INFECTION CONTROL GUIDELINES
How to Protect Your Practice

Image courtesy of the CDC

Handouts Are Located On the Right Side of Your Screen

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You can save to your computer or print the document.
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Disclaimer

■ Karen Gregory RN is an employee of Total Medical Compliance.
■ She is a Hu-Friedy Key Opinion Leader, a consultant for SciCan and serves on the OSAP Board of Directors.
■ This does not serve as legal or medical advice.
Objectives

- Identify signs and symptoms of the novel *coronavirus* (COVID-19)
- Discuss infection control measures designed to reduce the likelihood of spread of COVID-19
- List resources which will provide ongoing direction for protective measures.
ADA – COVID-19 RESOURCES

March 16, 2020
ADA Statement on COVID-19

Coronaviruses - large family of viruses
- Origin in bats
- MERS – CoV and SARs-CoV

Virus: SARS-CoV-2

Disease: COVID – 19

Mild disease to fatalities
- 80% mild illness
- 15% significant respiratory illness
- 5% critically ill
Clinical Presentation

- Incubation period ~5 day (2 – 14 days)
- Symptoms at onset
  - Fever (83 – 98%)
  - Cough (46 – 82%)
  - Shortness of breath (31%)
- Adults median age 59
- One-third to one-half have underlying illness
  - Diabetes, hypertension, cardiovascular disease

Close Contact

a) being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; close contact can occur while caring for, living with, visiting, or sharing a healthcare waiting area or room with a COVID-19 case

b) having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on)
Spread of COVID-19

- Mainly from person-to-person.
- Close contact (within about 6 feet).
- Respiratory droplets (cough or sneeze).
- Most contagious when symptomatic.
- Some evidence of non-symptomatic spread.
- Contaminated surfaces must lower probability.

Courtesy of CDC

"Scientists in *The New England Journal of Medicine* found that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was detectable in aerosols for up to three hours, up to four hours on copper, up to 24 hours on cardboard and up to two to three days on plastic and stainless steel. The results provide key information about the stability of SARS-CoV-2, which causes COVID-19 disease, and suggest that people may acquire the virus through the air and after touching contaminated objects. The study"

News Releases

**New coronavirus stable for hours on surfaces**

*SARS-CoV-2* stability similar to original *SARS* virus.

Hierarchy of Controls

- **Elimination**: Physically remove the hazard
- **Substitution**: Replace the hazard
- **Engineering Controls**: Isolate people from the hazard
- **Administrative Controls**: Change the way people work
- **PPE**: Protect the worker with Personal Protective Equipment

Johns Hopkins Data
CDC Coronavirus Website

- Local health department
- State health department

CLEAN HANDS KEEP YOU HEALTHY.
Wash your hands with soap and water for at least 20 SECONDS.

SING MY GIRL TEMPTATIONS
15 DAYS TO SLOW THE SPREAD

Listen to and follow the directions of your state and local authorities.

- **If you feel sick**, stay home. Do not go to work. Contact your medical provider.
- **If your children are sick**, keep them at home. Do not send them to school. Contact your medical provider.
- **If someone in your household has tested positive** for the coronavirus, keep the entire household at home. Do not go to work. Do not go to school. Contact your medical provider.
- **If you are an older person**, stay home and stay away from other people.
- **If you are a person with a serious underlying health condition** (that can put you at an increased risk) (for example, a condition that impairs your lung or heart function or weakens your immune system), stay home and stay away from other people.

For more information, please visit [CORONAVIRUS.GOV](https://www.coronavirus.gov).

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Flatten the Curve

**Global, Inclusive, Realtime**

Updated with emerging information, and open sourced in as many languages as possible.

[Diagram showing the reduction of the peak of cases by flattening the curve against health care system capacity over time.]
ADA Guidance

DENTAL NON EMERGENCY PROCEDURES
Routine or non-urgent dental procedures includes but are not limited to:
- Initial or periodic oral examinations and recall visits, including routine radiographs
- Routine dental cleaning and preventive therapy
- Orthodontic procedures other than those to address acute issues (e.g., pain, infection, trauma)
- Extraction of asymptomatic teeth
- Restorative dentistry including treatment of asymptomatic carious lesions
- Aesthetic dental procedures

FOR THE LATEST UPDATES, VISIT ADA.ORG/VIRUS

GDA Georgia Dental Association

State of Louisiana
 healthcare facility notice
 NOTICE #2020-COVID-19- DENTAL PROVIDER-004
 FOR IMMEDIATE RELEASE
 TO: All Dental Providers in Louisiana
 FROM: LDOH Office of Public Health
 RE: Routine, Non-Essential Visits, Procedures and Surgeries

South Carolina
 Department of Public Health
 Board of Dentistry

Board of Dentistry Recommendation COVID-19
 The South Carolina Department of Public Health recommends that all dental providers cease all non-essential procedures immediately. This includes all procedures that can be postponed or deferred. All providers are encouraged to see emergency cases and to maintain essential services for patients with urgent needs. All providers should follow the latest guidance from the CDC and the World Health Organization (WHO) to prevent the spread of COVID-19.
Setting Priorities

- Cases in your community?
- Screen your patients.
- Wash your hands.
- Don’t touch your face.

Call your doctor: If you think you have been exposed to COVID-19 and develop a fever and symptoms, such as cough or difficulty breathing, call your healthcare provider for medical advice.

THIS IS A PROTECTION FOR YOU!
Testing Criteria

Most patients with confirmed COVID-19 have developed fever\(^1\) and/or symptoms of acute respiratory illness (e.g., cough, difficulty breathing). Priorities for testing may include:

1. Symptomatic individuals such as, older adults and individuals with chronic medical conditions and/or an immunocompromised state

2. Any persons including healthcare personnel\(^2\), who within 14 days of symptom onset had close contact\(^3\) with a suspect or laboratory-confirmed\(^4\) COVID-19 patient, or who have a history of travel from affected geographic areas\(^5\) (see below) within 14 days of their symptom onset.
From the GDA

■ Fever
■ Currently has a cough or shortness of breath
■ History of significant chronic illness or compromised immune system
■ You or a family member are considered high-risk
■ You or a family member have traveled to a location with a level 3 travel health notice
■ Airline travel in the past 2 weeks
■ Previously asked to self-isolate or self-quarantine
■ Close contact to an individual diagnosed with COVID-19 infection

Triage – Advance

Emergent procedures only at this time

■ Contact patients in advance for screening
■ Consider rescheduling of patients with positive responses to screening criteria
■ Consider notice on website encouraging sick patients to reschedule appointments OR to contact the office prior to arrival
■ Place notification on entry to practice or facility
SAMPLE PHONE SCREEN

Patient Screening Prior to Visit:

- **Patient Name:**
- **DOB:**
- **Home Address:**
- **Phone Number:**

- **Do you have any respiratory symptoms?** □ Yes □ No
  - New onset, cough, shortness of breath, fever, sore throat, or congestion?
- **List symptoms:**
- **Have you traveled in the past 14 days?** □ Yes □ No
- **If yes, where did you travel?**

**Areas of concern**:
- **Have you been in close contact with a patient with COVID-19?** □ Yes □ No
  - Close contact within 6 feet of symptomatic patient such as caring for a sick family member or friend.

Information reviewed by:
- For positive responses to travel or close contact AND symptoms, contact your local or state health department.
- Notify front desk personnel.

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**COVID-19**

**Symptoms of Coronavirus Disease 2019**

Patients with COVID-19 have experienced mild to severe respiratory illness.

**Symptoms** can include:

- **FEVER**
- **COUGH**

*Symptoms may appear 2-14 days after exposure.*
PLEASE ASK FOR A MASK IF YOU'RE COUGHING OR HAVE OTHER RESPIRATORY SYMPTOMS

Also let us know if you have traveled outside of the country the past 14 days or have been in close contact with anyone with a confirmed case of the coronavirus disease.

We ask you to wear the mask to protect our staff and other patients from your illness.

Our staff will be happy to help you!

PLACE AT BUILDING ENTRY

IMPORTANT NOTICE TO ALL PATIENTS

STOP

DO YOU HAVE:
Fever & Cough?

Please tell the staff immediately!
Reduce Overall Risk

- Minimize chance of exposures
- Standard, contact and airborne precautions
- Limit visitors or those that accompany patients
- Engineering controls – pieces of equipment
- Workers – stay home if sick
- Training workers and patients
- Surface disinfection – CRITICAL
- Establish community relationships
Sample Office Screening
Patient Screening Prior to Elective or Emergency Procedure

The Basics

- Front door - Signage
- Lobby
  - Motion activated alcohol handrub
- Front desk
  - Provide a mask for patient with respiratory illness
  - Have patient complete the questionnaire
  - Hand hygiene product
  - Six feet away from the patient
- Appropriate use of PPE
  - Place patient in a room with door closed (6 air exchanges each hour)
  - Have patient wait in the car
  - Mask ASTM 2 for further triage of patients with respiratory illness
  - Remove mask when at least 6 feet away from patient
  - Hand hygiene
  - Contact local or state health department

Have patients wait in the car.
PERSONAL PROTECTIVE EQUIPMENT

- Gown
- Mask
  - Level II ASTM
  - N95 Respirator – aerosol generating procedures
- Eye protection
  - Goggles
  - Glasses with side shields
- Gloves
Optimizing PPE

- Eye Protection
- Isolation Gowns
- Facemasks
- N95 Respirators


DROPLET AND AIRBORNE SPREAD OF INFECTION
Respiratory Protection

- Facemasks are an acceptable alternative when the supply chain of respirators cannot meet the demand.
- Available respirators should be prioritized for procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to HCP.
- Facemasks protect the wearer from splashes and sprays.

Are Masks Created Equally?

- Different thicknesses and ability to protect from contact with liquids.
- Block large-particle droplets, splashes, sprays, or splatter.
- Reduce exposure of the worker’s secretions.
- Does NOT filter or block very small particles
- Do not provide complete protection because of the loose fit.
## ASTM - Standards Setting

### Understanding ASTM Face Mask Performance Levels

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid Resistance</td>
<td>Mask resistance to penetration by synthetic blood under pressure (mmHg). Higher fluid resistance = Higher protection.</td>
</tr>
<tr>
<td>BFE - Bacterial Filtration Efficiency</td>
<td>Percentage of aerosol particles filtered at a size of 3 microns.</td>
</tr>
<tr>
<td>PFE - Submicron Particle Filtration Efficiency</td>
<td>Percentage of submicron particles filtered at 0.1 microns.</td>
</tr>
<tr>
<td>Delta P - Differential Pressure</td>
<td>Pressure drop across mask, or resistance to air flow in mmHg/cm². Greater resistance = better filtration but less breathability.</td>
</tr>
<tr>
<td>Flame Spread</td>
<td>Measures the flame spread of the mask material.</td>
</tr>
</tbody>
</table>

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## ASTM Mask Levels

**MAXIMUM FILTRATION**
- NIOSH Approved Respirator
- High Fluid Resistance: 160 mmHg
- Filtration Efficiency: BFE ≥ 99%
- Breathability - Delta P: PE ≥ 95% @ 0.1 micron
- Flame Spread: ≤ 5.0 mm H₂O cm²

**ASTM LEVEL 3**
- High Fluid Resistance: 100 mmHg
- Filtration Efficiency: BFE ≥ 98%
- Breathability - Delta P: PE ≥ 90% @ 0.1 micron
- Flame Spread: ≤ 5.0 mm H₂O cm²

**ASTM LEVEL 2**
- Moderate Fluid Resistance: 120 mmHg
- Filtration Efficiency: BFE ≥ 96%
- Breathability - Delta P: PE ≥ 85% @ 0.1 micron
- Flame Spread: ≤ 5.0 mm H₂O cm²

**ASTM LEVEL 1**
- Low Fluid Resistance: 80 mmHg
- Filtration Efficiency: BFE ≥ 95%
- Breathability - Delta P: PE ≥ 85% @ 0.1 micron
- Flame Spread: ≤ 5.0 mm H₂O cm²

**LOW PERFORMANCE**
- Surgical Molded Utility Mask
- Physical Barrier Only
- No LEVEL Performance Level
- Filtration Efficiency: N/A

**Notes:** Unless mask manufacturer certifies mask meets ASTM performance Level 1.
Limited Supply?

- **ASTM Level 2**
- **ASTM Level 3**

N95 Respirator Healthcare

- Class II medical device
- Tight seal over the mouth and nose
- Fit-testing
- Fluid resistant
- NIOSH certified
FDA Responds to CDC Request

- **Emergency Use Authorization**
- All disposable filtering facepiece respirators (FFRs) approved by the National Institute for Occupational Safety and Health (NIOSH)
- **Passed the manufacturers' recommended shelf-life, for use in healthcare settings by healthcare personnel**
- **Information on Respirator Use**

<table>
<thead>
<tr>
<th>Surgical Mask</th>
<th>N95 Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Testing and Approval</strong></td>
<td>cleared by the U.S. Food and Drug Administration (FDA)</td>
</tr>
<tr>
<td><strong>Intended Use and Purpose</strong></td>
<td>filters respirable and provides the wearer protection against large droplets, splashes, or sprays of blood or other hazardous fluids, protects the patient from the wearer's respiratory emissions.</td>
</tr>
<tr>
<td><strong>Face Seal Fit</strong></td>
<td>Loose-fitting</td>
</tr>
<tr>
<td><strong>Fit Testing Requirement</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>User Seal Check Requirement</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>Filtration</strong></td>
<td>DOES NOT provide the wearer with a reliable level of protection from inhaling airborne particles and is not considered respiratory protection.</td>
</tr>
<tr>
<td><strong>Leakage</strong></td>
<td>Leakage occurs around the edge of the mask when wearer inhales</td>
</tr>
<tr>
<td><strong>Use Limitations</strong></td>
<td>Disposable, discard after each patient encounter.</td>
</tr>
</tbody>
</table>
N95 Respirator Industrial

- Tight seal over the mouth and nose
- Fit-testing
- Not necessarily fluid resistant
- NIOSH certified

Respiratory Protection 1910. 134

Establish and implement a written respiratory protection program with worksite-specific procedures.

Medical evaluation
Be Methodical

- Or in personal vehicle
- Room where door can be closed
- Limit staff who work with the patient
- When in the room ensure full PPE is utilized
- Masks placed prior to entering the room

After Patient Discharge

- Disinfect surfaces with EPA registered hospital level disinfectant
- [EPA list of products](#)
- [American Chemistry](#)
AFTER PATIENT DISCHARGE

SOURCE: www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html#b1

Pregnant Women and Children

There is no evidence that children are more susceptible to COVID-19. Most confirmed cases reported from China have occurred in adults. Infections in children have been reported, including in very young children.

There is not currently information from published scientific reports about susceptibility of pregnant women. Pregnant women experience immunologic and physiologic changes which might make them more

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency*

<table>
<thead>
<tr>
<th>ACH $\geq$</th>
<th>Time (mins.) required for removal 99% efficiency</th>
<th>Time (mins.) required for removal 99.9% efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>138</td>
<td>207</td>
</tr>
<tr>
<td>4</td>
<td>69</td>
<td>104</td>
</tr>
<tr>
<td>6$^*$</td>
<td>46</td>
<td>69</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>10$^*$</td>
<td>28</td>
<td>41</td>
</tr>
</tbody>
</table>
EVERYBODY GETS SO MUCH INFORMATION ALL DAY LONG THAT THEY LOSE THEIR COMMON SENSE.

GERTRUDE STEIN

Just In! Cybersecurity Risks!

- Avoid clicking on links in unsolicited emails and be wary of email attachments
- Do not reveal personal or financial information in emails, and do not respond to email solicitations for this information
- Review the Federal Trade Commission's blog post on coronavirus scams for information on avoiding COVID-19 related scams
- Use trusted sources—such as legitimate, government websites—for up-to-date, fact-based information about COVID-19
Trusted Resources

- CDC Coronavirus website
- Local health department
- State health department
- OSAP.org
- ADA Coronavirus Info
- EPA list of products
- American Chemistry
- N95 – Filtering Facepiece Respirator Information
  - Information on Respirator Use
  - Use of stockpiled equipment
- Cybersecurity and Infrastructure Security Agency
References

- COVID-19
- Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings
- Johns Hopkins
- WHO
- OSAP
- ADA
- NIOSH

Thank you!

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