Provisional Guidance: Clinical Care and Healthcare Infection Prevention and Control for COVID-19

Summary of Recent Changes

- **Extended Use of Personal Protective Equipment:** Recommends extended use of masks and face shield for cohorted care of patients with COVID-19.

- **Discontinuation of Transmission-based Precautions for Hospitalized Patients:** Provides criteria for discontinuation of transmission-based precautions, prioritizing a test-based strategy for patients that require continued hospitalization or will be transferred to a long-term care setting.

- **Work Exclusion and Monitoring Determinations:** Recommendations include allowances for asymptomatic healthcare workers who have had an exposure to a COVID-19 patient to continue to work with strict self-monitoring for symptoms.

- **Return-to-work considerations for healthcare personnel:** Simplifies recommendation for return-to-work timeline to a minimum of 72 hours post-resolution of fever and cough. Provides return-to-work best practices and considerations for crisis care scenarios.

The following provisional guidance has been adopted by Oregon Health Authority (OHA) to:

- Provide information on clinical symptoms, risk factors, management, and treatment of COVID-19;

- Provide guidance on diagnostic testing for COVID-19;

- Prevent healthcare-associated spread of COVID-19;

- Support the safe management of patients with suspect or known COVID-19 in healthcare settings;

- Optimize the use of the personal protective equipment (PPE) and healthcare resources needed to protect healthcare personnel (HCP).

Guidance will be updated as needed to reflect current epidemiology, clinical course, and transmission of the virus that causes COVID-19. For the purposes of this guidance, HCP is defined as “all persons, paid and unpaid, working in healthcare settings engaged in patient care activities, including patient assessment for triage, entering examination rooms or patient rooms to provide care or clean and disinfect the environment, obtaining clinical specimens, handling soiled medical supplies or equipment, and coming in contact with potentially contaminated environmental surfaces.” ([Centers for Disease Control and Prevention (CDC), 2020](https://www.cdc.gov/coronavirus/2019-ncov/hcp/healthequipment.html))
The CDC has published *Steps Healthcare Facilities Can Take Now to Prepare for Coronavirus Disease (COVID-19)* and *Interim Guidance for Healthcare Facilities: Preparing for Community Transmission of COVID-19 in the United States*. All providers should review these web sites frequently, as recommendations may change.

**Clinical Presentation and Risk Factors**

Symptoms of COVID-19 include fever, cough, myalgia, and shortness of breath. Less common symptoms include sore throat, headache, and diarrhea. A fever will likely present during the clinical course, but current evidence suggests that less than half of hospitalized COVID-19 patients present with fever. Severity of illness may worsen in the second week of infection. The virus that causes COVID-19 (SARS-CoV-2) is believed to spread mainly between people in close contact or through respiratory droplets produced by coughs and sneezes. The virus can survive on surfaces but can be rendered inactive by routine cleaning and disinfection procedures. (See "Disinfection in the Healthcare Setting" Section.) The household secondary attack rate (the portion of a household that becomes infected after a household member is confirmed to have COVID-19), has been estimated at 15%. Children may be just as likely as adults to become infected but are less likely to have severe illness.

An overall case fatality rate of 2.3% has been reported among patients from China, but this is largely from hospitalized patients and is likely to be an overestimate. Older patients and those with chronic medical conditions are at higher risk for severe disease. The CDC has provided details on the [clinical presentation of COVID-19](https://www.cdc.gov/coronavirus/2019-ncov/about/index.html).

**Clinical Management and Treatment**

Not all patients with COVID-19 infection require hospital admission. If supportive care at home is considered, clinicians should ensure the patient is medically stable, has appropriate caregivers available, and is able to safely self-isolate at home. The [CDC has provided additional recommendations for home care](https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-management.html).

Recommendations for Outpatient and Urgent-Care Settings (Not Including Emergency Department) Departments

Outpatient Facilities Triage and Evaluation

Outpatient facilities commonly see patients with the symptoms described above. At this time, the Oregon Health Authority offers the following guidance in order to reduce the potential risk of community spread of COVID-19 through outpatient facilities:

For All Patients:

When any patient calls to schedule a visit, screen the patient by phone for fever or acute respiratory symptoms. Delay routine or non-urgent visits until symptoms have resolved.

For Patients with Acute Respiratory Illness or Fever (See Figure 1 for additional guidance):

1. Consider using telemedicine to evaluate these patients when available.
2. Recommend home care with symptom monitoring without face-to-face evaluation when clinically appropriate. Patients with mild illness do not require testing. Encourage patients to stay home and avoid congregate settings until their symptoms resolve.
3. For patients requiring clinical evaluation, consider alternative routes of entry/exit and alternative waiting areas in order to minimize interaction with other patients and healthcare workers.
4. Implement respiratory hygiene and cough etiquette. Surgical or procedural masks should be readily available at all entries/exits and clear signage in relevant languages should reinforce their use.
5. Patients should not wait in lobbies or waiting rooms. Immediately place patients in a private room with the door closed. If available, consider use of an airborne infection isolation room, prioritizing AIIR use for those with severe respiratory illness. Ideally, the patient should not be placed in any room where room exhaust is recirculated within the building without HEPA filtration.
6. HCP evaluating patients suspected to have COVID-19 should don appropriate personal protective equipment (PPE), see “PPE Requirements for Healthcare Personnel in Outpatient Settings” below.
7. Consider strategies to minimize the number of HCP interacting with patients, e.g., alternative check-in procedures and asking providers to room patients.
8. It is unknown how long SARS-CoV-2 persists in the environment, but contact-based transmission is believed to play a role in the spread of the virus. The patient room must be appropriately cleaned and disinfected between patients. See “Environmental Infection Control in Healthcare Settings.” If medical needs are non-urgent, attempt to schedule those with respiratory illness for the end of the day when possible.

(See Figure 1, next page)
Figure 1. Suggested Approach for Healthcare Worker Personal Protective Equipment (PPE) While Evaluating Patients with Acute Respiratory Infection in Ambulatory Settings

1. Wear PPE when entering patient room:
   - Goggles or face shield
   - Surgical or procedure mask
   - Gloves
   - Gown

2. If aerosol-generating procedures (Appendix I) are necessary:
   - Place patient in airborne infection isolation room, if available. Otherwise place in private room with door closed.
   - Change mask to respirator (N-95 mask or PAPR).
   - Remove patient mask only when necessary.

3. Perform meticulous hand hygiene before and after all patient care.

Recommend supportive care at home.
Ensure suitability for home care:
- Medically stable
- Appropriate caregivers available
- Ability to safely self-isolate at home

See CDC guidance for home care for additional information.
**PPE Requirements for HCP in Outpatient Settings**

The virus that causes COVID-19 can spread in healthcare settings. PPE policies should, first and foremost, protect those in the healthcare setting from exposure. PPE supplies should be used responsibly to ensure they are available for patients and procedures for which they are most needed. PPE strategies should be supplemented by source control, including the rapid identification of patients with fever or respiratory symptoms, placement of a regular facemask on symptomatic patients, and isolation in a private room with the door closed. Effective hand hygiene and standard precautions should always be used.

Minimum PPE necessary to evaluate patients with fever or respiratory symptoms:

- Face mask (i.e., surgical or procedural mask)
- Eye protection (face shield or goggles)
- Gown
- Gloves

Some procedures warrant a higher level of protection. See “Aerosol-Generating Procedures in Outpatient Settings.”

**Aerosol-Generating Procedures in Outpatient Settings**

Aerosol-generating procedures (AGPs) are medical procedures that have been associated with an increased risk of transmission in healthcare settings. (See Appendix I for a non-exhaustive list of AGPs.) In general, AGPs should be avoided for patients with suspect or confirmed COVID-19 in outpatient settings unless absolutely necessary for patient care. If AGPs are necessary, HCP should use gown, gloves, eye protection, and a fit-tested N95 mask or higher respiratory protection. Only HCP required for the procedure should be present. If available, an airborne infection isolation room should be used.

**Collection of Respiratory Specimens in Outpatient Settings**

Any type of patient care that involves prolonged, close contact or direct contact with respiratory secretions should be minimized. If specimen collection is necessary, nasopharyngeal swabs (NP) or oropharyngeal (OP) swabs can be performed using contact and droplet precautions with surgical mask and eye protection, and do not require the use of an N95 respirator. Institutions may choose to use an N95 respirator based on risk assessment of the patient. Severely ill patients who will be transferred to a higher level of care should not be tested in an outpatient setting.

**Recommendations for Hospitals (Includes Emergency Departments [EDs] and Inpatient Settings)**

**Hospital Triage and Evaluation**

*Travel screening*

Though travel to geographic areas with sustained transmission is no longer the primary mode of exposure to the virus that causes COVID-19, we recommend continued implementation of a travel screen that identifies those with international travel in the last 14 days (30 days is also a reasonable time frame). This will facilitate identification of travel-associated cases and those at
risk for other serious travel-associated infections; and support ongoing high-impact pathogen preparedness in the healthcare setting.

**Rapid triage**

When possible, instruct patients to call ahead and inform clinic or hospital staff when they have respiratory symptoms. Remind patients to adhere to respiratory etiquette and to don a mask upon entry to the facility. Ensure PPE and an appropriate room are available to minimize exposure to other patients and providers. Identify a separate, well-ventilated space (an AIIR can be considered particularly for those with severe respiratory illness). Instruct patients to remain at least 6 feet from others and to observe respiratory etiquette, including placement of a face mask.

Place signs or posters at entryways, requesting that patients don a mask and apply hand sanitizer if they have fever, cough, or difficulty breathing.

**Tracking people who enter patient room**

Facilities should be prepared to maintain a log of HCP and visitors who enter the room of any patient with known or suspected COVID-19. Contact information should be collected to facilitate follow up, if needed.

**Communication plans**

Develop an internal communication plan to alert key internal staff (e.g., hospital epidemiologists, infection preventionists, frontline staff, occupational health, laboratory, nursing supervisors, leadership, etc.) promptly about known or suspected cases of COVID-19.

A confirmed case of COVID-19 is immediately reportable to your LPHA. (See LPHA contact information in Appendix II.) See “Testing Considerations” section below for instructions about when to call LPHA and OHA regarding testing.

**PPE Requirements for HCP in Hospitals**

As in outpatient settings, hospital policies should, first and foremost, protect those in the healthcare setting from exposure. PPE supplies should be used responsibly to ensure they are available for patients and procedures for which they are most needed. PPE strategies should be supplemented by source control, including the rapid identification of patients with fever or respiratory symptoms, placement of a regular facemask on symptomatic patients, and isolation in a private room with the door closed. Effective hand hygiene and standard precautions should always be used.

Minimum PPE necessary to evaluate patients with respiratory illness, suspected COVID-19, or confirmed COVID-19:

- Face mask (i.e., surgical or procedural mask)
- Eye protection (face shield or goggles)
- Gown
- Gloves

Some procedures warrant a higher level of protection. See “Aerosol-Generating Procedures in Hospitals.”
Aerosol-Generating Procedures (AGPs) in Hospitals

AGPs (Appendix I) are much more common in ED and hospital settings. When conducting AGPs for patients with fever or respiratory symptoms, or with known or suspect COVID-19, HCP should utilize standard, contact, and airborne precautions, including:

- N95 mask or higher respiratory protection (includes powered air-purifying respirators [PAPRs])
- Eye protection (face shield or goggles)
- Gown
- Gloves

Whenever possible, AGPs should be performed in an airborne infection isolation room (AIIR). If a hospital is treating multiple persons under investigation or confirmed cases of COVID-19, AIIRs should be prioritized for those with serious illness.

To minimize risk associated with these procedures, AGPs should be planned and bundled, when possible. Only HCP required for the procedure should be present.

It is unknown how long infectious aerosols remain in the air when a patient remains in the room following an AGP. Continuation of standard, contact, and airborne precautions with eye protection for a period after aerosol-generation has ceased may provide time for contaminant removal. Hospitals should assess room air changes/hour to inform the duration of this period.

Collection of Respiratory Specimens in Hospitals

See “Testing Considerations” Section below for information regarding specimen collection and prioritization for COVID-19 Testing.

Respiratory specimen collection procedures known to generate aerosols (e.g., sputum induction, bronchoscopy, open suctioning) require standard, contact, and airborne precautions with eye protection, as discussed above. For other modes of respiratory specimen collection, HCP should perform a risk assessment of the patient. Severely ill and heavily symptomatic patients may require standard, contact, and airborne precautions with eye protection for specimen collection procedures, including NP specimen collection.

Extended Use of Personal Protective Equipment

Major distributors in the United States have reported shortages of PPE. Extended-use protocols for masks and eye protection are recommended. Extended use refers to wearing the same respiratory (mask or respirator) or eye protection (goggles or face shield) for repeated encounters with several different patients with the same infectious disease diagnosis without removing between encounters. HCP must take care not to touch their eye protection and respirator or facemask.

Additional information is available here.
Discontinuation of Transmission-based Precautions for Hospitalized Patients

Transmission-based precautions are discussed in the previous sections ("PPE Requirements for HCP in Hospitals," "Aerosol-Generating Procedures [AGPs] in Hospitals")

The decision to discontinue transmission-based precautions should be made using a test-based strategy or a non-test-based strategy (adapted from CDC’s Discontinuation of Transmission-Based Precautions Guidance):

**Test-based strategy**

- Resolution of fever without the use of fever-reducing medications and
- Improvement in respiratory symptoms (e.g., cough, shortness of breath), and
- Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive nasopharyngeal swab specimens collected ≥24 hours apart (total of two negative specimens).

**Non-test-based strategy**

- At least 3 days (72 hours) have passed since resolution of cough and fever without the use of fever-reducing medications.

The test-based strategy is preferred when a patient requires ongoing hospitalization or is being discharged to a setting where they will have close contact with individuals at risk for severe disease, including skilled nursing, assisted-living, residential care facilities. It should also be considered for severely immunocompromised individuals (those on immunosuppressive drugs, bone marrow or solid organ transplant recipients, inherited immunodeficiency, poorly controlled HIV). Clinical and commercial laboratories conducting an FDA Emergency Use Authorized COVID-19 molecular assay should be first line options for this testing.

For other clinical scenarios, providers, in consultation with their Infection Control Department, can choose between the test-based strategy and the non-test-based strategy to determine whether to discontinue transmission-based precautions.

Additional considerations:

- Meeting criteria for discontinuation of transmission-based precautions is not a prerequisite for discharge.
  - If a medically stable patient will be discharged to a long-term care facility and transmission-based precautions are still necessary, they should go to a facility able to adhere to infection prevention and control recommendations for care of patients with COVID-19.
  - If a medically stable is discharged to home, healthcare facilities should evaluate the suitability of the residential setting for home care, consulting with Public Health as needed. Patients should receive instructions on safe home care (CDC guidance available [here](#)). Individuals may discontinue home based isolation when at least 3 days (72 hours) since resolution of cough and fever without the use of fever-reducing medications, though they should continue to observe Governor’s Executive Orders.
- If a patient tests negative for COVID-19, but a higher level of clinical suspicion for COVID-19 exists, consider maintaining transmission-based precautions and repeating the test.
Visitor Policy Recommendations

As of March 23, 2020, in accordance with the Governor’s Executive order, hospitals should limit patient visits to one visitor per day. Visitors must be more than 16 years of age and healthy. Limit points of healthcare facility entry, ensure that check-in stations are accessible at each, and post appropriate signage.

Hospitals may decide to implement stricter limits on visitor policies based on their discretion for the safety of their patients and staff.

Guidance for Collection and Submission of Postmortem Specimens

Autopsy procedures should be performed with standard, contact, and airborne precautions with eye protection (goggles or a face shield) due to the likelihood for aerosol-generation.

For specimen collection, infection control, and biosafety considerations for a deceased person under investigation, see CDC’s Interim Guidance for Collection and Submission of Postmortem Specimens from Deceased Persons Under Investigation for COVID-19.

General Recommendations for All Healthcare Settings

Work Exclusion and Monitoring Determinations

In the context of sustained community transmission of COVID-19, all HCP should self-monitor for illness consistent with COVID-19 because all HCP are at risk for unrecognized exposures. Most HCP with exposure to confirmed or probable cases of COVID-19 may be allowed to work, they but must monitor themselves diligently for symptoms.

Self-monitoring consists of measuring temperature twice daily and evaluating daily for the any of following signs:

- Measured temperature >100.0° F or subjective fever
- Cough
- Shortness of breath

If any of these signs or symptoms develop, then HCP should not come to work and should notify supervisors and occupational health. If symptoms develop at work, they must withdraw from patient-care activities immediately, don a facemask (if not already wearing), and notify their supervisor or occupational health services prior to leaving work.

In general, asymptomatic HCP who have had an exposure to a COVID-19 patient can be allowed to work. Facilities may elect to exclude or furlough an asymptomatic exposed HCP who have significant contact with patients at high risk of complications or reassign the HCP to non-patient care duties during the monitoring period (14 days since last exposure).

The following list describes the types of patient contact that would be considered high-risk exposures:

- Providing patient care that included aerosol-generating procedures without all required elements of full PPE (respirator, eye protection, gown, and gloves).
• Providing patient care that did not include aerosol-generating procedures without a regular facemask or respirator and eye protection (goggles or face shield), even if patient was masked.

• Providing patient care that included aerosol-generating procedures with a regular facemask or respirator and eye protection (goggles or face shield), but patient was not masked.

The following are topic areas to guide education for HCP regarding COVID-19 exposure and symptom monitoring:

• **Provide HCP resources for self-care.** HCPs face tremendous challenges during a crisis like the COVID-19 pandemic. A recent study documented high levels of depression, anxiety, and insomnia among HCP potentially exposed to COVID-19. Educate HCP about mental health and self-care resources. Examples:
  
  - CDC Guidance for Stress and Coping
  - Disaster Distress Helpline
  - American Medical Association Managing Mental Health During COVID-19
  - American Psychiatric Nurses Association Guidance for Managing Stress and Self-Care

**Educate all HCPs about the need to self-monitor for symptoms.** Given the potential for community based exposures or unrecognized exposures in the healthcare system, all HCP should be instructed to conduct twice daily fever checks and monitor for cough or shortness of breath. If facilities require HCP to verify the absence of fever or respiratory symptoms when HCP report for work, this process should be clearly communicated.

**Develop plan for what the HCP will do if they become symptomatic:** Points of contact should be established for HCPs if they become ill. Educate HCP to self-isolate in their home should they become symptomatic. Mildly symptomatic HCP are not required to seek care solely for the purposes of COVID-19 testing, but they should do so if they require medical evaluation or intervention. If seeking care, the HCP should first call their doctor or local hospital to inform that they are being monitored for COVID-19 and will need follow-up medical care and testing.

**Discuss why these steps are being taken:** If work exclusion is necessary, convey using non-punitive language why work exclusions are essential to prevent healthcare-associated infections. Explain that the purpose of ongoing home monitoring is to ensure that HCP do not develop symptoms of COVID-19 in the 14 days after the last exposure.

**Discuss when it would be appropriate to return to work:** If work exclusion is necessary, HCP should be restricted from work until 14 days after their last exposure. For HCP who develop respiratory symptoms, see “HCP Return-to-Work Considerations” section.

**HCP Return-to-Work Considerations**

For HCP with respiratory illness, including those with suspect of confirmed COVID-19, work exclusion is recommended until at least 3 days (72 hours) have passed since recovery defined as resolution of cough and fever without the use of fever-reducing medications.
Key return to work practices for HCP returning to work after illness include:
(adapted from CDC’s Criteria for Return to Work for Healthcare Personnel)

- Wear a facemask at all times while in the healthcare facility until 14 days after illness onset
- Be restricted from contact with severely immunocompromised patients (e.g., transplant, hematology-oncology) until 14 days after illness onset
- Adhere to hand hygiene, respiratory hygiene, and cough etiquette in CDC’s interim infection control guidance (e.g., cover nose and mouth when coughing or sneezing, dispose of tissues in waste receptacles)
- Self-monitor for symptoms, and seek re-evaluation from occupational health if respiratory symptoms recur or worsen

In a crisis scenario, the usual standard of care requiring furlough for symptomatic HCP may not able to be followed due to critical HCP staffing shortages. In accordance with the Oregon Crisis Care Guidance, if available staffing, despite all other available accommodations (use of SERV-OR or Medical Reserve Corps volunteers, hiring from staffing agencies, etc.), is insufficient to provide needed patient care, healthcare facilities may determine that symptomatic HCP with mild illness compatible with or laboratory-confirmed to be COVID-19 could potentially go back to work earlier than specified above, as long as they follow all return to work practices.

Managing PPE Supply Issues

Healthcare facilities should develop processes to facilitate ongoing PPE inventory, ensuring that facility supply-chain managers and infection prevention staff are in communication about PPE shipment or order delays as well as increased PPE needs to support training, fit testing, and patient care. Should a potential PPE shortage be identified, the following steps should be taken:

1. Review guidance on PPE supply optimization and implement conservation strategies as appropriate. See the following guidance:
   a. CDC’s Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease. Includes prioritization strategies for gown use and extended-use considerations for masks and eye protection.
   b. CDC’s Healthcare Supply of Personal Protective Equipment resources. Includes optimization strategies for N95 respirators, PPE FAQ’s, and contingency and crisis scenario PPE considerations.
2. Define severity of the shortage. Note when interruptions in clinical operations would occur if the shortage were to persist.
3. Determine whether other PPE vendors can be utilized and review current contract specifications.
4. Leverage mutual-aid agreements and memoranda of understanding (MOUs) to obtain PPE supply from healthcare partners.
5. If all internal and partner-based options to obtain sufficient PPE supply have been exhausted, contact your local public health authority.

**Environmental Infection Control in Healthcare Settings**

Dedicated medical equipment should be used for patients with suspect or known COVID-19. Routine cleaning and disinfection procedures (i.e., pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product’s label) are appropriate for COVID-19 in healthcare settings. A list of EPA-registered, hospital-grade disinfectants with known effectiveness against coronaviruses can be found [here](##).

**Testing Considerations**

**Testing at the Oregon State Public Health Laboratory (OSPHL)**

Updated OHA testing guidance for health systems is available at [healthoregon.org/coronavirus](http://healthoregon.org/coronavirus). This document is updated regularly to reflect changes in testing capacity and criteria for public health testing. This testing is intended to guide public health response.

The following procedures are in place to facilitate testing at OSPHL:

1. **Automatic testing approval**: (see OHA testing guidance for instructions):
   - Clinical need for admission as determined by hospital providers; and
   - Evidence of viral lower respiratory infection; and
   - Tested negative\(^1\) for influenza.

   Testing will be performed if criteria are met and proper documentation as described above is submitted. Phone approval by local public health authority (LPHA) or OHA is not necessary in this situation.

2. **Obtaining test approval by public health**: Call your local public health authority (LPHA) to discuss testing if patient does not meet the criteria for automatic testing approval above, but has fever or respiratory symptoms **and**:
   - Has been exposed to a high-risk setting (e.g., cruise ship, long-term care facility, or other institutional setting); or
   - Is part of a respiratory illness cluster in a facility or institution; or
   - Is likely to have exposed large numbers of vulnerable persons, should the COVID-19 test be positive; or
   - On a case-by-case basis for individuals with compatible illness who are in areas of the state where no cases have yet been identified.

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\(^1\) Once influenza is no longer circulating in the community a negative influenza test will not be required. However, as long as influenza is circulating, inpatients should be tested for influenza to allow for prompt administration of antiviral medications active against influenza.
Testing at commercial laboratories

A number of commercial laboratories are offering COVID-19 testing. As of March 15th, this includes LabCorp, Quest, and University of Washington Virology Laboratory (Appendix III). Clinicians may consider commercial testing at their discretion. Appropriate precautions should be followed for specimen collection. COVID-19 cases identified outside of state testing processes are immediately reportable to the local public health authority (LPHA). See appendix II for contact numbers.

Choice of specimen collection

Choice of specimen collection may rely upon the setting where specimen collection occurs. Non-hospital settings will generally be collecting nasopharyngeal (NP) specimens.

Specimens from the lower respiratory tract (e.g., bronchial lavage, endotracheal aspirate, sputum) are preferred from a test sensitivity perspective, but are generally associated with increased aerosol generation, so specimen collection decisions should be driven by patient care needs and should be collected under appropriate precautions (See “Collection of Respiratory Specimens” Sections above). One specimen is sufficient for testing. NP swabs or nasal washes are acceptable for testing at OSPHL. In consideration of its testing capacity and demand, OSPHL typically tests only the most preferred specimen if more than one is submitted.

Current guidance for specimen collection, handling, and transport is posted on OSPHL’s Lab Test Menu and in the CDC guidance on specimen collection, storage, and handling.

PPE for respiratory specimen collection

See “Collection of Respiratory Specimens” sections for outpatient and hospital settings above.

Resources for Specialized Healthcare Providers and Settings

Long-Term Care Facilities (LTCFs)

- See previous section for detailed guidance for all healthcare settings regarding:
  - Work exclusion & post-exposure risk assessment
  - Return-to-work considerations
  - PPE supply
  - Environmental disinfection
  - Testing considerations


- CDC guidance for long-term care and nursing homes is available here.

- Updated Centers for Medicare & Medicaid Services (CMS) guidance regarding restriction of visitors available here.
Outpatient Hemodialysis Facilities

- See previous section for detailed guidance for all healthcare settings regarding:
  - Work exclusion & post-exposure risk assessment
  - Return-to-work considerations
  - PPE supply
  - Environmental disinfection
  - Testing considerations
- CDC guidance for dialysis facilities available [here](#).
- CMS guidance for dialysis facilities available [here](#).

First Responders

- **Note:** Due to confined nature of patient transport and the propensity for aerosol-generating procedures, recommended PPE for first responders transporting an individual with known or suspected COVID-19 continues to include:
  - N95 mask (or higher respiratory protection)
  - Eye protection (goggles or face shield)
  - Gown
  - Gloves
- See [OHA website](#) for COVID-19 updates specific to emergency medical services (EMS), law enforcement and public safety answering points (PSAPs).
- CDC guidance for all first responders, including emergency medical services (EMS), law enforcement, and emergency management officials is available [here](#).
Appendix I

Aerosol-generating procedures² include, but are not limited to:

- Intubation, extubation, and related procedures such as manual ventilation and open suctioning
- Cardiopulmonary resuscitation
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy
- Surgery and post-mortem procedures involving high-speed devices
- Some dental procedures (such as high-speed drilling)
- Non-invasive ventilation (NIV) such as bi-level positive airway pressure (BiPAP) and continuous positive airway pressure ventilation (CPAP)
- High-frequency oscillating ventilation (HFOV)
- High-flow nasal oxygen (HFNO), also called high-flow nasal cannula
- Induction of sputum
- Medication administration via continuous nebulizer

² Note: this list is not exhaustive. Please discuss activities not described with your Infection Control Department.
## Appendix II

### Local Public Health Authority Contact Numbers

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*operated jointly as North Central Public Health District

[www.healthoregon.org/lhddirectory](http://www.healthoregon.org/lhddirectory)
Appendix III

University of Washington Virology Laboratory
https://testguide.labmed.uw.edu/public/view/NCVQLT
Phone: (206) 520-4600 or 1 (800) 713-5198
Fax: (206) 520-4903
Email: commserv@uw.edu

LabCorp
www.labcorp.com/assets-media/2330

Quest Diagnostics
Phone: (866) MY-QUEST (866-697-8378)