provide the added protection against Airborne Transmissible Diseases that Standard Precautions do not effectively address – and require a comprehensive respiratory protection program based on assessed risk.

As we continue to learn from the COVID-19 pandemic, this is Part Two of a two-part series on Aerosol Management emphasizing engineering controls to reduce the risk of airborne disease transmission in dental facilities.

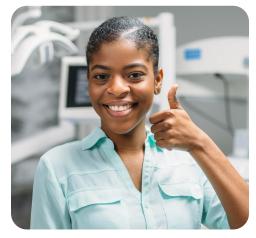
Part One in this series considered the risks of indoor air contamination and structural (built-in) air-handling equipment. This issue addresses add-on equipment and ongoing maintenance and monitoring of equipment and air quality.

## Workplace Scenario: The Situation

As mentioned in the February 2023 issue of *Infection Control in Practice*, Dylan, a dental hygienist, began his career during the COVID-19 pandemic. He worked at his aunt's small dental office in a strip mall (Office A) and another dental office in a medical building (Office B). His aunt's office was older and had a noticeable lack of fresh air.

Dylan spear-headed the efforts to bring Office A up to indoor air safety standards more similar to those of Office B, starting with an upgraded heating, ventilation, air conditioning (HVAC) system.

The good news was that Office A now had a functioning HVAC system with air filters, and the smell of the garlic from the restaurant next door was much fainter.



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# Workplace Scenario: The Situation (cont'd)

The bad news was that the motor in the HVAC equipment could only accommodate minimum efficiency rating value (MERV) 6 filters, limiting the filtration efficiency and the air changes per hour (ACH). So, the HVAC system still wasn't up to snuff. Also, everyone complained about the sluggish high-volume evacuation suction equipment, so fixing that system was a priority, too.

Dylan and his aunt began to research other equipment (engineering controls) that might be added as a key part of their respiratory safety program. They learned that high-efficiency particulate air (HEPA) filter purifi-

ers increase air circulation and filtration, while the dental unit high-volume evacuation suction (HVE) and extraoral suction units capture aerosols close to the source before the air contaminants spread.

Dylan identified an Occupational Safety and Health Administration (OSHA) document suggesting consideration of stand-alone air purifiers to bridge gaps between limited HVAC operation and achieving healthcare air safety goals.2

His aunt called the Office B doctor about separate HEPA filtration units because she had concerns about cost, placement in small operatories, and noise related to having the extra equipment.

It helped that the Office B doctor had researched several manufacturers and happily shared what he had learned. Both doctors attended a conference where they learned about Ultraviolet Germicidal Irradiation (UVGI), a newer method of decontaminating air and surfaces.

While Dylan's aunt decided to wait on the UVGI investment for now, she did invest in separate HEPA filtration units and updated and improved high-volume evacuation dental suction equipment. She would consider the extraoral suction units for aerosols next.

# Details and Strategies

Dylan and his aunt are on the right track! The Centers for Disease Control and Prevention (CDC) and OSHA recommend managing the risk factors for airborne transmissible diseases in dental settings with a complete respiratory protection program.

The respiratory protection program should focus on personal protective equipment including respirators, but only within the context of other mitigation measures, as a layered approach to managing airborne risks.

Protective ventilation practices and interventions can reduce airborne concentrations and reduce viral doses to occupants. Such strategies avoid or reduce the generation of harmful aerosols, control or capture aerosols at or near the source, and clean, sanitize, or replace contaminated air (improve ventilation).

HEPA filters are recommended for high occupancy, low ventilation, and high-risk medical spaces. 1,2,6 While these systems do not bring in outdoor air, they effectively clean air to reduce the concentration of

airborne particulates, including SARS-CoV-2 viral particles. Thus, they give effective air exchanges without the need for conditioning outdoor air.7



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# Details and Strategies (cont'd)

## Action Plan for Air Quality Management Using Engineering Controls

Establish indoor safety goals

In the absence of specific dental IAQ standards, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) medical standards may be used as a guide to determine appropriate air quality goals in dental settings based on how the room (or space) will be used.<sup>6,8</sup>

Address building design and engineering considerations to improve air safety in a dental environment.

The following considerations are important:<sup>2,4,6,8</sup>

- 1. HVAC system design, capacity, and function
- 2. Ventilation: Air changes per hour
- 3. Intake of outside air
- 4. Air filtration levels and function
- 5. Air exhaust
- 6. Temperature and humidity
- Consider add-on technology to improve IAQ and safety

Evaluate the following options: 1,2,4,6,7,8

- 1. Portable HFPA filtration units
- 2. Extraoral suction units [for aerosols]
- 3. Dental unit HVE suction design and performance
- 4. Portable fans if carefully placed and managed to avoid cross-contamination. May be positioned to exhaust to outside.
- 5. Ultraviolet Germicidal Irradiation
- Maintain and monitor equipment and air quality

The following actions are recommended: 1,2,3,4,5,6,7,8,9

- 1. Initial assessment and monitoring of air quality
- 2. Ensure the HVAC system operates in accordance with the manufacturer's instructions and design specifications
- 3. Conduct regular inspections and maintenance
- 4. Change filters on the recommended schedule
- 5. Maximize natural ventilation (doors, windows, fans) when it does not pose a risk
- 6. Utilize and monitor separate HEPA filter units as appropriate



continued on page 5

# Separate Technologies to Improve Indoor Air Quality

The following table shows what factors and goals to consider when improving indoor air quality and safety after the built-in HVAC system is optimized.

Goal (Why?)	Method (How?)	Resources		
Portable air filtration units with less than HEPA-level filters				
Portable fan/filtration units can contribute to air cleaning and air circulation.	Place separate filtration units as needed to boost air movement and provide some filtration. Label as non-HEPA units.	HVAC or mechanical engineer. Equipment manufacturer Instructions for Use (IFU). ASHRAE, CDC, OSHA ventilation standards.		
Portable HEPA filter units. High-Effic	ciency Particulate Air filters exceed most built-in F	IVAC filtration levels		
Enhance cleaning and movement of air: remove at least 99.97% of 0.3-micron particles at the manufacturer's rated flow. Comparable to MERV 17. Useful to cycle and treat air to achieve ACH goals.	Calculate air volume and determine the target ACH for the treated space. Supplement HVAC air cleaning with carefully placed HEPA filter units. Consider airflow direction, ACH capacity of unit (size and power), reported in cubic feet per minute (cfm).	HVAC or mechanical engineer. Equipment manufacturer IFU. ASHRAE, CDC, OSHA ventilation standards.		
Extraoral suction units				
Capture aerosols and droplets as close to the source as possible.	Place extraoral suction unit immediately by patient's mouth.	Manufacturer's IFU and specifications. HVAC/mechanical engineer. Dental dealer equipment specialists.		
Ultraviolet Germicidal Irradiation (U	VGI)			
Supplement other room ventilation and filtration systems. UVGI kills/inactivates microorganisms in air and on surfaces and is used for air disinfection and HVAC duct maintenance.	Install upper room UVGI to kill organisms in air that is circulated into the UV pathway. Install induct UVGI to clean air within a central ventilation system.	National Institute for Occupational Safety and Health (NIOSH), ASHRAE, manufacturer's IFU, CDC, OSHA.		
Dental high-volume evacuation equi	pment (HVE)			
HVE primarily removes fluid and droplets but can remove some air and provide valuable infection control.	Optimize suction power (7-10 cubic ft/min.). Ensure all plumbing supports maximum suction power: consider size of the vacuum, # of users, piping configuration, and HVE tubing size with large cannulas. Balance HVE power between rooms. Clean lines to prevent tube clogging.	Equipment manufacturers, dental dealer equipment technicians.		

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# Separate Technologies to Improve Indoor Air Quality

#### Types of Suction Equipment

Mobile extraoral suction devices capture aerosols outside the mouth. When placed within inches of the patient's mouth, these units are highly effective at removing aerosols before they escape. The air is filtered through HEPA filters and released into the operatory.

High-Volume Evacuation systems suction fluids, sprays and some aerosols from inside the mouth.

Saliva ejectors (low-volume evacuation) are designed for fluid suction, and have very limited aerosol capturing effect.1

Combining the use of rubber dams, HVE and extraoral suction devices offers multiple layers of aerosol reduction strategies.1

#### How Many Air Filtration Units Do You Need? And Where Should They Go?

The number and best location for placing separate air filtration units can be calculated by considering:

- > the size of the HEPA fan/filter units;
- > the size and configuration of the room;
- > the number of occupants;
- > airflow disruption, and
- air-contaminating activities anticipated.

Multiple small portable HEPA units may be more useful than one large HEPA unit, to address each room or area separately. The units should be placed after considering HVAC airflow direction and location of the air intake and exhaust.7

#### Thinking About Buying a Separate HEPA Filter Unit?

There are many types and levels of portable air filtration units available. When looking for a separate HEPA filtration unit, consider the following features:

- 1. Size, number and location of HEPA units based on the amount of air moved through each unit and the size of the spaces.
- 2. HEPA filtration—Consider certified HEPA units with clinical testing, that will meet CDC air changes per hour (not all units have HEPA filters).
- 3. Low noise level—A whisper is about 30 decibels (dB), normal conversation is about 60 dB, and a motorcycle engine running is about 95 dB. Noise above 70 dB over a prolonged period of time may start to damage your hearing.<sup>10</sup>
- 4. Replaceable filters—Filters must be easily replaceable. If this task is too difficult, filters may not be replaced, defeating the purpose of the units.
- 5. High performance—designed for commercial use; avoid home-use units. 12
- 6. Possible addition of charcoal filters to reduce volatile organic compounds (VOCs).
- 7. Avoid UVGI in HEPA filtration units—Some units offer UVGI with HEPA filtration in the same unit. As air pushes through the machine, it travels 30 to 60 miles per hour past any stationary UV light inside the unit. Since UV must be in contact with the air long enough to kill pathogens, this combined technology is not likely to be effective. If the UV light is aimed at the filter where pathogens may collect, the UV will likely degrade the filter, shortening its life.<sup>11</sup>
- 8. Ozone/Bipolar ionization—lonizing units can reduce indoor air quality. UVGI may create ozone. "EPA recommends using a device that meets UL 2998 standard certification (Environmental Claim Validation Procedure [ECVP] for Zero Ozone Emissions from Air Cleaners)."12

# Monitoring and Maintaining Indoor Air Quality

Initial assessment (testing) of air quality is important to determine the need to correct a problem such as stagnant airflow and accumulation of contaminants.

Once air safety management equipment and processes are in place, ongoing monitoring and maintenance are necessary to ensure their effectiveness and indoor air safety. 13

Table 2: Monitoring and Maintenance of Air Safety Equipment				
Goal (Why?)	Method (How?)	Resources		
Inspect the HVAC mechanical system reg	ularly			
Ensure the HVAC operates in accordance with the manufacturer's instructions and design specifications.	Physically inspect motor, ducts, ports and function of HVAC equipment.	HVAC and maintenance specialists, building engineers.		
Change filters as needed				
Consider recommended filter life and use. Avoid clogged, contaminated filters that can contaminate air and overload/damage motors. Ensure fit and placement of filters.	Schedule timed filter changes. Use specified filters for equipment. Install to fit equipment. Periodically check filters between changes.	HVAC and filter IFUs, HVAC and maintenance specialists, building engineers.		
Maximize natural ventilation benefits				
Operate doors, windows, and vents in harmony with HVAC operation and needs of each room as long as they do not pose risks.	Open windows, operate vents and fans, compatible with airflow direction and function of HVAC system. Ventilate air from clean to dirty, away from operators. Consider outside air quality and temperature.	HVAC and maintenance specialists, building and environmental engineers. EPA local air quality reports.		
Monitor and service separate HEPA filtra	tion units, external suction, and dental suction			
Ensure maximum benefit from all equipment.	Schedule periodic equipment checks and timed filter changes. Use specified filters for equipment. Install to fit equipment. Periodically check filters between changes. Monitor dental suction strength, physically check motors. Follow manufacturer's IFUs.	Dental dealer equipment specialists. Equipment manufacturer's service departments.		
Monitor and service other equipment suc	ch as UVGI			
Ensure maximum benefit from all equipment.	Follow manufacturer's IFUs. Schedule periodic equipment checks.	Manufacturer's IFUs and service departments.		
Monitor air pollutants				
Identify the presence and location of pollutants and poor air quality.	Educate dental team about air safety factors. Discuss the technology in place and welcome and address indoor air safety concerns and input from dental team.	Locate specialists: HVAC professionals, manufacturers, mechanical or environmental engineers may help.		
Monitor feedback from staff and patients	s about comfort and perceptions of air safety			
Gather information, inform, and correct problems.	Welcome and address indoor air safety concerns and input from dental team.	OSAP: Infection Control in Practice, February and April editions, 2023. OSHA and CDC ventilation guidance.		

# **Glossary of Terms**

AIA: American Institute of Architects

ACH: Air Changes per Hour. A calculation of how many times per hour the entire volume of air in a given space is replaced with supply (outside) and/or recirculated air. ACH is calculated by measuring room air volume and the capacity of equipment that drives airflow, air mixing, dilution, and filtration.



ATD: Aerosol Transmissible Diseases. A disease effectively transmissible via the airborne route.

CFM: Cubic Feet Per Minute. Measurement of the volume of air movement.

CADR: Clean Air Delivery Rate. HEPA filter equipment performance rating determined by an independent laboratory. The larger the CADR, the faster it will clean the room air (higher ACH). The CADR for a unit can be calculated based on room size. Three CADR numbers are shown on a HEPA filter unit label (for smoke, dust, and pollen). Smoke is the smallest particle and correlates best to pathogens for determining the best filter efficiency in healthcare. CADR is noted on a label in the operator's manual, on the shipping box, and/or on the filtration unit itself. The CADR is generally reported in cfm (cubic feet per minute) for products sold in the United States.

**HEPA Filter:** High-efficiency particulate air filter that removes at least 99.97% of 0.3-micron particles at rated flow, typically reported in cfm. HEPA filters are comparable to MERV 17.

HVAC: Heating, Ventilation, and Air-Conditioning.

HVE: High-Volume Evacuation, equipment for intraoral dental suction.

IAQ: Indoor Air Quality.

**MERV:** The Minimum Efficiency Rating Value (MERV) is a measure of the filter efficiency determined by the percentage (%) removal of various particle sizes. MERV values range from 1 to 16: higher values are more efficient. OSHA recommends MERV 13 or higher for infection control. (For detailed MERV recommendations for various medical spaces and air changes per hour, see OSAP, *Infection Control in Practice*, Vol. 22, No. 1, Feb. 2023. Tables 1-2, pages 9-10.)

Ozone/Bipolar ionization: Technology to generate positively and negatively charged particles.

**UVGI:** Ultraviolet Germicidal Irradiation.

**VOCs:** Volatile Organic Compounds are gases emitted from certain solids or liquids. VOCs include a variety of chemicals.

### Wondering How to Monitor Air Quality?

Air quality can be measured directly by measuring contaminants such as particulate matter, smoke, Volatile Organic Compounds (VOCs), carbon dioxide (CO2), and Carbon Monoxide (CO). (See also: OSAP Infection Control in Practice, Vol. 22, No.1, Feb. 2023. Table 4, page 12.)

Licensed environmental or mechanical engineers or HVAC specialists can measure these pollutants. Although low-cost air pollution monitors are also available that detect specific gases, particles, and chemicals, the Enivronmental Protection Agency (EPA) advises care when selecting and using low-cost air pollution monitors: recognize the accuracy and precision limitations of the technology.9,14

#### TEAM HUDDLE DISCUSSION GUIDE

- 1. Do you feel that your office has adequate ventilation?
- 2. Has your current building's HVAC equipment been evaluated for effectiveness?
- 3. Do you think separate air cleaning units should be discussed?
- 4. Do you have suggestions to improve your office air quality and safety?



#### **KEY TAKEAWAYS**

- 1. Enclosed spaces with inadequate ventilation or filtration increase airborne infection risk.
- 2. Managing and monitoring indoor air quality is an important strategy to use in a layered approach to manage and reduce the risk of airborne infections in dental settings.
- 3. Engineering controls to manage ventilation and filtration include building HVAC systems, portable HEPA filter units, external suction units, UVGI, and dental suction.
- 4. Engineering controls should be inspected, optimized, combined, monitored, and maintained.
- 5. Healthcare indoor safety standards provide guidance to manage dental air spaces.

## Links to Resources

- 1. Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. Updated Sept. 23, 2022 cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html Accessed Feb. 2023
- 2. OSHA Protecting Workers: Guidance on Mitigating and Preventing the Spread of COVID-19 in the Workplace. June 10, 2021 **osha.gov/coronavirus/safework** Accessed Feb. 2023
- 3. Scientific Brief: SARS-CoV-2 Transmission. May 7, 2021. cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html Accessed Feb. 2023
- ASHRAE Positions on Infectious Aerosols. Oct. 13, 2022. ashrae.org/File%20Library/About/ Position%20Documents/PD\_-Infectious-Aerosols-2022\_edited-January-2023.pdf Accessed Feb. 2023
- 5. CDC COVID Data Tracker. https://covid.cdc.gov/covid-data-tracker/#county-view?list\_select\_state=all\_states&list\_select\_county=all\_counties&data-type=Risk&null=Risk Accessed Feb. 2023
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- 9. A 2021 Guide to the Indoor Air Quality Standards that Matter. Jan 28, 2021. https://i-qlair.com/2021-guide-indoor-air-quality-standards/ Accessed Feb. 2023
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- 11. Scientific Reports. Far-UVC light (222nm) efficiently and safely inactivates airborne human coronaviruses. 24 June 2020 **nature.com/articles/s41598-020-67211-2** Accessed Feb. 2023
- 12. EPA Air Cleaners, HVAC Filters, and Coronavirus (COVID-19) https://www.epa.gov/coronavirus/air-cleaners-hvac-filters-and-coronavirus-covid-19 Accessed Feb. 2023
- 13. CDC Guidelines for Environmental Infection Control in Health-Care Facilities (2003) cdc.gov/infectioncontrol/guidelines/environmental/background/air.html#c3e Accessed Feb. 2023
- 14. Low-Cost Air Pollution Monitors and Indoor Air Quality https://www.epa.gov/indoor-air-quality-iaq/low-cost-air-pollution-monitors-and-indoor-air-quality Accessed Feb. 2023

# What's Wrong With This Picture?

Can you identify what safe work practices are missing in this picture of a dental operative procedure in progress?



**Answer:** The face masks worn by the dental clinician and dental assistant are improperly positioned and do not cover the nose. An N95 respirator should be worn during aerosol-generating procedures when required and for the safest dental visit. The dental clinician, assistant and the patient are not wearing protective eyewear during a procedure that is about to generate splatter. The dental clinician and assistant are not wearing protective outer wear. Use of high-volume evacuation should be at the ready to control splatter created by use of the dental handpiece. The use of a patient bib is an accepted standard of care to protect the patient's clothes.

# Take the Silent Video Challenge!

The Scenario: Use of Personal Protective Equipment

What safety precautions *do not* appear in this scenario to ensure respiratory and personal protection during a dental procedure?

https://youtu.be/NAhtLkQrYOU

Challenge your knowledge and compare to the lesson below.



**The Lesson:** The face mask of the dental clinician is improperly positioned and does not cover the nose. The dental clinician should be wearing an N95 respirator if required by law or the employer or recommended by the CDC. The dental clinician and assistant are not wearing protective outerwear during a procedure that is creating a visible aerosol plume and splatter. There is no use of high-volume evacuation to deter the aerosol spray. It appears the dental patient has not been given protective eyewear.

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June 1-3, Westin La Paloma Resort and Spa, Tucson, AZ



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- Step 2: Log in to your OSAP member account or create a new user account.
- **Step 3**: Complete the registration form. OSAP members FREE! Non-members \$20.
- **Step 4**: Complete the online course. You must pass with 7 out of 10 correct answers. When completed, you will receive an email with your CE certificate. The CE certificate will also be available in your new OSAP Infection Prevention & Safety CE Center account under MY ACCOUNT > MY CERTIFICATES.

## QUESTIONS TO ONLINE QUIZ: Select the most correct answer

- 1. Identify the TRUE statement below.
  - a. Dental respiratory protection programs must include CO2 monitors
  - b. Air quality should be considered as a part of dental respiratory protection programs
  - c. Separate HEPA filtration units do not require maintenance
  - d. Extraoral suction units remove mostly fluids
- 2. Identify the TRUE statement below.
  - a. Installing separate HEPA filtration units is the first recommended strategy to manage dental air quality.
  - b. Maximizing built-in HVAC equipment is the first recommended strategy to manage dental air quality.
  - c. All HVAC systems must have HEPA filtration.
  - d. Neither HVAC nor HEPA filtration units are useful in dental settings.
- 3. Separate HEPA filtration units are useful for:
  - a. improving room air movement.
  - b. removing small (0.3-micron) particles from the air.
  - c. increasing the ACH.
  - d. all of the above (a, b, c).

- 4. If the goal is to remove fluid and droplets from inside the patient's mouth, the best equipment is:
  - a. separate HEPA filtration unit.
  - b. extraoral suction unit.
  - c. dental high-volume evacuation.
  - d. HVAC equipment.
- 5. Identify the answer that is NOT a key recommended feature of separate filtration units.
  - a. HEPA filter
  - b. Hidden non-replaceable filters
  - c. High-performance commercial design
  - d. Low noise level
- 6. Identify the key recommended feature to look for in a separate air filtration unit.
  - a. UVGI
  - b. Ozone output
  - c. Noise level of 70 decibels
  - d. Certified HEPA filtration
- 7. Identify the TRUE statement below.
  - a. Multiple small portable HEPA units may be more useful than one large HEPA unit.
  - b. Every office should immediately install HEPA filters in their HVAC ducting.
  - c. Most commercial buildings already have HEPA filtration systems.
  - d. One large HEPA filtration unit is better than multiple small portable units.

- 8. When placing separate HEPA filtration units in a room, all but one of the following factors are important. Identify the one incorrect factor.
  - a. Location of dental suction motor
  - b. HVAC airflow direction
  - c. Location of room air intake and exhaust
  - d. Size of the room
- 9. Identify the one FALSE statement below.
  - a. Initial assessment (testing) of air quality is important to determine the need to correct a problem.
  - b. Only one representative room needs to be tested to detect stagnant airflow and accumulation of contaminants.
  - c. Ongoing monitoring and maintenance are necessary.
  - d. Equipment should be inspected periodically, and filters must be inspected and changed regularly.
- 10. Identify the one FALSE statement below.
  - a. Monitoring gases or particulate matter levels is a method of monitoring ventilation and air quality.
  - b. Low-cost air pollution monitors are available but may not be accurate or precise.
  - c. Air monitoring is not useful.
  - d. Licensed environmental or mechanical engineers or HVAC specialists can measure indoor air pollutants.

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## FROM THE Editor's Desk

#### Norovirus Outbreaks: It's Not Just Cruise Ships!

The CDC has recognized recent outbreaks of Norovirus. The virus spreads easily and quickly by direct contact with an infected person, by touching your mouth with contaminated hands, or consuming contaminated food or water.

Norovirus is the most common cause of acute gastroenteritis in the U.S. Symptoms are extreme with repeated diarrhea and vomiting which can lead to severe dehydration.

Infected people can shed norovirus for two weeks or more after symptoms resolve. Norovirus is present at all times but is most common between November and April. Norovirus can spread in dental offices.



#### **Prevention Strategies**

- > Isolate and separate: stay away from infected people and contaminated items. Screen patients, educate workers.
- > Effective handwashing is essential: Hand sanitizers do not work well against norovirus. Consider asking patients to WASH HANDS instead of using alcohol hand sanitizers. Use a barrier or wash shared bathroom keys.
- Clean and disinfect surfaces and items: Clean physical debris and fluids first, and then use surface disinfectants that are effective against enteroviruses such as intermediate-level disinfectants. Read and follow labels on surface disinfectants.
- > Carefully prepare food: Wash fruits and vegetables with clean water and clean hands. Clean all shared items and surfaces in office kitchen area.
- > There is no vaccine for norovirus.

Only a few viral particles are needed to transmit Norovirus. Infected people shed billions of norovirus particles, especially when they vomit or have diarrhea which can land on food or surfaces, and on items that are touched.

Each year, Norovirus causes 56,000 to 71,000 hospitalizations and 570 to 800 deaths, mostly in young children and the elderly. Norovirus is often spread by restaurants and contaminated recreational and drinking water and public restrooms.

For more information visit:

cdc.gov/norovirus/index.html

#### QUICK BITES

# OSAP-DALE Foundation Dental Infection Prevention and Control Certificate™

A comprehensive online educational program for anyone who wants to learn more about dental infection prevention and control. Earning the certificate demonstrates an in-depth understanding of CDC guidelines and OSHA standards related to standard precautions.

- 1 Complete the OSAP-DALE Foundation online CDEA® module Understanding CDC's Summary of Infection Prevention Practices in Dental Settings (\$30)
- 2 Complete the OSAP-DALE Foundation Dental Infection Prevention and Control eHandbook™ (\$195)

#### **Bundle Price \$215\***

Get the Bundle!

\*Discounts are available for the purchase of multiple courses and groups of learners.



Those who successfully complete the program receive a certificate of completion and a digital badge that can be shared on social media, emailed to friends or colleagues, or downloaded.

### dentalinfectioncontrol.org/education

For more certification opportunities see page 16, **Set yourself apart.** 

# Find a COVID-19 vaccine near you



Go to: Vaccines.gov

**Text** your ZIP code to 438829

Call 1-800-232-0233

(Help is available in English, Spanish, and many other languages).

To find COVID-19 Vaccination support for people with disabilities call 1-888-677-1199

> Find COVID-19 Vaccines Near Me

## Have You Discovered This?

### **Looking for Training Resources?**

This CDC slide series, with speakers notes, is a free information source for educators, consultants, infection prevention coordinators, and other dental healthcare personnel (DHCP). The 10-module series complements CDC's Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care.

The series is not a course for professional credit but an information source for training purposes. The modules include an introduction, seven elements of standard precautions, dental unit water quality



Image Source: cdc.gov

and program evaluation. Explore details: cdc.gov/oralhealth/infectioncontrol/safe-care-modules.htm



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Developed by OSAP and DANB

Intended for the dental team, educators, consultants, and others with a clinical background. Earning CDIPC certification demonstrates an advanced level of infection control guidelines and standards knowledge and the analytical and criticalthinking skills to apply them in various scenarios.

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