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COVID-19 & DENTISTRY

A Primer on the CDC's Interim Guidance

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Key Points

- Dental settings have unique characteristics that warrant specific infection control considerations

- Prioritize the most critical dental services and provide care in a way that minimizes harm to patients from delaying care and harm to personnel from potential exposure to COVID-19

- Proactively communicate to both personnel and patients the need for them to stay at home if sick

Know the steps to take if a patient with COVID-19 symptoms enters your facility.

Summary of Recent Changes

- Recommendations are provided for resuming **non-emergency dental care** during the COVID-19 pandemic

- New information is included regarding:
  - ❖ Facility and equipment considerations
  - ❖ Sterilization and disinfection
  - ❖ Considerations for the use of test-based strategies to inform patient care

- Expanded recommendations for provision of dental care to both patients with COVID-19 and patients without COVID-19

Transmission

- SARS-CoV-2, the virus that causes COVID-19, is thought to be spread primarily through respiratory droplets when an infected person coughs, sneezes, or talks
- Airborne transmission from person-to-person over long distances is unlikely
- **However, COVID-19 is a new disease, and we are still learning about how it spreads and the severity of illness it causes**
- The virus has been shown to **persist in aerosols for hours**, and on some surfaces for days under laboratory conditions

COVID-19 may be spread by people who are not showing symptoms.

Risk

- The practice of dentistry involves instrumentation, which creates a visible spray that can contain particle droplets of water, saliva, blood, microorganisms, and other debris
- **Surgical masks protect** mucous membranes of the mouth and nose from **droplet spatter**, but they **do not provide complete protection against inhalation of airborne infectious agents**
- There are currently no data available to assess the risk of SARS-CoV-2 transmission during dental practice
- HCWs hospital and long-term care facility settings have shown clusters:
  - Heinzerling A, Stuckey MJ, Scheuer T, et al. Transmission of COVID-19 to Health Care Personnel During Exposures to a Hospitalized Patient—Solano County, California, February 2020. MMWR Morb Mortal Wkly Rep 2020;69:472–476. DOI: http://dx.doi.org/10.15585/mmwr.mm6915e5
  - McMichael TM, Clark S, Pogosjans S, et al. COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020. MMWR Morb Mortal Wkly Rep 2020;69:339-342. DOI: http://dx.doi.org/10.15585/mmwr.mm6912e1

Recommendations

- DHCP should stay informed and regularly consult with the state or local health department for region-specific information and recommendations
- Monitor trends in local case counts and deaths, especially for populations at higher risk for severe illness
- Regardless of the degree of community spread, continue to practice universal source control and actively screen for fever and symptoms of COVID-19 for all people who enter the dental facility
- Ensure that you have the appropriate amount of personal protective equipment (PPE) and supplies to support your patient volume
- If PPE and supplies are limited, prioritize dental care for the highest need, most vulnerable patients first

If your community is experiencing no transmission or minimal community transmission

Dental care can be provided to patients without suspected or confirmed COVID-19 using strict adherence to Standard Precautions.

Given that patients may be able to spread the virus while pre-symptomatic or asymptomatic, it is recommended that DHCP practice enhanced infection control whenever feasible

- *"No to minimal community transmission" is defined as evidence of isolated cases or limited community transmission, case investigations underway; no evidence of exposure in large communal setting*

If your community is experiencing minimal to moderate or substantial transmission

Dental care can be provided to patients without suspected or confirmed COVID-19 using considerations to protect both DHCP and patients and prevent the spread of COVID-19 in dental facilities

- *Minimal to moderate community transmission is defined as sustained transmission with high likelihood or confirmed exposure within communal settings and potential for rapid increase in cases*
- *Substantial community transmission is defined as large scale community transmission, including communal settings (e.g., schools, workplaces)*

Patient Management – Contact All Patients Prior to Dental Visits

- Telephone screen all patients; if possible, delay/avoid non-emergent dental care if patient reports symptoms and has recovered
- Telephone Triage - use Teledentistry options as alternatives to in-office care
- Limit number of visitors with patients
- Advise patients that they and anyone accompanying them will be requested to wear a facemask and undergo screening for fever and symptoms

Patient Management: Systematically Assess All Patients and Visitors Upon Arrival

- Ensure that the patient and visitors have donned their own face covering, or provide a surgical mask if supplies are adequate
- Ask about the presence of fever or other symptoms consistent with COVID-19
- Actively take the patient's temperature
- If the patient is afebrile (temperature < 100.4˚F) and otherwise without symptoms consistent with COVID-19, then dental care may be provided using appropriate engineering and administrative controls, work practices, and infection control considerations

Patient Management: Post Procedure Instructions

- Ask patient to re-don their face covering at the completion of their clinical dental care when they leave the treatment area
- Even when DHCP screen patients for respiratory infections, inadvertent treatment of a dental patient who is later confirmed to have COVID-19 may occur
- DHCP should request that the patient inform the dental clinic if they develop symptoms or are diagnosed with COVID-19 within 14 days following the dental appointment

Facility Considerations

- Post visual alerts (signs, posters) at the entrance and in strategic places
  - ❖ Hand hygiene - how and when
  - ❖ Respiratory hygiene and cough etiquette
  - ❖ Instructions on wearing a cloth face covering or facemask for source control
- Provide supplies for respiratory hygiene and cough etiquette, including alcohol-based hand rub with 60– 95% alcohol, tissues, and no-touch receptacles for disposal, at healthcare facility entrances, waiting rooms, and patient check-ins
- Install physical barriers (e.g., glass or plastic windows) at reception areas to limit close contact between triage personnel and potentially infectious patients

Facility Considerations – Waiting Room/Area(s)

- Place chairs in the waiting room at least six feet apart
- Remove toys, magazines, and other frequently touched objects that cannot be regularly cleaned or disinfected from waiting areas
- Install physical barriers (e.g., glass or plastic windows) at reception areas to limit close contact between triage personnel and potentially infectious patients
- Minimize the number of persons waiting in the waiting room
    - ❖ Patients may opt to wait in personal vehicle and be contacted when ready
    - ❖ Minimize overlapping dental appointments

Equipment Considerations

After a period of non-use, dental equipment may require maintenance and/or repair.

Review the manufacturer's instructions for use (IFU) for office closure, period of non-use, and reopening for all equipment and devices.

Equipment Considerations: Dental Unit Waterlines

- Test water quality to ensure it meets standards for safe drinking water as established by the Environmental Protection Agency (< 500 CFU/mL) prior to expanding dental care practices

- Confer with the manufacturer regarding recommendations for need to shock DUWL of any devices and products that deliver water used for dental procedures

- Continue standard maintenance and monitoring of DUWL according to the IFUs of the dental operatory unit and the DUWL treatment products

Equipment Considerations: Importance of Following Manufacturer's IFU

- Ensure that all routine cleaning and maintenance has been performed according to the schedule recommended per manufacturer's IFU

- Test sterilizers using a biological indicator with a matching control (i.e., biological indicator and control from same lot number) after a period of non-use prior to reopening per manufacturer's IFU

- Air compressor, vacuum and suction lines, radiography equipment, high-tech equipment, amalgam separators, and other dental equipment: Follow protocol for storage and recommended maintenance per manufacturer IFU

Administrative Controls

- Should limit clinical care to one patient at a time whenever possible
- Set up operatories so that only the clean or sterile suppliers and instruments needed for the dental procedure are readily accessible
- Any supplies and equipment that are exposed but not used during the procedure should be considered contaminated and should be disposed of or reprocessed properly after completion of the procedure
- **Avoid** aerosol-generating procedures (AGP) whenever possible; **Avoid** the use of dental handpieces and the air/water syringe; **Use of ultrasonic scalers is not recommended**; Prioritize minimally invasive/atraumatic restorative techniques (hand instruments only)
- If AGP are necessary for dental care, use four-handed dentistry, high volume evacuation, and dental dams to minimize droplet spatter and aerosols; the number of DHCP present during the procedure should be limited to only those essential for patient care and procedure support

Pre-Procedural Mouth Rinses (PPMR)

- There is no published evidence regarding the clinical effectiveness of PPMRs to reduce SARS-CoV-2 viral loads or to prevent transmission

- Although COVID-19 was not studied, PPMRs with an antimicrobial product (chlorhexidine gluconate, essential oils, povidone-iodine or cetylpyridinium chloride) may reduce the level of oral microorganisms in aerosols and spatter generated during dental procedures

Engineering Controls

- Ventilation systems that provide air movement from a clean (DHCP workstation or area) to contaminated (clinical patient care area) flow direction should be installed and properly maintained
- Consult a heating, ventilation, and air conditioning (HVAC) professional to investigate increasing filtration efficiency to the highest level compatible with the HVAC system without significant deviation from designed airflow
- Consult a HVAC professional to investigate the ability to safely increase the percentage of outdoor air supplied through the HVAC system
- Limit the use of demand-controlled ventilation
- Run bathroom exhaust fans continuously during business hours

Engineering Controls

- Consider the use of a portable HEPA filtration unit while the patient is actively undergoing, and immediately following, an AGP
- The use of these units will reduce particle count (including droplets) in the room and will reduce the amount of turnover time, rather than just relying on the building HVAC system capacity
- Place HEPA unit within vicinity of patient's chair, but not behind DHCP; ensure DHCP are not positioned between the unit and the patient's mouth; position the unit to ensure it doesn't pull air into/past the breathing zone of the DHCP
- Consider the use of upper-room ultraviolet germicidal irradiation (UVGI) as an adjunct to higher ventilation and air cleaning rates

Engineering Controls: Patient Placement

- Ideally, dental treatment should be provided in individual patient rooms whenever possible
- For dental facilities with open floor plans, to prevent the spread of pathogens there should be:
  - ❖ At least 6 feet of space between patient chairs
  - ❖ Physical barriers between patient chairs
    - Easy-to-clean floor-to-ceiling barriers will enhance effectiveness of portable HEPA air filtration systems (check to make sure extending barriers to ceiling will not interfere with fire sprinkler systems)
  - ❖ Operatories should be oriented parallel to the direction of airflow if possible

Patient Volume & Operatory Disinfection

Determine the maximum number of patients who can safely receive care at the same time in the dental facility, based on the number of rooms, the layout of the facility, and the time needed to clean and disinfect patient operatories.

To allow time for droplets to sufficiently fall from the air after a dental procedure, DHCP should wait at least 15 minutes after the completion of dental treatment and departure of the patient to begin the room cleaning and disinfection process.

- Baron, P. Generation and Behavior of Airborne Particles (Aerosols). Presentation published at CDC/NIOSH Topic Page: Aerosols, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Public Health Service, U.S. Department of Health and Human Services, Cincinnati, OH. www.cdc.gov/niosh/topics/aerosols/pdfs/Aerosol_101.pdfpdf icon

Hand Hygiene: The #1 Way to Prevent HAI Infections!

- Before and after all patient contact, contact with potentially infectious material, and before putting on and after removing personal protective equipment (PPE), including gloves

- Use ABHR with 60-95% alcohol or wash hands with soap and water for at least 20 seconds. If hands are visibly soiled, use soap and water before returning to ABHR

- Dental healthcare facilities should ensure that hand hygiene supplies are readily available to all DHCP in every care location

Universal Source Control

- DHCP should wear a facemask at all times while they are in the dental setting
- When available, surgical masks are preferred over cloth face coverings for DHCP
- Cloth face coverings should NOT be worn instead of a respirator or facemask if more than source control is required, as cloth face coverings are not PPE
- Some DHCP whose job duties do not require PPE (such as clerical personnel) may continue to wear their cloth face covering for source control while in the dental setting
- Other DHCP (such as dentists, dental hygienists, dental assistants) may wear their cloth face covering when they are not engaged in direct patient care activities
- DHCP should remove their respirator or surgical mask and put on their cloth face covering when leaving the facility at the end of their shift
- DHCP should also be instructed that if they must touch or adjust their mask or cloth face covering, they should perform hand hygiene immediately before and after

Universal Source Control

- DHCP should change facemasks and coverings if they become soiled, damp, or hard to breathe through
- Cloth face coverings should be laundered daily and when soiled
- DHCP should perform hand hygiene immediately before and after any contact with the facemask or cloth face covering
- Dental facilities should provide DHCP with training about when, how, and where cloth face coverings can be used, including frequency of laundering, guidance on when to replace them, circumstances when they can be worn in the facility, and the importance of hand hygiene to prevent contamination

Using Person Protective Equipment (PPE)

Employers should select appropriate PPE and provide it to DHCP in accordance with Occupational Safety and Health Administration PPE standards (29 CFR 1910 Subpart I).

DHCP must receive training on and demonstrate an understanding of:

- When to use PPE
- What PPE is necessary
- How to properly don, use, and doff PPE in a manner to prevent self-contamination
- How to properly dispose of or disinfect and maintain PPE
- The limitations of PPE

PPE: Non-Aerosol Generating Procedures

DHCP should wear **a surgical mask, eye protection (goggles, protective eyewear with solid side shields, or a full-face shield), and a gown or protective clothing** during procedures likely to generate splashing or spattering of blood or other body fluids.

During **aerosol-generating procedures conducted on patients assumed to be non-contagious**, consider the use of an N95 respirator or a respirator that offers a higher level of protection such as other disposable filtering facepiece respirators, PAPRs, or elastomeric respirators, if available. Respirators should be used in the context of a respiratory protection program, which includes medical evaluations, training, and fit testing.

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PPE: Aerosol Generating Procedures

- If a respirator is not available for an aerosol-generating procedure, use both a surgical mask and a full-face shield
- Ensure that the mask is cleared by the US Food and Drug Administration (FDA) as a surgical mask
- Use the highest level of surgical mask available
- **If a surgical mask and a full-face shield are not available, do not perform any aerosol-generating procedures**

PPE: Donning

1. Perform hand hygiene
2. Put on clean gown
3. Put on surgical mask or respirator
4. Put on eye protection
5. Perform hand hygiene
6. Put on clean non-sterile gloves
7. Enter the patient room

PPE: Doffing

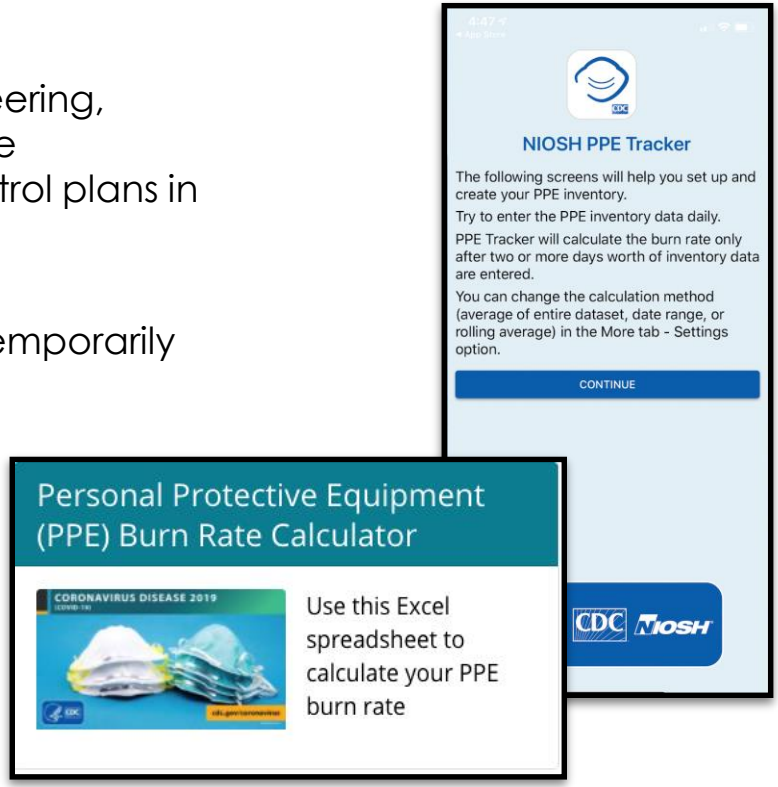
1. Remove gloves
2. Remove gown
3. Exit patient room or care area
4. Perform hand hygiene
5. Remove eye protection
6. Remove and discard surgical mask or respirator
   - **Do not touch the front of the respirator or mask**.
   - Surgical mask: Carefully untie the mask (or unhook from the ears) and pull it away from the face without touching the front
   - Respirator: Remove the bottom strap by touching only the strap and bring it carefully over the head. Grasp the top strap and bring it carefully over the head, and then pull the respirator away from the face without touching the front of the respirator
7. Perform hand hygiene

PPE: Optimization Strategies

- Facilities understand their current PPE inventory and supply chain
- Facilities understand their PPE utilization rate
- Facilities are in communication with local healthcare coalitions and federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies
- Facilities have already implemented engineering and administrative control measures
- Facilities have provided DHCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

PPE: Optimization Strategies

- Conventional capacity: measures consisting of engineering, administrative, and PPE controls that should already be implemented in general infection prevention and control plans in healthcare settings
- Contingency capacity: measures that may be used temporarily during periods of expected PPE shortages
- Crisis capacity: strategies that are not commensurate with U.S. standards of care but may need to be considered during periods of known PPE shortages



PPE: Optimization Strategies

Extended use of facemasks and respirators should only be undertaken when the facility is at contingency or crisis capacity…

- Stockpiled N95 Respirators
- Decontamination and Reuse of Filtering Facepiece Respirators
- Factors to Consider When Planning to Purchase Respirators from Another Country
- Personal Protective Equipment Burn Rate Calculator

Monitor & Manage DHCP

- Screen all DHCP at the beginning of their shift for fever and symptoms consistent with COVID-19
- As part of routine practice, DHCP should be asked to regularly monitor themselves for fever and symptoms consistent with COVID-19
  - ❖ DHCP should be reminded to stay home when they are ill and should receive no penalties when needing to stay home when ill or under quarantine
  - ❖ If DHCP develop fever (T≥100.4˚F) or symptoms consistent with COVID-19 while at work, they should keep their cloth face covering or facemask on, inform their supervisor, and leave the workplace
- **Implement sick leave policies for DHCP that are flexible, non-punitive, and consistent with public health guidance**

Education & Training

Provide DHCP with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.

- Training: Basic Expectations for Safe Care

Ensure that DHCP are educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and the environment during the process of removing such equipment.

- Using Personal Protective Equipment (PPE)
- Healthcare Respiratory Protection Resources Training

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Clinical Update & Working Effectively and Safely with Your Dental Laboratory

Hosted by Gary Severance, DDS, Executive Leader of Professional Relations, Henry Schein

Speaker
David Reznik, DDS
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Speaker
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Making Sense of Aerosol Management

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Speakers

Gary Severance, DDS

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