NETEC COVID-19 Webinar Series:
Infection Control Precautions in Dentistry During the COVID-19 Pandemic
Welcome

Amanda Grindle, MSN, RN
Welcome: Amanda Grindle, MSN, RN, NETEC Staff

Infection Control Precautions in Dentistry During the COVID-19 Pandemic: Eve Cuny, MS
Jill Morgan, RN, BSN

NETEC Resources: Amanda Grindle, NETEC

Questions and Answers with NETEC
Welcome

National Emerging Special Pathogens Training and Education Center

Mission Statement

To increase the capability of the United States public health and health care systems to safely and effectively manage individuals with suspected and confirmed special pathogens

For more information

Please visit us at www.netec.org or email us at info@netec.org
NETEC Overview

**Assessment**

Empower hospitals to gauge their readiness using **Self-Assessment**

- Measure facility and healthcare worker readiness using **Metrics**
- Provide direct feedback to hospitals via **On-Site Assessment**

**Education**

- Provide self-paced education through **Online Trainings**
- Deliver didactic and hands-on simulation training via **In-Person Courses**
- COVID-19 focused **Webinars**

**Technical Assistance**

- **Onsite & Remote Guidance**
- Compile **Online Repository** of tools and resources
- Develop customizable **Exercise Templates** based on the HSEEP model
- Provide **Emergency On-Call Mobilization**

**Research Network**

- **Online Repository** Built for rapid implementation of clinical research protocols
- Develop Policies, Procedures and Data Capture Tools to facilitate research
- Create infrastructure for a **Specimen Biorepository**

Cross-Cutting, Supportive Activities
Infection Control Precautions in Dentistry During the COVID-19 Pandemic

Eve Cuny, MS
Jill Morgan, RN BSN
Coronavirus Disease 2019 (COVID-19)

Healthcare Workers

Guidance for Dental Settings

Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response

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

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CDC Framework for Healthcare Systems

Provide Care in the Safest Way Possible
- Telehealth
- Follow infection prevention recommendations

Consider that services may need to expand gradually
- Local epidemiology
- Prioritize procedures that may cause harm if further delayed
- Prioritize at-risk patients that would benefit most from care

Aerosol generating procedures on known or suspected COVID-19 patient

Aerosol generating procedures on well patients

Any procedure on COVID-19 patient

Urgent or emergency care without aerosols

Administrative duties

OSHA Risk Pyramid

Very High

High

Medium

Low

U.S. Department of Labor. OSHA.
COVID-19 - Control and Prevention /Dentistry Workers and Employers
Hierarchy of Controls

1. Elimination
   - Physically remove the hazard

2. Substitution
   - Replace the hazard

3. Engineering Controls
   - Isolate people from the hazard

4. Administrative Controls
   - Change the way people work

5. PPE
   - Protect the worker with personal protective equipment

Most effective to least effective:

- Elimination
- Substitution
- Engineering Controls
- Administrative Controls
- PPE

https://www.cdc.gov/niosh/topics/hierarchy/default.html
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Engineering Controls

**ISOLATE PEOPLE FROM THE HAZARD**

- Enhanced HVAC filtration
- Use of supplemental HEPA ventilation
- Increase air changes per hour (ACH)
- Placement of patients near return vents for AGPs
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Administrative Controls

- Limiting personnel in the treatment room
- Altering the patient schedule
- Use of hand instruments instead of ultrasonic scaler
- Prioritizing most urgent treatment
Personal Protective Equipment

- Isolation gown
- Face shield or goggles
- Surgical mask or respirator (N95 or higher)
- Exam gloves or surgical gloves
Waiting Area Preparation

- Remove toys, books, magazines
- Remove or securely cover any non-wipeable furniture
- Consider labeling, “X-ing” or placing signage on chairs to create appropriate distance
- Reduce use of the waiting area by:
  - Clients call or text upon arrival to parking lot, or when outside
  - Utilize a doorbell with instructions to ring and wait outside
  - Staff call or text clients when exam space available
  - Limit or restrict accompanying family members

Create job lists for the scheduled cleaning of waiting area, registration desk, restrooms
  - Emphasize high-touch surfaces – door handles, counter edges, arms of chairs
Waiting Area Preparation

- Many of these surfaces were not designed with frequent wiping in mind.
- Beware of degradation of finishes that may leave surfaces porous or splintered.

- First -
  Discourage use of the waiting room.
Screening

**Where will screening occur? What screening will occur?**
- Can be outside, if area available and protected from elements
- Waiting room
- Electronic? Paper? Consider verbal questioning to avoid paper handled by clients
- Instruct clients to wear a mask until they are seated in the exam area and are instructed to remove by dental staff

**What plans are in place in the event client screens positive?**
- If screening was done outside, no cleaning needed except to PPE of screener
- If exam needed is deemed an emergency?
- Consider exam space zones based on proximity, disruption to work-flow, airflow and isolation
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Workspace Planning

**Work-flow**

- Minimize cross-traffic
- Consider zones by risk category
- Each work-space should include a space for donning, doffing and storage of PPE
- Alternate clients and chair spaces to allow for cleaning/decontamination time

**HVAC, airflow**

- Intake and out-flow mapping – tissue test
- Increase air exchanges, mix of outside air if possible
- Upgrade filter—check MERV rating
- Ensure that staff spaces and supply areas are ‘clean’ spaces to the extent possible
- Consider supplemental ventilation, such as free-standing HEPA filter units
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### Workspace Planning

- **Break rooms, shared office and registration spaces** should be cleaned regularly.

- If space allows for staff to be sequestered, i.e. in their own office with a door or sufficiently isolated from others, they can be in that space without masking.

- Supply and storage rooms should only be entered or accessed by clean staff:
  - Mask on
  - Clean hands or clean gloves
### Exam Space

- Alternate the use of spaces to allow for cleaning/drying time
- Do not use adjacent chair space at the same time if in areas without walls/doors
- Make clinical space easily cleaned – nothing on counters except supplies to be used for that client
- Remove curtains or treat as contaminated by avoiding contact
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Staff

- Screening of staff is two-fold
  - Self reporting of symptoms that would prevent them from presenting to work, done each work-day before arrival
  - On-site screening for temperature and symptoms

- Staff should wear masks, even cloth masks, as Source Control at all times

- Consider assigning or reassigning staff to clients based on risks to each – if you have staff who are in a high-risk category (age, medical condition, etc) prioritize them to clients who are at the lowest risk

- Consider maintaining a searchable database of staff members in contact with specific clients
Considerations BEFORE Donning any type of respiratory protection:

- Donning should occur in a CLEAN space
- Gather necessary PPE equipment
- Hand sanitizer, trash bin
- Tie long hair back
- Secure hair away from face, eyes
- Secure eyeglasses so they do not slide
- Remove any jewelry that might be a hazard in your PPE
PPE: Surgical / Procedure Masks

- Metal or plastic formable nose piece
- “cascading waterfall” effect of pleats – make sure they are going the right direction!
BFE – Bacterial Filtration Efficiency
For medical/surgical masks, must filter out 95% of bacterial sized particles, tested with real bacteria.

PFE – Particle Filtration Efficiency, medical/surgical masks must be able to filter out particles of about 0.1 micron in size

Delta P – airflow resistance across the filter, equates to work of breathing

Fluid Resistance – Levels 1 - 3 for ability to repel synthetic blood at increasing pressure
Surgical N95’s act as both PPE and source control.

Masks with exhalation valves CANNOT be used as source control.
What Makes an N95 Respirator Work

Filtration Mechanisms
- Inertial impaction
- Interception
- Diffusion
- Electrostatic attraction

https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95/
Tight-fitting respirators need a tight seal between the respirator and the face and/or neck of the respirator user in order to work properly.

A user seal check is a quick check performed by the wearer each time the respirator is put on:

- This determines if the respirator is properly seated to the face or needs to be readjusted.

During testing of an influenza-laden cough aerosol with a volume median diameter (VMD) of 8.5 μm, wearing a face shield reduced the inhalational exposure of the worker by 96% in the period immediately after a cough.

- The face shield also reduced the surface contamination of a respirator by 97%.

Increasing the distance between the patient and worker to 183 cm (72 inches) reduced the exposure to influenza that occurred immediately after a cough by 92%.

Train DHCP in Proper Use of PPE

The recommended sequences for PPE donning and removal

Before Entering a Patient Room

- Perform hand hygiene
- Put on a clean gown or protective clothing that covers personal clothing and skin (e.g., forearms) likely to be soiled with blood, saliva, or other potentially infectious materials
- Gowns and protective clothing should be changed if they become soiled
- Put on a surgical mask or respirator
- Mask ties should be secured on the crown of the head (top tie) and the base of the neck (bottom tie). If mask has loops, hook them appropriately around your ears
- Respirator straps should be placed on the crown of the head (top strap) and the base of the neck (bottom strap). Perform a user seal check each time you put on the respirator
- Put on eye protection
- Personal eyeglasses and contact lenses are NOT considered adequate eye protection
- Put on clean, non-sterile gloves
- Gloves should be changed if they become torn or heavily contaminated
- Enter the procedure area
After Completion of Dental Care

- Remove gloves
- Remove gown or protective clothing and discard the gown in a dedicated container for waste or linen
- Discard disposable gowns after each use
- Collect cloth gowns or protective clothing to be laundered after each use
- Exit the patient room or care area
- Perform hand hygiene
- Remove eye protection
- Carefully remove eye protection by grabbing the strap and pulling upwards and away from head
  - Do not touch the front of the eye protection
- Clean and disinfect reusable eye protection according to manufacturer’s reprocessing instructions
- Discard disposable eye protection after use
- Remove and discard surgical mask or respirator – or store in a breathable container for re-use
- Hand hygiene
PPE and Behavior

Face shield protects:

- Eyes
- Front of mask
- Un-intact skin on face, neck

Additional safety measures:

- Suction
- Dental dam
- 4-hand procedures

https://oeh.tandfonline.com/doi/full/10.1080/15459624.2015.1095302 - XuD-Mi85SqB
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PPE and Physical Distancing
Extended Use: Masks and face shields may be worn multiple times throughout the day

Care must be taken to remove carefully, wipe face shield

Perform hand hygiene

Store in clean area where they can dry

Label with name and day or date

CDC guidelines for reuse:

The elastic of the mask or respirator can be looped over the bag handle to allow the mask to hang and air dry.

Each staff member can keep their bag and PPE in a convenient location for reuse during their workday.

Store bags between workdays in a clean, well-ventilated space.

Always handle PPE you are reusing with gloved hands, then sanitize or change gloves.
Decontamination of Filtering Facepiece Respirators (FFRs)

Crisis Capacity Standards of Care

• Ultraviolet germicidal irradiation (UVGI), vaporous hydrogen peroxide (VHP), and moist heat

• These FFRs should not be worn by healthcare providers (HCPs) when performing or present for an aerosol-generating procedure

• Do not attempt to decontaminate KN95 respirators allowed under FDA EUA

Environmental Cleaning

- Do not manually compact trash, avoid aerosolization of waste
- COVID-19 waste can be handled as normal waste
- Look for cleaning products that list “human corona viruses” on the list of what they kill, or see the list of approved EPA disinfectants (will not be COVID-specific)
- Make sure to allow for the appropriate contact time for surfaces
- Encourage frequent hand hygiene with ABHR or soap and water
- Make sure ABHR have a minimum of 70% isopropyl or 60% ethanol

Use special care to:
  - Not combine cleaners, directly or indirectly
  - Use proper dilutions
  - Aliquot carefully, date and discard
Risk Reduction

- Patient follow up: one to two week recheck via phone or text to verify no presentation of symptoms
- Request notification if key symptoms appear, patient receives positive test results
- Some offices have chosen to see patients in family units – i.e., multiple family members (who have been quarantined together) be seen in sequence so that the exam space and waiting area can be cleaned once that group has been seen
- Encourage staff members to continue to reduce their own risks – maintaining distance, use of masks when distance is not possible, or wearing a mask whenever around others; encouraging the same in their household members
- Remember, antibody testing does not imply immunity to COVID-19; a negative screening test may miss early cases
- Establishing good habits around PPE use, cleaning and disinfection, will serve us all well moving forward!
Resources

- CDC - NIOSH Hierarch of Controls: https://www.cdc.gov/niosh/topics/hierarchy/default.html
- CDC - N95 Respirators and Surgical Masks: https://blogs.cdc.gov/niosh-science-blog/2009/10/14/n95/
<table>
<thead>
<tr>
<th>Resources</th>
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<tbody>
<tr>
<td>Face Shields for Infection Control: A Review:</td>
<td><a href="https://oeh.tandfonline.com/doi/full/10.1080/15459624.2015.1095302#.XuD-Mi85SqB">https://oeh.tandfonline.com/doi/full/10.1080/15459624.2015.1095302#.XuD-Mi85SqB</a></td>
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<tr>
<td>AIHA Returning to Work: Dental Settings:</td>
<td><a href="https://www.backtoworksafely.org/">https://www.backtoworksafely.org/</a></td>
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NETEC Resources

Amanda Grindle, MSN, RN
NETEC is Here to Help

NETEC will continue to build resources, develop online education, and deliver technical training to meet the needs of our partners.

Ask for help!

Send questions to info@netec.org - they will be answered by NETEC SMEs.

Submit a Technical Assistance request at NETEC.org.
Questions and Answers
NETEC eLearning Center

courses.netec.org

NETEC Skill videos

youtube.com/thenetec

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Website

netec.org

Repository

repository.netecweb.org

Email

info@netec.org